

IN BETA: AN ACTION RESEARCH JOURNEY OF DEVELOPING MUSIC COMMUNITIES AS AN APP CREATOR

A thesis submitted to The University of Manchester for the degree of
Doctor of Philosophy
in the Faculty of Humanities

2014

ANDREW KO

MANCHESTER BUSINESS SCHOOL / IMP Division

LIST OF CONTENTS

LIST OF CONTENTS	2
LIST OF FIGURES	7
LIST OF TABLES	12
ABSTRACT	13
DECLARATION.....	14
COPYRIGHT STATEMENT	15
DEDICATION	16
ACKNOWLEDGEMENT.....	16
INTRODUCTION	17
CONTEXTS FOR THE RESEARCH	20
<i>PERSONAL CONTEXTS.....</i>	<i>20</i>
<i>THEORETICAL CONTEXTS</i>	<i>24</i>
SIGNIFICANCE	39
THE CHAPTERS.....	39
CYCLE 1	41
AREA OF CONCERN	41
FRAMEWORK.....	41
<i>Music in Everyday Life.....</i>	<i>41</i>
<i>Music and Context.....</i>	<i>43</i>
<i>Autobiographical Memories.....</i>	<i>46</i>
<i>Chills Induced by Music.....</i>	<i>48</i>
<i>Strong Experiences with Music</i>	<i>49</i>
METHODOLOGY.....	55
<i>Survey Methods.....</i>	<i>55</i>
<i>Survey Websites.....</i>	<i>58</i>
<i>Survey Design</i>	<i>59</i>
<i>Storing the Data.....</i>	<i>62</i>
<i>Identity</i>	<i>62</i>
<i>The Music Memory Form.....</i>	<i>63</i>
RESULTS	69
<i>Different songs, same keywords and themes in the story</i>	<i>72</i>

<i>Same song, different stories</i>	86
<i>Same song, same story</i>	87
REFLECTIONS (CYCLE 1)	88
<i>Decision to use an online survey</i>	88
<i>Survey Procedures</i>	91
<i>Themes in the Cycle</i>	94
LESSONS LEARNED (CYCLE 1)	96
1. <i>Capture memories as they happen</i>	96
2. <i>Modify the survey</i>	96
3. <i>Create a music community</i>	96
CYCLE 2	98
AREA OF CONCERN	98
FRAMEWORK.....	98
<i>Community</i>	99
<i>Social Capital</i>	102
<i>Virtual Communities</i>	104
<i>Music Preferences</i>	108
METHODOLOGY.....	111
<i>Experience Sampling Method</i>	111
<i>Mobile Platform</i>	112
<i>Community Identity</i>	115
<i>Oopus iPhone Application</i>	115
<i>Oopus iPhone app v1.0</i>	121
<i>Oopus iPhone app v2.0</i>	123
<i>Music Moments</i>	125
<i>App Distribution</i>	129
<i>Oopus Desktop Application</i>	131
<i>My Oopus Community</i>	134
<i>Oopus Player Beta</i>	145
RESULTS (CYCLE 2).....	147
<i>User Statistics</i>	147
<i>User-Generated Content</i>	151
<i>User Interaction</i>	155
<i>Testimonials</i>	157
REFLECTIONS (CYCLE 2)	158
<i>The role of passion</i>	158

<i>Building an offline community</i>	160
<i>Choice of technology</i>	162
<i>User feedback</i>	163
<i>Themes in the Cycle</i>	164
LESSONS LEARNED (CYCLE 2)	165
1. <i>Platform Access</i>	166
2. <i>Social Features</i>	166
3. <i>Technology Development</i>	167
4. <i>Technology Adoption Literature</i>	167
CYCLE 3	168
AREA OF CONCERN	168
FRAMEWORK.....	168
<i>Technology Adoption</i>	168
<i>Utilitarian Systems</i>	169
<i>Hedonic Systems</i>	171
<i>Social Network Site Adoption Model (SNSA)</i>	173
METHODOLOGY.....	176
<i>Community Identity</i>	176
<i>Your Life With Music Community</i>	177
<i>YLWM Desktop App</i>	208
<i>Oopus iPhone App Redesign</i>	209
RESULTS (CYCLE 3).....	211
<i>User Statistics</i>	211
<i>User-Generated Content</i>	215
<i>User Interaction</i>	220
REFLECTIONS (CYCLE 3)	222
<i>Ease of use</i>	222
<i>Social Features</i>	223
<i>Closed Ecosystem</i>	224
<i>Moment Pictures</i>	225
<i>Full length streaming</i>	226
<i>Oopus Team Data</i>	227
<i>Themes in the Cycle</i>	227
LESSONS LEARNED (CYCLE 3)	228
1. <i>Network externality</i>	228
2. <i>Visible moments</i>	229

3. Ease of use	229
4. Increasing participation.....	230
5. Faster feedback.....	230
CYCLE 4	231
AREA OF CONCERN	231
FRAMEWORK.....	231
Participation.....	231
METHODOLOGY.....	238
Community Identity.....	240
Instatune Community.....	240
Creating a Moment.....	248
Moment Options.....	254
Social Features.....	260
Exploring Moments.....	267
Account Settings.....	268
Promotion	269
Mobile Version.....	272
RESULTS (CYCLE 4).....	272
User Statistics.....	272
User-Generated Content.....	276
User Interaction	280
REFLECTIONS (CYCLE 4)	281
Lean Startup	281
API Interaction.....	282
Participation.....	283
Social Awareness.....	284
Oopus Team Data	285
Themes in the Cycle	285
LESSONS LEARNED (CYCLE 4)	289
1. Native mobile app.....	289
2. Song recommendations.....	289
3. User feedback.....	290
CONCLUSION.....	291
MAIN FINDINGS	292
Context in music	292

<i>Shared experiences with music</i>	<i>293</i>
<i>Technology adoption</i>	<i>293</i>
<i>Trust.....</i>	<i>294</i>
<i>User-Generated Content.....</i>	<i>295</i>
<i>Community Participation</i>	<i>295</i>
<i>Utility of Participation</i>	<i>296</i>
<i>Beta Testing</i>	<i>297</i>
<i>Final Reflection.....</i>	<i>297</i>
CONTRIBUTIONS TO RESEARCH	301
LIMITATIONS	302
FURTHER STUDIES.....	303
REFERENCES.....	305
APPENDIX A – MUSIC MEMORY FORM RESPONDENTS	326
APPENDIX B – MUSIC MEMORY FORM RESPONSES.....	327
APPENDIX C – MY OOPUS RESPONDENTS.....	346
APPENDIX D – YLWM RESPONDENTS	347

Final word count (including footnotes and endnotes): 72,802

LIST OF FIGURES

Figure 1. Integrative Thinking model (Martin, <i>Integrative thinking: A model takes shape</i> , 2002)	25
Figure 2. Business Design (Dunne & Martin, 2006, pg. 518).....	27
Figure 3. Rotman Business Design Methodology (Fraser, 2009, pg. 58).....	28
Figure 4. FMA model (Checkland & Holwell, 1998, pg. 13)	33
Figure 5. Cycle of action research in human situations (Checkland & Holwell, 1998, pg. 15).....	34
Figure 6. The relationship between thesis research, core action research and thesis writing (Zuber-Skerritt & Perry, 2002, pg. 177)	38
Figure 7. Music Memory form, Part 1 of 4.....	64
Figure 8. Music Memory form, Part 2 of 4.....	65
Figure 9. Music memory form, Part 3 of 4.....	66
Figure 10. Music memory form, Part 4 of 4.....	67
Figure 11. Confirmation of submission for music memory form	68
Figure 12. Total number of unique respondents to the music memory form	70
Figure 13. Male vs. female respondent percentage for the music memory form.....	70
Figure 14. Number of people who created music memories with stories.....	71
Figure 15. Total number of music memories with stories	72
Figure 16. Keywords from the Music Memory form (minimum frequency of 5).....	73
Figure 17. Musical Bonding Model (Boer et al., 2011, pg. 1161)	109
Figure 18. Oopus prototype app v0.1 playlist view.....	118
Figure 19. Prototype app automatically generating a playlist	119
Figure 20. Oopus app GPS flowchart	120
Figure 21. Oopus iPhone App v1.0 login screen.....	121
Figure 22. Oopus iPhone App v1.0 main menu (April, 2011).....	122
Figure 23. Oopus iPhone App v2.0 main menu (August, 2011)	123
Figure 24. Currently playing song in the Oopus app.....	125
Figure 25. Creating a music moment with album art.....	126
Figure 26. Creating a music moment with a picture	127
Figure 27. A music moment that is set to private	128
Figure 28. Music moments shared for each song.....	129
Figure 29. TestFlight email for Oopus app.....	130
Figure 30. TestFlight installation of Oopus app	130
Figure 31. Oopus Mac OS X desktop app installation screenshot.....	132
Figure 32. Oopus Mac OS X desktop app menu	133
Figure 33. Data captured from the Oopus mobile and desktop apps for each song listened to	134
Figure 34. Concept website for first Oopus community.....	136
Figure 35. My Oopus - main login page.....	137
Figure 36. My Oopus registration page	138

Figure 37. My Oopus – Music Timeline with song moment preview	139
Figure 38. My Oopus - Global Moment Timeline.....	140
Figure 39. Music moment page	142
Figure 40. My Oopus music moment page.....	144
Figure 41. Oopus Player Beta (December, 2011)	146
Figure 42. Growth of users in My Oopus.....	148
Figure 43. Total number of users in My Oopus per month.....	149
Figure 44. Gender breakdown of My Oopus community.....	150
Figure 45. Current location by country of My Oopus members.....	151
Figure 46. Growth of music moments created in My Oopus.....	152
Figure 47. Number of moments with vs. without pictures in My Oopus.....	153
Figure 48. Number of people who created music moments in My Oopus.....	154
Figure 49. Number of public vs. private moments in My Oopus.....	155
Figure 50. Comments on a moment in My Oopus.....	157
Figure 51. Social Network Site Adoption Model (Sledgianowski & Kulviwat, 2009, pg. 77)	174
Figure 52. YLWM concept website	178
Figure 53. YLWM login page	179
Figure 54. YLWM new user registration page.....	180
Figure 55. YLWM Terms & Conditions page.....	180
Figure 56. YLWM main moment page.....	182
Figure 57. YLWM status bar.....	182
Figure 58. YLWM – “You” menu option.....	183
Figure 59. Your Life With Music option status bar message.....	183
Figure 60. Listening history option status bar message.....	183
Figure 61. YLWM - Music Curators.....	184
Figure 62. YLWM - Music Listeners	185
Figure 63. YLWM - Optimum menu option.....	185
Figure 64. “The Best Music for Now” status bar message.....	186
Figure 65. “What would I listen to now” status bar message.....	186
Figure 66. “What would David listen to now” status bar message.....	186
Figure 67. Adding songs to the playlist	187
Figure 68. YLWM - Filters menu option with default saved favourite filters.....	188
Figure 69. YLWM - Customized Filter environment.....	188
Figure 70. Filter status bar message	189
Figure 71. Customised Filter sentence with two variables selected.....	189
Figure 72. Customised Filter sentence with four variables selected.....	189
Figure 73. YLWM - Explore menu option.....	190
Figure 74. "The World's Moments" status bar message	190
Figure 75. YLWM search main page	191
Figure 76. Search results for the name "David".....	192

Figure 77. Search results for the location "Manchester".....	192
Figure 78. Adding a music moment – song selection.....	194
Figure 79. Adding a music moment - context selection.....	195
Figure 80. Adding a music moment - story section.....	196
Figure 81. Adding a music moment - completed moment preview.....	197
Figure 82. YLWM - Music moment story.....	198
Figure 83. Comparison between My Oopus and YLWM for contextual information.....	199
Figure 84. YLWM - Music moment picture.....	200
Figure 85. YLWM - Music moment map.....	201
Figure 86. Facebook share dialogue box for YLWM music moment.....	202
Figure 87. YLWM music moment post in Facebook.....	202
Figure 88. YLWM music moment link from Facebook with story showing.....	203
Figure 89. YLWM music moment link from Facebook with picture showing.....	204
Figure 90. YLWM user profile page.....	205
Figure 91. David's YLWM Profile page.....	206
Figure 92. User account settings page.....	207
Figure 93. Updating user account settings.....	207
Figure 94. Notification screen.....	208
Figure 95. Oopus Desktop App download screen.....	209
Figure 96. Oopus iPhone prototype v3.0 (July, 2012).....	209
Figure 97. Oopus iPhone prototype v3.0 – Moments view.....	210
Figure 98. Oopus iPhone prototype v3.0 – My Filters.....	211
Figure 99. Growth of users in YLWM.....	212
Figure 100. Growth of users in My Oopus and YLWM.....	213
Figure 101. Breakdown of genders in the YLWM community.....	214
Figure 102. Current location by country for YLWM users.....	215
Figure 103. Growth of music moments created in YLWM.....	216
Figure 104. Comparison of the total number of music moments created in My Oopus vs. YLWM.....	217
Figure 105. Number of moments with vs. without pictures in YLWM.....	218
Figure 106. Number of people who created music moments in YLWM.....	219
Figure 107. Comments on a moment in YLWM.....	221
Figure 108. Virtual community stimulation structure (Koh et al., 2007, pg. 70).....	232
Figure 109. Lean Startup Methodology (Ries, 2011, pg. 75 Kindle Edition).....	236
Figure 110. Instatune Login page v1.0 (September 12, 2012).....	241
Figure 111. Instatune login page v2.0 (November 8, 2012).....	241
Figure 112. Instatune Explore Page.....	242
Figure 113. Instatune About page.....	243
Figure 114. Instatune Terms & Conditions page.....	244
Figure 115. Instagram authorisation page for Instatune.....	244
Figure 116. Instatune user profile page.....	245

Figure 117. User activity feed.....	246
Figure 118. User song recommendations.....	247
Figure 119. User song favourites	247
Figure 120. Members the user is following.....	248
Figure 121. Members who are following the user	248
Figure 122. Connect Instagram or Facebook accounts to access pictures.....	249
Figure 123. Accessing the user's own Instagram pictures	250
Figure 124. Search for hashtag words in Instagram (ie. #Toronto).....	250
Figure 125. Date, location and story pre-filled in moment	251
Figure 126. Choosing a song.....	252
Figure 127. Adding tags to moment.....	253
Figure 128. Instatune Music Moment.....	254
Figure 129. More options for moment.....	255
Figure 130. Editing a completed moment.....	256
Figure 131. YouTube streaming of song.....	257
Figure 132. Song recommendation keywords	257
Figure 133. Recommending a song with comments	258
Figure 134. Moment playlist.....	259
Figure 135. Related moments section in an Instatune music moment.....	260
Figure 136. Instatune Social Network Sharing Options	261
Figure 137. Social sharing success message.....	261
Figure 138. Instatune Facebook Post.....	262
Figure 139. Instatune Twitter Post	262
Figure 140. Sharing an Instatune Music Moment by Email.....	263
Figure 141. Instatune "Invite Friends" Feature	264
Figure 142. Earning influencer points for creating a moment	265
Figure 143. Noting a song in Instatune	266
Figure 144. Top 25 list of musical influencers in Instatune	267
Figure 145. 'Love' moments in Instatune	268
Figure 146. 'London' moments in Instatune.....	268
Figure 147. Example of David's Instatune account settings.....	269
Figure 148. Instatune Instagram (L) and Twitter (R) accounts.....	270
Figure 149. Instatune Facebook Page	271
Figure 150. Instatune website on mobile: Profile page (L), Music moment (M), User menu (R)	272
Figure 151. Growth of users in Instatune.....	273
Figure 152. Growth of users for each music community.....	274
Figure 153. Gender breakdown of the Instatune community.....	276
Figure 154. Growth of music moments created in Instatune	277
Figure 155. Growth of music moments created for each music community.....	278
Figure 156. Number of people who created music moments in Instatune	279

<i>Figure 157. Instatune music moment with the most number of song recommendations.....</i>	<i>281</i>
<i>Figure 158. Process of beta testing a web application (Zemin, 2010, pg. 424).....</i>	<i>287</i>
<i>Figure 159. Comparing methodologies: Action Research (Checkland & Holwell, 1998) [L] and the Lean Startup (Ries, 2011) [R]</i>	<i>288</i>

LIST OF TABLES

<i>Table 1. Felt emotions in response to music (Juslin & Laukka, 2004, pg. 231).....</i>	<i>61</i>
<i>Table 2. Top ten most frequent keywords in the Music Memory form.....</i>	<i>73</i>
<i>Table 3. Same song, different stories</i>	<i>86</i>
<i>Table 4. Same song, same story.....</i>	<i>87</i>
<i>Table 5. Growth of users for My Oopus community.....</i>	<i>148</i>
<i>Table 6. Gender information for My Oopus members.....</i>	<i>150</i>
<i>Table 7. Growth of moments for My Oopus community.....</i>	<i>152</i>
<i>Table 8. Moment creation in My Oopus.....</i>	<i>154</i>
<i>Table 9. Top 4 moment creators in My Oopus.....</i>	<i>154</i>
<i>Table 10. Moment viewing statistics for My Oopus.....</i>	<i>156</i>
<i>Table 11. Comment breakdown for My Oopus</i>	<i>156</i>
<i>Table 12. Comparing the growth of users for My Oopus and YLWM.....</i>	<i>213</i>
<i>Table 13. Comparison of age breakdown between My Oopus and YLWM members.....</i>	<i>214</i>
<i>Table 14. Comparison of growth of moments between My Oopus and YLWM.....</i>	<i>217</i>
<i>Table 15. Comparison between My Oopus and YLWM for moments with and without pictures.....</i>	<i>218</i>
<i>Table 16. Comparison of moment creation between My Oopus and YLWM.....</i>	<i>219</i>
<i>Table 17. Top 4 moment creators in My Oopus and YLWM.....</i>	<i>219</i>
<i>Table 18. Moment viewing statistics comparison between My Oopus and YLWM.....</i>	<i>220</i>
<i>Table 19. Comment breakdown between My Oopus and YLWM</i>	<i>221</i>
<i>Table 20. Number of moments created without Oopus team contribution for My Oopus and YLWM.....</i>	<i>227</i>
<i>Table 21. Comparing the 3 communities in terms of user growth</i>	<i>274</i>
<i>Table 22. Comparison of growth of moments between all 3 communities</i>	<i>278</i>
<i>Table 23. Comparison of number of moments with and without pictures.....</i>	<i>279</i>
<i>Table 24. Comparing multiple moments being created.....</i>	<i>280</i>
<i>Table 25. Top 4 moment creators in all 3 communities</i>	<i>280</i>
<i>Table 26. Comments/Song Recommendation breakdown between the 3 communities.....</i>	<i>280</i>
<i>Table 27. Number of moments created without Oopus team contribution for all 3 communities</i>	<i>285</i>
<i>Table 28. Comparing features for three different online communities.....</i>	<i>298</i>

ABSTRACT

The University of Manchester

Andrew Ko

Doctor of Philosophy

In Beta: An Action Research Journey on Developing Music Communities as an App Creator

3 September 2014

Music is an essential part of people's every day lives, accompanying them as they go about their daily routines, and it can be experienced in almost any context now; which allows us to capture, categorize and reconstruct the activities and memories that shape our personal, social and cultural lives. In this thesis, the area of concern that I explore is the creation of an online community based on people's experiences with music. Because of the personal nature of the topic and the tendency for the information to change over time, the methodology I chose was action research, specifically Checkland and Holwell's (1998) FMA methodology. Using this approach, I investigate the different kinds of technology that can be used to build the foundations of the community and which factors are most salient to facilitate member growth. I also examine the effects that user-generated content has on the participation within an online community and the technological features that aid in facilitating this. I discovered that trust is a vital part of an online community because it fosters cooperation between members through visible pro-social behaviour, and that a combination of ease of use, usefulness and the size of the community could influence the participation and activity of users in generating content. I also found that the development cycle for Internet software never ends, thus permanently in beta, as there will always be improvements to the community based on user feedback. I analyzed the data by comparing key metrics such as membership and user-generated content growth for each community to see if the learning and reflections from previous cycles helped improve community participation in the current cycle. The results I obtained and method I used in the thesis demonstrated my contribution to the body of knowledge in using action research theory, specifically the FMA methodology, to investigate, learn and develop an online community as an app creator. I argue that action research can help guide academic-based startups in much the same way as other startup frameworks and this point is one of the focuses for future research on this topic.

DECLARATION

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

COPYRIGHT STATEMENT

1. The author of this thesis (including any appendices and/or schedules to this thesis) owns certain copyright or related rights in it (the “Copyright”) and s/he has given the University of Manchester certain rights to use such Copyright, including for administrative purposes.
2. Copies of this thesis, either in full or in extracts and whether in hard or electronic copy, may be made **only** in accordance with the Copyright, Designs and Patents Act 1988 (as amended) and regulations issued under it or, where appropriate, in accordance with licensing agreements which the University has from time to time. This page must form part of any such copies made.
3. The ownership of certain Copyright, patents, designs, trade marks and other intellectual property (the “Intellectual Property”) and any reproductions of copyright works in the thesis, for example graphs and tables (“Reproductions”), which may be described in this thesis, may not be owned by the author and may be owned by third parties. Such Intellectual Property and Reproductions cannot and must not be made available for use without the prior written permission of the owner(s) of the relevant Intellectual Property and/or Reproductions.
4. Further information on the conditions under which disclosure, publication and commercialization of this thesis, the Copyright and any Intellectual Property and/or Reproductions described in it may take place is available in the University IP Policy (see <http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=487>), in any relevant Thesis restriction declarations deposited in the University Library, The University Library’s regulations (see <http://www.manchester.ac.uk/library/aboutus/regulations>) and in The University’s policy on Presentation of Theses.

DEDICATION

I dedicate this thesis to my parents, Steve Wei-Min and Anne Sheau-Yn Ko, who have selflessly sacrificed for the family to ensure that my brother and I always get the best in life. They have taught me the meaning of compassion, patience, humility, commitment, faith, forgiveness, gratitude and courage. I will forever be grateful for the love and support they have given me since the day I was born.

ACKNOWLEDGEMENT

I would like to acknowledge my supervisors, Peter Kawalek and John Murphy for the support they've given me since I started the PhD. I especially want to thank Peter, my main supervisor, my mentor, and my friend. He has been my guiding light throughout these past few years and a colleague whom I can't wait to work with when I'm done.

Martin Cahill and Mihai Ionescu, thank you for helping me on my academic journey and for all the good (and sometimes frustrating) times we had along the way.

David, my brother but also my twin 9 years removed, whom I share a telepathic link and who has been my best friend ever since he was born. I want to thank you for always listening to me, believing in me and trusting my judgment all of these years. We're almost there Dee... :)

I want to thank my wonderful kids, Aidan and Kalen, for always understanding when I needed to leave home early, come home late or when I'm not home at all. You guys always make me smile whenever I feel down or give me a hug when I need it most.

And finally, I want to thank my loving wife, Janet. She is the rock of our family and the glue that holds everything together. She never lets me get too high or too low, and always allows me to do what I need to do to get things done. Without her love and support, none of this would be possible. Thank you from the bottom of my heart.

INTRODUCTION

Music permeates throughout every aspect of people's lives in today's world. We hear music in the shops that we visit, walking through public spaces such as train stations or even when cars drive by and the windows are rolled down. Konecni (1982) wondered how much time we spend in an average day listening to music in different environments such as offices or in cars, while North et al. (2004) stated that there are locations where we actively control the music we hear (ie. in our homes, while exercising or in other everyday settings), to the locations we do not (ie. shops, restaurants and other commercial settings). But whether we can control it ourselves or not, people who are habitually accompanied by music utilize it to either supplement their most basic actions such as working, talking or eating (Konecni, 1982) or allow it to constitute a key part of their everyday experiences in life (Bull, 2005).

Advances in technology and changes to social and cultural behaviour have shifted where people typically listen to and consume music from locations that specialize in delivering music experiences, such as concert halls and opera houses, to more casual settings such as automobiles and households (Konecni, 1982). This shift to locations that are associated with every day life, rather than places that are reserved for special occasions that happen infrequently, has allowed people to use music for organizing their lives into categories that symbolize "the ongoing stream of events that constitute their personal, social and cultural life" (Kibby, 2000, pg. 92).

Konecni (1982) states that one of the most important questions that have yet to be answered involves people's music listening behaviours and the factors that shape it. The music that people listen to at different times of the day, for particular activities, with certain people, in specific locations, all suggest that "music clearly plays an important role in human life, but one is not likely to understand this role and develop a reasonably general theory of music preference, choice, and enjoyment by consistently ignoring the music-related behaviours of the vast majority of listeners" (Konecni, 1982, pg. 501). Therefore, with this in mind, what kind of functions does music serve people?

Music has been found to allow people to take a step back from the realities of life and escape into the solitude of their own mind.

“Music allows the listener to escape. On the bus, train, plane, walking or in a car, these two minutes have a similar effect to that of watching a feature film. You are catapulted into the emotional experience that the artist captured. If powerful enough it can simultaneously drive and embody your own emotions, allow you to feel a certain way or perfectly capture how you are actually feeling at any given moment.” (Sarah, 26)

People sometimes listen to music when they need a distraction from their current task at hand or to pass the time on a particularly mundane part of their day, such as the journey to work and home (Bull, 2004a). It was also suggested by Heye and Lamont (2010) that listening to music can reduce “the perceived length of journey for some...and helped to structure time while travelling” (pg. 108). Music also helps in regulating people’s moods by changing or amplifying the way we currently feel (Rentfrow & Gosling, 2003). Bull (2004a) echoes this statement as he found that mood was an important factor in determining what songs to listen to at any one moment.

Music also brings a sense of comfort to people, as the power of sound helps the world become “intimate, known, and possessed” (Bull, 2005, pg. 350). This comfort can reduce loneliness in people, especially with songs that are associated with a pleasant memory or a familiar stimulus in a person’s past or if it allows them to feel more connected with themselves (Heye & Lamont, 2010), especially if the listener can control what songs they hear in certain moments of their daily life. Michael Bull said that this sense of individual control can come from various devices used to listen to personal music; from the Walkman, where users would use it to “aestheticise their daily experience through sound in order to transcend their geographical space and manage their own sense of presence in the world” (2004b, pg. 114), to the iPod, which can carry a listener’s entire music library and “empower the ears of the city dweller: the user can now reorganize the sounds of the city to his or her liking” (2005, pg. 352). This sense of control leads to a feeling of comfort, as the right music to fit any moment is only a few button taps away.

Music is a near-constant, and sometimes necessary, companion to people who go about performing certain activities, whether that is using music to control movements while exercising or as background noise when studying. DeNora (2000) examined how music was used by women aged 18-77 in certain activities such as shopping and exercising, while North et al. (2004) found that music is a way to organize a person's world, both internal and external, and that "music is more than just the background to numerous activities but rather helps to continually reconstruct the aims of these activities" (pg. 43). However, the music that plays during certain activities must be chosen carefully as it is "expected to fulfill completely different functions in different situations" (North et al., 2004, pg. 44) and nearly every one of the respondents to DeNora's study "exhibited considerable awareness about the music they 'needed' to hear in different situations and at different times" (1999, pg. 35). Therefore, these studies suggest that there is a particular soundtrack that one associates not just with activities they partake in, but that music can fit into every aspect of a person's life.

However, a person's music preferences will most likely consist of a combination of the factors that I have mentioned above. This is the result of music being, as Rentfrow and Gosling (2003) describe it, a "ubiquitous social phenomenon" (pg. 1236) and Konecni stresses that people's music listening preferences are highly dependent on "the social context in which the listening occurs. The social activity the listeners are engaged in, whom they are with and what emotions and moods they are experiencing as a function of the social stimulation emanating from others in their environment are very likely to affect the type of music that is chosen" (1982, pg. 500). Rentfrow and Gosling stated that even in "social gatherings where music is not the primary focus, it is an essential component – imagine, for instance, a party or wedding without music" (2003, pg. 1237). Therefore, it is within certain contexts that lead people to choose the music they listen to.

Thus, what are the contexts that affect the music people listen to? Konecni suggests that a person's music preferences may be highly affected by "the social, emotional, and cognitive factors leading to, and in, the listening situation" (1982, pg. 500) and Bull (2004a, 2004b) states that people experience music through the connection and proximity to others around them. Therefore, the embodiment of a person's experiences with music is highly dependent on a number of contextual factors; such as

whom they are with, what they are doing and how they are feeling. To be able to capture this and share music experiences with others would be extremely powerful, emotional and thought provoking.

Technology has advanced to a point where sharing common interests on the Internet is widespread; from news, pictures and discussions, there are hundreds of thousands of online communities devoted to various topics (Beenen et al., 2004). Since music is important to, and prevalent in, our every day lives there are also numerous online communities that cater to a wide range of music discussions such as genres of music (Bryant, 1995), specific artists (Kibby, 2000; Jarvenpaa & Lang, 2011), music teaching and learning as a community of practice (Waldron, 2009; Waldron, 2013; Kenny, 2013) and specific niche genres, such as Swedish indie music (Baym, 2007). However, there is very little literature covering online communities that connect people through the music experiences that they have had; sharing pictures, music and stories that made their moment memorable. It is this absence of literature around capturing and sharing people's experiences with music that led me to write this thesis.

CONTEXTS FOR THE RESEARCH

There are two main contexts that drove my research and shaped the journey in this thesis. The first is personal context; essentially what was going on in my life at the time, both personally and professionally, that drove me to conduct this research. The second is theoretical contexts, which discusses how the learning from my previous educational periods aided in building my approach to the research for the current study. I will attempt to convey these contexts in a clear and concise manner that will frame the reader's view of this thesis.

PERSONAL CONTEXTS

The first thing the reader should know about me personally is that I love music, equally as both a consumer and creator. As a consumer, I use music as aural mood therapy or as a way of breaking the silence, which means that I will try to have music playing every chance I get. This can occur when I am travelling on public transportation, at home performing chores, playing with my children or any number of

activities that I am engaged in that does not require intense concentration. I most likely developed my love for music when I was a baby as my father used to sit me in front of the speakers he built himself, put on a classical record, turn off the living room lights and sit on his favourite couch to listen to the music. Being very young and not able to move on my own, I just sat there and listened along with him. According to my father, I started off listening to classical music but then moved on to more popular artists such as Simon and Garfunkel, Elvis Presley and the Beatles.

Because of my early exposure to music, it seems to affect me more emotionally than most people I know. This usually happens with classical songs, where my mind is free to form any number of images to match the sounds I am hearing. Whenever certain classical songs are played, I can feel it emotionally and start to get goosebumps on my arms and neck. An example of this is the song *Dawn* by a Japanese composer called Yuhki Kuramoto from the album *Sailing In Silence*. Whenever I hear this song a number of images come to mind, such as driving through the countryside in the rural areas of Toronto among the orange and yellow autumn leaves. Another song that particularly affects me is *Sunrise* by the famous classical composer Ravel from his work *Daphnis et Chloe, Suite No. 2*. Every time I hear this song I picture myself soaring through snowcapped mountains with a clear blue sky and the sun blanketing everything with a warm glow. Again, all of these feelings and images is due to an extreme emotional connection that I feel I have with music.

As a creator of music, I started to play the piano when I was 9 years old and continued with instruments in high school when I played the French horn in the school orchestra. Besides classical, my other favourite genre of music is jazz and during high school I learned how to play the trumpet and trombone just so I could play in the school jazz band. During my university years, I started a DJ company with my brother David and performed at house parties and small events. It was during this time that we both noticed we had developed an ability to read the crowd and anticipate what music they would want to hear next. Essentially, coming up with the playlist of songs based on the current context and changing instantly whenever the moment felt right.

Our DJ experience led us to start producing our own music in the genre of hip-hop; using computers, digital synthesizers and electronic samplers to create beats. We

would take samples from classic jazz or Motown era music, and mix that with heavy bass, snare drums and other effects. This experiment peaked at an event called *Battle of the Beatmakers*¹ in 2006, which was an elimination-style tournament involving the best emerging hip-hop music producers in Toronto. David and I made it to the semi-finals, where we lost to a producer named Boi-1da, who would go on to become a Grammy-award winning producer². These first-hand experiences, coupled with my emotional connection with music, help lend a personal and practical context to the story that is evident throughout my thesis.

Professionally, after I graduated from my undergraduate degree I worked at Honeywell Aerospace³ as a mechanical design engineer. This required a lot of detailed design work, but I was always more interested in seeing the bigger picture from an overall project prospective. Having worked with project engineers and learning from them, I saw what it took to become one and realized they all had one thing in common: an MBA degree. Therefore, I decided to go to the Joseph L. Rotman School of Management (Rotman) at the University of Toronto and earn one to further my career. During the second year of my MBA, I went on a study exchange to the Manchester Business School (MBS) in the United Kingdom. This trip opened my eyes to the world of possibilities outside of North America and, luckily, I had an opportunity waiting for me there that involved research on music. After much deliberation with my family, I decided to accept the challenges of obtaining a PhD in this topic because of my love for music and how I am fascinated by the way that it can change the feelings, mindset and even actions of people listening to it.

CRITICAL FRIENDS

McNiff and Whitehead (2011) suggested that for a living theory to grow, the thinking and assumptions behind it must be challenged in a constructive and unsentimental fashion. Therefore, the notion of critical friends who could perform this role was brought up, which can be chosen from a circle of friends, family and peers. In addition to performing this role, these three critical friends also helped in the brainstorming of

¹ <http://www.soundsupremacy.com>

² <https://twitter.com/Boi1da>

³ <http://aerospace.honeywell.com>

concepts, design, implementation and support of the online music communities presented in this thesis.

However, even though the goal of the thesis is to explore how to create and sustain a community based on music, there is also the organizational aspect, or team dynamics, of the research and how it helped the process of creating this community. Most of the issues encountered by the team in the journey, and the reflections and lessons learned that followed, are beyond the scope of this thesis, but the team itself was essential to the success of the study. Therefore, I will be commenting and describing the team dynamics as it fits in the context of this thesis but I will only touch upon the organizational aspects in the future studies section in the hope that it will aid future work in this area.

Martin Cahill

I met Martin at MBS while I was on study exchange there in 2008 and at the time he was a research associate in my PhD supervisor's department. We connected immediately through the topic of music experiences and the factors that determine the best piece of music to be played at any moment and wanted to see how we could take these concepts forward. With his knowledge in both digital and social media and his previous work in academia, he had the skill set to become the first critical friend on my journey.

David Ko

David is my only sibling and is younger than me by 9 years. He is also my closest confidant. He studied computer engineering for his undergraduate degree at the University of Toronto and, upon graduation in 2010, helped our dad with his database-consulting firm with projects in Asia and the South Pacific, in addition to his help with this project. He also loves music and started both the DJ and music production companies with me. Because of his vast technical knowledge in programming and design, his addition as a critical friend was vital to the success of this thesis.

Mihai Ionescu

When additional help was needed for the technical aspects of the online music communities, Mihai was introduced to the team as a potential collaborator. At the

time, he was studying for a Masters degree at MBS but my PhD supervisor identified him as someone who possessed a skill set that could be potentially helpful with our project. Since joining, he has not only become a critical friend in the research process, but also a crucial member of the development team with David.

THEORETICAL CONTEXTS

In addition to the music-related literature that was touched upon earlier in the Introduction, as well as later in the thesis, my conceptual frameworks were formed from the courses I took while attending Rotman and MBS. Although MBA schools teach the fundamentals of business and management through case studies, Rotman tries a different approach through their use of the integrative thinking and business design curriculums that are based on learning through your own actions rather than someone else's. It is also more academic in nature during the problem inquiry stage such that mental models need to be constructed before taking action. In this way, action research is similar to integrative thinking and business design in that cycles of action and reflection take place to address the identified problem. The similarity in theoretical frameworks from my previous academic institution to my current one allows me to fully embrace the methodology that shapes action research. This is the advantage that McNiff and Whitehead state regarding action research, as it "can be a powerfully liberating form of professional enquiry because it means that practitioners themselves investigate their practices as they find ways to live more fully in the direction of their educational values" (2011, pg. 8). Therefore, I approached this study drawing upon the educational values I received from both Rotman and MBS, which were used to shape and define the overall structure of the thesis and the conceptual frameworks that drive each cycle.

Integrative Thinking

The role of the modern MBA is changing, and with it, there needs to be changes with the curriculum that is currently being taught in MBA schools. Datar et al. (2010) give a list of the reasons why this is happening, which include declining enrollment in full-time MBA programs, the rise of substitute programs, lack of student engagement and

a need to prepare these students for a broader range of careers. One of the solutions to this issue includes the model being taught at Rotman called integrative thinking.

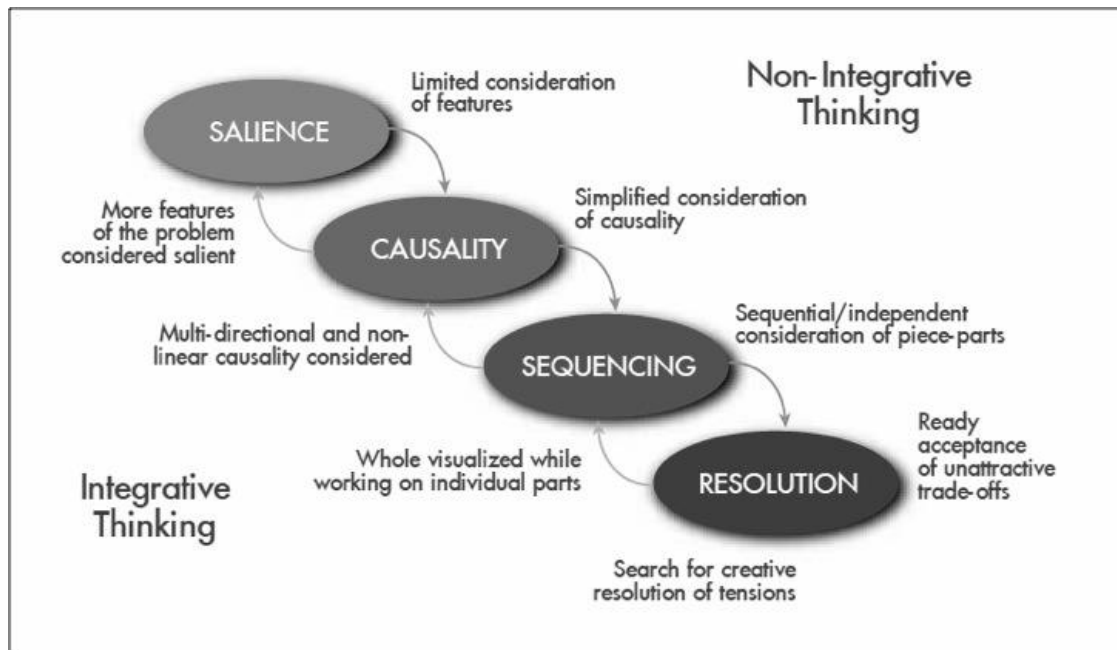


Figure 1. Integrative Thinking model (Martin, Integrative thinking: A model takes shape, 2002)

In a business context, integrative thinking is defined as “the capacity to take a cross-functional, multidisciplinary approach to the solution of unstructured business problems” (Latham et al., 2004, pg. 4) and from an educational context, it is defined as “a fundamental management function requiring specialized skills that provide students with the tools to analyze problems holistically, see the value in opposing models, and synthesize competing perspectives” (Datar et al., 2010, pg. 9).

According to Martin (2002), there are four steps that are taken with this approach:

1. *Salience*: The decision maker needs to determine what factors are salient, and what are not, that need to be taken into consideration when coming up with a solution
2. *Causality*: The decision maker needs to understand the causal relationships between the factors and solutions under consideration in the first step
3. *Sequencing*: An overall mental model is constructed based on the salient factors that were decided upon. This model can be addressed in parts, but the

entire casual map must always be top of mind when working towards a solution

4. *Resolution*: The decision maker will make a choice based on the previous steps above

Datar et al. (2010) state that the value to students learning this method include the ability to become model builders rather than model takers, how to understand other people's mental models and tools that enable students to create new models based on generative reasoning.

Martin and Austen (1999) explain that integrative thinkers try to creatively manage, and not dismiss, all the tensions that are produced by two or more options available to them and that this approach requires "a high tolerance for ambiguity and uncertainty, and an attitude of openness to continuous optimization, rather than a push toward closure" (pg. 11).

Business Design

Business design is another approach that the Rotman School is teaching its students. It is rooted in the methodology of design thinking, which is defined by Brown (2008) as innovation being powered by "a thorough understanding, through direct observation, of what people want and need in their lives and what they like or dislike about the way particular products are made, packaged, marketed, sold, and supported" (pg. 1).

Brown notes that, historically, design is only utilized near the end of the development process when aesthetics come into play. However, he says that designers are now a vital part of this process and their involvement can lead to new forms of value.

Brown (2008) lists some of the characteristics that are common in all design thinkers:

- *Empathy*: Allows the design thinker to visualize the world from multiple perspectives, enabling them to know what qualities others desire
- *Optimism*: Allows the design thinker to overcome even the most challenging problems
- *Experimentalism*: Coming up with substantial innovations requires entirely new ways of thinking and to test the limits of existing boundaries

- *Collaboration*: In order to innovate, ideas must come from multiple disciplines, not just one, as products become increasingly complex and the demands of an audience increase
- *Integrative thinking*: Design thinkers can see all of the salient variables that affect the current problem to help formulate innovative solutions

It is this last point where Rotman has combined the concepts of integrative and design thinking into the teaching curriculum for their MBA course. In an interview with Dunne (2006), Roger Martin, the Dean of the Rotman School, states that there are three aspects of design thinking: cognitive, affective, and interpersonal.

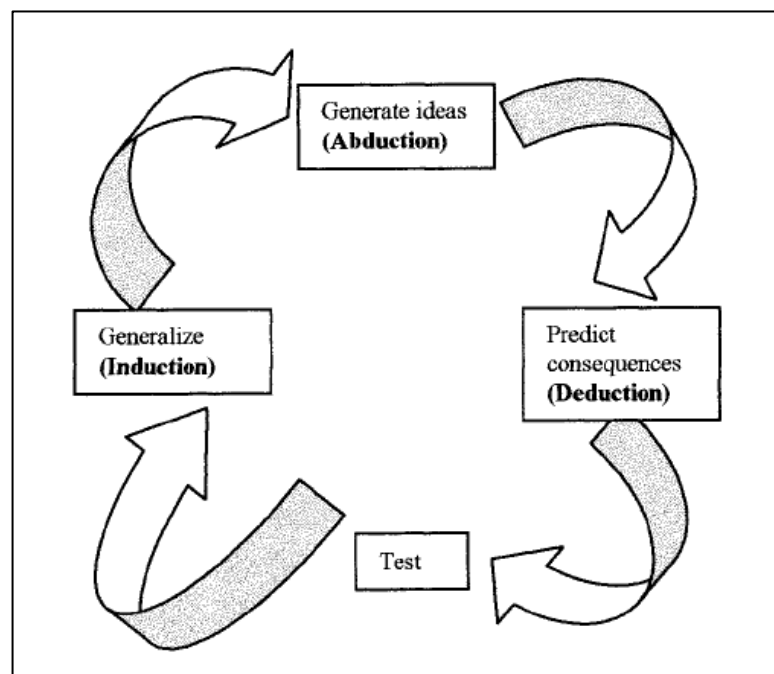


Figure 2. Business Design (Dunne & Martin, 2006, pg. 518)

Cognitive: The process of design thinking consists of three sets of reasoning, inductive, deductive and abductive. Inductive reasoning is a broad generalization of specific occurrences, while deductive reasoning starts with a general hypothesis, and then all possibilities are explored until a logical conclusion is reached (LiveScience Staff, 2014). Abductive reasoning is described as the only logical operation where new ideas are introduced, through the process of forming an explanatory hypothesis (Dunne, 2006). The cycle can be seen in Figure 2, and starts with the generation of an idea through abduction, then deduction is used to help predict the possible results and

consequences of the ideas, this idea is then tested to see what the actual outcome is, and finally induction is used to generalize the results.

Attitudinal: Dunne (2006) states that a designer's attitude towards limitations differs from that of a traditional business manager. A designer sees it as an opportunity to be innovative whereas conventional management thinking sees barriers to progress.

Interpersonal: Empathy is the main attribute used in this aspect, as a designer needs to work with both peers and the users they are designing for. In terms of peers, designers collaborate with people who are not similar to them such that they can expand their perspectives and continue to innovate. In terms of users, a designer will observe, reflect and understand their needs in order to help create better user experiences.

In further adapting design thinking as a concept for Rotman to transform business education, Fraser states that business design “is about creating a model for symbiotically delivering market value and enterprise value” (2009, pg. 58) and that it incorporates elements from Brown's (2008) five characteristics of design thinkers. The methodology that was created to address this is called the Three Gears of Business Design (Fraser, 2009), which include the aspects of empathy and deep human understanding, concept visualization and strategic business design (Figure 3).

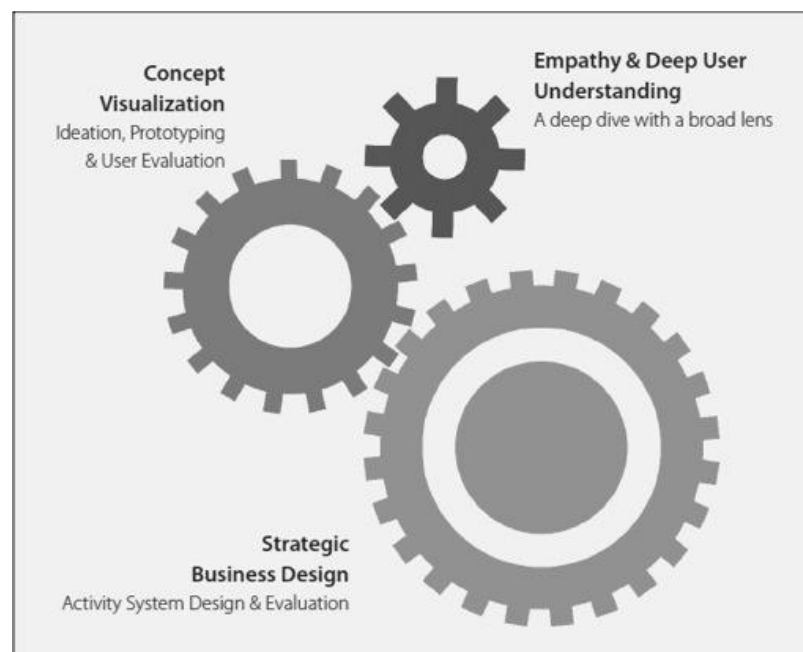


Figure 3. Rotman Business Design Methodology (Fraser, 2009, pg. 58)

Empathy & Deep Human Understanding: Understanding users on a deeper, more human level can create more value and innovation through opportunities that might not have been apparent using more traditional terms of measurement.

Concept Visualization: This gear represents the notion that anything is possible and is where truly innovative solutions come from. Ideas in this stage are conceived, built as a prototype and, ideally, tested with users such that learning can be made quickly and improved iterations can follow.

Strategic Business Design: This gear defines the strategies and capabilities required to make the idea commercially viable. Fraser (2009) proclaims that the most important aspect of this phase is the “identification and design of interrelated activities; this all adds up to a net commercial gain and competitive advantage for the enterprise” (pg. 62).

Fraser (2009) concludes by stating that a company should try and integrate the fundamentals of design thinking into its foundations to enable it to be adaptive and agile in an increasingly competitive business world that is constantly evolving. Attending Rotman for my MBA and learning about the cyclical nature of integrative thinking and the constantly changing *living organism* methodology of business design has helped to prepare me for the concepts in action research I would be learning for my PhD.

Action Research

After taking an action research course in the first year of my PhD curriculum, it opened my eyes to the different kinds of participatory research methods available and one that would fit the nature of my study. Reason and Bradbury define action research as “a participatory, democratic process... it seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities” (2001, pg. 1). Altrichter et al. (1990) explains that an action research methodology is needed if “yours is a situation in which: people reflect and improve (or develop) their own work and their own

situations; by tightly interlinking their reflection and action; and also making their experience public not only to other participants but also to other persons interested in and concerned about the work and the situation” (p. 19).

Whitehead (2009) stated that his commitment to action research started in 1971 when he used it in his context as a science teacher and asked, researched and answered the question of how he could improve what he was doing. In essence, he wanted to find out how he could improve his practice and discovered that action research was the only research method that allowed him to put himself into the study and the research question itself. Checkland and Holwell (1998) concur with this statement by saying that in action research, researchers immerse themselves in a human situation and follow it along whatever path it takes them as it moves through time. Therefore, they concluded that “the only certain object of research becomes the change process itself” (pg. 11).

This social research method is different than the traditional scientific method, which uses the underlying principles of reductionism, repeatability, and refutation that yields results that are repeatable through experimentation and where the phenomena under investigation is homogenous through time (Checkland & Holwell, 1998). However, the very nature of the change that occurs in action research and how it can be applied in social situations appealed to me because of my research topic and how I wanted to involve myself in the study.

Additionally, because of the dual pursuit of both *action* and *research* in an action research study, Dick (2002) outlined eight questions (or ‘choices’) the researcher should answer which helps to justify why they chose this specific methodology, to establish a position in terms of the research question and to shape the approach they will take for the study. I used this outline as guidance for my own research journey and to justify the decisions I made regarding my thesis.

Choice 1: Theory driven or data driven?

Dick (2002, pg. 160) states the difference as follows:

Theory-driven research: *“Do you want to do research that turns first to a body of extant literature and contributes to knowledge by extending, refining or challenging it?”*

Data-driven research: *“Do you wish to deal with the research situation and the people in it as they are, as far as possible putting aside your preconceptions so that you are more open to experiencing the research situation fully?”*

My thesis takes a data-driven approach, which Dick suggests is “responsive to the situation, and flexible” (2002, pg. 160), and I wanted my research to be open to any number of possibilities from the learnings I will receive during my journey. In terms of structuring the thesis as I have, Dick (2002) points to the fact that since a data-driven research project is constantly evolving, it might not be apparent at the start of the journey what literature needs to be read. Therefore, he suggests to “postpone reading until the relevance of literature can be judged easily” (pg. 162) which in turn affects how the thesis is structured. This is why I have a *theoretical frameworks* section in each cycle as the literature review took place after the learnings from the previous cycle, which I will talk about in more detail in choice 8.

Choice 2: Researcher as technician or performing artist?

Dick (2002, pg. 161) states the difference as follows:

Researcher as technician: *“Do you want to be an apprentice who will learn thoroughly, from your supervisor, committee and literature, a particular approach to research?”*

Researcher as performing artist: *“Do you expect to engage in research with whatever resources and understanding you can bring to bear, learning from your experience?”*

In terms of my thesis, I will enter the role of a performing artist that helps to understand, learn, critically reflect and then dictate where the research flows next. This is evident by the fact that I use the FMA methodology (Framework of ideas,

Methodology, and Area of concern) by Checkland and Holwell (1998) for my action research cycles and also, as Dick (2002) suggests, action research allows flexibility to build up an understanding of what methodologies and methods are best suited to that researcher and their research question.

Choice 3: “Action research” or “action research”?

Dick (2002, pg. 162) states the difference as follows:

Action-oriented research: *“Is your main intention to bring about change, with research outcomes as a desired but forsakeable bonus?”*

Research-oriented research: *“Do you desire above all to do good research, with change as a hope-for but not essential outcome?”*

Having to choose between the two options does not adequately reflect my position as I see action research as a whole, with both action and research taking equal priority in my situation and study. Furthermore, because I was both the lead researcher for my study and the team leader within our project group, I was in a position where my research could directly lead to relevant actions, and vice versa, whereas someone who could not directly affect change within an organisation (such as an external consultant to a company) might need to choose whether their main focus for the study is on the action or the research because they cannot influence both equally.

Choice 4: Which action research methodology?

Dick (2002) said that “action research profits from the use of a cyclical or spiral process in which the researcher alternates action with critical reflection” (pg. 159) and that he regards action research as being defined by this cyclical process and the pursuit of both action and research. In keeping with this notion, I used the FMA methodology by Checkland and Holwell (1998) to shape the nature of my inquiries for each research cycle.

Checkland and Holwell (1998) describe Figure 4 below as showing what research in any field must entail. It must have a framework of ideas (F) that are linked to a certain methodology (M) applied to an area of interest (A). This ultimately yields learning

about the acceptability of F and M used in the model, in connection with A. West and Stansfield (2001) describe that criticism regarding the FMA model come from researchers outside the realm of action research who wonder whether stating a framework at the beginning of a cycle will “restrict the direction of the study that follows” (pg. 253). However, their response is that those who question this methodology commonly misunderstand the flexible and ever changing nature of action research and that stating the F at the beginning of a research cycle is fundamental in keeping a frame of reference from which to help inform the results, reflections and lessons that come from each cycle (West & Stansfield, 2001).

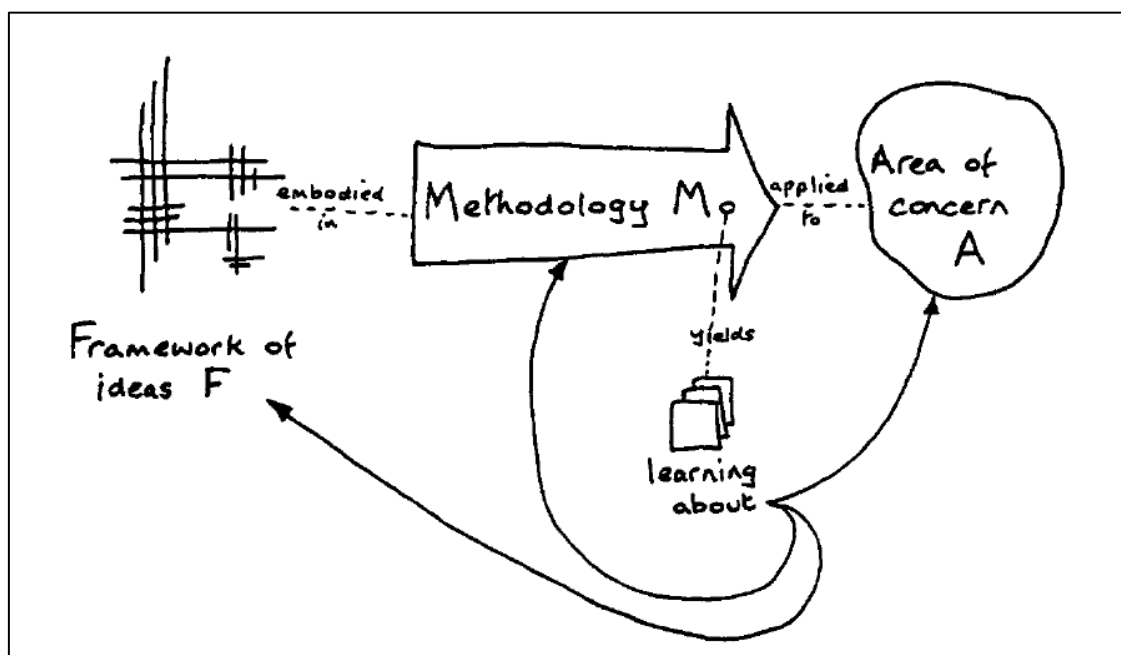


Figure 4. FMA model (Checkland & Holwell, 1998, pg. 13)

Checkland and Holwell (1998) take this model further by stating that, in order to bring it towards a more “ideal-type” of research model, action researchers will deal with research themes where lessons can be obtained, rather than in hypotheses (Figure 5). These themes play a prominent role in the research conducted and steer the study along its next path. Using these themes as a point of interest for further exploration, a researcher will then declare their F and M, before entering “the ‘social practice’ of a real-world situation in which the themes are relevant and becomes involved as both participant and researcher” (Checkland & Holwell, 1998, pg. 14). This dual role must be navigated carefully, where a continuous reflection must take place on what is occurring, how it affects the previously declared F and M, how this might change the

thinking of previous cycles and how it might affect future cycles. Therefore, the analytical framework is not static, but helps one to understand the researcher's methodological approach at any point in time, and can be "adapted and developed as the study progresses and researchers reflect on their framework of ideas" (West & Stansfield, 2001, pg. 254).

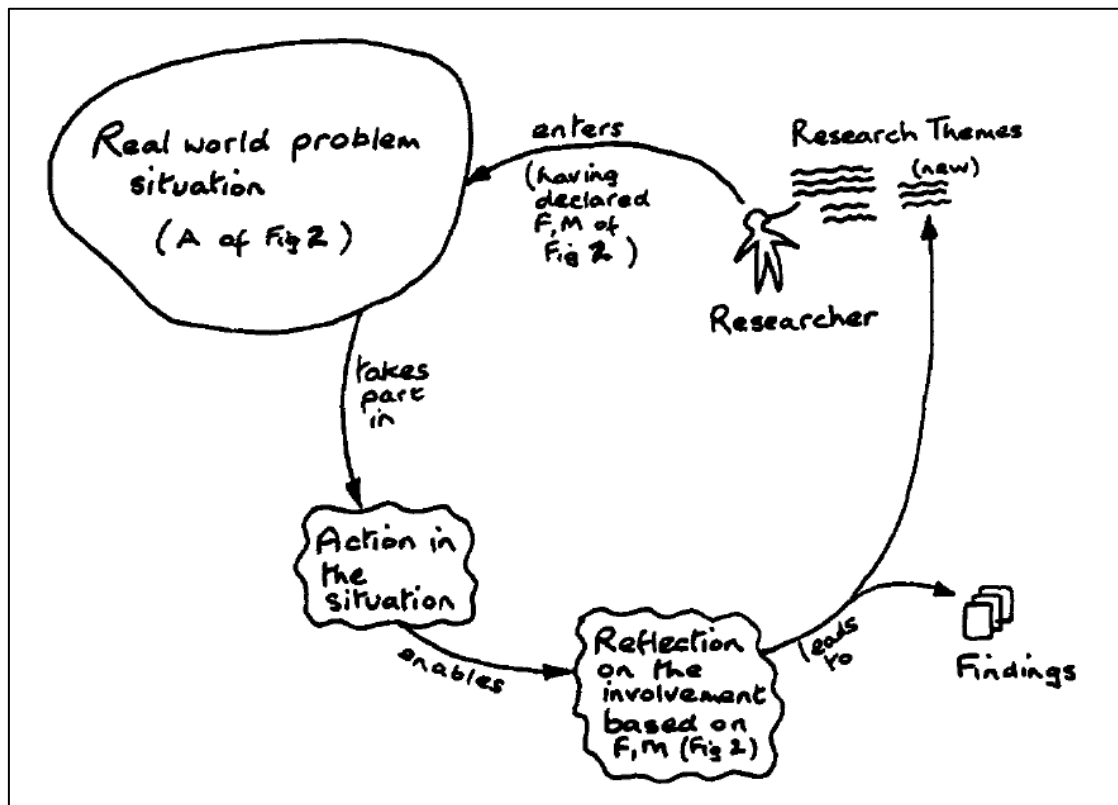


Figure 5. Cycle of action research in human situations (Checkland & Holwell, 1998, pg. 15)

However, despite using action research to generalize findings for other situations, Checkland and Holwell caution that this type of methodology will never be able to make the same claim to validity as the natural sciences. Therefore, they suggest that action researchers "must pay careful attention to the claim of validity relevant to their research into phenomena not "homogenous through time" (1998, pg. 16).

Choice 5: What extent and style of participation?

Coughlan and Coughlan (2002) state that the action research method is appropriate when "the research question relates to describing an unfolding series of actions over time in a given group, community or organisation; understanding as a member of a group how and why their action can change or improve the working of some aspects

of a system; and understanding the process of change or improvement in order to learn from it” (pg. 227). Since I want to observe the process of creating a community and to have a direct influence in bringing about any changes necessary, the level of participation I will take in the study is one of emancipatory action research. Carr and Kemmis (1986) state that emancipatory action research happens when “the practitioner group takes joint responsibility for the development of practice, understandings and situations, and sees these as socially-constructed in the interactive processes of educational life” (pg. 203) and includes the “impulses and forms of practical action research but extends them into a collaborative context” (pg. 204). McNiff and Whitehead (2009) concur saying that “action researchers accept full responsibility for exercising influence” (pg. 34), and Perry and Zuber-Skerritt (1992) add to this by stating that emancipatory action research is the only real form of action research.

In terms of getting the involvement of others in my research study, they are referred to as ‘critical friends’ as stated earlier, Zuber-Skerritt and Perry (2002) suggest that the level of participation by others in my field study is decided by myself, and that my original contribution to knowledge comes from my own individual reflection of the study.

Choice 6: Which methods for data collection and analysis?

Lewin (1947) described the process of action research as consisting of three phases: planning, fact-finding and execution (in Carr & Kemmis, 1986, pg. 162). Fact-finding is a required step which leads to an overall plan being developed on how to proceed and what the first step of action should be. In the context of this thesis, my initial assumptions on how people liked to share their previous memories with music were borne from my own personal experiences and not through any formal research methods. Using a survey would help me fact-find with an accepted academic methodology, and the results could then be used to develop the first steps of my overall project plan. Pinsonneault and Kraemer (1993) state that surveys are used for information gathering regarding the opinions of a large group, or population, of respondents. For the purposes of my thesis, I will only be administering a survey as an initial fact-finding mission before deciding on a finalized thesis structure and research approach.

Lending further support to this decision, Dick (2002) has stated that action research encourages people to mix different qualitative methods while Coughlan and Coughlan (2002) have asserted that action research can include all types of data gathering methods, and that the results from these methods can aid in the pre-understanding of the research topic. Attewell and Rule highlight the complementary nature of both survey and fieldwork approaches in studying information technology stating, "each is incomplete without the other" (1991, pg. 314).

Gummesson (2000) has offered that action research requires a breadth of pre-understanding, where Coughlan and Coughlan define pre-understanding as "the knowledge the action researcher brings to the research project" (2002, pg.226), while Gable (1994) says "the researcher should have a very good idea of the answer before starting a survey. Thus, traditional survey research usually serves as a methodology of verification rather than discovery" (pg. 3).

Therefore, since action research can include all types of data gathering methods, I decided to use a survey to start my first cycle as an initial fact-finding exercise, in addition to verifying my assumption that people have, and like to share, similar past experiences with music.

Choice 7: Rigour or relevance?

Again, I do not see this choice as being two separate entities from which I must choose one or the other. In my thesis I strive to uphold and justify both the rigour I have used in planning, obtaining and interpreting the data and results and through my actions on an area of concern in each cycle, I have demonstrated the relevance of my research study and its effect on some part of the world, however small or large (Dick, 2002). In addition, Wood-Harper (2013) has said that an action research thesis should contain a plausible and coherent story for it to be considered suitable to be presented to the wider academic community. Therefore, taking all of these suggestions into account has helped me shape the structure and presentation of my thesis.

Choice 8: How will I write up my research project?

Because my thesis is both data driven and responsive, Dick (2002) suggests that the structure will not fit that of a conventional thesis (ie. introduction, methods, results,

discussions, and conclusion) and should follow a format that reflects “the conduct and style of action research” (pg. 167). This is in line with a problem that an action research thesis faces when compared to a traditional thesis. Zuber-Skerritt and Fletcher explain that action researchers must adhere to “traditional research requirements of high standards, quality and an original contribution to knowledge in the field. But as well, they need to demonstrate the requirements of action research, such as explaining and justifying the action research paradigm (plural ways of knowing), appropriate methodologies, their choice and use of qualitative research methods, different standards of ethics and values, and evidence of learning, reflection and a contribution to knowledge in both theory and practice.” (2007, pg. 414).

Zuber-Skerritt and Fletcher (2007) further suggest that reflections be made an “integral part in each chapter and/or at the end of the thesis as a final chapter” (pg. 420). Therefore, with this in mind, the structure of my thesis will consist of four chapters containing the FMA methodology, each with a reflection section at the end to enable me to critically reflect on the entire process and to help shape the nature of inquiry for my subsequent cycle. The reason why I included four cycles is because Zuber-Skerritt and Perry (2002) declared that in order to make a significant contribution to knowledge, a PhD action research project should progress through “at least two or three major cycles” (pg. 176). Using a survey in my first cycle, as suggested by Lewin (1947) and discussed already in choice 6, is more for fact-facting and planning with all subsequent cycles taking action on what was learned during this phase. This approach to research, action and report writing was taken from the Perry & Zuber-Skerritt (2002) model as shown in Figure 6 below:

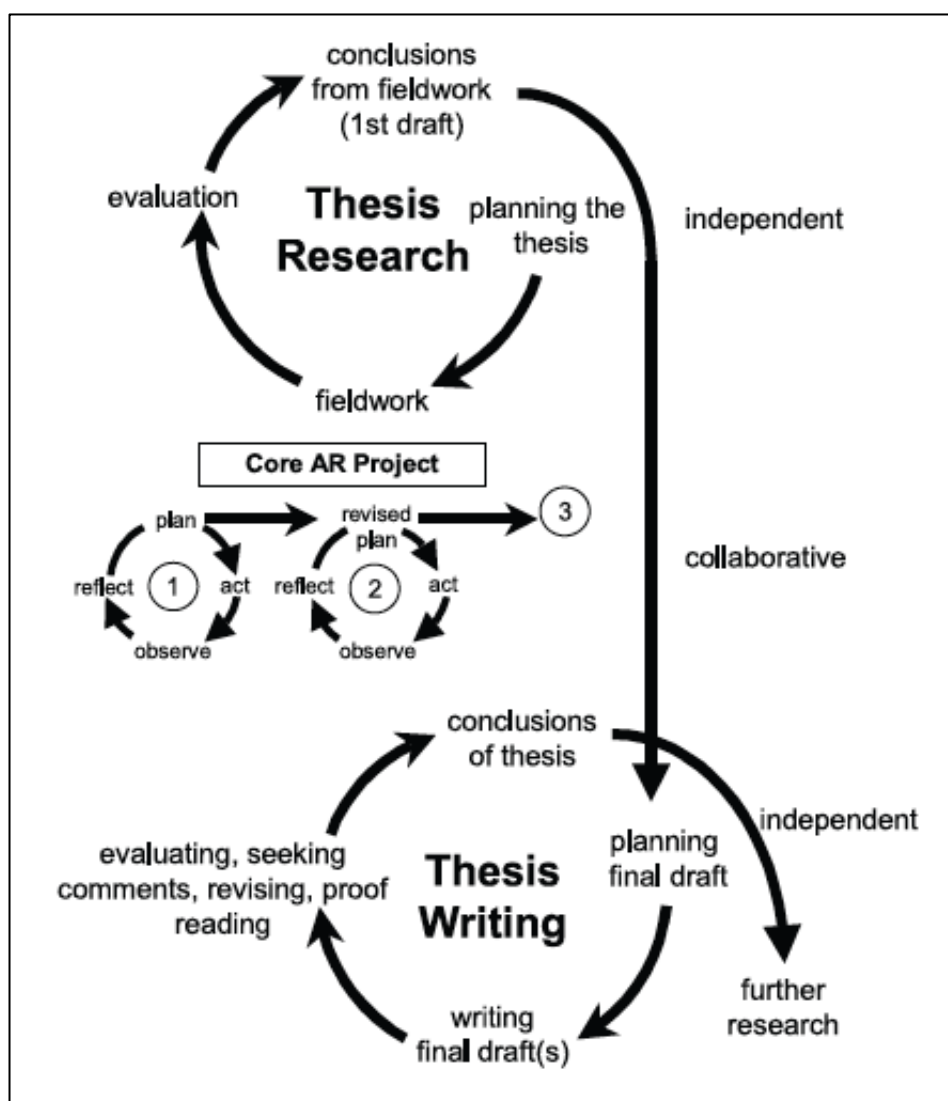


Figure 6. The relationship between thesis research, core action research and thesis writing (Zuber-Skerritt & Perry, 2002, pg. 177)

The *Core AR Project* section is where I followed the direction of the FMA model (Checkland and Howell, 1998) to use as my core action research methodology and to provide a better structure during my main *action* time period (see: choice 4). This would also help satisfy the requirements for academic rigour by the wider academic community.

In addition to the choices outlined by Dick (2002), it is important to note that the decision to adopt action research into my study is in line with Battaglia's beliefs that "action research enables you to live your questions" (1995, pg. 89). McNiff and Whitehead (2009) state that action researchers see themselves as "part of the context they are investigating" (pg. 8), which allows the researcher to ask important questions

about the study such as whether it is proceeding as expected and, if not, how it can improve. My position as a researcher from outside the study allows me to ask critical questions to myself about why people are reacting to our community in certain ways, what the literature says about this, and what can possibly be done to improve it. Additionally, by having an inside view of the study I was able to drive change based on what I learned from the last cycle and to see if there is anything not covered in the literature review that could only be found using an action research methodology. Having this dual view of the research allows me to ask myself how to improve the current situation, which relates to both the social situation happening outside of the study as well as what is happening inside the study, in relation to my own knowledge (McNiff & Whitehead, 2009).

SIGNIFICANCE

The significance of my findings is two-fold. The first deals with how the study helped me understand and develop my own personal skills in regards to research, knowledge and process improvement. This involved the addition of knowledge on how to create an online music community and the steps taken to improve it gradually in each cycle. It also includes the learning I have acquired from my interactions with the team that helped me build the communities, and the collaboration and planning that was necessary to ensure that our user's personal information was kept safe, the website was reliable and that it allowed members to share their music experiences to other users. The second involves my contribution to the wider academic community in the form of an original and substantial piece of work that uses the FMA methodology of action research in creating an online community based around music experiences. Since there is an absence of literature on the role that network externalities and installed base play in this specific topic using this specific methodology, my thesis was written to ensure that further studies could be drawn from it to enhance this field of research in the future.

THE CHAPTERS

As explained earlier, this thesis will forego the usual segmentation of chapters in favour of the action research notion of *cycles*. Each cycle will start by detailing the

area of concern, that is, what is the problem that needs to be solved, and then the conceptual frameworks used to help shape the research will be explained. Following this, I will describe the methodologies used for the current cycle, present an analysis of the study results, and finally, reflect on what transpired during the cycle and actions derived from the lessons that I learned which can be carried over into the subsequent cycle.

The thesis starts with the first cycle, which details the methods used to explore the memories that people have experienced with music in their past and how this can be translated into building a community. The second cycle defines what exactly a community is, specifically a virtual one, and establishes a link between creating an online community and technology adoption. The third cycle then delves deeper into the issues and important factors of technology adoption and applies it to the community. The fourth and final cycle further utilizes the technology adoption literature, along with literature on network participation, to determine what the main factors are that encourage people to use virtual communities. The conclusions will further elaborate on the themes touched upon in each cycle, the limitations of the current research and further areas of study to help expand our understanding of how to build online music communities.

CYCLE 1

I knew that going into this first cycle, I would be learning and revising my approach on how to connect people through shared music experiences. I had to go into this with an open mind about the results I might get from the subsequent data collection and analysis and then use the learning to help drive the framework and methodology for any subsequent cycles. This process was explained in the research done by Checkland and Holwell (1998), saying that the series of events and ideas that come from action research will “continue to evolve through time” (pg. 17).

AREA OF CONCERN

My main area of concern for this cycle was based on reflections from my own personal experiences with music and the memories that are associated with certain songs. I wanted to explore whether other people experienced the same memory recall as I do for music and whether they remember the details for these episodes. In short, I wanted to find out what kind of experiences people have had with music.

FRAMEWORK

The frameworks presented in this cycle were influenced by literature regarding how people use music in their everyday lives, how memories can be recalled by music and the kinds of experiences people have had with it. All of these fields of study helped form my theoretical concept that laid the foundations for this thesis.

Music in Everyday Life

I was influenced by the many papers and books written by Michael Bull (2004a, 2004b, 2005, 2007), Tia DeNora (1999, 2000) and North et al. (2004, 2008) whose concepts on how people use music in their everyday lives helped shape my original thinking on the research topic. People use music in various ways throughout each day as they go about their daily routines, either going to work, school or out performing chores. This is usually a solitary exercise which people either choose to undertake alone or is the by-product of their current circumstances.

The introduction of the portable music player accompanies the listener throughout their day, and with each advance in technology brings the ability to carry more and more music along for their journey. The Apple iPod is, arguably, the most successful portable music player in history and can hold an “entire library of tunes” (Levy, 2006, pg. 1). According to Levy (2006), in terms of the music business, the iPod changed both the way digital music was distributed, purchased and consumed. In terms of behaviours, Bull (2005) states that the iPod changed the way people listened to music as it helps produce a “mixture of music, proximity and privacy whilst on the move” (pg. 344). Bull further states that because of the enormous storage capacities of the iPod, music listeners are now allowed to carry an extraordinary amount of music with them wherever they go, and with this newfound freedom, it allows the listener to not only manage or control their playlists but also their “thoughts, feelings and observations as they manage both space and time” (pg. 344).

I found this to be the case with my own personal music collection. When I purchased the iPod Classic with an 80 Gigabyte storage capacity (Apple Inc., 2011) in 2007, I was able to digitize and store the entire physical music collection of 300 compact discs that I had at home. Every song I had ever owned was at the touch of my fingertips in this little device, an extremely satisfying thought to such an avid music lover like myself. And because of my DJ background, I was finally able to create a personalized playlist for every moment I thought I would encounter during my daily routines. With my iPod headphones on, I was in my own world, walking to the beat of my own proverbial drum. Levy (2006) stated that the iPod had this effect on people when it was released, allowing humanity to “separate themselves from the bonds of reality via the White Earbud Express” (pg. 2), where the white earbuds were the iconic symbols of an iPod user (Sorrel, 2009). This concept is also touched upon by Bull (2005), who said there was a need for people to find solitude within the confines of their personalized digital music players that creates a “privatized auditory bubble” (pg. 344). Sloboda et al. (2001) also suggested that music listening in Western cultures is more “individualistic, relies almost entirely on recorded music, and is unstable and rapidly changing, both in terms of context and repertoire” (pg. 12) as compared to more socially-integrated cultures.

However, despite the desire to listen to music alone, there seems to be a need for the listener to be in close social proximity to others (Katz & Aakhus, 2002) and to feel a sense of belonging to the world in general. In essence, this connection can only be made when out in the public arena in the form of “accompanied solitude” (Bull, 2004b, pg. 105). This accompanied solitude occurs when people are out amongst the general population but walking to the personalised sounds of their portable music players (Bull, 2005).

Having reflected upon this literature, I noticed this indeed described the reason why I listen to music when I am out of my home, out and about, carrying on with my daily routines. I still need the scenes of life unfolding before my eyes, and the music I am listening to is the soundtrack I chose for this very moment. There are times when I listen to music when I am completely alone with no one else around me, but I mostly enjoy listening to music when there are people about.

Music and Context

To help with the music selection during this accompanied solitude, people make playlists that best represent the moment they are in. In essence, this is the soundtrack to their lives. The notion that typical users of digital music players will create playlists to accompany them based on time of day (Konecni, 1982; North et al., 2004), moods (Bull, 2005; Bull, 2004b; DeNora, 2000; Schafer & Sedlmeier, 2010), weather conditions (Bull, 2005; Konecni, 1982) and different activities (Levitin, 2007; DeNora, 2000) is touched upon by a number of different studies.

Levitin (2006) states that there are numerous factors that help to influence how an individual selects a particular song, album or genre of music to be played. These factors can “include, but are not limited to: emotions, personal experience, social context, and culture” (Dunn et al., 2011, pg. 411). In DeNora’s study (1999), some of the respondents said that they listen to music to attain, enhance and even maintain desired states of mental and physical energy, such as using it to relax, or use it as a vehicle to change their current state of mind if they are stressed or fatigued. Bull (2005) claims that users will often have a selection of playlists that suit different times of the day, weather conditions and even times of the year. For example, hours are

spent on creating playlists to prepare for the daily commute between home and work. North et al. (2004) also echo this statement saying that music serves different roles during different times of the day and also during different days of the week, which is due to the fact that the majority of people are engaged in some form of task during a working day (such as studying or paid work) in the morning and afternoons, while music is used for leisure during the evenings and weekends. Reynolds et al. (2007) suggest that even though a playlist has been prepared beforehand, a listener will continuously adapt their actions to their environment. Lehtiniemi (2008) reasons that the desire for controlling your music selection stems from the fact that there are “unpredictable external factors that can be encountered” during your everyday experiences outside (pg. 315). While Thompson and Larson (1995) concur that experiences with music are not just a function of where or whom these songs are listened with, but the context of listening needs to be taken greatly into account.

Using context to recommend music is not an entirely new concept. This idea is touched upon by a number of studies using mobile technology to generate playlists in a given context such as Lifetrak (Mascia & Reddy, 2006), PersonalSoundtrack (Elliott & Tomlinson, 2006), XPod (Dornbush et al., 2007) and SuperMusic (Lehtiniemi, 2008). Dey defined context in a computing environment to be “any information that can be used to characterise the situation of an entity. An entity is a person, place, or object that is considered relevant to the interaction between a user and an application, including the user and applications themselves” (2001, pg. 5). Using this definition of context, Park et al. (2006) have verified in their study that a context-aware music recommendation system is useful in generating playlists. But how, one might wonder, do music recommendation systems actually use context to generate playlists?

SuperMusic, by Lehtiniemi (2008), used two methods to recommend a playlist, that is through song similarity and context. The context was limited to only location (using a Global Positioning System or GPS module on the device) and time in this instance. Users can vote on the recommended songs they receive to allow the system to learn their listening preferences and what they thought of the quality of the similar sounding songs. Users of the system thought the concept of a contextual based music recommendation system held promise, but was very limiting in this case as only

location and time were featured. Some suggested that the variable mood would be a good addition to help the system learn more quickly.

Lifetrak was a system devised by Mascia and Reddy (2006) that uses five types of context to automatically generate a playlist for the listener; these are space, time, kinetic, entropic and meteorological. Space refers to what physical location the user is currently in, which was obtained by using GPS coordinates and then translated to the nearest corresponding United States zip code. Time refers to the different periods throughout a person's day that might be linked to different activities they are engaged in during the morning, afternoon, evening, and night. Kinetic refers to the speed at which the user is moving, which is subdivided into four categories: stationary, walk, run and driving, and obtained through the device GPS as well. Entropic refers to the state of the environment the user is in, whether it is calm, moderate or chaotic and meteorological refers to the weather conditions and temperature the user is currently experiencing. Even though the playlists in Lifetrak are generated automatically, the user still needs to manually adjust sliders to input the data regarding the five contexts into the system.

PersonalSoundtrack by Elliott and Tomlinson (2006) allows the music player to choose songs based on a comparison of the user's steps-per-minute to a song's beats-per-minute. The premise behind this system is that a music playlist based on a person's movements could be a better barometer of what kind of music that person would most likely want to listen to depending on their current activity. The system envisions itself helping a number of different mobility scenarios such as a jogger on her morning run, a man casually walking to his destination or a student running late to class.

Dornbush et al. (2007) created a system called XPod, which allows a playlist to be generated based on a number of variables such as activity, motion and physical states. This allows the player to learn what music to play for different activities the user is engaged in. This system is interested in the way a person's physiological state helps to translate what playlists they would want to listen to while in that state. The variables are recorded by a sensor attached to the human body while performing a certain activity and record the temperature of the skin, heat flow and how much the user is

sweating from the activity. Therefore, this system uses actual physical data from the user to identify the context in which music should be played.

The systems described here all use a person's current state of being, both external and internal, to generate playlists fitting their current context. However, music not only has the ability to fit the current context, but it also brings up memories and experiences from a context in our past.

Autobiographical Memories

Using my own experiences as a reference, it seems there are many times when I am reminded of my past when listening to certain songs. Sometimes, the music reminds me of a truly significant memory such that I can accurately recall the context (the sights, sounds and even smells) at the time. North et al. (2004) noted that, depending on the different levels of engagement in different situations with music, listening contexts "ultimately determine the value of the musical experience to the individual listener" (pg. 42). Knowing that I could not possibly be the only person to experience this, I proceeded to dig through the literature and came across a field of research called autobiographical memories, specifically with music.

Autobiographical memories with music happen because we use our music player to provide a soundtrack to our daily lives, carrying it with us wherever we go. Bull (2005) emphasizes that the iPod helps us capture and reconstruct our narrative memories because users associate them with the songs they listen to, while adding that the "world and their biography is recollected and accompanied by sound" (pg. 349). DeNora (1999) also suggests that people can use music to reconstruct the emotional, memory and biographical details of their lives as it is duly suited to perform this task. Kibby (2000) states that music helps people make sense of their lives and allows them to "organise the ongoing stream of events that constitute their personal, social and cultural life" (pg. 92). That is the reason why portable music players brings back so many memories for people as Bull (2005) states that iPod use "represents a form of biographical travelling. The narrative quality that users attach to music permits them to reconstruct these narrative memories at will in places where they would otherwise have difficulty in summoning them up" (pg. 349).

Listening to music can bring back both positive and negative emotional experiences as suggested in a study by Barrett et al. (2010). However, Baumgartner (1992) found in his study that even though some people experienced unpleasant memories, “overall there was a significant bias towards remembering happy events” (pg. 618). He also found that the recollections of past events were extremely vivid and emotional. It is this link between emotions and memories that needs to be fully explained when considering the autobiographical nature of music.

Although music can elicit many different types of emotions, according to numerous studies (Sloboda, 1991; Konecni, 2008; Panksepp, 1995; Zentner et al., 2008), it is not entirely clear, or universally agreed, whether music expresses, or is expressive of, emotions. For the purposes of the current study, the distinction between both as presented by Peter Kivy (1989) is used. Kivy states that in terms of emotions in music, there is musical emotivism and musical cognitivism. Supporters of musical emotivism argue that music actually induces emotions, meaning that when you listen to a happy song it will make you happy. Advocates of musical cognitivism contend that music only represents emotions meaning that “sadness in music can be recognized because sad music has characteristic qualities” (Baumgartner, 1992, pg. 613). In terms of expressiveness in music, Baumgartner (1992) presents a two by two table of which one side represents musical emotivism versus cognitivism. On the other side lies autonomous and heteronomous music as described by Pratt (1931). Autonomous music is music that can be described entirely by the characteristics and properties contained within the song itself. Conversely, heteronomous music is defined as music that is determined by extramusical associations, that is if a song is associated with an extramusical event or object, the emotions tied to the event or object will be associated with that song as well (Baumgartner, 1992).

Baumgartner (1992) argues that autobiographical episodes with music occur in the quadrant where heteronomous music and musical emotivism meet, that is where the song actually induces emotions in the listener and that emotions previously associated with an event or object is transferred to the song itself because of its significance.

Chills Induced by Music

Sometimes the significance of a memory caused by listening to a specific song is so powerful that it can even arouse what is described as chills or thrills in people. This is shown in studies by Goldstein (1980), Panksepp (1995) and Grewe et al. (2005).

Goldstein (1980) defines thrills as typically represented by “a slight shudder, chill, or tingling sensation, usually localized at the back of the neck, and fleeting” (pg. 128) and verifies through his own experience that “music is a potent stimulus for thrills” (pg. 126). He further describes that there are also more intense thrills, which usually last longer than a typical thrill, that may “spread from the point of origin, up over the scalp, forward over the face, downward along the spine, and forward over the chest abdomen, thighs and legs” (pg. 128). It may also occur alongside goosebumps along the body, weeping, the feeling of lumps in the throat and sighing. Panksepp (1995) also described this emotional reaction, which he calls chills, in a similar fashion describing it as a “spreading gooseflesh, hair-on-end feeling that is common on the back of the neck and head and often moves down the spine, at times spreading across much of the rest of the body” (pg. 173).

Panksepp (1995) and Grewe et al. (2005) both looked at the role familiar music played in producing chills versus music the subjects did not know. In both studies, it was determined that the characteristics and structure of the song listened to was a key factor in determining the appearance of chills. More specifically, Panksepp (1995) found that “individuals were more likely to have chills to a piece of music they themselves selected than to pieces that others had chosen to share” (pg. 195). In addition to being associated with known songs, Goldstein (1980) found in the results of his study that thrills are also generally linked with emotional arousal and is usually caused by experiencing something of “extraordinary beauty or profound and moving significance” (pg. 128). This correlates with Abraham Maslow’s (1959, 1962) findings regarding peak experiences, which Gabrielsson (2002) said contains characteristics such as “a state of complete absorption, disorientation in time and space, fusion of the perceiver and the perceived” (pg. 104) to emotional reactions that inspire wonder, awe and reverence.

Strong Experiences with Music

Having reflected on my own past memories and autobiographical experiences with music, I wanted to determine what kinds of experiences other people have had in relation to music. This led me to a study called Strong Experiences of Music (SEM) by Gabrielsson and Wik (2003) which draws its roots from Maslow's peak experiences with music (1959, 1962).

The conceptualization of peak experiences came from Abraham Maslow (1959, 1962), when he discovered that there are times when individuals experienced moments of great awe, wonder and joy. This revelation was found to occur not only in people who were physically fit, but also in "practically everybody although without being recognized or accepted for what they are" (Maslow, 1962, pg. 10). Maslow also suggested that there were many different paths to achieving peak experiences, among them being from a sexual encounter, listening to a piece of music and engaging in certain favourite activities. However, he argues that "music is a reliable trigger of peak experiences" (Whaley et. al, 2009, pg. 3), which is also the evidence suggested by Panzarella (1980) and his study of art-related peaks by which music-related experiences made up approximately half of the responses. In an earlier study, Laski (1961) studied the phenomenon of ecstasy and had similar findings of what can cause them to Maslow and concluded that "of all the common triggers to ecstasy, music would be the most rewarding to study in any attempt to find a relation between the qualities of the triggers and the effects produced" (pg. 190).

However, some of the most comprehensive studies undertaken to examine the extraordinary experiences people have with music is the work done by Gabrielsson and Wik (2000, 2003) through the aforementioned SEM project. According to Gabrielsson and Wik (2003), the reason why this project was started was because they found three major limitations in Maslow, Panzarella and Laski's studies about people's experiences with music. The first being that there was either not enough concrete examples regarding people's actual experiences with music, as is the case with Maslow's study, or they were from a limited sample of respondents, as is the case in Panzarella's study. For the second limitation, there might have been unintentional biases being introduced through the selection of the study participants

and the perception that the classical genre is superior to the other genres of music, as the results all pointed to the fact that peak experiences come exclusively from classical music. Finally, the third limitation is due to the fact that peak experiences with music are defined as being in the exclusive domain of extremely positive experiences. Whereas I know from my own personal experiences that music memories can arouse both happy and sad moments, such as songs that remind me of a difficult period in my life when I was growing up.

Furthermore, Gabrielsson and Wik (2003) state the difficulty in documenting a subject as complex as people's experiences with music. The number of factors that could influence a person's perception of what causes their music experience range from difficulty in finding the right words to adequately describe what they are feeling to the fact that "different individuals react differently, and reactions to the same music may vary on different occasions" (pg. 157-158). It is this need that led to the creation of the Descriptive System for the SEM project (DS-SEM).

The purpose of the DS-SEM project that Gabrielsson and Wik (2003) proposed was to explore and detail various kinds of physical, behavioural, emotional, social, etc. components that form strong experiences people have with music and the potential causes, either from the person, the situation or the music itself, of these experiences. The DS-SEM consists of seven main categories: General characteristics, Physical reactions and behaviours, Perception, Cognition, Feelings/Emotions, Existential and transcendental aspects and Personal and social aspects. There are several sub-categories underneath these overall categories which help to further specify the description of the experience with music. However, Gabrielsson and Wik (2003) have noted the restrictions such a system poses in accurately describing all the experiences a person goes through while having an SEM. The categories are defined as follows:

1. General characteristics

1.1 Unique experience

This describes an experience that is unforgettable, amazing or unique.

1.2 Hard-to-describe experience, words insufficient

This describes an experience that cannot be adequately described in verbal terms.

2. Physical reactions and behaviours

2.1 Physiological reactions

There are many reactions that occur with SEM such as goose pimples, shivers, thrills, racing heart and tears. Occasionally, unpleasant reactions occur such as dizziness and pain.

2.2 Behaviours/actions

Listeners experience this when they feel the need to shout, sing, jump or dance when listening to music. Also, this sub-category also covers when a person feels the need to act in this manner, but does not actually do it.

2.3 Quasi-physical reactions

This occurs when the listener feels as though their body is being filled by music, feeling weightless, floating or having an out of body experience (this is similar to 6.2 below).

3. Perception

3.1 Auditory perception

This experience deals with perceptions in special sound qualities of the music, such as acoustics, spatial qualities, loudness levels or even an absence of sound when the listener expected there to be music.

3.2 Visual perception

For live music performances, the visual appearance and behaviour of the musicians, instruments, concentration, enthusiasm among other qualities, have a great effect on a listener's experience. The behaviour of the audience and the qualities of the surroundings are important as well.

3.3 Tactile perception

Sounds are not heard but "felt" on and in the body.

3.4 Kinaesthetic perception

The feeling of either muscle tension or relaxation. Can also be connected with 2.1 (physiological reactions) as well.

3.5 Other sense modalities

Any other sensations that are not covered in 3.1 – 3.4 above such as smell or the feeling of being either warm or freezing.

3.6 Synaesthesia

This experience occurs when sensations are experienced in another sense modality rather than the one currently being stimulated. This happens in an episode known as colour hearing, when there are “impressions of colour in connection with certain tones, modes, instruments, musical works, etc” (Gabrielsson & Wik, 2003, pg. 172).

3.7 Intensified perception, multimodal perception

This refers to distinct or intense sensations or when there are multiple sensations that occur simultaneously in different senses.

3.8 Musical perception-cognition

This occurs in two different ways. First, the inherent characteristics of the music is realized such as the genre, instruments playing, melody, pitch, etc. The second refers to the performance qualities of the music, such as the skill of the musicians.

4. Cognition

4.1 Changed attitude

This refers to any experience that changes an individual’s attitude, thoughts, attention and receptivity.

4.2 Changed experience of situation, body and mind, time and space, wholeness

This experience occurs when there is a change in the perception of an individual, which can include detecting changes in the atmosphere/mood, losing consciousness of oneself, feeling as though the world has disappeared, experiencing unreality or wholeness or a change in time and space.

4.3 Loss of control

This occurs when an individual feels as though they have lost control of their ordinary state of mind such as when they are surprised, moved, touched, shaken, fascinated or overwhelmed. This sub-category is greatly tied to section 5 (feelings/emotions).

4.4 Changed relation/attitude to the music

Listeners experienced this when they feel an unusual relation to the music. This includes feeling psychologically embedded in the music or feeling directly addressed by the music.

4.5 Associations, memories, thoughts

This occurs when music helps to evoke memories in an individual that relate to earlier experiences in life with other people and situations.

4.6 Imagery, inner images, inner music

This experience is brought up when music helps an individual form a mental image in their head either of landscapes, situations or events. This also occurs when people hear music although none was playing at the time.

4.7 Musical cognition-emotion

Occurs when the listener perceives a certain quality in the music they hear from either the music-side or the performance side.

5. Feelings/Emotions

5.1 Intense/powerful emotions

This refers to when individuals emphasise the intensity of the emotions evoked by the music but do not reference any specific emotions.

5.2 Positive emotions

Examples of positive emotions include feeling at peace, calm, safe, humility, wonder, reverence, patriotism, satisfaction, delight, beauty, joy, happiness, bliss, excitement, tension, love, perfection, and euphoria.

5.3 Negative emotions

Examples of negative emotions include feeling tired, exhausted, lonely, melancholy, confused, nervous, frustrated, disappointed, embarrassed, pain, anxious, dread, anger, hate, shock, horror and panic.

5.4 Different emotions

This refers to experiences which have a full range of emotions that occur at the same time or when emotions change from one to another during the course of the same experience. This can include mixed feelings and conflicting feelings.

6. Existential and transcendental aspects

6.1 Existence

This experience deals with the various aspects of life and existence such as the meaning of one's own life and that of human life in general, the feeling of actually living, feeling balanced and pure or having your view of life changed.

6.2 Transcendence

This refers to a feeling that is greater than oneself, such as being balanced with the universe, feeling as though you are in another dimension and having out-of-body experiences.

6.3 Religious experience

This experience deals with feelings of intense spirituality, sacredness, seeking to be in contact with God, having doubts about religion and visions of heaven and the afterlife.

7. Personal and social aspects

7.1 New possibilities, insights, needs

This refers to experiences that help the listener obtain new personal insights, feel fulfilled, inspired, hopeful and allows a clearer view of one's own thoughts and feelings.

7.2 Music: new possibilities, insights, needs

This experience is similar to the one in 7.1, but with an emphasis on musical aspects such as having a changed view of music in general, to stir a curiosity to learn more

about a certain type of music or composer, to get inspiration regarding creativity, to want to perform music themselves, or to affect a certain mood state.

7.3 Confirmation of identity, self-actualisation

This refers to using music to confirm one's own personal identity. This occurs in the form of music that reflects one's thoughts and feelings, helps to increase self-esteem, the feeling of being directly addressed by the music and becomes a need for an individual to obtain confirmation of oneself.

7.4 Community/Communication

This experience allows the listener to strongly feel connected as a community to other listeners, performers and with mankind in general.

Because of the need for the current study to explore experiences, both happy and sad, the framework provided by Gabrielsson and Wik (2003) during their SEM project will be the main focus of this cycle.

METHODOLOGY

After reading through the literature and forming an initial framework on music, context and experiences, the next step was to empirically determine these issues through my own research methods. As discussed earlier in the theoretical contexts section regarding the choice of data collection methods, I decided to administer a survey to develop a better understanding about the experiences people have had with music and the role context plays in this. Then, using the results, I will determine if connecting people through shared experiences with music is possible. This survey would help me obtain some initial answers to my study and is similar to the approach taken by Rentfrow and Gosling (2003) in their study regarding the importance of music to people.

Survey Methods

A major concern for the survey was the breadth of the topic of music memories and the need to distribute the survey to as many people in as short a time as possible,

without limitations in geographic reach and for as little cost as possible. Therefore, my initial reaction was to use an online survey to conduct the study. However, in order to determine whether using this method was correct, I drew upon a study by Evans and Mathur (2005) who compared the major strengths and weaknesses of online surveys to that of other types of surveys such as mail, personal and telephone.

Mail survey

According to Evans and Mathur (2005), the strengths of mail surveys lies with the ability to utilize a large sample base, the potential to cover a wide geographic area, no interviewer bias, answers that can be responded to without any time pressures, and the variety of questions that can be asked. The possible drawbacks of mail surveys include a relatively high non-response rate, ambiguity of survey instructions, the possibility of blank answers and respondents giving brief answers to open-ended questions.

Further to this last point and comparing online surveys to that of mail surveys, Sheehan and McMillan (1999) point out that respondents were more willing to answer open-ended questions in an email survey format rather than with a traditional paper survey. This was due to the fact that it took less time to respond when typing rather than writing the answers out by hand.

Personal survey

Evans and Mathur (2005) argue that some of the advantages of utilizing personal surveys include the following: the flexibility and adaptability of the survey, clear instructions that can be given, a personal two-way interaction between the interviewer and respondent, the variety of questions, control over where the survey is being taken and the ability to observe the respondent while they are answering. Scholl et al. (2002) concur with the final point as they found that not only can the interviewer observe the answers being given but can also allow for follow-up questions to gather more information. Some of the disadvantages include the possible introduction of bias from the interviewer when the respondent is giving their answer, the pressure to respond in a certain time frame and the high costs involved with personally interviewing each

respondent and, as a consequence, the small sample size and geographic restriction that would result from this limitation.

Telephone survey

The telephone survey can be considered a combination between the mail and personal surveys. An interesting statistic found by Rubin (2000) for this type of survey is that response rates have decreased from 40% in 1990 to 14% in 2000, while opt-in online survey response rates achieved over 60% in 2000. Rubin (2000) argues that the drop in response rates for telephone surveys is partly due to these surveys being used to sell products as well as the intrusive timing, such as during dinner, of such calls.

Nonetheless, Evans and Mathur (2005) state in their study that the advantages of telephone surveys include the personal interaction this type of survey provides, good geographic coverage, the speed of completion and the potential for random sampling while the disadvantages include bias from the interviewer, much like the personal survey, low response rates, the need for the interviewer to be brief with their questions and a lack of trust because the respondent cannot actually see who they are talking to.

Online survey

There are many advantages in using an online survey as discussed in the current literature (see: Selm & Jankowski, 2006; Evans & Mathur, 2005; Wharton et al., 2003). These advantages include the global reach of the internet, flexibility to adapt the survey to different formats and the ability to tailor the survey to suit different demographics and languages, the ease of data entry, the ability to diversify the type of questions, low administration cost, the speed at which these surveys can be administered and the convenience to the respondent of being able to answer on their own time which can lead to respondents answering more truthfully. Wharton et al. (2003) further this point by stating “the internet allows for a sense of social distance so that research subjects may respond more openly” (pg. 1458).

Through their own literature review, Evans and Mathur (2005) state that the possible disadvantages include the survey being viewed as junk mail, the potential bias in

respondent attributes that might skew the results, variations in the technology being used to take the survey, it might also be considered impersonal much like the mail survey, privacy issues and a possible low response rate. On this last point, and mentioned earlier, Rubin (2000) found that opt-in online survey response rates have increased to over 60% in 2000 and Griffis et al. (2003) found that online surveys can lead to higher response rates and speed of response when compared to traditional mail surveys.

The main concerns for this type of survey were cost, speed at which the survey could be administered and the flexibility of questions. Therefore, after thorough research, analysis and comparison between the various survey methods available to use for this research, I decided that an online survey would best suit my needs and address the initial concerns I had regarding timeliness, reach and cost.

Survey Websites

Once an online survey was decided upon, there was another matter of figuring out my options in administering it. The two options that sprang to mind were creating an entire survey website myself on the Internet or using a ready-made online survey solution. Selm and Jankowski (2006) point out that although online surveys have significant time benefits, such as the rate of response, there are also time costs that must be taken into account due to “solving technical problems before and during implementation of an online survey” (pg. 438). With this in mind, creating a website from scratch by myself would take a considerable amount of time so I decided to look into companies that offered ready-made online solutions. There were two companies that I looked into; Survey Monkey⁴ and Google Forms⁵.

The advantages of using Survey Monkey was that it was flexible because it could be emailed to potential respondents or embedded onto a website. The main disadvantages were that it was limited to 100 responses per survey, only 10 questions were allowed per survey, there was a monthly fee to enable more questions to be used per survey and the free option did not allow users to download their survey results to use in a

⁴ <https://www.surveymonkey.com/>

⁵ <http://www.google.com/drive/apps.html>

spreadsheet program for further analysis. These restrictions would have artificially limited the number of data points I could collect and analyze. The main advantages of Google Forms, however, was that it was free to use, there were no restrictions in terms of the number of questions and responses that could be collected per survey and that the survey responses collected would be automatically populated into Google's online spreadsheet software, which includes basic functionality such as sorting columns, performing mathematical functions and formatting data cells. The only disadvantage would be if Google started charging for this service as well, however, the survey is scheduled to run for two months and if Google started charging during this time frame, I could always look for another service.

Therefore, after weighing the advantages and disadvantages of both options, it was decided that Google Forms would be the platform used to conduct the survey.

Additional Resources, Part 1

Knowing that this was my first research study, I wanted to get advice on how best to proceed and someone to ensure that I was implementing this properly. Therefore, I enlisted the help of Martin Cahill, who is discussed in more detail in the *Critical Friends* section of the Introduction. He had worked in academia before so I thought he would be able to help provide me with knowledge that I lacked at this stage in creating the survey and to serve as a critical friend in my research process. As mentioned earlier, McNiff and Whitehead (2011) describe critical friends as colleagues who help give critical feedback on data and ideas that help to contribute in furthering the direction of the research. Therefore, Martin is an appropriate person to help further my ideas and to provide suggestions on improving my study because we share similar views in terms of wanting to connect people through their shared experiences with music.

Survey Design

According to research on music experiences and emotions by Juslin and Laukka (2004), it was found that music both perceived and induced emotions but was dependent on the social context (ie. audience and venue) and the personal motivation

(ie. music used for relaxation) of the listening experience (Kim et al., 2010). This follows Konecni's thoughts when he said that music should be analyzed with "at least some reference to the typical situations in which music is appreciated, in social contexts, in the presence of friends, lovers, and family members, in the stream of daily life" (1982, pg. 500). In addition, my current survey should be structured in a similar way to the study done by Janata et al. (2007) where the respondent was asked whether the current playing song reminded them of a specific place, time period, people and emotional reactions in addition to describing their memory or life event in more detail. However, the difference in my study is that there will not be any music playing to help evoke memories; rather, the respondents would have to come up with the memory associated with music without any external stimulus.

Therefore, using this previous research as a guideline, the sections we will include in the survey are as follows: information about the song (ie. artist, album, genre), the environment the music was experienced in (ie. location, time of day), the person's personal state of being (ie. the activity they were performing at the time, the mood they were in) and the actual story itself. Furthermore, the survey needed to include varying response elements due to the nature of the questions. For example, some questions are open ended such as the artist of the song or the story of the music experience, while others were forced-choice questions that would require the respondent to pick from a list such as the time of day.

Another issue for the survey would be the number of questions we ask. According to Fink (2003), the number of questions "in a survey depends largely on the amount of time available for respondents to answer the questions" (pg. 15). Since this is an online survey with no time limit, there should be as many questions as possible to ensure the musical experience is captured in its entirety.

Music-related emotions

In order to determine what kind of emotions are associated with music and what can be used in the survey, I turned to research by Juslin and Laukka (2004) who determined the emotions that are generally felt in response to music.

1. Happy*	23. Empathic
2. Relaxed*	24. Proud
3. Calm*	25. Spiritual
4. Moved	26. Curious
5. Nostalgic	27. Relieved
6. Pleasurable*	28. Bored
7. Loving*	29. Indifferent
8. Sad*	30. Frustrated*
9. Longing*	31. Tense*
10. Tender	32. Disappointed*
11. Amused	33. Surprised*
12. Hopeful	34. Honored*
13. Enchanted	35. Regretful
14. Expectant*	36. Contemptuous
15. Solemn*	37. Confused*
16. Interested	38. Anxious*
17. Admiring	39. Afraid*
18. Angry*	40. Jealous
19. Ecstatic*	41. Disgusted
20. Lonely	42. Guilty
21. Content*	43. Shameful*
22. Desiring	44. Humiliated

Table 1. Felt emotions in response to music (Juslin & Laukka, 2004, pg. 231)

This list of emotions is comprehensive and has been used in other studies related to music and emotions such as research done by Zentner et al. (2008), Janata et al. (2007) and Vuoskoski & Eerola (2011).

Survey response elements

According to Selm and Jankowski (2006), if a survey is based electronically there should be no reluctance to “incorporate open-ended items” due to the fact that respondents are more willing to reply to open-ended questions via electronic format as explained by Sheehan and MacMillan (1999) previously.

Furthermore, to help with the ease and timeliness of completing the survey there were several features that we incorporated to help increase the completion rates. According to Couper et al. (2001), there are several additions to a survey that can help the success of a web-based questionnaire. The first is having a progress indicator that a respondent can reference during the course of the survey, which will help reduce respondent loss. The second is having items on a single screen, which results in the survey being completed faster. The third is having radio buttons as the means of

selecting an answer as this would result in less missing items. Therefore, in accordance with these best practices for generating a web-based questionnaire, we added a basic text progress indicator to every page (ie. Part 1 of 4) to alert the user as to how much of the survey they have completed. We also allowed for multiple questions per page and used radio buttons (or drop-down menus) for forced-choice questions to reduce the number of missing answers.

Furthermore, in terms of any missing answers that were considered critical to my data-gathering process, these questions were marked with a red asterisk, denoting that they were required and the respondent could not proceed to the next part of the form without answering it.

Storing the Data

The resulting data was stored in an online spreadsheet hosted by Google, which could only be accessed by Martin and myself. The functions in Google spreadsheets are not as fully featured when compared to professional spreadsheet software such as Microsoft Excel. However, the data can be exported as a comma-separated value type file, which could then be imported into Microsoft Excel for further analysis.

Identity

I wanted to establish an identity for this research with a name to reflect music and how it affects people's lives and experiences with it. I also wanted it to be related to music, so the name had to be a spin on a musical term. *Oopus* was eventually chosen, with the name being a play on the musical term opus, which means "a musical composition or set of compositions usually numbered in the order of its issue" (Merriam-Webster Inc., 2013). Specifically to this research, the user can be seen as the composer, and the compositions are the songs that have been documented throughout their life.

The Music Memory Form

The research commenced on October 1st, 2010 with the Oopus Blog⁶ and website⁷. A link to the Google Form⁸ where the survey resided was placed on the website for users to fill out with their music memories and as a reward to the respondents, we told them the most significant music memories would be posted on our blog.

Part 1 – Your Details

The first part asked for the respondent's personal details such as gender, nationality, first name, last name, email address and Twitter handle. This was to ensure that we could track who is taking part in the survey and could analyze the data afterwards. The required questions were gender, first name and email address. The Twitter handle was asked because Twitter is developing into an accepted way of instant communication rather than email. However, this was optional to the user if they either did not want us to contact them through Twitter or if they were not a part of that social network.

⁶ <http://blog.oopus.org>

⁷ <http://www.oopus.org>

⁸

<https://spreadsheets.google.com/spreadsheet/viewform?formkey=dDI1VHJ0cmJCZkZyRXJzSFV4Ym5zNFE6MQ>

Music Memory

* Required

Your Details (Part 1 of 4)

N.B. Oopus will never pass your information to a third party.

Gender *

☐ Male

☐ Female

Nationality
e.g. Canadian

First Name *

Last Name

Email Address *

@Twitter Handle

Figure 7. Music Memory form, Part 1 of 4

Part 2 – Your Track

The second part asked the respondent to enter in the information of the song that made their experience memorable. These required questions included the song or album name, the artist and the genre. The genres were presented in a list format using a drop-down menu and we selected a subset of genres from the list found in the iTunes Genre ID Appendix (Apple Inc., 2010). Since the genres we used were general and did not include any sub genres (ie. smooth jazz being a sub genre to jazz), we allowed the respondent to enter a genre if the one they wanted was not in our list.

Music Memory

* Required

Your Track (Part 2 of 4)

Song or Album *
e.g. Imagine.

Artist *
e.g. John Lennon.

Genre *
- Select -

Create your own Genre ...
Or use this field if you want to add more genres.

Figure 8. Music Memory form, Part 2 of 4

Part 3 – Your Moment

The third part of the survey asked the respondent to recollect (to the best of their ability) the environmental context for their music memory. This included the location the memory occurred, the date, month or year, the approximate time and the weather. Further to these required questions, we also asked what activity they were engaged in and what mood they were in before listening to the song. The weather was in a list from a drop-down menu that the respondent can select from. We obtained the weather categorizations from a combination of sources ranging from The Met Office (Met Office, 2010), Yahoo! Weather (Yahoo! Inc., 2010) and The Weather Network (The Weather Network, 2010). The respondents also had the option of entering in their own weather type or moods if the one they wanted was not in the list provided, and also the ability to add any keywords that they associate their experience with.

Music Memory

* Required

Your Moment (Part 3 of 4) ... Almost there!

This is basically a snapshot for that moment in time.

Location *
i.e. landmark, place, city, country.

Date/Month/Year *
Approximate or specific date, month or year.

Time *
Approximate or specific time (ie. 9am, Noon, Early Evening).

Weather *

- Select -

Create your own Weather ...
Or use this field if you want to add more weather types.

What were you doing? *
i.e. exercising, sitting in a park, etc.

What was your Feeling/Mood before listening to the song? *
i.e. happy, sad, relaxed, angry.

- Select -

Create your own Feeling/Mood ...
Or use this field if you want to add more feelings/moods.

Tags
Any keywords associated with the experience (separate by a comma).

Figure 9. Music memory form, Part 3 of 4

Part 4 – Your Story

The last part asked the respondent to enter the story that made their music experience memorable. The story was optional and left open-ended to see what kind of stories or recollections we would receive. Also, the explanation about what to write in the box follows the cautious lead provided by Gabrielsson and Wik's (2003) SEM project in that we did not suggest or provide any examples of strong experiences with music so as to not bias the outcome of the respondents. Hence why our description of "*Please enter a brief description of why this song was important to you and what was happening at the time*" is devoid of any use of extreme positive or negative emotional language such as best, greatest, or worst. Finally, a text box field for the respondent's entry was used as it is shown to help increase the quality of responses that are received (Couper et al., 2001).

Music Memory

Your Story (Part 4 of 4)

Story
Please enter a brief description of why this song was important to you and what was happening at the time.

Please check this box if you do not wish for your submission to be listed on the oopus public site.
N.B. All submissions help us create the world's greatest playlist and we thank you for your help.
☐ Please keep my story between me and Oopus. Thank you.

Please check this box if you do not wish to receive any further communication from Oopus
N.B. Oopus will never share your data with any third-party.
☐ Leave me alone. Thank you.

Never submit passwords through Google Forms.

Powered by [Google Docs](#)

[Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)

Figure 10. Music memory form, Part 4 of 4

Because of the potential personal nature of these stories, we added a checkbox to allow the user to keep the story personal. This was incorporated to ensure that the user is aware we are treating their submission with confidentiality, which Selm and Jankowski (2006) consider a satisfactory alternative to complete anonymity. As we needed to know how many people made more than one entry, we could not make this survey anonymous, even though it is considered a key issue for online surveys (Sheehan & McMillan, 1999).

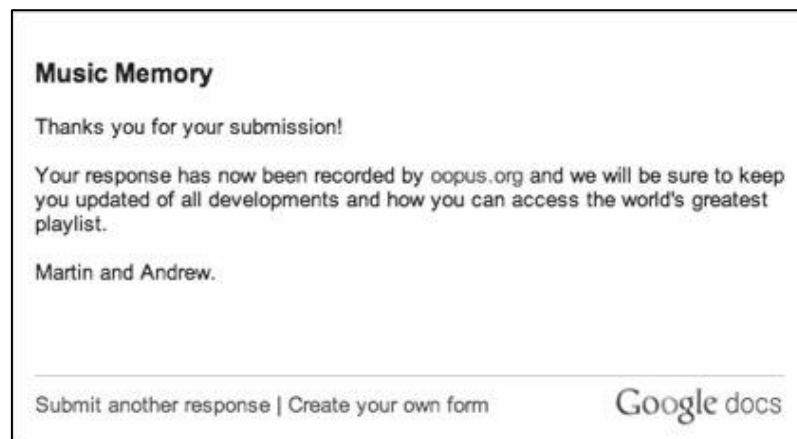


Figure 11. Confirmation of submission for music memory form

Selm and Jankowski (2006) have found that surveys have an issue with double responses when there is no final screen indicating to the respondent that their answers are being submitted. Therefore, to avoid this issue the final screen of the music memory form thanked the respondent for their time and indicated that they were done (Figure 11). However, the respondent has no personal record of their answers to the form as the information is automatically sent to a Google spreadsheet.

Invitations to participate in the survey were sent out through both email and social media channels such as Facebook and LinkedIn. This was done to ensure that maximum exposure to the questionnaire is achieved in the least amount of time. The total number of invitations sent out was 110. The form was filled on a volunteer basis with no incentive (monetary or otherwise) to participate. The promotion of the site started with only friends and family, but during the two months that the survey ran, it included people that we had no direct association with, for example friends of our

friends or random people that happened to come across the survey by chance. The survey was run from October 1st until December 3rd, 2010.

RESULTS

Before discussing the results, I wanted to note that the response rate we received for the survey was lower than I had anticipated, the reasons which I will talk about in the reflections and lessons learned sections of this Cycle. Because of this low rate of response, there are no concrete conclusions drawn from my interpretation of the results as it cannot be generalized and I realize that the data merely suggests a path for my research to follow. Simon et al. (1999) echo this statement saying that a small sample “may not represent the population as a whole, because it is variable and lacks predictive validity” (pg. 119). Therefore, because of the small sample size, any interpretation I make from the data must be made carefully.

In order for the data entries to be consistent, the responses had to be manually reformatted. This occurred after all the data was received to allow separate additional categories to be created and the existing categories to be sorted more easily. For example, if the respondent entered “MBS West, Manchester, England” for the *Location* entry field, it had to be separated into four additional categories. These were *Place* (MBS West), *City* (Manchester), *County* (Lancashire) and *Country* (UK). Further segregation was made to the *Date/Month/Year* and *Time* entry fields. Selman and Jankowski (2006) refer to this data cleaning as a continued necessity for online surveys.

The music memory form received a total of 183 entries, comprising 175 songs from 71 unique individuals over the course of two months. There were 11 people that responded that we did not send an invitation to. Therefore, the total response rate was 54.5% for the 110 invitations sent out. The demographic information of the respondents can be found in Appendix A and the responses to the music memory form can be found in Appendix B.

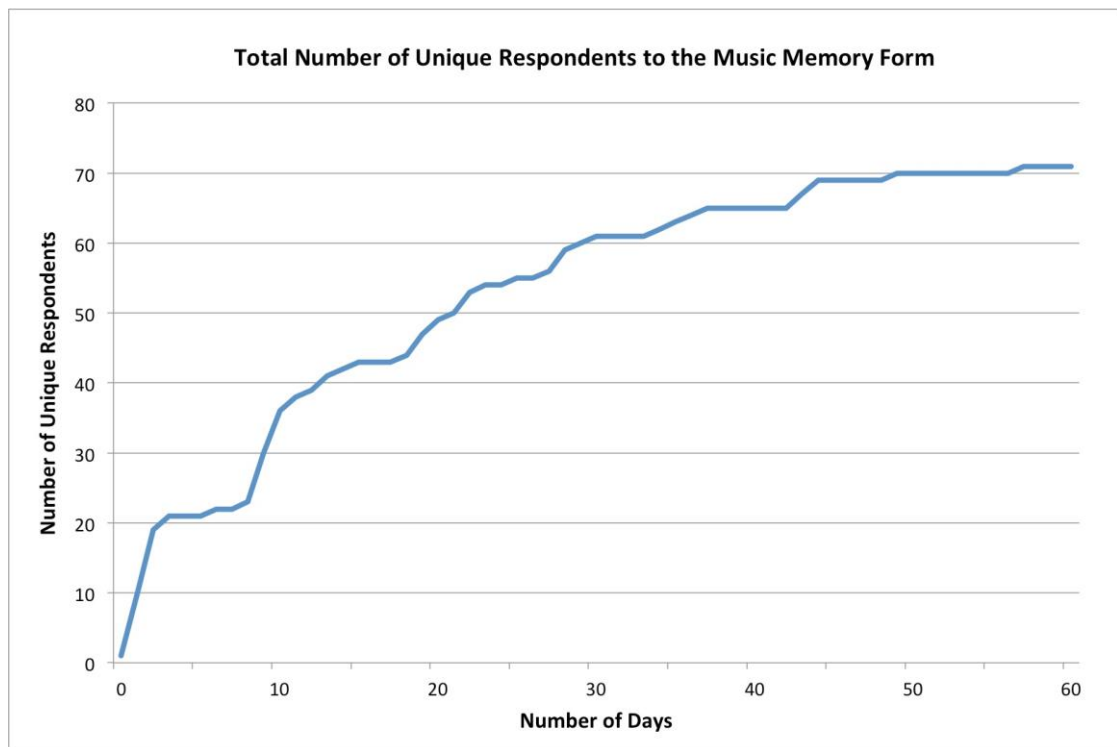


Figure 12. Total number of unique respondents to the music memory form

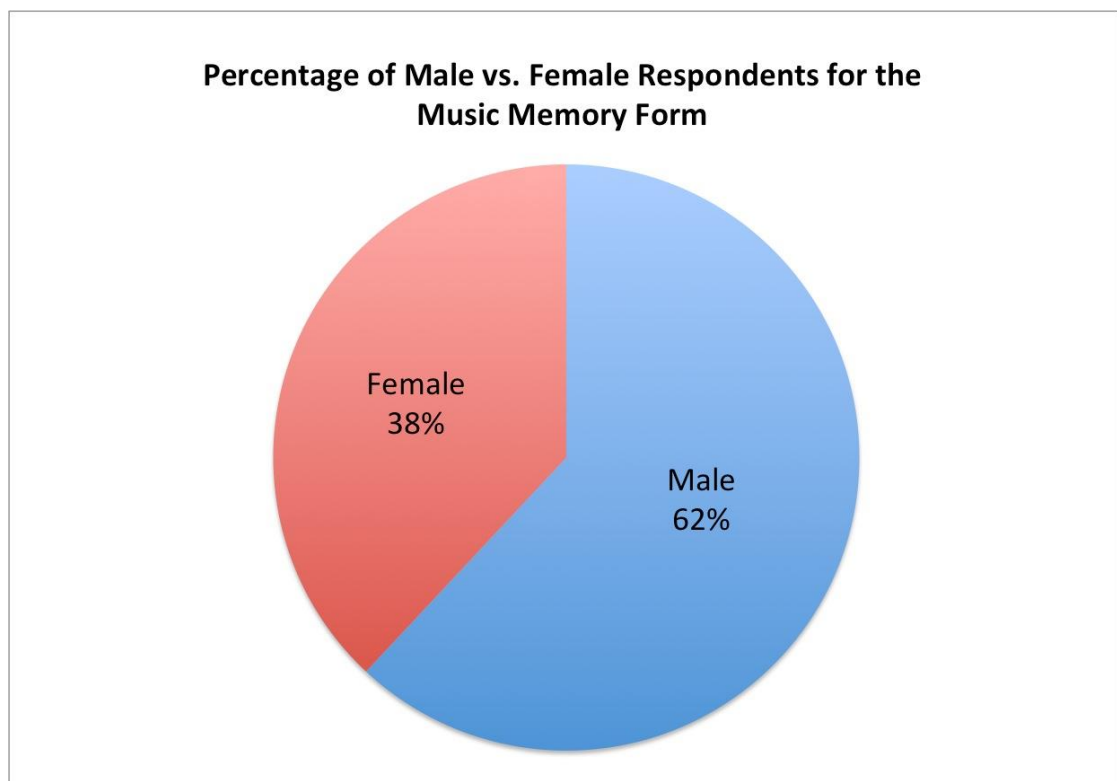


Figure 13. Male vs. female respondent percentage for the music memory form

The gender demographics of the respondents were 44 (62%) males and 27 (38%) females. However, the gender question was not a required answer until 10 days after

the study started, after which we made it mandatory to help with demographic statistics. Out of the 18 respondents who did not answer the gender question, 17 of them had distinct Western names such as Martin, Meghan and Michael. This made it easier to retroactively assign genders to them. There was one respondent who had a Chinese name, which made it ambiguous to immediately determine their gender. Thankfully, this person was a friend of my cousin so I was able to find out that the respondent was male.

In terms of music memories, there were 12 entries out of 183 that did not have the optional story (Part 4) filled out, which equates to a response rate of 93.4%. This suggests that this portion of the survey was well received and that people wanted to share their experiences with music.

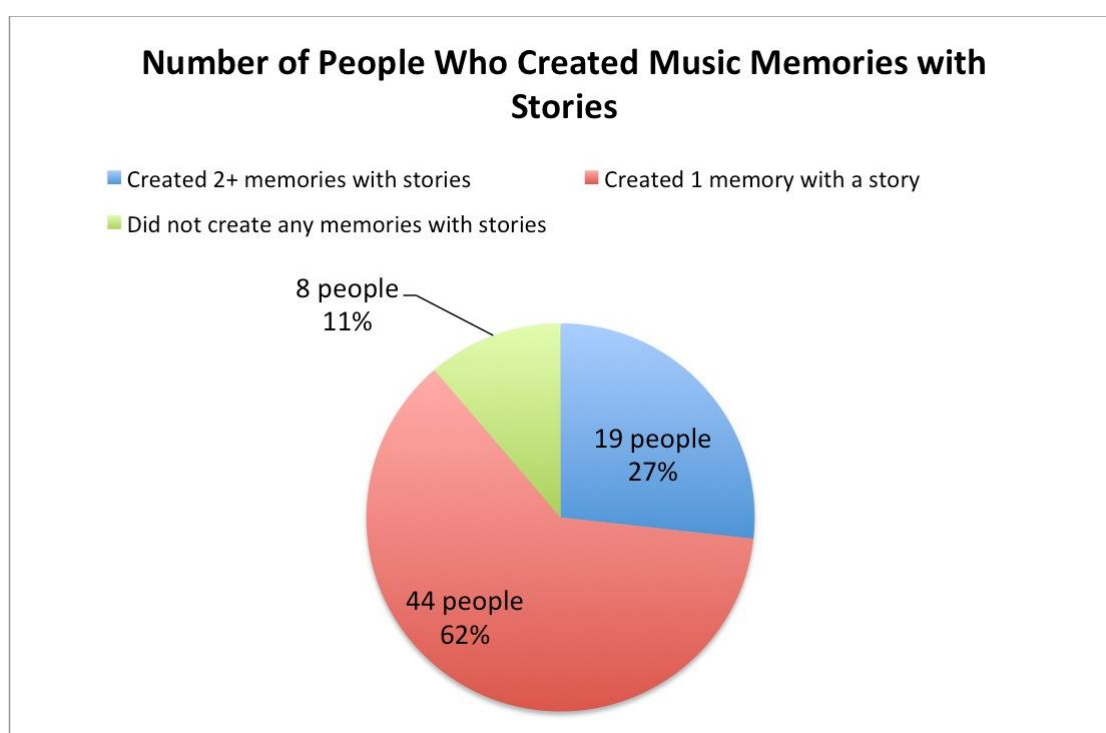


Figure 14. Number of people who created music memories with stories

Specifically, there were 8 people that did not write a story for their music memory and 19 people that entered in 2 or more memories. This means that there were 44 people that created a single music memory with a story in the survey.

In terms of the music that was chosen for people's memories, the top five genres were Rock (chosen 26 times, 14% of the total), Alternative (24 times, 13% of total), Pop (21 times, 11% of total), Hip-Hop (19 times, 10% of total) and R&B (13 times, 7% of total). The top five moods that were chosen in the survey were Happy (chosen 39 times, 21% of the total), Relaxed (15 times, 8% of total), Enchanted (11 times, 6% of total), Nostalgic (10 times, 5% of total) and Calm (9 times, 5% of total). As the results show, the majority of the selected emotions were biased towards a positive effect. This correlates with the findings from various studies about music and autobiographical recall, in that the majority of the memories associated with music reminded the participants of happy events (Schulkind et al., 1999; Barrett et al., 2010; Janata et al., 2007). Johnson-Laird and Oatley (1989) also found that the reason why there may be more happy-related memories when exploring the link between music and memories is because nostalgia is a happiness-related emotion.

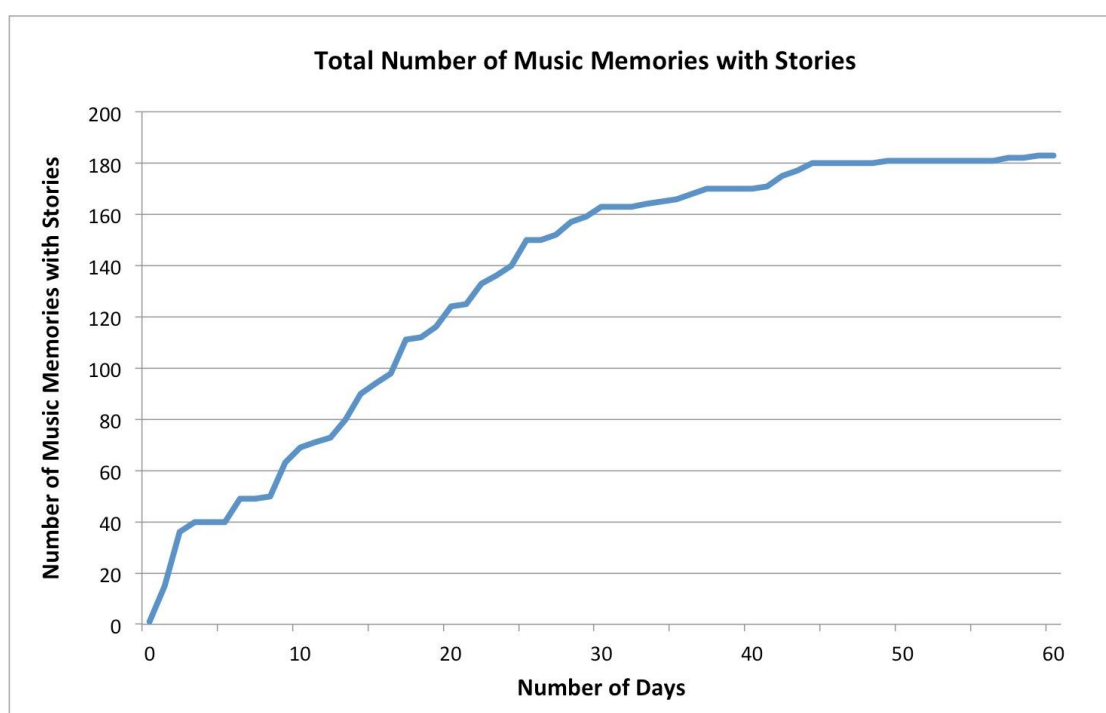


Figure 15. Total number of music memories with stories

Different songs, same keywords and themes in the story

An interesting finding from the results of the survey, which was expected due to the strong correlation between music and past experiences, was the number of music memories that had stories sharing similar themes. To find this, I extracted the

keywords from the contents in each of the stories that were entered and used a lower limit of five as the minimum frequency that each word had to have appeared. The results are as follows:



Figure 16. Keywords from the Music Memory form (minimum frequency of 5)

From the figure above, the top ten most frequent keywords were:

Keyword	Frequency
Night	25
Friends	24
Love	18
Work	14
Life	14
Walk	14
Family	14
Home	13
Lyrics	13
Dance	13

Table 2. Top ten most frequent keywords in the Music Memory form

These results are consistent with the results obtained in a study run by Janata et al., where they found that approximately 40% of the responses either reminded the respondent of a person or period in their lives. This was followed by event (approximately 20%) and place with approximately 17% of responses (2007, pg. 850). While my percentages are not as high as that study, the top two keywords that appear by frequency is also a specific time period (night) and with other people (friends) followed by an event (which is how I interpret the word *love*), as well as a place (work, which is one of four keywords with a frequency of 14). Again, I realize that there are significant differences between my study and the one run by Janata et al. (2007), chief among them is the sample size (71 individuals for my study versus 329 undergraduate students) as well as the absence of musical stimuli to help evoke memories for my participants. Because of these limitations it is hard to draw generalizations from my results, however, the richness of the contents in the stories is interesting, especially in the absence of any musical stimuli, and my results suggest that there are indeed shared experiences with music that can help shape my research further in the next cycle.

The following are some examples of the stories from the Music Memory form. You can see that there are many different moods expressed within the stories, while also referencing other factors such as the weather, locations and time of day.

“One of the first dates with my wife, and realising we had the same taste in music and so much more else in common, this song reminds me of what binds us together and the feeling of falling in love.” (Response No. 167)

“I was riding my bike down the road and this song came on and it made me feel like the world had more meaning than first meets the eye. I started to see deeper meaning in the things around me, the people walking down the street, the road passing beneath me, my feet on the pedals, my being here.” (Response No. 37)

“My father had recently died, and I had taken my mother out for the day. This particular song was on the radio, and it always brings back memories of that day” (Response No. 72)

“Carnival time in Brazil, February 2007. The place is crammed with people on the beach and everyone is there for just one thing....to Party. Sat back and relaxed after a churrascaria bbq. Brahma beer in one hand and the thoughts of the night ahead in Copacabana going around in side my mind...surrounded by the most beautiful blue sea and green mountainous landscape... not to mention the girl from Ipanema! Amazing....” (Response No. 3)

“Some friends of friends had taken a generator, a sound system, some tents and various other supplies out to a secret location in a valley somewhere in Wales. There was slate everywhere and if you walked for about 5 minutes up the hill there was a spectacular view over a lake to the hills on the other side. The party was in full swing for most of the night but started to fragment a bit as the night turned to morning and people got a bit messy. Then this song came on - Northern Lites - and suddenly everyone from all different directions ran into the middle where people were dancing and started jumping around with big grins on their faces. Almost everyone there was a big SFA fan, and being in Wales as well is was the perfect fit. The dark and the drizzle just added to the effect and the pure freedom of it was amazing. A lot of fun, and one of my favourite memories.” (Response No. 35)

“I'll never forget the first time I heard Dave Matthews Band. The song was Satellite and it forever changed the way I understood how music can make you feel. I remember being a teenager fighting with mom, a common occurrence for a teen girl, really. The second I heard that song, my mood went from frustrated to quiet reverence. It shook me out of the teenage angst I was feeling and allowed me to see the good in life. What a great memory!” (Response No. 18)

“I remember this moment because the surroundings worked as a perfect backdrop for the music I was listening to. I was traveling with the bus to Stockholm with my university. It was early morning, most were sleeping but I was listening to the The Nightly Disease by Madrugada. It's a dark mellow melancholic and full of emotions album. I was watching the landscape outside my window and it looked perfect with this soundtrack. It was hazy, a bit foggy, the sky had a silver purple color. We were passing by tall green trees and still silvery clear as a mirror lakes. Music and landscape provided a sweet melancholic feeling.” (Response No. 132)

“My lovely aunt sent me this album for my birthday. I was a little girl but to get a rock album by a band called 'Cream' and one that I hadn't

heard of totally surprised me. My parents went loopy as I remember. I felt very honoured that my aunt thought I was grown up enough to listen to it, my self-esteem grew. The importance of this album is that it opened my world up to a whole array of genres, which developed into love of music and a respect for different sounds.” (Response No. 62)

“This was played at my brothers funeral, we brought him home from another country where he had died. The tune was on a cassette in his effects.” (Response No. 56)

“Wow what turbulent times. Arctic Monkeys always remember me of my last month in London and the last hours in the airport. Walking through the streets of London, seeing China town with my sister and her fiancé, going to a theatre play with them before I am leaving Europe again. I have no visa for Australia, I have no job in sight, I've just quit a job as they promoted me in London, my dad's not speaking to me because I'm leaving Europe again and he's hurt that I go back to Australia, I'm excited, scared, happy, anxious, uncertain but certain, hurt, sad, serene... everything at once.” (Response No. 104)

“Being seconded to a peripheral country hospital wife meant long drives every fortnight back and forth from the city. We usually chose to drive at night for the 3 and a half hour trip. This one night we were listening to the Aladdin soundtrack and under the clearest night sky, yet driving through pitch darkness illuminated only by our headlights it was as if we were the only ones around. Hence when the song came up we spent a couple of hours learning the words fully and singing each part to each other. Alone, yet together... and made all the more memorable by the beauty of the song.” (Response No. 15)

To analyze the results using the DS-SEM proposed by Gabrielsson and Wik (2003), the various categorizations, along with the appropriate responses from some of the stories, follows below. It should be noted that some responses can overlap with other categories as stated by Gabrielsson and Wik (2003) when they said that their system should only be used as a guide as certain reactions to music “may be regarded from different points of view and thus possibly be assigned to more than one category” (pg. 169). I have noted this limitation, however, for the sake of simplicity I will fit each story into the category I deem most appropriate from my own interpretation of the experience.

1. General characteristics

1.1 Unique experience (9 times)

Examples:

- “When the needle hit the record it was the first time I ever really listened to music. It was an outstanding musical moment.” [Response No. 139]
- “I heard this remix and it was one of the first chillout songs I’ve ever heard.” [Response No. 111]
- “This was the first time I heard this song playing in a club, and it was during my first trip to Cuba” [Response No. 153]
- “First song that ever stirred any emotion in me as a child.” [Response No. 125]
- “This would potentially be a once in a lifetime chance to see an iconic band” [Response No. 19]
- “It was my first live concert experience, and I was being introduced to alternative/rock for the first time in my life.” [Response No. 158]

1.2 Hard-to-describe experience, words insufficient (2 times)

Examples:

- “Not much to say other than this is my all-time favourite song by my all-time favourite hip-hop group.” [Response No. 110]
- “This album reflects one of the pinnacle times in my life.” [Response No. 76]

2. Physical reactions and behaviours

2.1 Physiological reactions (12 times)

Examples:

- “The second half of the song is so soulful and gives me chills whenever I hear it” [Response No. 43]
- “Listening to it gave me goosebumps...” [Response No. 97]

2.2 Behaviours/actions (33 times)

Examples:

- “I would pretend that I was the lead singer of the band playing in front of my friends and would sing my heart out” [Response No. 32]

- “I was listening to his labelmate, Yu Sakai and really liked his music so decided to find more artists on the same label.” [Response No. 107]
- “I was singing this song with some good friends” [Response No. 113]
- “It was also the one song that I will dance to whenever, wherever” [Response No. 25]

2.3 *Quasi-physical reactions* (None)

3. Perception

3.1 *Auditory perception* (17 times)

Examples:

- “It has a very distinct synthesizer sound” [Response No. 84]
- “It has a very loungey feel and I remember it struck me because his voice is very good and the mixture of English and Japanese makes it unique” [Response No. 85]
- “The smooth melodies, vocals and vibe make it one of my favourite songs” [Response No. 88]
- “The beat was amazing...” [Response No. 108]
- “This music was so different than the monotonous sounds that most hip-hop artists embodied at that time.” [Response No. 83]
- “The song has a hypnotic, dreamy quality” [Response No. 114]
- “The lyrics are very simple and mournful...” [Response No. 26]
- “A rocking beat with empowering lyrics...” [Response No. 14]
- “I like the song pace” [Response No. 12]

3.2 *Visual perception* (7 times)

Examples:

- “Not many people were on the beach, it was a clear night and very quiet” [Response No. 93]
- “...surrounded by the most beautiful blue sea and green mountainous landscape” [Response No. 3]
- “The world around me started to turn from gray scale to bright color” [Response No. 13]

- “I was watching the landscape outside my window and it looked perfect with this soundtrack. It was hazy, a bit foggy, the sky had a silver purple color. We were passing by tall green trees and still silvery clear as a mirror lakes.” [Response No. 132]

3.3 *Tactile perception* (None)

3.4 *Kinaesthetic perception* (1 time)

- “...while I was listening to it, it was slowly calming me down, making me more content, relaxed and less irritated.” [Response No. 34]

3.5 *Other sense modalities* (1 time)

Example:

- “I can even smell the air of my hometown in summer when listening to this tune.” [Response No. 90]

3.6 *Synaesthesia* (1 time)

Example:

- “Paperback Bible was the stand out tune and it created a calm, but warm air to accompany the meal” [Response No. 98]

3.7 *Intensified perception, multimodal perception* (None)

3.8 *Musical perception-cognition* (None)

4. **Cognition**

4.1 *Changed attitude* (20 times)

Examples:

- “...and reading the comments I found out I was not the only one” [Response No. 107]
- “The lyrics remind me that life can be hard but to embrace it and continue to grow despite the hardships.” [Response No. 43]

- “Just me and my music, keeping each other company through the night”
[Response No. 95]
- “The album helped me got over the emotional low and the self-esteem dip, mellowed out the grieving process, and allowed me to come out of the other end, not cynical, but rather, rejuvenated” [Response No. 26]
- “Every time I listen to it, it makes me believe in the beauty that is love...”
[Response No. 159]

4.2 Changed experience of situation, body and mind, time and space, wholeness (11 times)

Examples:

- “Perfect song for the time and weather” [Response No. 105]
- “It works in any situation (day or night) so I listen to it constantly when I am on the move.” [Response No. 183]
- “I just felt very in love, and this song was so perfect in that moment” [Response No. 16]
- “It was just the perfect song for the perfect morning when I was feeling nostalgic”
[Response No. 165]

4.3 Loss of control (6 times)

Example:

- “The background music to that video were all the songs from Kane’s Fearless album. Everyone was in tears when seeing the movie. The songs just totally squeeze your heart” [Response No. 77]

4.4 Changed relation/attitude to the music (6 times)

Examples:

- “I didn’t really know many songs in this genre at this time so it really opened up my music tastes” [Response No. 111]
- “The importance of this album is that it opened my world up to a whole array of genres, which developed into love of music and a respect for different sounds”
[Response No. 62]

- “The song is great anyway however the randomness of this event and the inappropriateness of having it performed by a wedding band made it even better.” [Response No. 112]
- “This was the first song that made me appreciate music in a live sense or state” [Response No. 158]

4.5 Associations, memories, thoughts (127 times)

Examples:

- “It reminded me of being on an island relaxing” [Response No. 105]
- “It became the soundtrack to my year in Ireland” [Response No. 54]
- “This song reminds me of what binds us together and the feeling of falling in love” [Response No. 167]
- “The song reminded me of friends and parties and almost made me want to dance right on the street!” [Response No. 30]
- “...reminded me of being back at the Jinmao Tower in Shanghai having drinks on the 89th floor bar” [Response No. 117]
- “Helps me remember the times when I was hanging out with my close high school friends” [Response No. 25]

4.6 Imagery, inner images, inner music (16 times)

Examples:

- “The beat is almost ethereal, evoking images of nostalgia and flying” [Response No. 41]
- “...and painted the scene as rebels skateboarding in the night.” [Response No. 108]
- “Autumn Leaves by Eva Cassidy was playing in the background, not so much on a music player, but in my mind.” [Response No. 120]
- “‘The Mystic’s Dream’ was playing on a virtual non-stop loop in my head” [Response No. 114]

4.7 Musical cognition-emotion (None)

5. Feelings/Emotions

5.1 Intense/powerful emotions (9 times)

Examples:

- “It was very powerful and interesting to hear” [Response No. 87]
- “...it is a powerful thoughtful track” [Response No. 163]

5.2 Positive emotions (90 times)

Examples:

- “Feel really relaxed and happy whenever I listen to this song” [Response No. 96]
- “Great relaxing track after a stress week” [Response No. 157]
- “The very best song for mad dancing with two little girls, just before bedtime” [Response No. 66]
- “...this song was playing in the background and I stopped to look around and was very thankful for all the loving people in my life.” [Response No. 31]
- “This is awesome and always makes me happy” [Response No. 12]

5.3 Negative emotions (11 times)

Examples:

- “We were both slightly depressed because of that and my roommate (who was Turkish) was feeling home sick.” [Response No. 179]
- “That sort of represented one of my greatest fears.” [Response No. 116]

5.4 Different emotions (21 times)

Examples:

- “No Monday morning will ever be as perfect again” [Response No. 45]
- “There is a calm about the world, but also an excitement” [Response No. 98]
- “I love them dearly, but there is a natural strain of entertaining 24/7” [Response No. 128]
- “I felt nostalgic and rejuvenated at the same time” [Response No. 171]
- “The second I heard that song, my mood went from frustrated to quiet reverence” [Response No. 18]
- “For some reason, playing classical music not only calmed me down, but the crescendos got me fired up as well.” [Response No. 24]

- “I’m excited, scared, happy, anxious, uncertain but certain, hurt, sad, serene...everything at once.” [Response No. 104]

6. Existential and transcendental aspects

6.1 Existence (15 times)

Examples:

- “I had a general feeling that everything is right in the world and that life itself was so majestic” [Response No. 97]
- “I started to see deeper meaning in the things around me, the people walking down the street, the road passing beneath me, my feet on the pedals, my being here.” [Response No. 37]
- “This song doesn’t just encapsulate one moment in time. Instead it captures just about everything I have loved and been loved by in this world.” [Response No. 55]
- “It gave a sense of peace and calm in the world and that life isn’t as hectic as it seems to be during the daytime” [Response No. 2]
- “It makes me feel like I can do anything and that everyday is such a great day for living life!” [Response No. 162]
- “I couldn’t help but enjoy the moment in the crisp Autumn air.” [Response No. 180]

6.2 Transcendence (5 times)

Examples:

- “It LITERALLY felt like I was coming out of the elevator into the future and I had arrived at a lounge in the clouds” [Response No. 134]
- “Then song comes on and it just takes me to a whole other level. I feel the music. It’s pumping me up. I start running faster. I feel like I can conquer this...conquer anything.” [Response No. 20]
- “This song touched me at such a deep level that its meaning went beyond what was presented on the surface” [Response No. 158]

6.3 Religious experience (1 time)

Example:

- “Any time I feel confused, this song just brings me back to myself and reconnects me with the Multiverse, like a true religion.” [Response No. 124]

7. Personal and social aspects

7.1 New possibilities, insights, needs (15 times)

Examples:

- “It gave me a sense of purpose...” [Response No. 97]
- “I think that this song and specific moment is when I understood what it was to become an adult and how hard life can be sometimes” [Response No. 179]
- “The lyrics to this song gave me some clarity which encouraged me to look towards the future with someone else.” [Response No. 67]
- “Architecture has always made me look towards the future and listening to this song also gave me that feeling” [Response No. 27]
- “It was my first significant purchase and I remember that just seeing the default RSS screensaver and having this music on the background showed that computers could be stylish and cool as well as functional” [Response No. 29]

7.2 Music: new possibilities, insights, needs (7 times)

Examples:

- “...that music not only transcends genres, but also feelings, moods and imagination” [Response No. 97]
- “The song was Satellite and it forever changed the way I understood how music can make you feel.” [Response No. 18]
- “Panther Dash is the first song on the album – it’s really upbeat and positive, it never failed to lift my mood and whenever I hear this song I think of that time.” [Response No. 36]
- “The upbeat and light mood of the song immediately puts a bounce in my step” [Response No. 46]
- “The importance of this album is that it opened my world up to a whole array of genres, which developed into love of music and a respect for different sounds” [Response No. 62]

7.3 Confirmation of identity, self-actualisation (6 times)

Examples:

- “I can truly say that Hip-hop is a big part of what defines me, and I owe it all to that one song.” [Response No. 155]
- “Upon picking up the album on release date I had a self-realization that everyone’s path is different and nothing is set in stone” [Response No. 152]
- “When I listen to this song I am transported back to my first year of university and the feeling of being in a new environment and discovering new parts of myself. Thinking I am more interesting, that I have great potential, etc.” [Response No. 11]
- “I felt very honoured that my aunt thought I was grown up enough to listen to it, my self esteem grew” [Response No. 62]
- “Simply put, the song Shelter by Ray Lamontagne, inspired me and instilled a new sense of faith for me in love” [Response No. 159]

7.4 Community/Communication (8 times)

Examples:

- “This was our first party and the turnout was great (around 100 people)...” [Response No. 86]
- “...I posted this on Facebook with some friends echoing the same sentiment” [Response No. 106]
- “This song came on and immediately our three heads started bobbing in unison and knowing that this album just came out and only underground hip-hop heads knew this song, we felt pumped up” [Response No. 28]
- “Once this song came on, the energy of the crowd exploded and everyone, despite where they came from or what language they spoke all knew this song. It was amazing to share a bond with people from around the world” [Response No. 153]
- “Then this song came on – Northern Lites – and suddenly everyone from all different directions ran into the middle where people were dancing and started jumping around with big grins on their faces.” [Response No. 35]

Same song, different stories

The second commonality the data produced was that people wrote different stories for the exact same song. Considering that the sample size is small, it is surprising to find this result in the survey. However, since the survey invitations were sent to our family and friends and the majority of the survey respondents consisted of these people (see earlier section), it might be a case that since we all know each other, we may share the same memories. Therefore, in order to determine the uniqueness of the results, I will examine whether there are any factors, through social connections or demographic information, which influenced these findings.

Song Title	Respondent Number
Mr. Brightside	18, 43, 55
Sunshine of your Love	37, 62

Table 3. Same song, different stories

Taking a look at the song *Mr. Brightside*, respondent No. 43 is male, while No. 18 and 55 are both females. They are all approximately the same age (gathered from their public Facebook information). Respondent No. 18 currently lives in Australia whereas No. 55 currently lives in England. Respondent No. 43 has lived in both countries, but currently resides in England. In a social context, Respondent No. 43 is friends with both Respondent No. 18 and Respondent No. 55, but Respondent No. 18 and No. 55 do not know each other. This song elicited stories of driving in Blackpool (Respondent No. 43), boyfriends (Respondent No. 18) and weddings (Respondent No. 55). Respondent No. 43's story originally occurred in 2010 (England), Respondent No. 55's in 2009 (England) and Respondent No 18's in 2008 (Sydney). Therefore, taking all of the respondent's information into account, it seems that other than Respondent 43's connection to both No. 18 and 55, there is no reason to believe they influenced each other's memories. This is also evidenced by the fact that each story related to a different type of experience (ie. driving, boyfriends and weddings), so each story can be considered separate and unique.

Moving on to the song *Sunshine of your Love*, respondent No. 37 is male while No. 62 is female. They are not friends (gathered from their public Facebook information) but it is difficult to determine whether they are the same age or not. Judging by the

content of their stories they seem to be roughly the same age, however, Respondent No. 37 might be just a bit older. Both live in England and their stories also both occurred there. The stories from this song were about buying their first record (Respondent No. 37) and receiving the record as a gift for her birthday (No. 62). Respondent No 37's memory occurred in 1968 at a youth club and Respondent No 62's occurred in 1970 for her birthday as a little girl. Again, other than the possibility of being approximately the same age, one story did not affect the other and therefore each memory can be considered separate and unique.

After the analysis of each of these stories, the fact there are different stories about the same song, even in a small survey, is intriguing and lends further evidence to the fact that experiences can be shared through music.

Same song, same story

The third commonality that the data produced was that there was the same story for the same songs. Again, considering that the sample size is small, this is a very interesting finding. However, as with the previous analysis of different stories with the same song, I will consider how each respondent is socially connected before I determine the uniqueness of each story.

Song Title	Respondent Number	Story Theme
Fairytale in New York	37, 43	Christmas
Yesterday Once More	1, 15	Father and family

Table 4. Same song, same story

Respondent No. 37 and 43 are both male and currently reside in England. They are also father and son and share the same story regarding the song *Fairytale in New York*, which is expected since both stories revolve around spending Christmas time with family. Since they are part of the same family, the uniqueness of the story can be discounted as they greatly influenced one another and this commonality should be expected.

Regarding the song *Yesterday Once More*, Respondent No. 1 and No. 15 are both male, but are not friends nor of the same ethnic background. They also live in

different countries (Taiwan and England respectively). Their exact ages could not be determined, however, since Respondent No. 1 is a friend of my cousin and they went through the same undergraduate program at the same university, it can be assumed that my cousin and Respondent No. 1 are roughly the same age. This means Respondent No. 1 must have been born in the late 1980s and since Respondent No. 15's story occurred in 1973, it can be reasoned that they are not similar in age. Both stories involved memories of the time they spent with their families, particularly their fathers. Respondent No. 1's story occurred during the mid to late 1990s and he wrote: *"It is one of my dad's favorite songs and it reminds me of the time I spent with my family in Taiwan"*. Respondent No. 15's story occurred in 1973 and he wrote: *"My father had recently died, and I had taken my mother out for the day. This particular song was on the radio, and it always brings back memories of that day"*.

Again, I am not drawing any definite conclusions regarding this finding, as it is still using a small sample size. But the way I am interpreting the finding is that there are occurrences of people who are not connected to one another in any way, having the same type of experiences with the same song. This suggests that music and experiences are linked in some way and I am using this finding to shape the path I will take to further explore how people can share each other's music experiences.

REFLECTIONS (Cycle 1)

Having completed this first cycle, I reflected on the various decisions that I made throughout, the results that occurred and whether the right decision was made.

Decision to use an online survey

I first started by reflecting on my decision to use an online survey versus the other methods available in terms of the listed advantages and disadvantages and correlating that with my actual experience using an online survey. In terms of global reach, the online survey allowed us to receive responses from countries such as Australia, Germany, Taiwan, Canada, United Kingdom, France and the United States. To administer the survey in person to everyone in the listed countries would be prohibitive due to the cost of travel and thus, reflecting on this fact, if the survey had

been administered personally, the majority of responses would have come from one place, Manchester as that is where I am located. One could argue that the cost factor could be mitigated if I had used either a telephone or traditional mail survey, methods that do not require personally being in different countries. However, I found that online surveys did indeed help the speed and timeliness in administering the survey as compared to how much time would have been required to survey 71 unique individuals over the telephone or the time it would have taken traditional mail to reach multiple international destinations all over the world.

One advantage that a personal or telephone survey would have provided was the chance to ask the respondent follow-up questions to their responses. This would have provided more contexts to some of the more ambiguous stories such as:

“The song was Satellite and it forever changed the way I understood how music can make you feel.” [Response No. 110]

And would have helped to pinpoint exactly which category to file the response under in the DS-SEM. I had filed this entry under Section 7.2 (Music: new possibilities, insights, needs), but if I were able to ask a follow-up question, it would have been “how does music make you feel?”. The response to this question, assuming there was a response, might have made me file this in one of the subcategories of Section 5 (Feelings/emotions) if it related to a more emotional-based answer. Therefore, in terms of real-time flexibility and adaptation to the answers the respondents gave, this capability is not available with an online survey. However, it was flexible enough to allow for additional questions to be added after the initial survey structure was completed such as nationality.

Reflecting on the survey regarding demographic data, it would have been useful to have had asked the birthday or the current age of the respondent. Initially, the exclusion of the age question was due to privacy concerns we thought the respondents might have towards our survey. Privacy and security issues were one of the disadvantages that Evans and Mathur (2005) pointed out as being a weakness of online surveys as “respondents wonder if their answers will be treated confidentially” (pg. 202). However, in hindsight, since the message “*N.B. Oopus will never pass your*

information to a third party” (shown in Figure 7) was displayed at the start of the survey and we also allowed the user to tell us whether they wanted to keep their story confidential, this should have demonstrated to the respondents that their privacy was being respected. Allowing us to know the age of our respondents would have allowed a greater analysis of the survey results to see if there were any other patterns that could have been established.

Reflecting on the advantage that online surveys have regarding the ease of data entry after the survey is completed, using an electronic method to capture and record the responses made the resulting data import to my computer for further analysis straightforward. Google Forms allowed the data to be exported from their database in a number of different electronic formats such as Microsoft Excel (.xlsx), OpenDocument (.ods), PDF document (.pdf) and Comma Separated Values (.csv). The ability to export from Google’s cloud spreadsheet application to a more fully featured spreadsheet software, and one that I was more familiar with such as Microsoft Excel, made it easier to organise, sort, and analyse the resulting data such as searching for keywords regarding emotional states in the stories or sorting the names of all the respondents in order.

The advantage of convenience was a factor in that the respondents had the ability to answer the survey whenever they wanted to. Much like telephone and personal surveys, online surveys offer the convenience of allowing respondents to answer the questions when they remembered them rather than when it is administered. This helps mitigate the situations when respondents have trouble recalling a memory they want to enter into the survey. Respondent time pressure was one of the disadvantages noted by Evans and Mathur (2005) for personally administered surveys and by Hogg (2003) for telephone surveys when compared to the convenience that online surveys offer. Therefore, having reflected on the outcome of the decision to use online surveys versus more traditional methods, it was deemed that using this type of survey was adequate in obtaining the kind of data that was necessary to further shape the nature of my inquiry.

Survey Procedures

The second reflection I had was on the procedure regarding the online survey itself. There were four issues that I thought were worth reflecting on. The first involved not using music to help as a stimulus with the survey and only relying on the respondent's self-selected recall of the event. Music used as the stimulus to trigger autobiographical memories in subjects has been done in many studies (see: Janata et al., 2007; Schulkind et al., 1999), and generally, the results found that music plays a part in helping people evoke memories of a past episode. Such is the case with Schulkind et al. (1999), as one of their findings is that popular music might help provide a cue to a person's autobiographical memory if they were specifically directed to do so. However, there are also studies that deal with autobiographical memories with music that do not use any form of musical stimulus. One such study, by Gabrielsson (2002), sought to understand how old people's remembrance of their experiences with music fit within the context of the SEM project. Another study was run by Baumgartner (1992), which examined the types of memories that are triggered by self-selected music. The instructions to the study were as follows (pg. 614):

"Sometimes a piece of music becomes associated with an autobiographical episode from a person's life so that every time the person hears the music, (s)he is reminded of the original experience. Please take a minute and think about instances in which this has happened to you. Select the instance that is most salient in your mind and briefly describe the piece of music and the personal experience that the music reminds you of every time you hear it."

No music was played during this study; hence there was no musical stimulus to evoke a respondent's memories before they answered the questionnaire. The need to involve playing music to trigger autobiographical memories was also not listed in the limitations of their study. Therefore, it is suggested from this study that music might not be necessary to help evoke people's significant memories with music.

Furthermore, having to play music for this kind of study then raises an additional issue of deciding which songs to choose from, whether familiar to the respondent or not, so as not to completely bias the study in question (Janata et al., 2007). Janata et al. (2007) and Schulkind et al. (1999) have also found in their results that songs familiar to a respondent do not "necessarily mean that an autobiographical memory will be

triggered” (Janata et al., 2007, pg. 857). Therefore, reflecting on the literature has helped me realize that for the purposes of the current study, music was not necessary to aid respondents in the survey.

The second issue regarding the survey procedures might have to do with the number of questions used in the questionnaire. Upon further reflection on the format, the survey could have been made shorter, as is one of the suggestions from Archer’s study on web-based surveys (2003). There were 17 standard questions in total with an additional 5 questions being optional, which include the custom music genre, weather and moods if the respondent wants to add to the default list, keywords or tags that the respondent can enter that they associate with their experience and the story that describes why their experience was important and/or memorable to them. Out of the 17 standard questions, 15 were required answers. In terms of how many questions my survey should have contained, as stated earlier Fink (2003) explained that the amount of questions in the survey depended on the time available for the respondent to answer them. Having reflected upon this after the survey was complete and with more information obtained 12 months after the initial study, Zheng (2011) argues that the “median survey length for SurveyMonkey paid surveys is 10” (pg. 1) but also that the number of questions should depend on the nature of the research conducted. Industry specific and market research should have between 13 to 14 questions while surveys that are designed for fun should be much shorter, usually around 4 questions. Considering that my survey had 15 required questions and 17 total questions, this is considered to be a bit higher than normal. Therefore, having a shorter survey might have increased the convenience for the respondents but then the resulting data might not have been as rich in information.

The third issue regarding the survey procedure is in relation to the response rate, specifically, I thought we would have received a higher response than we actually did. Upon reflecting on this issue and leaning on literature by Nulty (2008), it was found from a number of studies that the overall response rate for online surveys was on average 33% compared to 56% for paper-based surveys, and that one of the reasons for this gap was the fact that paper-based surveys are administered face-to-face, which results in a higher response rate. Therefore, considering that our response rate was 54.5%, this is much higher than the 33% reported in previous studies and should

actually not be a cause for concern. Nulty (2008) explains that one of the reasons why this is the case might be due to face-to-face contact with our potential respondents. Martin and I personally messaged each of our friends and family members through email, Facebook or LinkedIn, which one can argue, is the digital equivalent of a face-to-face invitation to the survey. Therefore, having had chance to reflect on the response rate in light of the literature reviewed, it was deemed not to be an issue.

The fourth issue is in regards to the categorization of the music experiences themselves. Matching the results from the survey to the DS-SEM was interesting as sometimes I did not know under which category they should be filed. This is mentioned by Gabrielsson and Wik (2003) in their study that it was unrealistic to try and create a strict classification system because of both “the complexity of the phenomena and the lack of adequate terminology and theory in many areas of psychology...regarding the relation between cognition and emotion” (pg. 169) and that the reactions they received could potentially be assigned to more than one category depending on the experience, knowledge and attitudes of the person performing the analysis. I found this to be the case as 166 stories out of the total 183 could be segmented into more than one category (however, for another person analyzing the data it might be more than 166 or it might be less). An example is as follows:

“The smooth melodies, vocals and vibe make it one of my favourite songs” [Response No. 88]

Depending on the experience of the analyst, in this case myself, I sometimes have a physical reaction to the audio characteristics of a song. Therefore, in this scenario I would physically be moved by the melodies, vocals and vibe of a song. Indeed, this is the case as some of my favourite songs contain changes in key that I can physically feel as a chill. However, another analyst who is not as emotional with music might take the words at face value and think this only refers to a perception in audio. For this study, I have only recorded this entry in section 3.1 (Auditory perception) in the DS-SEM, however, this is a demonstration of the limitations of Gabriellson and Wik’s (2003) classification system.

Themes in the Cycle

The next reflection was focused on the results of the survey and how it could be grouped into two themes. The first theme was that of context, and by that I mean a person's emotional, environmental and physical state of being when music shapes their experience with music and make it memorable. The second is how music brings people together through its meaning and connections.

Context in Music

The results from the Music Memory form shows us that music helps to stimulate memories and plays an important part in our lives. Within these memories, we remember the contextual details of the episode such as the people we were with, how we were feeling, where we were and what we were doing. This kind of contextual information can help us understand how people might react given certain kinds of music or it might allow us to enhance existing music services that support the discovery, sharing, and the formation of communities around music (Kaminskas & Ricci, 2012). Context in music also provides a backdrop to the experiences, emotions and environments that we are in and allows us not to be distracted by the chaotic nature of everyday life. Even though, again, a generalization cannot be determined from such a small sample size, the results from the survey suggest that people form associations between music and their experiences with it and this provides the basis by which I might establish a connection between people who want to share these experiences with each other.

Shared Experiences with Music

It was interesting to find that in such a small sample size there would be two respondents, of completely different ethnic backgrounds, age and current location talking about their families, specifically their fathers, about the same song. This did not occur, however, in Gabrielsson and Wik's (2003) SEM project, which had received over one thousand SEM reports from various studies. They stated, "no two reports are similar, not even in the (few) cases where two participants have listened to or participated in the same musical performance" (pg. 166).

Why can music be used as a medium through which past experiences can be shared? To answer this question, we must look deeper into the meaning behind why we listen to music. Frith (1996) argues that listening to certain types of music should help define the experience we have with it, but we can only make sense of this experience if we take on “both a subjective and a collective identity” (pg. 109). Lamont (2011) echoes this thought by stating that there are two reasons why we listen to music. The first are the social and experiential elements behind listening to music as “the social dimension might thus provide a way into a collective musical experience which fulfills the requirements of meaning by allowing the listener to go beyond him or herself as an individual” (pg. 233). This suggests that when we listen to music, we feel a sense of belonging that is beyond ourselves, a part of a collective identity. The second reason Lamont (2011) states, is the sense of personal identity that is cultivated by having certain music listening preferences. This pursuit of identity is considered important for people to engage with music and fills the need for “personal growth at the centre of the search for meaning” (pg. 233). Therefore, these two reasons (personal growth and social connection) form the foundations to suggest that people could be connected through their musical experiences, to reflect not only on how music affects them, but how other people experience it as well. This last fact was brought up by the respondents of the music memory form themselves as there were 3 respondents who asked if they could not only see a record of their own answers, as they do not get a personal copy of the information they submitted, but also to see other people’s memories with music.

Upon reflecting the entire journey that I took with Cycle 1, it became apparent that the two themes of context and shared experiences with music would shape the direction my research might take in the next cycle. Checkland and Holwell (1998) mention themes as an alternative to having a hypothesis in action research, and these themes can be used as the basis from which “lessons can be sought” (pg. 14). Therefore, themes help guide the research from one cycle to the next through personal reflections and the lessons that were learned and applied to the subsequent cycle.

LESSONS LEARNED (Cycle 1)

Through my personal reflections of this current cycle, there are 3 lessons that I can use to inform the nature of my inquiry in the next cycle.

1. Capture memories as they happen

As the online survey consisted of capturing people's past memories with music, it seems worthwhile in the next cycle to try and capture their significant experiences with music as they happen in real-time. Coughlan and Coughlan also justify this line of thinking as they state that action research should be conducted in real-time as it is "a live case study being written as it unfolds" (2002, pg. 226). Therefore, to ensure that we can capture these memories immediately, a survey will need to be administered just as the episodic recall occurs. Having a survey device attached to a music player is the first solution that comes to mind as, following on Schulkind et al's (1999) study, we could direct a respondent to record an autobiographical memory using music as the cue. If this type of system is implemented, it should also help with any memory recall issues that might occur from filling in a survey after the event passed.

2. Modify the survey

If a system is created that allows a respondent to record their music memory as it happens, there needs to be two modifications to the survey format as a result. The first would be to include more questions on basic demographic information such as age and current location. This would have allowed further analysis into how music experiences are segmented to different demographics of people and whether there were any additional patterns that would have aided my reflection process. The second would be to have less questions overall because having to answer 15 required questions that dealt largely with memory recall without the aid of an external stimulus might be a stretch for some respondents to finish. However, this might contradict my previous point of having more demographic questions, so there is a fine line that we will need to balance in order to achieve trying to ask the right set of questions in the most time efficient manner.

3. Create a music community

Based on the feedback from 3 of the respondents, there was an interest in being able to actually see their own music memories, as well as the memories of others. This

allowed me to reflect on how to create a community centered around music experiences as a way to connect and enable people to share their memories. Kibby (2000) stated, “communities exist through dialogue; through an exchange of past social history and current social interaction” (pg. 91) which is the activity I envision occurring with this proposed music community. By creating such a system, we would be enabling the sharing of experiences and connecting each respondent with people who have had similar episodes in the past. As suggested by the analysis of the survey results, sharing similar experiences might also involve sharing new music as some similar story themes had different songs. Therefore, this community might also be a novel way in sharing new music with each other. Indeed, this idea was brought up by Janata et al. (2007) where they suggested using a music recommendation service to help in selecting songs that are familiar to the respondent by taking into account their past music listening preference and history. I will need to explore further in the next cycle how to integrate the capturing of music memories as they happen such that it might be shared among the community for others to experience.

CYCLE 2

Having reflected upon the lessons learned from the previous cycle, I decided that the feedback and results from the survey respondents helped inform the direction I wanted to take in terms of connecting people through their music experiences. One lesson that I learned from the previous cycle, and that will figure prominently in the current cycle, is the notion of building a community around music such that people can share their experiences with it. Research around this concept is where I will start Cycle 2.

AREA OF CONCERN

In the previous cycle, the feedback to the music memory form suggested that music experiences were contextual in nature and that an online community based around people's most memorable music memories could be created. Although the sample size was small and the evidence not completely conclusive, the initial findings plus previous studies undertaken in the literature helped to further inform my research in this cycle. Evidence in this literature suggests that there is both a need for such a community and that it is possible to build it around music. Findings from a study by Volda et al. (2005) suggest that there is a "need for music sharing technologies to support communities of music sharing" (pg. 200) and Boer et al. (2011) further this statement saying "individuals who like similar music show a higher social attraction toward each other" (pg. 1160). Thus, the main area of concern in this current cycle will be how can a community based on people's music memories be created?

FRAMEWORK

The framework involved in this cycle starts off with the literature around the concept of a community. I then explore how communities are built and what distinguishes an online community from an offline one. Lastly, I will look at how a music-specific community can be built and what is required for this to happen.

Community

There are many questions that arise when the concept of community is mentioned. Puddifoot (1995) asserts that some of these include, but are not limited to “What precisely is meant by the term community?” and “Can there be such a thing as identity when applied to community?” (pg. 359). With these questions in mind, Sergiovanni (1994) defines a community as a collection of “individuals who are bonded together by natural will and who are together bound to a set of shared ideas and ideals” (pg. 218).

Building on this, McMillan and Chavis (1986) proposed that having a sense of community consisted of four main elements: membership, influence, integration and fulfillment of needs and shared emotional connection. The element membership consists of several attributes such as *boundaries*, *emotional safety*, *sense of belonging and identification*, *personal investment* and a *common symbol system* that work together and contribute to define what it means to be a member of a community. *Boundaries* within a community help to identify the people that belong to the group and the people who do not. These boundaries also help to ensure *emotional safety* and provide the necessary “structure and security that protect group intimacy” (pg. 10) and one’s own personal space. A *sense of belonging and identification* is necessary for membership to allow one to feel accepted by the group, which, in turn, enables the person to give back to it. *Personal investment* involves how important a person feels as part of the community and that it is required for the individual to feel like they have earned a place amongst the group that, in turn, will make their membership feel more meaningful and valuable. Finally, having a *common symbol system* allows group members to further create and maintain a sense of community and to use these social conventions, such as language or dress, as boundaries to intentionally create a “social distance between members and nonmembers” (pg. 11).

The element of influence can occur in two directions, one being that the member has some influence over the group but also that the group has an ability to influence its members to aid in community cohesiveness (McMillan & Chavis, 1986). The most influential members were found to be the ones who acknowledge the needs, values and opinions of others are valuable and the least influential members are the ones who

attempt to dominate the group. In terms of cohesiveness, research done on consensual validation show that “a group is operating to consensually validate its members as well as to create group norms” (pg. 11).

McMillan & Chavis (1986) translate integration and fulfillment of needs to that of reinforcements, which is a motivating behaviour that binds people into close communities and consists of three attributes: *status*, *competence* and *shared values*. *Status* is important as it is shown that being a member in a successful group helps to bring all group members closer together. *Competence* also contributes as members are “attracted to others whose skills or competence can benefit them in some way” (pg. 13). *Shared values* is also important as these values define our emotional and intellectual needs and that by joining together to share similar needs, priorities and goals, it will help us attain the reinforcement required to form a cohesive community.

Having a shared emotional connection is the last element in McMillan & Chavis’s model (1986), and it is made up of seven different important features:

1. *Contact hypothesis* says that people become closer as the number of interactions increases
2. *Quality of interaction* states that a bond increases just as the community experience and relationships increase as well
3. *Closure to events* means that group cohesiveness will be constrained if there is no consistency or purpose to the interaction between the members of the community
4. *Shared valent event hypothesis* states that a bond within a community will grow stronger as the importance of a shared event increases for those members
5. *Investment* means that the more physical, emotional and mental participation a member gives to their community, the more personally involved and affected they will be in the community’s current and future outcomes
6. *Effect of honor and humiliation on community members* will help a member decide whether a community is rewarding enough, and thus worth staying connected to, or not
7. *Spiritual bond* refers to a shared emotional connection that a member feels towards their community, transcending the physical bonds that ties them, to that of a spiritual one

The theory that McMillan and Chavis present is part of a broader model put forth by Puddifoot (1995). Identity is one of the elements in Puddifoot's multi-dimensional model of community identity (1995) and according to Gusfield (1975), this kind of identity is considered a way of expressing ideas about a particular social phenomenon if treated as an analytical concept. Puddifoot (1995) says that the element of identity is used to create a "sense of affiliation, belongingness, and emotional connectedness" (pg. 366) and can be applicable in either a physically delineated area or in terms of social and/or cultural relations. Sergioivanni agrees with this sentiment and adds that communities create a social structure that "bonds people together in special ways and binds them to concepts, images, and values that comprise a shared idea structure" (1994, pg. 217).

Besides identity, the other elements in Puddifoot's model include locus, distinctiveness, orientation, evaluation of the quality of community life and evaluation of community functioning (1995). Locus refers to the proximity, boundaries or social patterns around that which makes up a community. Distinctiveness indicates how unique a community is compared to other communities. Orientation assists the individual in expressing their personal viewpoints to the community, such as involvement, attraction and perceived future in it. Evaluation of the quality of community life refers to concerns regarding friendliness, cooperativeness and the types of social interactions that occur while evaluation of community functioning involves the ability to influence decisions, decision making opportunities and the different types of services the community offers. Therefore, by trying to establish an identity around the research in the previous cycle called Oopus, I was in fact building a community around the concepts that help built the foundations to the current cycle.

However, for a community to work, there must be people who want to join and be a part of it. But why would anyone want to join a community and what are the determining factors? The answer lies within the literature found regarding social capital.

Social Capital

As a community can be considered a grouping of social relationships (Puddifoot, 1996; Scherer, 1972), this can also relate to social capital. Putnam defines social capital as the “features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit” (1995a, pg. 67) or as the “features of social life – networks, norms and trust – that enable participants to act together more effectively to pursue shared objectives” (1995b, pg. 664). Lin (2001) further states that social capital consists of social relationships that form due to the journey towards a common goal. Therefore, social capital helps to bring people together to form a community as it “cannot be generated by individuals acting on their own in isolation” (Onyx & Bullen, 2000, pg. 24).

According to Grootaert & Bastelaer (2001) social capital plays a role in reducing transaction costs, allows easier access to information and assists decision-making as a collective while Coleman (1988) adds that human capital can be created from social capital in any subsequent communities that arise from the current one. Furthermore, there are two different types of social capital, structural and cognitive (Grootaert & Bastelaer, 2001; Uphoff, 2000). Structural social capital refers to different kinds of social organizations with established rules and procedures that enable benefits such as information sharing and collective action. Cognitive social capital, however, is based on the more subjective notion of shared norms, values, attitudes and beliefs which leads to more cooperative behaviours. These two types of social capital can be complementary, but this is not a necessity.

Paldam (2000), proposes that social capital can be grouped into three distinct families: trust, cooperation and networks, with trust and cooperation being closely related and networks also being integrated. This ties in well with Putnam’s theory of social capital as stated earlier, which includes networks, norms and trust (1995b), where trust fosters cooperation among people and is itself made up of two essential elements: the norm of reciprocity and networks of civic engagement (Blanchard & Horan, 1998). We now delve into these three factors more closely.

Trust

Larson (1991) states that a high level of trust is required for successful cooperation to occur. In the context of social capital, Oynx and Bullen (2000) define trust as “a willingness to take risks in a social context based on a sense of confidence that others will respond as expected and will act in mutually supportive ways, or at least that others do not intend harm” (pg. 24). There are three forms of trust (weak, semi-strong, and strong) that Barney and Hansen (1994) state can lead to effective cooperation. A weak form of trust does not depend on contractual safeguards or common values because there is no potential for opportunism between individuals. A semi-strong form of trust requires contractual safeguards to mutually protect both parties because of potential opportunistic behaviour arising (Steensma et al., 2000). A strong form of trust does not require contractual safeguards because of a common vision and objectives that result in an absence of opportunistic behaviour (Barney & Hansen, 1994). Wang and Chen (2011) have found in previous literature that social interaction between community members aid relationship building and stimulate trust, and this can be supported by, and facilitated through, a website. Therefore, in the case of the present study, trust is an important factor in an effective cooperation to ensure that the goal of sharing people’s music experiences is reached.

Norms

Putnam (1995b) states that the most important norms of behaviour involve the act of reciprocity. This means that if a pro-social form of behaviour is committed and evidence of it exists, then there is a belief within the community that it would be reciprocated at a later point (Blanchard & Horan, 1998). Evidence of these acts are important to a community, especially a large one, as Resnick states “in large groups, it is hard for individuals to determine who to trust, and hard for the groups as a whole to encourage trustworthy behavior” (2000, pg. 16). Therefore, as social communities are, in many ways, an extension of us as individuals in life, the value we receive from these communities must be considered equitable. Ouchi (1980) echoes this statement by saying that the standards of reciprocity is “a universal requirement for collective life” (pg. 130).

Networks

Uphoff (2000) states that networks are “patterns of social exchange and interaction that persist over time” (pg. 219) and are regarded as crucial representations of social capital. Blanchard and Horan (1998) further comment that networks of civic engagement are “key in the process of social capital” (pg. 294). According to Putnam (1995b), there are three main characteristics of networks. The first involves the density of a person’s social network of contacts, such that the denser it is, the greater effect it has on social capital in the form of more robust norms of reciprocity and the successful spread of information about the person. The second characteristic is the shape of one’s network. A flatter, more horizontal network can increase social capital as opposed to a more hierarchical network. The third characteristic involves the notion of weak ties. Blanchard and Horan (1998) define this as the “ties among acquaintances or colleagues in a civic organization” (pg. 294) and are different to strong ties, which are connections to close friends and family. Weak ties are important in a person’s network of engagement because this is how information regarding a person’s trustworthiness flows out to different people outside of your close personal network. This transfer and spread of information is important to encourage social trust and cooperation within a community.

Having looked at face-to-face (f2f) communities and how social capital plays a big part in the formation of these groups, we now take a look at virtual communities and see if social capital plays the same role in these kinds of networks.

Virtual Communities

According to Blanchard and Horan (1998), there are two types of virtual communities. The first is a physical based community that uses online resources to allow the exchange of information to the members of that community. An example of this is an online portal for a city that displays general information about the services it offers to its residents. The second is a community based on shared interests but not on shared locations, as its members are not geographically constrained. These could include online user groups for knitting, a specific video game or a political debate forum and are referred to as virtual communities of interest. Resnick (2000) further states that

information and communication technologies should be able to increase people's ability to act together, which he feels is a subset of social capital.

As well as being an important part of an offline community, social capital is also important to an online community. Again, using the main components of Putnam's (1995b) theory of social capital (networks, norms and trust), I take a look at how it affects virtual communities as well. As networks are defined as a set of connections that link people, objects, or events together (Knoke & Kuklinski, 1982), there are two ways that Blanchard and Hora (1998) describe in which networks in virtual communities can affect social capital. The first is that because of the immense geographic reach of the Internet, a person's social network may grow to include both people they know and people they do not. This, however, might spread a person's network too thin, which does not aid in fostering trust and norms of reciprocity. Therefore, Blanchard and Hora (1998) suggest that a scenario where a virtual community overlaps with an f2f community will most likely result in an increase in social capital rather than a completely virtual community. The second is the spread of information that occurs in a virtual community through weak ties between its members. Blanchard and Hora (1998) argue that a virtual community might not have a sufficient amount of weak ties available between existing members to facilitate the spread of information that is crucial to the trust that builds up within it. Again, they suggest that a physically based virtual community overlapping with an f2f one will build up this network of trust through weak ties. However, the results from a study done by Steinfield et al. (2008) tell a different story. The research looked at whether a greater use of the online social network Facebook would lead to an increase in bridging social capital. The results showed that Facebook use did indeed help to predict bridging social capital and that specific features within that social network such as "friend lists, wall posting, messaging, and tagging help social network users maintain distant relationships and weak ties" (pg. 444). Therefore, Blanchard and Hora (1998) point out that virtual networks that increase network density and help spread information will have the largest positive impact on social capital.

Norms of behaviour and reciprocity in a virtual community can be viewed as information and social support and exchanges that occur between members (Blanchard & Hora, 1998) and according to Wellman and Guila (1999), reciprocal

support, and evidence that it happens, is an important function of virtual communities. This encourages trust building among members, which in turn builds up the social capital in these virtual communities as well. Blanchard and Horan (1998) found that trust in virtual communities affect social capital mostly through behaviour that is considered anti-social. Since information exchange is the basis of virtual communities, any exchange of false or hurtful information can greatly reduce the trust level that a member has in the community. To counter these instances, some virtual communities do not allow the use of anonymous identities in their networks or communications (Blanchard & Horan, 1998).

So, what factors make people join a virtual community in the first place? Blanchard and Markus (2002) feel that in order for a person to want to join a community, they need to feel a sense of community, which MacMillan and Chavis define as “a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together” (1986, pg. 9). In fact, Blanchard and Markus (2002) argue that the most widely accepted theoretical framework on sense of community belong to that from the work done by MacMillan and Chavis (1986) and consists of four main elements:

1. *Membership*: Feelings of belonging to, and being able to identify with, a community
2. *Influence*: Feelings of being able to make a difference to the community and the community being able to influence oneself
3. *Integration and fulfillment of needs*: Feelings that the needs of an individual will be met through the value obtained by joining the community, and that this will also be reciprocated back to the group
4. *Shared emotional connection*: Feelings of connectedness through a shared history, relationships, and experiences

However, De Souza and Preece (2004) argue that by just being online does not guarantee that an online community will be successful. They found that there are a number of social factors (ie. sociability) in addition to the usability and functionality of the software running the community. They go on to further state that sophisticated

software design often has limited impact on the success of an online community but “well-designed software can make a successful community even more successful” (pg. 580). Blanchard and Markus (2002) also echo this sentiment as the findings from their research indicate that a virtual community formed through community-like behaviours and processes does not guarantee that an actual sense of virtual community can be obtained. They go on to suggest that to achieve this sense of virtual community, there must be a clear sense of the value that members are receiving from the community and their on-going participation.

So how does one measure the success of a virtual community? Leimeister et al. (2006) found in their study that handling member data sensitively, offering up-to-date and high-quality content, and encouraging interaction between members were important factors found to ensure the success of a virtual community. Similarly, Preece (2001) outlined a framework for sociability and usability to assist in measuring and determining success in online communities. Preece argues that just designing for ease of use on the Internet is not enough to help understand how these communities can be used for social interaction. Therefore, with this in mind, Preece states that there are three main elements to this framework in terms of sociability. These are purpose, people and policy and can be measured as follows:

- *Purpose*: The purpose of a community is defined by the engagement that occurs within it and can be measured by metrics such as the number of messages per member or over a certain time period, the interactivity of these messages, and whether members are both taking and giving back to the community in some way
- *People*: This can be measured by the number of people that join a community over a certain period of time, as well as the demographic profiles of the users
- *Policy*: Trustworthiness and anti-social behaviour are the two main measures of policy within a community. These two measures maintain boundaries within the community to promote and foster interaction between members

Furthermore, Preece (2001) defines usability as the concern “with how intuitive and easy it is for individuals to learn to use and interact with a product” (pg. 349).

Therefore, usability is focused on the human-to-computer interactions and can be measured through the following elements (Preece, 2001, pg. 349-350):

1. *Dialogue and social interaction support*: This describes the feedback a member receives that support their interaction within the community and can be determined by measuring how long it takes a user to understand how the various communication functions within the community work
2. *Information design*: This refers to the ease in which a member can read and understand the information being displayed in the community and can be measured by metrics such as how aesthetically pleasing members find the designs within the community
3. *Navigation*: This describes how easy it is for users to move around within the community and find what they are looking for. A way to measure it can be the time it takes users to find relevant information within the website
4. *Access*: This refers to how clear the instructions are on gaining access to the community, either directly or indirectly. If this is not clear, users can get frustrated as well as waste their time. This can be measured by such metrics as how responsive users feel the community is and if there are many errors that occur while trying to access the community

Therefore, the main difference between sociability and usability is that sociability is concerned with how members of a community interact with each other through the technology that provides the platform whereas usability is concerned with how members interact with the technology that the community is built upon.

However, Blanchard and Horan (1998) state that a key issue that still needs to be addressed is “what communities of interest will increase the likelihood of members participating” (pg. 302). Therefore, in the case of the current study, can music be used as a topic of interest to build a virtual community?

Music Preferences

According to results from a study performed by Bakagiannis and Tarrant (2006), the perception of having similar musical preferences was shown to improve intergroup

relations in adolescents. From this study, it was shown empirically for the first time that music can indeed bring people together and that a shared interest in music can lay the foundations of building a virtual community. Boer et al. (2011) explain that the reason why music is able to bring people together is because we communicate and bond over it and that the music we like to listen to act like “specific attitudes that express the values of its listeners” (pg. 1160).

Expressing similar values can help to form and maintain social relationships through the mutual understanding of what is most important in life, which subsequently leads to harmonious relationships (Boer et al., 2011). Bishop (2007) agrees with this statement and puts it in the context of a virtual community by saying that the existence of communities is “often brought about by people who share similar goals, beliefs or values, with such commonality forming the basis of an agreement to form and sustain a virtual existence” (pg. 1882).

With this in mind, we now turn to the musical bonding model proposed by Boer et al. (2011), which suggests that sharing music listening preferences expresses one’s own values, which in turn creates social bonds between people.

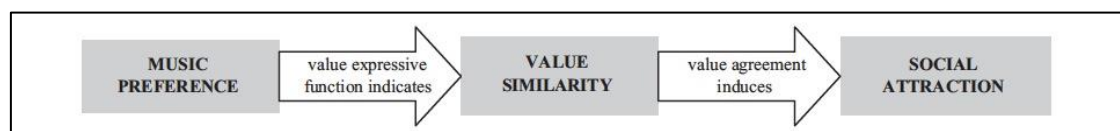


Figure 17. Musical Bonding Model (Boer et al., 2011, pg. 1161)

Dunn et al. (2011) have also stated that music is an important tool to communicate one’s own social identity, however, since the enjoyment of music is an inherently social experience, people’s listening preferences can also be subject to social influences (Crozier, 1997). Since music is used to convey one’s own identity and personalities in a social setting, this can also be used as a starting point for a conversation among strangers. This was found to be the case by Rentfrow & Gosling (2006), as music was a common topic among strangers when getting to know each other.

A virtual community based on music does not only have to involve people with similar musical preferences, however, as Volda et al. (2005) found in their study that strong group identities can also be formed from people with disparate musical tastes. Because of the vastness of the Internet and the digitization of music, people have access to any type of music now, from an ever-increasing number of genres and sub-genres, and there is evidence that virtual communities form around narrowly defined types of music (Hughes & Lang, 2003). Therefore, the success of a virtual community built around music is not wholly dependent on accommodating people with similar listening preferences as people with very different musical tastes can join and help other members discover new music. Greasley and Lamont (2006) found this to be true as there were some cases in their study where certain participants would actively influence other people's music preferences. This will hopefully help in the norms of reciprocity between members to increase the social capital of the community and to make it more valuable by not only reinforcing people's preferences by finding music they like, but by opening their minds to new music they otherwise would never have found themselves.

However, it must be kept in mind that sometimes a person's listening preference as stated publicly might not accurately represent what they listen to in private (Crozier, 1997). This is due to the fact that there is often "a common distinction between personal and social identity" (Crozier, 1997, pg. 71). Konecni (1982) echoes this point by stating that the analysis of musical preferences must also take into consideration the "typical situations in which music is appreciated, in social contexts, in the presence of friends, lovers, and family members, in the stream of daily life" (pg. 500).

Therefore, the concepts found within the literature concerning both on and offline communities, social capital and cooperation are essential to this research as music is an inherently social activity that people can use to create and intensify social bonds (Lonsdale & North, 2009; Selfhout et al., 2009; Boer et al., 2011). However, as my research proceeds, I must be mindful that my study take into account people's actual versus reported musical listening preferences.

METHODOLOGY

Based on the research for the framework of this cycle, it was decided to first obtain people's listening preferences and then to use these preferences to form the basis of the online music community. These preferences should be accurately captured when they occur, preferably collected in real-time through a personal recording device. However, I need to determine what kind of method is best used for this kind of data collection.

Experience Sampling Method

After researching the literature on how best to collect real-time data, I came across previous studies that have utilized the Experience Sampling Method (ESM) for data collection (see: Barrett & Barrett, 2001; Christensen et al., 2003; Greasley & Lamont, 2011; Juslin et al., 2008). According to Scollon et al. (2003) and Barrett and Barrett (2001), ESM is used to collect a representative sample of data of a study participant's experience and behaviour over time in their natural environment. Barrett and Barrett (2001) further this statement by explaining that ESM should be thought of as "a procedure that allows participants to report the contents of awareness along with the situation in which that awareness takes place" (pg. 176). The main aim of the current study is the same as the studies in previous literature, which is to be able to accurately capture the subject's current situation in as much detail as possible. However, the tool through which this data is captured is different than what was used before. Most of the ESM literature I reviewed focused on using handheld Personal Digital Assistants (PDAs), however, very few have used the latest in smartphone technology to capture a person's environment in real-time.

Technology in mobile phones has advanced ever since the Apple iPhone first started the smartphone revolution when it was released in 2007 (Hytha et al., 2012). Since that time, smartphones have overtaken regular (or feature phones) in terms of sales for the first time in August 2013, shipping 225 million units compared to 210 million units (Gartner, Inc., 2013). Along with the increasing rate of smartphone adoption, the applications that run on these platforms are also rising in both number and popularity (Xu et al., 2011). These apps are used to present smartphone users with specialised content such as news, weather and social status, which can be further personalised

with additional information from the numerous sensors which populate today's latest handsets. Each year, new sensors are added to the latest models of smartphones, including accelerometers, gyroscopes, and magnetometers (Schirmer & Hopfner, 2010). This allows an unprecedented amount of contextual information to be gathered from these apps about the user and their state of being; information that can be used as the basis for "a contextual analysis of behavior" (Barrett & Barrett, 2001, pg. 176). The use of a smartphone, a device that is completely engrained in everyday life, to use as the data collection tool for my modified ESM research allows the respondent to "document their thoughts, feelings, and actions outside the walls of a laboratory and within the context of everyday life" (Christensen et al., 2003, pg. 53).

Therefore, I decided to use a modified version of the ESM for the current study. Instead of carrying around a PDA or an electronic pager, their mobile phones would be used as the recording device. Also, the goal of the study is not to answer specific questions at specific times regarding their experiences with music, rather, it was to determine if people felt strongly about their current situation with music that they would create music memories that would build content for the online music community. Therefore, the standard ESM was modified such that the participants were not given set indicators to create music memories, rather, this study allowed the creation of memories at the participant's own free will, when they occur naturally.

The goal was to be able to create a mobile application that would allow people to capture their memories with music when they are listening to music. The reason why an app needs to be created from scratch is because existing music playing apps do not have this functionality. It is suggested by Baumgartner (1992) that music helps to stimulate memories. Therefore, we will use this concept to collect more music memories from people and see whether there are grounds to start a music community.

Mobile Platform

The next step in this cycle is to decide which mobile platform the app should reside on. In order to make a decision, there are several criteria that the app should satisfy such as the popularity of the platform, the amount of control a developer has to access certain device functions, the ability to determine a user's location (through the use of

GPS), has access to the Internet, and has a strong app development community. Another major factor in deciding what platform to choose would be the programming language it uses. The ideal situation would be if we were already familiar with the language (I had learned C++ in university) or is not considered time consuming to learn as this would help shorten the learning curve.

Market share

At the time there were numerous platforms available that we could have used to create this mobile music application such as Nokia's Symbian, Apple's iOS, Microsoft's Windows Phone 7, Google's Android and Blackberry OS. However, based on a Nielsen survey in October 2010, the current top three market share for smartphones consist of 27.9% iPhones, 27.4% BlackBerry and 22.7% Android devices, with Android increasing from 9% from January 2010 (June, 2010). The same report goes on to state that Apple and Google are the smartphones that people would want to upgrade to next, with 30% and 28% of respondents respectively. Therefore, based on these trends, I was able to narrow down the choice to Apple's iOS or Google's Android platform.

Device specifications

In terms of the device specifications, I was only interested in two specific points. The first was whether the device was able to access the Internet (and the speed of the connection) and the second was the kinds of sensors on the device itself.

In January 2011, Apple's flagship smartphone was the iPhone 4. The sensors on this device included: Assisted GPS (A-GPS), a digital compass, three-axis gyroscope, an accelerometer and had access to 3G mobile Internet (Apple Inc., 2012). In terms of the Android mobile platform, because of its free and open nature, there are devices of varying quality that are built on it which could greatly bias the comparison with the iPhone 4. However, Google's Nexus series of Android smartphones are supposed to be the purest Android experience on the market (McCracken, 2010). With that being said, the flagship Android phone as of January 2011 was the Google Nexus S and therefore, this device will be used to compare with the iPhone 4. The Nexus S

contained the same sensors as the iPhone 4, which are the A-GPS, digital compass, accelerometer, gyroscope and also 3G mobile Internet (Arena Com Ltd., 2011).

Therefore, in terms of device specifications, there is no difference between the iPhone 4 and the Nexus S.

App ecosystem

The iOS app ecosystem is closed, which means that there are control mechanisms over who can develop apps for the platform, strict guidelines to follow for every app that is made as well as a time consuming approval process before the app is allowed to be released in the iTunes App store. This method of control, however, has worked well for Apple as their App Store has more than 250,000 apps, are of better quality, are more profitable to developers on average (Helft, 2010) and have been downloaded over 50 billion times as of May, 2013 (Apple Inc., 2013).

The Android platform is an open platform by default so there were ways to access its core functions from the initial launch of the operating system. Although this meant anyone had the freedom to develop, improve upon and release a new music player for Android phones, this also meant that there were no strict guidelines to follow and adhere to which is important for someone who might be just starting to learn how to program for the Android platform. This openness also hasn't translated into a significant advantage over the iOS platform as the Android Market currently has approximately 80,000 apps available (Helft, 2010).

Development

In terms of developing for either the iOS or Android platforms, as stated earlier, Apple has a closed ecosystem and, as a consequence of this fact, Apple did not allow developers access to modify the iPod music library until their release of iPhone OS 3.0 in June 2009 (Apple Inc., 2009; Begemann, 2009). This finally allowed developers to create music applications for the iPhone that utilized the iPod music player framework and core functions. The iOS development platform uses Objective-C, which is a programming language based on C, and requires a program called Xcode, which is an Integrated Development Environment (IDE) that is used to create desktop

and mobile applications in Objective-C, and Interface Builder, which is a visual way of constructing an app for an iOS device.

The Android operating system has always been open and developers could access the core frameworks that govern each device from the beginning. The Android operating system is based on the Java programming language, which is one of the most popular languages in the world (Krill, 2013). It uses the Eclipse IDE, which is the Android equivalent to Xcode. One of the major issues noted by Elmer-DeWitt (2011) regarding Android development is device fragmentation. Device fragmentation is known as the number of different devices with different capabilities running different versions of Android (Pachal, 2012). According to Pachal, there were approximately 3,997 devices in the world running Android in May 2012, and to ensure that an app's user experience is quality controlled for even a fraction of those devices would prove difficult.

Therefore, after weighing all the advantages and disadvantages of each of the nominated platforms, I decided to go with iOS as the learning curve would be faster, there are better tools for novice iOS programmers, the iPhone platform was more mature than Android and that Apple is synonymous with music now because of how important it has been to its success (Van Buskirk, 2012).

Community Identity

After deciding which mobile platform to develop the app on, I needed to give it an identity, one that could be used both for the app and the community I would build afterwards. I decided to keep the Oopus name from the previous cycle, as we wanted it to be a further extension on the music memory form and the concepts it presented. Therefore, the app and the online music community itself will carry the Oopus name as well as any associated elements essential to creating this community.

Oopus iPhone Application

On February 1st, 2011, I started to learn how to program for the Apple iOS platform and set out to build the first Oopus iPhone application prototype. The first step in this

process was to design the functionality and features of the app to ensure that accurate depictions of listener preferences are captured.

App functionality

Since Boer et al. (2011) stated that people with the same listening preferences also have a higher social attraction towards one another; we needed to define what listening preferences meant within the app and then find a way to collect these preferences. Konecni (1982) has stated that music preferences include “the setting, emotional state, information load, physical state, type of other people present and atmospheric conditions” (pg. 502). Since this implies that music listening occurs in a certain context, we will also look at Kaminskas and Ricci’s (2012) music-specific contextual variables classification system which includes “environment-related context (information about the location of the user, the current time, weather, temperature, etc.), user-related context (information about the activity of the user, the user’s demographic information, emotional state), and multimedia context (other types of information the user is exposed to besides music, e.g., text, images)” (pg. 100). This system was itself adopted from Dey (2001), where in general applications the four most important dimensions, which he called primary context, were location, identity, activity, and time. Sensors on the context-aware device could measure these elements and the information gathered could be used to infer the secondary context dimensions, such as the mood-state of the user.

Sloboda et al. (2001) also talk about the social contexts in which music engagement occurs and how a complete understanding of the situation means that “it is necessary to know what else is going on while the music is taking place. Is the participant alone or with others? If with others, in what relation is the participant to those others? Is the participant engaged in other forms of practical or social action (e.g. working, socializing, praying, exercising, etc.)? Such factors will be crucial to determining what kinds of function could possibly be supported by music being a part of that particular context” (pg. 12). Therefore, the functionality of the Oopus app needs to not only accurately capture the context in which music listening takes place, but it must also allow the user to enter in specific details of the current social context they are in while engaging with music.

Thus, in order for a user to be able to understand immediately how to use the Oopus app, it needed to be very similar to Apple's own default music app. The user should be able to choose what song to listen to from their own personal music library or a playlist they created in iTunes that they already synced with the phone. The look of the Oopus app also needed to be very similar to Apple's default music player to continue with the familiarity requirement.

However, there would be two main differences between the music apps. The first is that the Oopus app would collect contextual data (ie. time, date, location, weather, etc.) to form a complete picture of a user's listening preferences in certain environmental contexts, which the Apple default music player does not (I will explain how this is done in the *How it works* section below). The second difference is how we put the data we are collecting to use, by helping the user automatically generate a playlist for certain environments based on their listening history in that context. Essentially, it is as if the user is asking the app "what is the best music for me right now?" based on what the system knows about you from the past. This was a feature requested by Janata et al. (2007) for a future study as they wanted a device that could serve "custom-tailoring stimulus selection to the individual by incorporating additional information about the participant's past music listening and preference history" (pg. 859).

The playlist view of the Oopus app v0.1 prototype version is shown below.

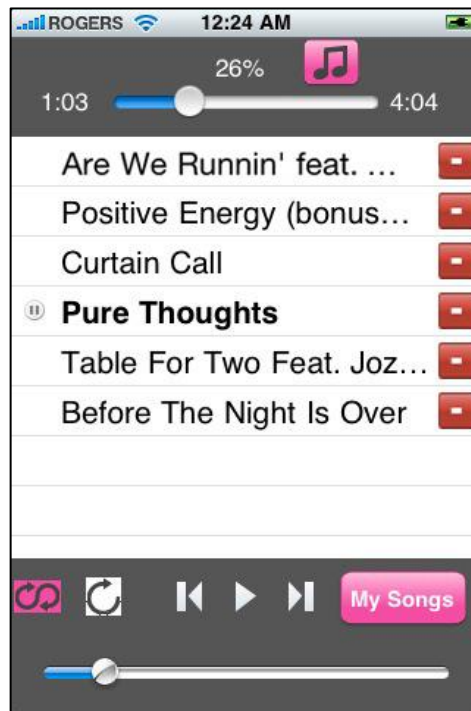


Figure 18. Oopus prototype app v0.1 playlist view

Although poorly presented from an aesthetics standpoint, the functionality I needed in terms of allowing users to select their music is offered by this prototype. The user has the ability to add songs from their device by selecting the *My Songs* button. The usual music player buttons of play, pause, next, previous, volume, shuffle and repeat are also present as well as the current playing time and completion percentage of the song and the duration that is left. The user also had the ability to delete specific songs from their playlist and also to generate an automatic playlist based on their current environment by pressing the music note button above the song completion percentage. We called this function “*finding your oopus*” and is shown in Figure 19 below.

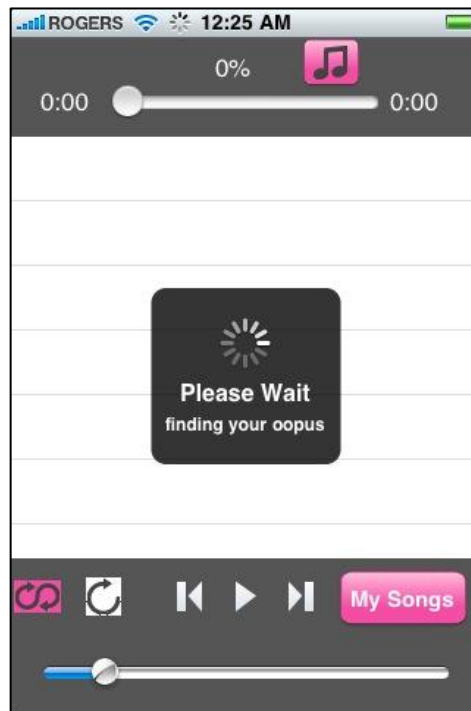


Figure 19. Prototype app automatically generating a playlist

How it works

The Oopus app obtains the user's current context by first using the GPS system of the mobile device to establish the user's current location, in terms of latitude and longitude coordinates. This location is then combined with the user's current time and date (which are also retrieved from the mobile device) and used to obtain other information from the Internet that can be helpful in reconstructing the user's current environment, such as the current weather conditions. This is one of the reasons why a mobile device with access to the Internet is important for this study. Once all the various contextual fields are entered, this information is combined with the information regarding the song and sent to our servers over the Internet and stored in our database. Every song that is listened to by the user is considered one data entry in our system, and every data entry consists of the many different variables just mentioned.

However, there are also times when the user has no access to the Internet due to poor wireless signals or travelling underground. The system would still be able to obtain the date and time, as these would be using the mobile device internal clock, which doesn't require access to any special features in the phone. However, other data such

as the location and weather might not be available. This would cause two issues: the location could not be obtained and the Internet does not work.

To mitigate these potential problems, the following actions were taken. For the first issue, if the GPS system could not obtain the location, the app would take the user's last known location and use that as the location for the current song. For the second issue, we would keep all the completed song information on the phone until there is Internet available, at which time we would then send the song information to our database. This is explained in Figure 20 below.

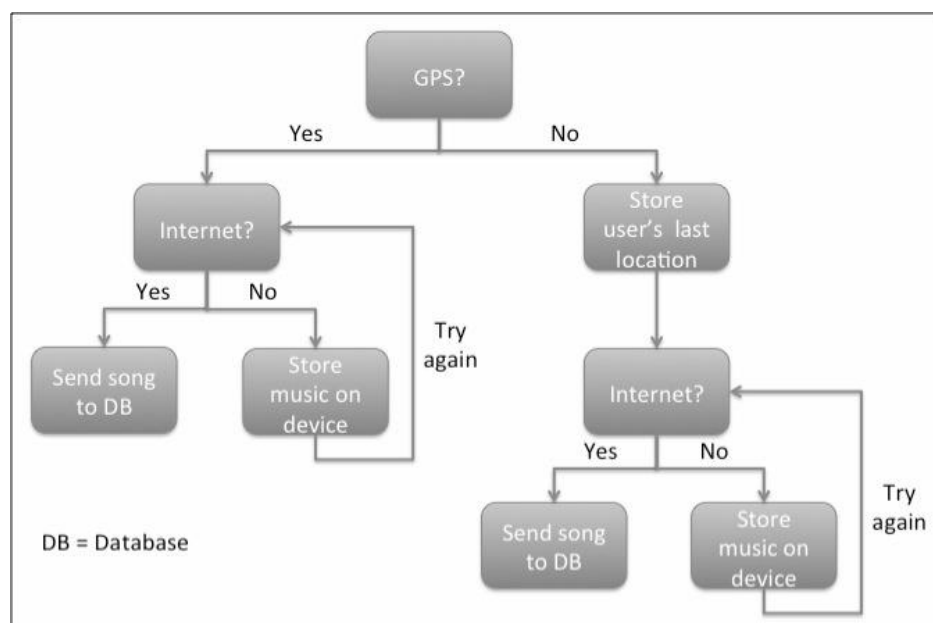


Figure 20. Oopus app GPS flowchart

Additional resources, Part 2

At this point, after the initial playlist view for the prototype was done, I needed greater expertise in technical development to get to the next stage of the project. Luckily, I was able to utilize my own personal network to enlist the help of my brother, David, who I always kept updated on the progress of the project. With his undergraduate courses winding down and his graduation set for June of 2010, he was able to help me remotely from Toronto. He had the required technical skills to fill the resource gaps in advanced iPhone app development and creating the database to store the data we are collecting. David created the database in MySQL to store the data collected from the

Oopus iPhone app. The data is retrieved by queries sent to the online database and can be accessed anywhere in the world where there is an Internet connection.

Oopus iPhone app v1.0

With David now onboard to help with the project, he was able to take the Oopus iPhone app past the prototype stage and into a beta testing stage, from both a functional and aesthetic aspect. He started by adding two new elements to the app; firstly, a login page so we would be able to track a specific user's listening preferences and secondly, a main menu where the user is presented with a number of options to navigate through the app. This was a change from the prototype app, which allowed the user to go straight into the playlist view. But not knowing which user logged into the system would have been detrimental to our data collection process.



Figure 21. Oopus iPhone App v1.0 login screen

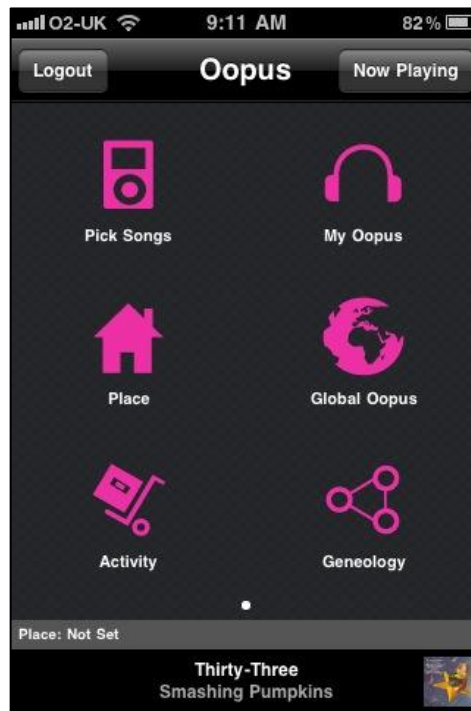


Figure 22. Oopus iPhone App v1.0 main menu (April, 2011)

David’s technical expertise allowed us to widen the functionality offered in our app and think of unique ways in which to use the data we are collecting. The four additional functions we tried testing were as follows:

- *Global Oopus*: This function allowed the user to discover music that other people have listened to in their current environment. For example, if I pressed the “Global Oopus” button on a Friday night in Manchester the resulting playlist would be what other users in the Oopus system have listened to on a Friday night in Manchester. It was a way to discover new music and the songs were 30-second previews from the iTunes store
- *Place*: The user could set the current place they are in (ie. home, work, gym). This would allow the data to be more location specific and, as a result, more accurate
- *Activity*: This function allowed the user to set the current activity that they are participating in (if at all). Examples include *with friends*, *chilling out* or *running*. Again, this was to help the accuracy of the data

- *Geneology*: This was a function that would allow users to see how their listening preferences mapped onto other users, such as their friends or family. We envisioned it to be similar to a family tree but for music

After experimenting with the design and functionality of the iPhone app v1.0, we decided to remove the *Activity*, *Place* and *Geneology* features because we found it difficult to navigate with so many options and also because while testing the *Place* function, I constantly found myself forgetting to set my current location if I moved to a new place. However, the *Global Oopus* function was useful in discovering new music and could also help create a sense of community within the app by discovering music from other users.

Oopus iPhone app v2.0

After removing the three functions, we redesigned the layout of the main menu to only highlight the most important functions of the app, which are described as follows:

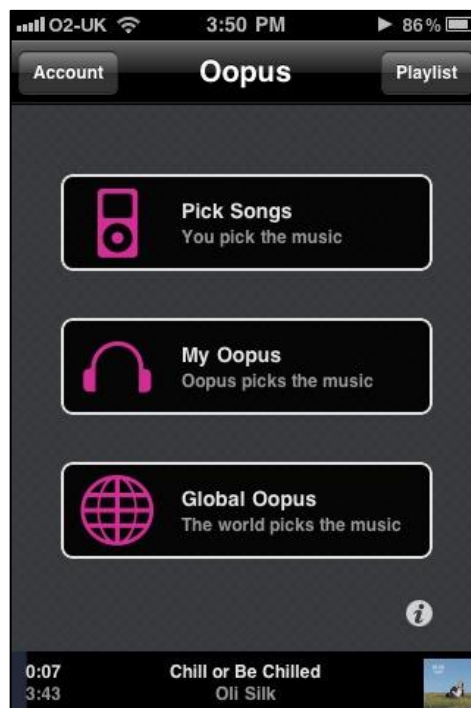


Figure 23. Oopus iPhone App v2.0 main menu (August, 2011)

Pick Songs

This function allowed the user to chose the songs they wanted to listen to from the music stored on their device. They could either pick each song individually or import a playlist they created in iTunes that was synced to their device for faster selection.

My Oopus

This function is used to automatically generate a playlist of songs based on the user's current context. This is the "what would I listen to right *now*?" button which allows a fast way of creating playlists.

Global Oopus

Allows the user to discover what other Oopus users would listen to in their context. This function was meant to allow the user to discover new music through the Oopus online community.

This was called version 2.0 of the app and was the version that we started to send out to people to test.

Now Playing

After the user selects songs to listen to they are taken to the Now Playing screen that shows the music player controls, volume controls and song completion information. This is shown in Figure 24 below.



Figure 24. Currently playing song in the Oopus app

The data on music listening preferences are collected passively (ie. in the background) without needing the user to add any additional inputs such as like or dislike. The data is sent to the database after every song ends, either by the user skipping the current song or when the song is listened to in its entirety.

Music Moments

As Boer et al. (2011) stated earlier, collecting listening preferences is key to social attraction but I also found in the previous cycle that sharing music experiences can also form the foundations of social attraction based on a common theme. Therefore, the data collection on listening preferences needed to be augmented with a way to create and share people's music experiences. We enabled our users to do this through the process of adding a music moment. We changed the language from *memory*, used in Cycle 1, to a *moment* because of two reasons:

1. We do not allow people to create music moments they had in the past so everything that is recorded happens in real-time
2. The word *memory* is defined as "a particular recollection of an event, person, etc." (Farlex, Inc., 2011a) where recollection refers to the past. The word

moment is defined as “import, significance, or value” (Farlex, Inc., 2011b).

There are no specific connotations as to the time period with this definition but since we wanted users to capture their most significant experience with music, the word *moment* was deemed to be more appropriate in this context

We also wanted these music moments to help provide the user-generated content needed in the music community as a user’s own listening preferences would not be made public for privacy reasons.

The user can create music moments by pressing the *Options* button in the upper right hand corner of the player and would be brought to the moment creation screen shown below.

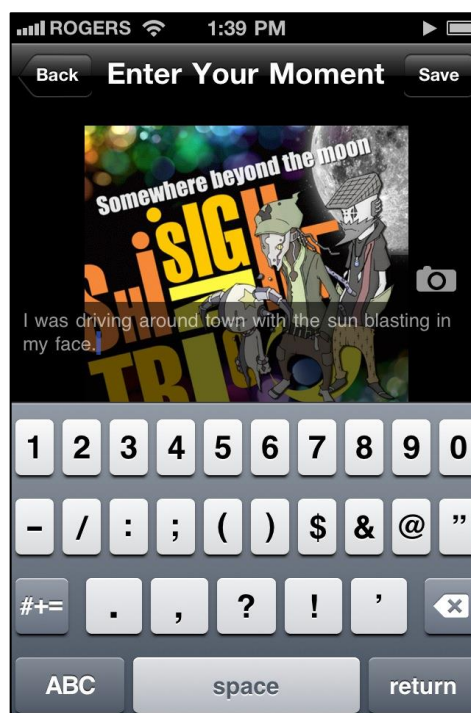


Figure 25. Creating a music moment with album art

Much like the open text field in the music memory form where respondents could write the story of their music experience, the area where the music moment story is to be written is kept open-ended as this is a better format to use for questions of this type (Stone et al., 1991).

In terms of visually representing their moment, the user can take a picture with the smartphone camera, choose a picture from the photo library on their device or just use the default album art (which are shown in Figures 25 and 26). After the story is finished the user can press *Save* and the moment will then be recorded in our database and would later be displayed in our online music community once we have created it.

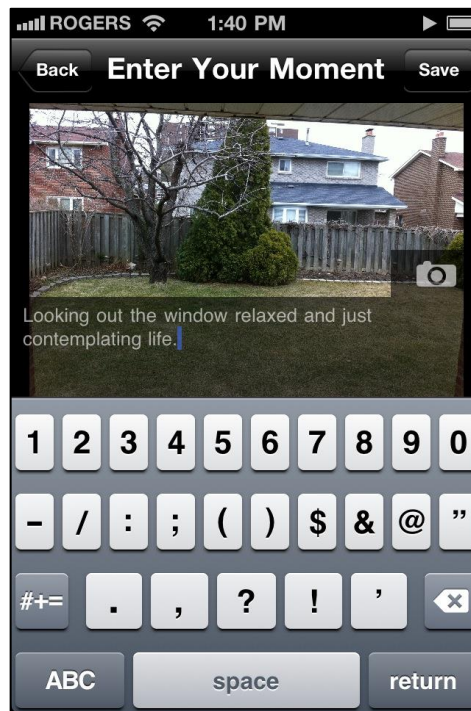


Figure 26. Creating a music moment with a picture

An addition we made to the music moment creation process in anticipation of these moments being displayed on our online community was the ability to change the privacy settings. Setting a moment to *Public* meant that everyone in the community could see it but saving a *Private* moment meant only the user could see it on their anticipated Profile page in the community.

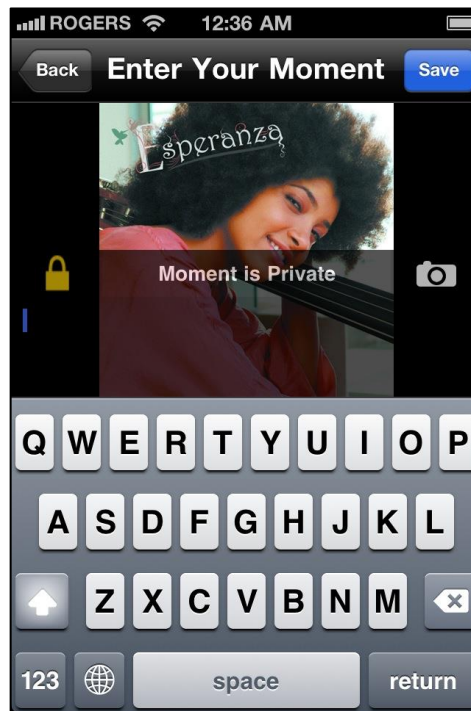


Figure 27. A music moment that is set to private

The addition of the privacy settings is in line with the option we had in the Music Memory form, where the respondent could decide whether to keep their music memory private if they wished. This is also to ensure the values of trust, which is a key factor in social capital as stated by Paldam (2000).

After the music moment is saved, and if it was set to *Public*, other users would be able to view your moment when they listen to the song that was created for the moment. They would be notified by a message saying that “You have X moment(s) to explore” where X is the number of moments saved with the same song. If we used an example from the previous cycle using the song Mr. Brightside, this message would display that there are 3 moments to explore since that song produced three separate music memories from the Google Form. The listener would then swipe to the left to be able to view these moments. Again, this message was used to build a sense of community around each song.

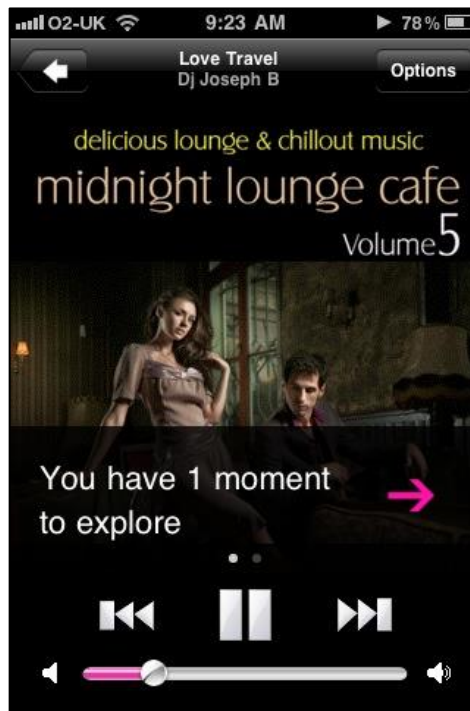


Figure 28. Music moments shared for each song

Because all of our data points capture contextual information, with the addition of moments people create in the app, we needed to differentiate between all-music data in terms of listening preferences and the autobiographical memories that people created. Therefore, we named the two data points as ‘moments with music’ and ‘moments with stories’ to denote pure music data points and user-generated stories respectively.

App Distribution

Because of Apple’s closed ecosystem, where any app released for the iPhone had to go through a lengthy review process through the iTunes store, we wanted a way to distribute it to specific people for testing purposes rather than release it to the general public. A quick online search yielded an application called TestFlight⁹, which can be used to test iPhone applications without having to release it on iTunes. To install the app on a user’s phone, the administrator of the Oopus app account would register the user as a test member. This user would then get an email to ask them to sign up for the TestFlight service and install the required files onto their phone. Once their device is

⁹ <http://testflightapp.com/>

registered on our database of test users, we can send them a test build of the app through email for them to install and use on their phone.

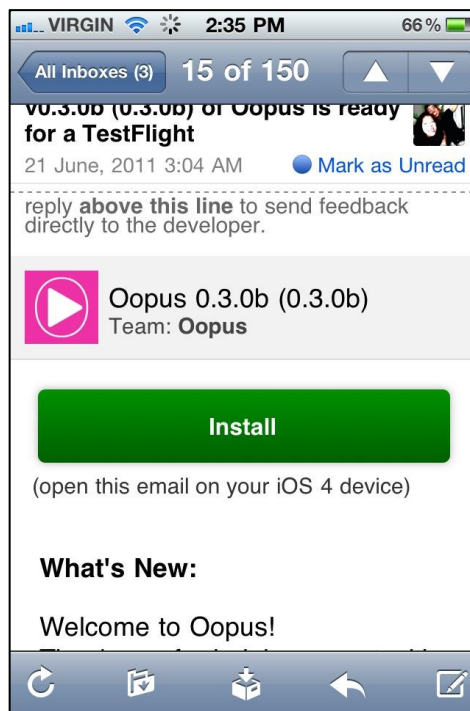


Figure 29. TestFlight email for Oopus app

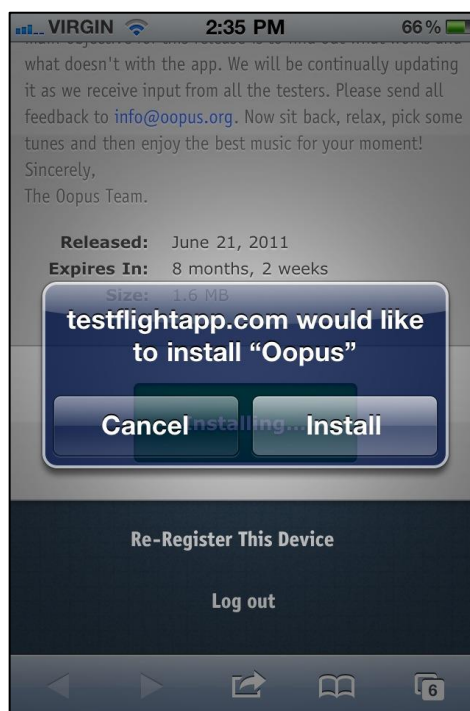


Figure 30. TestFlight installation of Oopus app

Oopus Desktop Application

The iPhone app was one way of obtaining people's listening preferences. However, according to a Forrester study, listening to music on a mobile phone still only accounts for 8% of all music listening for US online adults (Reitsma, 2010). The same study also found that listening to music on a home stereo or PC account for 42% and 35% respectively. One can assume this occurs in a home setting and also verifies my tendency to only use iTunes on my computer to listen to music while I am at home. Therefore, in order to obtain data on people's listening preferences while they are at home, we needed to create an app for the computer that can record what music you listen to and the context this listening occurs in while on a computer.

This additional app was meant to complement the iPhone app for data collection. It was to be used to collect people's listening habits using their iTunes music player on their desktop or laptop computers. This was created to capture their music listening behaviour at home. Furthermore, the reason why we wanted this application was to understand people's music listening preferences so that they are better connected within the community and to people that are relevant to them.

Initially, it was developed for the Macintosh Operating System 10 (Mac OS X) with the intention to develop a future version for the Microsoft Windows platform to gain access to the majority of the personal computer users as Windows had a 93.28% desktop operating system market share compared to 5.72% for Macs as of the first quarter in 2011 (Net Applications, 2011). The reason why Mac OS X was chosen as the operating system for the desktop app is due to the fact that it uses the same programming language as the iOS platform (Objective-C). This allowed David to use the same technical knowledge without having to learn a new language to program for the Windows operating system (which was C#).



Figure 31. Oopus Mac OS X desktop app installation screenshot

Mac users who wanted to use the desktop app would be sent the program file (in a .dmg format), and would install it by copying the file into their Applications folder on their desktop. Luckily, there was no TestFlight-type distribution system necessary for this app so we could send it to anyone with a Mac and was willing to participate in this project. Upon opening the app, it would ask the user to log in with their Oopus iPhone account details. If they did not have one, they could contact David to create one.

The desktop app collected data much like the iPhone app does, that is, it would sit in the background and effectively “listen” to the songs you were currently listening to on iTunes, while the song is identified by connecting to the iTunes core framework on the Mac. When the song is either skipped or listened to in its entirety, the current context is attached to the song and is sent to the Oopus database. This keeps a contextual listening history for a user when they listen to music on their computers.



Figure 32. Oopus Mac OS X desktop app menu

To keep the desktop app in line with the iPhone app in terms of functionality, we also added the “My Oopus” ability, which automatically creates a playlist in iTunes based on their current context. The reasoning behind this was that it would help make the desktop app just as useful in terms of instantly generating a playlist that the user would want to listen to in their current environment. Upon testing this feature, however, we noticed that the time to create this playlist took an average of between 2 to 5 minutes, during which time iTunes cannot be used until the playlist is created. This problem was due to the larger number of songs stored in people’s music libraries on their computers, which is not a problem on a mobile device because of the smaller amount of available storage space. Since the time that users would have to wait was deemed too long to be useful, we removed this function before the app was released.

The process of getting the listener’s current context on the desktop app was similar to the iPhone app except for the location. On the mobile app, location is gathered from the GPS antennae in the device. There are no such antennas in a personal computer so a different method needed to be employed. We used the Internet Protocol (IP) address of the computer to make a rough estimation of the city they were in. This location was then turned into latitude and longitude coordinates to feed into our database to conform to the format required by our system.

One potential concern we raised regarding the collection of data from the desktop app was how we could differentiate this data from the ones being collected using the mobile app. Since the user’s location is only captured as latitude and longitude coordinates, and not as specific places such as home or work, there would be no way

to differentiate based on GPS information alone. This issue was mitigated by having a column in the database that referred to the data coming either specifically from the mobile app or the desktop app, which would then help us determine their listening preferences in either of those scenarios. The desktop and iPhone apps were both used in tandem to collect the necessary listening preferences data to lay the foundations of building the online community.

Since the desktop app also captures contextual listening data, we called these data points ‘moments with music’, similar to the all-music data points collected with the iPhone app and different to the ‘moments with stories’ that users can generate in the app as well. Figure 33 below shows the data we are collecting from the two apps after a user listens to a song:

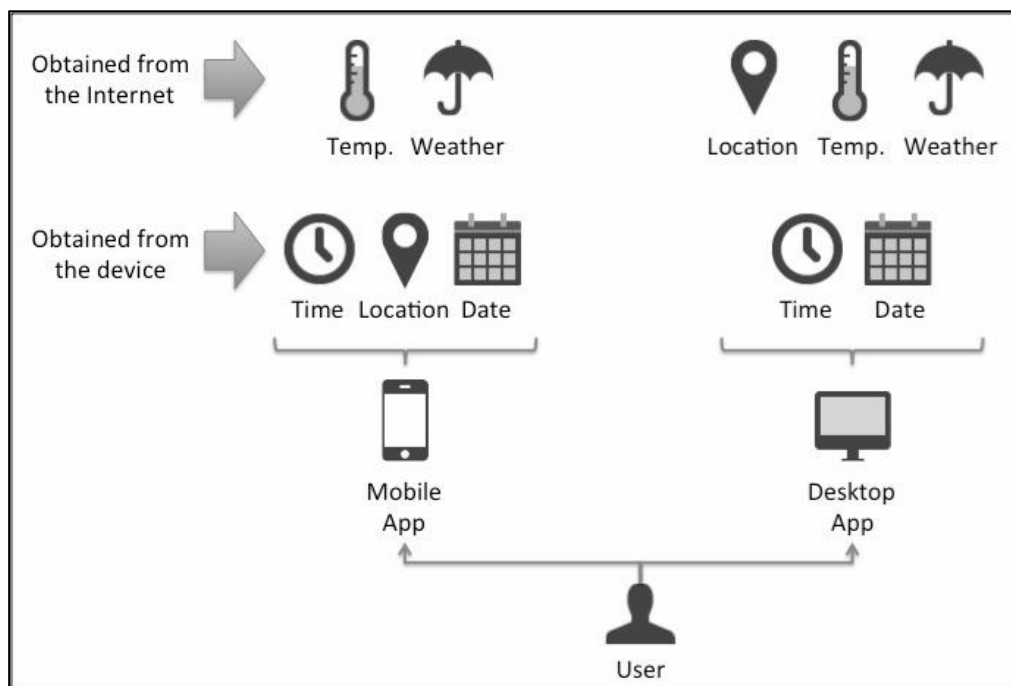


Figure 33. Data captured from the Oopus mobile and desktop apps for each song listened to

My Oopus Community

Because both the mobile and desktop apps were using the Oopus name, I wanted the music community to tie into that as well. The name *My Oopus* was chosen by the team and the web domain¹⁰ was taken on February 5th, 2011.

¹⁰ <http://www.myoopus.com>

I wanted to develop an online community where all the public music moments that people created using our iPhone app could be stored, viewed and interacted with. Also, the people using our mobile and desktop apps could see their listening preferences in the form of a listening history. In order to accommodate both types of data in our community, we had to define a *moment* as being both a song that has been listened to with an Oopus app (either mobile or desktop) and a moment that was created about a user's experience with music. The *moment* term can be interchangeable between the two, with the phrase *music moment* or *moment with story* generally referring to the stories that people create on their iPhone about their experiences with music. However, I will state clearly which one I mean going forward with the thesis when clarification is necessary.

The ability to see your own recorded moments with stories, as well as from others, are features that responded to the lessons learned from the first cycle and would help to bring about a sense of community with music being the common theme. However, before we could begin we set about designing a concept of the community first. This is shown in Figure 34 below.

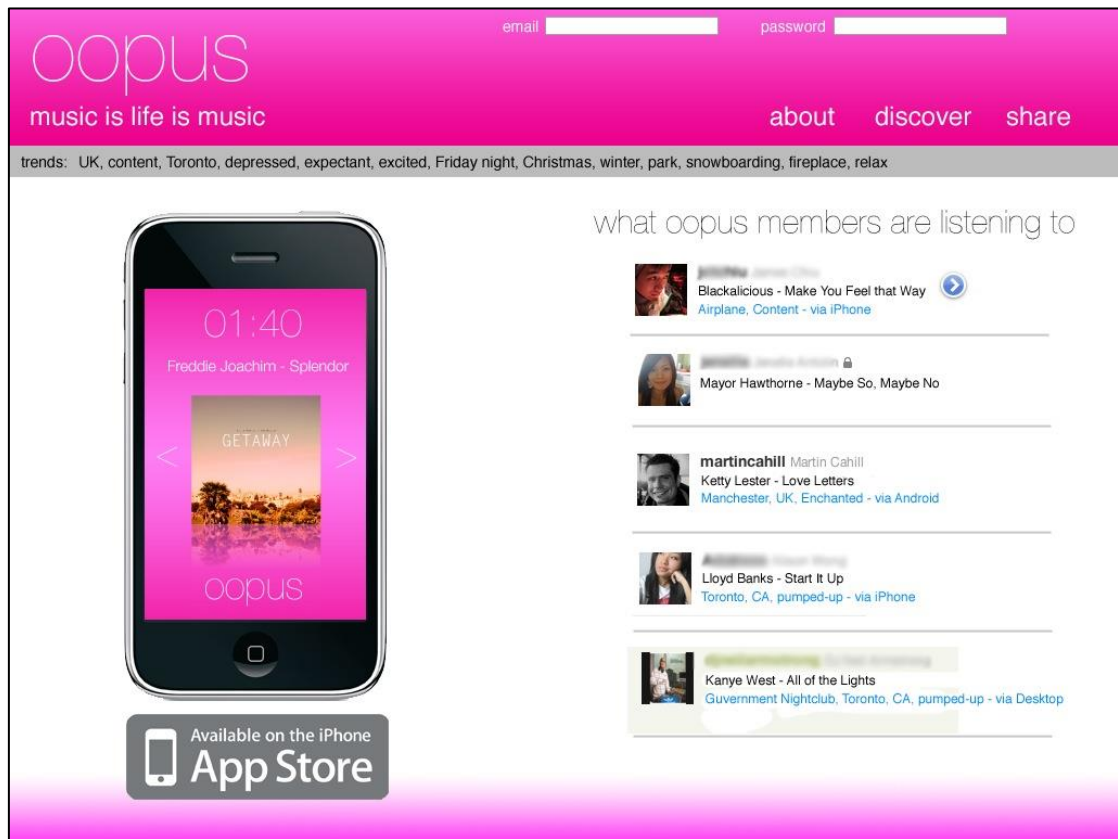


Figure 34. Concept website for first Oopus community

Community Login Page

After playing around with some concepts, the team finally settled on the design that is shown in Figure 35 as the final design of the main login screen. A potential user would be able to see the number of moments that were available in the system, and they would get a preview of the latest moments that are being uploaded to the community. There was also a description regarding the functionalities of the app and how it works with an accompanying video with the same message.

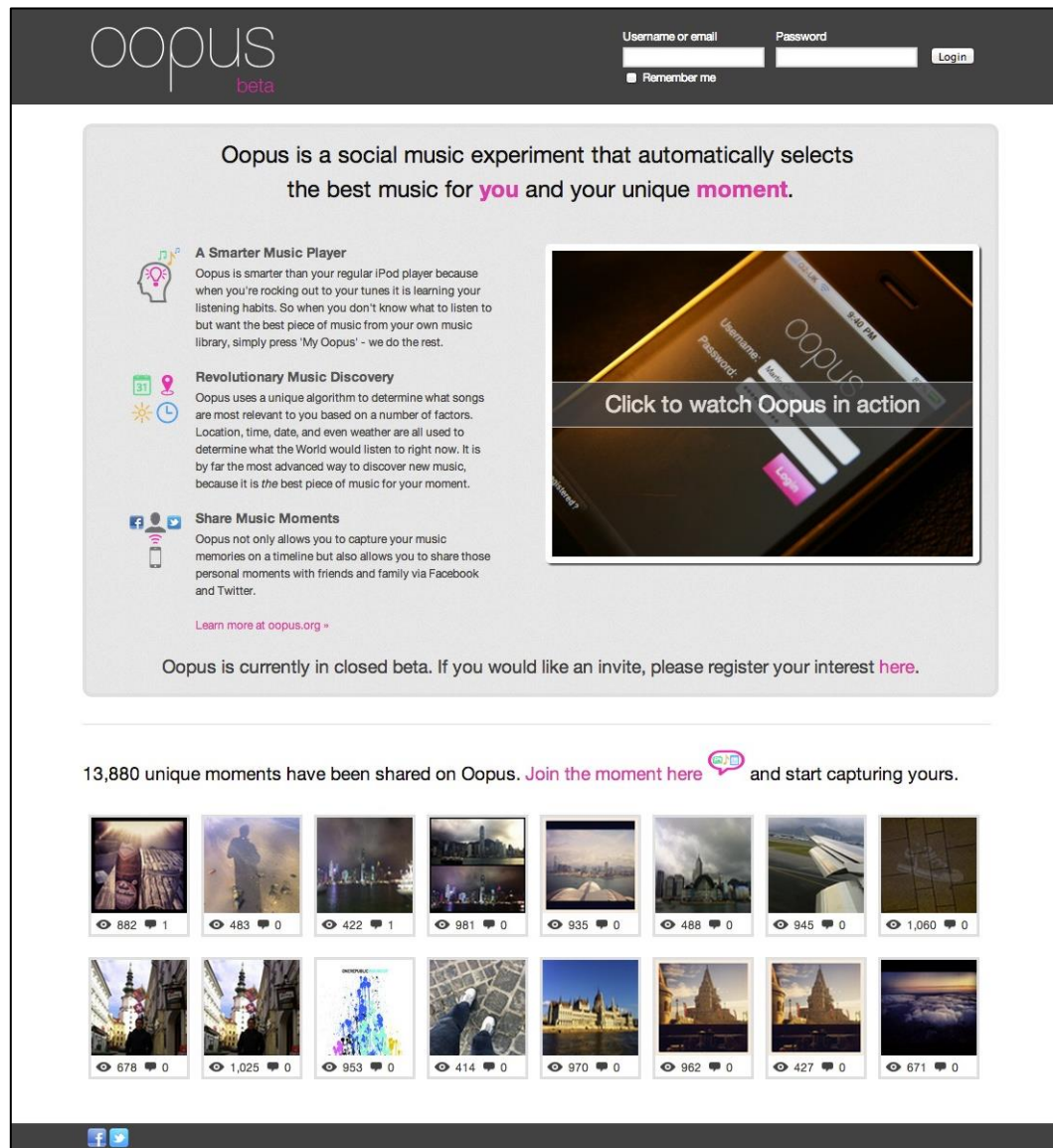


Figure 35. My Oopus - main login page

Community Registration

Unfortunately, since the app was still only available through TestFlight, anyone that wanted to join the community would have to contact David to manually add them to the system. This would trigger the TestFlight email along with the assignment of an Oopus system login credential. During the registration process, we were able to ask the user for their gender, birthday and current location, as those were required fields in the form. There was, unfortunately, no means to automatically register on the website for the My Oopus community.

oopus
beta

Oopus Closed Beta Registration

*Fields with * are required.*

username *

password *

Retype Password *

E-mail *

First Name *

Last Name *

Birthday (yyyy-mm-dd)

Gender *

Current Location *

Verification Code

 [Get a new code](#)

Please enter the letters as they are shown in the image above.
Letters are not case-sensitive.

Figure 36. My Oopus registration page

Community Building

Since we were collecting data on people's listening preferences through their music listening history and the music moments they created, this was the basis through which our community will be built. Therefore, in terms of functionality, we wanted to be able to present the data in three ways. The first was through the user's own music listening history. The second was the ability to view all the publicly available music moments in the community. The third were the music moment pages themselves. After the user logged in, they were able to access these options.

Music Timeline

To allow the user to see the data we collected with the Oopus apps they are using, we created a page specifically to display the user's listening history. We called this the Music Timeline and could be accessed anywhere in the community by pressing on the *My Profile* link in the top menu bar. This allows the user to understand and visualize what kind of data we have recorded from them. Each entry contains the context in which the song was listened in and each one can be clicked further to view that moment in more detail or hovered over with a mouse for a small preview of the details contained in the song moment. These details include the title of the song, the artist, the name of the album, the day of the week, the month, the year, the time, the weather and the location (city and country).

The screenshot shows the Oopus Music Timeline interface. At the top, the Oopus logo is on the left, and navigation links 'All Moments', 'My Profile', and 'Logout (andrew.ko)' are on the right. The user's profile section on the left includes a photo of Andrew Ko, his name, gender (Male), age (35), and location (Sale, United Kingdom), along with an 'Edit Your Profile' link. A note indicates 'Oopus uses gravatar.com for your profile picture'. To the right of the profile is a search bar with the text 'No results found.' and the year '2011'. The main section is titled 'Your Music Timeline' with a 'Refresh' button and a 'Share Moments with:' label. Below this, it states 'Showing songs 169-192 of 3670 total songs you've listened to with Oopus'. A grid of 24 song moment cards is displayed, each with an album cover, song title, and artist. A tooltip for the song 'The Game Has Changed' by Daft Punk from the Tron Legacy soundtrack is shown, indicating it was listened to on Thursday Afternoon, May 2012 in Cheshire, United Kingdom. At the bottom, there is a pagination bar with links for 'Go to page:', '<< First', '< Previous', a grid of numbers (3, 4, 5, 6, 7, 8, 9, 10, 11, 12), 'Next >', and 'Last >>'. The footer contains links for 'FAQ' and 'Report a Problem'.

Figure 37. My Oopus – Music Timeline with song moment preview

Global Moment Timeline

The Global Moment Timeline allows the user to view all the publicly available music moments with stories in the community. This can be accessed anywhere in the website by clicking on the *All Moments* link in the top menu bar. Each moment can be clicked on to view in more detail. If the user hovers over any of the moments with their mouse, a small preview of the additional moment details are shown (similar to those in the Music Timeline). There are also icons that show the user how many times that particular moment has been viewed (in the shape of an eye) and also commented on (in the shape of a speech bubble). These icons show the user the activity around that moment and can help them filter through the most popular moments either by views or comments.

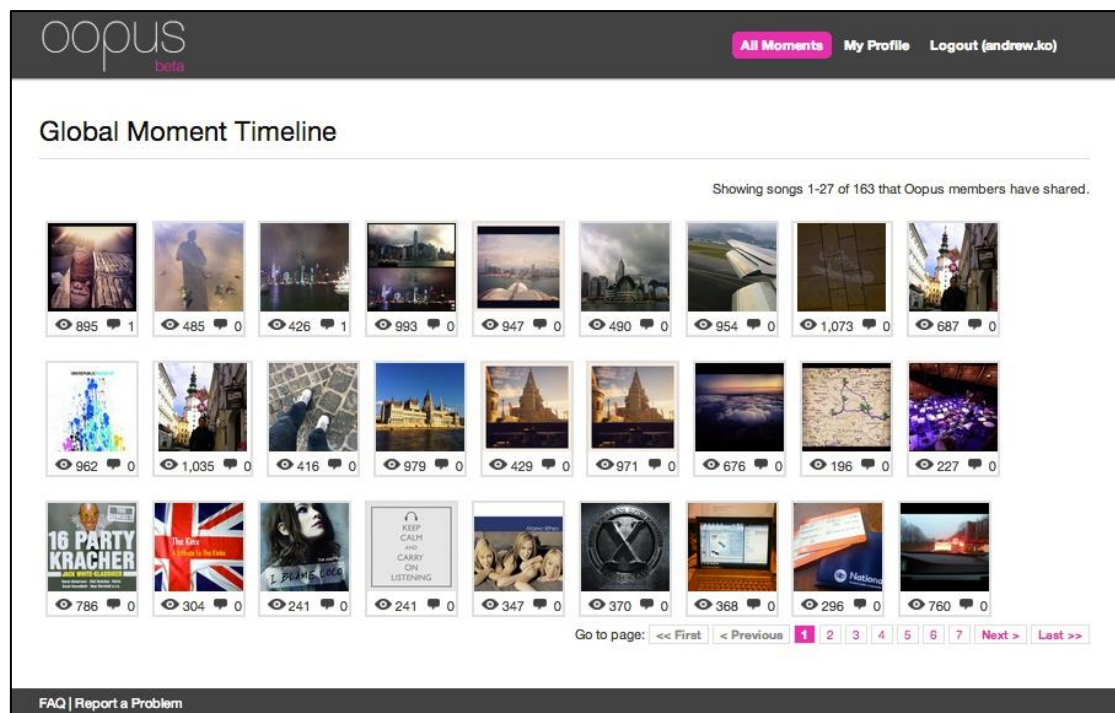


Figure 38. My Oopus - Global Moment Timeline

Music Moment Page

When a user clicks on any of the moments in the community, they are immediately taken to the specific page for it. An example of this page is shown in Figure 39 below and consists of four main elements.

User Information

This area contains information about the user who created the moment, including their profile picture, username and the story they wrote for the moment itself. In this example, the username is *andrew.ko* and the story is “*Found this nice little café just down the street from our house. Good food, great coffee and free wifi*”

Song Information

Information about the song is presented in this section such as the song title, artist, the album that the song is from and the associated album art. In this example, the song is by the artist *Koop*, the song is title “*Koop Island Blues*” and the song is from the album *Koop Island*.

Context Information

The context in which the moment was created is displayed in this section. The information contains the date, time, weather (which is displayed as an icon), temperature and location the moment was made in the Oopus app. In this example, the date is Sunday, July 24th, 2011, the time is 1:57pm, the weather icon depicts a condition of partly sunny, the temperature is 18°C and the location is in Sale, United Kingdom. All of this information helps to recreate the environment at the time the moment was created.

Moment Picture

The final section is the picture the user took of their music moment. There is also a play button that allows the user to listen to the 30-second preview of the song associated with the moment (in this example, the song is “*Koop Island Blues*”).

All of these four elements help the user recreate and immerse themselves in the moment that another user has created to tell a story of a significant moment in their life that involved music.

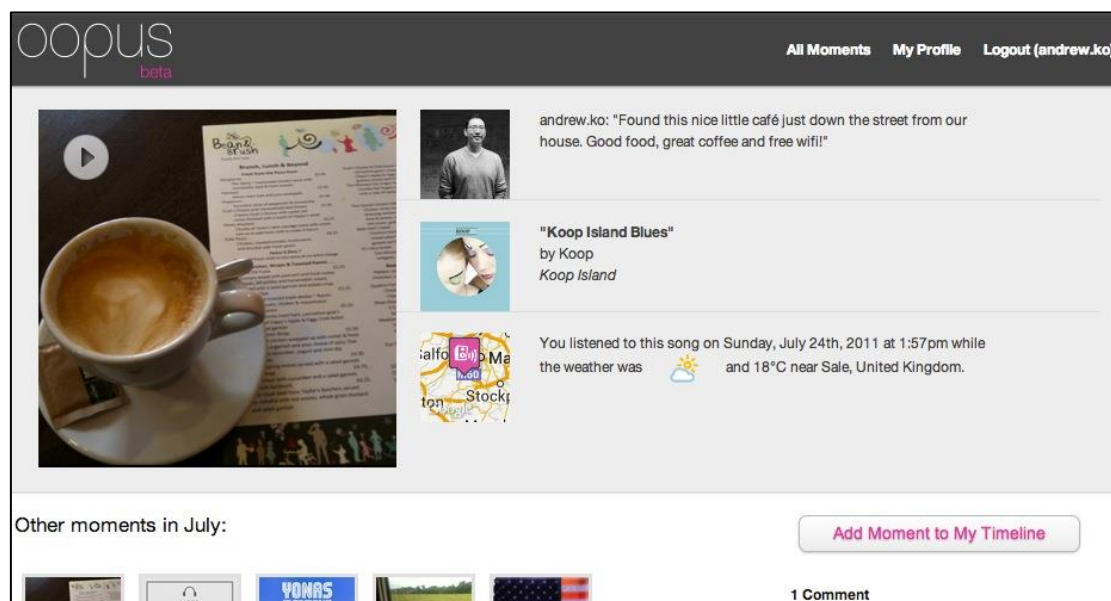


Figure 39. Music moment page

Additional Resources, Part 3

At this point, the technical responsibility was starting to increase as David had to ensure issues with both the iPhone and desktop apps were resolved in a timely manner. He also had to ensure that the My Oopus community was also running smoothly with no issues since this is the main portal where people would go to interact with others in the community.

Therefore, we had to look for additional help on the technical side of the project. Through my PhD supervisor, we got to meet Mihai, who was in one of Peter's Masters classes. Mihai was still studying for his Master of Enterprise in Business course when he joined, so could only help part-time. This situation, however, worked because David, having already graduated from his Computer engineering course, was able to dedicate his full attention to building the community with Mihai as additional technical support. Mihai's expertise included both front-end (webpages) and back-end (database) development. However, his strength lies in the development of data structures and algorithms. He had the required technical skills to help ease David's load and also to help with the backend system, with the database and making connections between users.

Social Features

Mihai's first assignment with Oopus was to help develop additional social features within the community. These included adding related moments to the current one you were viewing, allowing users to comment on each other's music moments, being able to add a user's moment to your own timeline and displaying the number of views for each moment in the moment preview. These were all designed to bring the community closer together and are described more in detail as follows:

Other Related Moments

For each music moment, we also show any related moments within the community that have a similar month, city and weather condition to give a sense of connection to the rest of the community.

Using the previous *Koop Island Blues* moment as an example, the related moments are for the month of July, around the Sale area and in partly sunny weather. This allowed people to understand how they are connected to each other through context, music and pictures, which adds another layer of building a community through similar listening preferences and context.

[All Moments](#)
[My Profile](#)
[Logout \(andrew.ko\)](#)

andrew.ko: "Found this nice little café just down the street from our house. Good food, great coffee and free wifi!"

"Koop Island Blues"
by Koop
Koop Island

You listened to this song on Sunday, July 24th, 2011 at 1:57pm while the weather was and 18°C near Sale, United Kingdom.

Other moments in July:

Go to page: << First < Previous 1 2 Next > Last >>

1 Comment

says:
This brings back memories from 2009

Posted on Tuesday, February 28th, 2012 at 3:38pm | [Delete](#)

Add Your Thoughts

[Post](#)

Other moments around Sale area:

Go to page: << First < Previous 1 2 Next > Last >>

Other Partly Sunny moments:

[FAQ](#) | [Report a Problem](#)

Figure 40. My Oopus music moment page

Comments

We implemented a commenting system in the website to allow people to communicate through these music moments. This allowed people to feel like they are a part of a community, rather than just isolated music moments.

Add Moment to My Timeline

This was a feature that was not fully implemented due to the complicated nature of the concept. In theory, whenever a user was viewing a music moment they liked that was not their own, they could click on the *Add Moment to My Timeline* button and it would create a moment for you based on that song and add it to your Music Timeline. This would effectively bookmark that moment in your profile for you to view later. Again, this feature was too confusing even for the development team to fully comprehend and is the reason why we never implemented it.

Views

Another indication of community involvement is the view counter we showed for each moment. This indicates the total number of views that moment has received from the rest of the community. Again, this is an indication of how popular each moment is.

Oopus Player Beta

Since our system collects contextual data for music and our iPhone app is able to automatically generate a playlist based on a user's current context, I thought it would be interesting to allow users to also automatically generate a playlist for any context they wanted. This led the team to create the Oopus Player Beta. It allowed people to see what kind of playlists would be generated based on the contextual data we were collecting. Essentially, the user is asking our system "what would people in the Oopus community listen to in the context I create?". We thought this would be a great way for our users to discover new music, much like the Global Oopus function in our iPhone app.

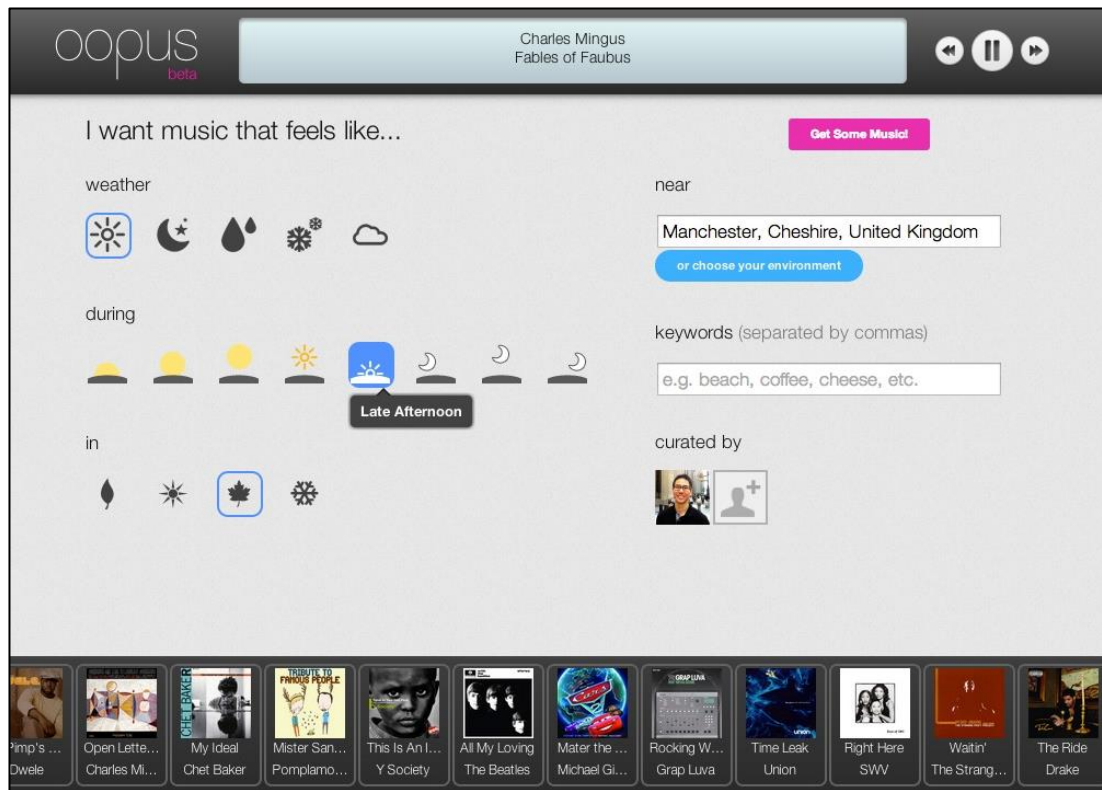


Figure 41. Oopus Player Beta (December, 2011)

The Oopus Player Beta¹¹ was created on December 14th, 2011, and it required the user to already be a part of the Oopus community to gain access. The player allowed people to generate a playlist by picking a time of day, weather, season, location, specific keywords and who should curate your music. These categories were based on the contextual data in our system and consisted of the following:

- *Weather*: Sunny, clear, rain, snow, cloudy
- *Time*: Early morning, morning, late morning, afternoon, late afternoon, evening, night, late night
- *Season*: Spring, Summer, Autumn, Winter
- *Location*: Any city that is in the Google Maps database (note: the “choose your environment” button was not functional but the hope was that we would have different places such as gym, coffee shop, home, work, etc. for the user to choose from instead of a city name)

¹¹ <http://www.myoopus.com/player/beta>

- *Keywords*: Any words that come to mind such as beach, happy, coffee, etc. We would then search the music moments with stories in our system and see if the keywords are contained in those stories
- *Curated by*: The user would be able to pick a specific user in our system to receive recommendations from rather than all users in the Oopus database

After all the selections were made, the user would press the *Get Some Music!* button to generate a playlist for the selected criteria. The music selected would automatically begin to play, however, the playlist only consisted of the 30-second previews from iTunes and not the full-length track. We wanted the Player Beta to use the contextual data we collect and become a user's personalized radio station.

RESULTS (Cycle 2)

In order to determine how successful each music community is compared to each other, I will be looking at the level of engagement activities from each user, which includes the number of users that registered, moments that have been created and the number of comments made in each community.

As outlined in the *Framework* section and using the results from the study by Leimeister et al. (2006) and Preece (2001), the factors that I will be analyzing will be the statistics (growth and demographics) of users who join the community, the growth of user-generated content and the interaction between members in the form of comments. The demographic information of My Oopus respondents can be found in Appendix C.

User Statistics

Growth

The My Oopus community gained 41 users in total over the course of 291 days. For the first 3 months of the community's existence, there were only three members using it, Martin, David and myself. This was a period where David was the only developer on the team and had to ensure that the iPhone and desktop apps and the My Oopus

website did not have any issues. He also had to work on connecting the listening preferences data and the moments that are created from the apps to the website. The 4th member who joined, after the 94th day, was my brother-in-law, as he was considered a controlled test user and was frequently travelling for his work so he was a test case to see if the data connections held up using the mobile data network of other countries.

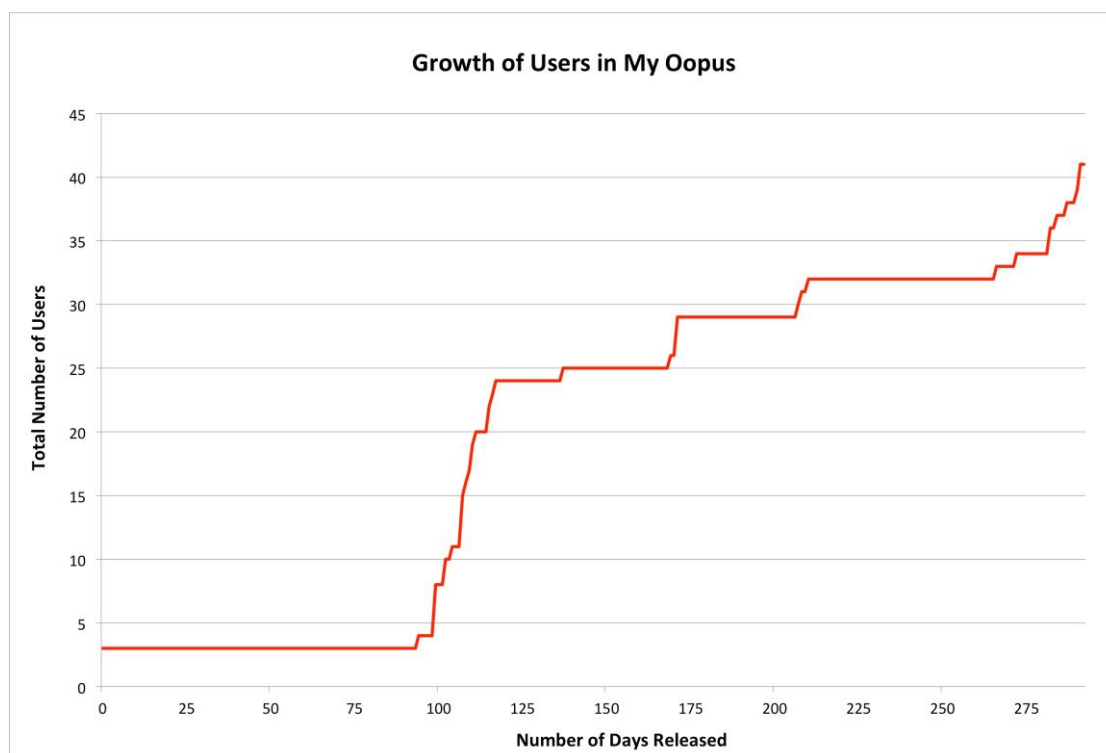


Figure 42. Growth of users in My Oopus

On the 99th day the website was launched, we saw the community double in size from 4 to 8 members, among the 4 new additions were significant others and family members. There was a sharp increase in user growth between the 103rd and 117th day, as during these two weeks the community population increased from 10 to 24, which included more close friends and additional family members.

Community	Number of weeks (days) since launch of community						
	1 (7d)	2 (14d)	4 (30d)	8 (60d)	16 (120d)	32 (240d)	52 (365d)
My Oopus	3	3	3	3	24	32	41

Table 5. Growth of users for My Oopus community

In fact, none of the 41 users of the community were referrals from people already registered with My Oopus. Every user that joined was a direct invitation from either myself, David or Martin, as we had to manually register anyone that was interested in joining. Since there was no automatic registration system set up for My Oopus, this can be seen to have affected existing users referring the community to other people.

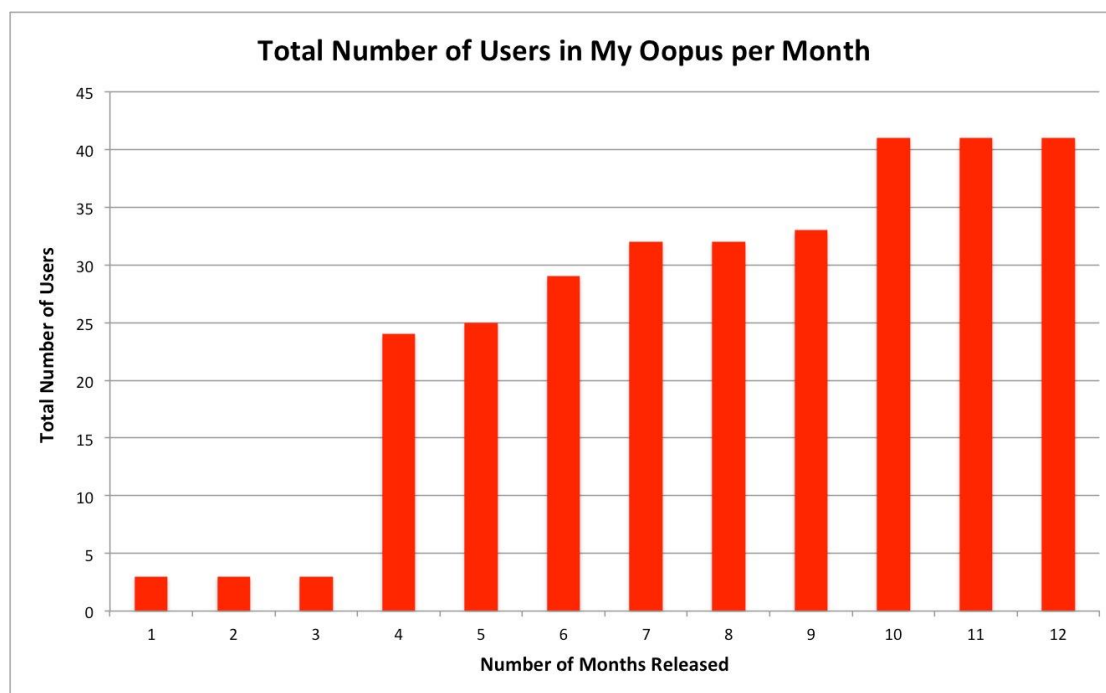


Figure 43. Total number of users in My Oopus per month

Demographics

Out of the 41 users in the My Oopus community, 15 were female and 26 were male. In terms of age, the female members had both a lower median and average age as compared to males.

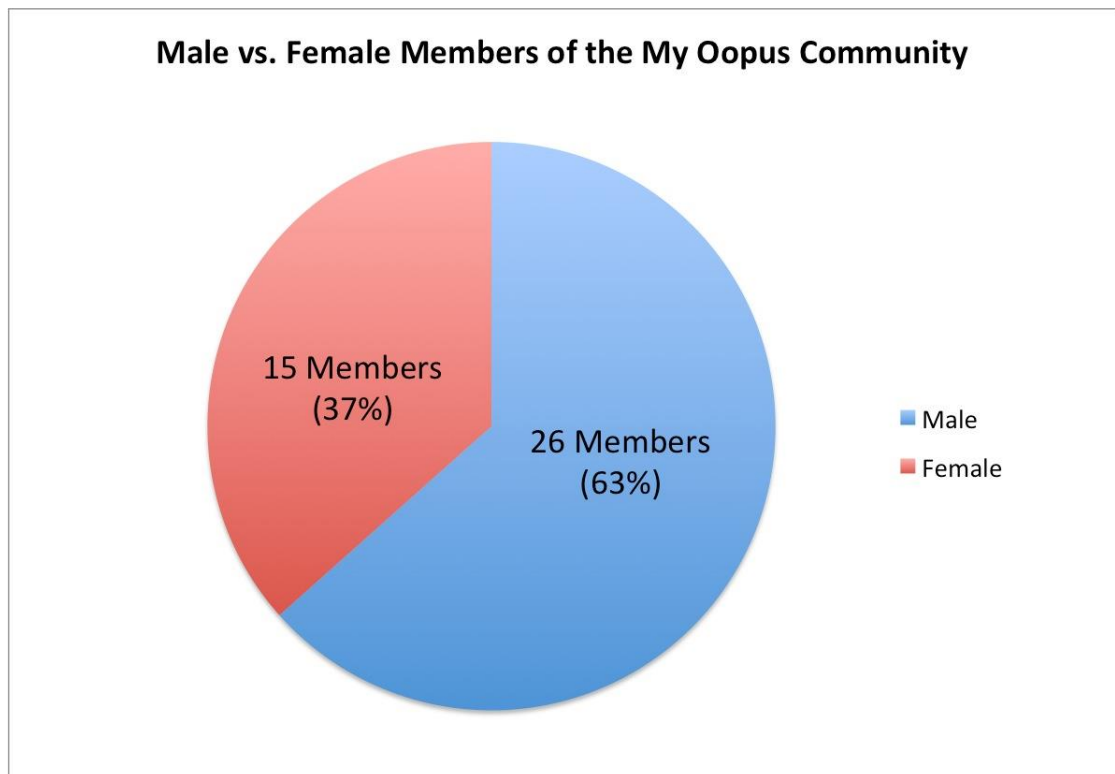


Figure 44. Gender breakdown of My Oopus community

Gender	Total number	Median Age	Average Age
Females	15	29	30.6
Males	26	35	35

Table 6. Gender information for My Oopus members

Because each user's registration process is manually filled out by one of the Oopus team members, we ensured that the current location question was always correctly answered. This guaranteed that we had a location identified for every one of the users within My Oopus. Looking at this data, we found that users of the music community generally came from two countries, that of the United Kingdom and Canada. This is not surprising as these are the two countries where, not only the team members were located, but also where most of our friends and family were located as well. The My Oopus members located in the USA, Taiwan and Germany were also family and not friends.

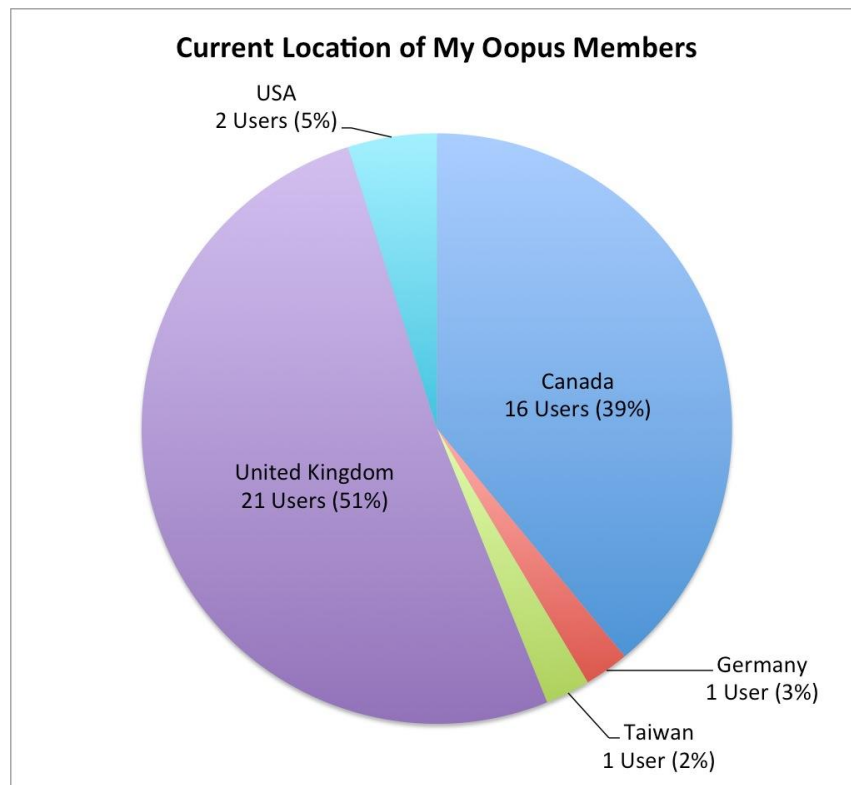


Figure 45. Current location by country of My Oopus members

User-Generated Content

Music Moments Growth

There were 144 moments created in My Oopus by 14 members of the community. The last moment was created on May 3rd, 2012, which was 378 days since the launch of the website. Interestingly, the highest growth of moments being created did not coincide with the highest growth of users joining the community. However, this can be explained by the fact that David had fully integrated the Oopus apps to the online community and this signalled the testing phase in our timeline. Therefore, the three of us (Martin, David and myself) were rigorously testing the integration between the three apps before allowing the first member from outside the Oopus team to join the community.

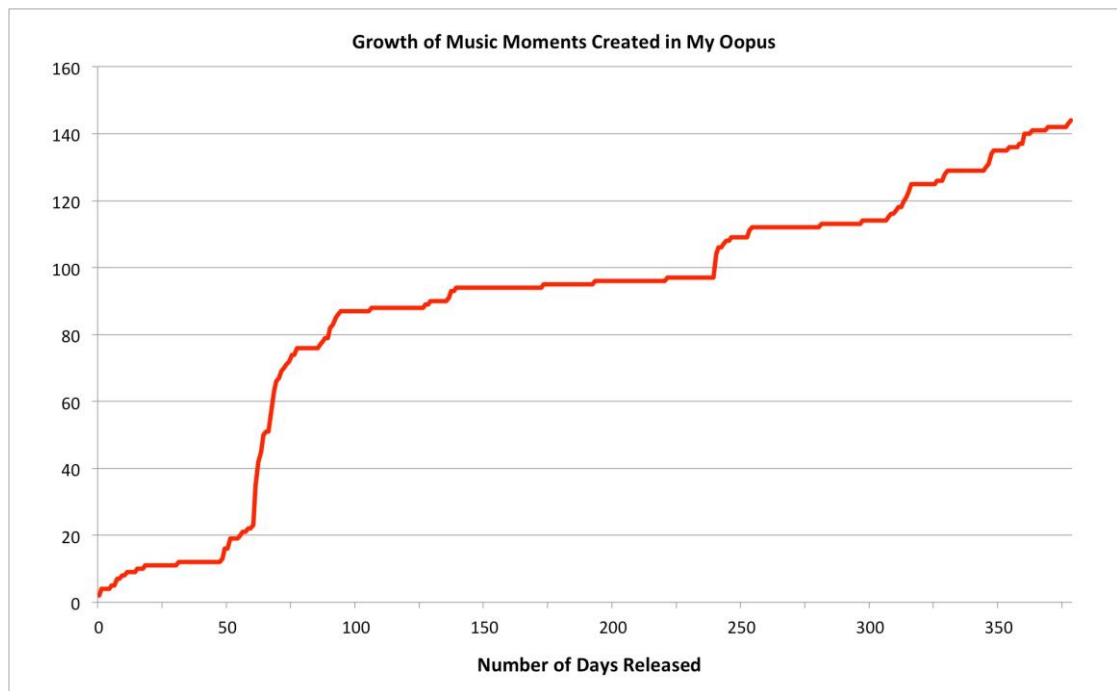


Figure 46. Growth of music moments created in My Oopus

Community	Number of weeks (days) since launch of community						
	1 (7d)	2 (14d)	4 (30d)	8 (60d)	16 (120d)	32 (240d)	52 (378d)
My Oopus	7	9	11	23	88	104	144

Table 7. Growth of moments for My Oopus community

Moments with Pictures

The total number of moments with pictures was 91 (63.2%), while 53 (36.8%) moments did not have a picture attached and only showed the generic Oopus placeholder image. As all the moments were created using the iPhone app, it is not surprising that the majority of moments included a personal picture.

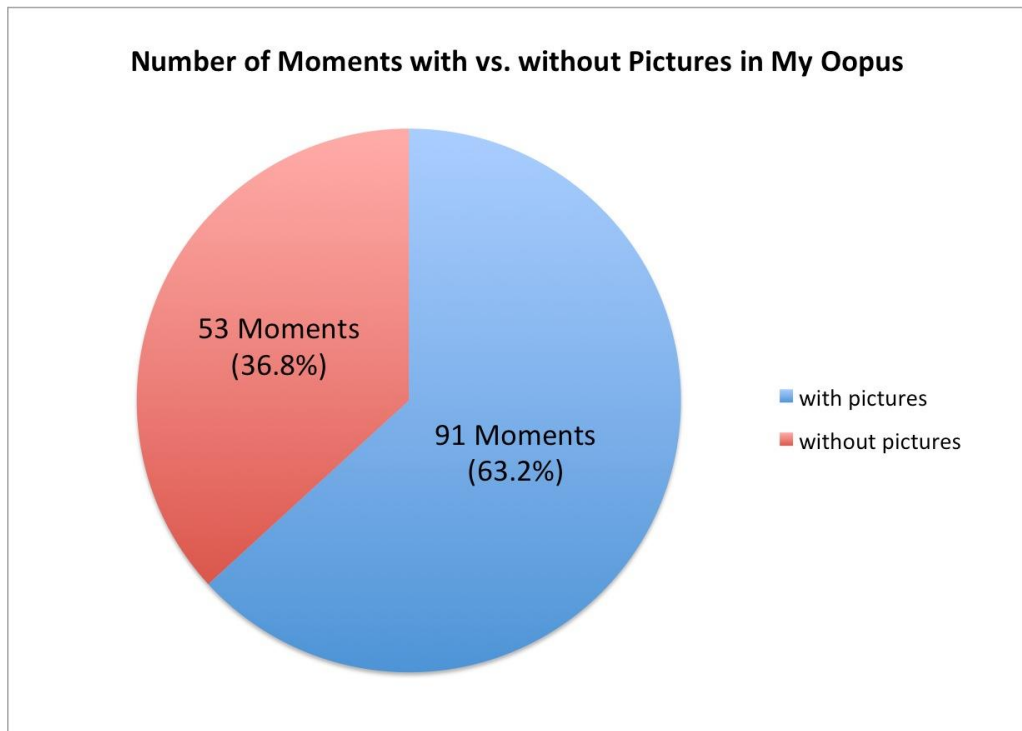


Figure 47. Number of moments with vs. without pictures in My Oopus

Multiple Moments

Out of the 41 members of the My Oopus community, only 14 users created a moment. However, out of those 14 users, 11 (27%) of them created two or more moments. There were 9 users who created at least 5 moments in the community; two of those users created 37 moments each, while another user contributed 33 moments. The top 4 creators in My Oopus contributed 79.2% of all of the moments created in the community.

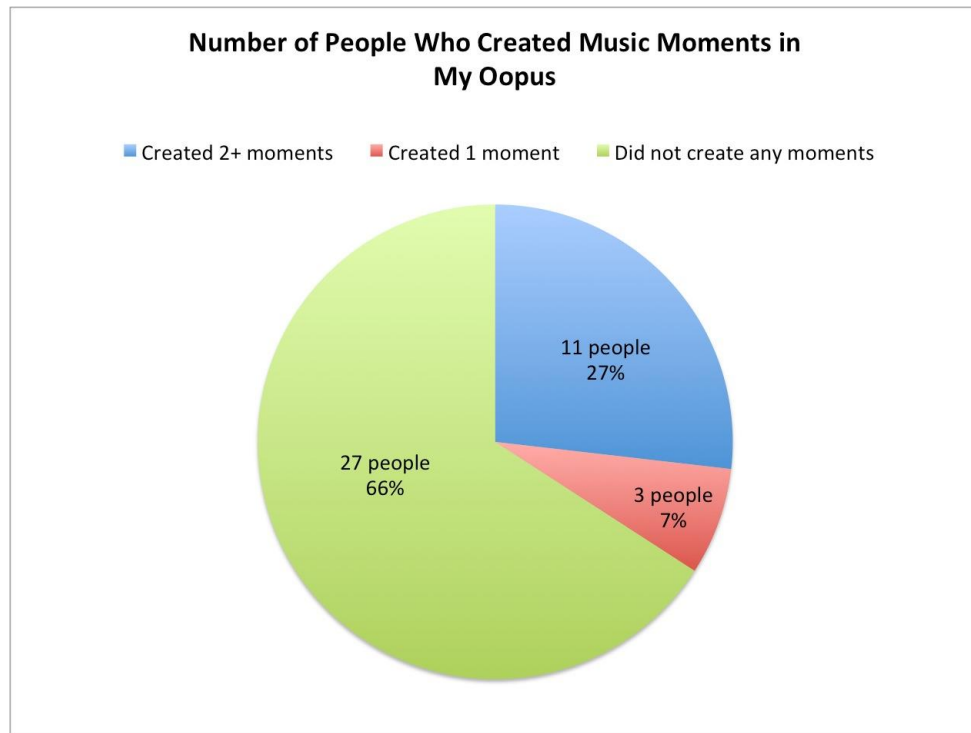


Figure 48. Number of people who created music moments in My Oopus

However, there were 27 (66%) members who did not contribute a moment to the community but did participate in the form of viewing other people's moments.

Community	Total No. of users	Did not create a moment	Created 1 moment	Created 2+ moments
My Oopus	41	27 (66%)	3 (7%)	11 (27%)

Table 8. Moment creation in My Oopus

Community	Total Moments	Top 4 Creators	% of Total
My Oopus	144	114	79.2%

Table 9. Top 4 moment creators in My Oopus

Private vs. Public Moments

When users created a moment, they had the option to make it public which would then appear on the myoopus.com website, or to keep it private so that it only appeared on their own profile. Out of a total of 144 total moments created in the system only 8 were private; therefore 94.4% of all created moments were made public. This suggests that the users who were a part of the My Oopus community wanted to share the moments they created with the rest of the community. This was also brought up earlier

in the *Framework* by Preece (2001) regarding the importance of the engagement that happens in a virtual community and how it helps to define a purpose for its members, and Wellman and Guila (1999) stating that evidence of reciprocal behaviour is a vital function of virtual communities.

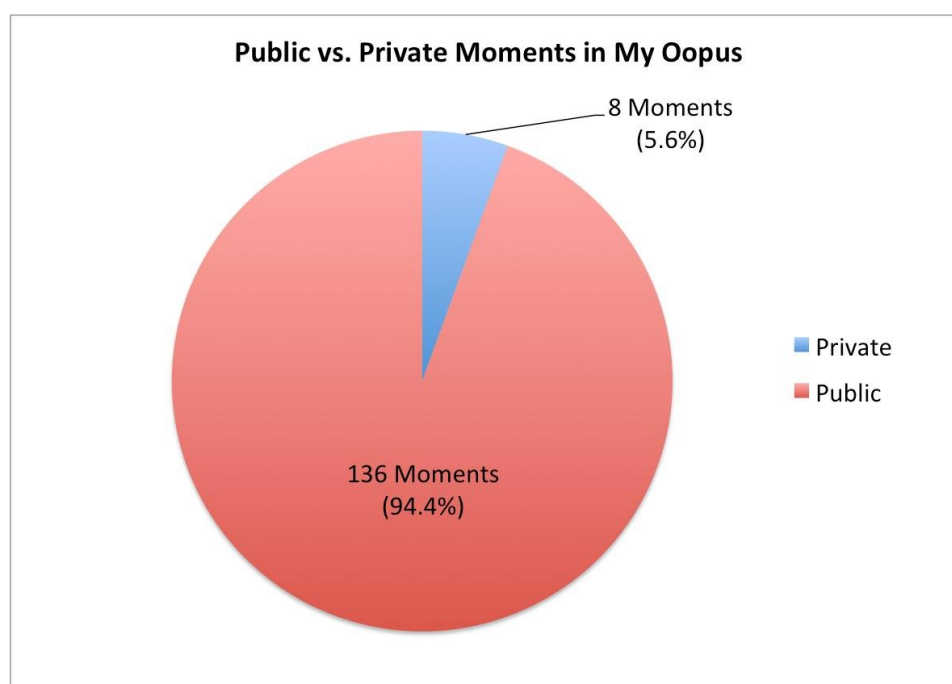


Figure 49. Number of public vs. private moments in My Oopus

User Interaction

Moments Viewed

We classified user participation in the community as how many views each moment had and the number of comments on music moments. There were a total of 8 private moments, of which 6 had no views. The other 2 private moments had views but only from the user who created them so I will not include any data for private moments in this analysis.

Out of the 136 public moments, the average number of views was 403 and the median was 332. The moment with the highest number of views was 1179 and the lowest number was 152.

Community	Total No. of Moments	Public Moments	Total No. of Moments Viewed	Moments with Personal Pictures	Average Views per Moment	No. of Views (High/Low)
My Oopus	144	136 (94.4%)	136 (100%)	91 (60.7%)	403	1179/152

Table 10. Moment viewing statistics for My Oopus

There are two surprising statistics to come from these results. The first is that the moment with the most views did not have a personal picture attached; only the placeholder image was there. Therefore, it cannot be said that there is any special meaning or picture behind the most viewed moment. The second is that every user in the community viewed every public moment an average of approximately 10 times (403 avg. views per moment / 41 users).

Moment Comments

There were 23 total comments for 19 moments in My Oopus. The breakdown is as follows:

Community	Total Comments	Moments with 1 comment	Moments with 2 comments	Moments with 3+ comments
My Oopus	23	16	2	1

Table 11. Comment breakdown for My Oopus

David created the moment with 3 comments and I created one of the moments with 2 comments. However, the other moment with 2 comments was created by one of David's friends, and it seems as though the comments section was used for a short conversation between the two of them, which is what we wanted that feature to be used for.

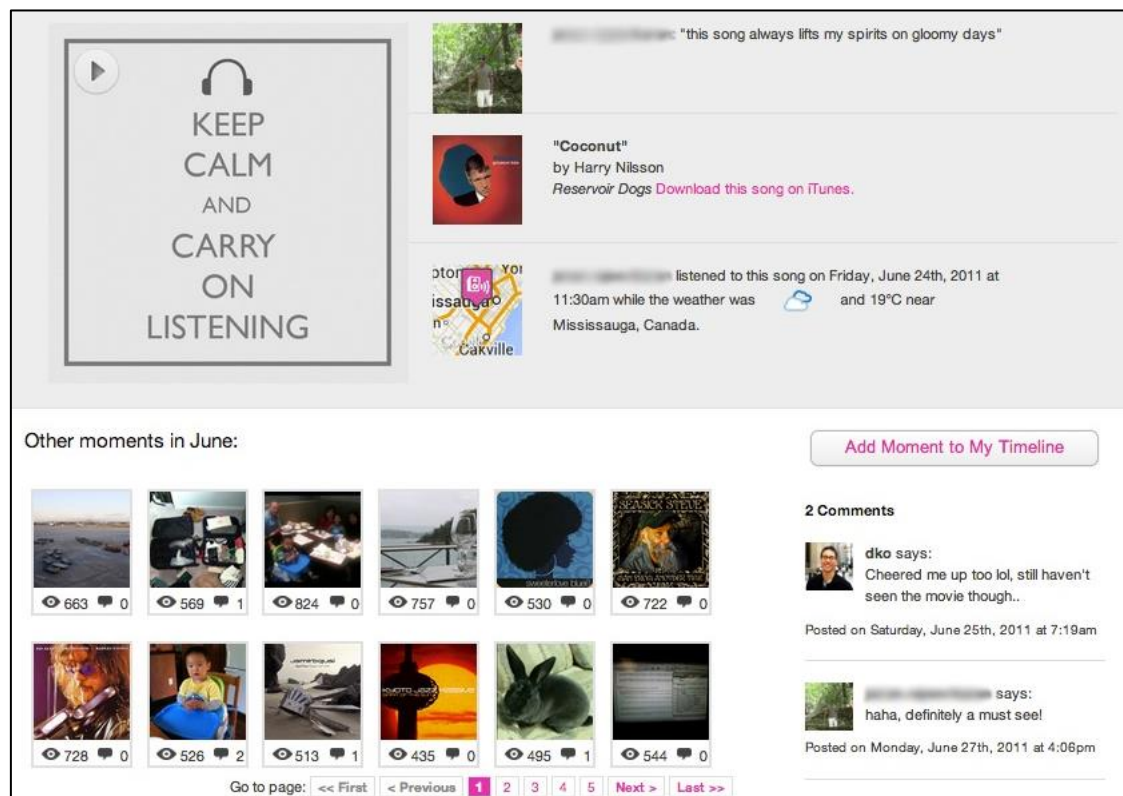


Figure 50. Comments on a moment in My Oopus

Testimonials

After people started to hear about the Oopus project, they were quick to praise the idea of the concept and that they were supportive of our determination to build the system. Some excerpts of testimonials we received through emails, Facebook and LinkedIn messages.

"No problem Andrew! And finally I'm starting to get a grasp of what Oopus is for, haha. Great idea! Good luck with it" (via Facebook)

"Thanks Andrew for the link. I am enjoying the music right now and will introduce to my friends. Good luck!" (via Facebook)

"The site is pretty cool, still in it's initial phases, but i can see the direction that your bro is taking, it's a pretty interesting concept! I entered in some songs and info and I'll continue to put songs in to help the cause. So the goal is to be able to create a unique playlist of songs that target a person's specific mood or memory? If so, I'm looking forward to seeing the final product." (via email)

“This is a very interesting website and I'm very curious to see what goes on next.

I'm a big fan of music, and I'd definitely spread this site around to music lovers I know of; I might even submit a story / playlist lol.” (via Facebook)

“What a cool idea! Your bro definitely is on the right track; I think that could be really useful to people.” (via Facebook)

“Hey Dave, thanks for the link! I browsed around the website a bit and it actually looks pretty cool, definitely something I'd find interesting. I think I may even contribute a few music memories to the site.” (via email)

“Eno went to mood music for Airports, and that went well. This makes the mood personal, interactive and instant. Its got real innovpotential!” (via LinkedIn)

REFLECTIONS (Cycle 2)

Reflecting back on my journey in this cycle, there were many issues that might have inhabited a more thorough process.

The role of passion

From learning a new programming language, to convincing more people to help with my journey, it seemed as though my passion for this project and my love of music shone through more than any other attribute during this cycle. Searching through the literature to help describe it, I found that the kind of passion that best fits the context we are in is that of entrepreneurial passion.

Cardon et al. (2009) state that entrepreneurial passion is aroused when the entrepreneur is “engaged in something that relates to a meaningful and salient self-identity for them” (pg. 516). Reflecting on this statement, I realized that the passion I have for the current research is not solely based on the topic itself, but because of my immense love for music and that I live my life through music and identify with it. It is this point about identity that gives my passion its meaning as Cardon et al. state that

without identity, passion is reduced to “little more than context-specific positive affect” (2012, pg. 388).

Furthermore, Cardon et al. state that passion is used to explain certain behaviours that entrepreneurs exhibit such as “unconventional risk taking, uncommon intensity of focus, and unwavering belief in a dream” (2009, pg. 511). Reflecting on one such example of passion that I exhibited is with the Oopus iPhone app, as it needed to be built for this cycle so I learned a new programming language to be able to create the prototype myself. Granted, my technical background in engineering and my programming course in university gave me the foundations I needed to start this time consuming task. However, my degree major was in mechanical and not computer or software engineering so programming was not one of my strongest attributes and, therefore, still presented a risk. This passion gave me focus and drove me to build the initial iPhone prototype which, having reflected on this decision, resulted in three advantages.

The first advantage is that by knowing what kind of technical skills is required to make the concept a reality, I was in a better position to understand what kind of people to bring in to help in the near future. Through this experience, I knew that if I needed someone to help take the technical aspects of the project further, this person should have experience programming in an object-oriented language, which is the type of language C++ is. Therefore, knowing that David has programmed in object-oriented languages before gave me the insight to immediately identify him as someone with the necessary skill set to help with the project. However, identifying potential people who could help provide additional technical resources is only the start, as I also needed to try and convince them to participate and take the journey with me. This is another area where my passion also helped.

The second advantage is being able to convince people to take the journey with me. In a way, this academic journey mirrors that of a startup company with an entrepreneur who has come up with a concept and a team in place to execute his/her vision. In this parallel concept, Oopus would be the startup, Martin and I would be the co-founders and David and Mihai would be the first employees. Cardon (2008) found that entrepreneurial passion plays a large role in hiring key employees to join a new

venture and, therefore, it can be suggested that passion played a large role in convincing David and Mihai to take this journey with me.

The third advantage is that having such immense passion for the project enabled me to motivate the team. Drawing on the literature by Cardon (2008) regarding passion being contagious to employees, I found this to be the case in practice when interacting with David and Mihai on a regular basis as they both showed creativity, persistence and ambition for what we were trying to achieve as a team. Also, Cardon (2008) says that even though there might be a financial incentive for employees to be motivated, the emotional aspect of an entrepreneur's passion helps to motivate employees even further. Reflecting back on our case, there were no financial motivations at the time as this was a research project, so passion could be suggested as the prime motivator.

However, Cardon also argues that employees do not just display passion because the entrepreneurial leader shows it. These employees must also experience "a sense of identity relevance or meaningfulness for the firm" (2008, pg. 83). This was shown to be the case during my interview with Mihai as he said he loved music as well and listened to it any chance he gets. With David, he participated in the same musical extra-curricular activities as myself, so I knew he also identifies strongly with music and is central to his life. This gave me the comfort of knowing that their passion might be just as strong as mine in regards to music and the goals of the current project.

Building an offline community

Upon further reflection on my decision to bring in extra help in the form of Martin, David and Mihai, it dawned on me that I was building another type of community, one that is offline and f2f, through social capital. As mentioned earlier, Sergiovanni (1994) stated that a community is a collection of individuals who are bonded together through a set of shared ideas and ideals and Lin (2001) stated that social capital helps relationships form that help each other achieve a common goal.

If we are to still use the analogy of Oopus being a startup company, Greve (1995) states that to establish and run a new firm, an entrepreneur needs to have both "technological and administrative knowledge" (pg. 3). He furthers his argument by stating that entrepreneurs start with their business idea and some capital but might

have only a vague understanding of how to fully establish and manage the company. This is where the entrepreneurs social contacts can help by offering crucial resources that the entrepreneur might not have access to themselves.

Reflecting back on Puddifoot's model of community (1995), having an identity such as Oopus helped me to acquire the resources needed to establish the virtual community. To recap, Puddifoot's model consists of six broad elements: locus, distinctiveness, identification, orientation, evaluation of the quality of community life and the evaluation of community functioning. An example of locus in the context of the current study is that we were all in close proximity to one another, either through distance or relationship. Even though I had met Martin in October 2008 when I was on study exchange at MBS, he was only able to help me once he moved back to Manchester in 2010. David is my brother and my closest confidant. Even though he lives in Toronto, we keep in close contact every day through electronic chats and email, which allows us to have the same mindset and come to the same conclusions on many issues. Mihai, as stated earlier in the *Critical Friends* section, was introduced to me through my PhD supervisor. He also lives in Manchester and possessed the technical skill that we required at the time. Since then, he has become an indispensable member of my offline community. Distinctiveness was achieved because everyone that joined my project knew that it felt more than just being a research project. As indicated earlier when talking about entrepreneurial passion, the project we were all working on felt like working for a startup company rather than an academic research study. Identification was formed in the team through our mutual love of music and how we all wanted to achieve the goal of connecting people through their music experiences. The element of orientation was achieved through each member of the team being personally involved in all aspects of the project, which in turn helped to create an attractive atmosphere to be involved with the project and team. The evaluation of community life element contains several sub-elements that help in defining it. However, the ones most relevant to the current study are the ones that made the team attractive in the first place, and those are that the community was friendly, the team was co-operative and we had a social interaction outside of the research project. Finally, the evaluation of community functions was achieved through the ability of each team community member to influence decisions about the project's

future direction and through the decision-making process in general when major decisions needed to be made.

However, there is also Putnam's (1995b) theory of social capital, which helps to form the basis of a community. As referenced before, this theory consists of three main elements: networks, norms and trust and are key to fostering cooperation between individuals of a community. A network of civic engagement was achieved because all the members of the team were either a direct connection to myself (such as Martin and David) or a connection from one of my direct contacts (Mihai, through my PhD supervisor). This helped to create a dense network of social interaction that helped to increase social trust within the community. Norms of behaviour or reciprocity was achieved, as the team was fully co-operative with one another, and this observed pro-social behaviour helped to increase social capital within the group. Both networks of civic engagement and norms of reciprocity helped to encourage trust and cooperation within our offline community.

Choice of technology

The choice of the Apple ecosystem to use as the platform for both the mobile and desktop apps, as stated earlier, was mostly based on our team's technical capabilities. However, upon reflection of our choice most of our support network in Canada, the US and Romania did not have an iPhone or could not figure out how to use TestFlight to install the Oopus app onto their phones. Furthermore, this was compounded by the fact that the majority of them also used Windows computers and not Macs. Therefore, we had additional friends and relatives outside of the United Kingdom who wanted to take part in our research but could not due to our choice of platform.

Another situation that occurred was for the participants of this study who did have iPhones, but did not use them to listen to music. We assumed that all of our target test users not only used the iPhone as a way to make phone calls, but also as an entertainment device as well. However, this was not the case as a respondent sent me the following email message after I identified her as a potential user and asked how often she used her iPhone to listen to music:

“I’ve only used it once. The Iphone battery drains quickly so when I’m traveling, I keep my iphone for phone calls and emails. I use my ipod/shuffle for music.” (April 12, 2011)

Furthermore, because of the choice of using the iPhone for the mobile app, this created a barrier to entry for potential users, as the TestFlight installation was a complicated process that involved creating a separate TestFlight user ID, along with installing the TestFlight app onto the iPhone. During this installation, there is a warning dialogue box that appears to the user, which can cause further confusion and suspicion that the app might potentially be malicious. To mitigate this issue, we had to send out emails to our test users with instructions and screenshots on what to expect during the process.

In retrospect, we should have released the Oopus app in the Apple App Store on iTunes. This would have helped us potentially increase the number of users for our community, it would have made the process of TestFlight unnecessary and it would have potentially allowed us to collect data from people that were not our family and friends.

User feedback

The main issue with the development of the iPhone application and My Oopus music community was the time it took to get more people involved with the platform. As stated earlier, it took 94 days from the time we released the app and website for our community to gain one user, from three to four. The reason being that we were constantly changing and fixing issues that we thought users would want, without actually testing it and getting feedback from our users. Upon my reflection of this issue, we were changing often because the app specifications were also changing daily due to new information being received by the development team. Through new research from my PhD literature review, new developments in technology or a combination of the two, this constant flow of new information led to the specifications for the app and community to constantly evolve. However, what we did not do was gather feedback from the actual users of the app or community. We thought of improvements through our own use of our technology. One of the reasons why we did this was because we were operating within a very tight circle for the initial testing period, much like tightly operated cliques as described by Resnick (2001), who are

less likely to “have access to information or resources outside the clique” (pg. 255). Therefore, we did not correctly utilize the users that we had willing to test and play around with our apps.

Reflecting on this issue even further, it seemed as though we were utilizing a Waterfall model (Melonfire, 2007) where the main phases of development are requirements analysis, design, implementation, testing, installation and maintenance. The main drawbacks to this model are that since each phase flows onto the next one, if the design phase is not concrete then it could lead to costly delays of both time and resources (Yau & Murphy, 2013), which is what was happening with our development.

Themes in the Cycle

There were three main themes that occurred throughout this cycle. The first was taken as a point from the feedback from our users and how they engaged with the iPhone app and My Oopus. The second helped form both the online and offline communities in this cycle.

Technology adoption

After reflecting on the major points for this cycle, one of the main themes that have surfaced is that of technology adoption. This is due to the fact that the project is becoming increasingly technical as a result of both the direction of the research and from the feedback given by the users of the My Oopus online community. Another area where this project has become more technical in nature is the proliferation of apps that we have built to connect people to each other through music experiences. In this cycle, there are 4 different apps using three different platforms: The iOS was used for the mobile app, Mac OS X was used for the desktop app and the Internet housed both the My Oopus community and the Oopus Player Beta. However, this then raises an interesting question. What is the difference between building a community and building up technology? When one is trying to build an online community with shared norms, trusts, etc., why do technological features always end up playing such a big part? Can one exist without the other in an online environment? These are

questions that I will touch upon in both my next cycle and in my *Further Studies* section.

Trust

Another theme to come from the reflection on this current cycle involves the nature of trust. As mentioned earlier in the cycle, having social trust in a community helps to encourage cooperation within it. This theme has implications more for our offline community since it involved f2f communication and social interactions. This was the trust that Martin, David and Mihai have put in me to be able to advance the project forward with their help. However, it also affects the online community through the trust our users put in our team with safeguarding their personal information and trust in the installation of our app that was not officially approved through the Apple App Store. Therefore, the concept of trust can be seen as being a key foundation for this cycle.

User-Generated Content

The last theme from this current cycle, and is a consequence of reflecting on the results, is that 136 from a total of 144 music moments (94.4%) were shared publicly in the community even though users had the option to keep it private. Having interpreted this data and seeing it in action, it might suggest that having visible user-generated content in a community is key to its success. Indeed, the results from Leimeister et al.'s study (2006) suggested the same as they found that user-generated content is one of the factors that can contribute to a virtual community's success. Therefore, we will continue to look at this factor closely in the next cycle.

LESSONS LEARNED (Cycle 2)

After reflecting on my current cycle and analyzing the elements of my framework that turned out as expected and those that did not, I decided to put my learning into the framework to help drive my next cycle. There were four main lessons learned that I can use going forward.

1. Platform Access

The first involved creating the next iteration of the online community onto a platform that people have regular and easy access to. This lesson was learnt from users who either did not:

- a.) Have an iPhone to begin with*
- b.) Use their iPhone to listen to music*
- c.) Know how to register with TestFlight to download the Oopus music app even though they use their iPhone to listen to music*

Since the main feature of the community is to be able to create music moments and share them with others, if there are users that fall into categories (b) and (c) this greatly hampers the social element of the community. Therefore, in order to mitigate the risks of these issues, and to potentially help increase the amount of user-generated content, I decided that the next online community would have all of its major functionality residing on the Internet, chief among them the ability to create a music moment. This decision was taken with support from Internet usage statistics for the year 2011, where Whitney (2012) reported that there were 2.1 billion people in the world, approximately 30% of the population, that are able to access the internet with Asia (922 million users, 44% of total), Europe (476 million users, 23% of total) and North America (271 million, 13% of total) contributing the highest percentages to the world average.

Furthermore, we need to include an automatic way for potential users to register, rather than having every user being manually entered into the system. Giving them the decision to join would hopefully encourage more users to register for the community.

2. Social Features

The second lesson learnt to take into the next cycle involves adding more social features into the online community. These include the ability to connect with people who share similar musical preferences to enable greater music discovery through the community and the music moments that are created in the community. Being able to find one's friends in the system is a feature that would add an additional social layer onto the online community as well. This would make it easy to share music moments

with familiar people, which should enhance the community aspect of the website. Furthermore, being able to integrate the infrastructure of popular third party social networks, such as Facebook and Twitter, should also help the social aspect of the community.

3. Technology Development

Because of the need to incorporate more technological features into the community to enhance the social elements, the third lesson to take forward is the continuing development of these technical aspects with the continued help of David and Mihai and the continuation of my offline community. The envisioned technological additions would be adding Facebook Like and Twitter “tweet” functionality, being able to search for other users in the community to see their music moments, as well as having the ability to create music moments from the past.

4. Technology Adoption Literature

The last lesson to take into Cycle 3 is the need to use the framework from technology adoption literature to help shape the direction of the next cycle. The reason being that the project has now become increasingly focused on technical development, which is a result of David and Mihai coming onboard and joining the project but also in the feedback received from our users. There is a need now to investigate, execute and learn how technology is adopted and what elements factor into this adoption.

CYCLE 3

The direction of the research for this current cycle was influenced by the lessons that were learned from the previous one. The theme that will shape the framework for this cycle is the adoption of technology and the most important factors in determining this.

AREA OF CONCERN

The previous cycle dealt with finding ways in which online communities can be formed through musical preferences. Now that there is a base community established through My Oopus, the learning from the previous cycle can foster changes in the current cycle to investigate what attributes contribute to the adoption and usage of the technology that allows the creation of these communities.

FRAMEWORK

The literature for the framework in this cycle starts off with defining the concept of technology adoption. Next, I delve into the different models that explain the difference between technology that is used for utility and one that is used for hedonic purposes. Lastly, I will look at a specific model for social network adoption that will be used as the basis for this next music community.

Technology Adoption

The literature on the adoption of new technology is usually studied in the context of either an organization or an individual (Choudrie & Dwivedi, 2005). For organizations, adopting a new technology can trigger many changes to a company such as altering its business model or affecting the competitive balance within an industry (Lanzolla & Suarez, 2012). For individuals, the decision to choose one technology over another boils down to several different factors. Lee et al. (2003) found in their study that students who used technology to help with their distance learning class were influenced to use it based on both the characteristics of the technology, as well as the degree of satisfaction with their group members. As group

cohesiveness increased, the attitudes of the students towards the technology became homogenous due to the increasing exposure of social information within the group. Thus, it was shown that attitudes towards the use of technology can be socially influenced.

Another factor that influences the adoption of technology is how the individual plans on using it and in what context. This might be whether the individual uses it purely to provide a pleasurable and fun experience, which is the aim of hedonic systems, or if the user wants to obtain some form of instrumental value from the system, for example increasing task performance and efficiency, which is the nature of utilitarian systems (Van Der Heijden, 2004). The concept of Oopus is to allow people to share their experiences with music and facilitate music discovery through a virtual community in a fun and interactive way. Since this aim features both utilitarian and hedonic characteristics, these two systems are explored in greater depth below.

Utilitarian Systems

Davis (1989a) introduced the Technology Adoption Model (TAM), which was itself a specific adaptation of Fishbein and Ajzen's (1975) Theory of Reasoned Action (TRA), a model that predicts and explains human behaviour. TRA suggests that beliefs, attitudes and subjective norms all help in contributing to behavioural intentions (Ajzen & Fishbein, 1980). TAM explains a specific behavioural case, that of computer usage behaviour (Davis, 1989a). Davis (1989b) states that there are two main factors that cause people to either accept or reject information technology. These are perceived usefulness and perceived ease of use. Perceived usefulness refers to the degree that a person believes the specific information technology can increase their performance on their job. Perceived ease of use, on the other hand, denotes the degree of how easy to use a person believes the technology to be (Sledgianowski & Kulviwat, 2009). In his study, Davis (1989b) found that for technology in a utilitarian context, perceived usefulness was the most important factor in predicting computer usage. The explanation being that users will be driven to adopt a technology because of the benefits they can derive from it, regardless of how easy or hard it is to use.

To further the work done on computer usage in a utilitarian context, Davis et al. (1992) adapted TAM to include the intrinsic motivator of perceived enjoyment as well as the extrinsic motivational factor of perceived usefulness. However, in this study it was found that perceived usefulness was still the primary determinant of computer usage in the workplace, with perceived enjoyment being analogous to perceived ease of use.

Venkatesh et al. (2003) sought to form a unified model for individual intention and usage of information technology by reviewing eight previously established models in this field and combining the most important elements from each one. The Unified Theory of Acceptance and Use of Technology (UTAUT) consists of four constructs that are used as direct determinants for a person's acceptance and use of information technology: performance expectancy, effort expectancy, social influence and facilitating conditions. In addition to these four determinants, there are also four key moderators (gender, age, voluntariness and experience) that affect these determinants. Performance expectancy is defined as an individual's perceived expectation that using the system will increase their job performance and is moderated by gender and age, the effect being the strongest with young men. Effort expectancy is defined as how easy to use an individual finds the system to be and is most salient with younger women who have had very little experience with the system with the moderators being gender, age and experience. Other people who are important to an individual, and whom he/she believes wants them to use the system, define the determinant of perceived social influence. All four key moderators affect this determinant with older women in mandatory settings who have little experience using the system being affected the most. The final determinant, facilitating conditions, is defined as an individual's perception that the proper technical infrastructure exists to support the system in an organization and is moderated by age and experience, with the effect being strongest in older workers who are more experienced. Although this theory is very thorough and introduces the role of social influence that occurs with technology adoption, it is still better suited for technology implementation in organizations rather than predicting the acceptance of technology for an individual.

More recently, Hossain and Silva (2009) modified TAM and introduced the concept regarding the influence of social ties, which is defined as the "connection between

individuals through one or more relations” (pg. 7). There are two forms of social ties, weak and strong. Weak ties refer to co-workers who rarely interact and do not have any joint roles. Strong ties, however, mean co-workers who communicate regularly and share common characteristics, akin to close friends. The study concluded that social ties do help in influencing uses in acceptance and usage of new information technologies, namely a virtual community. The results from a study performed by Deffuant et al. (2005) came to the same conclusion, that social factors can help influence the acceptance of new technologies. One of the study’s main findings is that innovations have a higher chance of succeeding if it has high social value but few benefits to an individual, whereas innovations that have low social value but high individual benefits have a lower chance of success.

Therefore, it can be stated that in a strict utilitarian context, factors such as being functional and positively affecting job performance are major determinants in predicting the intention and usage of technology. However, building an online community around music experiences is considered more hedonic than utilitarian, because online communities fulfil our desires to interact with others (Bishop, 2007). Hence, strict utilitarian models in a workplace environment do not fit in the context of the current study and TAM by itself, or its various adaptations, cannot assist in predicting acceptance and usage behaviours for virtual communities that offer both utilitarian and hedonic value to a user.

Hedonic Systems

Van der Heijden (2004) argues that determinants of usage can vary between utilitarian and hedonic systems depending on the context. His study also showed that perceived enjoyment and perceived ease of use are strong determinants in terms of both intention to use and acceptance of hedonic information systems. In their study, Sledgianowski and Kulviwat (2009) found that the strongest determinants in using a social network site in a hedonic context were perceived playfulness and perceived critical mass and that, at its most extreme case, this type of system is used primarily for entertainment.

Although not a pure study of hedonic systems, I have included the following research because it adapts the TAM to include the intrinsic motivation factor of playfulness as a determinant of an individual's perceived ease of use of a system, which is a key driver in the acceptance, adoption and usage of technology. Venkatesh (2000) wanted to study how the perceived ease of use factor in the acceptance and usage of information technologies changes over time by modifying the TAM to include the determinants of anchors, adjustment and experience. An anchor is the individual's general beliefs regarding the perceived ease of use of computers. However, as their experience with the system grows, these individuals will adjust their perceptions to reflect the knowledge they have gained. According to Venkatesh's (2000) theoretical framework, the anchor determinant consists of four elements: *Control* (there are two parts: computer self-efficacy, perception of external control), *emotion* (computer anxiety) and *intrinsic motivation* (computer playfulness).

- *Control*: This element relates to the perceived availability of knowledge and resources that are needed for an individual to perform a specific behaviour. This is further segregated into two parts: one is internal control, which is defined as computer self-efficacy and is an individual's belief in their ability to perform a specific task using a computer. The second part involves the perception of external control, which is an individual's assessment of the resources available to facilitate the use of technology such as computer support staff in an organization
- *Emotion*: This element consists of computer anxiety and is defined as an individual's hesitation, through fear or otherwise, when faced with a situation where they will need to use a computer. Within the model, it is expected to have a negative effect on the perceived ease of use of a system.
- *Intrinsic motivation*: This element relates to computer playfulness, which means that an individual will want to try a new system just for fun, regardless of the amount of effort required, rather than using it for any specific purpose. Because of this attitude, an individual might not perceive the system as being difficult to use and might want to interact with the system because they want to explore, discover, are curious or want to be challenged

The adjustment determinant consists of objective usability and perceived enjoyment and is affected when an individual increases their direct experience with the target system.

- *Objective usability*: This determinant allows an individual to compare the actual effort it takes to complete tasks on different systems
- *Perceived enjoyment*: The enjoyment an individual receives from using a system to perform an activity or task, regardless of the result to their performance

Even though Venkatesh (2000) found that an “individual’s general beliefs regarding computers were the strongest determinants of system-specific perceived ease of use” (pg. 360), this study is still limited to explaining playfulness in the context of computer systems and not online communities.

A study by Moon and Kim (2001) focused on using playfulness to adapt and validate the TAM for an individual’s acceptance and usage of the Internet. Their findings suggest that since the Internet can be used for leisure and work-related tasks, both intrinsic (perceived playfulness) and extrinsic motivation (perceived usefulness and perceived ease of use) factors significantly affect an individual’s acceptance of the Internet.

Therefore, this study has helped me to understand that a website with the dual functions of playfulness and usefulness can be accepted and used by individuals on the Internet. However, another model needed to be used that deals specifically with virtual communities that exhibit elements from both utilitarian and hedonic systems to enable the creation of an online music community that is both useful and enjoyable.

Social Network Site Adoption Model (SNSA)

The SNSA model by Sledgianowski and Kulviwat (2009, pg. 77) is a model that is built on six determinants that predict a user’s intention to use, which ultimately leads to actual usage of a social network system. It adapts previously established models on behavioral intention and acceptance to include the relevant determinants from a

hedonic system. These determinants are playfulness, critical mass, trust, normative pressure, perceived usefulness and perceived ease of use.

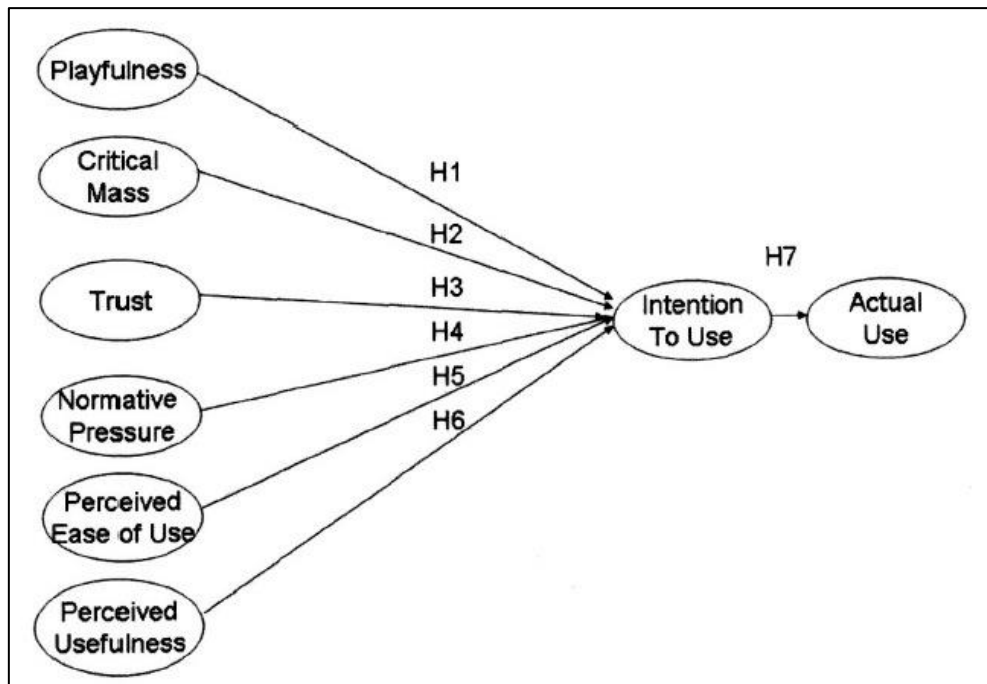


Figure 51. Social Network Site Adoption Model (Sledgianowski & Kulviwat, 2009, pg. 77)

Playfulness

Perceived playfulness refers to the degree of enjoyment and pleasure that a user believes they will receive from using the social network site (Sledgianowski & Kulviwat, 2009). As stated earlier, the study conducted by Moon & Kim (2001) regarding the effects of perceived playfulness and usefulness on both entertainment-purpose and work-purpose web usage groups showed that perceived playfulness had a significant effect on both groups while perceived usefulness only significantly affected the work-purpose group. This demonstrates that the determinant of perceived playfulness is an important design aspect of an online community.

Critical Mass

Critical mass refers to the point where an innovation becomes self-sustaining due to the accelerating number of users who have adopted it (Slyke et al., 2007). However, perceived critical mass refers to the degree in which a user believes that this point has been reached (Sledgianowski & Kulviwat, 2009). For an online community, this point

is when a user thinks that a community has a significant amount of members that have common interests or that they can associate with. Therefore, this point is perceived by a user not to be reached if they cannot find anything to associate with in the community.

Trust

Trust plays a significant role in the usage of an online community. The more that users trust a site, the more inclined they will be to use it. Trust is obtained through a user's belief that a site has safeguards built into it (Gefen et al., 2003). There are two kinds of trust that are used in the context of websites, interpersonal and institutional trust (Sledgianowski & Kulviwat, 2009). Interpersonal trust is a trust between members of the site and their willingness to exchange information (Ridings et al., 2002).

Institutional trust refers to a user's belief that a social network will "behave consistent with the member's favourable expectations" (Sledgianowski & Kulviwat, 2009, pg. 76). Sledgianowski and Kulviwat state that trust is a critical part of any social network because of the possibility for harmful behaviour and argue that perceived trust in a social network's ability to safeguard information can greatly influence the usage of that site (2009). Ganley and Lampe (2009) further this point by stating that providing a framework of trust enables social networks to be more flexible and builds loyalty, cooperation and teamwork.

Normative Pressure

Fishbein and Ajzen (1975) define normative pressure as the perception an individual has of other people regarding the individual's behaviours and is influenced by the normative expectations of others. This determinant is considered significant because pressure from others help to predict an individual's usage intentions for a social networking site (Sledgianowski & Kulviwat, 2009). Cheung and Lee (2010) also found in their study that subjective norm is "particularly important in determining user decision to use an online social networking site" (pg. 28).

Perceived Usefulness and Ease of Use

As stated earlier, these two factors are important in predicting an individual's intent to adopt and use information technology and are the main determinants of TAM.

Perceived usefulness is an individual's perception of how a technology will help them increase their job performance while perceived ease of use is an individual's perception on how much effort is required to use a technology. Sledgianowski & Kulviwat (2009) further state that there is a significant amount of research for both of these factors that can aid in predicting the acceptance and usage in different contexts such as spreadsheet software, office automation and merchant smart card payment systems. The results from the study showed that perceived usefulness and perceived ease of use were not the most significant indicators of intention to use a social network and that the findings helped to support Van der Heijden's (2004) claims that stronger predictions for technology use is dependent on whether the system is used for hedonic or utilitarian purposes.

METHODOLOGY

Based on the research for the framework in this cycle, and taking into account the lessons learned from the previous cycle, it was decided that the next iteration of the community needed to address each of the factors outlined in the SNSA model, as well as from the feedback from My Oopus. However, one factor does stand out according to previous research conducted regarding success factors for virtual communities (Leimeister et al., 2004; 2006), the ability for a commercial operator to reach the most amount of people in the shortest amount of time was rated as one of the top factors to ensure success in a virtual community. This was also found to be the case with products as well (Lee & O'Connor, 2003). Therefore, applying this criteria to the current study, it means that the platform used to create music moments to contribute to the community must be freely available to everyone. This was also alluded to by the feedback we received for My Oopus and the iPhone app.

Community Identity

As this new community would be different than My Oopus, I decided to give it a new name; one that would be fitting for people sharing their lives with music. Having

thrown some possible names around the team, we decided that the best name for the community would be one that would accurately describe the purpose of the website. We wanted the identity to reflect a person's life with music, a place where their most significant life moments with music are captured and shared. Therefore, we decided to name the community Your Life With Music.

Your Life With Music Community

We created a website called Your Life With Music (YLWM) that was essentially a web version that combined all the functionality and features of the Oopus iPhone music application, the My Oopus music community and the Oopus Player Beta. The web domain¹² was created on December 14th, 2011.

The website also included more social networking features than My Oopus, such as following users whom tastes in music are appealing to you, receiving playlist suggestions from the people you follow and sharing your music moments on Facebook. We also expanded the Music Timeline concept from My Oopus to include more statistics on a user's listening behaviours such as the top artist listened to and favourite track. These statistics were still gathered from the Oopus desktop and iPhone apps, however, the iPhone app was undergoing a visual transformation as well to match the YLWM online experience which will be touched upon later in this section.

In order to have seed data when launching YLWM, and therefore seeding the system from its inception, we anonymized and aggregated all of the data from My Oopus. Furthermore, both music communities used the same database, and thus the data collected from the Oopus desktop and iPhone app were also used for YLWM. However, in terms of analysis of the data, only statistics from the unique users who registered after YLWM went live (after January 19th, 2012) were used.

¹² <http://www.yourlifewithmusic.com>

YLWM Concept

Before we began building the actual community, we wanted to design a concept as a baseline from which we could then revise. This concept is shown in Figure 52 and there are features on it that have clearly carried over to the final design of the community.

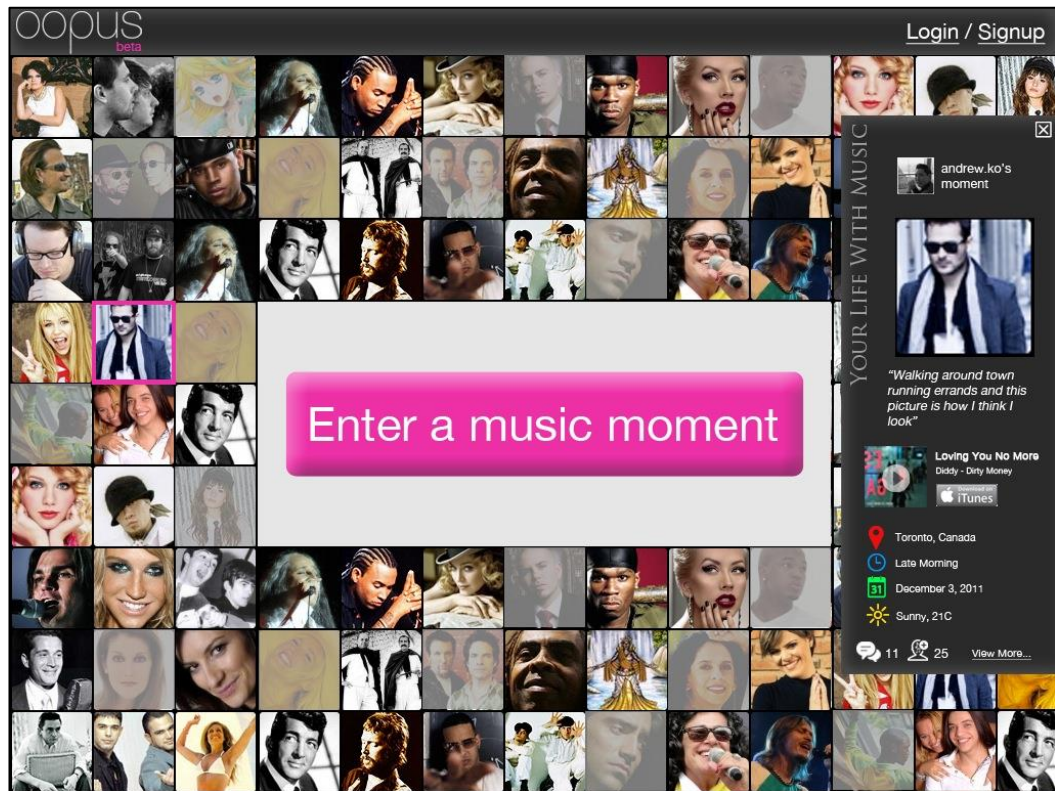


Figure 52. YLWM concept website

YLWM Login Page

The screenshot shown in Figure 53 is the page that greets a visitor upon landing on the community. Already, the difference between My Oopus is apparent, as there are no music moments being shown, no description about the app or no video to explain what the community is about. There are only three options that a user can choose from. The first is to start creating a music moment immediately, the second is to login with a YLWM account (if the person already registered for the community), and the last option is to contact the team, which would bring up an email composition screen. The main focal point of the login page is the button that prompts the user to enter in a music moment to contribute to the community. Extra attention is being made in

YLWM in this cycle as the results from the previous cycle, as well as the results from a study done by Leimeister et al. (2006), suggested that user-generated content might be an important factor in the success of a virtual community.

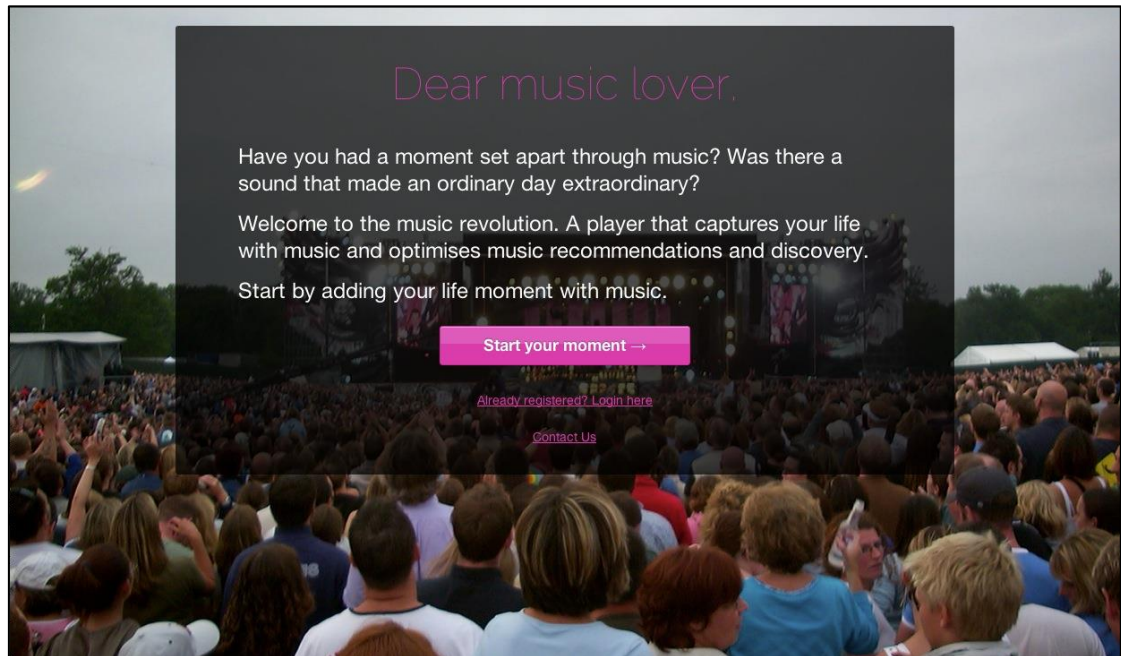


Figure 53. YLWM login page

YLWM Registration

Having reflected on the signup process from My Oopus, we decided that we did not want to manually register new users ourselves so we created a link to a registration page that a user could click to participate. However, we also wanted people to create a music moment before they were allowed to participate in the community, thus increasing the amount of user-generated content, which would help the perceived critical mass of the website. Therefore, before users could enter the website (assuming they did not already sign up), they would be forced to create a music moment and then be allowed to register for the community.

Adding a music moment is discussed in a later part of this cycle and the registration form is shown in Figure 54. The fields in the registration form are taken from the lessons learned from Cycle 1 in regards to obtaining more demographic data from the user, therefore a birthday and gender are required answers to sign up to the community.

Figure 54. YLWM new user registration page

Before users pressed the *Sign up!* button they could view our terms & conditions¹³ for the website. This was to help the user understand and trust the community that we were not going to reveal any information without their consent.

Figure 55. YLWM Terms & Conditions page

¹³ <http://www.yourlifewithmusic.com/site/terms>

This is especially important since Sledgianowski and Kulviwat (2009) found in their study that perceived trust was a significant predictor of a person's intent to use a social network and that "it is important for users to have a perception of trust that their information is not being used in a way not intended by them" (pg. 80).

Therefore, by putting the terms and conditions into YLWM, people will know what we will and will not do with their data. We specifically added this section of trust into the terms to emphasize that we will be trustworthy with their data:

"WE WILL NOT release your personal information to any third parties. We operate on the basis of trust with our users and we will not knowingly do anything to compromise this trust."

Main moment page

Once the user has either logged in or signed up, there were five distinct sections in the menu bar that could be selected. Already, the user journey through YLWM is different from My Oopus. The first being that instead of a user seeing their own listening history, they are brought to a page where they can see the music moments created by everyone in the community. This was a feature that was based on feedback from My Oopus as well as to satisfy the perceived critical mass and playfulness determinants in Sledgianowski and Kulviwat's SNSA model (2009). The second difference in the user journey is the number of options available compared to My Oopus. In the previous community, the menu bar only contained two options: *All Moments* and *My Profile*. In YLWM, there are 7 options for the user to choose from which all have different functions. This decision was made to satisfy the perceived usefulness determinant in the SNSA model.

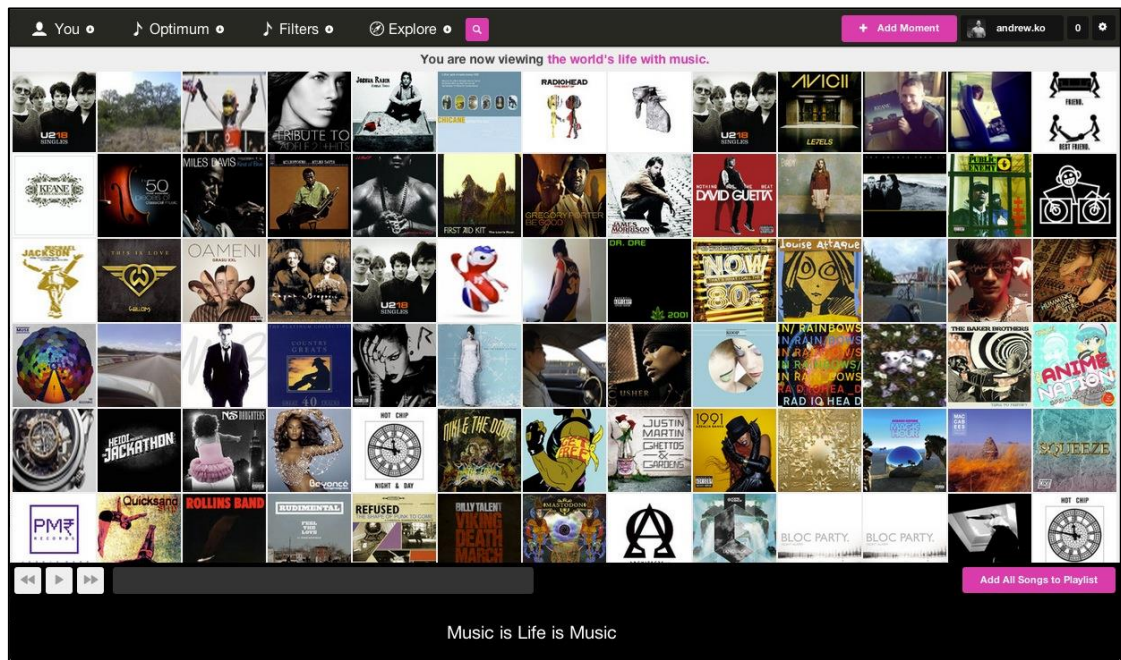


Figure 56. YLWM main moment page

The main moment page acted as an anchor to the user's experience of the community. All options are presented on this page and the status bar would let the user know what moments they are currently looking at on the page. For example, when the user first logs into the community, they are looking at *the world's life with music* as indicated on the status bar shown in Figure 57.



Figure 57. YLWM status bar

“You” menu option

The function *You* refers to the current user and all the related actions the user can generate for information on themselves. This menu option consisted of four actions.

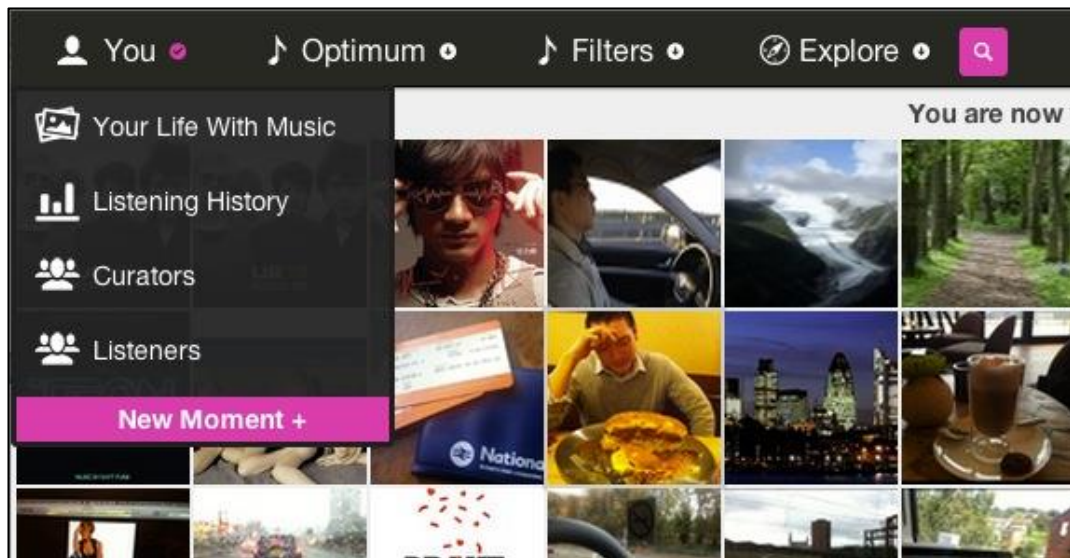


Figure 58. YLWM – “You” menu option

Your Life With Music

When a user clicked on this action, the main moment page would change to display music moments that the current user has created in the community. The status bar would display the following message to the user:

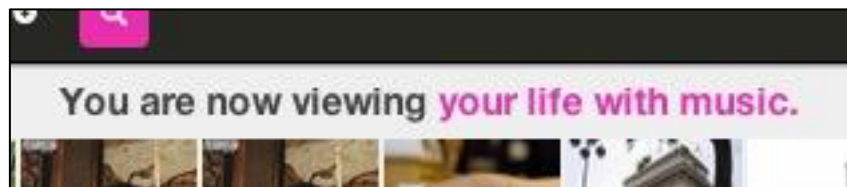


Figure 59. Your Life With Music option status bar message

Listening History

The main moment page would display all of the songs that the current user has listened to on iTunes using the Mac desktop app. The status bar would display the following message to the user:

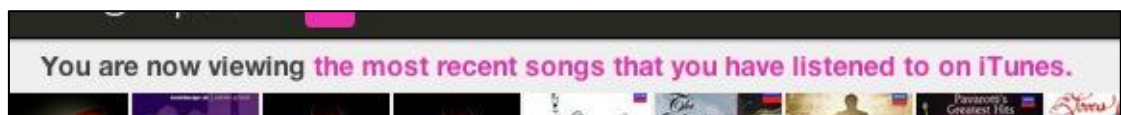


Figure 60. Listening history option status bar message

Curators

This action allowed the current user to see all the other community members whose activity they follow. These are also people whom the user wants to discover new music from when using the *Optimum* function (explained in the next section).

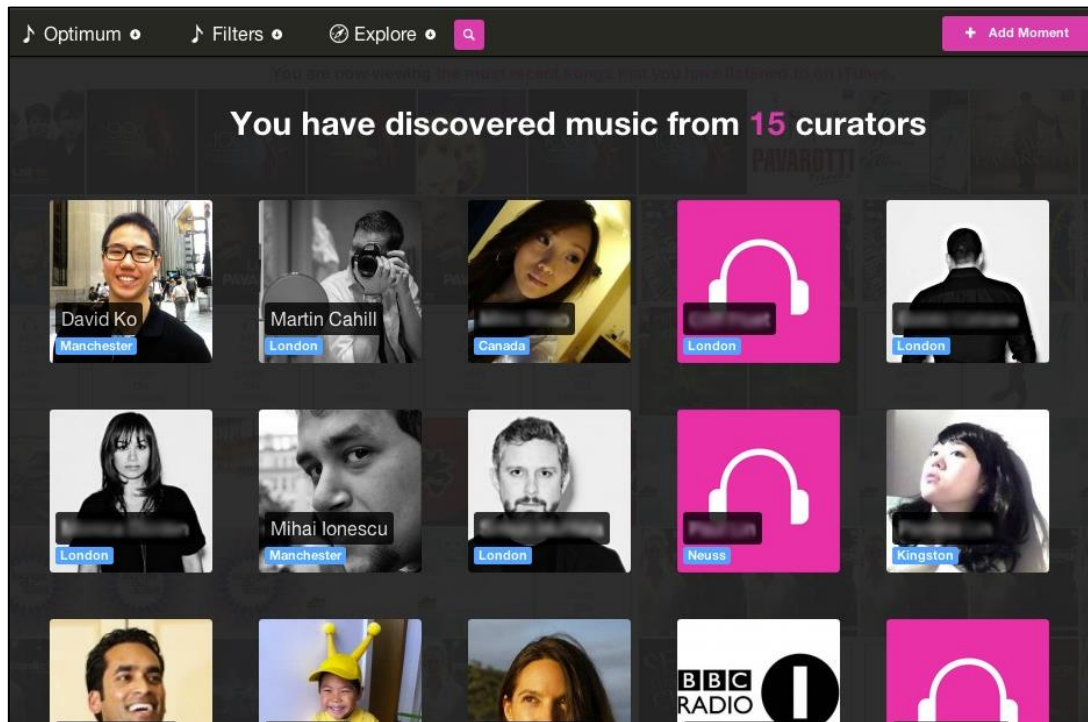


Figure 61. YLWM - Music Curators

Listeners

This action allowed the current user to see all of the other community members who follow your activity in the community. People who add you can pick your name from the list of curators to recommend them music in the *Optimum* option.

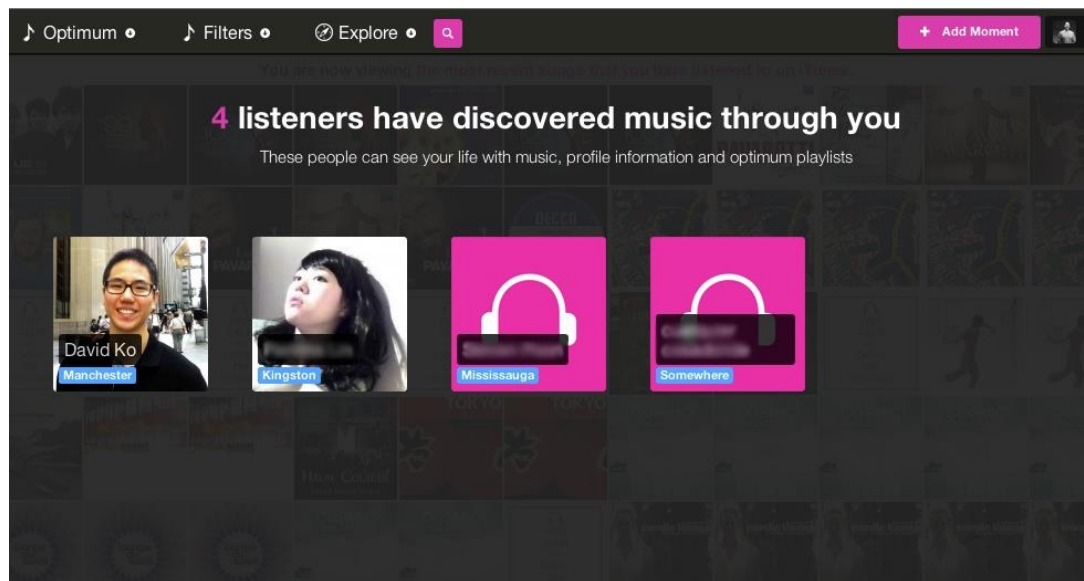


Figure 62. YLWM - Music Listeners

“Optimum” menu option

The option *Optimum* allows you to automatically generate playlists based on what you, your curators or the world would listen to in your context. This menu option consists of three actions:

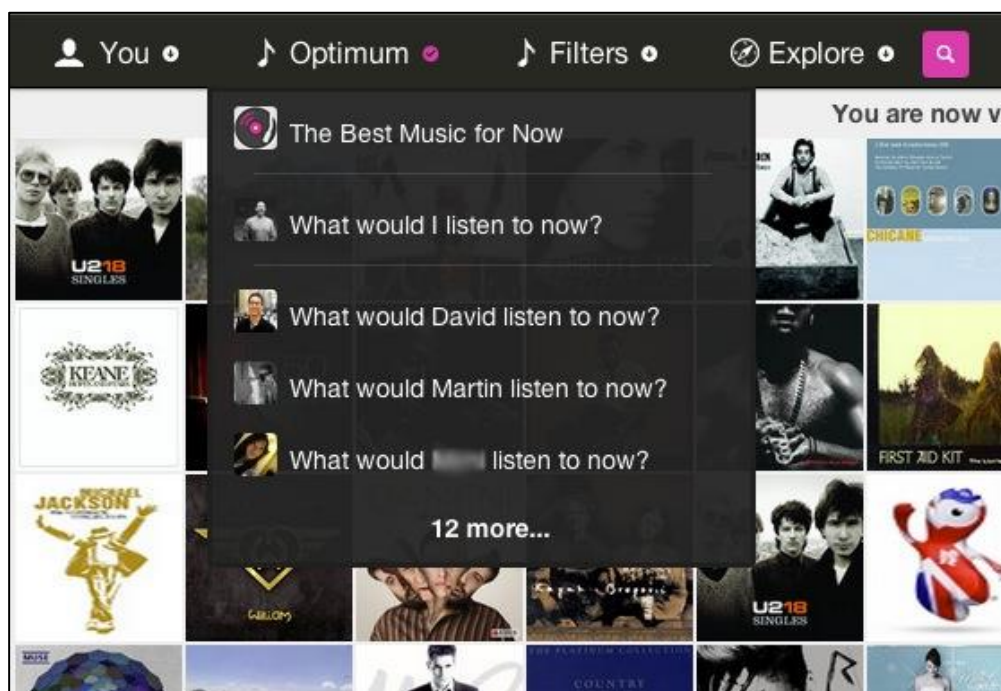


Figure 63. YLWM - Optimum menu option

The Best Music for Now

This action is similar to the *Global Oopus* function in the iPhone app and would generate a playlist based on what the entire YLWM community of users would listen to in your current context based on location, time, date and weather. The status bar would display the following message to the user:

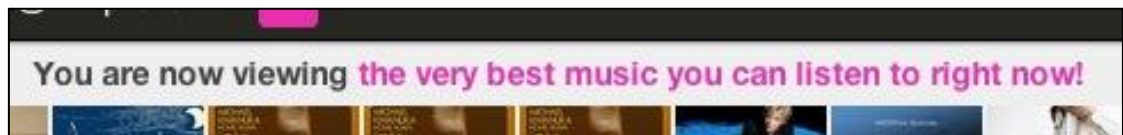


Figure 64. "The Best Music for Now" status bar message

What would I listen to now?

Clicking on this action automatically generates a playlist based on the current user's listening preferences in their current context, similar to the *My Oopus* button in the Oopus iPhone app. The status bar would display the following message to the user:

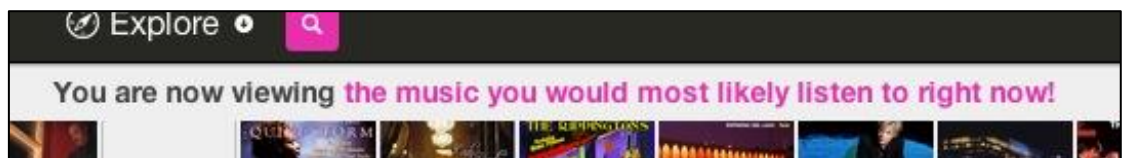


Figure 65. "What would I listen to now" status bar message

What would <Curator> listen to now?

This action allowed the user to automatically generate a playlist that one of their curators would most likely listen to in the user's current context. This was similar to *Global Oopus* but restricted to only one person from the music community. The status bar would display the following message to the user (if they clicked on David for example):

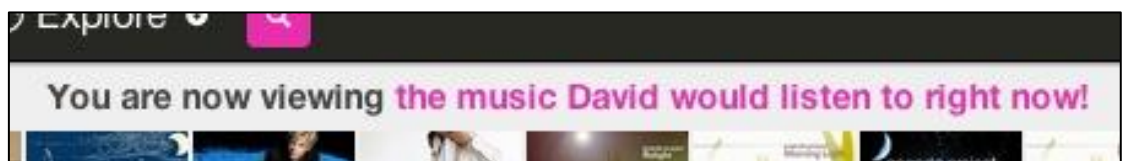


Figure 66. "What would David listen to now" status bar message

You can only discover music from people who are in your Curators list from the previous section. You can add a Curator by searching for them in the community and then following them on their profile page. This is explained in the *Profile Page* section of this cycle.

Playing the songs

To start listening to the playlist that has been generated, the user would press the *Add All Songs to Playlist* button in the lower right hand corner of the screen. The songs would then be added to the playing queue and the first preview would automatically start playing. Again, we were only able to use the 30-second previews from iTunes for the songs instead of the full-length track due to prohibitive cost reasons.



Figure 67. Adding songs to the playlist

“Filters” menu option

This option allows the user to generate a playlist in a virtual environment that they create using a number of variables that they can change. This option is essentially the

Optimum menu option but with a greater range of control over the environment in which you want to be the basis of the playlist generation. The customizable variables in the Filter include weather, temperature, time, day of the week, month, city and curators.

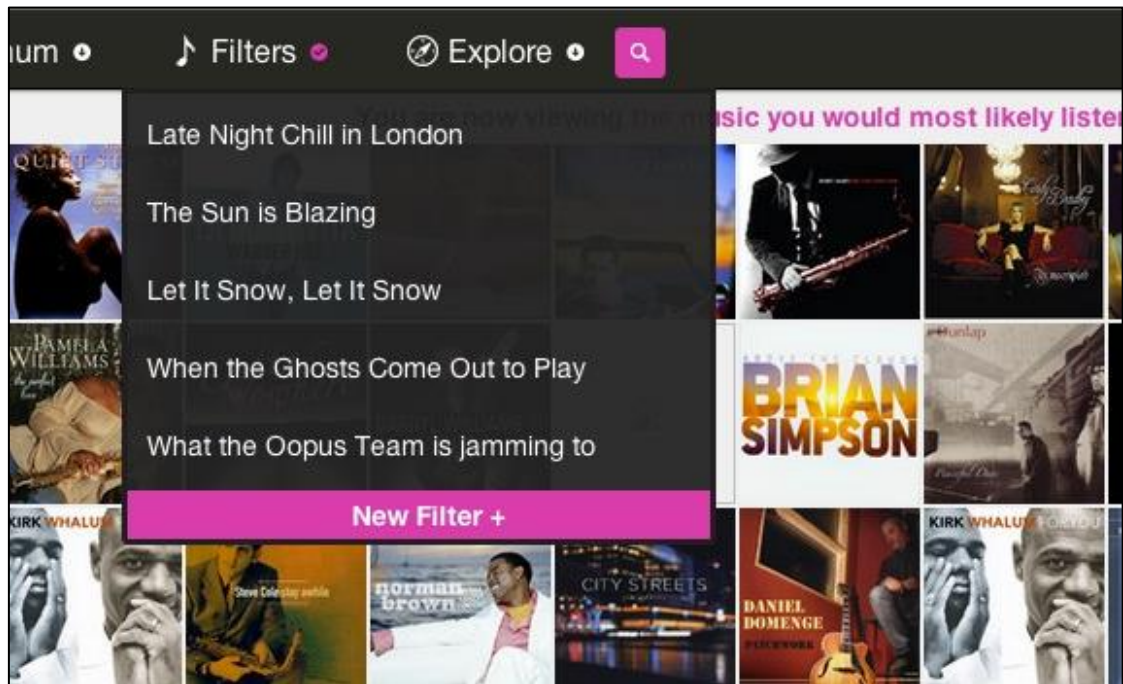


Figure 68. YLWM - Filters menu option with default saved favourite filters

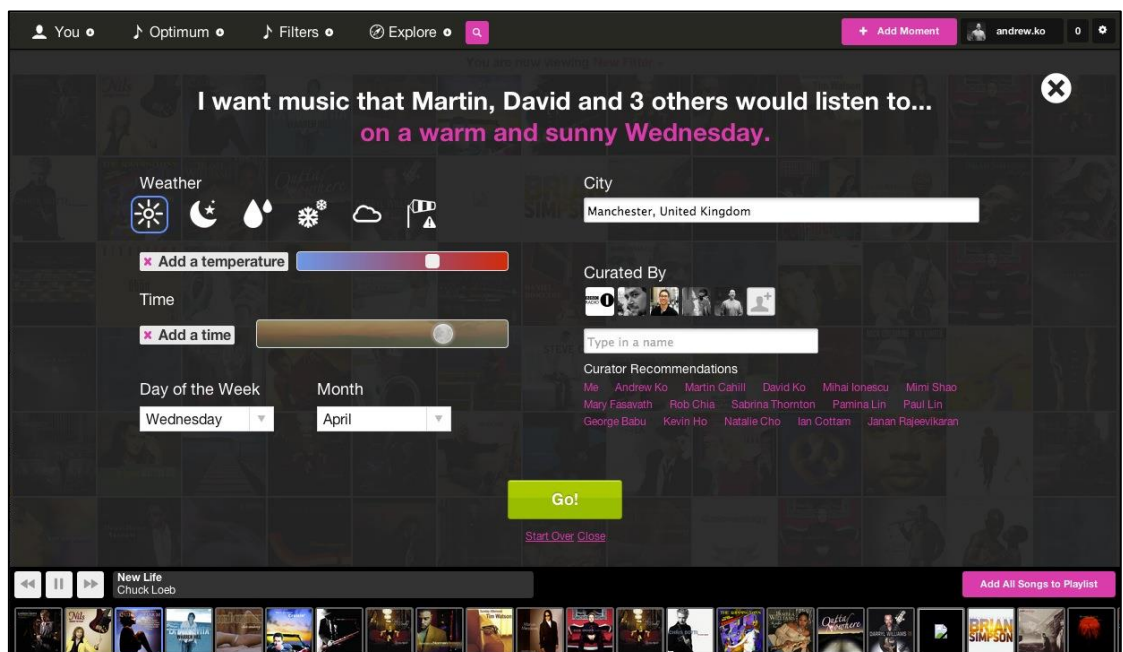


Figure 69. YLWM - Customized Filter environment

When the environment is complete, the user would press the *Go!* Button and the main moment page would change to reflect the suggested playlist for the environment that the user created. The message displayed in the status bar to the user is:

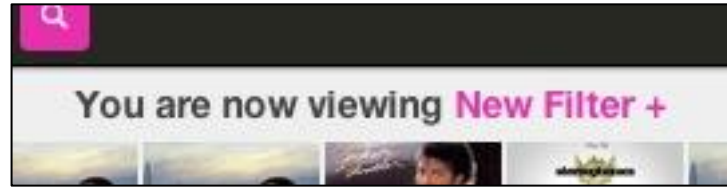


Figure 70. Filter status bar message

A future addition would be for the user to give this customized filter environment a name and save it in their list of favourites, but this feature was never implemented due to time restrictions and the list of saved favourites shown in Figure 68 was hard coded into the menu as examples.

The sentence in the first two lines of the Filter would change dynamically depending on the variables that the user selects. For example, if the user only selects *rain* as the weather and *Monday* as the day, the sentence would be:

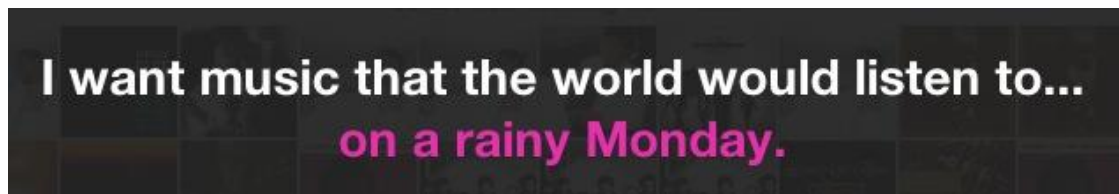


Figure 71. Customised Filter sentence with two variables selected

However, if David was added as a Curator and the temperature picked was 20°C, then the sentence would change to:

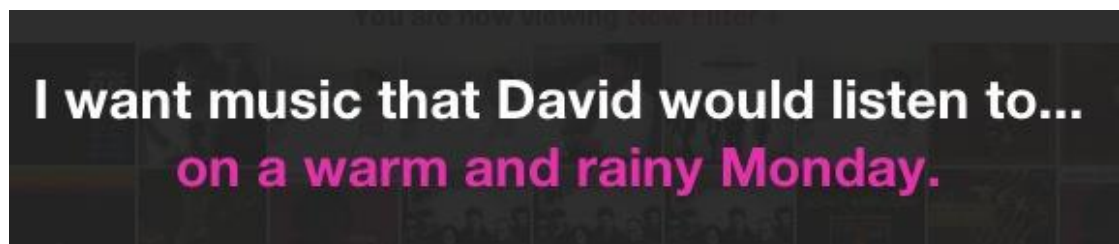


Figure 72. Customised Filter sentence with four variables selected

“Explore” menu option

This option allows the user to see all of the music moments with stories that were created in the YLWM community.

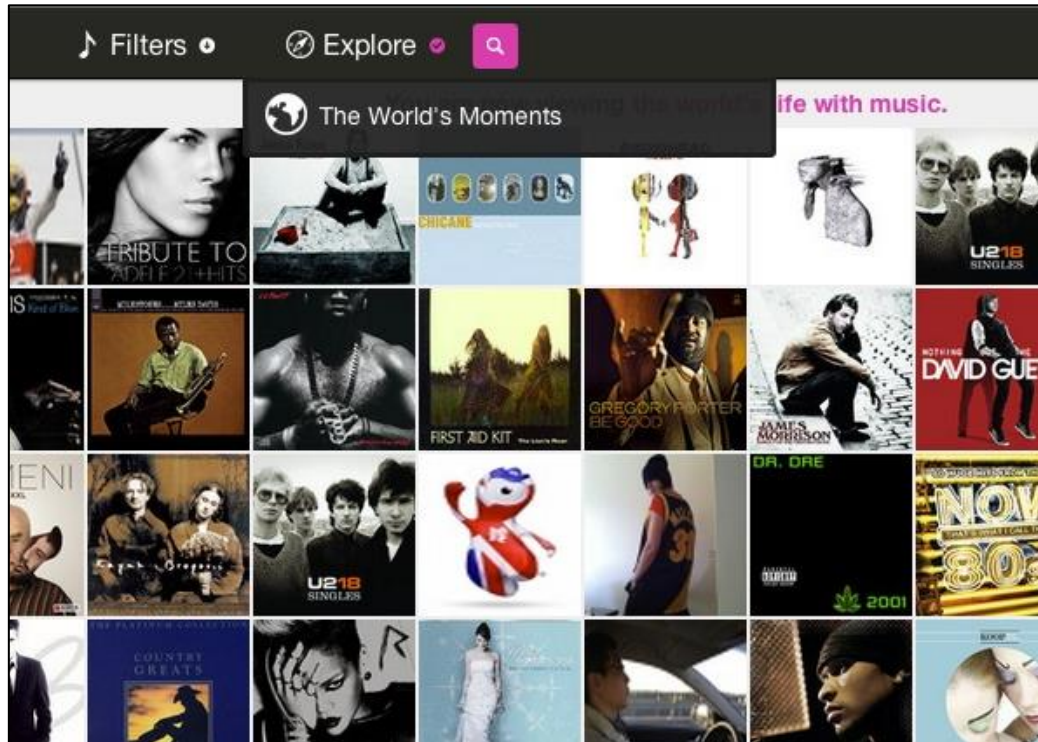


Figure 73. YLWM - Explore menu option

These moments are also the ones that are displayed every time the user logs into the community so this option can be considered the default view for the community. The user would see this message in the status bar once they clicked on this action:



Figure 74. "The World's Moments" status bar message

As you can tell from Figure 57 shown earlier, the status bar message above is the same as the one that greets the user whenever they log into the YLWM community.

Search Function

In order to help facilitate a greater connection among community members, we added a function that would allow a user to look for other users in the site so that they can connect with them either through adding them as a Curator or just to see their music moments. When the user clicks on search icon, they will be presented with the top 5 Curators in the community as a shortcut to adding popular members.

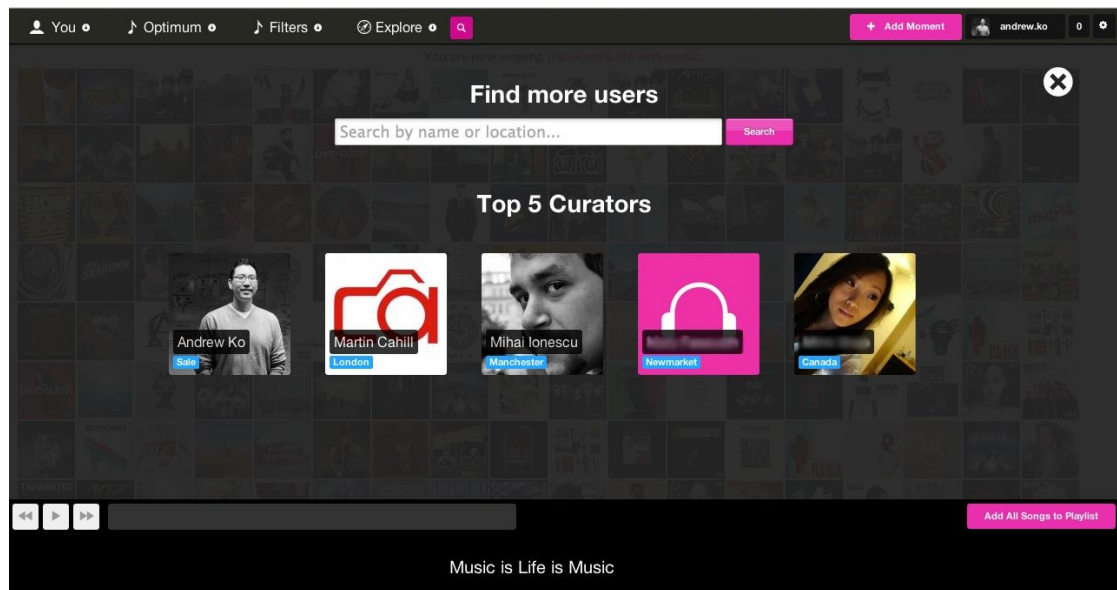


Figure 75. YLWM search main page

The user can then enter the name of the member he/she is trying to find or a location, which casts a wider search net but may be more relevant to a user if they can not find the specific person they are looking for. Below is the search result that turns up when the name “David” is entered. The search function looks through a member’s username, first name, last name and email address to find the keyword “David”.

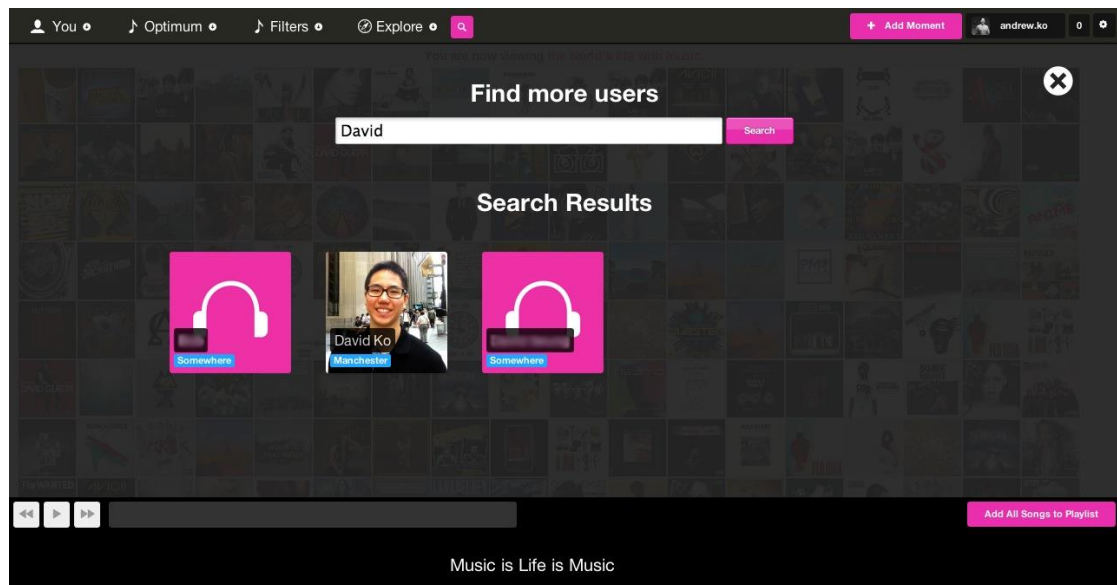


Figure 76. Search results for the name "David"

In terms of the search for a city, the user has the option of updating their profile information with the current city they are located in. This will be described in detail in the *Account settings* section of this cycle. A search for the city “Manchester” turns up the following results.

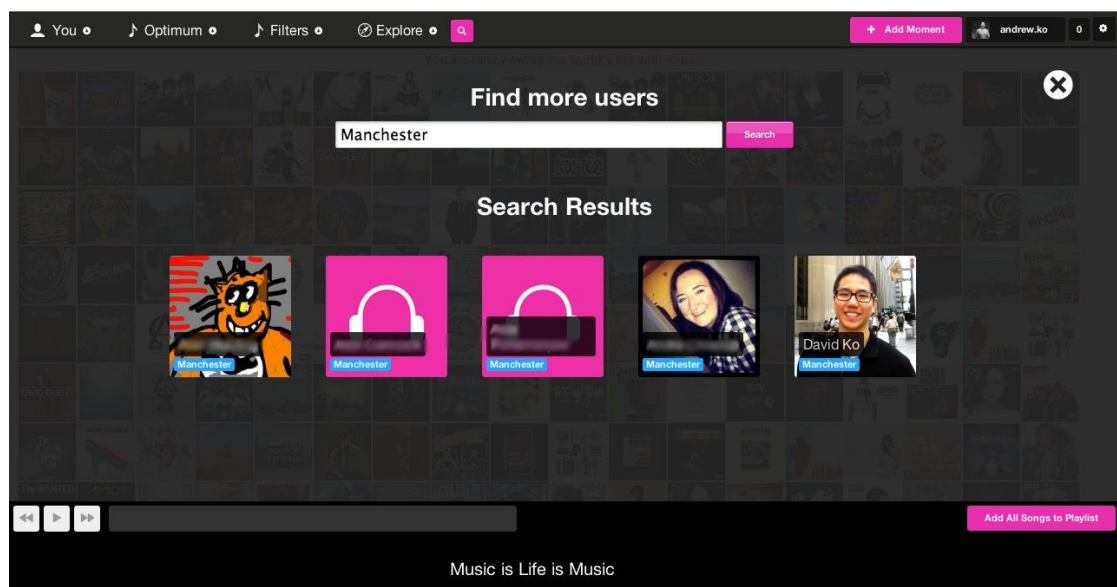


Figure 77. Search results for the location "Manchester"

Clicking on a profile picture will bring the user to that member’s profile page, which is explained in more detail later on in this section.

Adding a Moment

Based on the feedback we received for My Oopus, we decided to allow members of the community to add a music moment from within the YLWM website, which is something members did not have the capability to do in the My Oopus community, as this function was handled by the iPhone app. The main difference with this creation process, however, being that users could now create music moments that happened in the past because they had the ability to change the date. This could not be done in the iPhone app as every moment was stored with the current time, date and location the moment was created with no ability to change it. This design addition was in response to feedback received from the previous cycle.

The design of the moment creation process is similar to the format used for the Music Memory form in Cycle 1. The moment creation process is broken up into three sections; song information, context information and moment story.

Song Information

The user could search for the artist and the song title that reminded them of their significant moment with music. We used the iTunes search engine to power this section. If the song did not exist in the iTunes catalogue, the user would not be able to complete the process unless they picked another song.

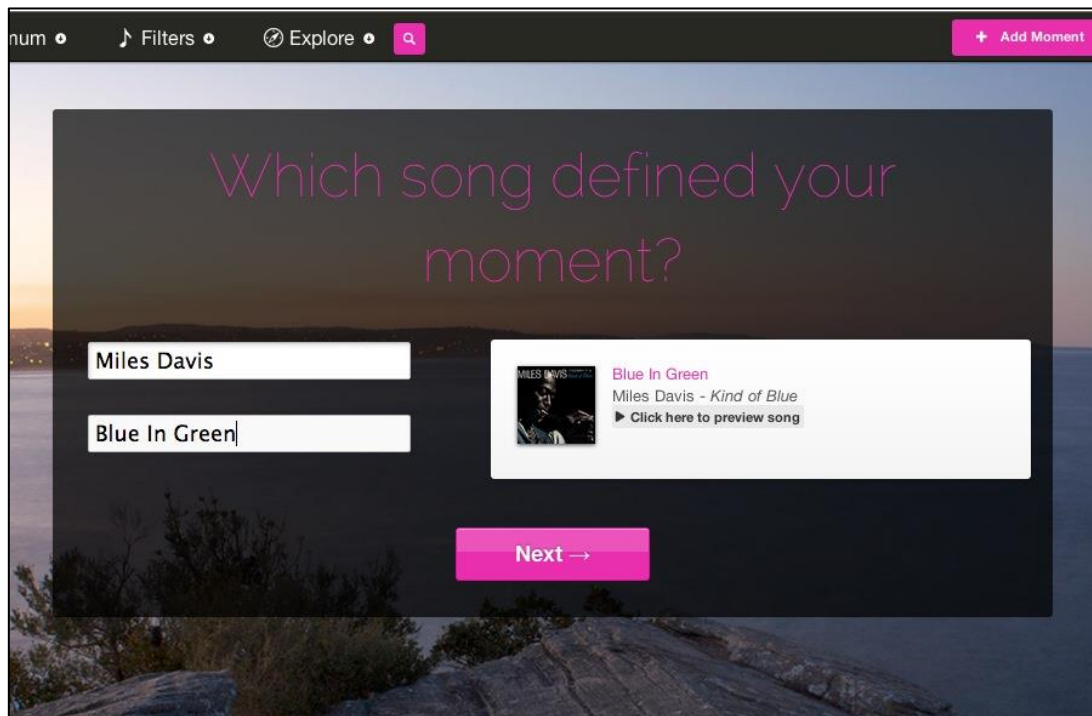


Figure 78. Adding a music moment – song selection

When the song was found, the user could listen to a 30-second preview from iTunes to ensure this was the correct song or to help remind them of their moment.

Context Information

Like the Music Memory form, the user was asked to input what they remember as the environmental context their memory happened in and all the inputs are required answers. The location search was powered by Google Maps, so the user had the option of choosing a specific place such as the Starbucks on Mount Street in Manchester. We had to allow for the fact the user might not fully remember the exact date their memory occurred on, so we included both a date picker or an alternate screen where the user could choose the season and a year. This was in response to some of the entries in the Music Memory form having this format (season and year).

What was the context?

Location
Starbucks Coffee Manchester – Mount Street, Man

Date
October 1, 2010 [I don't have an exact date](#)

Time of Day - Late Afternoon (03:00 - 17:59)

Weather - Cloudy

← Back Next →

Figure 79. Adding a music moment - context selection

The idea of allowing the user to choose time represented as periods was adapted from Mascia & Reddy (2006) and their Lifetrak system to help the user easily quantify the time they are thinking about in an abstract way. However, we divided the time intervals into eight different periods (early morning, morning, late morning, afternoon, late afternoon, evening, night and late night) whereas Mascia & Reddy only used four periods (morning, afternoon, evening, and night) (2006, pg. 28). Also, Lifetrak allows the user to configure the time limits that represent each of those periods whereas our system does not allow this level of customization. The user can then choose a weather category for their moment (sunny, clear, rainy, snowy, cloudy and windy) and press next to proceed to the next section.

Moment Story

This section provides an open text field for the user to type in the story for their music moment, as well as an emotion or keywords and an option to upload a picture from their computer. The story and keyword fields required at least three characters each for the user to be able to proceed to the next section. This was to act as a form of control over the quality of the moments being created in our system (ie. prevent someone from creating a moment with only two characters for the story). Although

this might not have been the best solution, as people could still create moments with “aaa” as the story and “aaa” as the keyword, but it was the quickest workaround the team could think of at the time given our current technical capabilities.

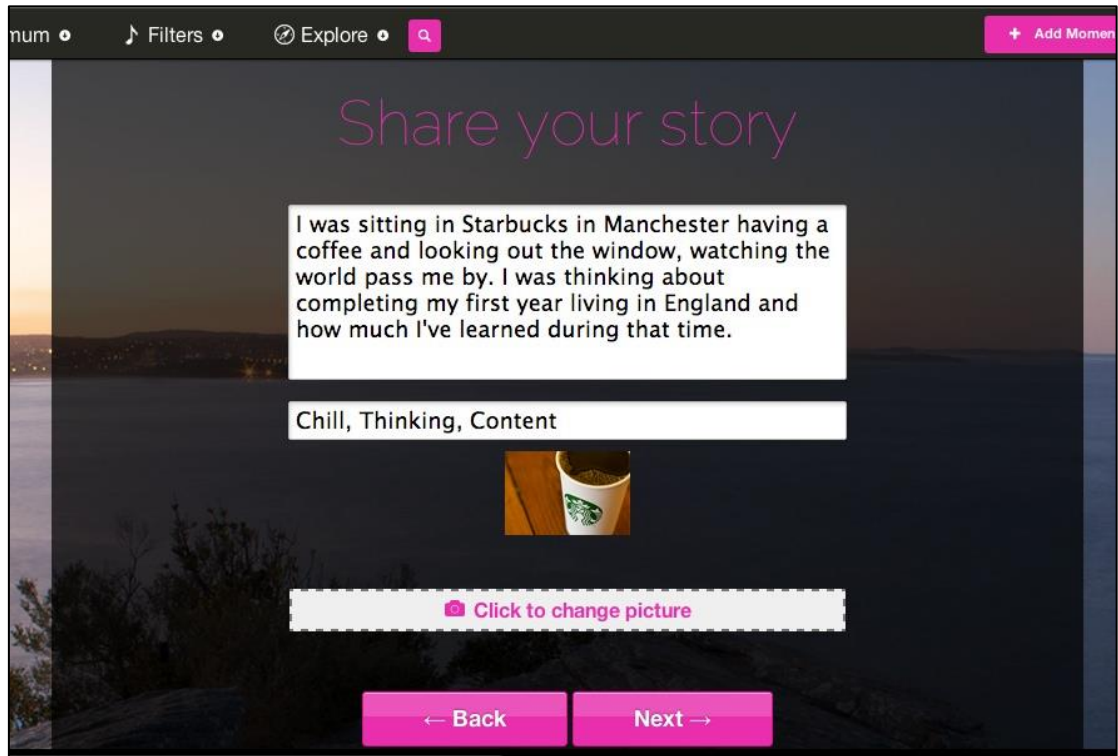


Figure 80. Adding a music moment - story section

The user did not need to upload a picture as the system would use the album art as the default moment picture when it is saved.

Moment Preview & Save

After all three sections are completed, the user can preview what their moment looks like before saving and displaying it to the rest of the community. We did not give the user the option to keep their moment private, as we did in the Oopus app, as we wanted to ensure that there is a constant flow of user-generated content for the community.

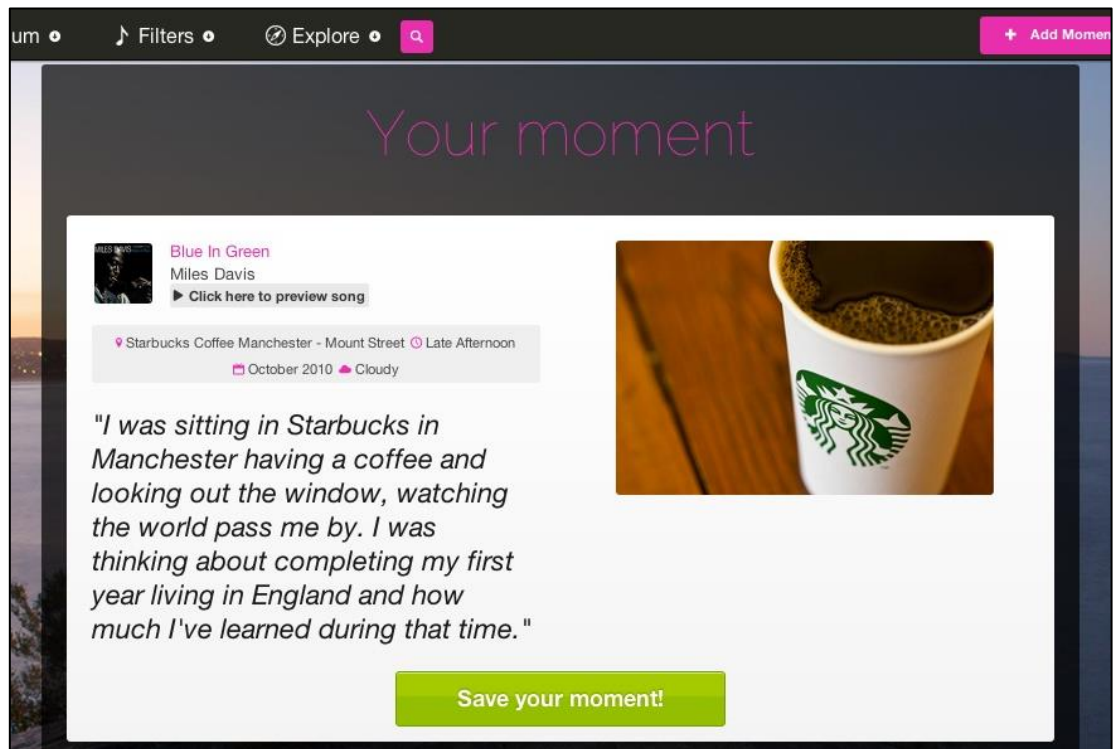


Figure 81. Adding a music moment - completed moment preview

Viewing a Music Moment

Music moments are shown to the user with a slide out panel from the right of the screen so as not to cover the entire moment main page so the user can select other moments to view instantly. The user can dismiss the moment panel by clicking on the “X” or pressing the ESC button on their keyboard.

All of the elements of a moment page from the My Oopus website are also in the moment panel for YLWM, just in a different format. The features of a moment are as follows:

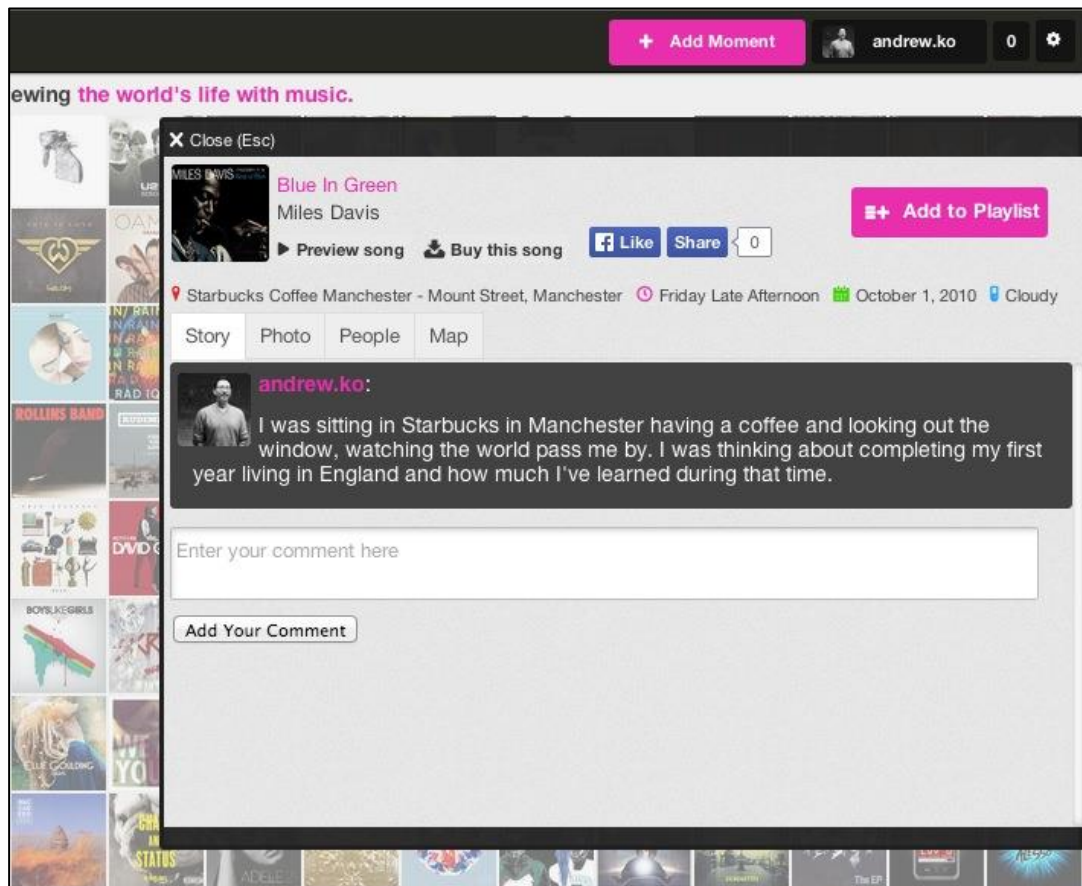


Figure 82. YLWM - Music moment story

User Information

The member's profile picture, username and story are all similar to My Oopus.

Song Information

The artist, song title and album art are again similar to the same section in My Oopus, however the album title was omitted due to space constraints in the panel design. The *Preview Song* button has now moved closer to the album art instead of hovering over the moment picture. The user now has the ability to buy the track from iTunes, which we were an affiliate of and would gain a commission for every track sold using YLWM. The user could also add the current track to their playlist, however this feature was never fully enabled due to time constraints.

Context Information

The contextual information stayed the same apart from adding the specific place name (if there was one) to the location and omitting the exact time the moment was created

and the temperature. Also, the context was displayed in point form rather than the sentence structure found in My Oopus.

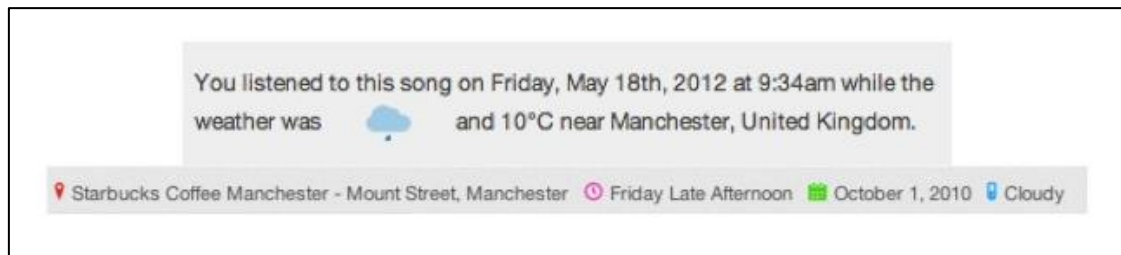


Figure 83. Comparison between My Oopus and YLWM for contextual information

Moment Picture

The main difference between the Moment Page in My Oopus and the Moment panel in YLWM are the tabs that represent the visual elements of each moment. In My Oopus, the moment picture was presented alongside the user, song and contextual information so everything is available at a glance. This was due to the available screen size for that moment page design. Due to the screen limitations imposed by the Moment panel design in YLWM, we needed to rethink how to display all the elements of a moment. The final decision was to allow the story and visual elements of the moment to be accessed through tabs, thus ensuring that each of these elements are not compromised due to lack of screen real estate. Therefore, the story tab is the default tab when a user opens a moment panel. The picture can be viewed by pressing on the Photo tab and the map of the location the moment took place is shown on an enlarged map, much bigger than the one used in My Oopus.

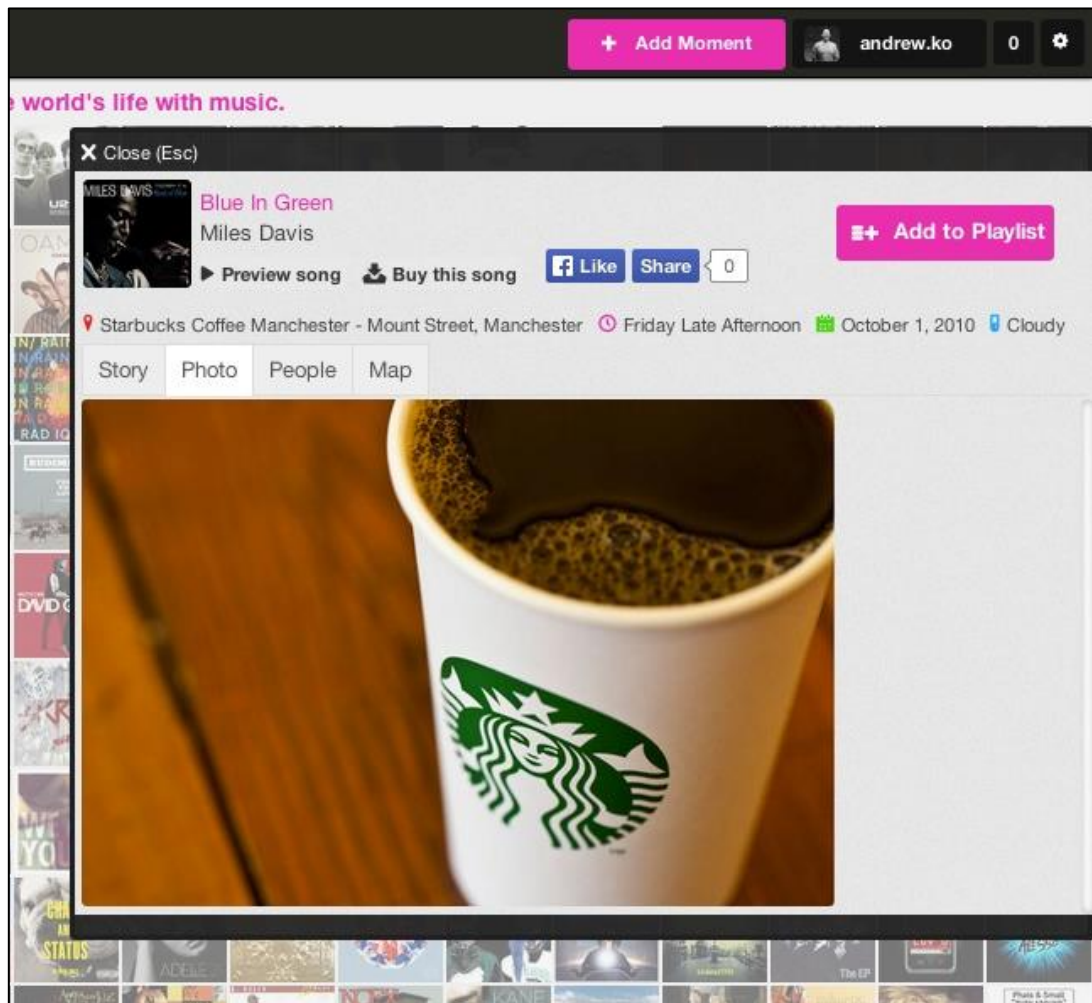


Figure 84. YLWM - Music moment picture

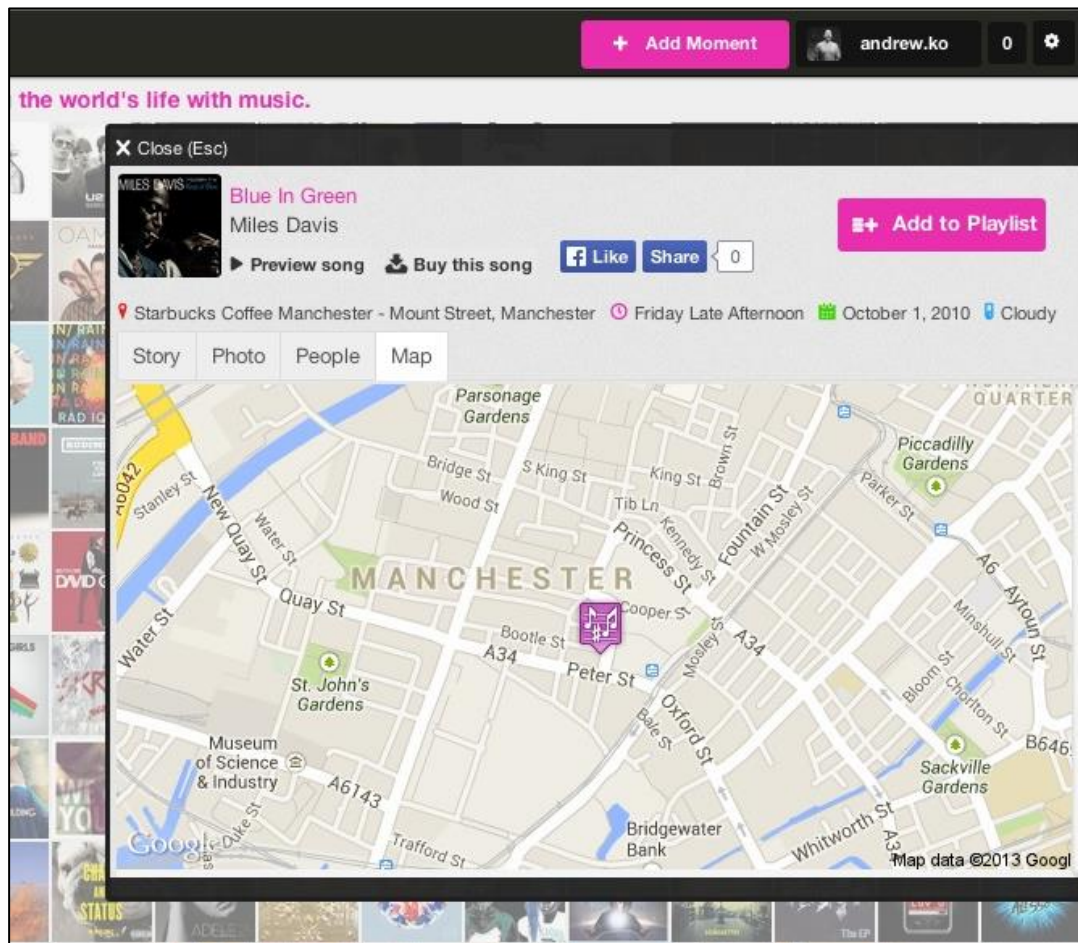


Figure 85. YLWM - Music moment map

The only tab that was not completed was the *People* tab. This tab was supposed to allow the user to add other members, who were present at the time their experience happened, to their moment. The ability to effectively “tag” friends to moments was supposed to help with the social aspect of the community, as they would see it on their music moment timeline as well. This feature was also supposed to satisfy the perceived normative pressure determinant in Sledgianowski and Kulviwat’s SNSA Model (2009). However, due to technical constraints, we were not able to implement this feature.

Social features

There were social features added to the moments in YLWM that were not present in My Oopus, which were connections to Facebook through Liking or Sharing a moment onto a user’s Facebook wall. Figure 86 shows the dialogue box that appears when a user presses the “Share” Facebook button in the moment panel. The user then has the

chance to write a custom message before posting the moment onto their Facebook Wall. Figure 87 shows the resulting music moment post on Facebook.

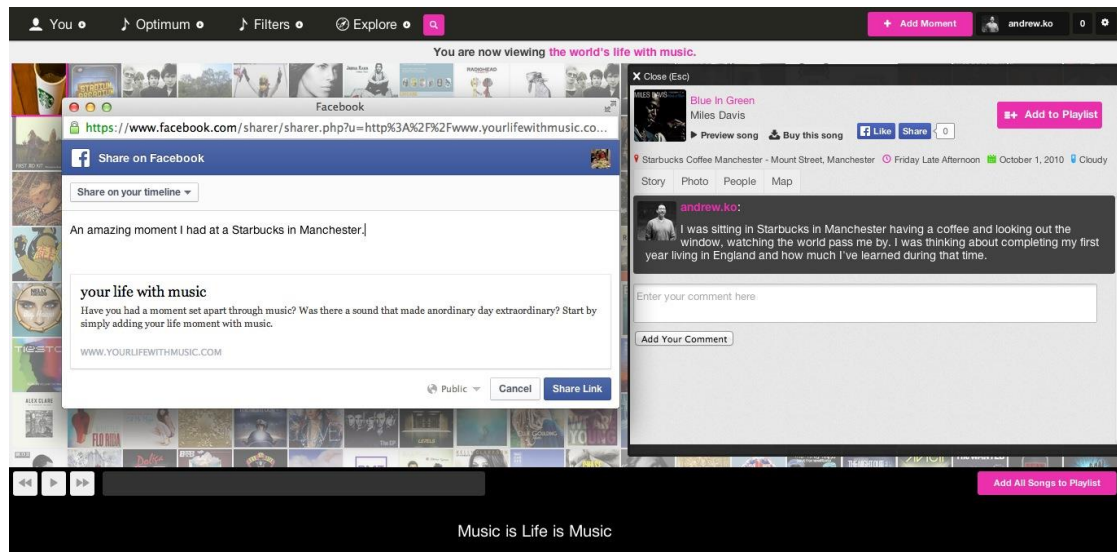


Figure 86. Facebook share dialogue box for YLWM music moment



Figure 87. YLWM music moment post in Facebook

Now, because YLWM was not like My Oopus in that the music moments were only available to registered users of YLWM, it created an interesting dilemma that we had to solve. This dilemma was in the form of a question: What happens when someone from Facebook clicks on a music moment Wall post and is not a registered user of YLWM? How will they get to see the moment? This was an interesting problem, and one that could potentially derail our social networking visibility ambitions. The problem was compounded because each moment was contained in a moment panel, rather than having its own Internet address (commonly referred to as a uniform

resource locator or URL), like the ones in My Oopus. The solution is shown in Figures 88 and 89 below.

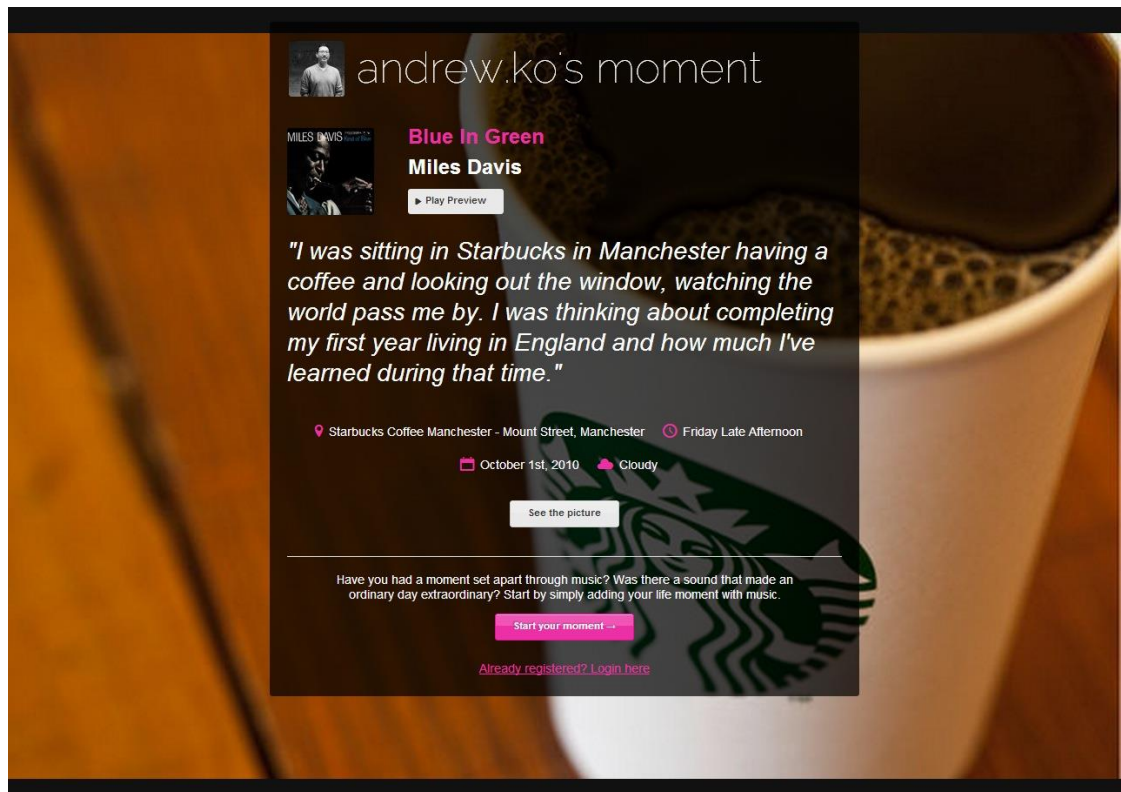


Figure 88. YLWM music moment link from Facebook with story showing

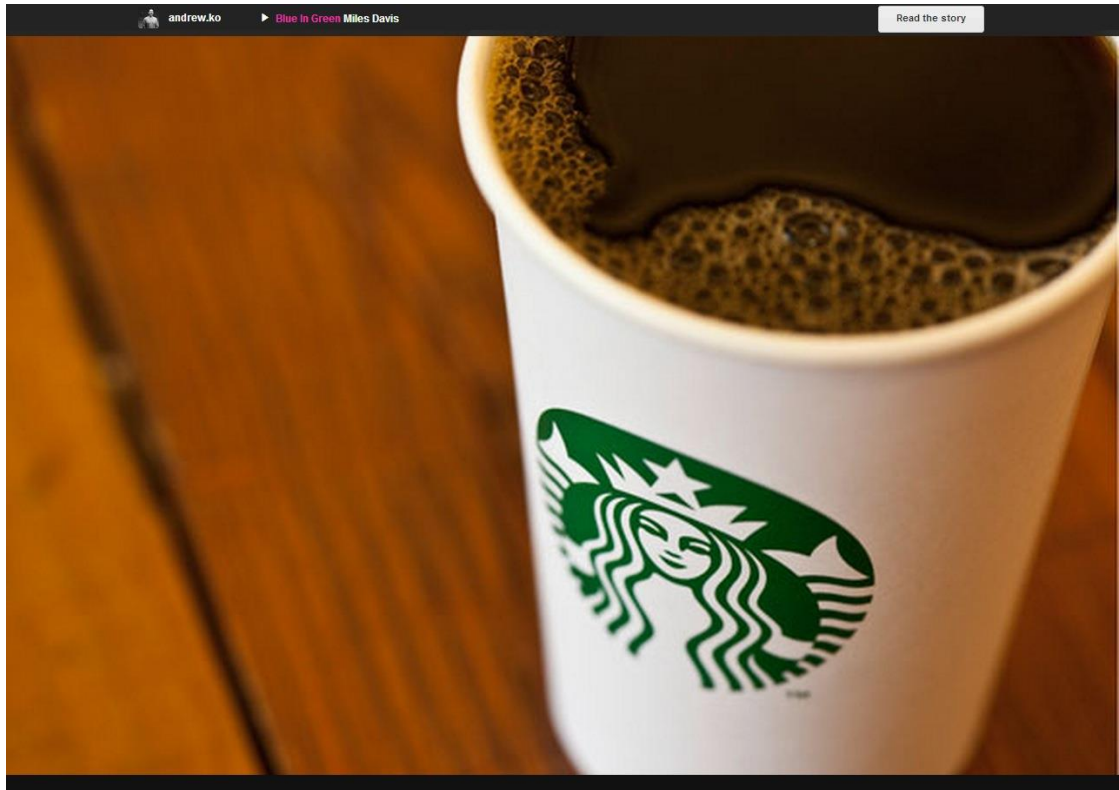


Figure 89. YLWM music moment link from Facebook with picture showing

We ended up creating individual webpages for each music moment that could only be accessed through a Facebook Wall post. The biggest problem we had was figuring out how to show both the moment picture and all of the contextual information associated with it. The solution was to add an overlay on top of the picture that contained all of the moment information. However, if the user wanted to have an unobstructed view of the moment picture, they could click on the “See the picture” button and the information would shrink to fit into a status bar that only shows the user’s profile picture, the song title, the artist and the play preview button. To go back to the previous view, the user would have to press the “Read the story” button.

These features were added in Summer 2012, approximately 4-5 months after we started building the community, and were used to help promote YLWM onto other, more popular social network in the hopes that it would draw more people to the music community and help it expand. This actually helped increase the number of users when it was implemented, which will be shown and discussed in the Results section of the thesis.

User Profile

When the user clicked on their profile picture, detailed information regarding their user account were displayed. These included their top listened to artist and song, the latest moments they've created, the most viewed moment they created, the list of the people they are following and who they are being followed by, as well as options to see the user's life with music and to see what music they would listen to right now. The data came from the user's desktop and iPhone app usage and basic calculations were made in the database. This page was designed to allow the user to see what kind of information we were collecting from them, in the form of basic statistics, as well as a general interest page of the listening preferences of members in the community.

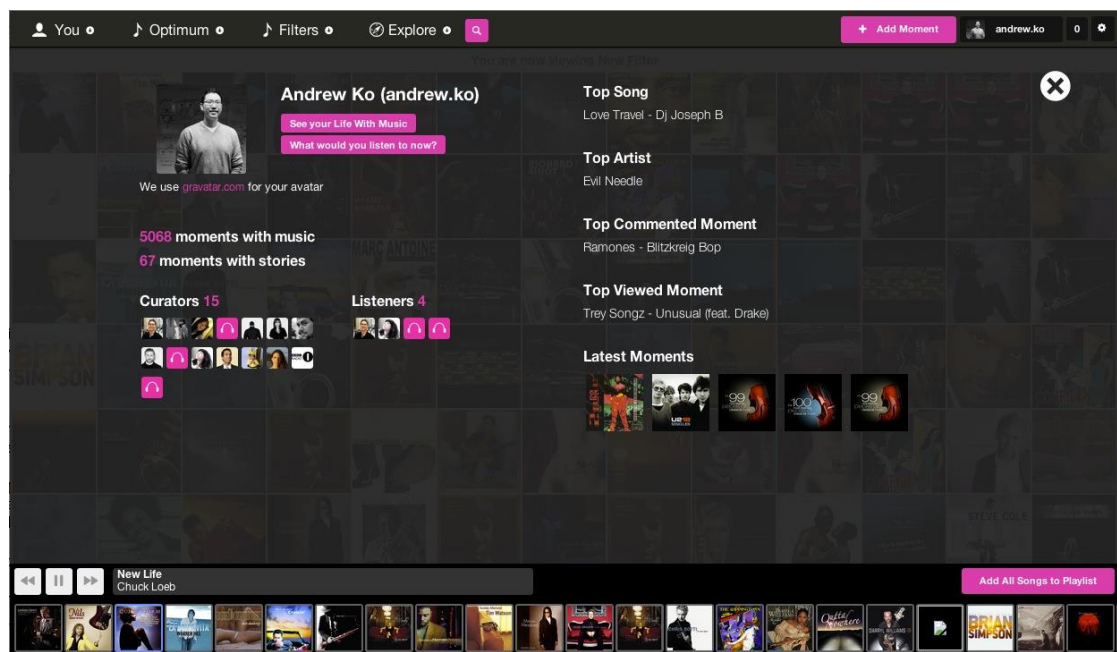


Figure 90. YLWM user profile page

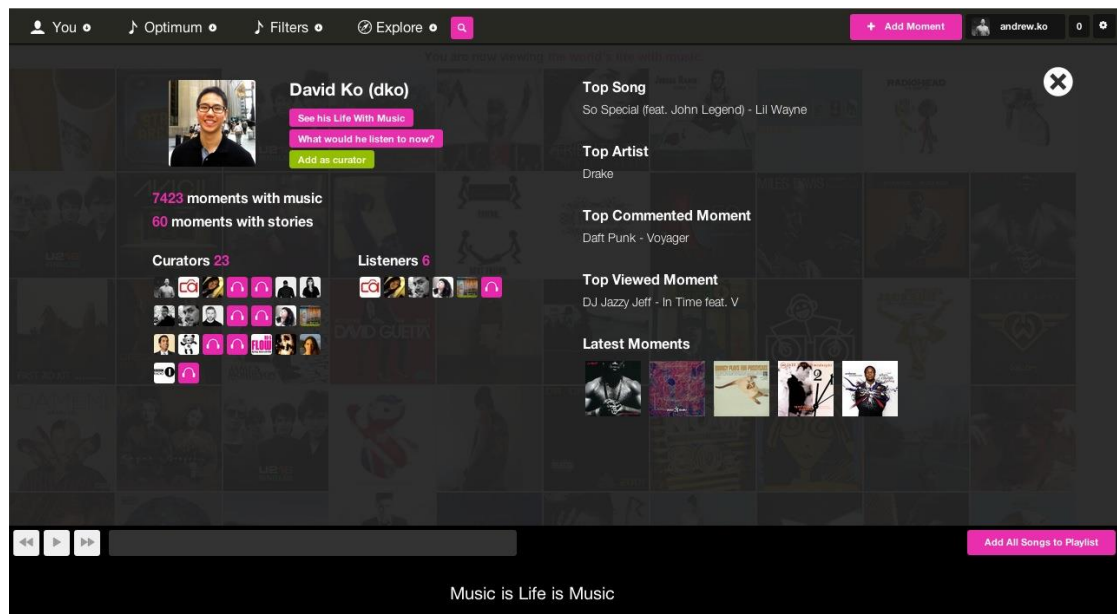


Figure 91. David's YLWM Profile page

Account Settings

Users were also given the ability to change some of their account settings by clicking on the “gear” icon in the upper right hand corner of the website. This would bring them to their account summary screen and the ability to update or edit their account with additional information. This was useful, as the registration page did not ask for a user’s nationality or current city, as there would be too many questions involved. However, filling in these additional details is useful for searching a particular person or location.

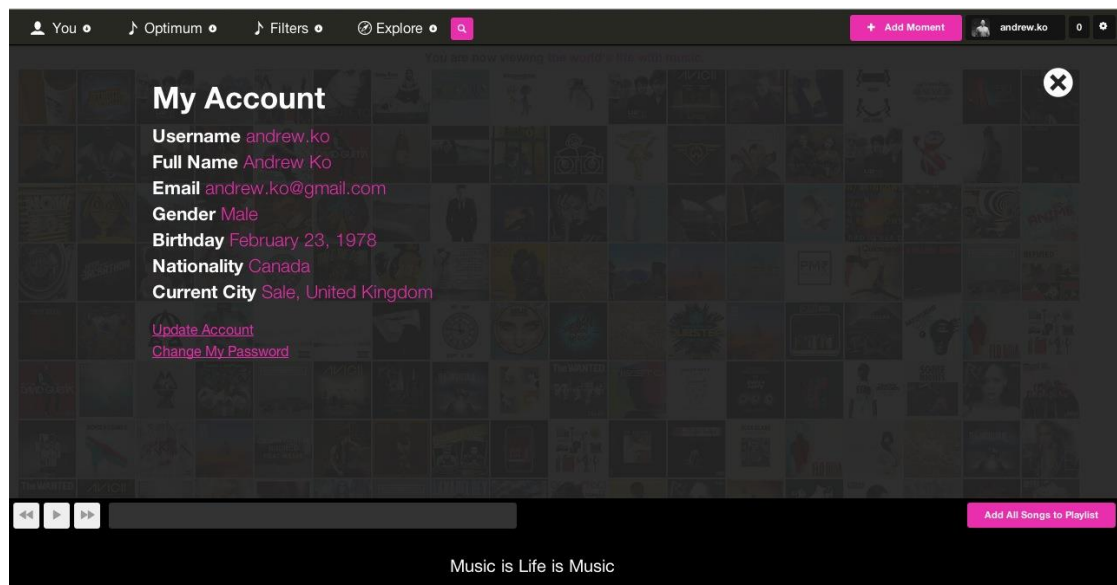


Figure 92. User account settings page

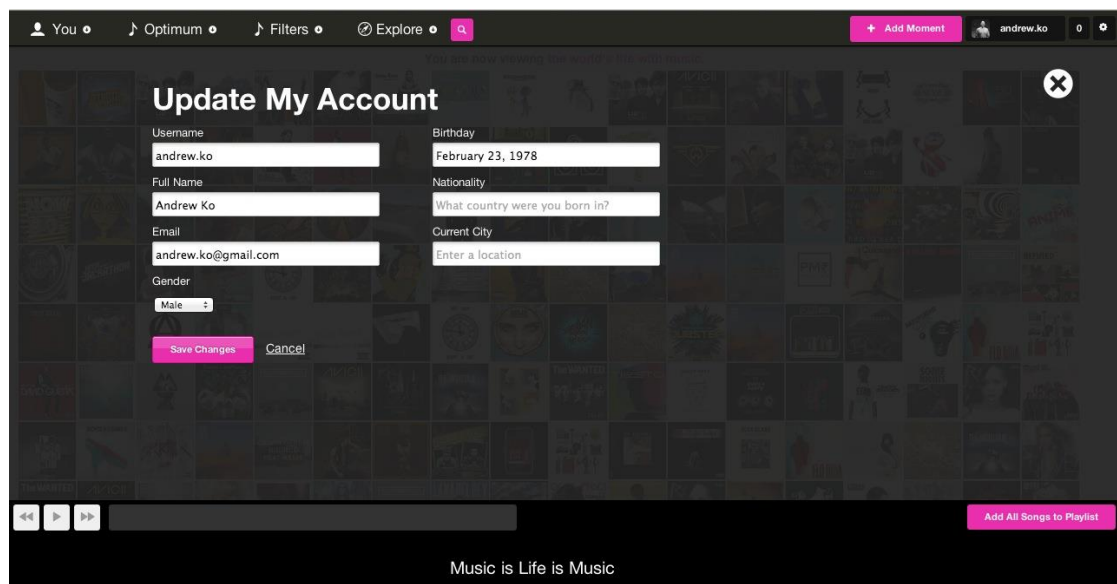


Figure 93. Updating user account settings

Notifications

A notification system was implemented so that users could monitor the activity that was happening with the members they were following in the community in real-time. This was utilized to allow the user to sense that activity was happening in the community as it happens, rather than the user feeling as though they are the only ones participating in the community at any one time. This was also found in the results of a study conducted by Millen and Patterson (2002, November), as their findings suggest that “a notification alert service is an important design consideration for a community

network” (pg. 312) as well as with Sledgianowski and Kulviwat (2009) who stated that it is important for a social network service to continue to implement methods that “enforce the perception that a critical mass of like users is using their service” (pg. 80).

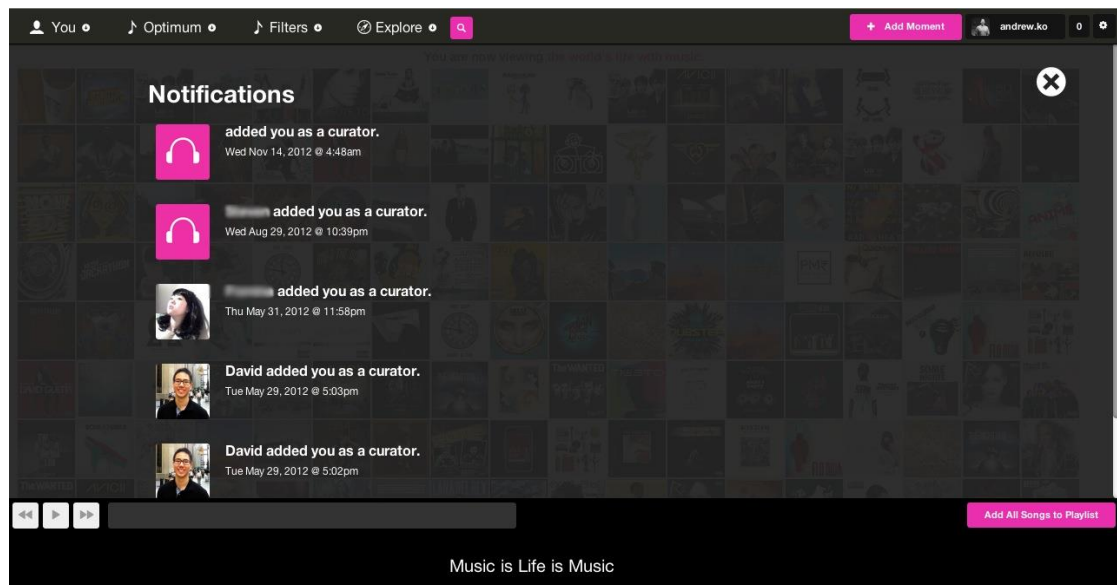


Figure 94. Notification screen

YLWM Desktop App

Because we still needed to collect data on users listening preferences, we decided to rename the desktop app to YLWM and make it available to download straight from the YLWM community itself. Members could download this app to their computers and start collecting listening statistics in iTunes, which they could then view in the community. This option could be accessed through the settings “gear” icon in the upper right hand corner of the website.

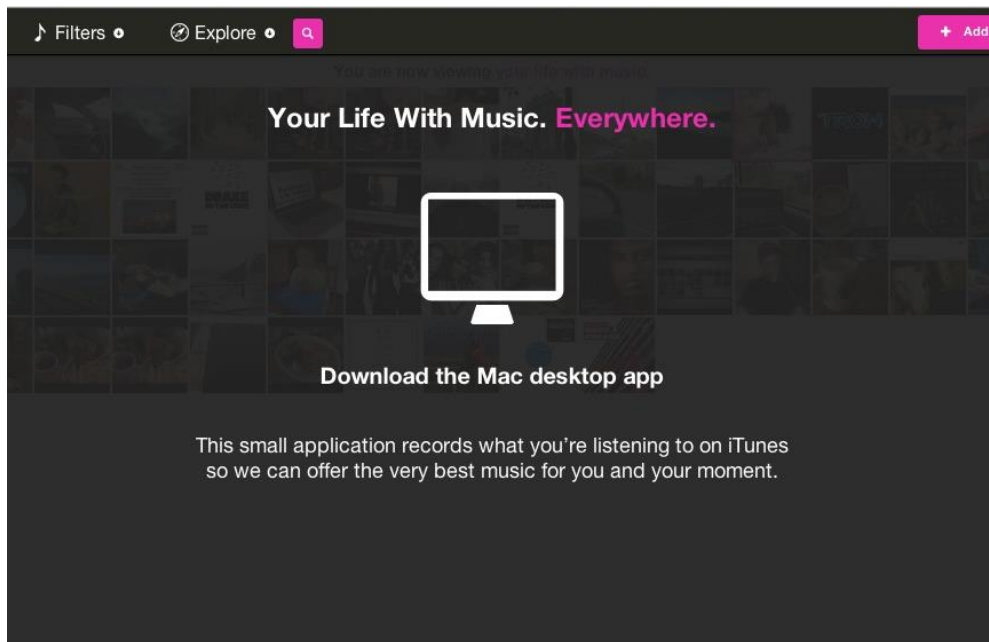


Figure 95. Oopus Desktop App download screen

Oopus iPhone App Redesign

With the design emphasis in YLWM shifting to a more “moment-centric” approach, and the ability to view listening preference statistics from within the community, a decision was made to also redesign the existing Oopus iPhone app to reflect this new visual direction.

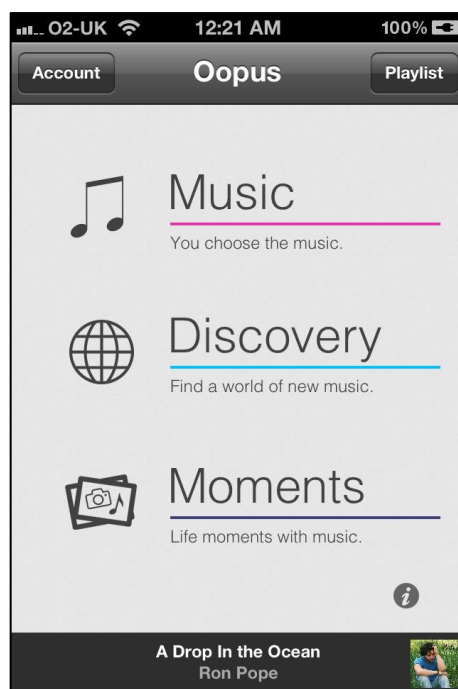


Figure 96. Oopus iPhone prototype v3.0 (July, 2012)

Users of the Oopus iPhone app were still able to use it, but we encouraged those who did to transition over to YLWM to create moments and be active in the community, as the moments created in the existing iPhone app would appear in My Oopus and not YLWM. This shift towards YLWM and the desktop app is reflected in the drastic drop in data collected from the iPhone app since the launch of YLWM, which is presented in the *Results* section of this cycle.

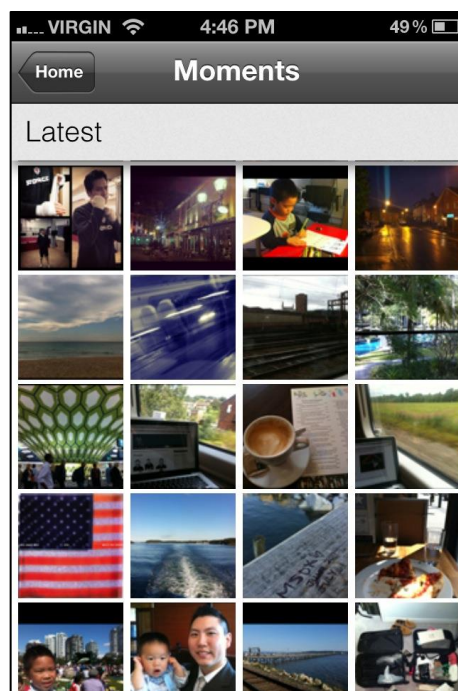


Figure 97. Oopus iPhone prototype v3.0 – Moments view

The options that were included in the new design were made to mimic the features in YLWM. There was the ability to view the latest moments from the YLWM community from within the app and the ability to create and save Filters to automatically generate playlists within a customized virtual environment.

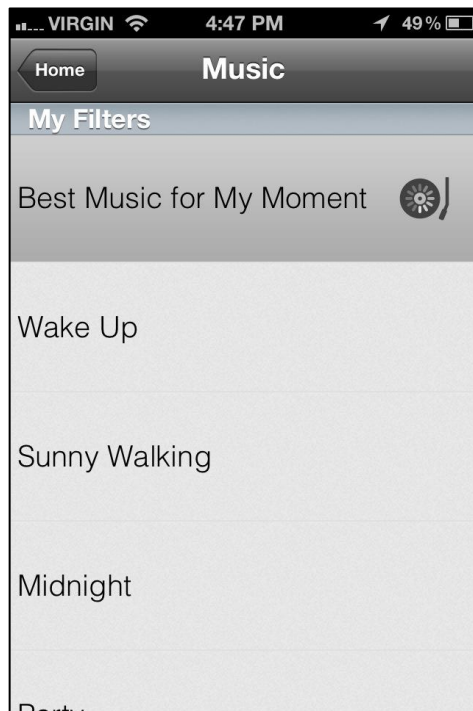


Figure 98. Oopus iPhone prototype v3.0 – My Filters

Unfortunately, the redesigned iPhone app was never launched due to a change in direction in the next cycle and increasing workloads for both David and Mihai in maintaining the YLWM community.

RESULTS (Cycle 3)

As stated earlier, only statistics from the unique users who registered after YLWM went live (after January 19th, 2012) were used in this analysis as My Oopus and YLWM used the same database to store the information for cost saving reasons. The demographic information of YLWM respondents can be found in Appendix D.

User Statistics

Growth

The total number of unique users within the YLWM community was 47, and the last new user joined 307 days after the launch of the website. There were two major increases in the growth of new users; the first occurred between days 35 to 40 when we increased the number of users from 8 to 14, inviting some of our close friends and

family to try the website and give us feedback on how we could improve. The second growth increase occurred between days 116 to 139, when the user base grew from 19 users to 40. This growth occurred after we finished implementing the Facebook social features. From the data, I know that none of the new users from this time period were any of the Oopus team's family members. However, what is not clear is how these new users were made aware of the community, whether it was seeing a YLWM Facebook post made by one of our existing members or still through word of mouth advertising from our close friends.

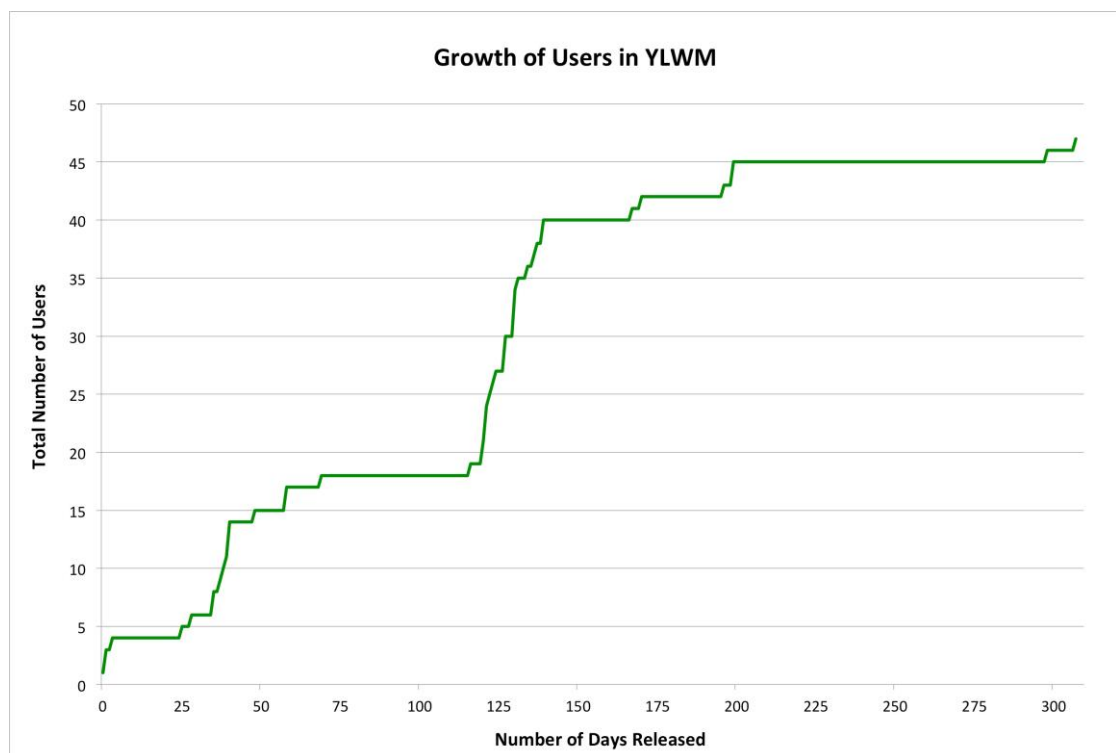


Figure 99. Growth of users in YLWM

Comparing the growth of the two music communities, the number of users of My Oopus actually surpasses that of YLWM, 110 days after each community is launched. However, both websites are level with 24 users after 121 days and YLWM eventually surpasses My Oopus again the next day with 25 users. The growth of My Oopus during this time was due to the launch of the community to new users, while in YLWM, we were still working on adding new social features to the community. When YLWM surpasses My Oopus in terms of the number of users, this was when we finally implemented the Facebook Like and Share features and is shown in Figure 100 below.

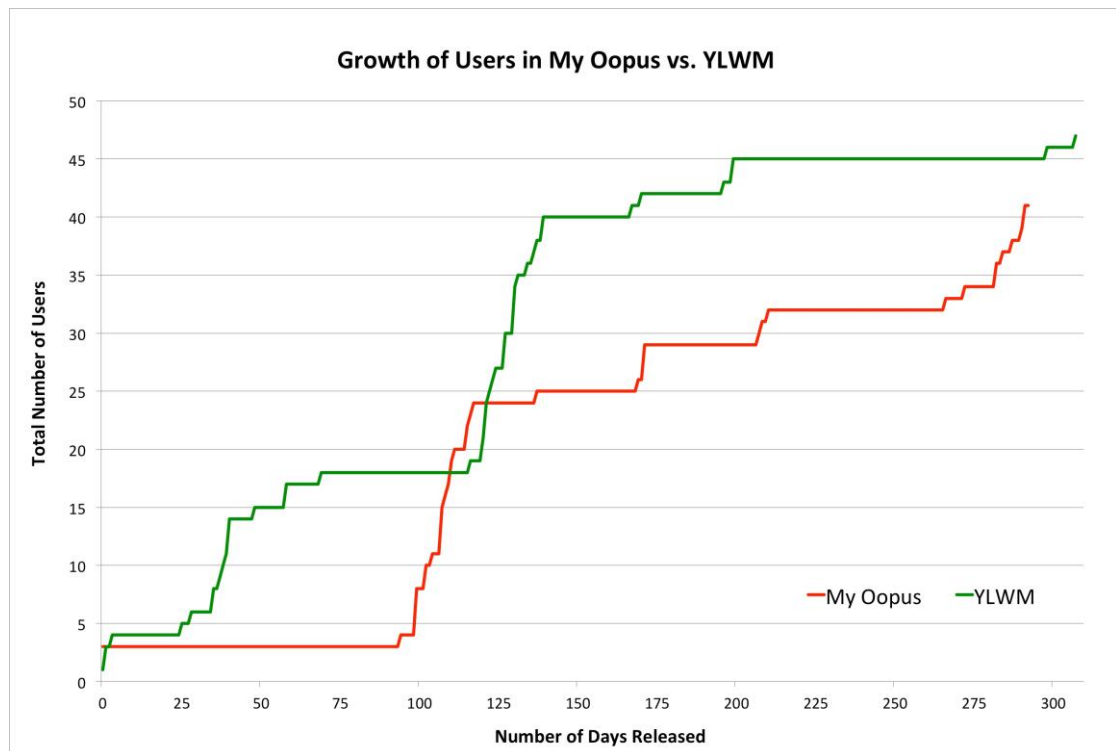


Figure 100. Growth of users in My Oopus and YLWM

Community	Number of weeks (days) since launch of community						
	1 (7d)	2 (14d)	4 (30d)	8 (60d)	16 (120d)	32 (240d)	52 (365d)
My Oopus	3	3	3	3	24	32	41
YLWM	4	4	6	17	21	45	47

Table 12. Comparing the growth of users for My Oopus and YLWM

There is no overlap of users between the My Oopus and YLWM communities as stated earlier, therefore all of the users are exclusive to their own community.

Demographics

Out of the 47 users in the YLWM community, 14 were female and 33 were male. Compared to My Oopus, there was an increase of 7 males and a decrease of 1 female. The average age of the females within YLWM decreased slightly from My Oopus, from 30.6 to 29.6 years and the median age decreased by 2 years, from 29 to 27 years old. In males, the average age was slightly lower in YLWM than My Oopus (34.1 vs. 35), while the median age was identical in both communities (35 for YLWM and My Oopus).

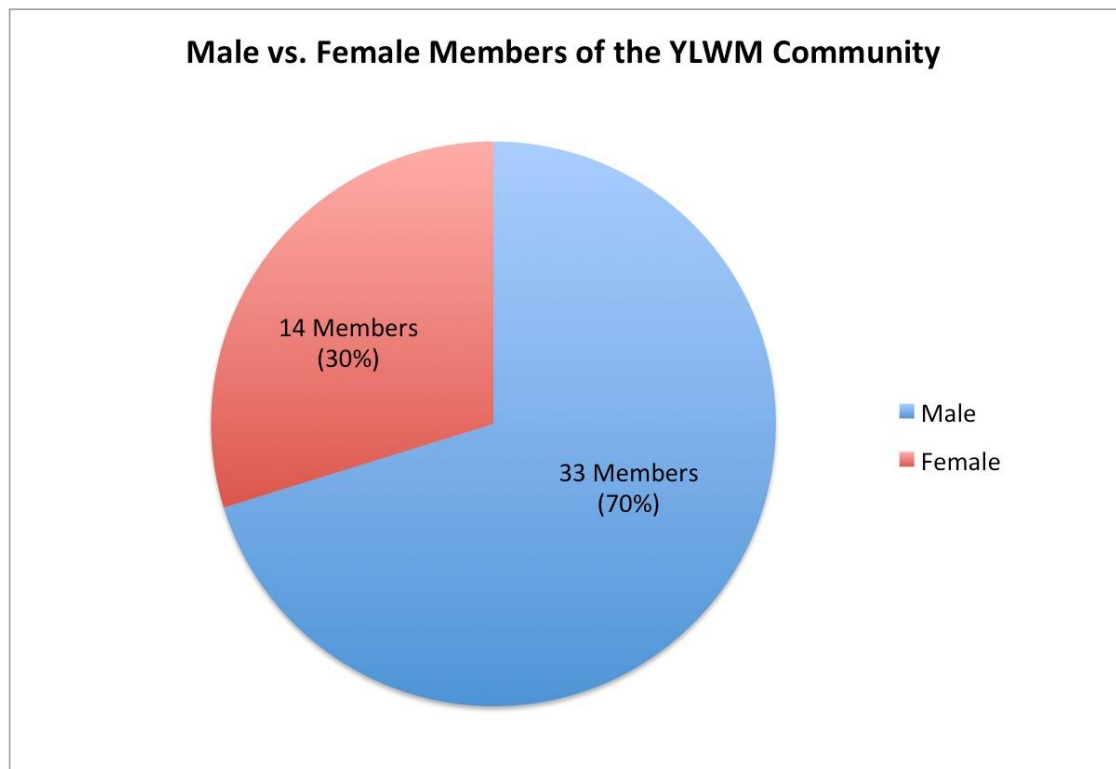


Figure 101. Breakdown of genders in the YLWM community

Community	Gender	Total Number	Median Age	Average Age
My Oopus	Female	15 (37%)	29 years old	30.6 years old
YLWM	Female	14 (30%)	27 years old	29.6 years old
My Oopus	Male	26 (63%)	35 years old	35 years old
YLWM	Male	33 (70%)	35 years old	34.1 years old

Table 13. Comparison of age breakdown between My Oopus and YLWM members

The *current city* field was not a required question that needed to be answered in the YLWM registration process, but could be entered in as an option in the user account settings page. However, not everyone that used the community entered in a city either because they did not know where to enter it (could not find the account settings page) or that they did not enter it due to privacy concerns. Out of the 47 total users in YLWM, 11 people did not enter in a current city. From the 36 users who did enter in a location, the majority again lived in the United Kingdom or Canada (with 14 users each). This is similar to the top two locations from users in My Oopus as well, and the same reasons apply to YLWM. As the majority of the team is from Canada (myself and David) and three of us live in the United Kingdom full time (myself, Martin and Mihai), it makes sense that the majority of users would be currently living in either of

those two countries as that is where our support network (ie. family, close friends) are located.

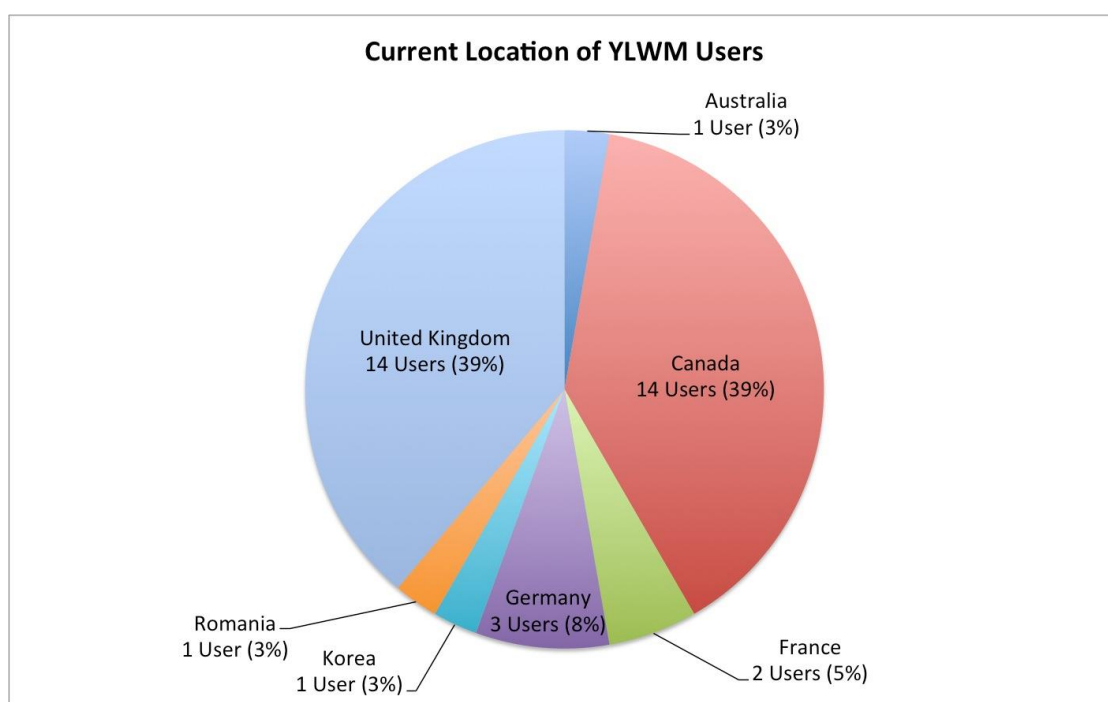


Figure 102. Current location by country for YLWM users

User-Generated Content

Music Moments Growth

There were a total of 166 music moments created in YLWM with the last moment being created on December 25th, 2012, which was 358 days since the launch of the community. There were two periods of significant growth of moments within the system. One occurred on day 79, with the number of new moments entered on that single day being 12, to increase the total number of moments from 22 to 34. The second occurred on day 171, when 17 moments were created, raising the total from 72 moments to 89. These two growth spikes are different than the previous music community because they both happened on a single day, whereas in My Oopus the two large gains in total moments happened over the course of a few days.

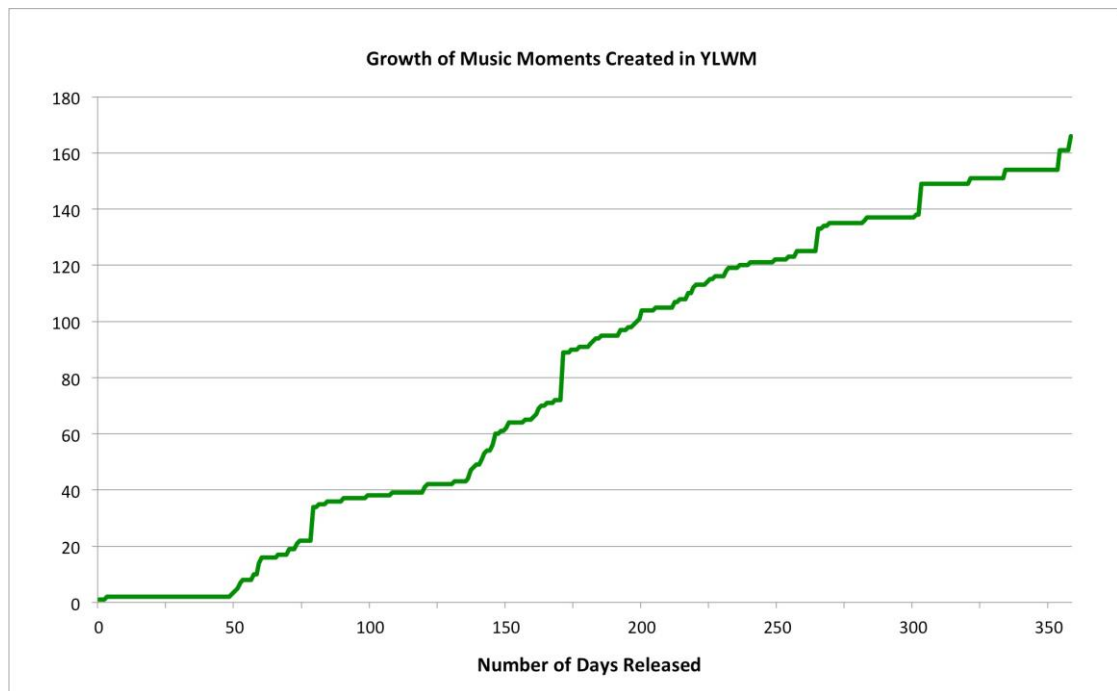


Figure 103. Growth of music moments created in YLWM

The two increases for music moments created in YLWM correspond to a period of time after a significant increase in new users joined the community. Thus, these users may have felt the need to familiarize themselves with the system before being compelled to create moments or that it took a certain amount of time looking at other people's music moments before their own memories were stimulated enough to create moments themselves.

Comparing the growth of total moments in the two communities, it seems as though YLWM has a more consistent growth curve, whereas My Oopus grew only in certain periods of time. The fact that the My Oopus community actually consisted of three separate elements; the iPhone app, the desktop app and My Oopus may help explain this. The user experience for Oopus in Cycle 2 is spread out over two main elements, the iPhone app and the My Oopus website. This could lead to a disjointed journey for the user, as they would have to create moments on the iPhone while viewing the community on the Internet. YLWM is supposed to encompass both elements in one website, leading to a more unified experience for creating music moments overall. However, I realize that the sample size I am referring to is small and that no generalizations can be made from this data. I am only using it to help further shape my inquiry into the topic of this thesis.

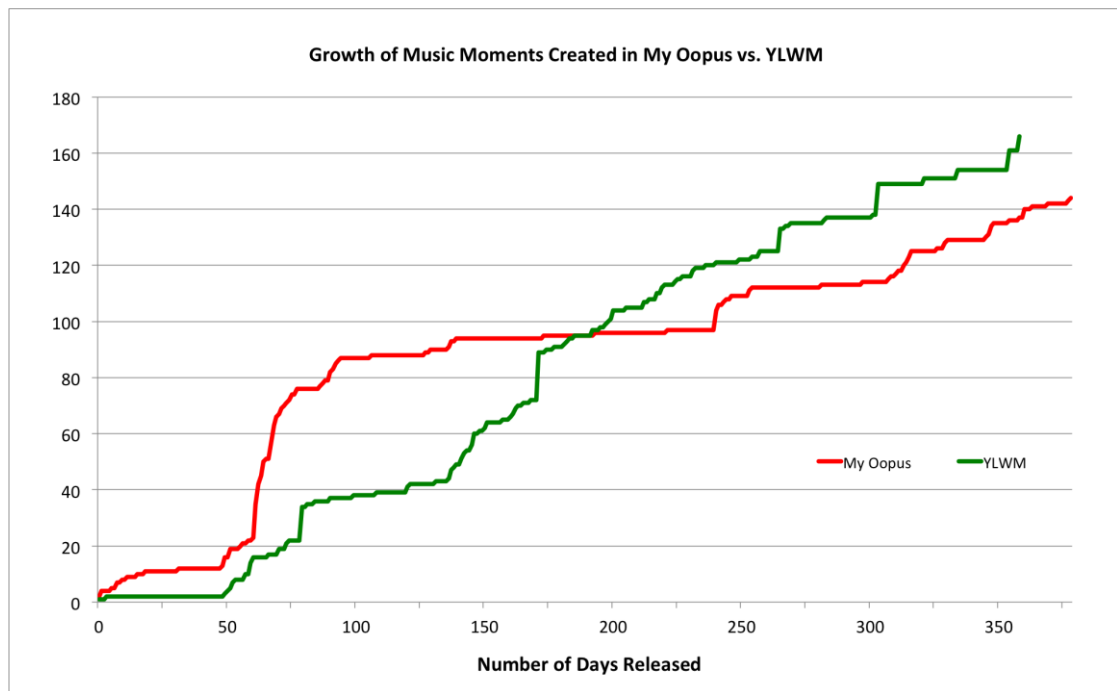


Figure 104. Comparison of the total number of music moments created in My Oopus vs. YLWM

Community	Number of weeks (days) since launch of community						
	1 (7d)	2 (14d)	4 (30d)	8 (60d)	16 (120d)	32 (240d)	52 (378d)
My Oopus	7	9	11	23	88	104	144
YLWM	2	2	2	16	41	121	166

Table 14. Comparison of growth of moments between My Oopus and YLWM

Moments with Pictures

The total number of moments with pictures in the YLWM community was 33 (19.9%), while 133 moments did not have a picture (80.1%). This lends support to the feedback we received regarding the decision to only allow users to find pictures located on their computer hard drive, rather than on the Internet through a social network such as Facebook.

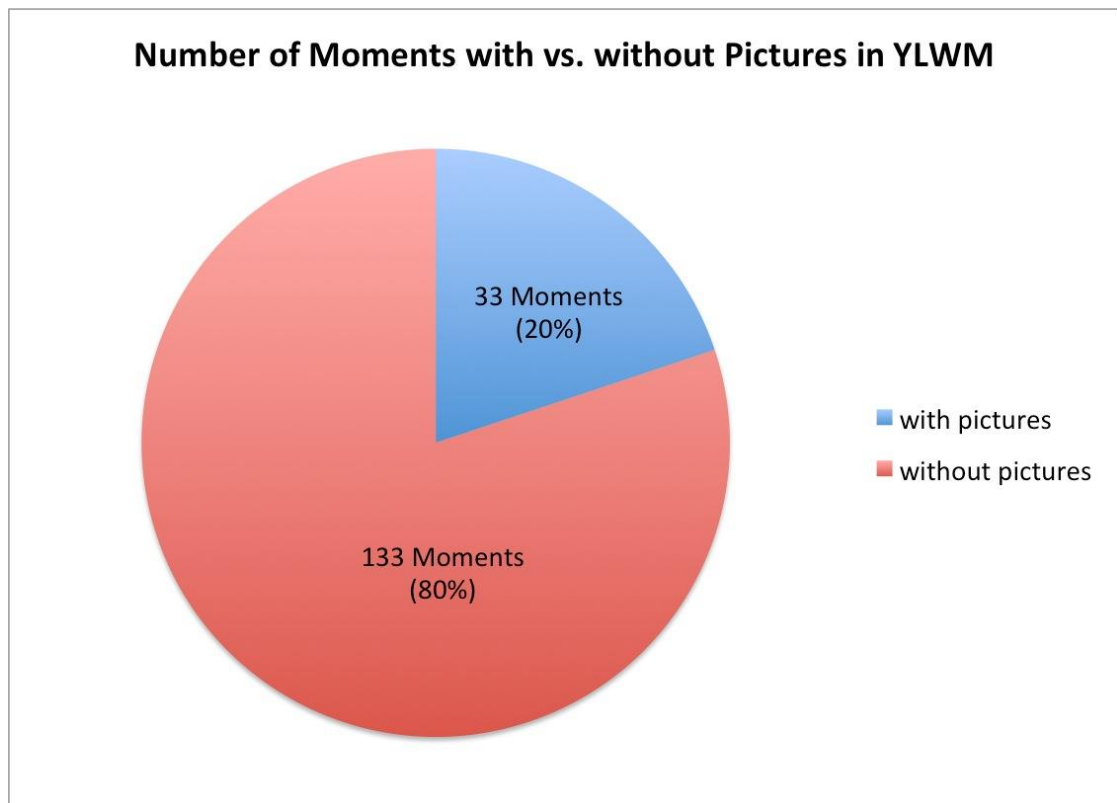


Figure 105. Number of moments with vs. without pictures in YLWM

Community	With Pictures	Without Pictures
My Oopus	91 (63%)	53 (37%)
YLWM	33 (20%)	133 (80%)

Table 15. Comparison between My Oopus and YLWM for moments with and without pictures

Comparing these numbers to My Oopus reveals a significant gap between pictures attached to moments. For My Oopus, there were a total of 144 moments, 91 (or 63.2%) had pictures because the moments were created on the iPhone and not on a computer, therefore the user could take a picture instantly with their device to use for their moment. Furthermore, since each moment captures what is happening in their current context, taking a picture to capture that moment as it unfolds is a behaviour that has been fostered in smartphone users. However, since YLWM allowed people to enter moments from the past, their pictures most likely were not on their computers anymore. Either it has been uploaded to a social network, or backed up in a cloud network or on physical media. Therefore, this is further evidence that YLWM needed a way to access areas on the Internet where user's pictures are stored.

Multiple Moments

Since every person that wanted to join the YLWM community had to create a moment, every one of the 47 users created at least one moment. Further to this, 15 people created 2 or more moments, with the top four moment creators contributing a combined 77 out of the total 166 moments (46.4%).

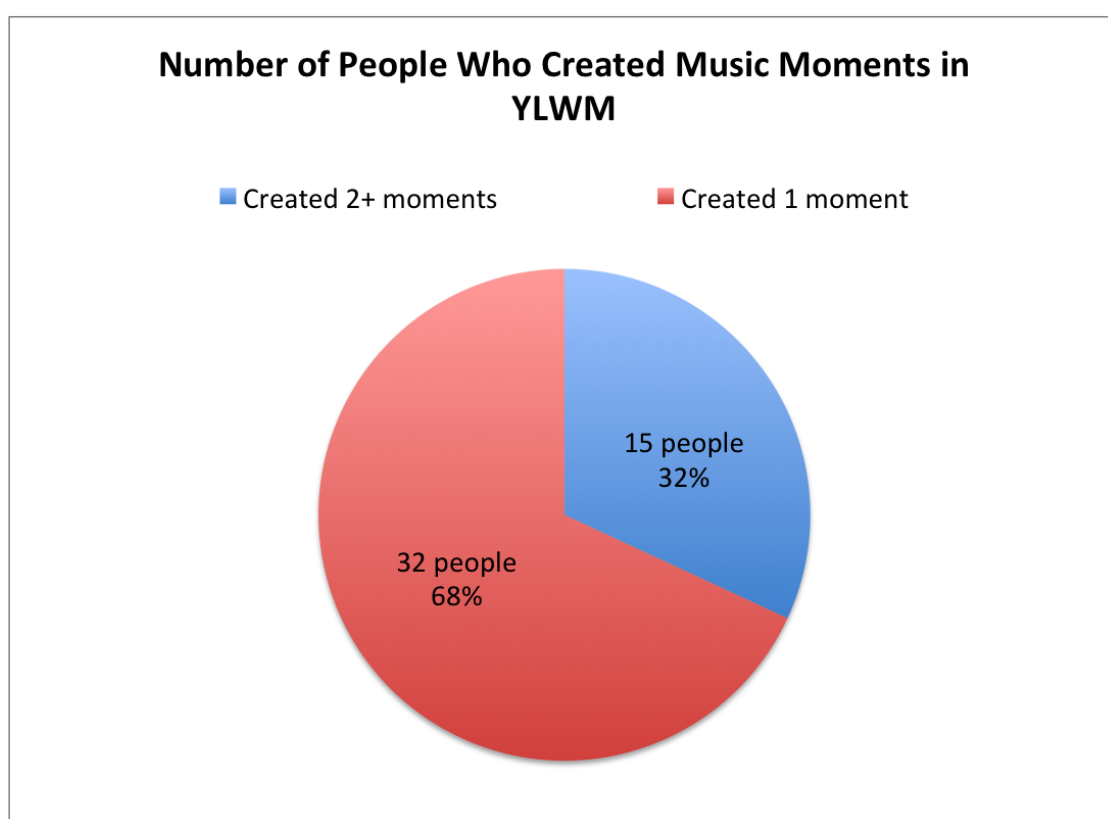


Figure 106. Number of people who created music moments in YLWM

Community	Total No. of users	Did not create a moment	Created 1 moment	Created 2+ moments
My Oopus	41	27 (66%)	3 (7%)	11 (27%)
YLWM	47	0 (0%)	32 (68%)	15 (32%)

Table 16. Comparison of moment creation between My Oopus and YLWM

Community	Total Moments	Top 4 Creators	% of Total
My Oopus	144	114	79.2%
YLWM	166	77	46.4%

Table 17. Top 4 moment creators in My Oopus and YLWM

Compared to the top four moment creators in My Oopus, the moment creation responsibility seems to be spread out more evenly. This also explains why My Oopus shows an inconsistent growth curve for moments as the total number of moments increase only when one of the top four creators decide to create a moment, because users were not forced to create moments upon registering. This is not the case for YLWM, as every time a new user joins, a moment is created and added to the total, thus ensuring a smoother growth curve.

Private vs. Public Moments

All pictures were made public in YLWM by default and the user did not have an option of keeping it private. Therefore, no comparison can be made between My Oopus and YLWM in terms of this metric.

User Interaction

Moments Viewed

There were fewer views per moment in YLWM compared to My Oopus, and as a result, fewer total views overall in YLWM.

Community	Total No. of Moments	Public Moments	Total No. of Moments Viewed	Moments with Personal Pictures	Average Views per Moment	No. of Views (High/Low)
My Oopus	144	136 (94.4%)	136 (100%)	91 (60.7%)	403	1179/152
YLWM	166	166 (100%)	28 (16.9%)	34 (20.5%)	53	122/1

Table 18. Moment viewing statistics comparison between My Oopus and YLWM

There are two likely reasons why this occurred:

One of the reasons is that there was no ‘Related Moments’ section in the YLWM moment panel. This feature would keep a user engaged with My Oopus moments and could be viewed infinitely, whereas every moment in YLWM stops there and has no link to other moments in the community. The data seems to provide evidence that this was the case.

The second reason is that with so few personal pictures in YLWM representing moments, users could not tell which moments in the main page had moments with stories or if they were all just links to songs. Therefore, with this data it can be suggested that there was less engagement with each moment in YLWM as compared to My Oopus.

Moment Comments

There were 69 comments for 49 moments in YLWM. The breakdown is as follows:

Community	Total Comments	Moments with 1 comment	Moments with 2 comments	Moments with 3+ comments
My Oopus	23	16	2	1
YLWM	69	36	8	5

Table 19. Comment breakdown between My Oopus and YLWM

The two most commented moments were from one of Mihai's friends in Romania. There was an extended conversation happening around his moments with his other friends also living in Romania. One of the conversations is shown below in Figure 107:



Figure 107. Comments on a moment in YLWM

REFLECTIONS (Cycle 3)

With the data from YLWM and My Oopus laid before me, I began an intense period of reflection. Critical questions that were thought of before engaging in the current cycle had to be answered if we were to be successful in attracting new users.

Ease of use

Although we addressed some of the lessons learned from the previous cycle, such as allowing users to create music moments from within the community, it created new issues that we did not anticipate. The first issue came from the moment creation process at the YLWM login page. Although our team thought we had adhered to Sledgianowski and Kulviwat's (2009) SNSA model determinant of playfulness by making the moment creation process more graphical and colourful, it was still deemed a barrier to having more user-generated content in the community because it combined both a survey and a registration form. The total number of required questions to complete the registration process was 14, which is the average number of questions for either a market research or an industry specific survey (Zheng, 2011). Again, going back to Zheng's (2011) research from Cycle 1, it shows that 4 is the average number of questions a survey should contain if it were "just for fun", which is what I am hoping a community based on music should be. Therefore, the moment creation process is still not streamlined enough, but now it is combined with yet another survey before a potential user could join the community.

The second issue deals with having too many features for the user. In total, YLWM had 9 features that the user had at their disposal to trigger various functions in the community such as automatically generating a playlist, looking at other people's moments and creating a moment themselves. Some of these features themselves contained several different options for the user to choose from, for example the Filter. Even though a user did not have to select any of the variables to generate a playlist, as the location is automatically pre-filled, the Filter still had 7 optional variables available to the user. Much like the previous issue of having too many questions when creating a moment, even playful functions that we added to YLWM, such as the Filter, seem to generate too much work for the user before they receive any benefit from it.

This previous point then ties closely with the third issue, which is the difficulty in navigating through the community because of the number of functions the user had at their disposal. In order to avoid having the menus being too cluttered due to the number of functions, we hid the functions in menu titles, for example, if the user clicked on the menu item *You*, they would be presented with the further four additional options: *Your Life With Music*, *Listening History*, *Curators* and *Listeners*. However, if a user wanted to go directly to the option *Curators*, they could not. This issue is compounded when new members register and use the community for the first time.

The final issue with ease of use is in regards to the YLWM username and password. Because we asked users to create a user login specifically for this community, there tends to be people who forget or misplace their login credentials and we would have to manually reset their passwords, as there was no function to automatically reset it on the login page. Out of the 47 total users, 25 have asked us to reset their passwords so they could log in again. This issue mainly occurs because it is estimated that the average person needs to remember 10 online passwords every day (Kendall, 2011). Out of all the passwords one needs to remember for important daily activities, from Internet banking to online utilities payments, it seems that remembering a password for a research study community would be low on someone's memory list in terms of priority.

Therefore, reflecting on the ease of use issues in YLWM, the priority for the next cycle would be to create a community that is less complicated to use and has less features.

Social Features

The features we added were designed to increase the social interaction between members and to raise awareness outside of the community through Facebook. These included the ability to listen to songs that someone you follow would listen to in a certain environment and see their life moments with music. We also added integration with Facebook in terms of Liking or Sharing a music moment. Reflecting on the impact this had on the number of users, the results suggest that implementing specific features with Facebook helped bring more users to the community, therefore, it

appeared a good decision at the time. Similarly, after this period of user growth we started to see a slight increase in the number of music moments created, so the impact of adding Facebook went beyond just adding users, but it helped these users start generating content for the community.

Another social feature we added was the ability to search for users in the community. We thought this would be a helpful function to allow users to find their friends that were also in YLWM. However, having reflected on this decision, it did not seem to have benefitted our users in the way we had originally imagined it would because of two main reasons. The first was that even though users could search for their friends, it would only look for registered YLWM users and because there were not a lot of users in the community, the chances of finding someone you knew were low. However, the second issue compounded the first one because a user could not invite their friends to join YLWM from within the community itself. Therefore, the only way for a user to officially invite their friends would be through word-of-mouth or sending an email. However, this again gives more work to the user rather than our team creating technology that would make things easier to create awareness for our community.

Closed Ecosystem

As can be seen with the YLWM main login page shown in Figure 53, the community was kept closed to anyone not registered with the network. Therefore, in order to participate, one would have to create a music moment and register to gain access to the website. The decision to make the community a closed ecosystem was made because we wanted to encourage people to participate right when they registered, thus ensuring that there would be content straightaway from that user. Furthermore, if a potential user came to our community through a Facebook post they saw, then the reasoning was that if they could not see what was happening in the community but wanted to join, they would want to contribute content to the group so they would be allowed to enter. This is not unlike a form of initiation for potential users, forcing them to prove their worth before letting them in.

However, reflecting on this decision and interpreting the results, it seemed as though there were several reasons why it did not work as anticipated. This might be due to

how long it took to create a moment, even after being registered in the community, and that people who wanted to first see what YLWM was about could not due to the closed nature of the community. Therefore, if there were referrals from the Facebook posts being guided towards our website, our design was not set up to entice the user to register and join as they could not see the incentive in doing so.

One way in which we already addressed this issue with the closed ecosystem was by implementing the music moment page that could be accessed through a Facebook Wall post (see Figures 88 and 89), and the results suggest that integration with Facebook did help in new users registering. However, what is not specifically known is whether the new moment page, Facebook Likes or Sharing were the main drivers of this spike in user growth.

Taking a step back from the research a second time made me realize that the very nature of forcing people to contribute content to the community before they were allowed to see the benefits from joining it was completely contradictory to our efforts in driving the growth of new users. This constituted a major dilemma for our study. The key questions being asked are “how can a community grow if no one can see what it is about and whether it is worthwhile to join?” as well as “how do we get users to create content that will entice new users to join before there is any actual content created in the community?” To summarize, the general question is: *can users grow without content and vice versa?*

Moment Pictures

Reflecting on the feedback we received regarding the proportion of album art versus personal pictures for the YLWM main page. Since there were only 33 moments out of 166 total moments with personal pictures, it was hard to tell whether there was much activity by actual members of the community. As the whole point of the community was to connect people with their personal experiences with music, not having many moments that show people’s pictures is counterproductive. The impression this gives, about not having much activity or people on the website, goes against the determinant of perceived critical mass in Sledgianowski and Kulviwat’s SNSA model (2009).

One of the main reasons for this might be that we only allowed the user to upload pictures from their computer, rather than using an online social network such as Facebook. As of June 2012, Facebook reported that their users uploaded 300 million photos every day (Anderssen, 2012). Unfortunately, we did not officially survey our users as to their thoughts on including the choice of picking photos from an online source, but the numbers from Facebook's statistics show evidence of a trend that people are increasingly uploading their photos online which would mean we should, at the very least, have included that option along with choosing a photo from their own computer.

Full length streaming

Because of the cost involved of licensing music to stream on a website, we could only implement 30-second previews for each song in the playlist that we generate. As a concept in the Oopus Player Beta nobody complained, however, when we executed it as one of the main functions within YLWM almost 89% of all users that gave us feedback (24 out of 27 total) told us that they did not find listening to only 30-second previews useful and that they wanted to listen to the full-length song. The general consensus in the feedback was that having a song cut-off abruptly ruined the listening experience with the recommended playlist.

Having reflected on the reason why this percentage was so high, I came to the conclusion that it was because we did not ask for anyone's feedback after we implemented the 30-second previews for the Oopus Player Beta, thus, we did not know how people would react to the same feature being used in YLWM. One option that we could have explored to resolve this issue was using the YouTube¹⁴ Application Programming Interface (API) to stream the songs within YLWM. An API is defined by Gunelius (2011) as a programming language that different applications use to communicate with each other and is used to enhance the features and functionality of those applications. However, we were not sure whether it was possible to separate the video from the audio, if the advertisements would show up before each song or even what kind of effect adding full-length songs to the community would have on a user's listening experience in YLWM. Therefore, this issue should be noted

¹⁴ <http://www.youtube.com>

as a possible further study for someone who has the necessary resources to perform a full study of the effects.

Oopus Team Data

Reflecting on the moment creation data I realized that the moments our team generates skews the results in terms of total moments created since we wanted to seed the community with content before new users joined. Therefore, in terms of comparing the actual number of moments created by users who were not a part of the Oopus Team (Martin, David, Mihai and myself) the numbers are as follows:

Community	Total number of moments	Number of moments without the Oopus Team	No. (%) of moments contributed by Oopus Team
My Oopus	144	64 (44.4%)	80 (55.6%)
YLWM	166	82 (49.4%)	84 (50.6%)

Table 20. Number of moments created without Oopus team contribution for My Oopus and YLWM

Therefore, it can be suggested that community participation is improving for the measure of music moments created as the percentage that the Oopus Team contributes is decreasing.

Themes in the Cycle

There was one main theme that surfaced upon reflecting the decisions made and action taken in the current cycle and this involves the measurement of active participation or engagement of users in YLWM and the utility users get through this participation.

Community participation

I thought moment views would be a good metric to use to measure the levels of engagement or participation in the community. However, after interpreting the results and comparing the last two communities, we noted the incredibly high viewing numbers for moments in My Oopus as compared to YLWM. At first glance, it might be suggested that My Oopus was the more engaging platform between the two. But having reflected on this issue further, another more plausible explanation comes to

mind. There are programs called “web crawlers” that help various companies, like Google, index the Internet (The Web Robots Pages, 2007). Because each music moment in My Oopus had their own URL, every time a web crawler visited the moment it would count as one view. This did not happen in YLWM because each moment was contained within the community in a side-panel and could not be accessed without registering first. Therefore, using moment views is not a good indicator of actual community participation and engagement because the numbers might actually be artificially inflated.

Since moment views are not indicative of actual participation in the community, it is suggested that comments on moments be used instead as that is an actual action that a user takes in the community and there is evidence of that. As Putnam (1995b) stated in the previous cycle, there needs to be evidence of pro-social behaviour in the community for others to reciprocate and to encourage social trust and cooperation.

A result of participating in virtual communities involves the utility of participation, that is, what people get in return for their efforts. However, with YLWM, it seemed we made potential users prove to the community their worth before reciprocating that to these people by showing them what benefits they would receive by joining the group. Therefore, a major question that needs to be addressed in the next cycle is how do we increase the participation or engagement within our community without it being a result of forceful actions.

LESSONS LEARNED (Cycle 3)

There are five main lessons learned from this cycle that I can take forward into the next one.

1. Network externality

The first lesson involves being able to leverage the login capabilities of an existing social network, such as Facebook or Twitter, to log into our own online community. The reasoning behind this lesson is in relation to the feedback we received from users who forgot their passwords to YLWM and therefore could not access the community. The implementation of this capability could be achieved by using a login API from a

popular social network. According to Raskin (2012), the reason why Facebook, Twitter and other social networks allow the use of their API is that they can use it to their strategic advantage. And the advantages for a new venture to use these free APIs is the ease of allowing information to be exchanged and access to the extensive amount of information a larger social network can provide, for example being able to access the user's friends on Facebook such that they may connect with them in our online music community or invite them to join.

2. Visible moments

The second lesson is to have the music moments available to view even if a user has not registered to the community. Specifically for YLWM, this means not requiring a potential user to complete the "create a music moment" process before also asking them to register for the service but to allow them to view music moments regardless of whether they have the intention of signing up to the community or not. The reasoning behind this involves making people aware that there were other people using the community, that actual activity was happening within it, and that it was worthwhile to join. Also, the registration process involves 6 required questions and the moment creation process had 8. This is a total of 14 questions that need to be answered before the user is allowed to join the community, which is the median survey length for an industry specific questionnaire (Zheng, 2011), however, since this was intended to be a hedonic community, the median number of questions for this type of survey (community) is 10. Therefore, this can be suggested as a barrier to enter the community that must be addressed in the next cycle.

3. Ease of use

The third lesson is to ensure that the community was easy to use. There are several ways through which we can ensure this is implemented. The first is to simplify the music moment creation process by reducing the number of questions the user needs to answer. The second is to reduce the number of features and functionality of the community as the feedback suggests that it is too complicated to use. Specifically, features such as an automatic playlist generator could be taken out, especially since user feedback of a playlist that only allows 30-second previews of songs rather than the full-length track suggests that it is not useful. The third is to enable users to access their pictures from other social networks and not just from their computer hard drive,

which should help in producing moments with more personal pictures instead of album art.

4. Increasing participation

As stated in the Reflections section, the next cycle needs to look at how to increase the participation of users in the community as YLWM saw the user putting in too much work without getting any apparent immediate benefit, such as creating a music moment to join the community. Furthermore, there needs to be a way to encourage users to create moments without having to force them to do it, as was the case with the current community's new user registration process.

5. Faster feedback

The last lesson to take into the next cycle is to obtain feedback faster from the users of the community to enable faster turnaround for further iterations of the website. This will enable us to incorporate feedback to make the community more useful and easier to use for our users which should increase the hedonic value of the website. In order to incorporate this lesson, the next step in Cycle 4 is to incorporate literature into my research that can provide a guide in using feedback to iterate software quickly.

CYCLE 4

Having reflected on the lessons learned from YLWM, the next step is to build upon these for the current cycle to see how the nature of inquiry will be shaped.

AREA OF CONCERN

The main research direction for the final cycle involves continuing to look at the factors that affect the adoption of technology for music communities that were established in the previous cycles. This would entail exploring the literature regarding the theme of community participation and what factors need to be considered to ensure this increases. Therefore, the area of concern in this cycle is increasing user participation in a virtual community.

FRAMEWORK

The learning from the previous cycle, and the associated feedback received for YLWM, provided the foundations for the framework in the fourth cycle and there are five issues which need to be looked at in detail. These are achieving network externality in this community, making the music moments more visible, ensuring that the website is easy to use, increasing the community participation and retrieving feedback more quickly from our users. The framework section will explore the literature around virtual community participation, as it encompasses all the other factors that were deemed important from the lessons learned for YLWM.

Participation

Koh et al. (2007) performed a comprehensive study on encouraging participation within virtual communities and the literature from this research formed the basis of the framework for this cycle. The study found that “posting and viewing are fundamental elements in the ongoing life of any virtual community” (pg. 70). These two actions, along with the growth of our user base, were the key metrics in determining whether the engagement or participation in our online community was

improving. The framework used in Koh et al.'s (2007) study can be seen in Figure 108.

It should be noted that since the number of views each moment received in My Oopus may have been compromised by automated web crawlers, that statistic cannot be accurately compared between our communities and will not be used for this cycle. Nevertheless, seeing as how viewing is deemed to be critical to any virtual community, I will still explore it in detail for my framework.

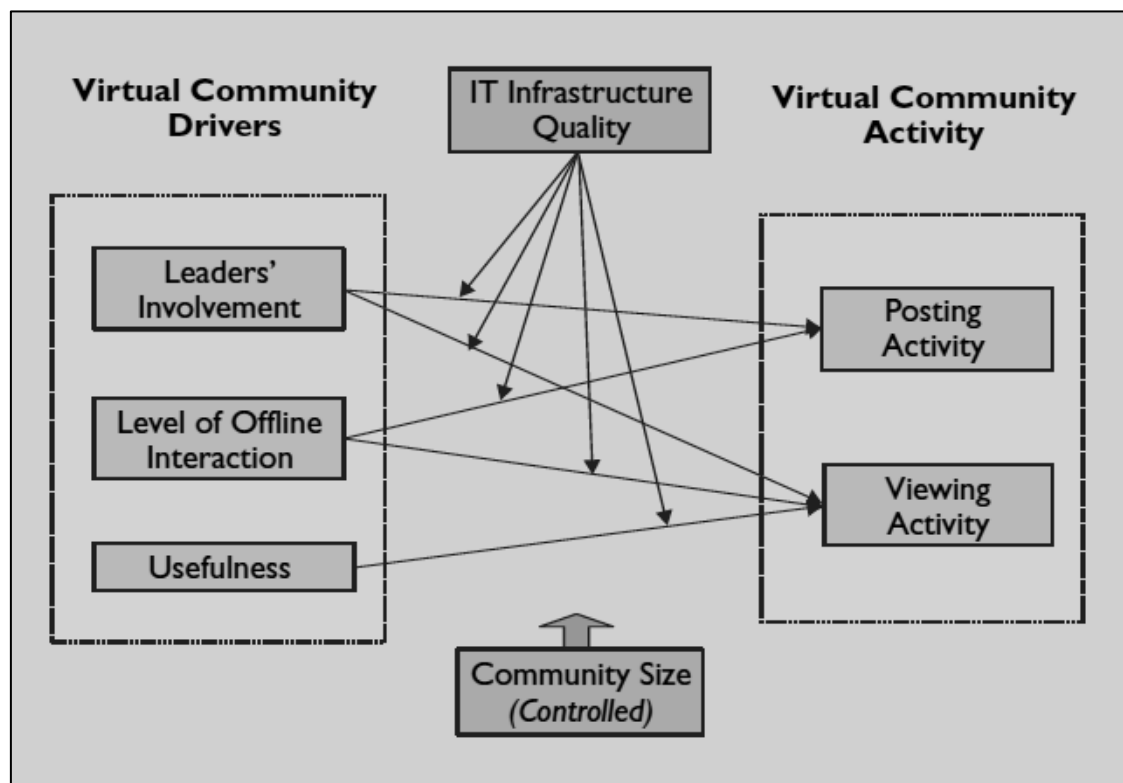


Figure 108. Virtual community stimulation structure (Koh et al., 2007, pg. 70)

According to Koh et al.'s (2007) structure, there are 4 fundamental stimulation drivers for a virtual community: leader involvement, usefulness, offline interaction and Information Technology (IT) infrastructure quality. These will be further explained as follows:

Leader Involvement

This driver is crucial for developing user-generated content and building social relationships within the community through demonstration of a clear vision and

purpose for the community. This stimulation to participate not only fosters the active involvement of members to create content, but also facilitates loyalty and commitment to the online community (Wang & Chen, 2011). In his study, Lin (2010) found that the act of being loyal to a community is also significantly influenced by a member's ability to identify, be deeply involved and conform to the social norms that occur within it. Therefore, we need to participate as leaders first in order to cultivate the kind of behaviour and norms we want to see occur within the community. Koh et al. (2007) also reiterate this point by saying that "community leaders play an important role in developing the necessary social climate to generate community participation" (pg. 70). In addition, social norms were found to be a significant driver of the perceived enjoyment and usefulness within a consumer context (Dickinger et al., 2008). However, a challenge to leaders is to ensure that the underlying needs of the members are met (Koh et al, 2007), which can be done through open communication with all relevant parties involved.

Usefulness

The driver of usefulness heavily influences the activity of viewing in a virtual community, thus it is necessary to ensure that collecting, displaying and updating content is occurring on a regular basis as a way to help stimulate members to view and explore the material in a virtual community (Koh et al., 2007). In the context of our online music community, this means that music moments should be regularly created, prominently displayed and there should be new moments constantly being added to the community.

In direct relation to a member's perceived usefulness of a community, Koh et al. (2007) state that a virtual community is only sustainable when it provides "benefits that surpass the cost of membership" (pg. 71). Essentially, the community must be deemed valuable to a member in order for them to continue participating in it. One way of obtaining such value might be through a reward system or peer evaluation system through gamification, which is defined as "the use of game design elements in non-game contexts" (Deterding et al., 2011, pg. 10) and draws its roots from theories of motivation in social systems (Beenen, et al., 2004).

Vassileva (2012) explains that there are four commonly used patterns in gamification that create user engagement, are motivational and facilitate loyalty in any community. These patterns are: ownership, achievements, status and community collaboration and quests.

- *Ownership*: Allows the user to own things that create a sense of loyalty to the community, such as points, tokens, or badges
- *Achievements*: Can be completed alone or with others and is represented by either something virtual or physical
- *Status*: Ranking the user according to the level they have achieved
- *Community collaboration and quests*: Challenges that are completed through cooperation with others and are time-limited or competition-based

Reputation has also been used to motivate participation in online communities, as evidenced by its use in Slashdot as its reputation system “directs and stimulates the massive collaborative effort of moderating thousands of postings every day” (Josang & Golbeck, 2009, pg. 7). Therefore, Koh et al. (2007) suggest that a way to maintain value to the community is through a peer evaluation system (reputation) or a reward system for valuable postings (ownership, achievements, status).

Level of Offline Interaction

Koh et al. (2007) state that offline interaction can strengthen the online trust and understanding that virtual community members have with each other. This leads to more posting activity in the community, as this action requires “more time and mental resources than the simple viewing of existing content” (pg. 72). Koh and Kim (2003) also found that the cohesiveness and links between members in a virtual community could be increased through offline activities. However, the lines separating the online and offline worlds are becoming increasingly blurred. Lin (2007) stated that, although people can get to know each other in face-to-face settings during offline activities, if these offline activities have a high Internet penetration, they can readily stay in touch and exchange information through email, web pages and chatting facilities. Furthermore, a study by Subrahmanyam et al. (2008) suggests that both college

students and emerging adults “use online communication to talk about offline issues, and to connect with people in their offline lives” (pg. 432).

Therefore, if we can assume that offline interaction can be supplemented by an online equivalent, then facilitating this interaction in our online community is vital to both posting and viewing activities. On this same line of thinking, Lin and Lu (2011) state that developing and connecting with others in an online community can elicit a more enjoyable mood and that when members increase their awareness of others in the community, these people “can help them become acquainted with those outside their individual network, further expanding their connections (e.g., Fans page), and finding more enjoyment by interacting and sharing messages with more members” (pg. 1155). However, this is not to suggest that online interaction can completely replicate or replace the notion of actual offline interaction, as it is still an important factor in motivating individuals to post content online due to the awareness that there are other people in the community (Koh et al., 2007).

Quality of IT Infrastructure

Because online infrastructure facilitates virtual interactions between members within a community, it is important to ensure that there are no problems with the platform that supports this activity. Koh et al. (2007) suggest several ways this can be accomplished, which include satisfactory response times when accessing the online community, user-friendly interfaces and reliability in the system. Since IT infrastructure governs how the entire online community functions, this driver is necessary to stimulate both posting and viewing activities as shown in Figure 108.

Along these lines, Lin and Lu (2000) state that a website that provides a higher quality of information to a user will be perceived to be more useful. This could include an upgrade in the efficiency of how their information is shared to enable them to connect and, ultimately, get to know more people within the community (Lin & Lu, 2011). However, one point to note is that although a higher quality of information can increase perceived usefulness, it does not “necessarily contribute to the degree of ease of use perceived by the user” (Lin & Lu, 2000, pg. 205).

One way a system's perceived ease of use can be determined is through acting upon feedback from users to improve the community. This cycle of build, measure and learn feedback loop is at the core of a methodology called the Lean Startup (Ries, 2011).

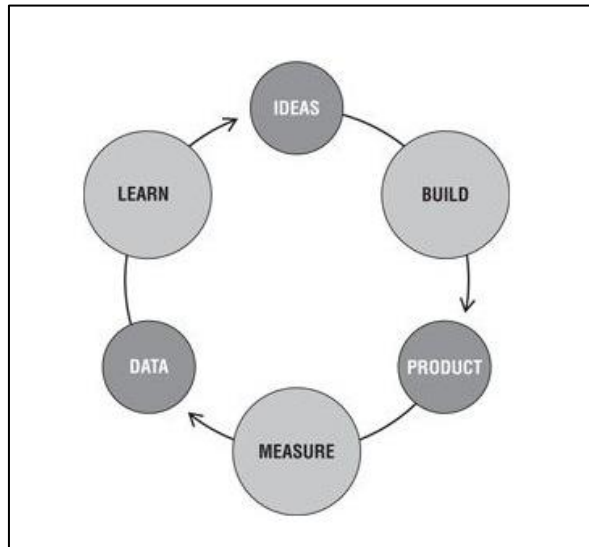


Figure 109. Lean Startup Methodology (Ries, 2011, pg. 75 Kindle Edition)

The main goal behind this methodology is to travel a full turn through the feedback loop (Figure 109) with the least amount of effort and development time, which is similar to the value that is brought in lean manufacturing processes through saving time and money (Ries, 2011). To achieve this, it requires feedback from users as soon as a product can be built and tested in public. This product is called the minimum viable product (MVP), and is based on a value hypothesis and a growth hypothesis, essentially what are the factors that users of a product find most valuable and what will cause these users to grow. The measure phase is where the MVP is shown to be making progress (or not), being measured against certain metrics that help analyze a user's behaviour to the MVP.

At the end of the loop, a decision point is reached where the product leader, upon analyzing the data from the cycle, decides to either pivot from the original plan or persevere and see what happens in the next cycle. Checking to see whether one of the hypotheses is false will help to inform the decisions that need to be taken in the next cycle (Ries, 2011). This methodology can be followed to assist community leaders with the challenge of exploring and treating the underlying needs of their members

(Koh et al., 2007) by getting feedback from users and implementing them quickly.

Community Size

Koh et al. (2007) state that a community's size is also considered to be an important factor because it is related to the amount of posting and viewing that happens within the community. This growth of users is also known as network externality, which is defined as "a member's use of a product or service increases with the number of other users" (Wang & Chen, 2011, pg. 571). Lin and Lu (2011) state that there are two kinds of network externalities, direct and indirect. Direct network externalities increase a user's benefits through the increase in total users of a particular product or service, whereas indirect network externalities display "an increased sense of user value from using a product or service, as the effect the user obtains from such product or service increases with the increase of related complementary products" (pg. 1153).

In terms of usefulness in relation to a community's size, Sledgianowski and Kulviwat (2009) state, "an emerging Internet technology becomes more valuable and useful as its network of users increases" (pg. 74). Strader et al. (2007) verify this point by stating that incorporating network externality as an extension of the TAM model has found relations between externality to perceived usefulness and the intention to use a particular technology. Essentially, "as externality becomes more prevalent, the usefulness of a technology increases; this, in turn, is expected to impact intent to use in a positive manner" (pg. 55). Because of these benefits, Koh et al. (2007) advocate getting as many community members as possible, especially in the community's early stages. To do this, Lee and O'Connor (2003) suggest that network effects can play a role, as IT products and services would need to be introduced to the market "as broadly as possible and are managed with the objective of rapid market penetration" (pg. 242). According to literature by Schilling (2002), the installed base is critical in ensuring that network externalities occur. Song et al. (2009) have identified six ways in which an installed base of users can affect user perceptions of a network.

1. The value of an innovation is directly tied to the number of prior adopters
2. The size of the installed base influences the ease of obtaining information from other users. This shared information can increase consumer utility by helping

the user learn about potential uses of the innovation and by simplifying the usage process

3. Installed base size, like market share, can serve as a signal of product quality. In particular, consumers may infer the quality of a product from the number of existing adopters
4. Installed base size, like firm reputation, can reduce the perceived financial and psychological risks of adoption
5. When an innovation has a significant symbolic dimension, the size of the installed base may influence consumer perceptions of social acceptability
6. The size of an innovation's installed base can influence the effectiveness of communication and promotional programs designed to spur product adoption

Increasing the number of members also has an effect on the perceived ease of use of the community. Song et al. (2009) found in their study that an increase in installed base size has a significant positive influence on people's assessments regarding ease of use of an innovation due to the perception that there are a large number of existing users who can support the new adopter.

Therefore, it seems that active participation in a virtual community and the network effects that enable it to grow are strongly linked and dependent upon each other. Koh et al. (2007) conclude by stating that for any given online community, the stimulant that drives posting activity might not be the same as the one that drives viewing activities. Therefore, a diverse range of tools is important to ensure that a virtual community is sustainable.

METHODOLOGY

David and I discussed how to tackle the two biggest issues about YLWM. To recall, people had complained about the number of steps required to complete a music moment and that most of their pictures were stored on the Internet somewhere rather than on the hard drive of their computer.

The moment creation steps in YLWM consisted of:

1. Entering in the name of the artist and song

2. Location, date or season, time of day, weather
3. Enter a story, mood and upload a picture

Looking at this list, there were eight required items for the user to enter in addition to uploading a picture. David and I thought that the moment creation steps could be reduced significantly if we used the metadata of pictures taken on a modern smartphone or camera. These would be the date, time and location the picture was taken. All other contextual information, such as the weather conditions and temperature at the time, could be derived using weather data from the Internet. The story could also be captured automatically if it was attached to the picture as a caption. This led us to think there were only two social networks we could access that allowed us this kind of data: Facebook and Instagram.

Although Facebook owns Instagram, it still has the freedom to develop as its own brand (Protalinski, 2012). On September 11, 2012, it was announced that Instagram passed 100 million users and 5 billion photos uploaded (Protalinski, 2012). It was also a dedicated photo sharing community and its members have already established certain behaviours that would be advantageous to us in terms of data collection, for example adding captions to pictures. Furthermore, one of the main reasons why Facebook bought Instagram was because of its passionate community of users who love the platform (Malik, 2012). Therefore, taking all of this information into account, we decided to choose Instagram as the platform we would connect to. However, in order to do this, we needed to leverage Instagram's public and free API.

There are several advantages for our users to log in using the Instagram API. These include: Leveraging their social-network credentials and established profiles so that there is less of an issue of forgetting their passwords, allowing access to photos they have taken with Instagram which aids in the creation of music moments and seeding the website with interesting content rather than waiting for moments to populate organically (Ko, Cheek, & Shehab, 2010).

Community Identity

Since we were using the Instagram API to log in and access pictures, we decided to come up with a name that was a play on the word Instagram. As other websites who use Instagram's API also take this approach (ie. Statigram¹⁵), we decided to name it Instatune. With the "Insta" portion coming from Instagram and the "Tune" portion linking back to our ties with music.

Instatune Community

After the decision was made to use the Instagram API and call our website Instatune, the web domain¹⁶ was created on September 12, 2012. We used the .me domain because of two reasons:

- 1.) The .com domain was taken
- 2.) We could use the word Instatune as a verb by telling people to "Instatune me!" where instatuning someone is about creating your own music moments

Instatune was designed to leverage the exponentially increasing user base of the popular photo-sharing social network Instagram, which was growing at an average rate of 10 million new users per month (Protalinski, 2012).

The main premise behind Instatune was to be a socially curated playlist community. Therefore, any member of Instatune could recommend other members songs to their moments. This would hopefully create a greater sense of community and bond between the members and, using moments as the catalyst, facilitate music recommendations based on human experiences.

Instatune Login Page

The initial login page only had Instagram, however on November 8th, 2012 we also added Facebook and Twitter login.

¹⁵ <http://statigr.am>

¹⁶ <http://www.instatune.me>

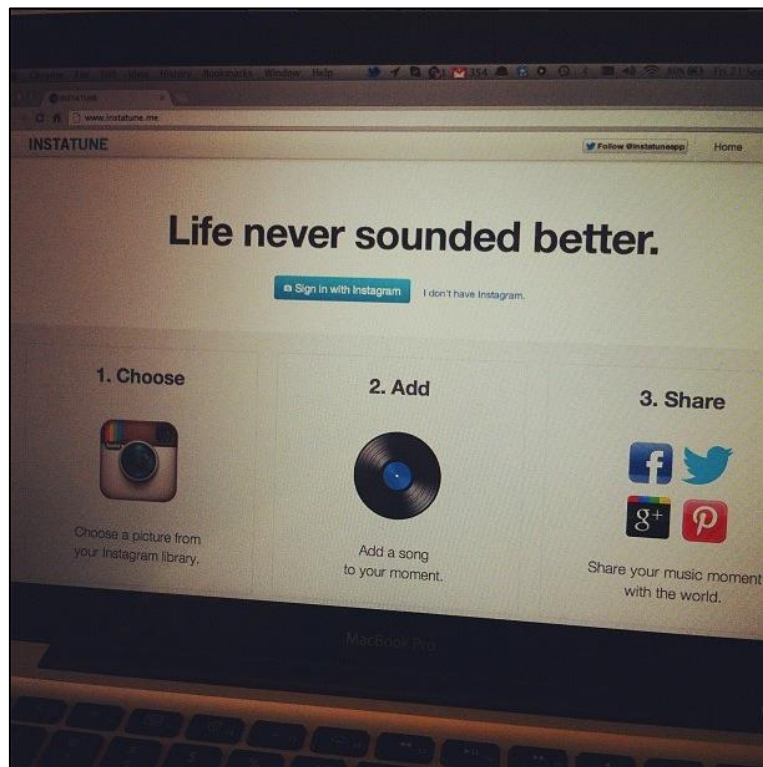


Figure 110. Instatune Login page v1.0 (September 12, 2012)

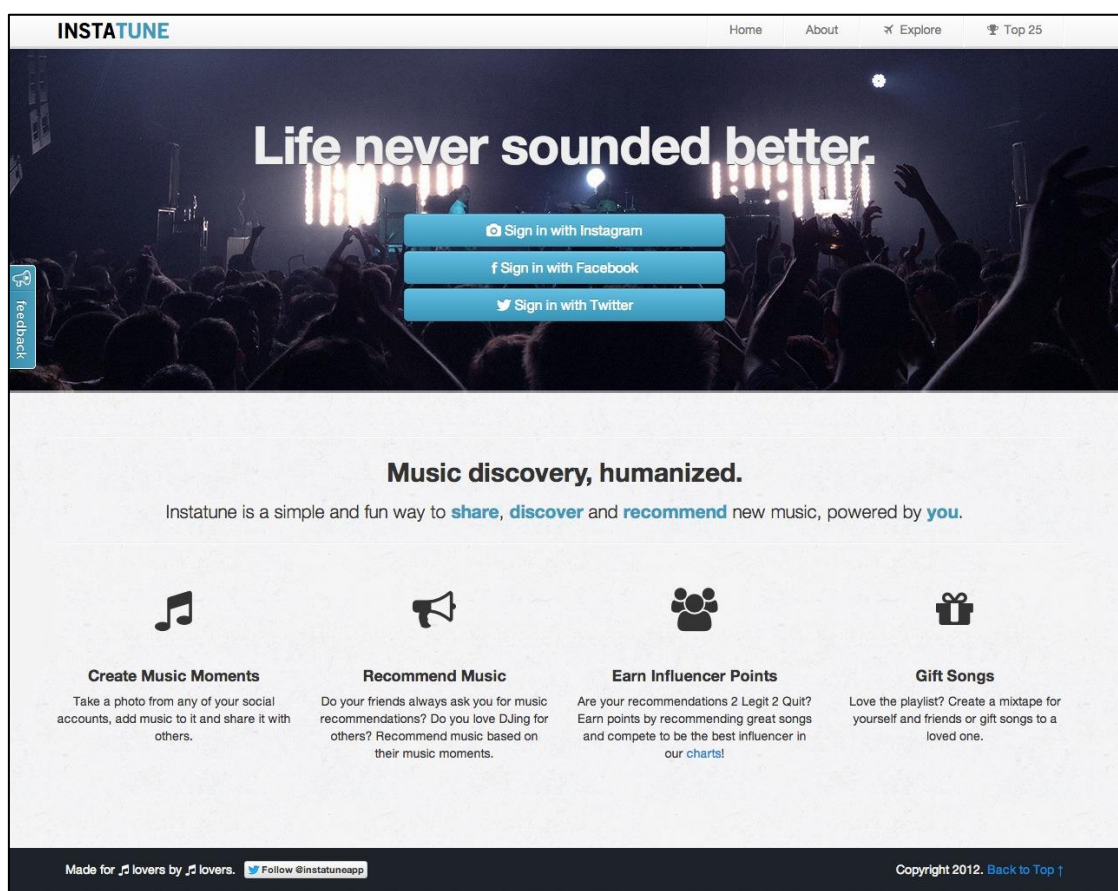


Figure 111. Instatune login page v2.0 (November 8, 2012)

Explore Page

I took the feedback received from YLWM and My Oopus regarding viewing moments before signing up and incorporated that into this website. Instatune allows a visitor to view all the latest music moments without having to sign up. This gives them a view of the established community and allows them to gauge what kind of value this community will bring to them. A screenshot of the Explore page is shown in Figure 112.

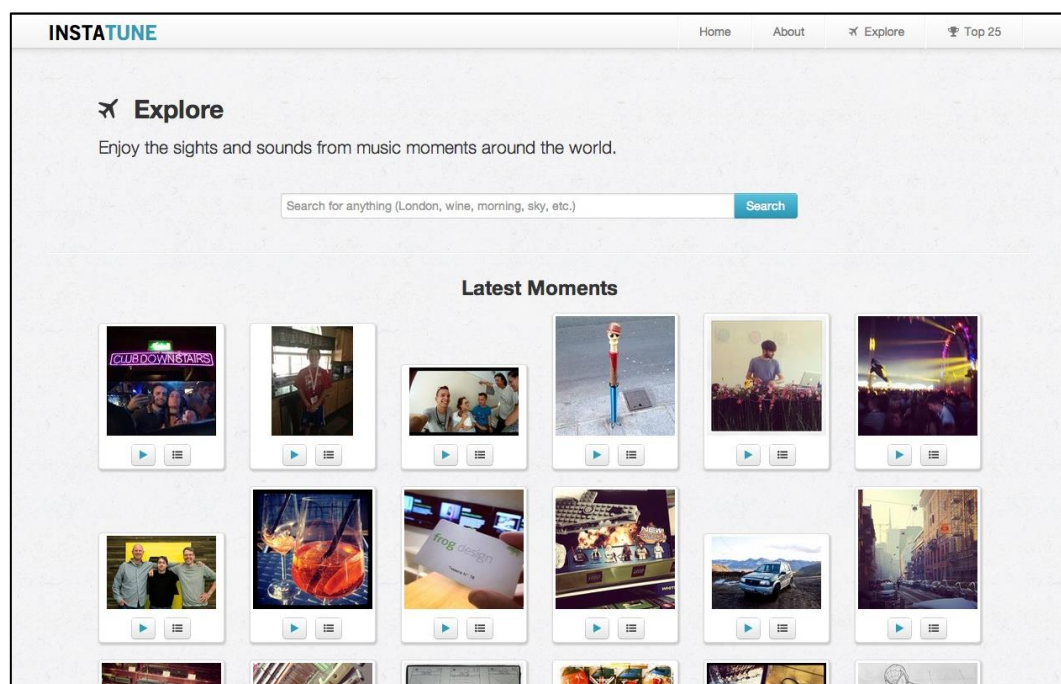


Figure 112. Instatune Explore Page

About Instatune Page

We added a section in the website that allowed people to see who made the community and the reasons behind it. It gave the Twitter handles of the people who were a part of the team that created the community, so that people could contact us if they wanted to. Any potential users could also register their interest to receive updates about the community.

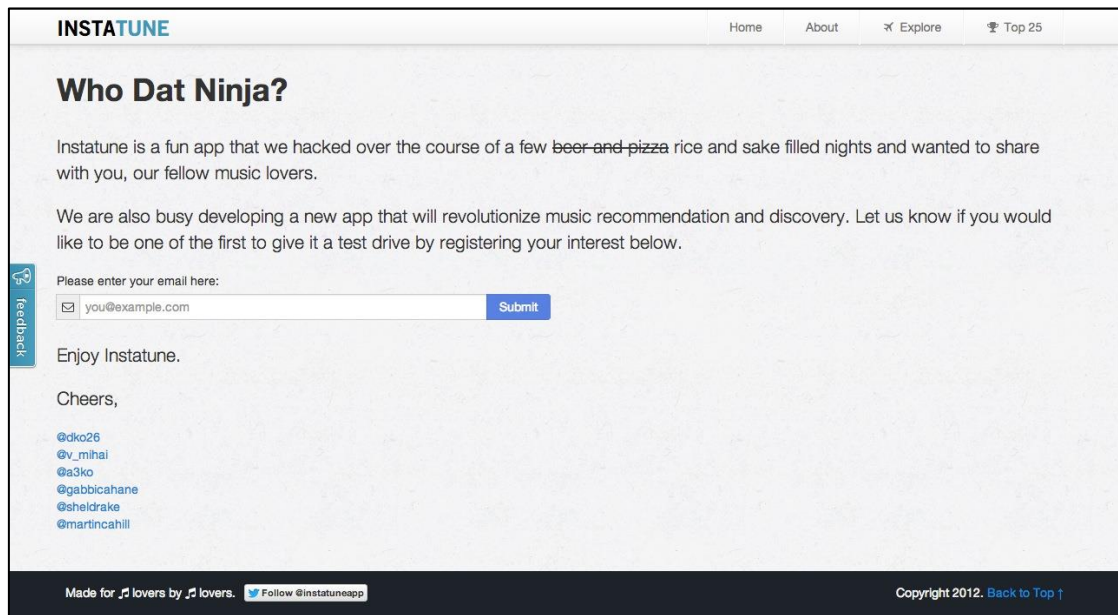


Figure 113. Instatune About page

Instatune Registration

To register for the Instatune community, a user would click on the appropriate sign in button using the social network they want to associate with their Instatune account. There are no separate registration forms to fill out because the API of the social network they choose to log in with handles this part of the process. This greatly reduces the barrier to entry into the community compared to the manual registration questionnaires for My Oopus and YLWM.

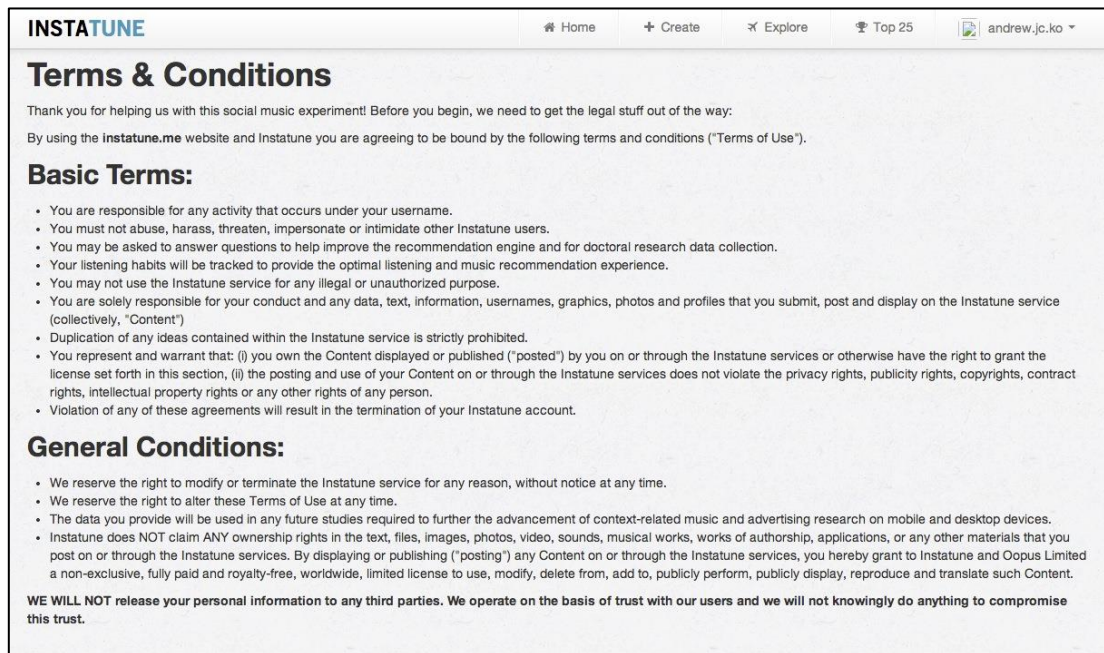


Figure 114. Instatune Terms & Conditions page

After the user chooses a social network to log in with, they are shown the Instatune terms & conditions page. Only after agreeing to this can the user proceed to gain authorization from their chosen social network. As an added security feature, the social network will also ask the user whether they want to give Instatune permission to access their account. If the user clicks *Authorize*, they will gain access to the Instatune community.

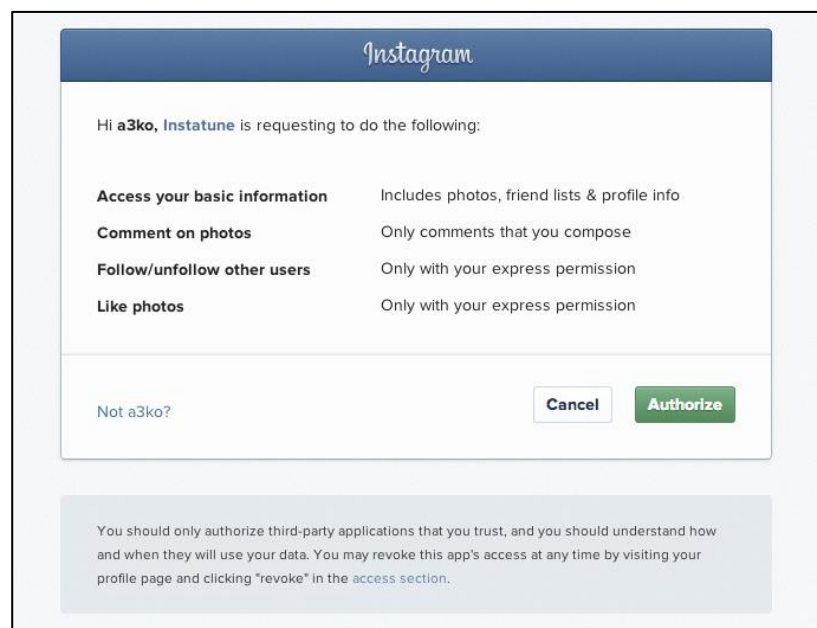


Figure 115. Instagram authorisation page for Instatune

Instatune Profile Page

After the user logs in, they are immediately presented with their profile page that shows all of the music moments they have created. If this is the first time a user has registered for Instatune, they will see a button that asks them to create their first music moment. However, if the user has created moments before they will see them displayed as shown in Figure 116. They will also be presented with several options to the left of the screen. These options are as follows:

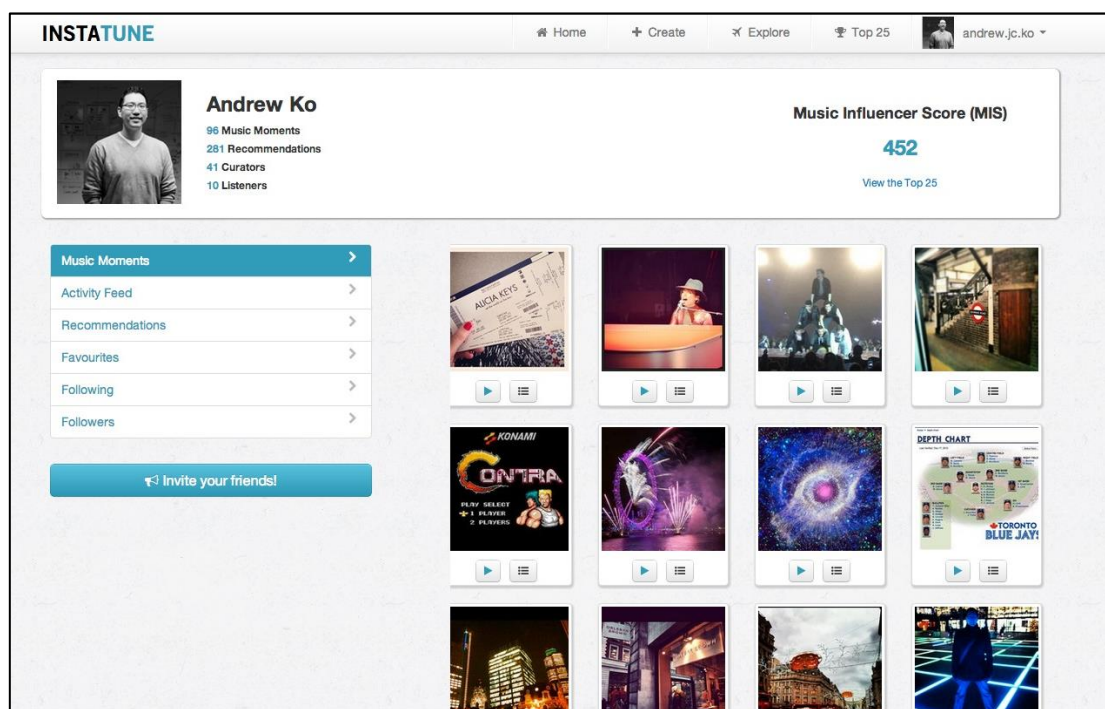


Figure 116. Instatune user profile page

User Activity Feed

These are the updates that appear for the members that the user is following; similar to the notification system we were trying to create in YLWM. As mentioned earlier in the previous cycle, the results from Millen and Patterson's study (2002, November) suggest that a notification system is an important feature of a community network as it helps to alert members as to the activity to new material in the community.

Any action made by these members, whether it is creating a moment, recommending a

song or buying a song, will show up in the user's activity feed. This feature was designed to allow the user to have access to information about the members they are interested in at a glance.

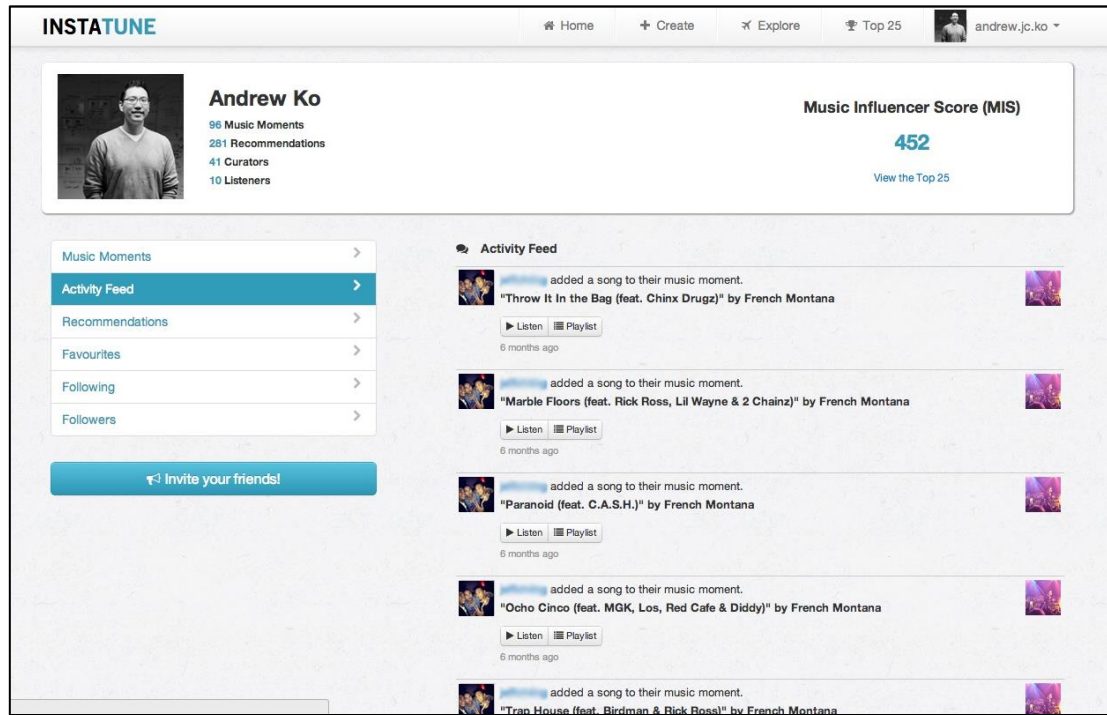


Figure 117. User activity feed

Recommendations & Favourites

The list under *Recommendations* contains the songs that have been recommended to your moments by the other members of the Instatune community. This allows the user to have all of their recommendations in one place rather than having to click through all their moments to find the songs they like. The user also has the ability to buy the songs from iTunes straight from this menu or they can view the moment the recommendation is associated with.

Conversely, the list under *Favourites* contain the songs that the user has favoured (or *Noted*) in the community, regardless if they are songs from their own moments or other member's moments. This again gives the user quick access to the songs that they like so that they may purchase them on iTunes or view the moment that is associated with that particular song.

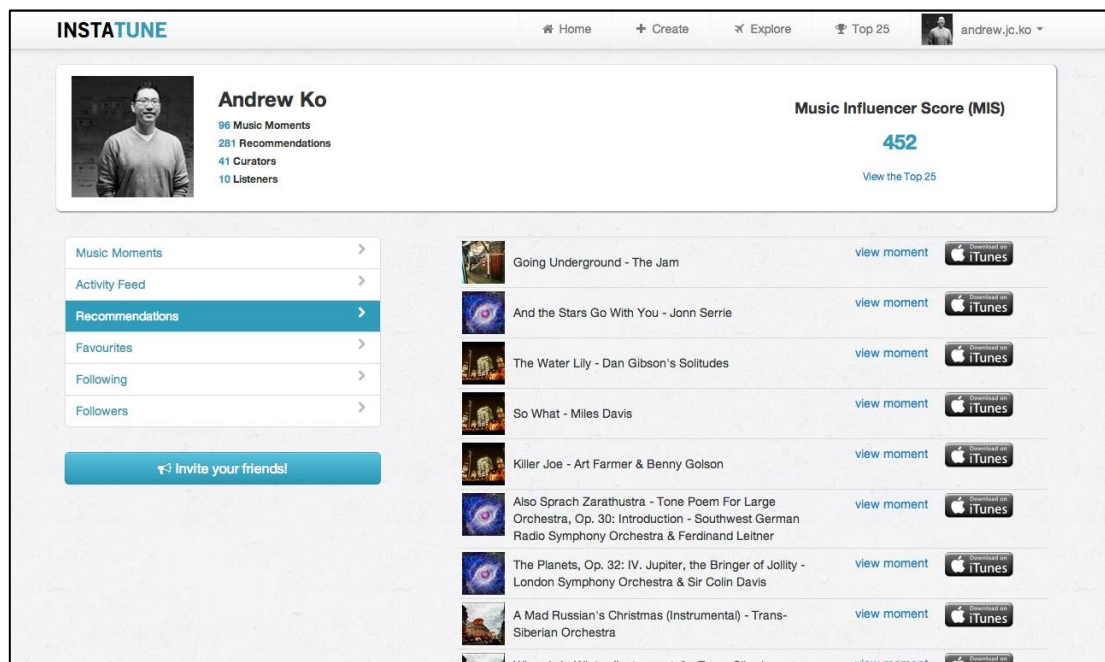


Figure 118. User song recommendations

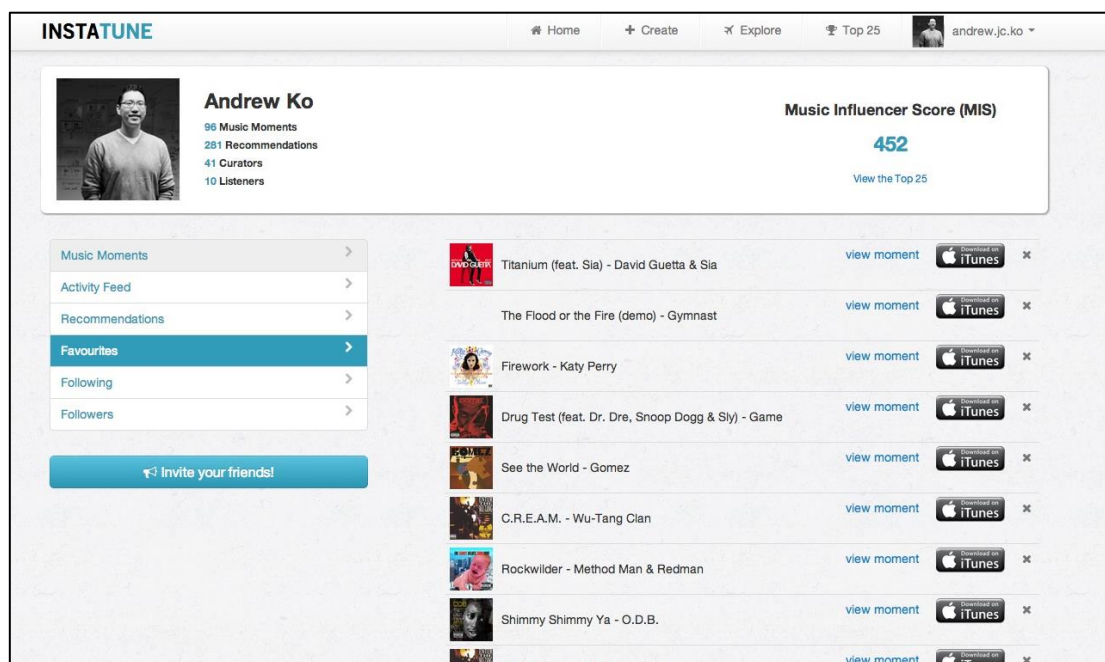


Figure 119. User song favourites

Following & Followers

These options contain the list of members that the user is following or the members that are following the user. The act of following someone or being followed is mainly used to keep up with activity happening in the community through people of interest. This action is then captured in the *Activity Feed* for the user to browse through.

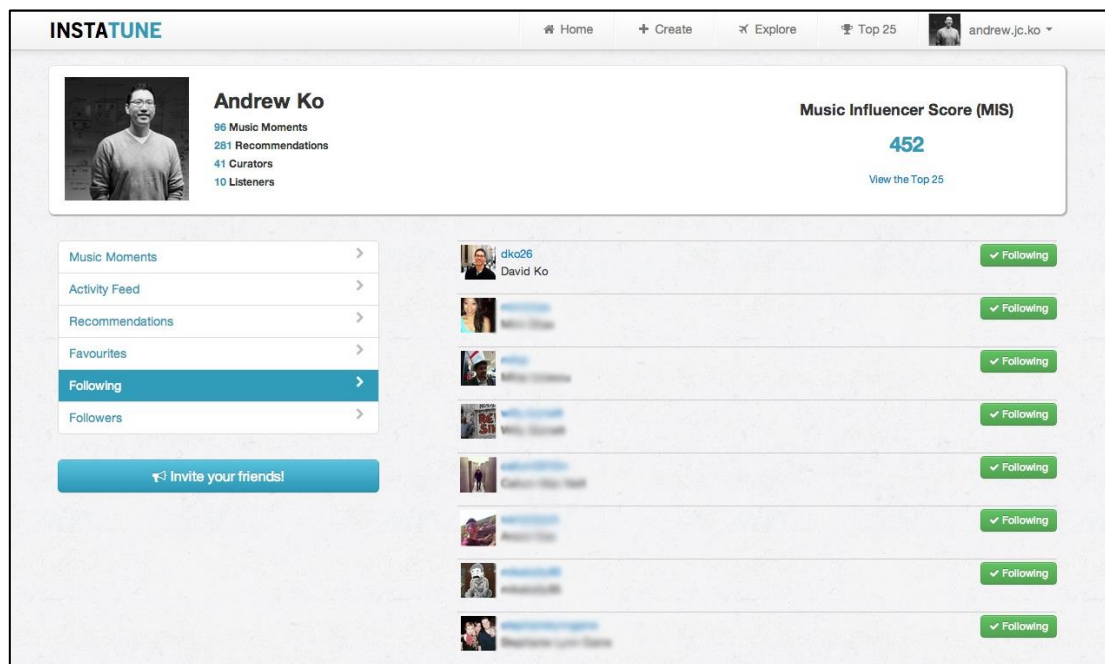


Figure 120. Members the user is following

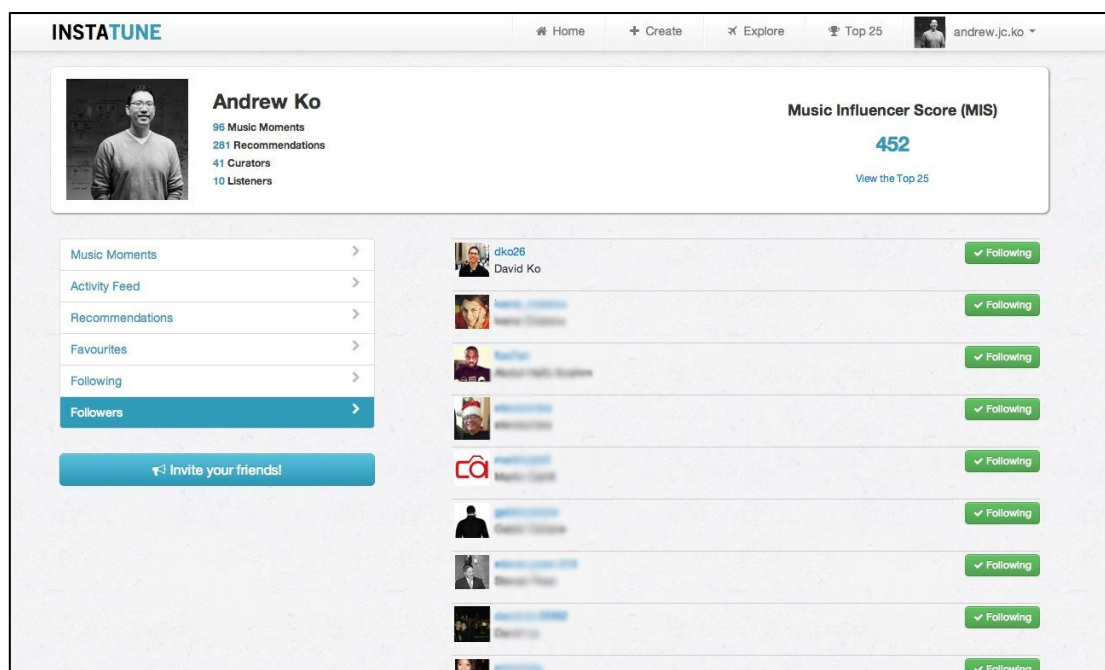


Figure 121. Members who are following the user

Creating a Moment

The goal of the new moment creation process was to make it easier to use compared to the last music community. The user starts off by selecting a photo from either their Instagram account (or Facebook account after it was implemented on November 8,

2012). If the user has not connected either one of those accounts to Instatune, they are given a chance to do so before they begin creating a moment.

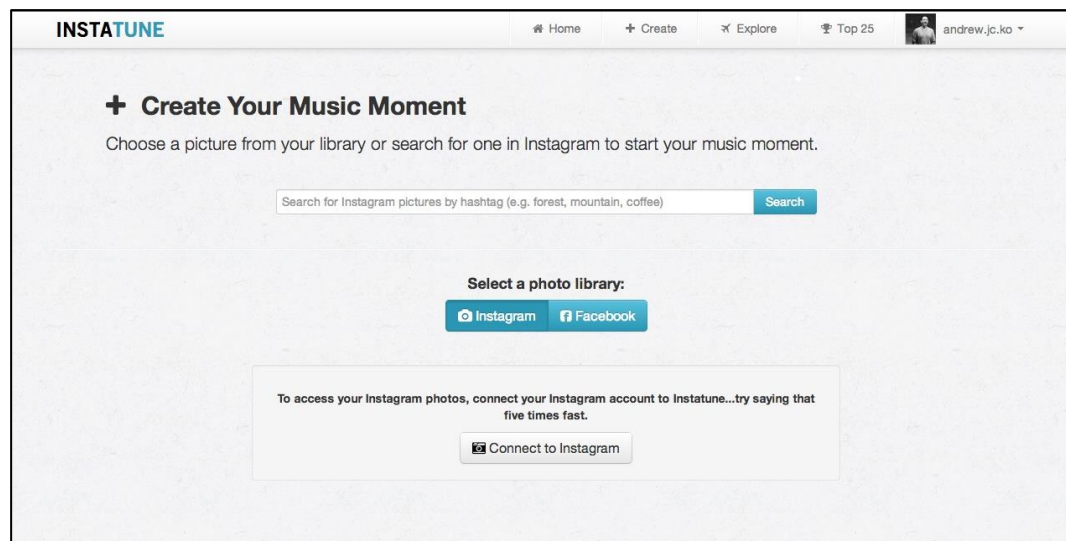


Figure 122. Connect Instagram or Facebook accounts to access pictures

Once they have accessed either their Instagram or Facebook accounts, their photo library from these social networks is then presented for the user to select one of them to use as the starting point for their music moment. However, this process is a complete reversal of how we have always asked our users to create music moments. In the two previous communities, My Oopus and YLWM, the song was always the catalyst to creating a moment, as that was the first required question. This was also how we started the Music Memory form. However, David and I decided that the potential ease of use advantages outweighed the potential conceptual disadvantages, so we agreed to proceed with this course of action while paying close attention to what the results would show.

In terms of searching for a picture to start a music moment, the user also had the additional option of searching for other people's pictures on Instagram to use for their moment using hashtag keywords (Figure 124). If a picture from the Instagram community is chosen to be used in a moment, we give recognition to these people by saying that the user has "tuned" from them, which is still keeping reference to the music theme of Instatune.

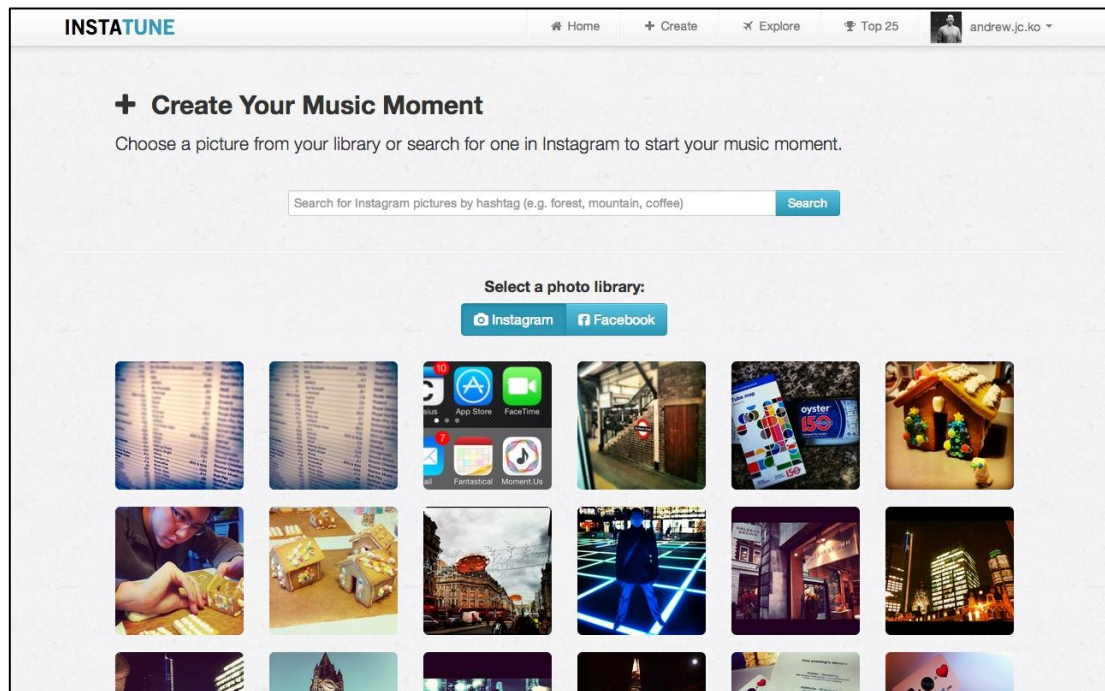


Figure 123. Accessing the user's own Instagram pictures

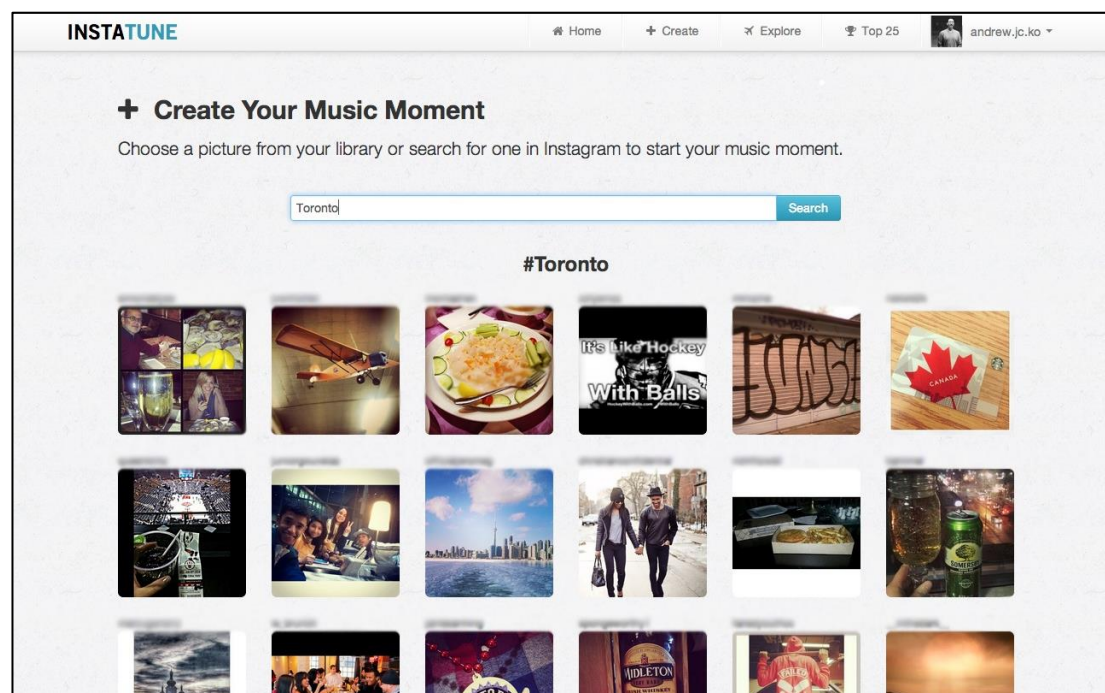


Figure 124. Search for hashtag words in Instagram (ie. #Toronto)

Once a photo is chosen, the moment creation screen is displayed (Figure 125) with the date, location and story already pre-filled using the metadata that Instagram attaches to each photo to make the creation process proceed quicker than in YLWM. The date the photo was taken will always be displayed but the location might not as the user

might have declined to give Instagram permission to use location tracking on their device. Therefore, if there is no location available, the location space would be blank.

The story is taken from the caption that a person writes for their Instagram picture. However, if the user wants to write more details in Instatune describing their moment, they can do so as well as the text field is fully editable. All of the pre-filled actions taken by Instatune is to help save the user from having to enter too many details in order to create their moment, which is a lesson learned from YLWM.

The screenshot displays the INSTATUNE web application. On the left, a user's profile 'a3ko' is shown with a photo of a person in a blue-lit environment. Below the photo, the date and location are pre-filled: 'December 12th, 2012' and 'Finsbury Avenue Square, United Kingdom'. On the right, the 'Create Your Moment' form is visible. It has three main sections: 1. 'Add a song' with a search bar and a play button; 2. 'Your Story' with a text field containing 'My Tron moment #tron #lights #london' and a checkbox for 'Allow users to recommend songs for your moment'; 3. 'Share Your Moment' with buttons for Facebook, Twitter, and Email, and a green 'Save Moment' button. The top navigation bar includes links for Home, Create, Explore, and Top 25, along with a user profile icon for 'andrew.jc.ko'.

Figure 125. Date, location and story pre-filled in moment

Since the environmental context has already been pre-populated by our system, there were only two questions the user needed to answer to be able to save the moment, with one being required.

The first, and only, required question was that of picking a song that best represents the moment. To power our song search engine, we turned to both iTunes and Soundcloud¹⁷. With Soundcloud, a song could be streamed fully with no charge, however, iTunes is still only able to provide 30-second previews. Full length streaming with Soundcloud may sound good in theory, but in actual practice it was not that useful as the majority of songs on Soundcloud were either from unsigned artists

¹⁷ <https://soundcloud.com>

or the metadata in each song is not consistent with our database or song search methods. Therefore, in actual fact, the iTunes database was still more consistent in terms of returning the correct songs to the user.

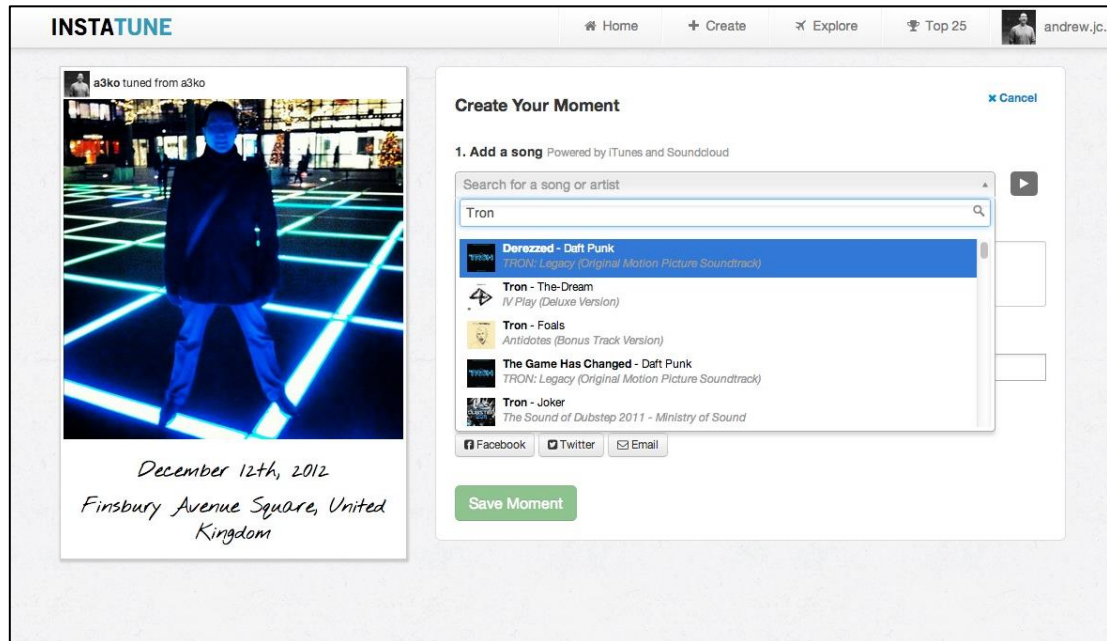


Figure 126. Choosing a song

The second question the user could answer, but did not have to, was adding one or more tags that they wanted associated with their moment. Knowing what keywords define your moment helps to frame the song recommendations coming from other people. The reasoning behind this is because music might sound different to different people, for example a sad song to one person might sound happy to another as shown in the study by Vieillard et al. (2008). Therefore, it may be hard to recommend songs to people if there is no insight into what kind of music they like to listen to and in what context. Adding tags to the moment helps mitigate this issue and helps people who want to recommend songs but don't know what the user thinks about their moment. However, if the user is open to any kind of song, they do not need to enter in tags.

Figure 127. Adding tags to moment

The user also has the option of sharing their moment to Facebook, Twitter or through email once they save it. After the user presses *Save Moment*, the completed moment is then added to the *Explore* page of the community and to the user's own timeline. The completed moment page is presented below in Figure 128.

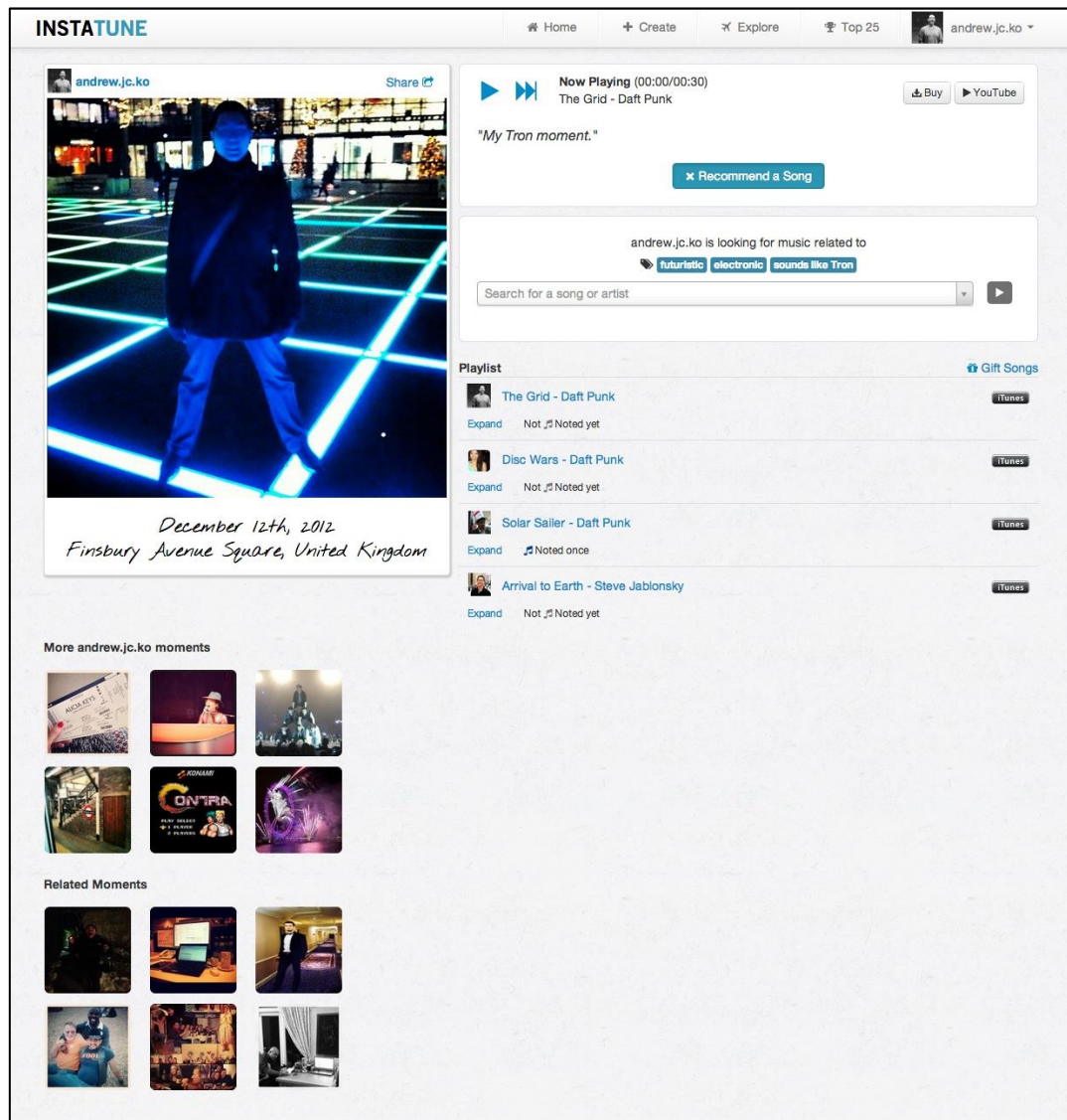


Figure 128. Instatune Music Moment

Moment Options

Every music moment in the Instatune community offers several options to the viewer. These options are as follows: You can play a preview, Edit the moment, Listen with YouTube, Recommend a song, View related moments, Buy the song, Gift the playlist, and Share on social networks.

Preview the song

When a user hovers over the moment picture, they are presented with the option of previewing the song. By clicking anywhere on the picture, either the 30-second

preview streamed from iTunes will start playing or the full-length track from Soundcloud. To stop the song, the user needs to click on the picture again or it will automatically stop once the song or preview has ended.

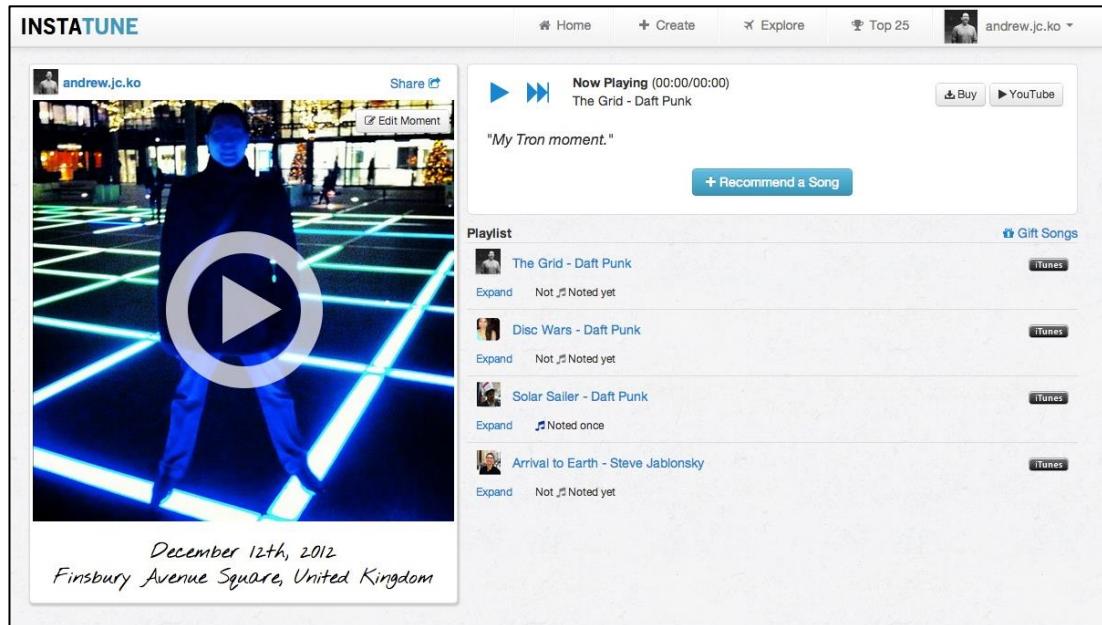


Figure 129. More options for moment

Edit a moment

If the user currently viewing the moment is the one who created it, they will also get the additional option of editing their moment. Clicking on this button will bring up the *Edit Your Moment* options to the right of the picture, where the user can change their story, whether they want to allow other members to recommend songs for the moment, and what tags the user wants associated with their moment. The user can then save their edited moment or cancel and exit without making any changes.

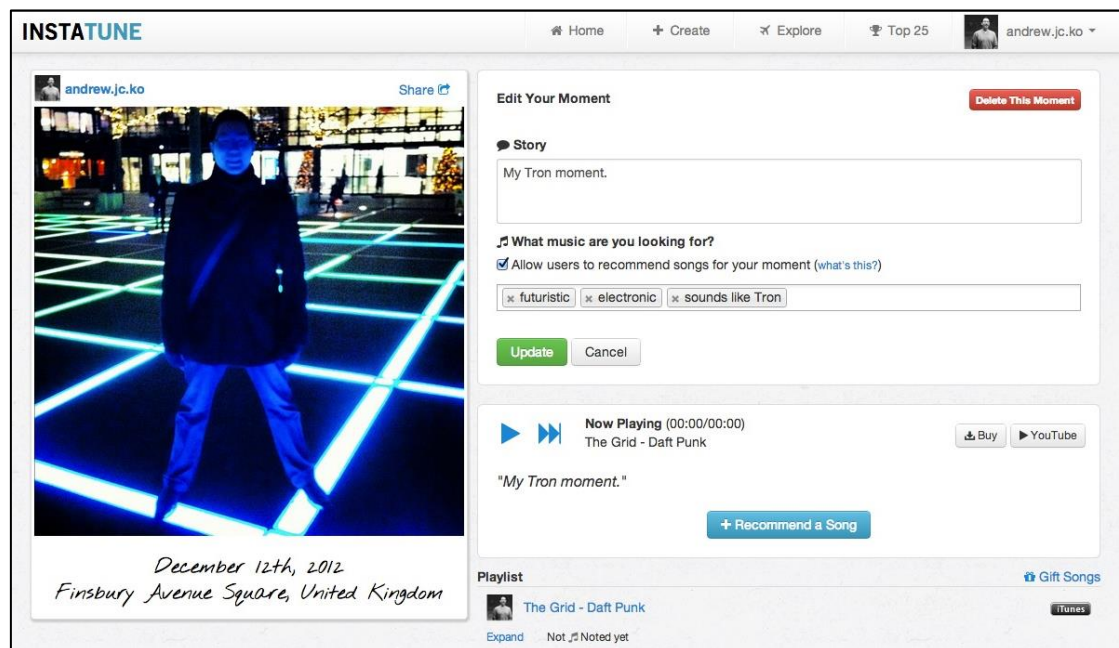


Figure 130. Editing a completed moment

Listen with YouTube

Not having full length streaming in YLWM led us to find a way to include it in Instatune without having to license the music ourselves. There were two ways in which we tackled the problem in this current community. The ability to search for Soundcloud songs was one solution with the other being embedding the YouTube link to the track within the song section itself, which enables the user to listen to the full-length song. However, the YouTube video is attached only *after* a moment is completed and saved as the user would still be searching through the iTunes catalogue when looking for the song to attach to the moment. The reason for this being that there are many versions of a song on YouTube, some being of poor quality and some tagged incorrectly. Therefore, to control the quality of the YouTube videos, we run a web crawler when a moment is being saved to automatically detect and attach the best quality YouTube video of the track. Furthermore, there was no way to disable the YouTube video from playing, but we decided that the visuals provide a nice contrast to the static moment picture.

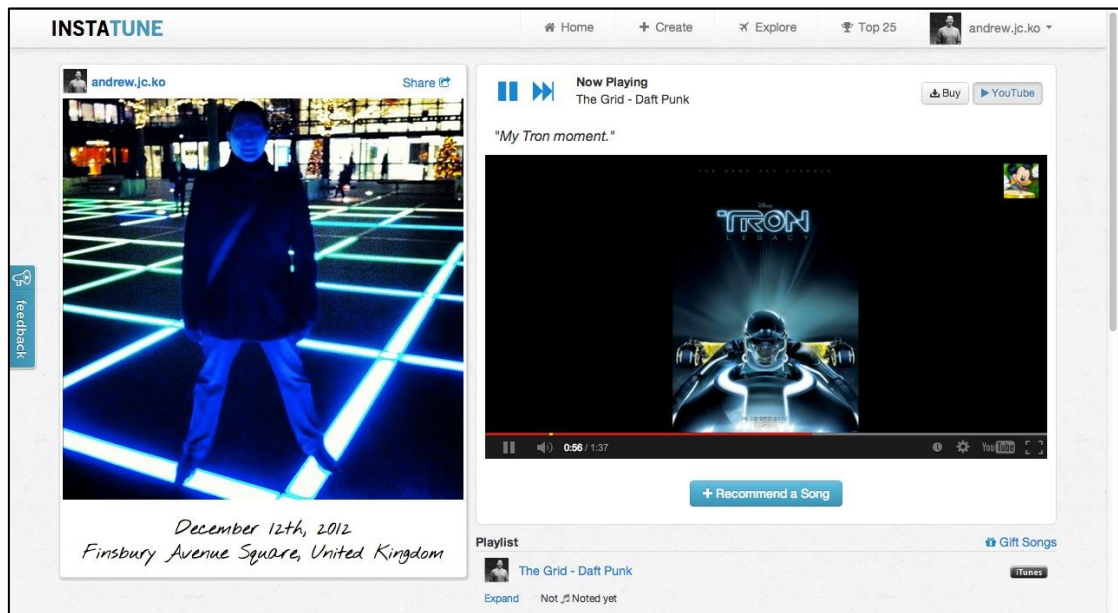


Figure 131. YouTube streaming of song

Recommend a song

Members of the Instatune community can recommend songs to each other through moments. When they press the “Recommend a Song” button, the tags for that moment appear along with a search field where the user can search for a song in iTunes or Soundcloud by the title or artist. There is also a play button where the preview of the song can be played. As mentioned earlier, the tags are meant as a guideline to the user as to what kind of music the creator of the moment wants recommended to them.

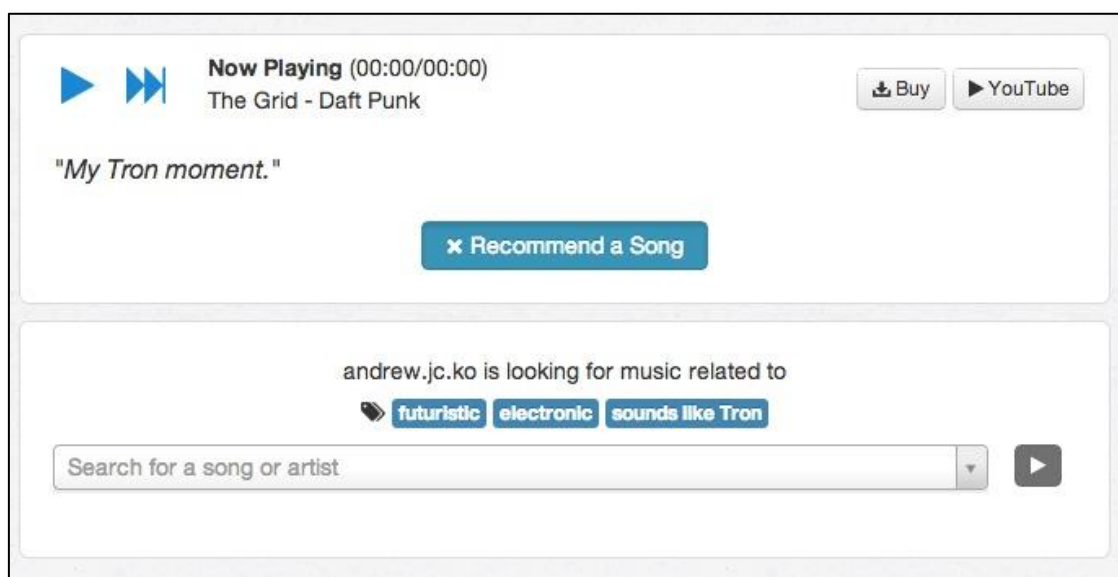


Figure 132. Song recommendation keywords

Once a song is chosen, the user can add a comment to their recommendation. This helps with the interaction between members of the community and can give some additional context to the song being recommended as well.

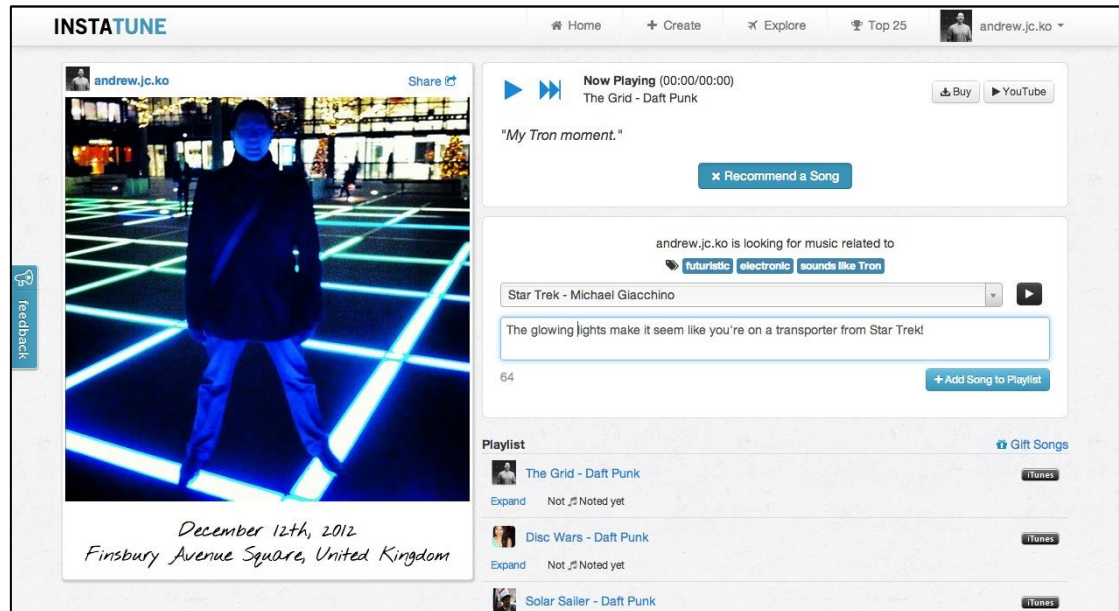


Figure 133. Recommending a song with comments

Once the recommendation is completed, the song is added to the moment playlist as shown below. The profile picture of the member who recommended it is shown along with the song itself. The profile picture can be clicked and is linked to the profile page of the user. The user also has the ability to buy individual songs or gift the entire playlist of songs to a friend, all through the Apple iTunes Store.

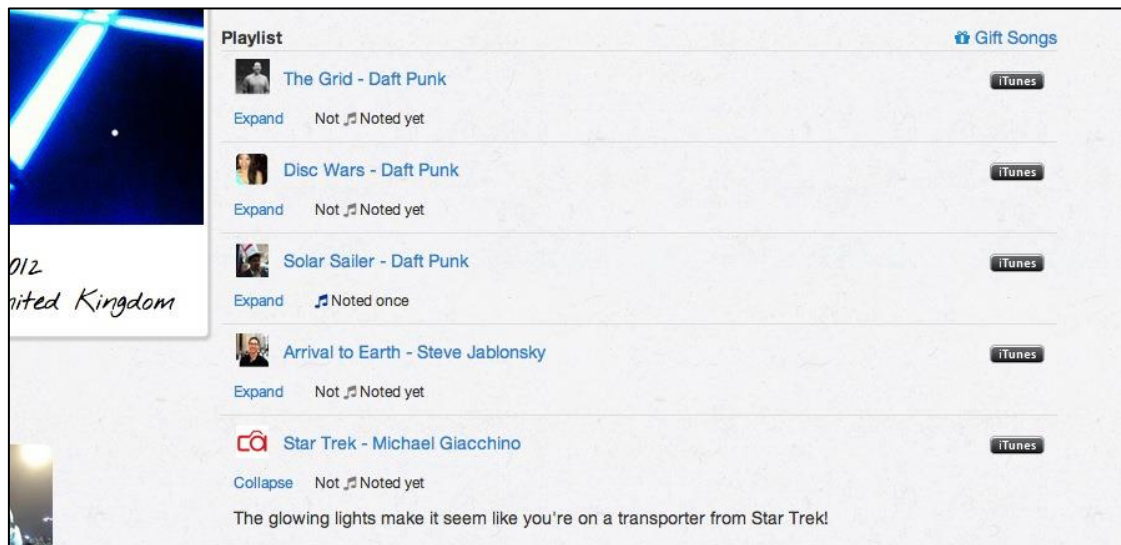


Figure 134. Moment playlist

Related Moments

The data from taking the *related moments* feature out of the moment panels in YLWM suggested that there was less engagement with the community compared to My Oopus (which had the feature). Therefore, we decided to add it back into Instatune to see if this would help increase engagement with the community again.

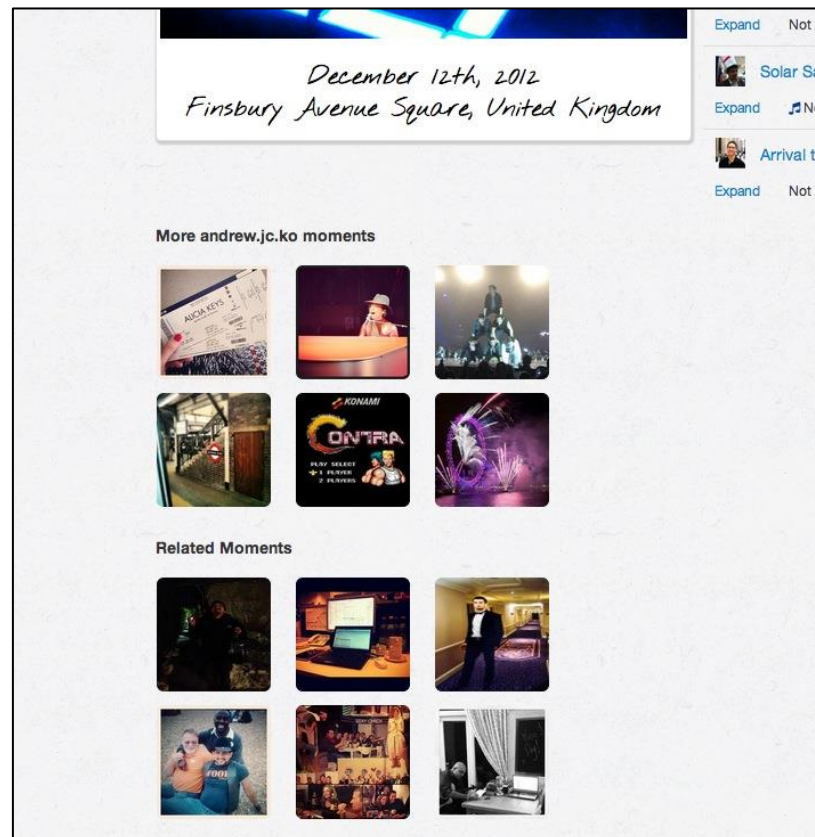


Figure 135. Related moments section in an Instatune music moment

Clicking on one of the pictures will take the user to the associated moment page, which would feature more related moments from the same user or context of the current moment.

Social Features

Sharing on social networks

The user also has the option to share the current moment to Facebook, Twitter or send it to a friend using their email address. This is done through the *Share* button in the moment picture area. Furthermore, the recipient of the moment did not have to be a member of the Instatune community to view the moment, since we allowed potential users to browse the website without having to register as a user. This functionality was enabled since the launch of Instatune and was a part of the lessons learned from YLWM.

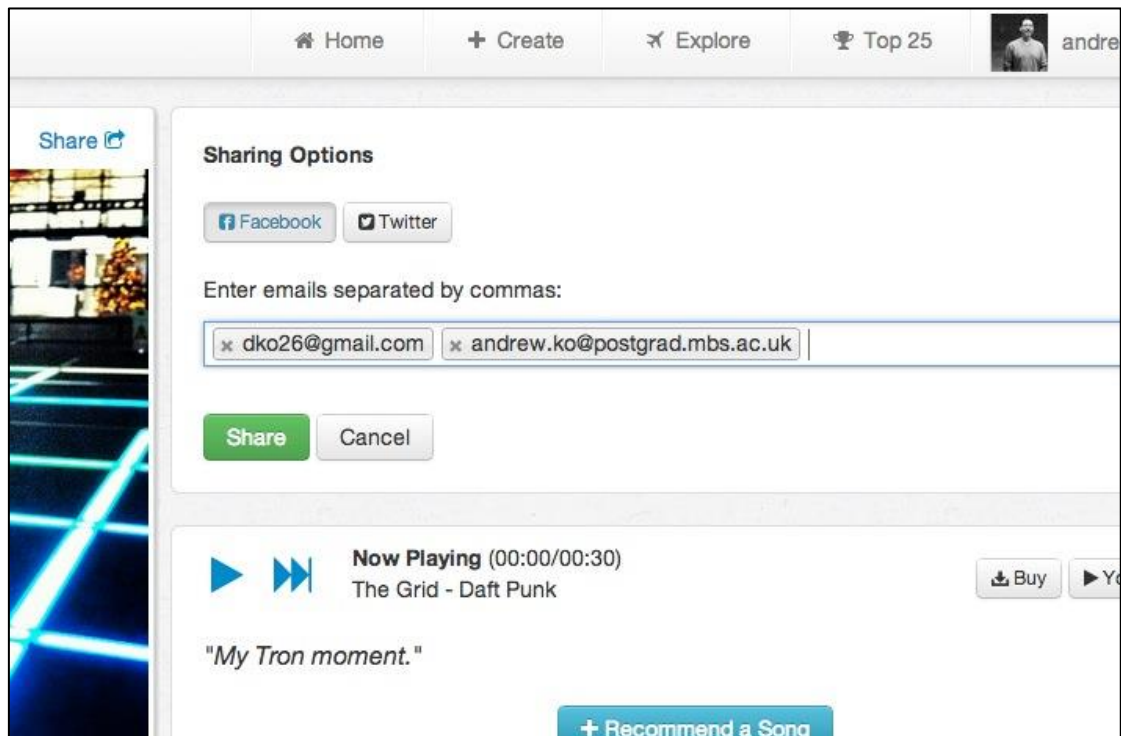


Figure 136. Instatune Social Network Sharing Options



Figure 137. Social sharing success message



Figure 138. Instatune Facebook Post

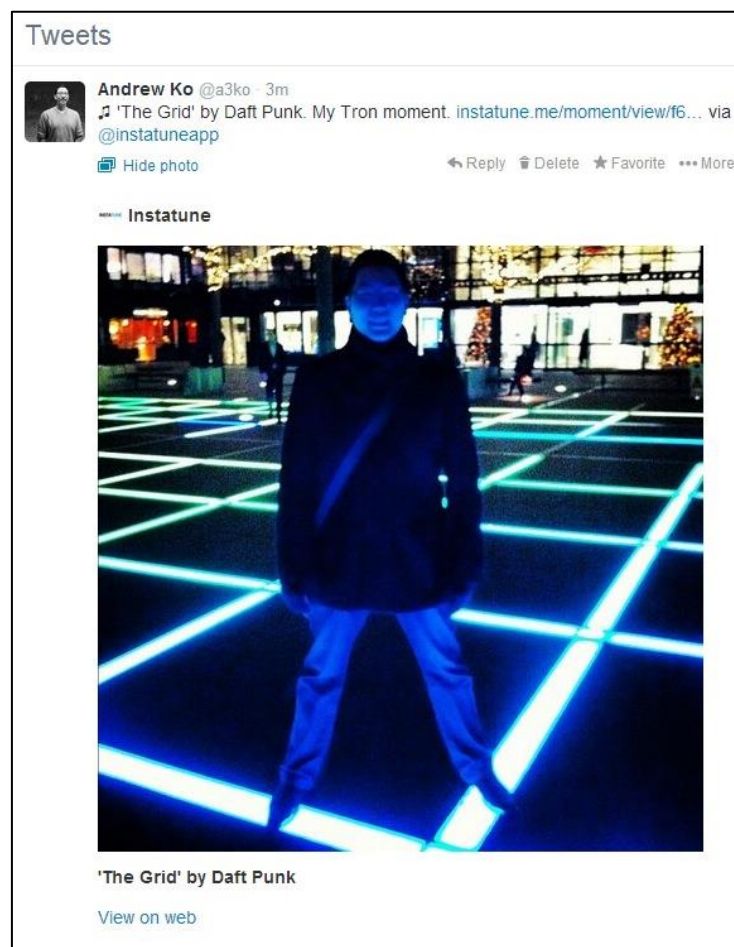


Figure 139. Instatune Twitter Post

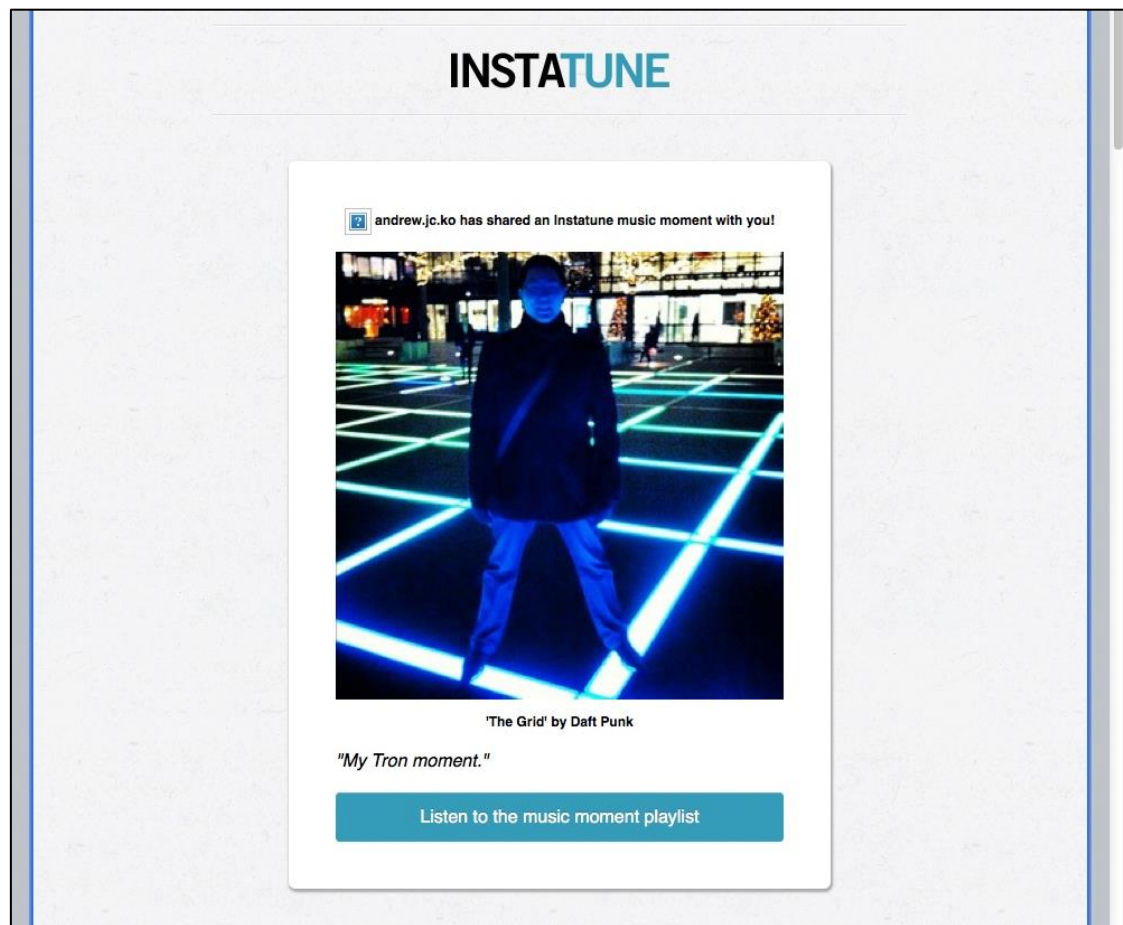


Figure 140. Sharing an Instatune Music Moment by Email

Inviting Friends

Users also had the ability to invite their friends to join the Instatune community through email, Facebook or Twitter. This feature was not available in YLWM but we wanted to include it in this community in order for it to grow as Lin and Lu (2011) have said that a website should promote its users to invite friends from their own social networks to join in order to “develop network externalities and encourage more people to use such a platform” (pg. 1159).

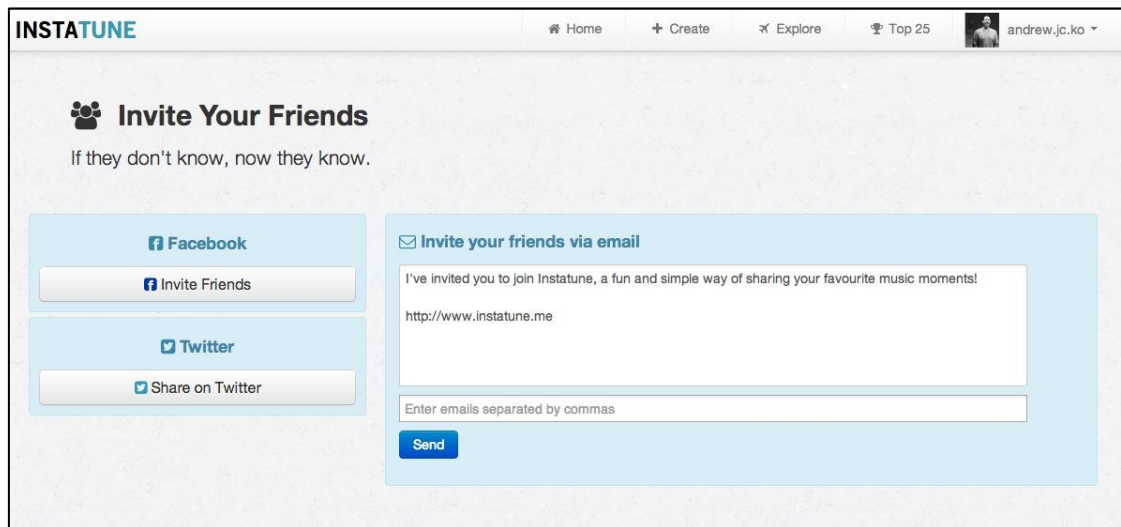


Figure 141. Instatune "Invite Friends" Feature

Musical Influencers

We wanted to add gamification elements into the community to make it grow with the help of our users. This is something that was inspired by David's online courses on Coursera¹⁸ with his class on Gamification¹⁹. As stated earlier in the *Frameworks* section, Gamification is defined as "the use of game design elements in non-game contexts" (Deterding et al., 2011, pg. 10) and draws its roots from theories of motivation in social systems (Beenen, et al., 2004).

Out of the four most commonly used patterns in game mechanics, as stated by Vassileva (2012), the two that we use in Instatune are ownership because the user is awarded points for certain actions, and status, by including a ranking system for each user based on the number of points they accumulate. Reputation was also stated earlier as being used to increase participation in online communities, such as Slashdot (Josang & Golbeck, 2009), though, it is hard to determine which actions need to be taken by a user in a virtual community to be awarded a certain status or reputation. Vassileva states that the difference between status and reputation is that "while status can be earned by the user in isolation, by performing certain actions, reputation is based on the opinion of other users about the user or her contribution." (2012, pg. 183)

¹⁸ <http://www.coursera.org>

¹⁹ <http://www.coursera.org/course/gamification>

Keeping this difference in mind, and knowing that our main goal with user participation was to increase user-generated content, community interaction, facilitate music discovery, and raise awareness of the community, we decided to add a variation on gamification using musical elements by awarding points to members who do any of the following:

1. *Creating a moment*
2. *Recommending songs for a moment*
3. *Getting their recommended songs noted*
4. *Sharing a moment on a social network*

These points allow the user to have a sense of status or ownership of what they are accomplishing within the context of the Instatune community (Vasilleva, 2012).

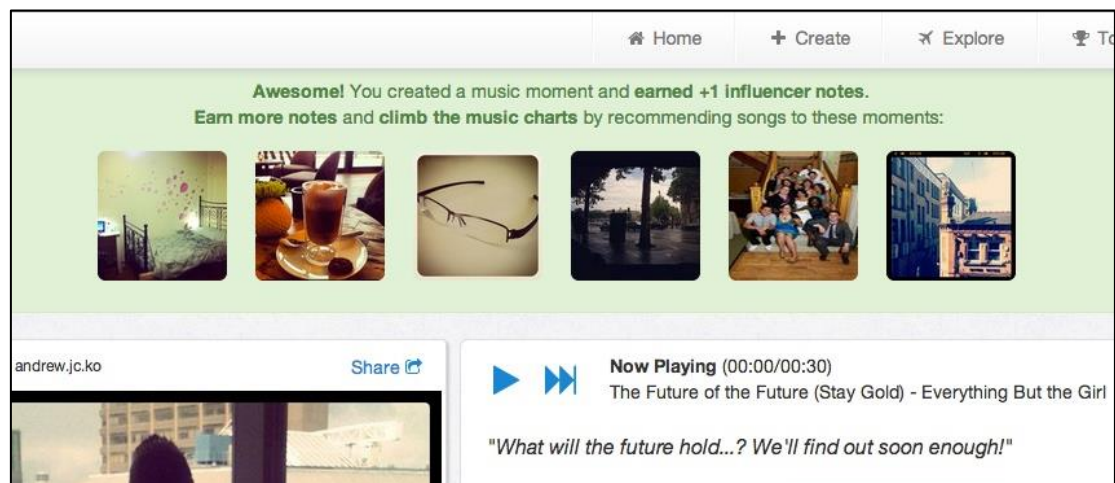


Figure 142. Earning influencer points for creating a moment

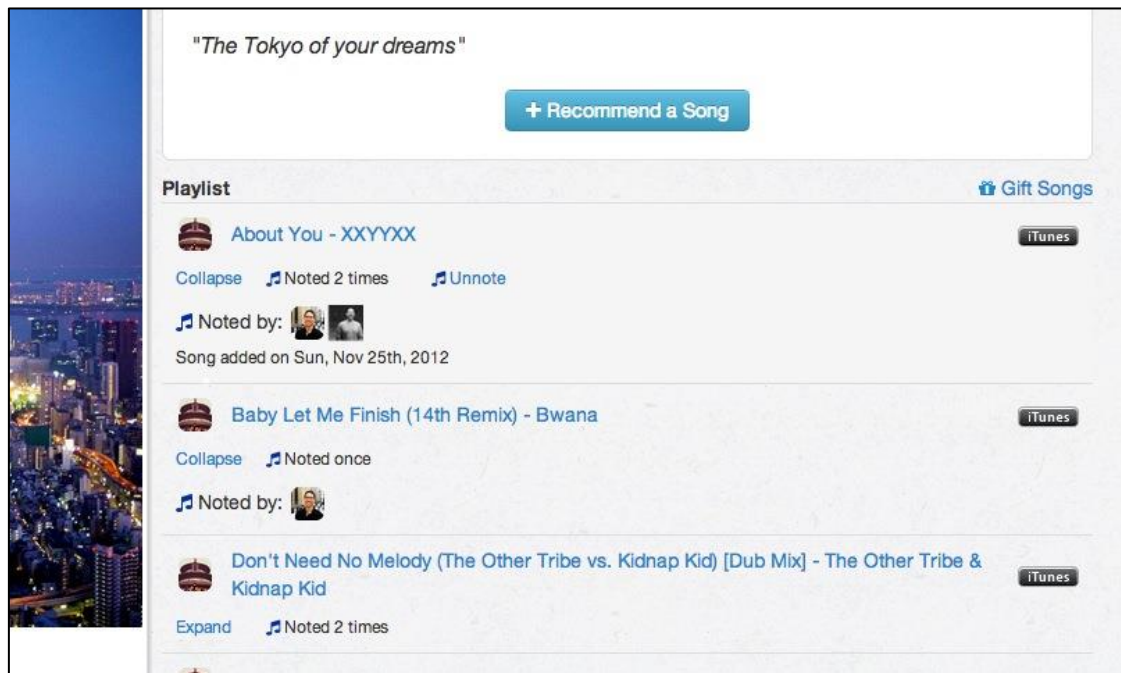


Figure 143. Noting a song in Instatune

Therefore, we combined both the reward of status and reputation. A user received status by creating music moments, recommending songs and sharing these moments on a social network, whereas users received reputation when other people noted the songs they had recommended.

The users with the most influencer points are ranked in a Top 25 list that can be accessed through the menu bar at the top.

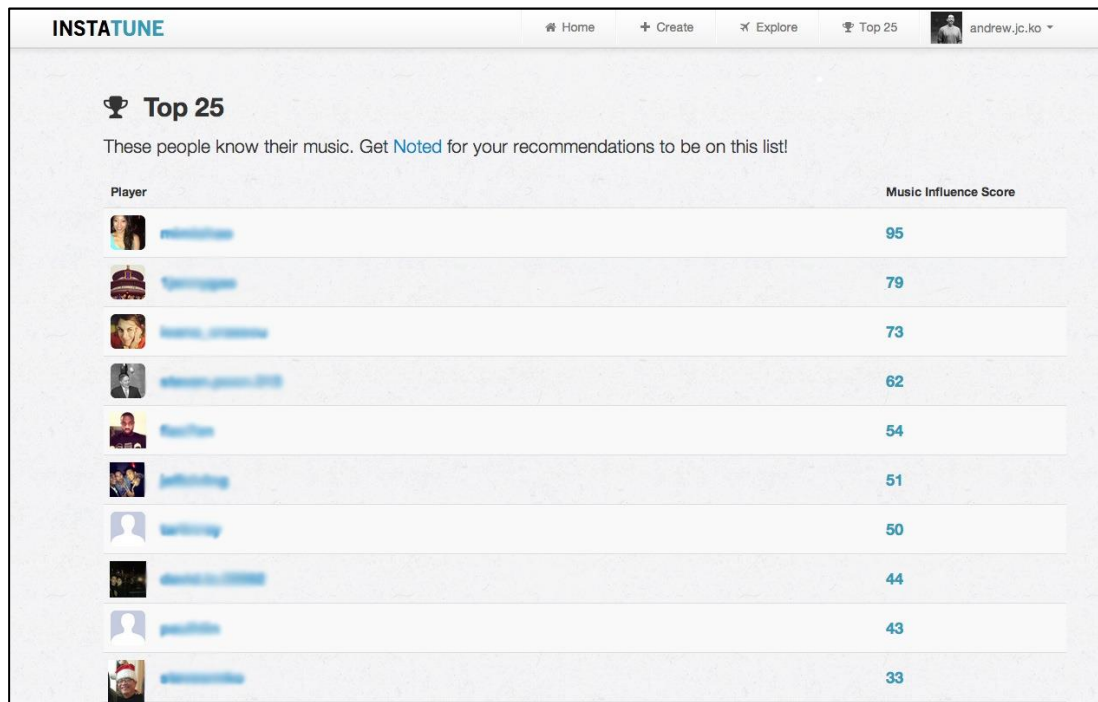


Figure 144. Top 25 list of musical influencers in Instatune

Exploring Moments

Moment Search

The user can also search for specific moments in the community using the search field in the *Explore* menu option. Users are encouraged to search for any term they want to find, including locations, moods or names of people or things (ie. cheese, cars, shoes, etc). The search engine would use the song titles, artist names, usernames, moment story, or contextual information as their search criteria and would allow a user to search for any moment within the community.

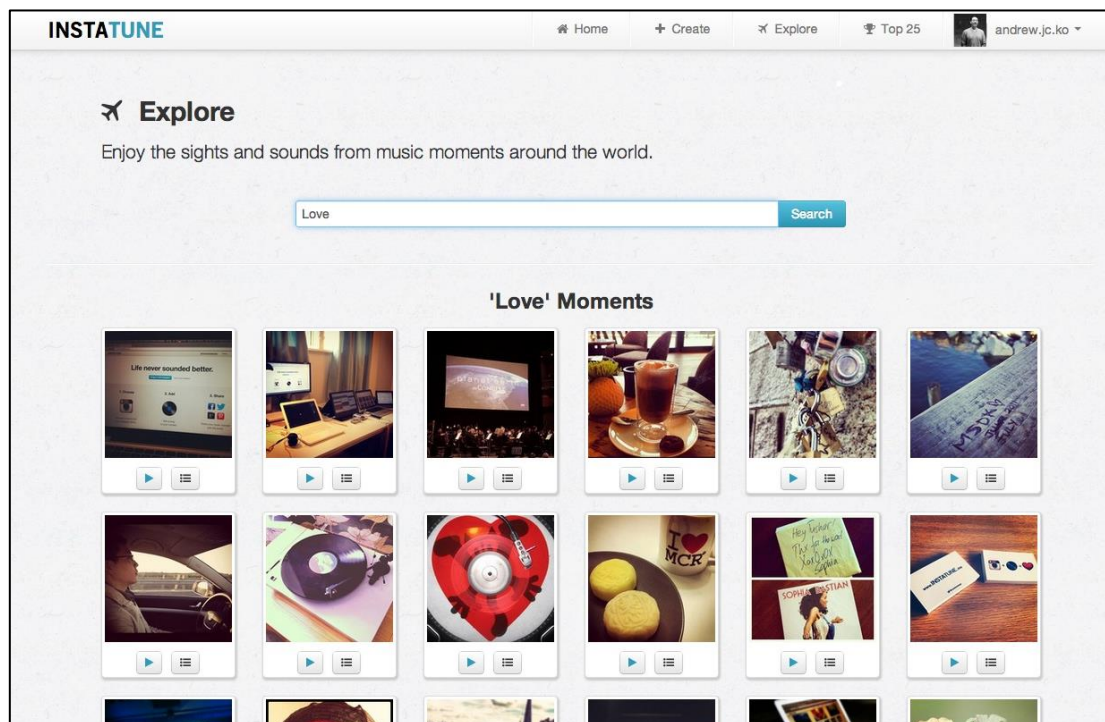


Figure 145. 'Love' moments in Instatune

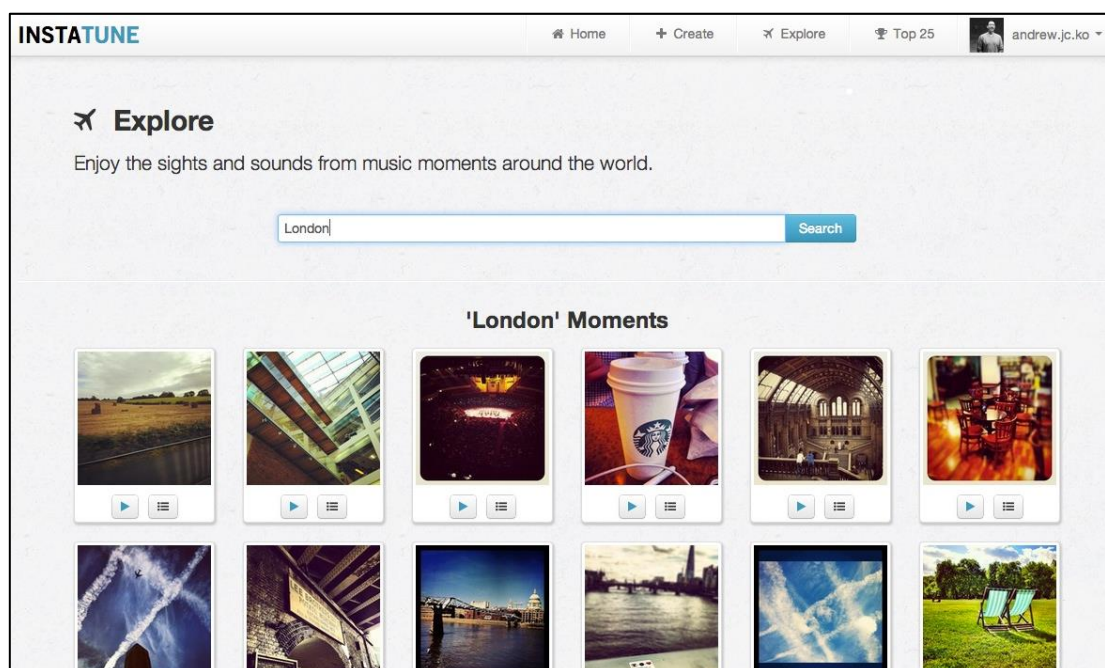


Figure 146. 'London' moments in Instatune

Account Settings

A user can also access their account settings in Instatune, which consists of their unique Instatune Page URL (ie. instatune.me/dko26), username, email address and full

name, which can all be edited. The user can also connect their other social network accounts to Instatune such as Facebook, Twitter and Flickr. The idea was to enable Instatune to be able to share moments to every major social network on the Internet in order to gain exposure, awareness and new users.

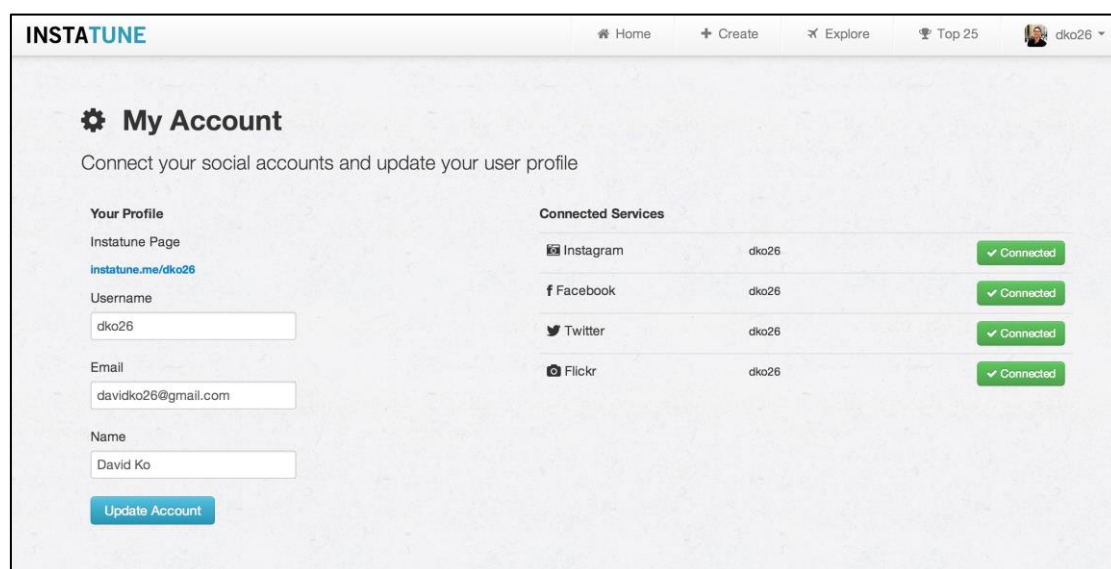


Figure 147. Example of David's Instatune account settings

Promotion

Instatune was promoted unlike any of the previous music communities before it, following Koh et al.'s (2007) statement that a social presence is critical for effective communication in a social context. Therefore, the promotion of Instatune was done through social networking channels such as Instagram²⁰, Facebook²¹ and Twitter²². We also promoted it through the use of the *#instatuneme* hashtag in Instagram. Hashtags were popularized between 2007 and 2008 through their use on Twitter (Zak, 2013), and Instagram started supporting hashtags in their captions in January 2011 (Instagram, Inc., 2011). Hashtags are generally used to categorize posts such as Tweets and to allow them to be searched easier within a social network (Twitter, Inc., 2013). Therefore, we wanted to take advantage of the exposure that using a hashtag could give us regarding Instatune and the moments that people create.

²⁰ <http://instagram.com/instatuneapp>

²¹ <https://www.facebook.com/instatune>

²² <https://twitter.com/Instatuneapp>

We created an Instatune Instagram account @instatuneapp and initially used the hashtag #instatune. However, there was another account already using the #instatune hashtag and told us to stop. We eventually picked the hashtag #instatuneme which coincides with our web domain as well.

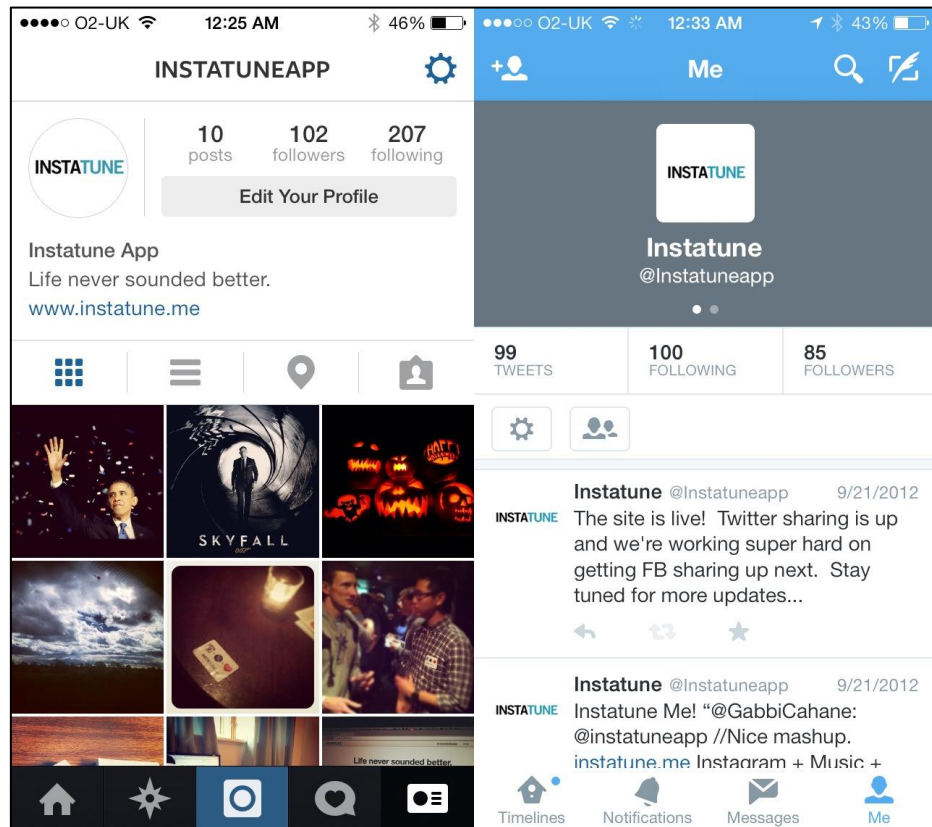


Figure 148. Instatune Instagram (L) and Twitter (R) accounts

Every moment that is created on Instatune is also linked to our Instagram account so that it appears in there as well. We attached a default message to every post made on Instagram from our account. Using the song ‘We are the Champions’ by Queen, the message would say:

“I’ve started a shared playlist with ‘We Are the Champions’ by Queen for this photo. Contribute more songs via @instatuneapp #instatuneme #Queen”

And to allow the user to know there is community participation happening within the Instatune community, whenever someone recommends a song for

your moment, it would append it as a comment to the Instagram post with this message:

“I think that ‘SONG NAME’ by ARTIST really fits your music moment playlist. Recommend more songs via @instatuneapp #instatuneme”

An Instatune Facebook account was also created to share Instatune activity with the largest social network on the Internet. Although user-generated moments were not shared on the Instatune Wall, any posts created by the Instatune team using our Instagram account was simultaneously posted on both Twitter and Facebook for wider social network coverage.



Figure 149. Instatune Facebook Page

Mobile Version

The feedback we received from users suggested that they would like to use Instatune as a mobile app. We did not have the available resources for this at the time so we addressed this issue by optimizing the website for mobile devices.

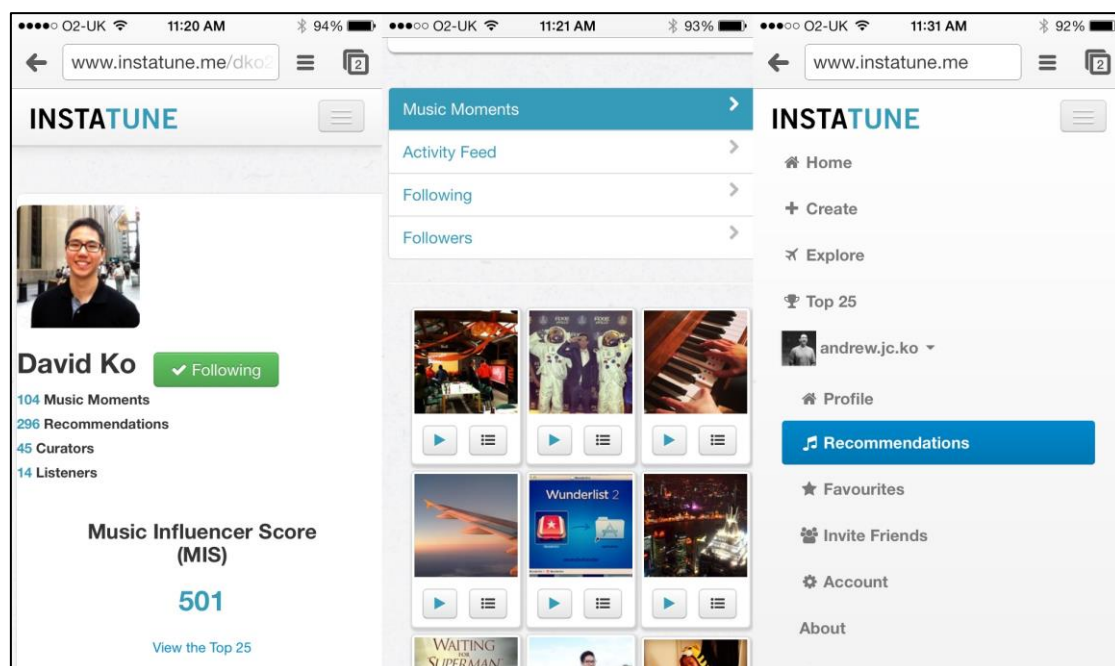


Figure 150. Instatune website on mobile: Profile page (L), Music moment (M), User menu (R)

RESULTS (Cycle 4)

Since users could log in with Instagram, Facebook or Twitter, the data we received on each user is both inconsistent and incomplete in terms of demographic information. Therefore, there are no appendices for user information in Instatune. Furthermore, data collection for the user and moments created for Instatune stopped 131 days after the initial release of the community such that the process of analyzing the results and writing up the thesis could begin in earnest.

User Statistics

Growth

There were 158 unique users that joined Instatune over a period of 131 days since the launch of the community. Much like the previous two communities before it, Instatune

showed two major increases in growth of new users. One occurred between days 10 to 16, where the number of users increased from 30 to 54. This coincided with the Instatune team's attendance at a local Manchester social gathering for people working in the digital creative industry where we were able to promote the website to those who attended. Out of the 24 new users, 12 of them were people we had met from the social event, and the other half consisted of close family and friends.

The second spike in new users occurred on days 37 to 42, during which time the number of users grew from 71 to 92. This was due to two social events in London that the team attended to again help promote the website. An interesting finding is that this entire increase of new users either came via referrals from existing Instatune users, through awareness due to our promotion through social media channels or by stumbling upon the website by accident. But the users did not join the community because of a direct invitation from a member of the Instatune team, which is how users were acquired from the previous two communities.

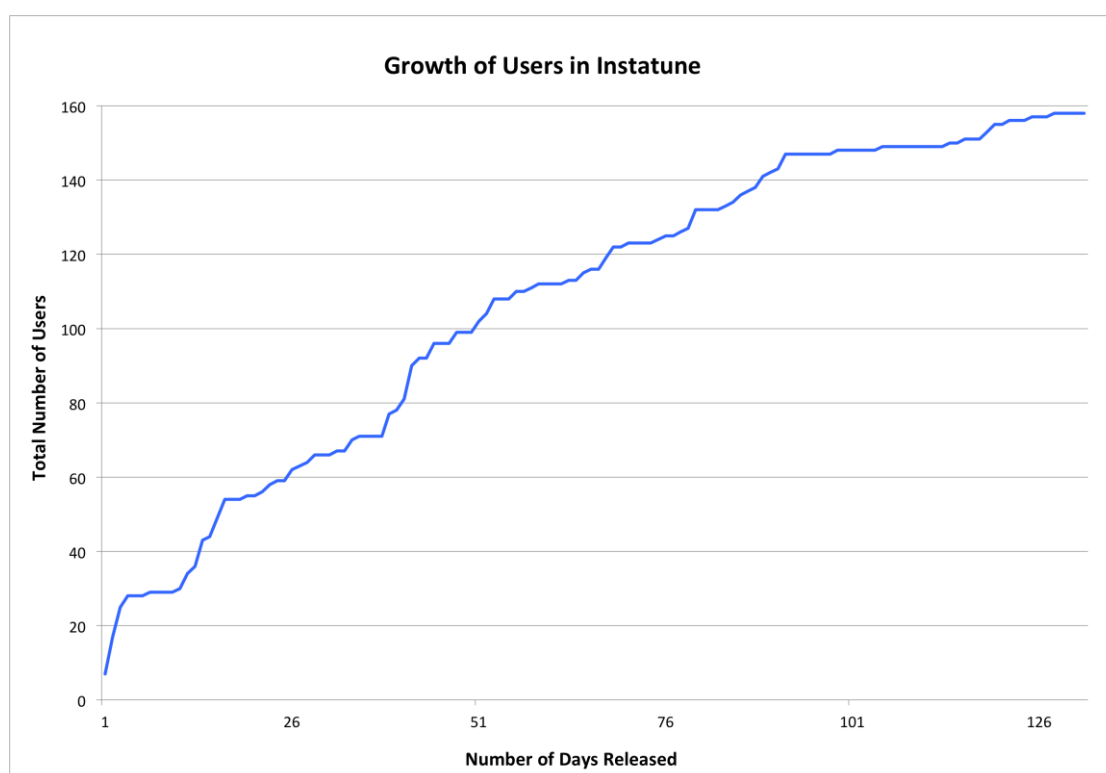


Figure 151. Growth of users in Instatune

Comparing the three communities in terms of user growth, Instatune has a much higher rate of growth than both My Oopus and YLWM. It must be noted that there

were 10 people who used both Instatune and My Oopus and 8 people who were registered to both Instatune and YLWM.

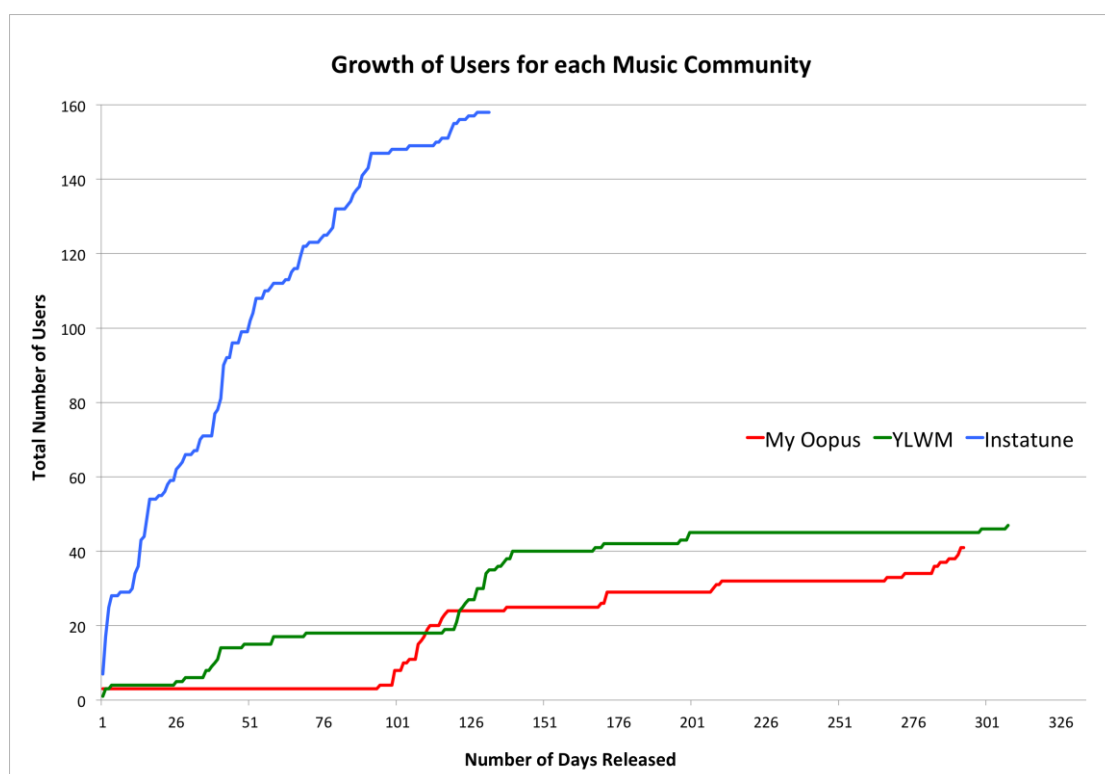


Figure 152. Growth of users for each music community

Community	Number of weeks (days) since launch of community						
	1 (7d)	2 (14d)	4 (30d)	8 (60d)	16 (120d)	32 (240d)	52 (365d)
My Oopus	3	3	3	3	24	32	41
YLWM	4	4	6	17	21	45	47
Instatune	29	44	66	112	155	N/A	N/A

Table 21. Comparing the 3 communities in terms of user growth

In its initial launch, Instatune had 28 users in the first 3 days. Among the 28 users, there were 16 unique users that had not registered for My Oopus or YLWM before. It took My Oopus 108 days to reach 16 unique users and it took YLWM 58 days to reach the same number.

Demographics

Because we used external APIs for registering users, we did not have the ability to retrieve all the demographic information of a user's profile from these social networks. For example, gender information in Instagram is an optional field that users can choose to fill in. However, much like YLWM, this field is hidden in the Profile Settings of the app, which makes it difficult for Instagram users to take notice much less fill out. In terms of age, Instagram did not have a field to enter in one's birthday so there is no age information from Instagram. There were also difficulties with the other two social network APIs in obtaining demographic information as well. Twitter does not have a gender or birthday field, but does have an optional location field. For Facebook, a birthday and gender question is required to be answered to register with the service, as well, as an optional location field one can fill out in their profile page. However, this information is difficult to obtain and depends on the user's privacy settings.

Therefore, the information we were able to retrieve from Instatune users is not complete and, thus, I am not able to compare these findings with My Oopus and YLWM that accurately represents the Instatune population.

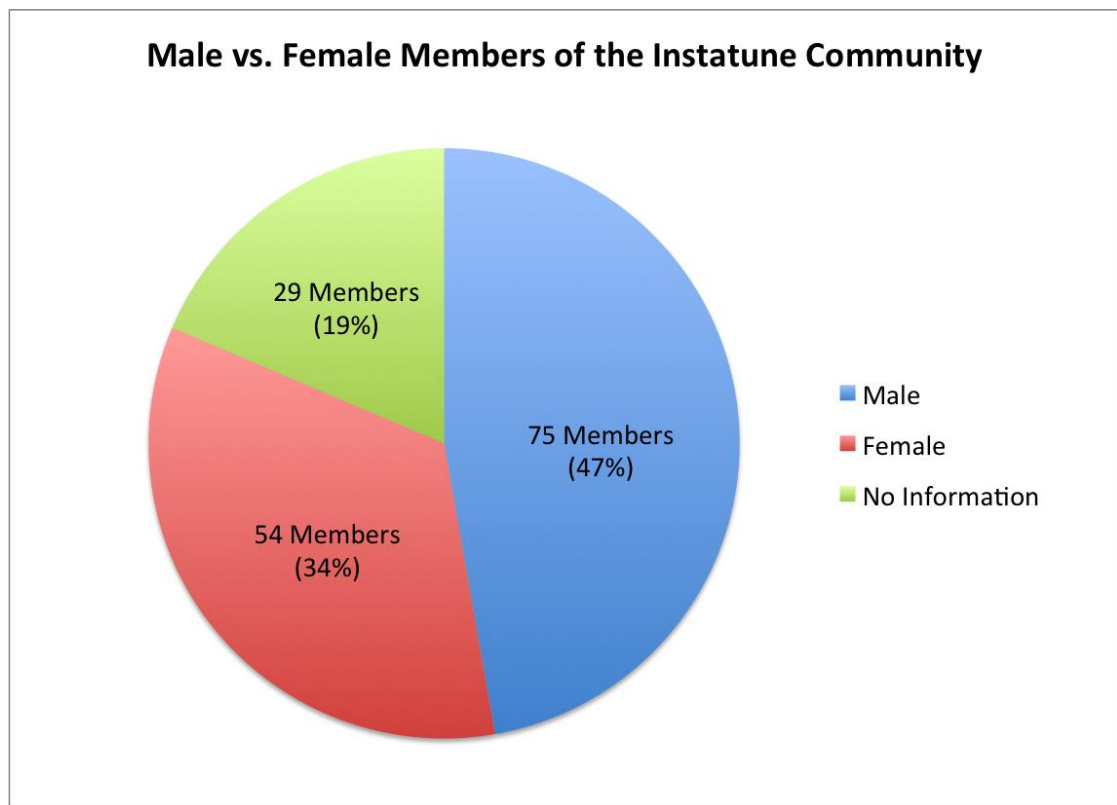


Figure 153. Gender breakdown of the Instatune community

User-Generated Content

Music Moments Growth

There were a total of 323 music moments created over 131 days. There were two periods during which a significant number of moments were created. The first occurred between days 1 to 3, as the number of moments increased from 0 to 69. This happened at the launch of the community, which is to be expected as most of the Instatune team were creating moments ourselves and actively promoting the new community. The second instance occurs from days 9 to 16, as the number of moments created grew by 62, from 71 to 133. The explanation for this growth is that this period coincided with the largest growth in new users as well.

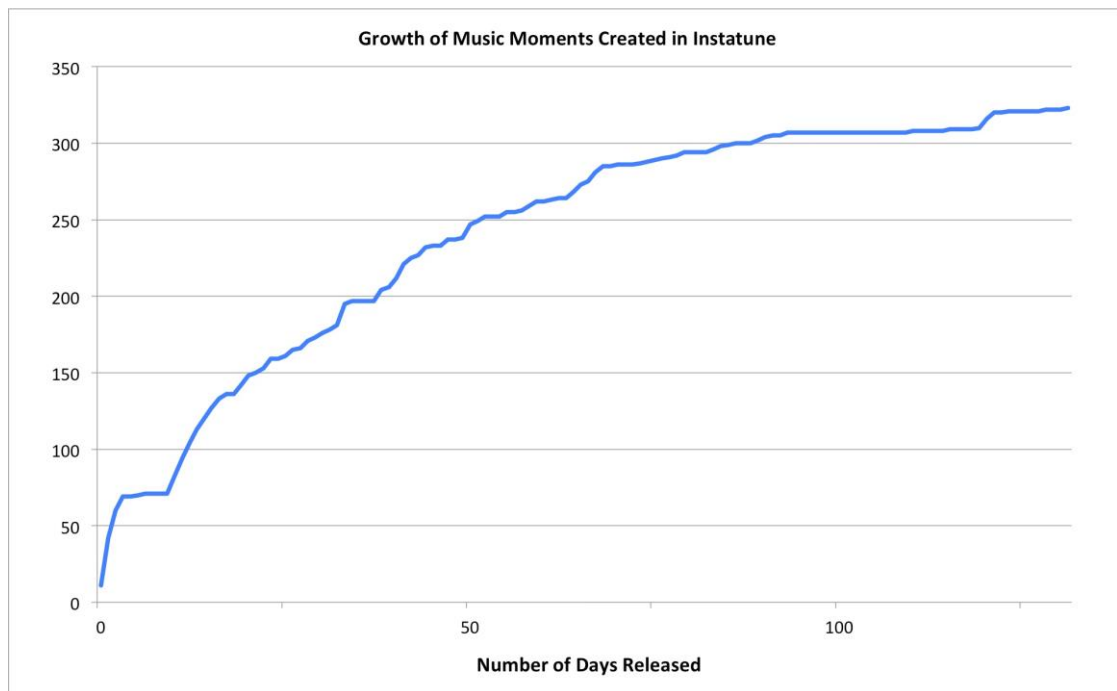


Figure 154. Growth of music moments created in Instatune

Comparing the growth of total moments in all three communities, Instatune reached the total number of moments created in My Oopus (150) in 21 days and in YLWM (166) in 26 days. There might be two aspects that increased the number of music moments in Instatune as compared to the other two communities. The first was that we flipped the moment creation process around so that the user starts with a picture instead of being presented with a blank field for an artist and song title. This was a significant change because upon first glance, our community might seem nothing more than a photo-sharing website. However, Cabeza, et al. (2004) found in their study that a person retrieving their own photos are likely to remember what was happening in that moment, this would presumably include what they were doing at the time, who they were with and what music was playing (if any). Therefore, using this method would hopefully allow the person to remember more vividly what music they were listening to at the time or what music reminds them of that moment.

The second aspect that might have helped the Instatune community create moments more quickly than the previous two communities lies in the data contained in each picture from Instagram or Facebook. Along with the user's own memory of the event depicted in the photo, there is also the metadata that is attached to it that we can retrieve to help pre-populate the required moment fields such as the time, date and

story. The only action required from the user was to pick a song that best represents that moment. Having to answer only one required question made the Instatune moment creation process shorter and easier to complete compared to the similar processes in My Oopus and YLWM.

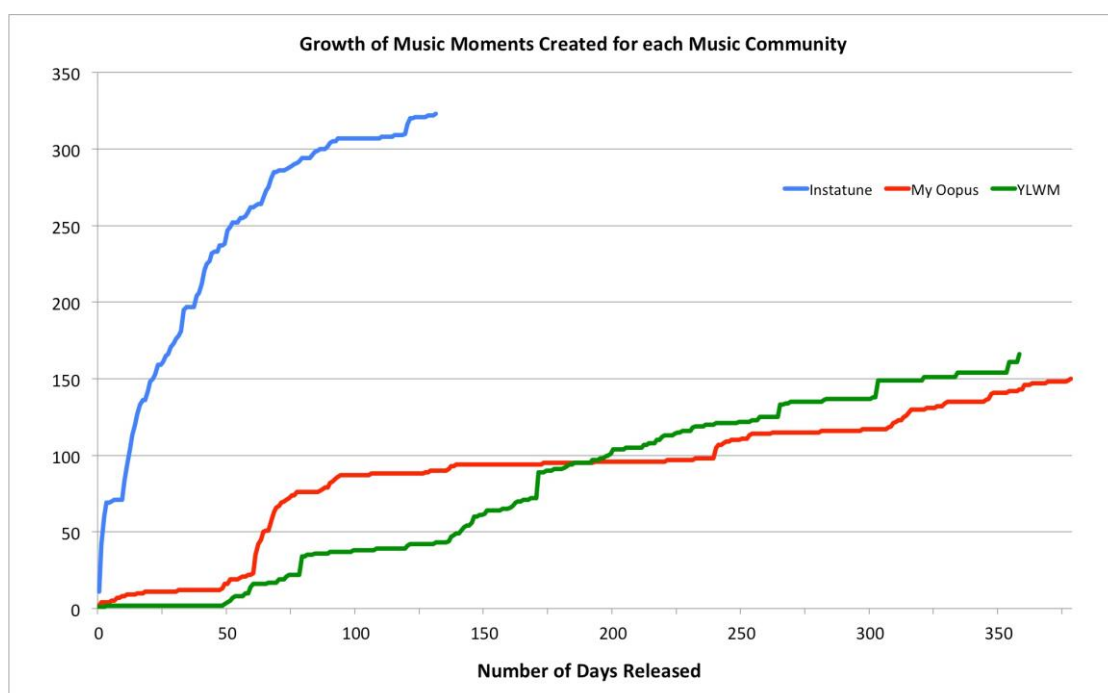


Figure 155. Growth of music moments created for each music community

Community	Number of weeks (days) since launch of community						
	1 (7d)	2 (14d)	4 (30d)	8 (60d)	16 (120d)	32 (240d)	52 (378d)
My Oopus	7	9	11	23	88	104	144
YLWM	2	2	2	16	41	121	166
Instatune	71	120	176	262	316	N/A	N/A

Table 22. Comparison of growth of moments between all 3 communities

Moments with Pictures

Every moment in Instatune is required to have a personal picture chosen from either the user's Instagram or Facebook accounts. This was designed to increase engagement with each moment in the community and will be discussed in the *Engagement* section below.

Community	With Pictures	Without Pictures
My Oopus	91 (63%)	53 (37%)
YLWM	33 (20%)	133 (80%)
Instatune	323 (100%)	0 (0%)

Table 23. Comparison of number of moments with and without pictures

Multiple Moments

Much like the My Oopus website, users in Instatune were not required to create a music moment to be able to participate within the community. Because of this, there were 132 people (or two-thirds of all registered users) that did not create a single music moment. However, there were other ways in which to engage with the content in the community, such as recommending a song (which I will go into further detail below). There were 28 users who created 2 or more moments, with the top four moment creators contributing slightly more than half of all the moments in the community (162 out of 323).

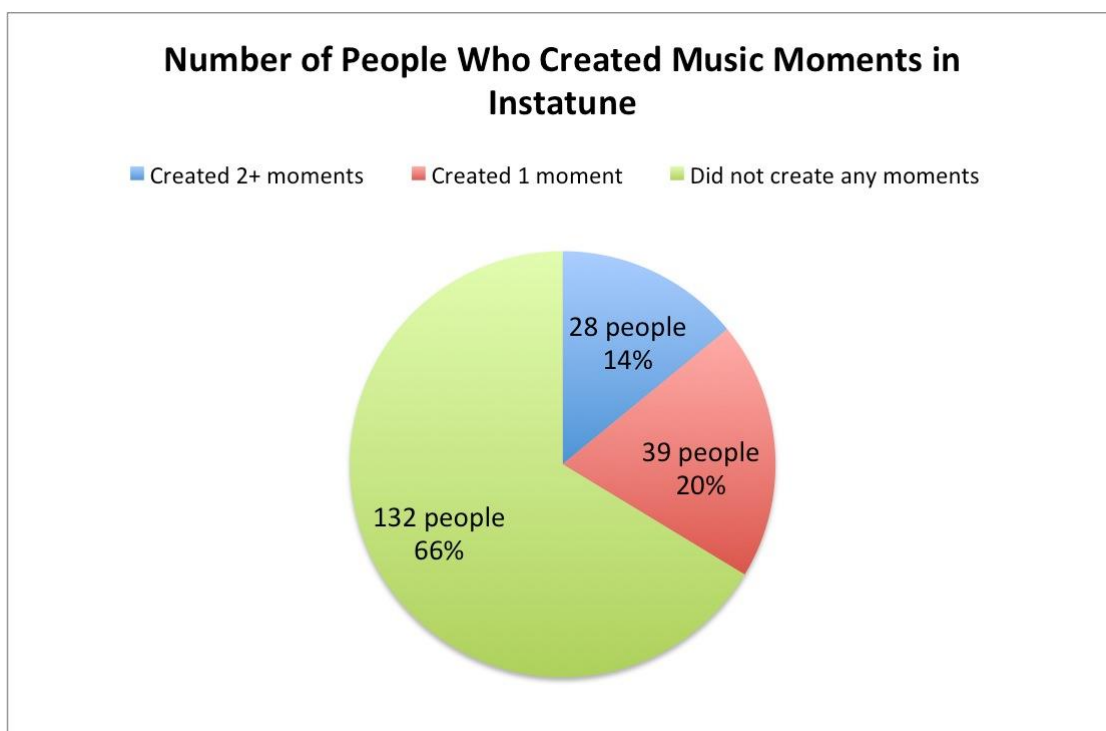


Figure 156. Number of people who created music moments in Instatune

Community	Total No. of users	Did not create a moment	Created 1 moment	Created 2+ moments
My Oopus	41	27 (66%)	3 (7%)	11 (27%)
YLWM	47	0 (0%)	32 (68%)	15 (32%)
Instatune	199	132 (66%)	39 (20%)	28 (14%)

Table 24. Comparing multiple moments being created

Community	Total Moments	Top 4 Creators	% of Total
My Oopus	144	114	79.2%
YLWM	166	77	46.4%
Instatune	323	162	50.2%

Table 25. Top 4 moment creators in all 3 communities

Private vs. Public Moments

All Instatune moments were made public by default, therefore no comparison will be made between the 3 communities.

User Interaction

Song Recommendations

It was decided in the previous cycle that due to the likelihood that web crawlers may have artificially inflated the viewing numbers for the moments in My Oopus, it would not be possible to use this metric to accurately compare user participation for all three music communities. The only metric that will be used to determine and compare participation in all the communities is the number of comments the system receives.

The commenting system used in Instatune was different to that of My Oopus and YLWM as it used songs to convey a message, rather than just the message itself. This unique way of commenting seemed to attract much higher engagement with the community as there were a total of 712 song recommendations made for 194 different moments with the breakdown being as follows:

Community	Total Comments (Song Recommendations)	Moments with 1 comment (song)	Moments with 2 comments	Moments with 3+ comments
My Oopus	23	16	2	1
YLWM	69	36	8	5
Instatune	712	65	39	90

Table 26. Comments/Song Recommendation breakdown between the 3 communities

The creator of the moment with the most number of recommendations (17) was one of David's friends who is a unique user to Instatune and was not registered with My Oopus or YLWM.

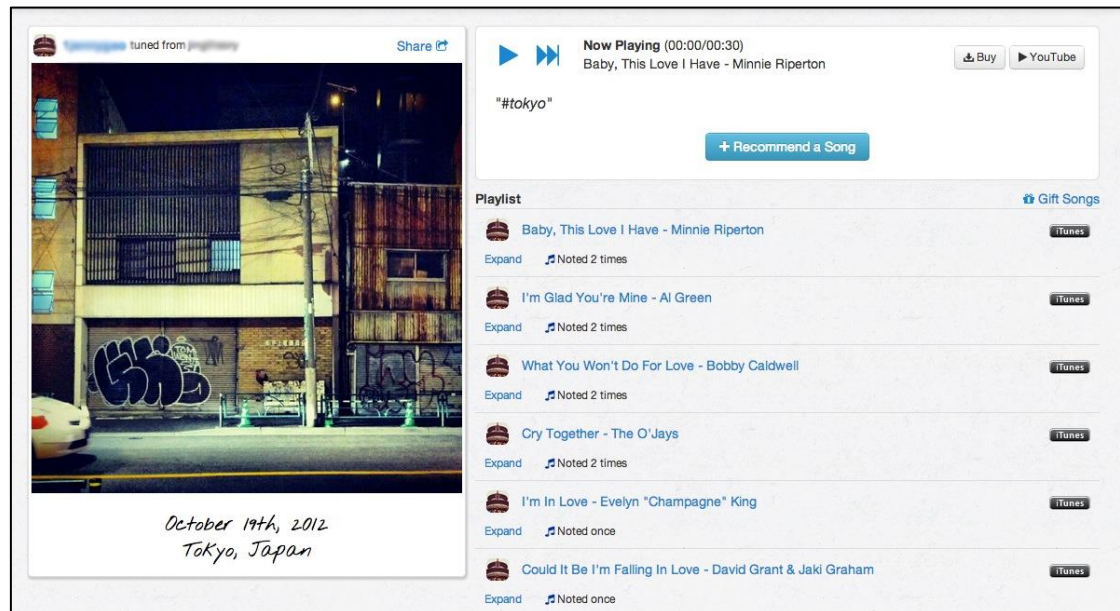


Figure 157. Instatune music moment with the most number of song recommendations

REFLECTIONS (Cycle 4)

Having been able to build and test two previous music communities allowed our team to combine the learning from both to apply to our development of the Instatune website. I reflect on some of the most important learning from this cycle below.

Lean Startup

After reflecting on this cycle and interpreting the results, I can see that following the Lean Startup model (Ries, 2011) of creating an MVP, getting feedback so we could decide how to proceed and iterating quickly was the right approach. This was shown through the increase in the total number of users, the growth of those users, and the amount of user-generated content as compared to both My Oopus and YLWM.

Having reflected on this issue some more, I think the main reason why we did not open YLWM to a wider community earlier was because, from a development standpoint, we knew it could be better and did not want the feedback associated with a

product that was less than our final vision. The drawback to this approach is that if we do not talk to the users of our own community, we will not know what development is needed and what is not, thus potentially wasting valuable resources working on a feature that might not be necessary or wanted even. As a small team with limited resources, we need to know if every change we make will help bring more new users or enhance the experience for existing users.

We did not take this approach with either My Oopus or YLWM, however, after reading about the Lean Startup by Ries (2011), we took a different approach with Instatune. We thought about putting it in the public realm as soon as all the basic features needed in the site and all the serious bugs were worked out. Our goal was to get as many people as possible to try it out and to receive feedback, both positive and negative, from them so that we could improve and iterate quickly, essentially shortening the development cycle. Therefore, seeing this methodology in action has made me realize the valuable of obtaining feedback quickly to help inform your decision for the next steps of development.

API Interaction

Reflecting on our decision to connect Instatune with other social media APIs, it seemed to help resolve some of the issues that were brought up in the previous cycle. In YLWM, we did integrate some additional features with Facebook such as liking or sharing, but that did not include the ability to log into the community through it. This raised an issue regarding users constantly forgetting their login password to gain access to YLWM. However, with Instatune, we added the ability to use a person's Instagram, Facebook and Twitter profiles to log into the community, thus removing the need to create a unique username and password to access Instatune. In addition, we kept the ability to share a music moment through Facebook, but have also added the option to share on Twitter and through email as well. Therefore, Instatune is the community that has integrated the most with other social networks and the evidence from the results suggest that this has helped the community grow as well, both in the number of new users and the user-generated content.

Participation

There were several features added to Instatune that we anticipated would help increase the amount of posting activity in the community based on Koh et al.'s (2007) study. Posting activity in Instatune consists of creating or recommending a song for a music moment and we ensured that user-generated content by all members were featured prominently throughout the community. User-generated content was displayed in the "related moments" section on each moment page and in the Explore menu option as evidence of pro-social behaviour. However, since each music moment in Instatune has a unique URL, the total number of views may not be accurate due to the activity of automatic web crawlers. This is similar to the situation described in the *Lessons Learned* section in Cycle 3 when I compared the number of views for moments in My Oopus and YLWM and found that the viewing numbers were inflated in My Oopus due to the crawlers. Therefore, the viewing activity in Instatune was not used to compare the level of participation between each community and only posting activity was considered.

Making the moment creation process easier to the user was one of our main priorities before starting this last cycle in anticipation that this would help increase the amount of user-generated content. After implementing several moment creation improvements to Instaune and seeing it in action, I interpreted the results to suggest that using the metadata contained within digital pictures streamlined the entire process. The reasoning behind this interpretation was that the user had to answer fewer questions to receive benefit from creating a moment. Furthermore, the total number of song recommendations made in Instatune, comparable to comments in My Oopus and YLWM, increased significantly compared to the previous two communities. This may be a result of having more users and moments to comment on or it could also be the combination of making the moments more visible to users and the gamification elements. Even though the specific factors are not able to be identified, the evidence from the study suggest that a combination of the features that were added to Instatune made the community more interactive, and thus elicited more participation from users, when compared to the previous two communities.

One issue that surfaced from the feedback involved the difficulty in choosing a song that best represents the moment they were trying to create. In My Oopus and YLWM, since we asked people for a significant life moment with music, they already had a song in mind. However, with Instatune this was not the case as they were prompted to choose a picture first, and then choose a song they remember hearing in that picture. What ended up happening was that people would try to find a song that best “fits” that moment, most likely because they forgot what song they were listening to or there was no music actually playing at the time. Therefore, reflecting on this development, the evidence seems to suggest that it is easier for people to create a moment that starts with a song that needs a picture, rather than a moment that starts with a picture that needs music. However, this finding is not a generalization because the sample size is too small and would be a good topic for further studies.

Social Awareness

Another change in direction that we took with Instatune compared to the previous two communities was that of social awareness from the first day that we launched it. As shown in the *Promotion* section in *Methodology*, Instatune was mentioned or had a presence on Facebook, Twitter and Instagram, which helped raise awareness as to the existence of the community from the beginning. In contrast, it took us 94 days to get our first new user using the mobile app and the online community, and it took us 25 days to achieve the same with YLWM. Therefore, the evidence suggests that raising awareness through social media channels can help in getting users to join a virtual community in its infancy.

In parallel, we also started to attend local meet up groups in Manchester for networking with people who work in the digital creative industry to raise awareness of Instatune through personal interactions. Upon reflecting on this decision, it helped in raising the social trust in the virtual community as potential users were able to talk to the developers of the website directly, ask any questions or voice concerns they might have with joining the network. Blanchard and Hora (1998) mention this as they stated virtual communities that overlap with face-to-face ones will result in a greater increase in social capital compared to ones that are completely online and by going out to talk to people about Instatune, we saw this theory in action.

Oopus Team Data

Again, much like the last cycle, I reflect on the number of moments that are created by users in Instatune that were not a part of the Oopus Team (Martin, David, Mihai and myself) and compared it with the other two communities.

Community	Total number of moments	Number of moments without the Oopus Team	No. (%) of moments contributed by Oopus Team
My Oopus	144	64 (44.4%)	80 (55.6%)
YLWM	166	82 (49.4%)	84 (50.6%)
Instatune	323	267 (82.7%)	56 (17.3%)

Table 27. Number of moments created without Oopus team contribution for all 3 communities

Although the sample size is still too small to generalize the findings, the evidence suggests that the lessons we have learned from the previous two communities have helped us understand how to encourage participation and engagement within Instatune. This is shown through the substantial decrease in the dependence of the Oopus Team in creating content for the community from YLWM.

Themes in the Cycle

In this last cycle, there were two themes that emerged upon reflection of the results. The first involved the utility of participation in a virtual community and the second is the nature of software development that is continually in beta, hence giving the thesis its title.

Utility of participation

One reflection I had was on the fact that although I initially thought the music community would be used in a purely hedonic context, the interpretation of the results made it seem as though users also wanted to use it in a utilitarian context. This was evidenced by the fact that once the perceived usefulness and ease of use determinants from the SNSA model (Sledgianowski & Kulviwat, 2009) were fully incorporated into Instatune, the number of new users increased substantially from YLWM. Since these two factors are a major part of the TAM model (Song et al., 2009), and this model was used in a purely utilitarian context, it can be reasonably assumed that the users of this music community were in fact using it for more than just pleasure. This might be in

the form of discovering new music in a way not done before, through other people's experiences. This comes full circle to what Volda et al. (2005) stated earlier in Cycle 1 when they said that there must be a connection between "treating music sharing technologies as personal music listening utilities and treating music sharing technologies as online communities" (pg. 200). Furthermore, van der Heijden (2004) states that the web serves "both utilitarian *and* hedonic purposes, and the nature of the websites that people surf determines which belief takes precedence" (pg. 697). The findings from this study suggest that this is the case.

Beta Testing

When software is in development, testing takes significant resources through both people and cost. Zemin describes beta testing as "a test for a computer product prior to commercial release" (2010, pg. 423) and during this phase the software is usually sent out to test users to provide feedback and to help influence the design at a time when the development team has the flexibility to respond (MacCormack, 2001). However, since each test user is different and developers might not interpret their feedback correctly, this can lead to long development cycles and, ultimately, higher costs. Sometimes, these products miss their intended release date, either through mismanagement of the project or more strategic reasons, and are termed "vaporware" (Bayus et al., 2001).

Zemin (2010) states that the development cycles consist of the following stages: release beta version, receiving feedback, modify and update, regression testing, censor and release the final version. The "solve?" stage shown in Figure 158 below, refers to whether a specific problem in the software has been solved and the "censor" stage is where a decision is made as to the release readiness-state of the software. If the final version meets certain conditions then it will be released, if not it will need to be tested again.

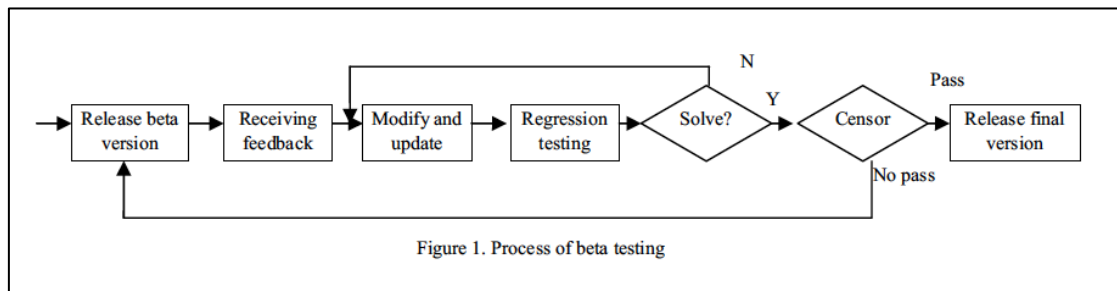


Figure 158. Process of beta testing a web application (Zemin, 2010, pg. 424)

For Internet software to avoid ending up as vaporware, MacCormack (2001, pg. 76) outlines four practices that could lead to successful development:

- *Customers should always receive an early design release of the product, even if it is still undergoing some changes*
- *Developers should respond quickly to feedback on design change and work on improving the code on a daily basis*
- *The development teams should have an experienced background in multiple disciplines and working with multiple products*
- *The design of the product architecture should receive a major portion of the team's resources*

MacCormack (2001) states that the companies he analyzed worked in an iterative fashion, with the design evolving based on the feedback from the customer. He contrasts this approach with more traditional models of software development such as the Waterfall Model, where the development works in stages (requirements analysis, specification, design, coding, and integration and testing) and progress to the next stage cannot be made until the previous one has been completed. MacCormack concludes by saying that uncertainty in the Internet software industry should lead to more flexible design environments.

However, there are companies that release Internet software on a widescale but still keep the “beta” label on the applications. This means that they are never in a state of final release but it enables the company to keep innovating and improving on the product, such as what Google did with their Gmail product as it was in beta for more than five years before it was “officially” released (Google Inc., 2009). Neff and Stark

(2003) coined a term for this never ending cycle, calling it “Permanently Beta”. They defined this term as “a state of responsiveness in organizational form and process that mirrors innovation in products and services” (pg. 2). Neff and Stark argue that this is permanent because software products are never stable and the development process “leads to a continual cycle of revision and testing” (2003, pg. 2). It is with this cycle of revision and testing with beta Internet software projects that make it most similar to the Lean Startup methodology by Ries (2011).

However, after reflecting on the Action Research approach I took to shape my research and the resulting thesis, I noticed that this method is also quite similar to the Lean Startup. Both frameworks focus on a real world problem that needs to be solved and then develops a method to tackle this issue. Both are based on the “build-measure-learn” feedback loop acquiring learning to further inform the next cycle of inquiry. With the Lean Startup it is the MVP, with Action Research it is through the Frameworks from academic literature and the Methodology that helps to carry out the study.

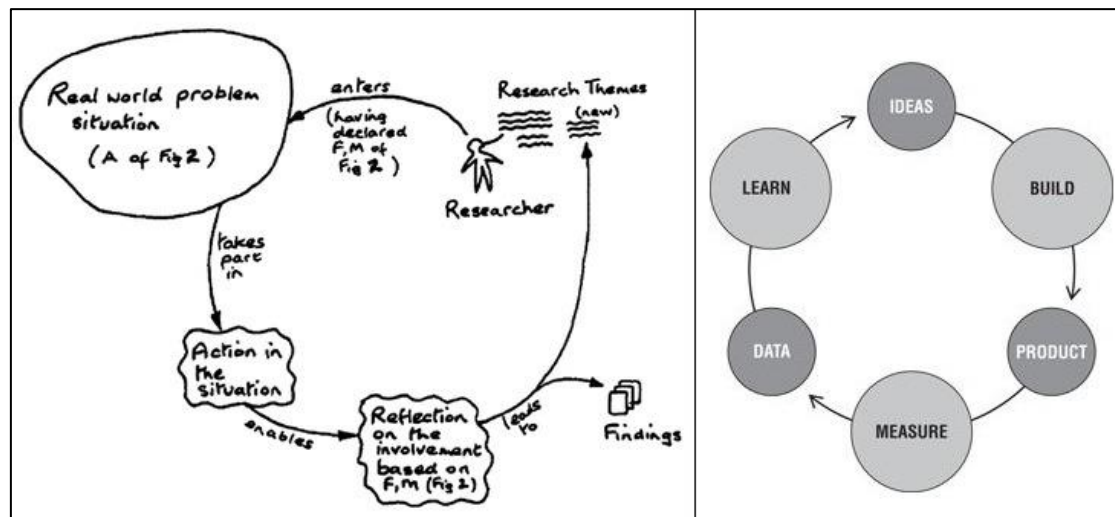


Figure 159. Comparing methodologies: Action Research (Checkland & Holwell, 1998) [L] and the Lean Startup (Ries, 2011) [R]

There is a point in both methodologies when a decision needs to be made. In Action Research, it is the decision to publish the research as substantial findings or continue the study using themes found in the current cycle to shape the nature of inquiry in the next cycle (Checkland & Holwell, 1998). In the Lean Startup, it is to decide whether

to “pivot”, which means change the business idea based on the learning from the MVP, or “persevere” which is to continue the same course of action into another cycle of the 5 Whys.

The continuous cycle that beta Internet software goes through mirrors my own research journey of building a virtual community, measuring its impact, and learning for the next cycle, and is indeed what helped give the thesis its name: In Beta. There are many similarities between Action Research and the Lean Startup methodology that could be explored in the future. One of them, which is beyond the scope of this thesis, is a further study that should investigate whether Action Research is just the academic equivalent of the Lean Startup and what implications this has for academic-based startups and its chances for success.

LESSONS LEARNED (Cycle 4)

There are 3 main lessons that can help form the basis for further studies in this topic.

1. Native mobile app

We had made a mobile optimized version, meaning that the Instatune website could be viewed on mobile devices as shown earlier in Figure 150. However, we noticed that when we told people about the website in person, their first reaction was to immediately try and find it in the app store that was associated with their mobile device (ie. iTunes App Store for iOS devices, Google Play Store for their Android devices, etc.). This suggested to us that having a native mobile app for the iOS or Android platform would be preferable to having a website that was optimized for mobile. We had started to design concepts for such a mobile app near the end of this research period but, due to time restrictions, did not finish them. A key question for further studies would be whether a mobile app is a necessity to ensure the success of an online community considering that the world is gradually shifting towards consuming digital media on mobile platforms (Lipsman, 2012).

2. Song recommendations

Another behaviour that we did not expect happened upon my reflection on the moment creation process. Although the number of questions that the user needed to

answer to complete the process was reduced greatly from YLWM, another issue arose in that some of our users did not know what songs to choose for a given picture. One way we could address this issue is to recommend songs for their moment depending on the various elements of their moment; such as the date, time or location attached to the metadata of the picture, much like what we did when automatically generating playlists in YLWM through context.

However, this behaviour poses further questions for a follow-up study in this area: what aspect carries more weight in memories for people? Is it a song that makes a person's experience memorable or is it a picture? What gives people stronger experiences? Or does there always need to be a picture matched with a song, this 1:1 ratio. Is it too restricting? How many more moments would be completed if people did not need to have either?

3. User feedback

The feedback we received from our users was that they liked having the option of watching a YouTube video, in addition to having the picture of the moment. The video gave users something more to look at while listening to the full-length song, rather than just staring at one picture for the duration of the music. Therefore, reflecting on this feedback, we wanted to eventually have a gallery of pictures for a music moment, rather than having just one picture, to be shown with the playlist of songs for that moment. We envisioned a moment page to be able to play a slide show of someone's moment with multiple pictures over a socially curated playlist of music. Martin termed this idea "self-generated media". With this in mind, Facebook introduced a similar feature called "Look Back" on February 4, 2014 that coincided with the social network's 10-year anniversary and shows a user's compilation of "15 or so of their most-liked photos, statuses, and life events set to a catchy tune" (Hamburger, 2014). This suggests that the ideas that were evolving with our music community research project are being validated as they are being implemented in popular online social networks.

CONCLUSION

The primary purpose of my research was to determine whether a community could be built to allow people to share their experiences with music. In this thesis, I examined the role in which technology adoption plays and the factors that determine the level of participation that occurs within the community. One goal of the study was to determine how to increase participation within this community, as well as implementing the lessons learned from the various cycles.

Action research was the main methodology used in the thesis, specifically following Checkland and Holwell's (1998) FMA approach. This methodology allowed the reflections and lessons learned from one cycle to be applied to the beginning of the next cycle. The results regarding the growth and participation within each community improved after each subsequent cycle, which is evidence that the FMA methodology impacts the future direction of the research based on the findings given in the current cycle. I was able to drive this improvement because I was directly involved as an inside researcher, which allowed me to ask direct questions regarding the status of the current community and how we could improve the situation. McNiff and Whitehead (2009) state that by constantly asking myself these questions I am investigating both the social situation that happens outside of the study and the processes that are happening in relation to my own learning within the study.

The creation of an online community where people can share their music experiences with one another is the first step in solving a dilemma posed by Volda et al. (2005) regarding massive-scale online music sharing. They note that any new technologies for music sharing should be "designed to support the sociability that exists in face-to-face music sharing" (pg. 193). And, as Volda et al. (2005) state regarding how people share music, it is through stories and experiences and music-related social interaction that occurs in the outside world.

MAIN FINDINGS

The main findings of my thesis can be categorized into eight overall themes that were essential to the learning and growth of the online music communities we built and a final reflection of the overall study. The most significant factors are the ones that deal with increasing the growth of users and participation within these communities; which were found to be a combination of ease of use (Koh et al., 2007; Lin & Lu, 2011), usefulness (Lin & Lu, 2000; Vassileva, 2012) and installed base or size of the community (Strader et al., 2007; Song et al., 2009). However, I do not present these findings as final answers, but tentative theories that can be further discussed and analyzed among the wider academic community.

Context in music

We listen to music every day and it accompanies us during our daily routines and activities (Bull, 2005; DeNora, 2000; North et al., 2004). Music allows us to seek solitude in our own sounds but still be in close proximity to others, fulfilling the desire to have a sense of belonging in the world (Katz & Aakhus, 2002). Bull called this phenomenon “accompanied solitude” (2004, pg. 105). I found this to be the case with my own listening habits, but became more aware of it while conducting this study as I noticed that my music selection is dependent on who is around me and the situation I am currently in. However, after reviewing the literature on contextual music players I continued to notice that my music preferences were not only confined to my location and social activity, it can also consist of what time it is, the weather conditions or even what mood I am in. Numerous studies have tried to capture these contexts to help choose our music for us, such as XPod (Dornbush et al., 2007), PersonalSoundtrack (Elliott & Tomlinson, 2006), Lifetrak (Mascia & Reddy, 2006) and SuperMusic (Lehtiniemi, 2008). However, context also seems to be fundamental to people’s experiences with music as reflected in the results from the music memory form in cycle 1. The top ten keywords from the stories that the participants entered consisted of time of day (night), social circle (friends, life, family), emotions (love), places (work, home), activities (walk, dance) and stories within the music (lyrics). Therefore, the evidence suggests that these contexts not only help to inform our music listening preferences, but it also defines our most memorable experiences with music.

Shared experiences with music

Using the SEM study by Gabrielsson and Wik (2003), the music memory form showed evidence that people could have different experiences with the same song, or also the same experience with the same song. It was notable that even with such a small sample of participants in the music memory form, there would be two people, of different ethnicities, age and geographic location, that have the same memory, about being with their family and remembering their fathers, with the same song. This suggests that music can be used as a medium through which people can share experiences; arguably transcending national borders, the passage of time, and even cultures. Seeking to substantiate this in the research literature, it is found that one of the reasons might be because music allows people to create and express their identities. This concept was brought forth by Frith (1996) as he argued that people, who can make sense of their experiences with music do so if they take on both subjective and collective identities. Furthering this statement, Lamont (2011) states that the reason why we listen to music is because of the personal growth and social connections that people receive. This last point suggests that a community can be built based exclusively on people's experiences with music and is further verified through the results from the music memory form and the feedback from the participants of the study.

Technology adoption

As the study suggests, technology played a large role in connecting people in an online community and facilitating shared experiences. However, the technical aspect of the project became increasingly complex as the Oopus music community consisted of four separate elements to represent the experience that people had with music in different contexts. This included mobile and desktop apps, an online website and a prototype web music player. The technical expertise required to maintain these four elements were beyond the scope of what I could achieve by myself and is the reason why I enlisted the help of both David and Mihai. They both have the necessary programming skills to ensure that data is accurately captured from all of the devices mentioned above. However, the role that technology features play when trying to increase the adoption of technology in online communities should be studied further. Even though this study showed evidence that technology is best adopted when there are less features in the community and it is easy to use, when comparing the results

from Instatune to YLWM, there are several variables that were not controlled between the two communities. The most important changes in Instatune were the way people created moments and that it contained fewer music playlist generating features. However, it is not known whether only one, or both, of the changes helped Instatune grow users at a faster rate than YLWM. Furthermore, Lee et al. (2003) found in their study that people's attitudes towards the use of technology is socially influenced as well, which might explain the increase in users of Instatune as it was the most socially connected community out of the three we built, with deep Facebook, Twitter and email sharing embedded in the website. However, again, it is not known whether these features were the cause of the increase or not. Therefore, it is suggested that a further study be made into determining the exact combination of features that increases the speed of adoption of technology used in online communities to share people's music experiences.

Trust

The findings from the study suggest that trust was an important factor in both an online and offline community. In terms of the trust that occurs in online communities, this consisted of two elements. The first was the trust that potential users of the community develop knowing that their private information was not being used for any malicious purposes and that we were ensuring that this information was being kept safe. We were able to gain the trust of the user through the use of the terms and conditions page for each community where we stated what we were going to use their data for and what we were not. The second element of trust in an online community is the social trust that is developed between users of the website. Larson (1991) stated that as the level of social trust increases, so too does the level of cooperation. In the context of an online community, the outcome of this cooperation is more participation and interaction within the community regarding user-generated content. The trust that occurs in my offline community involves the willingness of Martin, David and Mihai to take the time to help me with this study, adding their various skill sets to the collective resources of the team. Without their trust and belief in the purpose of my study, they would not have spent the time to help me build the communities under study. Again, this is another demonstration of the social trust that Larson (1991) says leads to cooperation, but in a face-to-face context. Therefore, the results from the

study, as well as the journey in building the websites, suggest that trust is essential to the success of an online music community.

User-Generated Content

A virtual community's success is greatly determined by the amount of user-generated content that is produced by its members (Leimeister et al., 2006). In terms of the community that we built, one of the metrics of success that I used in this thesis is to compare the number of music moments created in each online community. Due to the guidance provided by the literature I referenced regarding virtual communities, social networks and how to increase user participation (see: Van Der Heijden, 2004; Sledgianowski & Kulviwat, 2009; Moon & Kim, 2001; Koh et al., 2007; Vassileva, 2012), the number of moments increased from 150 (My Oopus) to 166 (YLWM) to 323 (Instatune). This increase in user-generated content also coincided with the moment creation process being made easier to use. The sample size of data is still too small to generalize, however, the evidence found in this study suggest that there is a positive correlation between the ease of use of the website with the amount of content that is user-generated within the community.

Community Participation

In addition to user-generated content, members must also be willing to participate in other ways, such as viewing content made by other members, interacting with other members directly through comments, and raising awareness of the community through their own networks. These features were slowly added to each subsequent community, starting with the number of views and comments for each music moment in My Oopus, and then the ability to Like or share a moment on Facebook was added to YLWM, followed by adding Twitter and email sharing to music moments in Instatune. Although the number of views for each music moment was one of the initial indicators of the participation that was occurring, the possibility that automated web crawlers were inflating the total viewing numbers meant that this particular metric was not a good gauge of actual human community participation. Thus, the total number of comments in each community was used for comparison. This was visible in all three communities as comments or as song recommendations (in Instatune), which demonstrated the pro-social behaviour that was needed as stated by Putnam (1995b). He said that this kind of evidence is needed to encourage social trust to occur, which

then fosters cooperation between members of the community. As there were more total comments/recommendations in Instatune (712) compared with both My Oopus (23) and YLWM (69), and there were also more users in Instatune as compared to the other two websites, it can be suggested from the evidence in the study that an increase in member participation will also increase the number of users that join the community (again, with the caveat of a small sample size). Strader et al. (2007) alluded to this when they stated that there is a correlation between network externality and the perceived usefulness of a particular technology, which itself predicts intention to use.

Utility of Participation

Along with participation, members must be able to receive benefits that outweigh the cost of membership in the community (Koh et al., 2007). This was implemented in Instatune in the form of gamification, with the two elements being status and reputation. We awarded points for creating a moment or recommending songs for a moment, and each user would be ranked in terms of total points in a section of the website called the Top 25. These points were meant to create a sense of loyalty and ownership in users and to also facilitate engagement through motivation (Vassileva, 2012). Although the points were only available in the virtual community of Instatune and could not be redeemed for any actual physical prizes, Vassileva (2012) states that achievements are one of the four commonly found patterns in gamification and it can be represented both in a physical sense or a virtual one. However, because Instatune was the only community we built that had gamification elements, we could not compare the effects this had on either user growth or participation to the other two communities. Furthermore, the fact that the elements of usefulness and ease of use were featured prominently in Instatune, and are the main factors of a utilitarian technology, seem to provide evidence that people were using the music communities to serve both hedonic and utilitarian roles. This could be explained by the role music plays in people's lives, as it is not just used for entertainment but also functional purposes, such as helping to regulate mood states (Rentfrow & Gosling, 2003; Bull, 2004). This was also suggested by van der Heijden (2004), when he stated that people will determine which of the two purposes (utilitarian or hedonic) a website will serve them depending on what they believe it to be. Thus, the evidence in this study also seems to support van der Heijden's claims of a dual purpose website.

Beta Testing

Neff and Stark (2003) coined the term “Permanently Beta” to describe the inherent nature of software products and how they are always in a state of continuous development. This accurately described the nature of the music communities that we built for this study, and also gave this thesis its name: In Beta. Even though Instatune was the last music community built for this study, there are still improvements that can be made to it to help increase the participation and utility that this community can give its members. As touched upon earlier, De Souza and Preece (2004) state that sophisticated software design often has limited impact on the success of an online community but “well-designed software can make a successful community even more successful” (pg. 580). There is evidence this occurred with Instatune because of the incorporation of the Lean Startup methodology (Ries, 2011), which promotes setting some hypotheses and obtaining user feedback as soon as possible to inform the next set of development decisions. The main point of the approach is to quickly determine whether development on the product should continue as previously planned (persevere) or take a turn into another direction to achieve a higher probability of success (pivot). While implementing this development approach in Instatune, I noticed the similarities to the FMA methodology from Checkland and Holwell (1998), in particular the need to use the learning obtained in the current cycle (either of development or research) to influence the actions to be taken in the next cycle. Therefore, it is suggested from the evidence in this thesis that the Lean Startup methodology is the practical or commercial equivalent of the action research methodology used by academic researchers.

Final Reflection

As a final reflection for my thesis, I wanted to compare the features created for each music community to determine whether there was a pattern to why Instatune grew at a higher rate compared to My Oopus and YLWM. This is shown in Table 28 below (*please note: M = mobile, D = desktop, W = web, FB = Facebook, Game = gamification*).

	Pictures			Moments		Social Sharing				Login	
	M	D	W	W	M	Comments	FB	Twitter	Game	Own	3 rd Party
My Oopus	X				X	X				X	
YLWM		X		X		X	X			X	
Instatune			X	X		X	X	X	X		X

Table 28. Comparing features for three different online communities

In terms of attaching pictures to music moments, My Oopus allowed users to use pictures that were taken with their iPhone, while YLWM only permitted the user to upload pictures from their desktop computer hard drive, and Instatune allowed the user to choose photos from either their Facebook or Instagram accounts. Comparing the growth of music moment creation in each community, it can be suggested that being allowed to find and access personal pictures stored online, rather than photos confined to a mobile phone or desktop computer, makes it easier to create moments.

We used the Oopus music app on the iPhone as the platform for creating music moments in My Oopus, while YLWM and Instatune permitted users to create music moments through the online community itself. The results suggest that users find the ability to create moments on a widely accessible platform (ie. Internet), rather than from a specific device that users might not necessarily use to listen to music (ie. iPhone), more useful as the creation of moments increased with both the YLWM and Instatune communities.

In terms of social sharing features, My Oopus only had the ability for users to comment on each other's music moments while YLWM included this feature in addition to the ability to share the moment on Facebook. Instatune doubled the number of social sharing features compared to its predecessors by adding both Twitter sharing and gamification elements to enable more interaction between members of the community. As suggested by the results of user and music moment growth for Instatune compared to My Oopus and YLWM, introducing more social features increased the perceived usefulness of the community because it allowed users to share their music experiences with others.

From Table 28, it can also be seen that Instatune incorporated a 3rd party login system through Facebook, Instagram or Twitter user authentication, whereas My Oopus and YLWM had their own distinct login requirements. From the user growth results for Instatune, it can be suggested that users found the method of using their existing social network credentials to log into the community easier than forcing them to remember yet another username and password for an online community that they might not use as often as Facebook or Twitter.

Therefore, reflecting on the most important feature changes that each community went through, it can be suggested that these changes caused Instatune to grow users and moments at a faster rate than both My Oopus and YLWM. However, on a more fundamental level, the more users there are in an online community, the more these additional features are utilised to greater affect. Ries (2011) verifies this fact by asserting that actions of existing users are key to obtaining sustainable growth in a new venture while Koh et al. (2007) are more specific in their opinion by stating that the size of the community affected both the posting and viewing activity that occurs within a virtual community and, thus, its success. Additionally, Song et al. (2009) found that the perceived installed base size significantly influenced the perceived ease of use of an innovation, and according to the TAM (Davis, 1989a), perceived usefulness is associated with the ease of use of a technology. Therefore, it can be further suggested that the installed base can affect both of these factors and, thus, the utility of a virtual community is greatly dependent on the size of the community.

Consequently, no matter how easy to use or useful one perceives a certain website to be, if there are no users to support it, it will not succeed. Although this seems an obvious point, we experienced this first hand by being inside the study, which allowed us to see this from a different perspective than outside researchers. From the outside, it can be reasoned that the three factors of usefulness, ease of use and installed base need to work interdependently to achieve success for the community. However, from an insider perspective, it can be suggested that installed base is the foundation from which the perceptions of usefulness and ease of use are derived. Again, Song et al. (2009) alluded to this point by stating that consumers might use “the size of an innovation’s installed base as a signal about ease of use: The more consumers who have adopted a product, the higher the likelihood that the product is useful” (pg. 295).

Therefore, to increase the install base of users in a community, awareness of its existence must be made and there are two ways of achieving this, either through word of mouth (WOM) or traditional advertising (Trusov et al., 2009) in the hopes that the awareness of the community will go viral. Ho and Dempsey (2010) describe viral marketing as electronic content via a URL or web address that is “made available to Internet users, who after viewing the content will decide whether they want to pass the URL along to their friends. If the URL gets forwarded and the Internet users receiving it also keep passing the URL along, the electronic content has the potential to reach a large group of Internet users at an exponential rate” (pg. 1000). However, we did not have a marketing budget to advertise the community and achieving virality is challenging as Watts and Peretti (2007) have said that it is difficult to design viral messages and know which specific individuals will spread these messages onwards. Therefore, the only way to raise awareness of the existence of the community we built was through WOM from our personal contacts. To aid in this process, we added more social elements to Instatune (Cycle 4), including the ability to share a music moment to one’s friends through Facebook, Twitter or email. This might have been a factor in the significant increase in unique users in this community compared to the previous two. However, acquiring users in this fashion is resource dependent and the message does not reach as many people as traditional advertising could.

This leads to a question regarding advertising and if a marketing budget is actually essential in the creation of an installed base of a new community. The evidence of this study suggests that it would have aided in growing the number of users in the community, which would then have increased the amount of user-generated content according to Koh et al. (2007). The reasoning that drove this insight occurred because I adopted the inside researcher approach of action research, which gives a different perspective on certain issues that might only be determined from that vantage point. For example, from an outside perspective, it might seem that the music streaming service Bloom.fm²³ increased their user base from 100,000 to 500,000 in 6 months strictly because people were intrigued by their unique interface or business model (Houghton, 2013). The CEO of Bloom.fm points out in the same article that factors

²³ <http://www.bloom.fm>

such as ease of use and usefulness helped with this increase, but what he does not say is how much it cost them in marketing to acquire each of these users. There are no specific figures as to how much Bloom.fm has spent on marketing, but they have created a TV advert, which ran on Christmas Eve and Christmas Day, along with poster ads on the sides of buses in London and in London Underground stations (Chahal, 2014). Therefore, it can be suggested that technology adoption and community growth rests upon the advantages found from a marketing budget. Positive feedback from existing users and external reviewers is not enough.

Thus, this became a source of frustration for our team about the study in general. It was a frustration borne from knowing we had a community and positive feedback, but we could not continue to increase our user base without spending money to advertise either online or offline. And it is this frustration that must also be felt and shared by the thousands of app developers and startups working on similar creative or innovative products or services. However, since Herr and Anderson (2005) have stated that action research questions develop from a frustration, future studies focusing on the factors that make a difference in the size of an online community can explore this topic in further detail.

CONTRIBUTIONS TO RESEARCH

In order to understand the contributions my research has added to the wider academic community, an understanding of how the methodology of action research contributes to originality is needed. McNiff and Whitehead (2009) state that in action research, originality is determined by two criteria:

1. An understanding about how and why you have improved your practice was achieved
2. By gaining this understanding, a living theory of practice was generated

Therefore, with this in mind, a contribution of this thesis is to provide the academic community with an original and substantial piece of work that deals with using the Checkland and Holwell (1998) FMA methodology of action research to investigate, learn and develop an online community as an app creator. Checkland and Holwell

(1998) argue that the most important principle of action research is the constant change of F, M, and A in real-world social situations where the researcher is involved. This was demonstrated in my thesis as my framework was constantly changing to accommodate what was learned from the previous cycle and to help shape the nature of inquiry for my subsequent cycle of learning. Furthermore, since I was directly involved as a researcher, my thesis took a practice-based approach where I achieved a significant amount of learning, which Checkland and Holwell (1998) state is one of the fundamental criteria of the FMA methodology.

Regarding the specific themes of learning that were developed in each cycle, I can say that I now know how to build an online community around music experiences and how to encourage participation within the community. I have also learned how to influence improvement in the contribution of people within online communities. For example, I was able to increase user-generated content in Instatune by adding gamification elements as well as making the moment creation process easier to use. By reflecting after each cycle and incorporating the learning into the subsequent one, I was able to constantly change, develop and evolve my framework of ideas over the duration of the study.

Finally, I have increased my research capacity by learning how to ask questions that I am concerned about, taking the appropriate steps necessary to investigate these issues, and coming to a conclusion that helps to enhance my existing knowledge. This was achieved through my curiosity in connecting people through building my own community to see which factors from the literature work and which do not, and reflecting on the results to ensure my learning is passed onto future studies in this area. These all constitute my contributions to the research that my thesis will provide the wider academic community.

LIMITATIONS

There are several limitations that need to be clarified before any further studies can be performed. The first limitation, and one that continually surfaced throughout the thesis, is the small sample size that informed the results of the study. This limitation does not allow the findings of this thesis to be generalized, but rather, it was only used

to help inform and shape the nature of the research in my journey to build an online music community. Therefore, the findings from this study are not final, but only serve as a guide to any future studies on this topic or to be open for closer examination from the wider academic community. This is consistent with the underlying nature of action research, as the learning cycle never ends (West & Stansfield, 2001). Checkland and Holwell (1998) further support this statement by saying that the ideas found in the research will “continue to evolve through time” (pg. 17). The second limitation involves the absence of musical stimuli to assist in evoking any autobiographical memories that might be associated with specific songs. This might have affected some participants from accurately recalling their significant memories with music. The third was the lack of complete age information for the music memory form (cycle 1) and Instatune (cycle 4), as this would have further helped the analysis of the resulting data.

FURTHER STUDIES

Just like the title of this thesis “In Beta”, the process of action, reflection and learning to build a music community is continuously a work in progress. As such, there could be numerous studies spawned from this thesis that other researchers can look into further. One study could look at the effects that full-length audio streaming, compared to only 30-second previews, has on an increase in participation within the music community or whether it helps portray people’s music moments more vividly. There are ways to incorporate 3rd party streaming music platforms such as Spotify²⁴ or Rdio²⁵ for a user to listen to the full song if they are already subscribers to these services. Another study could look into the role that the installed base plays in sharing in a music community. Volda et al. (2005) said in their study of music sharing in iTunes that the “critical mass required to fuel adoption may be as small as one or two users willing to share their music” (pg. 194), but a further study could determine whether this is the case of online communities that share experiences with music rather than just songs. Further to this point, another study could be used to find out what kind of online communities can serve both utilitarian and hedonic functions and to see if the journey in creating an online community as outlined in this thesis can be used in objects other than music. Questions that were raised in the thesis but not yet

²⁴ <https://www.spotify.com/>

²⁵ <http://www.rdio.com/>

touched on in this section include investigating whether the action research methodology is the academic equivalent of the Lean Startup framework, whether mobile apps are necessary to ensure the success of an online community and whether a song or a picture should be used to stimulate memories. Finally, a further study to this one could look into whether a budget for marketing is relevant to the success of an online community and if not, what other factors come into play (ie. user demand, user understanding, geography, etc.) that can help increase the probability a community will be successful.

REFERENCES

Ajzen, I., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, NJ: Prentice-Hall.

Altrichter, H., Kemmis, S., McTaggart, R., & Zuber-Skerritt, O. (1990). Defining, confining or refining action research? In O. Zuber-Skerritt (Ed.), *Action research for change and development* (pp. 13-20). Brisbane: Griffith University.

Anderssen, E. (2012, June 23). *Photo-overload: Everyone's taking pics, but is anyone really looking?* Retrieved August 15, 2012, from The Globe and Mail: <http://www.theglobeandmail.com/technology/photo-overload-everyones-taking-pics-but-is-anyone-really-looking/article4365499/?page=all>

Apple Inc. (2009, March 17). *Apple Previews Developer Beta of iPhone OS 3.0*. Retrieved January 28, 2010, from Apple Press Info: <http://www.apple.com/uk/pr/library/2009/03/17Apple-Previews-Developer-Beta-of-iPhone-OS-3-0.html>

Apple Inc. (2013, May 16). *Apple's App Store Marks Historic 50 Billionth Download*. Retrieved January 20, 2014, from Apple Press Info: <http://www.apple.com/uk/pr/library/2013/05/16Apples-App-Store-Marks-Historic-50-Billionth-Download.html>

Apple Inc. (2010). *Genre IDs Appendix*. Retrieved September 28, 2010, from Apple iTunes - Affiliate Resources: <http://www.apple.com/itunes/affiliates/resources/documentation/genre-mapping.html>

Apple Inc. (2012, July 1). *iPhone 4 - Technical Specifications*. Retrieved January 12, 2011, from Apple - Product Support Information: <http://support.apple.com/kb/sp587>

Apple Inc. (2011, July 18). *iPod classic - Technical Specifications*. Retrieved December 31, 2013, from Apple: <http://support.apple.com/kb/SP15>

Archer, T. M. (2003). Web-based surveys. *Journal of Extension* , 41 (4), 1-5.

Arena Com Ltd. (2011). *Samsung Google Nexus S*. Retrieved January 12, 2011, from GSMArena.com: http://www.gsmarena.com/samsung_google_nexus_s-3620.php

Attewell, P., & Rule, J. (1991). Survey and other methodologies applied to IT impact research: experiences from a comparative study of business computing. *The information systems research challenge: survey research methods* , 3, 299-315.

Avison, D., Baskerville, R., & Myers, M. (2001). Controlling action research projects. *Information Technology & People* , 14 (1), 28-45.

- Bakagiannis, S., & Tarrant, M. (2006). Can music bring people together? Effects of shared musical preference on intergroup bias in adolescence. *Scandinavian Journal of Psychology* , 47, 129-136.
- Barney, J. B., & Hansen, M. H. (1994). Trustworthiness as a source of competitive advantage. *Strategic Management Journal* , 15, 175-190.
- Barrett, F. S., Grimm, K. J., Robins, R. W., Wildschut, T., Sedikides, C., & Janata, P. (2010). Music-Evoked Nostalgia: Affect, Memory, and Personality. *Emotion* , 10 (3), 390-403.
- Barrett, L. F., & Barrett, D. J. (2001). An Introduction to Computerized Experience Sampling in Psychology. *Social Science Computer Review* , 19 (2), 175-185.
- Baskerville, R., & Pries-Heje, J. (1999). Grounded action research: a method for understanding IT in practice. *Accounting Management and Information Technologies* , 9, 1-23.
- Battaglia, C. (1995). Confused on a higher level about more important things! In S. Noffke, & R. Stevenson, *Educational action research: Becoming practically critical*. New York: Teachers College Press.
- Baumgartner, H. (1992). Remembrance of Things Past: Music, Autobiographical Memory, and Emotion. *Advances in Consumer Research* , 19, 613-620.
- Baym, N. K. (2007). The new shape of online community: The example of Swedish independent music fandom. 12 (8).
- Bayus, B. L., Jain, S., & Rao, A. G. (2001). Truth or consequences: An analysis of vaporware and new product announcements. *Journal of Marketing Research* , 38 (1), 3-13.
- Beenen, G., Ling, K., Wang, X., Chang, K., Frankowski, D., Resnick, P., et al. (2004). Using social psychology to motivate contributions to online communities. *Human-Computer Interaction Institute* .
- Begemann, O. (2009, October 28). *The Music Player Framework in iPhone SDK 3.0*. Retrieved January 28, 2010, from Ole Begemann - iOS Development: <http://oleb.net/blog/2009/07/the-music-player-framework-in-the-iphone-sdk/>
- Bishop, J. (2007). Increasing participation in online communities: A framework for human-computer interaction. *Computers in Human Behavior* , 23, 1881-1893.
- Blanchard, A. L., & Markus, M. L. (2002). Sense of virtual community - Maintaining the experience of belonging. *Proceedings of the 35th Hawaii International Conference on System Sciences*. In *System Sciences*, pp. 3566-3575. IEEE.

Blanchard, A., & Horan, T. (1998). Virtual communities and social capital. *Social Science Computer Review*, 16 (3), 293-307.

Boer, D., Fischer, R., Strack, M., Bond, M. H., Lo, E., & Lam, J. (2011). How Shared Preferences in Music Create Bonds Between People: Values as the Missing Link. *Personality and Social Psychology Bulletin*, 37 (9), 1159-1171.

Brown, T. (2008). Design thinking. *Harvard Business Review*, 86 (6), pp. 1-10.

Bryant, W. (1995). Virtual music communities: The Folk-Music Internet discussion group as a cultural system.

Bull, M. (2004a). Automobility and the Power of Sound. *Theory, Culture & Society*, 21 (4/5), 243-259.

Bull, M. (2005). No Dead Air! The iPod and the Culture of Mobile Listening. *Leisure Studies*, 24 (4), 343-355.

Bull, M. (2004b). Sound connections: an aural epistemology of proximity and distance in urban culture. *Environment and Planning D: Society and Space*, 22, 103-116.

Bull, M. (2007). *Sound Moves: iPod culture and urban experience*. New York: Routledge.

Burstly, Inc. (2013). *TestFlight - Beta Testing On The Fly*. Retrieved March 26, 2011, from <http://testflightapp.com/>

Cabeza, R., Prince, S. E., Daselaar, S. M., Greenberg, D. L., Budde, M., Dolcos, F., et al. (2004). Brain activity during episodic retrieval of autobiographical and laboratory events: An fMRI study using a novel photo paradigm. *Journal of Cognitive Neuroscience*, 16 (9), 1583-1594.

Cardon, M. S. (2008). Is passion contagious? The transference of entrepreneurial passion to employees. *Human Resource Management*, 18, 77-86.

Cardon, M. S., Gregoire, D. A., Stevens, C. E., & Patel, P. C. (2012). Measuring entrepreneurial passion: Conceptual foundations and scale validation. *Journal of Business Venturing*, 28, 373-396.

Cardon, M. S., Wincent, J., Singh, J., & Drnovsek, M. (2009). The nature and experience of entrepreneurial passion. *Academy of Management Review*, 34 (3), 511-532.

Carr, W., & Kemmis, S. (1986). *Becoming critical: Education, knowledge and action research*. Deakin University Press.

Chahal, M. (2014, January 30). *SMEs: flex your marketing muscle*. Retrieved February 3, 2014, from Marketing Week:

<http://www.marketingweek.co.uk/analysis/essential-reads/how-small-businesses-can-double-their-turnover/4009184.article>

Checkland, P. (1981). *Systems thinking, systems practice*. Chichester: J. Wiley.

Checkland, P., & Holwell, S. (1998). Action Research: Its nature and validity. *Systemic Practice and Action Research* , 11 (1), 9-21.

Cheung, C. M., & Lee, M. K. (2010). A theoretical model of intentional social action in online social networks. *Decision Support Systems* , 49, 24-30.

Cheung, C. M., Chiu, P.-Y., & Lee, M. K. (2011). Online social networks: Why do students use facebook? *Computers in Human Behavior* , 27, 1337-1343.

Choudrie, J., & Dwivedi, Y. K. (2005). Investigating the research approaches for examining technology adoption issues. *Journal of Research Practice* , 1 (1), 1-12.

Christensen, T. C., Barrett, L. F., Bliss-Moreau, E., Lebo, K., & Kaschub, C. (2003). A practical guide to experience-sampling procedures. *Journal of Happiness Studies* , 4, 53-78.

Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology* , 94, S95-S120.

Coughlan, P., & Coughlan, D. (2002). Action research for operation management. *International Journal of Operations & Production Management* , 22 (2), 220-240.

Couper, M. P., Traugott, M. W., & Lamias, M. J. (2001). Web survey design and administration. *Public Opinion Quarterly* , 65, 230-253.

Cox, T. H., Lobel, S. A., & McLeod, P. L. (1991). Effects of ethnic group cultural differences on cooperative and competitive behavior on a group task. *The Academy of Management Journal* , 34 (4), 827-847.

Crozier, W. R. (1997). Music and social influence. In D. J. Hargreaves, & A. C. North, *The Social Psychology of Music* (pp. 67-83). Oxford: Oxford University Press.

Datar, S. M., Garvin, D. A., & Cullen, P. G. (2010). Rethinking the MBA. *Business Education at a Crossroads*, (pp. 1-16).

Davis, F. D. (1989b). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly* , 13 (3), 319-340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology* , 22 (14), 1111-1132.

- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989a). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science* , 35 (8), 982-1003.
- De Souza, C. S., & Preece, J. (2004). A framework for analyzing and understanding online communities. *Interacting with Computers* , 16, 579-610.
- Deffuant, G., Huet, S., & Amblard, F. (2005). An individual-based model of innovation diffusion mixing social value and individual benefit. *American Journal of Sociology* , 110 (4), 1041-1069.
- Delanty, G. (2009). *Community*. New York: Routledge.
- DeNora, T. (1999). Music as a technology of the self. *Poetics* , 27, 31-56.
- DeNora, T. (2000). *Music in Everyday Life*. Cambridge: Cambridge University Press.
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining "gamification". *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments* (pp. 9-15). ACM.
- Dey, A. K. (2001). Understanding and using context. *Personal and Ubiquitous Computing* , 5, 4-7.
- Dick, B. (2002). Postgraduate programs using action research. *The Learning Organization* , 9 (4), 159-170.
- Dickinger, A., Arami, M., & Meyer, D. (2008). The role of perceived enjoyment and social norm in the adoption of technology with network externalities. *European Journal of Information Systems* , 17, 4-11.
- Dornbush, S., English, J., Oates, T., Segall, Z., & Joshi, A. (2007). XPod: A Human Activity Aware Learning Mobile Music Player. *Proc. Workshop on Ambient Intelligence*. 20th International Joint Conference on Artificial Intelligence.
- Dunn, P. G., Ruyter, B. d., & Bouwhuis, D. G. (2011). Toward a better understanding of the relation between music preference, listening behavior, and personality. *Psychology of Music* , 40 (4), 411-428.
- Dunne, D., & Martin, R. (2006). Design thinking and how it will change management education: An interview and discussion. *Academy of Management Learning & Education* , 5 (4), 512-523.
- Elliott, G. T., & Tomlinson, B. (2006). PersonalSoundtrack: Context-aware playlists that adapt to user pace. *CHI'06 extended abstracts on Human factors in computing systems* (pp. 736-741). ACM.

Elmer-DeWitt, P. (2011, April 4). *Android is a mess, say developers*. Retrieved August 8, 2013, from CNN Money - Fortune: <http://tech.fortune.cnn.com/2011/04/04/android-is-a-mess-say-developers/>

Evans, J. R., & Mathur, A. (2005). The value of online surveys. *Internet Research* , 15 (2), 195-219.

Farlex, Inc. (2011a). *Definition of memory*. Retrieved March 5, 2011, from The Free Dictionary: <http://www.thefreedictionary.com/memory>

Farlex, Inc. (2011b). *Definition of moment*. Retrieved March 5, 2011, from The Free Dictionary: <http://www.thefreedictionary.com/moment>

Figallo, C. (1998). *Hosting web communities: Building relationships, increasing customer loyalty and maintaining a competitive edge*. Chichester: John Wiley & Sons.

Fink, A. (2003). *The Survey Kit: How to ask survey questions* (Vol. 2). Sage.

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behavior: An Introduction to the Theory and Research*. Reading, MA: Addison-Wesley.

Fisher, K., & Phelps, R. (2006). Recipe or performing art?: Challenging conventions for writing action research theses. *Action Research* , 4 (2), 143-164.

Franklin, S. J., Wright, M., & Lockett, A. (2001). Academic and surrogate entrepreneurs in university spin-out companies. *Journal of Technology Transfer* , 26, 127-141.

Fraser, H. (2009). Designing business: New models for success. *Design Management Review* , 20 (2), 56-65.

Frith, S. (1996). Music and Identity. In E. b. Gay, *Questions of cultural identity* (pp. 108-127). London: SAGE Publications Ltd.

Gable, G. G. (1994). Integrating case study and survey research methods: an example in information systems. *European Journal of Information Systems* , 3 (2), 112-126.

Gabrielsson, A. (2002). Old people's remembrance of strong experiences related to music. *Psychomusicology* , 18, 103-122.

Gabrielsson, A. (2011). *Strong Experiences with Music: Music is much more than just music*. Oxford, UK: Oxford University Press.

Gabrielsson, A., & Lindstrom Wik, S. (2000). Strong experiences of and with music. *Musicology and sister disciplines: Past, present and future* (ed. D. Greer) (pp. 100-108). Oxford, UK: Oxford University Press.

Gabrielsson, A., & Lindstrom Wik, S. (2003). Strong experiences related to music: A descriptive system. *Musicae Scientiae* , 7 (2), 157-217.

Ganley, D., & Lampe, C. (2009). The ties that bind: Social network principles in online communities. *Decision Support Systems* , 47, 266-274.

Gartner, Inc. (2013, August 14). *Gartner Says Smartphone Sales Grew 46.5 Percent in Second Quarter of 2013 and Exceeded Feature Phone Sales for First Time*. Retrieved November 23, 2013, from Gartner - Newsroom: <http://www.gartner.com/newsroom/id/2573415>

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly* , 27 (1), 51-90.

Golbeck, J. (2007). The dynamics of web-based social networks: Membership, relationships, and change. *First Monday* , 12 (11).

Goldstein, A. (1980). Thrills in response to music and other stimuli. *Physiological Psychology* , 8 (1), 126-129.

Google. (2013, June 30). *Drive Apps*. Retrieved July 4, 2013, from Google Drive: <http://www.google.com/drive/apps.html>

Google Inc. (2009, July 7). *Google Apps is out of beta (yes, really)*. Retrieved November 3, 2013, from Google Official Blog: <http://googleblog.blogspot.co.uk/2009/07/google-apps-is-out-of-beta-yes-really.html>

Greasley, A. E. (2008). *Engagement with music in everyday life: an in-depth study of adults' musical preferences and listening behaviours*. Doctoral dissertation, University of Keele.

Greasley, A. E., & Lamont, A. (2011). Exploring engagement with music in everyday life using experience sampling methodology. *Musicae Scientiae* , 15 (1), 45-71.

Greasley, A. E., & Lamont, A. M. (2006). Music preference in adulthood: Why do we like the music we do. *Proceedings of the 9th international conference on music perception and cognition*, (pp. 960-966). Bologna.

Greve, A. (1995). Networks and entrepreneurship - An analysis of social relations, occupational background, and use of contacts during the establishment process. *Scandinavian Journal of Management* , 11 (1), 1-24.

Grewe, O., Nagel, F., Kopiez, R., & Altenmuller, E. (2005). How does music arouse "chills"? *Annals of the New York Academy of Sciences* , 1060.1, 446-449.

Griffis, S. E., Goldsby, T. J., & Cooper, M. (2003). Web-based and mail surveys: A comparison of response, data, and cost. *Journal of Business Logistics* , 24 (2), 237-258.

Grootaert, C., & Bastelaer, T. v. (2001). Understanding and measuring social capital: A synthesis of findings and recommendations from the Social Capital Initiative. *Social Capital Initiative Working Paper* , 24.

Gummesson, E. (2000). *Qualitative methods in management research*, (2nd ed.). Thousand Oaks, CA: Sage.

Gunelius, S. (2011, October 31). *What is an API and why does it matter?* Retrieved September 10, 2012, from Sprout Social - Insights: <http://sproutsocial.com/insights/api-definition/>

Gusfield, J. R. (1975). *Community: A Critical Response*. Oxford: Blackwell.

Hamburger, E. (2014, February 4). *Facebook celebrates 10-year anniversary with personalized 'Look Back' videos just for you*. Retrieved February 5, 2014, from The Verge: <http://www.theverge.com/2014/2/4/5376396/facebook-look-back-video-lets-you-relive-the-last-ten-years-of-your-online-life>

Helft, M. (2010, October 17). *Will Apple's Culture Hurt the iPhone?* Retrieved January 12, 2011, from The New York Times - Technology: <http://www.nytimes.com/2010/10/18/technology/18apple.html?pagewanted=all&r=0>

Herr, K., & Anderson, G. L. (2005). *The Action Research Dissertation: A Guide for Students and Faculty*. London: Sage Publications, Inc.

Heye, A., & Lamont, A. (2010). Mobile listening situations in everyday life: The use of MP3 players while travelling. *Musicae Scientiae* , XIV (1), 95-120.

Ho, J. Y., & Dempsey, M. (2010). Viral marketing: Motivations to forward online content. *Journal of Business Research* , 63, 1000-1006.

Hofstede, G. (1991). *Cultures and organizations: Software of the mind*. Berkshire, England: McGraw-Hill.

Hogg, A. (2003, September-October). Web efforts energize customer research. *Electric Perspectives* , pp. 81-83.

Hossain, L., & de Silva, A. (2009). Exploring user acceptance of technology using social networks. *Journal of High Technology Management Research* , 20, 1-18.

Houghton, B. (2013, November 6). *Budget music streamer Bloom.fm hits 500K users*. Retrieved January 9, 2014, from Hypebot.com: <http://www.hypebot.com/hypebot/2013/11/music-streamer-bloomfm-hits-500000-users.html>

Hughes, J., & Lang, K. R. (2003). If I Had a Song: The Culture of Digital Community Networks and Its Impact on the Music Industry. *The International Journal on Media Management*, 5 (3), 180-189.

Hytha, D., Aronson, J., & Hytha, S. (2012). The (mobile) web changes everything: Ten steps for mobile carriers to get back to growth. *International Journal of Communication*, 6, 2419-2426.

Instagram, Inc. (2011, January 27). *Introducing Hashtags on Instagram*. Retrieved November 23, 2013, from Instagram Blog:
<http://blog.instagram.com/post/8755963247/introducing-hashtags-on-instagram>

Janata, P., Tomic, S. T., & Rakowski, S. K. (2007). Characterisation of music-evoked autobiographical memories. *Memory*, 15 (8), 845-860.

Jarvenpaa, S. L., & Lang, K. R. (2011). Boundary management in online communities: Case studies of the Nine Inch Nails and ccMixer Music Remix sites. *Long Range Planning*, 44 (5), 440-457.

Johnson-Laird, P. N., & Oatley, K. (1989). The Language of Emotions: An Analysis of a Semantic Field. *Cognition and Emotion*, 3 (2), 81-123.

Josang, A., & Golbeck, J. (2009). Challenges for robust trust and reputation systems. *Proceedings of the 5th International Workshop on Security and Trust Management*. Saint Malo, France: SMT 2009.

June, L. (2010, December 1). *Nielsen: Android makes huge gains in US smartphone marketshare, RIM take a backseat, Apple leads in desirability*. Retrieved January 12, 2011, from Engadget: <http://www.engadget.com/2010/12/01/nielsen-android-makes-huge-gains-in-us-smartphone-marketshare/>

Juslin, P. N., & Laukka, P. (2004). Expression, Perception, and Induction of Musical Emotions: A Review and a Questionnaire Study of Everyday Listening. *Journal of New Music Research*, 33 (3), 217-238.

Juslin, P. N., & Sloboda, J. A. (2010). *Handbook of music and emotion: Theory, research, applications*. Oxford University Press.

Juslin, P. N., Liljestrom, S., Vastfjall, D., Barradas, G., & Silva, A. (2008). An experience sampling study of emotional reactions to music: Listener, music, and situation. *Emotion*, 8 (5), 668-683.

Kaminskas, M., & Ricci, F. (2012). Contextual music information retrieval and recommendation: State of the art and challenges. *Computer Science Review*, 6, 89-119.

Katz, J. E., & Aakhus, M. (2002). *Perpetual contact: Mobile communication, private talk, public performance*. Cambridge, UK: Cambridge University Press.

Kendall, C. (2011, June 28). *Average person 'uses 10 online passwords a day'*. Retrieved July 3, 2012, from The Telegraph: <http://www.telegraph.co.uk/technology/news/8602346/Average-person-uses-10-online-passwords-a-day.html>

Kenny, A. (2013). "The Next Level": Investigating teaching and learning within an Irish traditional music online community. *Research Studies in Music Education* , 25 (2), 239-253.

Kibby, M. D. (2000). Home on the page: a virtual place of music community. *Popular Music* , 19 (1), 91-100.

Kim, W., Jeong, O.-R., & Lee, S.-W. (2010). On social Web sites. *Information Systems* , 35, 215-236.

Kim, Y. E., Schmidt, E. M., Migneco, R., Morton, B. G., Richardson, P., Scott, J., et al. (2010). Music emotion recognition: A state of the art review. *11th International Society for Music Information Retrieval Conference* (pp. 255-266). ISMIR 2010.

Kivy, P. (1989). *Sound Sentiment: An Essay on the Musical Emotions*. Philadelphia, PA: Temple University Press.

Knoke, D., & Kuklinski, J. H. (1982). *Network Analysis*. London: SAGE Publications, Inc.

Ko, M. N., Cheek, G. P., & Shehab, M. (2010). Social-networks connect services. *Computer* , 43 (8), 37-43.

Koh, J., & Kim, Y.-G. (2003). Sense of virtual community: A conceptual framework and empirical validation. *International Journal of Electronic Commerce* , 8 (2), 75-93.

Koh, J., Kim, Y.-G., Butler, B., & Bock, G.-W. (2007). Encouraging participation in virtual communities. *Communications of the ACM* , 50 (2), 68-73.

Konecni, V. J. (2008). Does music induce emotion? A theoretical and methodological analysis. *Psychology of Aesthetics, Creativity, and the Arts* , 2 (2), 115-129.

Konecni, V. J. (1982). Social Interaction and Musical Preference. In E. b. Deutsch, *The Psychology of Music* (pp. 497-516). New York: Academic Press, Inc.

Krill, P. (2013, February 8). *Java retakes the lead in language popularity*. Retrieved August 19, 2013, from InfoWorld: <http://www.infoworld.com/d/application-development/java-retakes-the-lead-in-language-popularity-212558>

Lamont, A. (2011). University students' strong experiences of music: Pleasure, engagement, and meaning. *Musicae Scientiae* , 15 (2), 229-249.

Lamont, A., & Greasley, A. (2009). Musical preferences. In *The Oxford handbook of music psychology* (pp. 160-168).

Lanzolla, G., & Suarez, F. F. (2012). Closing the technology adoption-use divide: The role of contiguous user bandwagon. *Journal of Management* , 38 (3), 836-859.

Larson, A. (1991). Leveraging external ties to improve entrepreneurial performance. *Journal of Business Venturing* , 6, 173-188.

Laski, M. (1961). *Ecstasy: a study of some secular and religious experiences*. London: Cresset Press.

Latham, G., Latham, S. D., & Whyte, G. (2004). Fostering integrative thinking: Adapting the executive education model to the MBA program. *Journal of Management Education* , 28 (1), 3-18.

Lee, J.-S., Cho, H., Gay, G., Davidson, B., & Ingraffea, T. (2003). Technology acceptance and social networking in distance learning. *Educational Technology & Society* , 6 (2), 50-61.

Lee, Y., & O'Connor, G. C. (2003). New product launch strategy for network effects products. *Journal of the Academy of Marketing Science* , 31 (3), 241-255.

Lehtiniemi, A. (2008). Evaluating SuperMusic: streaming context-aware mobile music service. *Proceedings of the 2008 International Conference on Advances in Computer Entertainment Technology* (pp. 314-321). ACM.

Leimeister, J. M., Sidiras, P., & Krcmar, H. (2006). Exploring success factors of virtual communities: The perspectives of members and operators. *Journal of Organizational Computing and Electronic Commerce* , 16 (3&4), 277-298.

Leimeister, J. M., Sidiras, P., & Krcmar, H. (2004). Success factors of virtual communities from the perspective of members and operators: An empirical study. *Proceedings of the 37th Hawaii International Conference on System Sciences* (pp. 1-10). IEEE.

Levitin, D. J. (2006). *This is your brain on music: The science of a human obsession*. New York: Dutton/Penguin.

Levitin, D. (2007). *Life Soundtracks: The uses of music in everyday life*. Philips Consumer Electronics B.V. Montreal: McGill University.

Levy, S. (2006). *The perfect thing: How the iPod shuffles commerce, culture, and coolness*. New York, USA: Simon & Schuster.

Lewin, K. (1947). Group decision and social change. *Readings in social psychology* , 3, 197-211.

Lin, C.-P. (2010). Learning virtual community loyalty behavior from a perspective of social cognitive theory. *International Journal of Human-Computer Interaction* , 26 (4), 345-360.

Lin, C.-P., & Bhattacharjee, A. (2008). Elucidating Individual Intention to Use Interactive Information Technologies: The Role of Network Externalities. *International Journal of Electronic Commerce* , 13 (1), 85-108.

Lin, H.-F. (2007). The role of online and offline features in sustaining virtual communities: An empirical study. *Internet Research* , 17 (2), 119-138.

Lin, J. C.-C., & Lu, H. (2000). Towards an understanding of the behavioural intention to use a web site. *International Journal of Information Management* , 20, 197-208.

Lin, K.-Y., & Lu, H.-P. (2011). Why people use social networking sites: An empirical study integrating network externalities and motivation theory. *Computers in Human Behavior* , 27, 1152-1161.

Lin, N. (2001). *Social capital: A theory of social structure and action*. Cambridge: Cambridge University Press.

Lipsman, A. (2012, October 23). *Tectonic Shifts are Shaping the Multi-Platform Digital World*. Retrieved December 28, 2012, from comScore: https://www.comscore.com/Insights/Blog/Tectonic_Shifts_are_Shaping_the_Multi-Platform_Digital_World

LiveScience Staff. (2014). *Deductive Reasoning vs. Inductive Reasoning*. Retrieved August 2, 2013, from LiveScience: <http://www.livescience.com/21569-deduction-vs-induction.html>

Lockett, A., Siegel, D., Wright, M., & Ensley, M. D. (2005). The creation of spin-off firms at public research institutions: Managerial and policy implications. *Research Policy* , 34, 981-993.

Lonsdale, A. J., & North, A. C. (2009). Musical Taste and Ingroup Favouritism. *Group Processes & Intergroup Relations* , 12 (3), 319-327.

MacCormack, A. (2001). How internet companies build software. *MIT Sloan Management Review* , 42 (2), pp. 75-84.

Malik, O. (2012, April 9). *Here is why Facebook bought Instagram*. Retrieved September 10, 2012, from Gigaom: <http://gigaom.com/2012/04/09/here-is-why-did-facebook-bought-instagram/>

Martin, R. (2002). Integrative thinking: A model takes shape. *Rotman Management* , 6, 8-9.

- Martin, R., & Austen, H. (1999). The art of integrative thinking. *Rotman Management*, pp. 6-11.
- Mascia, J., & Reddy, S. (2006). Lifetrak: Music in tune with your life. *Proceedings of the 1st ACM international workshop on Human-centered multimedia (Santa Barbara, California, USA, October 27, 2006)* (pp. 25-34). New York: ACM.
- Maslow, A. H. (1959). Cognition of being in the peak experience. *Journal of Genetic Psychology*, 94, 43-66.
- Maslow, A. H. (1962). Lessons from the Peak-Experiences. *Journal of Humanistic Psychology*, 2 (9), 9-18.
- Maslow, A. H. (1999). *Toward a psychology of being, 3rd edn.* Princeton, NJ: John Wiley and Sons.
- Mathieson, K. (1991). Predicting user intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behavior. *Information Systems Research*, 2 (3), 173-191.
- McCracken, H. (2010, December 14). *Google Nexus S: Top Android Smart Phone Now*. Retrieved January 12, 2011, from Time.com: <http://content.time.com/time/business/article/0,8599,2036749,00.html>
- McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, 14, 6-23.
- McNiff, J., & Whitehead, J. (2011). *All You Need To Know About Action Research*. London: SAGE Publications Ltd.
- McNiff, J., & Whitehead, J. (2009). *Doing and writing action research*. Sage Publications.
- Melonfire. (2007, June 8). *Understanding the pros and cons of the Waterfall Model of software development*. Retrieved May 12, 2013, from Tech Republic: <http://www.techrepublic.com/article/understanding-the-pros-and-cons-of-the-waterfall-model-of-software-development/>
- Merriam-Webster Inc. (2013). *opus definition*. Retrieved November 9, 2008, from Merriam-Webster.com: <http://www.merriam-webster.com/dictionary/opus>
- Met Office. (2010). *Key to symbols and terms*. Retrieved September 25, 2010, from Met Office: <http://www.metoffice.gov.uk/guide/weather/symbols>
- Millen, D. R., & Patterson, J. F. (2002, November). Stimulating social engagement in a community network. *Proceedings of the 2002 ACM conference on Computer supported cooperative work* (pp. 306-313). ACM.

- Moon, J.-W., & Kim, Y.-G. (2001). Extending the TAM for a World-Wide-Web context. *Information & Management*, 38, 217-230.
- Neff, G., & Stark, D. (2003). Permanently beta. *Society online*, 173-188.
- Net Applications. (2011). *Desktop Operating System Market Share*. Retrieved March 2, 2011, from NetMarketShare:
<http://marketshare.hitslink.com/operating-system-market-share.aspx?qprid=8&qpcustomd=0&qpsp=48&qpn=3&qptimeframe=Q>
- North, A. C., Hargreaves, D. J., & Hargreaves, J. J. (2004). Uses of Music in Everyday Life. *Music Perception*, 22 (1), 41-77.
- North, A., & Hargreaves, D. (2008). *The Social and Applied Psychology of Music*. Oxford, UK: Oxford University Press.
- Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: what can be done? *Assessment & Evaluation in Higher Education*, 33 (3), 301-314.
- Onyx, J., & Bullen, P. (2000). Measuring social capital in five communities. *Journal of Applied Behavioral Science*, 36 (23), 23-42.
- Ouchi, W. G. (1980). Markets, Bureaucracies, and Clans. *Administrative Science Quarterly*, 25, 129-141.
- Pachal, P. (2012, May 16). *Here's How Bad Android's Fragmentation Problem Is*. Retrieved August 15, 2013, from Mashable:
<http://mashable.com/2012/05/16/android-fragmentation-graphic/>
- Paldam, M. (2000). Social capital: One or many? Definition and measurement. *Journal of Economic Surveys*, 14 (5), 629-653.
- Panksepp, J. (1995). The emotional sources of "chills" induced by music. *Music Perception*, 13 (2), 171-207.
- Panzarella, R. (1980). The Phenomenology of Aesthetic Peak Experiences. *Journal of Humanistic Psychology*, 20 (69), 69-85.
- Park, H.-S., Yoo, J.-O., & Cho, S.-B. (2006). A context-aware music recommendation system using fuzzy bayesian networks with utility theory. *Springer Berlin Heidelberg*, 970-979.
- Perry, C., & Zuber-Skerritt, O. (1992). Action research in graduate management research programs. *Higher Education*, 23 (2), 195-208.
- Pinsonneault, A., & Kraemer, K. L. (1993). Survey research methodology in management information systems: An assessment. *Journal of Management Information Systems*, 10 (2), 75-105.

- Pratt, C. (1931). *The Meaning of Music*. New York, NY: McGraw-Hill.
- Preece, J. (2001). Sociability and usability in online communities: Determining and measuring success. *Behaviour & Information Technology*, 20 (5), 347-356.
- Protalinski, E. (2012, September 11). *Facebook CEO Mark Zuckerberg: Instagram just passed 100 million users*. Retrieved September 12, 2012, from The Next Web: <http://thenextweb.com/facebook/2012/09/11/mark-zuckerberg-instagram-just-passed-100-million-users/#!tXrO6>
- Puddifoot, J. E. (1995). Dimensions of Community Identity. *Journal of Community & Applied Social Psychology*, 5, 357-370.
- Puddifoot, J. E. (1996). Some initial considerations in the measurement of community identity. *Journal of Community Psychology*, 24 (4), 327-336.
- Putnam, R. D. (1995a). Bowling alone: America's declining social capital. *Journal of Democracy*, 6 (1), 65-78.
- Putnam, R. D. (1995b). Tuning in, tuning out: The strange disappearance of social capital in America. *PS: Political Science and Politics*, 28 (4), 664-683.
- Raskin, A. (2012, August 1). *APIs: The new source of competitive advantage*. Retrieved September 10, 2012, from Mashery: <http://www.mashery.com/blog/apis-new-source-competitive-advantage>
- Reason, P., & Bradbury, H. (2001). *Handbook of action research: Participative inquiry and practice*. London: Sage Publications.
- Reitsma, R. (2010, July 30). *The data digest: Which music devices do people use?* Retrieved March 26, 2011, from Forrester Blogs: http://blogs.forrester.com/reineke_reitsma/10-07-30-data_digest_which_music_devices_do_people_use
- Rentfrow, P. J., & Gosling, S. D. (2006). Message in a Ballad: The Role of Music Preferences in Interpersonal Perception. *Psychological Science*, 17 (3), 236-242.
- Rentfrow, P. J., & Gosling, S. D. (2003). The Do Re Mi's of Everyday Life: The Structure and Personality Correlates of Music Preferences. *Journal of Personality and Social Psychology*, 84 (6), 1236-1256.
- Resnick, P. (2000). Beyond bowling together: Sociotechnical capital. *HCI in the New Millennium*, 247-272.
- Reynolds, G., Barry, D., Burke, T., & Coyle, E. (2007). Towards a personal automatic music playlist generation algorithm: the need for contextual information. *Proceedings of the 2nd. Audio Mostly Conference: interaction with sound* (pp. 84-89). Limenau, Germany: Fraunhofer Institue for Digital Media Technology.

Ridings, C. M., Gefen, D., & Arinze, B. (2002). Some antecedents and effects of trust in virtual communities. *Journal of Strategic Information Systems* , 11, 271-295.

Ries, E. (2011). *The Lean Startup: How Constant Innovation Creates Radically Successful Businesses*. London: Penguin Books Ltd.

Ross, C., Orr, E. S., Sisic, M., Arseneault, J. M., Simmering, M. G., & Orr, R. R. (2009). Personality and motivations associated with Facebook use. *Computers in Human Behavior* , 25, 578-586.

Rotman School of Management. (2014, January 18). *About Business Design*. Retrieved December 2, 2013, from University of Toronto - Rotman School of Management:
<http://www.rotman.utoronto.ca/FacultyAndResearch/EducationCentres/DesignWorks/AboutBD.aspx>

Rotman School of Management. (2013). *Definition of Integrative Thinking*. Retrieved November 3, 2013, from Roman School of Management: <http://www-2.rotman.utoronto.ca/integrativethinking/definition.htm>

Rubin, J. (2000). Online marketing research comes of age. *Brandweek* , 41 (42), pp. 26-27.

Schafer, T., & Sedlmeier, P. (2010). What Makes Us Like Music? Determinants of Music Preference. *Psychology of Aesthetics, Creativity, and the Arts* , 4 (4), 223-234.

Scherer, J. (1972). *Contemporary community: Sociological illusion or reality?* London: Tavistock.

Schilling, M. A. (2002). Technology success and failure in winner-take-all markets: The impact of learning orientation, timing, and network externalities. *The Academy of Management Journal* , 45 (2), 387-398.

Schirmer, M., & Hopfner, H. (2010). *Smartphone Hardware Sensors*. Bauhaus-Universitat Weimar, Mobile Media Group.

Scholl, N., Mulders, S., & Drent, R. (2002). On-line qualitative market research: interviewing the world at a fingertip. *Qualitative Market Research* , 5 (3), 210-223.

Schulkind, M. D., Hennis, L. K., & Rubin, D. C. (1999). Music, emotion, and autobiographical memory: They're playing your song. *Memory & Cognition* , 27 (6), 948-955.

Scollon, C. N., Kim-Prieto, C., & Diener, E. (2003). Experience sampling: Promises and pitfalls, strengths and weaknesses. *Journal of Happiness Studies* , 4 (1), 5-34.

- Selfhout, M. H., Branje, S. J., ter Bogt, T. F., & Meeus, W. H. (2009). The role of music preferences in early adolescents' friendship formation and stability. *Journal of Adolescence* , 32, 95-107.
- Selm, M. V., & Jankowski, N. W. (2006). Conducting Online Surveys. *Quality & Quantity* , 40, 435-456.
- Sergiovanni, T. J. (1994). Organizations or communities? Changing the metaphor changes the theory. *Educational Administration Quarterly* , 30 (2), 214-226.
- Shane, S. (2004). *Academic Entrepreneurship: University Spinoffs and Wealth Creation*. Edward Elgar Publishing Limited.
- Sheehan, K. B., & McMillan, S. J. (1999). Rspnse variation in e-mail surveys: An exploration. *Journal of Advertising Research* , 39 (4), 45-54.
- Simon, M., Houghton, S. M., & Aquino, K. (1999). Cognitive biases, risk, perception, and venture formation: How individuals decide to start companies. *Journal of Business Venturing* , 15, 113-134.
- Sledgianowski, D., & Kulviwat, S. (2009). Using Social Network Sites: The Effects of Playfulness, Critical Mass and Trust in a Hedonic Context. *The Journal of Computer Information Systems* , 49 (4), 74-83.
- Sloboda, J. A. (1991). Music structure and emotional response: Some empirical findings. *Psychology of Music* , 19, 110-120.
- Sloboda, J. A., O'Neill, S. A., & Ivaldi, A. (2001). Functions of Music in Everyday Life: An Exploratory Sutdy Using the Experience Sampling Method. *Musicae Scientiae* , 5 (9), 9-32.
- Slyke, C. V., Ilie, V., Lou, H., & Stafford, T. (2007). Perceived critical mass and the adoption of a communication technology. *European Journal of Information Systems* , 16, 270-283.
- Song, M., Parry, M. E., & Kawakami, T. (2009). Incorporating network externalities into the Technology Acceptance Model. *The Journal of Product Innovation Management* , 26, 291-307.
- Sorrel, C. (2009, October 13). *The Original White Earbud, Over 40 Years Old*. Retrieved December 31, 2013, from Wired.com: <http://www.wired.com/gadgetlab/2009/10/the-original-white-earbud-over-40-years-old/>
- Steensma, H. K., Marino, L., & Weaver, K. M. (2000). Attitudes toward cooperative strategies: A cross-cultural analysis of entrepreneurs. *Journal of International Business Studies* , 31 (4), 591-609.

Steinfeld, C., Ellison, N. B., & Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of Applied Developmental Psychology*, 29, 434-445.

Stone, A. A., Kessler, R. C., & Haythornthwaite, J. A. (1991). Measuring Daily Events and Experiences: Decisions for the Researcher. *Journal of Personality*, 59 (3), 575-607.

Strader, T. J., Ramaswami, S. N., & Houle, P. A. (2007). Perceived network externalities and communication technology acceptance. *European Journal of Information Systems*, 16, 54-65.

Subrahmanyam, K., Reich, S. M., Waechter, N., & Espinoza, G. (2008). Online and offline social networks: Use of social networking sites by emerging adults. *Journal of Applied Developmental Psychology*, 29, 420-433.

SurveyMonkey. (2013, June 25). *Plans & Pricing*. Retrieved July 13, 2013, from SurveyMonkey: <https://www.surveymonkey.com/pricing/>

The Weather Network. (2010). *Weather Icons: Definitions*. Retrieved September 25, 2010, from The Weather Network: <http://past.theweathernetwork.com/weathericons/>

The Web Robots Pages. (2007). *The Web Robots Pages*. Retrieved June 18, 2013, from robotstxt.org: <http://www.robotstxt.org/>

Thompson, R. L., & Larson, R. (1995). Social context and the subjective experience of different types of rock music. *Journal of Youth and Adolescence*, 24 (6), 731-744.

Trusov, M., Bucklin, R. E., & Pauwels, K. H. (2009). Effects of word-of-mouth versus traditional marketing: Findings from an internet social networking site. *Journal of Marketing*, 73 (5), 90-102.

Twitter, Inc. (2013). *Using hashtags on Twitter*. Retrieved November 23, 2013, from Twitter - Help Center: <https://support.twitter.com/articles/49309-using-hashtags-on-twitter>

University of Toronto. (2013, April 25). *Rotman School of Management*. Retrieved April 25, 2013, from University of Toronto - Rotman School of Management: <http://www.rotman.utoronto.ca/>

Uphoff, N. (2000). Understanding social capital: learning from the analysis and experience of participation. In P. Dasgupta, & I. Serageldin, *Social capital: A multifaceted perspective*. Washington, DC: The World Bank.

Van Buskirk, E. (2012, September 14). *Without Music, Apple Would Be Nothing*. Retrieved August 26, 2013, from Time: <http://business.time.com/2012/09/14/without-music-apple-would-be-nothing/>

- Van der Heijden, H. (2004). User acceptance of hedonic information systems. *MIS Quarterly* , 28 (4), 695-704.
- Vassileva, J. (2012). Motivating participation in social computing applications: a user modeling perspective. *User Modeling and User-Adapted Interaction* , 22 (1-2), 177-201.
- Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the Technology Acceptance Model. *Information Systems Research* , 11 (4), 342-365.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly* , 27 (3), 425-478.
- Vieillard, S., Peretz, I., Gosselin, N., & Khalfa, S. (2008). Happy, sad, scary and peaceful musical excerpts for research on emotions. *Cognition and Emotion* , 22 (4), 720-752.
- Vohora, A., Wright, M., & Lockett, A. (2004). Critical junctures in the development of university high-tech spinout companies. *Research Policy* , 33, 147-175.
- Voida, A., Grinter, R. E., Ducheneaut, N., Edwards, W. K., & Newman, M. W. (2005). Listening in: practices surrounding iTunes music sharing. *Proceedings of the SIGCHI conference on human factors in computer systems* (pp. 191-200). Portland: ACM.
- Vuoskoski, J. K., & Eerola, T. (2011). The role of mood and personality in the perception of emotions represented by music. *cortex* , 47 (9), 1099-1106.
- Waldron, J. (2009). Exploring a virtual music community of practice: Informal music learning on the Internet. *Journal of Music* , 2 (2-3), 2-3.
- Waldron, J. (2013). YouTube, fanvids, forums, vlogs and blogs: Informal music learning in a convergent on-and offline music community. *International Journal of Music Education* , 31 (1), 91-105.
- Wang, E. S.-T., & Chen, L. S.-L. (2011). Forming relationship commitments to online communities: The role of social motivations. *Computers in Human Behavior* , 28, 570-575.
- Watts, D. J., & Peretti, J. (2007, May). Viral marketing for the real world. *Harvard Business Review* , pp. 22-23.
- Wellman, B., & Guila, M. (1999). Net surfers don't ride alone: Virtual communities as communities. In B. Wellman (Ed.), *Networks in the global village*. Boulder, CO: Westview.

- West, D., & Stansfield, M. H. (2001). Structuring action and reflection in information systems action research studies using Checkland's FMA model. *Systemic Practice and Action Research* , 14 (3), 251-281.
- Whaley, J., Sloboda, J., & Gabrielsson, A. (2009). Peak experiences in music. In I. Cross, S. Hallam, & M. Thaut, *Oxford Handbook of Music Psychology* (pp. 1-22). Oxford: Oxford University Press.
- Wharton, C. M., Hampl, J. S., Hall, R., & Winham, D. M. (2003). PCs or paper-and-pencil: online surveys for data collection. *Journal of the American Dietetic Association* , 103 (11), 1458-1459.
- Whitehead, J. (2009). Generating living theory and understanding in action research studies. *Action Research* , 7 (1), 85-99.
- Whitney, L. (2012, January 18). *Internet now active with 2.1 billion users*. Retrieved January 20, 2012, from CNET.com: http://news.cnet.com/8301-1023_3-57360925-93/internet-now-active-with-2.1-billion-users/
- Wildschut, T., Sedikides, C., Arndt, J., & Routledge, C. (2006). Nostalgia: Content, triggers, functions. *Journal of Personality and Social Psychology* , 91 (5), 975-993.
- Wood-Harper, T. (2013, August 22). (A. Ko, Interviewer)
- Xu, Q., Erman, J., Gerber, A., Mao, Z. M., Pang, J., & Venkataraman, S. (2011). Identifying diverse usage behaviors of smartphone apps. *Proceedings of the 2011 ACM SIGCOMM conference on Internet measurement conference*. ACM.
- Yahoo! Inc. (2010). *Yahoo Weather RSS Feed*. Retrieved September 25, 2010, from Yahoo! Developer Network: <http://developer.yahoo.com/weather/>
- Yau, A., & Murphy, C. (2013). *Is a Rigorous Agile Methodology the Best Development Strategy for Small Scale Tech Startups?* University of Pennsylvania, Department of Computer & Information Science.
- Zak, E. (2013, October 3). *How Twitter's Hashtag Came to Be*. Retrieved November 23, 2013, from Digits - Tech News & Analysis From the WSJ: <http://blogs.wsj.com/digits/2013/10/03/how-twitters-hashtag-came-to-be/>
- Zemin, Z. (2010). Study on beta testing of web application. *Computer and Automation Engineering (ICCAE), 2010 The 2nd International Conference on* , 1, 423-426.
- Zentner, M., Grandjean, D., & Scherer, K. R. (2008). Emotions evoked by the sound of music: Characterization, classification, and measurement. *Emotion* , 8 (4), 494-521.

Zheng, J. (2011, December 13). *How many questions do people ask?* Retrieved July 4, 2013, from SurveyMonkey Blog:
<https://www.surveymonkey.com/blog/en/blog/2011/12/13/how-many-questions-do-people-ask/>

Zuber-Skerritt, O., & Fletcher, M. (2007). The quality of an action research thesis in the social sciences. *Quality Assurance in Education* , 15 (4), 413-436.

Zuber-Skerritt, O., & Perry, C. (2002). Action research within organisations and university thesis writing. *The Learning Organization* , 9 (4), 171-179.

APPENDIX A – Music Memory Form Respondents

Respondent No.	Gender	Nationality	Respondent No.	Gender	Nationality
1	Male		41	Male	Brazilian
2	Male		42	Female	
3	Female	French	43	Male	British
4	Male	Canadian	44	Male	
5	Male		45	Male	
6	Male		46	Female	
7	Male	British	47	Male	
8	Male		48	Female	
9	Male		49	Female	Canadian/Taiwanese
10	Female		50	Female	Canadian
11	Female		51	Female	British
12	Female		52	Female	
13	Male		53	Male	
14	Male	Canadian	54	Male	
15	Male		55	Female	
16	Male		56	Male	
17	Female		57	Female	
18	Female		58	Female	
19	Male		59	Female	Irish
20	Male	Italian	60	Male	
21	Male		61	Male	
22	Female		62	Male	British
23	Female		63	Male	
24	Male		64	Male	
25	Male		65	Male	
26	Female	Romanian	66	Male	
27	Male		67	Male	
28	Male	Taiwanese	68	Male	
29	Female		69	Male	
30	Male	Irish	70	Female	
31	Male		71	Male	
32	Male				
33	Female				
34	Male	English			
35	Male				
36	Female				
37	Female				
38	Female	Canadian			
39	Female				
40	Female				

APPENDIX B – Music Memory Form Responses

Response No.	Story
1	New Years Eve house party. I was only young at the time, 16, but somehow I was drinking strong lager; it was New Years after all, so my parents weren't paying attention. The Christmas tree was looking tired, and so were a few faces, but this piece of music drew a crowd to the front room, inspiring a microphone and my Uncle to lead a number of family friends singing and swaying to the sound of Dobie Gray.
2	After a night of attending the Rotman MBA finance seminar, helping the school promote itself to potential exchange students and spending a wonderful dinner and dessert with a good friend I retired to my hotel. After showering, I Skyped with my wife and child and then started playing this song in the background. My hotel room had a small balcony and since I was located near the Barbican Centre, I had a good view towards the City of London and its tall office buildings. With the music of Steve Cole behind me, I was looking out into the darkness and homes of whoever else was still up. It was interesting to see London as calm as it was and seeing what other people were doing at this hour: watching TV, cleaning the kitchen, etc. It gave a sense of peace and calm in the world and that life isn't as hectic as it seems to be during the daytime.
3	Carnival time in Brazil, February 2007. The place is crammed with people on the beach and everyone is there for just one thing....to Party. Sat back and relaxed after a churrascaria bbq. Brahma beer in one hand and the thoughts of the night ahead in Copacabana going around in side my mind...surrounded by the most beautiful blue sea and green mountainous landscape... not to mention the girl from Ipanema! Amazing....
4	This is the song played at our wedding when we danced as Mr. and Mrs.
5	on vacation, not a care in the world
6	Driving on the streets at night. City lights flashing by. A lot like a driving video game (gran turismo?), Clear crisp air blowing through the windows down. Working hard, but maybe living the dream ...
7	Driving to work, AGAIN on the weekend (4 weeks straight). Working for THE MAN. Nothing to look forward to. Rolling by gray san francisco buildings on a gray morning. Almost everyone else you know is sleeping or just living life.
8	Living in apartment with friends. Everyone getting ready to hit the club. Blasting this song, people are excited. Happy and looking foward to fun.
9	The beat is almost ethereal, evoking images of nostalgia and flying, very different for a hip-hop song. Also, at the end of the song when they are interviewing the artist, you can almost hear the joy when they are talking about what happiness means to them. The phrase, "feeling the moment" struck me and I try to live by that mantra everyday.
10	A happy nostalgic country ballad about life, time, family and love
11	When i listen to this song i am transported back to my first year of university and the feeling of being in a new environment and discovering new parts of myself. Thinking I am more interesting, that I have great potential, etc.

12	This is awesome and always makes me happy. I like the song pace.
13	I found this song through random browsing on youtube, and fell in love with it. One day just after a job interview, I was quite depressed, so I started playing this song on my red ipod shuffle(thanks to Andrew and Janet), and the beautiful voice of Corinne just melted my heart and loosen my nerve. All the sudden the world around me started to turn from gray scale to bright color. This is just a wonderful song that I really adore.
14	This song is placed at 40 minutes on my iPod running playlist. A rocking beat with empowering lyrics - just what I need as my energy levels are waning and I need to dig deep to keep pushing. It has pushed me on through the last few kilometers of several runs and will continue to remain at the prime playlist position for future 10km runs.
15	Being seconded to a peripheral country hospital wife meant long drives every fortnight back and forth from the city. We usually chose to drive at night for the 3 and a half hour trip. This one night we were listening to the Aladdin soundtrack and under the clearest night sky, yet driving through pitch darkness illuminated only by our headlights it was as if we were the only ones around. Hence when the song came up we spent a couple of hours learning the words fully and singing each part to each other. Alone, yet together... and made all the more memorable by the beauty of the song.
16	I just felt very in love, and this song was so perfect in that moment.
17	It was a regular Saturday and I was one of a few students who had been assembled to fetch water to the pantry. Entertainment started at 7:00 pm and this song had just been released in the school (but I had not heard it yet). On my way back to the dormitory after a trip to the pantry, i overhead this song as the entertainment prefect prepared for the evenings event. It made it all for the night and I still think about this particular moment whenever I hear this song. Gone are the days ... :) Me love my old school euro dance.
18	I'll never forget the first time I heard Dave Matthews Band. The song was Satellite and it forever changed the way I understood how music can make you feel. I remember being a teenager fighting with mom, a common occurrence for a teen girl, really. The second I heard that song, my mood went from frustrated to quiet reverence. It shook me out of the teenage angst I was feeling and allowed me to see the good in life. What a great memory!
19	At Leeds music festival with my girlfriend (now wife). We had signed up to go on the basis that this would potentially be a once in a lifetime chance to see an iconic band.
20	First time running since having the baby and doing pretty damn well. On a treadmill, going fast and on an incline. Huffing and puffing. Feeling muscles tingle. Then song comes on and it just takes me to a whole other level. I feel the music . It's pumping me up. I start running faster. I feel like I can conquer this...conquer anything.
21	Huband has the kids. I'm in my kitchen. Music is playing on iPod. Glass of red wine next to me. Chopping and prepping food for dinner. I have a whole, relaxing hour stretched ahead of me...no distractions...just wine, cooking, and my favorite songs playing in the back ground.
22	Have good friends over for dinner. All sitting around the table, enjoying good food, drink and conversation. In background jazz and soft r&B play in background.
23	Walking to work every morning. Feels like a fresh start. Wanting some music that will put me in a good mood and lift my spirits as I head to work.
24	I played unusual music to get fired up for basketball games. For some reason, playing classical music not only calmed me down, but the crescendos got me fired up as well.
25	Dance anthem when I was in high school. Makes me feel young and helps me remember the times when I was hanging out with my close high school friends. It was also the one song that I will dance to whenever, wherever

26	This album was introduced to me by a high school music teacher. I am forever grateful that she had the foresight and courage to give a teenager an album that can surely incite suicidal thoughts if the message was not taken well. The lyrics are very simple and mournful, yet in a unique, Billie's fashion, somehow, the sense of hope managed to permeate the thick, dense time of sorrow. This has become the go-to album if I want to be more grounded in my relationships, especially when the hard time hits and I need to refocus my perspective. For August of 2008, the album helped me get over the emotional low and the self-esteem dip, mellowed out the grieving process, and allowed me to come out of the other end, not cynical, but rather, rejuvenated.
27	I was working late one night at home and normally while I work I would listen to music. Architecture has always made me look towards the future and listening to this song also gave me that feeling. It immediately inspired me to work harder and incorporate new ideas into my design. This song also holds significance because it is the first song I heard from Kyoto Jazz Massive, which has turned out to be one of my favourite groups. Another thing that struck me was how this song sounds like it's from Gran Turismo.
28	Friday night and my friends and I were going back home to Mississauga to meet some other friends for some drinks. There was a traffic jam on University so we were stuck in slow-moving traffic for a while, passing policemen and pedestrians on our way. This song came on and immediately our three heads started bobbing in unison and knowing that this album just came out and only underground hip-hop heads knew this song, we felt pumped up.
29	It was my last exam and just came back into my room, having just purchased a Mac Mini. It was my first significant purchase and I remember that just seeing the default RSS screensaver and having this music on the background showed that computers could be stylish and cool as well as functional. This changed how I perceived computers and technology in general.
30	I walked to work at the University of Toronto everyday from Union Station, which is about a 30 min walk. I had never been in Toronto for the summer before and it was particularly sunny this day. Walking down College street, coffee in hand was a great feeling. The song reminded me of friends and parties and almost made me want to dance right on the street!
31	Christmas in our family is a big event with all of our relatives coming over to our house for the celebration. We normally have dinner on Christmas day and open our presents soon after. The anticipation of this is always one of my most cherished moments, a time where you get to spend time with your family. While I was setting the table, this song was playing in the background and I stopped to look around and was very thankful for all the loving people in my life. Moments like these make Christmas songs particularly special to me.
32	I used to go into my brother's room a lot to listen to his CDs when he wasn't home. I was particularly fond of this Stone Temple Pilots CD because I had heard him play it and I really liked the Plush song, especially the acoustic version. I would pretend that I was the lead singer of the band playing in front of my friends and would sing my heart out, and I still know the song lyrics to this day.
33	Before we had a local urban radio station, the Buffalo radio station WBLK would be the one we would listen to. A program that they played called Quiet Storm would come on around 12am-1am and I would lay in bed listening to these songs, writing them down and hoping to find them later. This was during neosoul's height and it's here that I found out about Maxwell, D'Angelo, Jill Scott, Vivian Green among many others.

34	I was sad and shattered because of some personal reasons before listening to the song - and while I was listening to it, it was slowly calming me down, making me more content, relaxed and less irritated. This is a very sad song, and the protagonist dies after singing this song, but the music is so beautiful that it always positively influences me! At the same, I also feel nostalgic after listening to this song. Comments: 1) It wasn't very clear whether I need to describe my mood BEFORE or AFTER listening 2) Also, there are at least 5 mood descriptors which I could pick up from the list - so it was really difficult to single out two adjectives from the list suggested. 3) It's also not very clear what you mean by 'keyword'.
35	Some friends of friends had taken a generator, a sound system, some tents and various other supplies out to a secret location in a valley somewhere in Wales. There was slate everywhere and if you walked for about 5 minutes up the hill there was a spectacular view over a lake to the hills on the other side. The party was in full swing for most of the night but started to fragment a bit as the night turned to morning and people got a bit messy. Then this song came on - Northern Lites - and suddenly everyone from all different directions ran into the middle where people were dancing and started jumping around with big grins on their faces. Almost everyone there was a big SFA fan, and being in Wales as well is was the perfect fit. The dark and the drizzle just added to the effect and the pure freedom of it was amazing. A lot of fun, and one of my favourite memories.
36	I was working for Leeds City Council at the time and living in a house with some friends, playing music and having some fun. The job was really a means to an end and incredibly boring. It was one of those where you would literally just watch the clock and count down the minutes. At the time I was working there I'd just got into this album and I regularly used to put it on as I left work and started to walk home. The energy of it would always snap me out of the lazy haze I was in and get me energised and looking forward to whatever the evening or weekend had in store. Panther Dash is the first song on the album - it's really upbeat and positive, it never failed to lift my mood and whenever I hear this song I think of that time.
37	I was riding my bike down the road and this song came on and it made me feel like the world had more meaning than first meets the eye. I started to see deeper meaning in the things around me, the people walking down the street, the road passing beneath me, my feet on the pedals, my being here.
38	I returned to the hotel room to find my girlfriend trying to hang herself with this song playing on repeat. I used to listen to it almost every day. I have never listened to it since.
39	
40	It is one of my dad's favorite songs and it reminds me of the time I spent with my family in Taiwan.
41	The beat is almost ethereal, evoking images of nostalgia and flying, very different for a hip-hop song. Also, at the end of the song when they are interviewing the artist, you can almost hear the joy when they are talking about what happiness means to them. The phrase, "feeling the moment" struck me and I try to live by that mantra everyday.
42	I was sitting on the GO train back and looking out from the window. The song fit my mood and the outside weather perfectly.
43	The song has a summery feel to it and was perfect while walking to work and keeping me upbeat. The second half of the song is so soulful and gives me chills whenever I hear it. The lyrics remind me that life can be hard but to embrace it and continue to grow despite the hardships.

44	I got this song when it was fresh off the press, and played it for my friends while we got ready to go to the club. At this time, Drake was already blowing up and this song and Forever put him on everyone's radar and it was cool to witness the growth of a local product making it big. This song also holds significance to me since I was in a beat making competition with the producer of this track, Boi-1da, back in 2004-2005. It's nice to see his success and to see how far he has gone since then, all due to hard work and talent.
45	It was a Monday morning. The alarm had awoken my fiancée and me at 6am after a busy weekend. We were tired. Once out of bed, the car engines were fired up, the heater was turned on, and we sat back and quietly watched the M56 turn from darkness to light. Following bumper to bumper traffic we caught some space on the Mancunian Way. The sky was ablaze with a hue orange, the radio was turned on, the sound system was alive and then this ... Love Letters by Ketty Lester. No Monday morning will ever be as perfect again.
46	I love hearing the keyboard intro as I'm walking around campus on a clear sunny day. The upbeat and light mood of the song immediately puts a bounce in my step, and it reminds me of how much I love being downtown.
47	This was a song I used to put on repeat while getting ready before a date. It put on a smile on my face and was hard not to dance to while getting dressed. The smooth rhythm calmed any nerves I had and always left me feeling good before heading out the door.
48	A great song for winding down after a workout: walking home post-run, or stretching after a gym session. The calmness and catchy nature of the song was a perfect pairing for all those endorphins =)
49	Feeling stressed and overwhelmed with projects and deadlines to meet, this song released everything I felt of being emotionally stressed (specifically the bridge leading up to the chorus).
50	I used to work in business technology consulting; when I am not at a client site, I am usually at the office doing analytical work with Excel spreadsheets or setting up presentation materials. The office can get very quiet and the slightest noise can sometimes be distracting. I found that playing a little bit of music and help me filter out the distracting background noises so I can keep focused on my own work. My boss was very open and encourages music as long as it can't be heard from the board rooms. The problem with most music is that they are composed to get the full attention of their audience. This is not good because I needed my attention to do my work and not listen to music. Furthermore, however talented they are, I can't have the lead from AC/DC screaming with the back of his throat, that would certainly distract me. I can't have Snoop Dogg rap about his encounters with the opposite sex either, because the lyrics wouldn't be work appropriate. I finally found what I needed: it was video game music. Ridge Racer was a racing video game in the late 90's which I really loved, and the composer made the music in a way that it won't take the player's attention away from the game, while filling the background with appropriate noise. Most of the songs are Funk, Breakbeat, Acid Jazz and Neo-Soul mixed with traditional Namco synth melodies. There is no singer and the melodies are usually on the soft side. This particular album has helped me through many nights of over-time and Friday afternoons which otherwise would have been a less productive day.

51	This song captures, whether it meant to or not, the turmoil evident in the world at the time - terrorism, fear, reactionary politics. I played this track whilst taking off from Florida. The sun was setting over Orlando and I could see a storm in the distance. Just a cool moment.
52	It was a cold autumn evening in Blackpool, but the sky had been a gorgeous blue all day and it made for a bright orange sunset. As the sun dropped we revved our engines at the Northern most point of Blackpool Illuminations. Once dark, the sea front was ablaze with tacky bright lights. Roof down, heaters up, and stereo on full rev, we cruised the Blackpool front and sang to Mr. Brightside at the top of our voice.
53	I've been to a few gigs, but this one stands out as the best. Shane MacGowan arrived three hours late to a sour audience. Bottles were being thrown, fights were breaking out, but as soon as Shane MacGowan burst into song the roof came off. I don't remember much in all honesty, but I awoke with a few bruises and the ringing of 'Streams of Whiskey' in my head".
54	I first heard this album on a journey from Dublin to Castlerea. It was late one Friday night in the middle of December and I'd enjoyed a few pints of the black stuff before my cousin me picked up on the Liffey Road. She had White Ladder playing on the cassette player and I was captivated by both the sound and the lyrics. It became the soundtrack to my year in Ireland; the same year in which Gray rose to fame and took on the world.
55	This song doesn't just encapsulate one moment in time. Instead it captures just about everything I have loved and been loved by in this world. I love Christmas. I love that there is one day of the year that you can wake up and you know the world is at peace - no traffic, no more shopping, no rushing - just friends, good food and happiness. The USA has also been a distinguishing aspect of my life. A child of the 80's and a generation communicated to through TV, I was heavily influenced by American culture - Sesame Street, The A-Team, Back to the Future, Gremlins and most recently Friends. This led to many memorable experiences in the US, from all night parties in Times Square to hold-ups in L.A. I also fell in love with an American girl. I met her in Galway, Ireland and for three months we drank and danced our time away to this very soundtrack. If I needed any further connection to Ireland we announced our engagement to friends and relatives in the small town of Castlerea; a town my Grandfather left over 70 years ago. The Fairytale Of New York is my signature sound. When those first notes on the piano pay out it doesn't matter where I am or what I am doing. For those three minutes I am in Ireland, I am with my American fiancée, I am with my family, I am dancing, and by the fire is a glass of Jameson ready to celebrate Christmas. Slainte!
56	This was played at my brothers funeral, we brought him home from another country where he had died. The tune was on a cassette in his effects.
57	
58	Was dancing away with my then ex-girlfriend, I ended up going out with again for three month following this evening. Started dancing when this song came up.
59	Private Story

60	Perfect during work out and good beat
61	This beautiful piece of music carries the gift of transmission, and so attunes itself to many contexts. As suited to a wedding as it is to a funeral, its simple title 'Closing' echoes its sister song, 'Opening.' Today I have chosen it as emblematic of flight; a frequent experience for me now. And when I am aloft somewhere, usually in the grey squall above the Irish Sea, I am watching the seat belt sign for the moment I can reach for my iPhone and select playlist, 'Writing,' track 'Closing', artist 'Philip Glass.' And with it I know that I have just left somewhere, and another few days of my life are done, and I know again that I am about to arrive somewhere, another few days to begin.
62	My lovely aunt sent me this album for my birthday. I was a little girl but to get a rock album by a band called 'Cream' and one that I hadn't heard of totally surprised me. My parents went loopy as I remember. I felt very honoured that my aunt thought I was grown up enough to listen to it, my self esteem grew. The importance of this album is that it opened my world up to a whole array of genres, which developed into love of music and a respect for different sounds.
63	singing the song at relative's birthday party
64	Private Story
65	Used to listen to this loud prior to going out with my friends at sixth form
66	The very best song for mad dancing with two little girls, just before bedtime.
67	The lyrics to this song gave me some clarity which encouraged me to look towards the future with someone else. Having spent time with someone new and knowing that you should be together is very life changing. We played this song at our wedding.
68	The above song is one that I associate purely with the double death of my grandfather and my father-in-law that took place within three days of each other. This was a song that was being played on the radio at the time and one that has always stuck in my mind. When I hear the song it takes me back to that time - end November/beginning of December 2004.
69	Hired a convertible car and listened to the emphatic tones of Kelly in the blazing Australian sun, driving to the whitest sands in the world.
70	
71	
72	My father had recently died, and I had taken my mother out for the day. This particular song was on the radio, and it always brings back memories of that day
73	
74	my best friend and I went once a month throughout the winter of 1999 /2000 to a secret house club called red salon in Hannover, Germany. We had the best time dancing the night away, generally until 4am, completely sober (as we always had to drive home for about 45 minutes). still today we think about the time that only the two of us would have those dancing sessions.
75	the expo 2000 was a party marathon with newly found friends from all imaginable countries. we would dance 4-7 nights a week, outside the Australian pavilion, and the most often played tune was Anastacia
76	this album reflects one of the pinnacle times in my life. A time of freedom, inspiration, and self discovery; a key period that changed my life direction

77	this was the day of my sister's wedding. I've created a movie from photos of her and her husband from their lifetime growing up, to meeting, etc. The background music to that video were all the songs from Kane's Fearless album. Everyone was in tears when seeing the movie. the songs just totally squeeze your heart.
78	when we were coming back from a mad festival weekend I was playing this tune over and over, thinking about the seemingly impossible love with my now longterm boyfriend (and hopefully soon fiance ;))
79	hanging out with my mates who are all skaters, going to the lake for some underage drinking and smoking of pot, driving to the next biggest city to check out the skate shops, sitting on the boardwalk, jumping the fence to see the band live at a concert (for free), some of my most rebellious years
80	
81	
82	I was at my brother's wedding and the sky was clear, the moon was bright and all my family and friends closeby. This song came on and depicted this event perfectly.
83	I first discovered Slakah the Beatchild from listening to the local Toronto radio station and was amazed by how different and fresh it sounded. This music was so different than the monotonous sounds that most hip-hop artists embodied at that time. I searched on MySpace to find more music and loved everything I heard. When I went to Shanghai, which itself is fresh and modern, I put some songs for my workout and listening to B-Boy Beef always brings me back there.
84	I first heard this song at our engineering formal when we were on the dancefloor and over the next few weeks heard it in various other clubs and bars. It has a very distinct synthesizer sound but since there aren't many discernible lyrics it is hard to find who sang the song. I search for months before one of my friends could tell me what the song was. Everyone could remember that synth portion of the song but nobody knew the name.
85	I was sitting in my room listening to some music to relax and this song came on. It has a very loungey feel and I remember it struck me because his voice is very good and the mixture of English and Japanese makes it unique. He reminded me of Maxwell, Musiq Soulchild or other similar neosoul artists.
86	My friend and I started a DJ business back in grade 10 and to promote it we hosted a house party. House parties were normally reserved for a few friends and not very large but we used his entire basement and turned it into a pseudo-nightclub (or at least what we thought it was like from music videos). This was our first party and the turnout was great (around 100 people), which was hard to accomplish at the time due to poor communication (pre-Facebook & online social networking) and it was purely word-of-mouth and handing out flyers at school and on MSN. Everyone had a great time and it is still fondly in my memories as the first big party we threw.
87	My cousin introduced me to this Finnish vocal group after she found out that I worked there for 2 months over the summer. It was very powerful and interesting to hear.
88	I was listening to the album and I enjoyed most of the tracks on there but this one, the last one I might add, instantly caught my attention. The smooth melodies, vocals and vibe make it one of my favourite songs.
89	family reunion for xmas with son and new girlfriend/partner home from Galway university happy days
90	this is the absolute summer song. I can even smell the air of my hometown in summer when listening to this tune. this tune has really shaped my summers in the last 2 years of high school. cruisin' around town, hanging with the gang, skating, bbq, chilling on the lake. probably one of the

	most nostalgic songs in my ipod :)
91	this song just stirs so much love and so many dreams for my boyfriend and me. I always hoped that we would play this on our wedding :) however they still haven't recorded the song. It's only available on YouTube http://www.youtube.com/watch?v=IbQBEHCEDfQ
92	xmas 2007 was with my 2 best friends Sarah & Rachel. We went hiking, skinny dipping, cooking, drinking wine, etc... that Xmas has really bound us together and all three of us are very fond of that memory. Yeah Yeah Yeah's, Robyn, and The Presets were the bands played in the car when driving to the hiking sites and we danced and sang and screamed in the car :), just unforgettable
93	I was sitting on a beach chair watching the waves and relaxing with my family. Not many people were on the beach, it was a clear night and very quiet.
94	
95	Sitting at home, doing some work on the computer. Kids are asleep and no one bugging me. Just me and my music, keeping each other company through the night.
96	Just LOVE this song! It has an almost ethereal quality to it and I can picture myself walking through woods on a sunny Autumn day to this track. Feel really relaxed and happy whenever I listen to this song.
97	This is where the idea of Oopus all started, from this one song. Listening to it gave me goosebumps...which is funny because it was off my toddler son's CD we bought for him for the book "Guess How Much I Love You". When I listened to it I got a sense of flying through snow capped mountains during a sun rise through the cloudless sky. I had a general feeling that everything is right in the World and that Life itself was so majestic. And it gave me a sense of purpose, that I had to help the World with something related to the power of music and its hold on people. And that music not only transcends genres, but also feelings, moods and imagination. THIS is the song that launched Oopus!
98	Between 4 and 7pm on Saturday evenings has to be my favourite time of the week. There is a calm about the world, but also an excitement. The shops have closed, business is over - time for family, a meal, or the expectation of a Saturday night out. It is the peak of the week. This particular Saturday evening I was at home cooking and played an album recommended by a friend - Damaged by Lambchop. Paperback Bible was the stand out tune and it created a calm, but warm air to accompany the meal.
99	cypress hill always takes me back to my rebellious time as a teenager, when I started smoking, trialled alcohol, discovered wheat, and hanging out with all these bad boys in town
100	when I first started going out with my current boyfriend we asked what music we relate to the other and for some reason he said Mr Brightside from the Killers. Later he added Kings of Leon and Lilly Allen to that
101	this song is just so pivotal to Sam and my time as vagabonds. Homeless. House sitting, looking after dogs, and making MAJOR live decisions. One day in that house I listened to Dog Days are Over, over and over and over... at least 3 hours if not longer... and then later on AGAIN!... cleaning the house singing VERY LOUD ;), man that felt good
102	whenever Damien Rice place I have to think of London. Damien Rice played non stop in my first flat share in London. So from March to June 2010 all that our flatmates would play would be Damien Rice
103	when living in London I would do a 15 minute run to the Gym before doing a 30 min Gym session and walking for 45 minutes to work... yeah little obsessed back then (wish I still had some of that spirit hahahaha)... Gorillaz Feeling Good Inc came out that time and I listened to it to death

104	wow what turbulent times. Arctic Monkeys always remember me of my last month in London and the last hours in the airport. Walking through the streets of London, seeing China town with my sister and her fiance, going to a theatre play with them before I am leaving Europe again. I have no visa for Australia, I have no job in sight, I've just quit a job as they promoted me in London, my dad's not speaking to me because I'm leaving Europe again and he's hurt that I go back to Australia, I'm excited, scared, happy, anxious, uncertain but certain, hurt, sad, serene... everything at once
105	I was walking along College Street in Downtown Toronto and this song came on. Perfect song for the time and weather, it reminded me of being on an island relaxing.
106	I was doing my homework late in the night and decided to go to Youtube for some study music. I remember this song being a sample for a hip-hop song I liked so I looked it up. As soon as the video began I immediately dropped everything I was doing and was entranced by Bill Evans' raw emotion and passion shown in this video. Watching the video combined with the song really moved me and I posted this on Facebook with some friends echoing the same sentiment. Here is the video for your reference: Bill Evans - My Foolish Heart http://www.youtube.com/watch?v=a2LFVWBmoiw
107	I was listening to his labelmate, Yu Sakai and really liked his music so decided to find more artists on the same label. Suga Shikao was the first in the list and the intro IMMEDIATELY reminded me of Jamiroquai and reading the comments I found out I was not the only one. Apparently the intro was arranged and played by the same UK band that does Jamiroquai's music.
108	I was chilling in my dorm room with a couple of friends and one of them who's music interests were similar to mine introduced me to a track by a then up-and-coming musician named Lupe Fiasco. The beat was amazing and painted the scene as rebels skateboarding in the night. He would soon become one of my favourite artists and one of the most respected artists in hip-hop.
109	I was part of a student body that organized student conferences for all of Ontario. We had a breakdance crew come and showcase their skills and this was one of the songs they had. I had never heard it before and it was stuck in my head for the rest of the conference, especially the bridge and chorus.
110	Not much to say other than this is my all-time favourite song by my all-time favourite hip-hop group. It never fails to mellow me out and at the same time pump me up.
111	I was ordering some vinyls and listening to a few artists that I like. I heard this remix and it was one of the first chillout songs I've ever heard. I didn't really know many songs in this genre at this time so it really opened up my music tastes.
112	While on a holiday, waiting at the bus stop for our ride back to bangalore we heard a band performing in this marriage hall across the road. We had a little time on hand before the bus arrived so we decided to check out the marriage hall. We walked in carefully as we weren't sure if there were guests already inside and someone might object to us loitering around in our shorts and tees. The hall was fortunalely empty with just the band tuning their guitars and checking their equipment. Dressed in suits and all set to perform for their best wedding hits, they were quite suprised to see us. We convinced them to play us a song and what followed was an awesome live performance of 'Smoke on the water' to which the audience(3 of us) gave a standing ovation. The song is great anyway however the randomness of this event and the inappropriateness of having it performed by a wedding band made it even better.

	Following this we were asked to quickly leave before the marriage party arrived.
113	I was singing this song with some good friends. It's more reminiscent of good lasting friendship more than anything that the content of the song symbolizes.
114	The song (and its corresponding album) was inspired by McKennitt's travels in Morocco and Spain. When I travelled to Morocco and Spain, "The Mystic's Dream" was playing on a virtual non-stop loop in my head as a result. The song has a hypnotic, dreamy quality which added nicely to the similar atmospheres of the souks of Marrakech and the Alhambra in Granada. To this day, whenever I hear the song, I think of my time there.
115	great song we have all been there
116	I was drinking a bottle of Jack Daniels at 3am while listening to the girl in the next compartment being yelled at by Belarusian boarder guards for not having a passport or visa. That sort of represented one of my greatest fears. This song was playing on my mini speakers connected to my iPod. The guards took her away then checked my info, drinking some of the bottle after asking if they could.
117	Working on a project late at night and had the windows open, overlooking Bay street from the condo. Very nice, clear night and reminded me of being back at the Jinmao Tower in Shanghai having drinks on the 89th floor bar.
118	I was shopping with my girlfriend in the Nike store when this song came on, and I wanted to stay to find out what the song was. When I realized it was Black Eyed Peas I pointed out to my girlfriend that I thought they were better before Fergie came on board. When we were at the cash register we had a nice chat with the cashier (also a musician) about whether he thought the Black Eyed Peas were better before or now and he agreed with me. The song and group in general will always remind me of this encounter.
119	I was reading a blog and came across this video by Nike. The song evokes a sense of wonder and exploration and fits the song perfectly. The video can be found here, although the music is sped up: http://www.onwards.tv/
120	I had just finished a long and boring lecture at NUIG; something to do with javascript. Outside waiting for me was Kristen - then girlfriend, now fiancée. She had red hair and adorned a green knitted jacket. In the background was a field of leaves - browned from the change in season. Autumn Leaves by Eva Cassidy was playing in the background, not so much on a music player, but in my mind.
121	Imogen Heap has always reminded me of London and when I was about 24, I had a big dream to move to London to live and work - mainly to be near a boy that I was in love with - but also to experience a big international city. London represented what I should be doing in my mid-twenties and all that came with that - long commutes, little or no money, small apartments, etc. This song in particular caught me every time and whirled me into a daydream about what my life would be like when I finally got to London - falling in love again, making excuses to stay together overnight, cold climates and warm embraces.

122	I first heard this song watching a Steve Nash produced video called, "Training Day" (http://www.youtube.com/watch?v=8VwiRnQ0M4M) where he was seen doing various sports around the city. The scene that struck me was when he was practicing soccer in a loft and this song was in the background. Something about being alone at the top of the tower reminded me of being on a mountain overlooking everything and having that solitude, that peace. I added it to my playlist and while I was working out in a hotel in Shanghai, overlooking the city, I felt that same calm and inspired me to work harder. iTunes link: http://itunes.apple.com/ca/album/nyoka-musango-lora-chiorah/id82050012?i=82049534
123	Walking back home from class. Walked through the beautiful University of Toronto campus during the Fall at dusk. Nice cool, crisp air blowing through the trees and this song accompanying me on my walk home. It was nice.
124	Any time I feel confused, this song just bring me back to myself and reconnects me with the Multiverse, like a true religion (feel free to research etymology of that word).
125	Car journeys with my mum. First song that ever stirred any emotion in me as a child. Didn't really understand the sentiment of the song but liked the lyrics and would hum them over all the time
126	Sad knowing great things also have an end
127	Our first dance at our wedding last July! All our family and friends in a tipi, dancing and drinking!!! X"
128	It has been two months filled with memories - parents meeting, engagements, travels abroad, and family dinners. This was the last morning of hosting of my future in-laws. I love them dearly, but there is a natural strain of entertaining 24/7. This song captured the exhaustion and emotion of the last morning before waving them off to the airport. "So long, farewell ... do do do de de".
129	My Mum was sat on the sofa sobbing. She had only been in Sydney with me and Kristen for 10 days, and she didn't know when she would see us again.
130	The signature song of the day. It was the last song we heard before we were engaged, and the first song to be played straight after.
131	This was the last song played by the guitarist that evening. We were at the Claddagh Irish Bar - Los Cristianos - Tenerife. We met special friends that week - still family friends to this day. I think we'd been in this bar almost every night of the holiday - singing and dancing. The singer dedicated this one to our families, before we left for the airport and home the next day.
132	I remember this moment because the surroundings worked as a perfect backdrop for the music I was listening to. I was traveling with the bus to Stockholm with my university. It was early morning, most were sleeping but I was listening to the The Nightly Disease by Madrugada. Its a dark mellow melancholic and full of emotions album. I was watching the landscape outside my window and it looked perfect with this soundtrack. It was hazy, a bit foggy, the sky had a silver purple color. We were passing by tall green trees and still silvery clear as a mirror lakes. Music and landscape provided a sweet melancholic feeling.
133	blackpool fylde college student union bar as a new refresher enjoying a new sense of freedom

134	The anticipation was building when I took the elevator up to the 91st floor to a lounge in the sky, literally. But nothing could prepare me for the actual sensation I felt when the elevator doors opened and I gazed upon the 3-storey full glass window wall looking over Shanghai. It LITERALLY felt like I was coming out of the elevator into the future and I had arrived at a lounge in the clouds. The song that was playing in the background to set the atmosphere was "Come and Take Me (Over)" by the Skytwins. It actually took some determined searching skills to look for the song on the internet when I went home. But the song just "fit" with the mood I was feeling and the atmosphere that was set by this lounge in the sky. This song would feel "right" at any time of the day in this lounge. It gives the sensation that the listener is in the air and in the future, which is the way I felt about the environment I was in.
135	I used to chase my sister into her bedroom so that I could listen to her music with her and her friends. She never wanted me to listen with them - so I would just dance outside of the room to this song as well as other songs that summarized the adolescent/teenage universe that we lived in - like Debbie Gibson, The Bangles, etc.
136	It was the day when I met my wife.
137	Private Story
138	Private Story
139	I was about 8 years old at the time. My Dad had a pair of giant headsets. I would give almost anything to listen to music through them. One evening, my Dad waved me over to the hi-fi and placed the headsets over my ears. He pulled out an LP - War of the Worlds by Jeff Wayne. When the needle hit the record it was the first time I ever really listened to music. It was an outstanding musical moment.
140	Private Story
141	Playing music while waiting to give out candies to kids. Soundgarden seemed like a good band to play on Halloween as there was what looked like a vampire on the cover of their album. And having the song/album named Superunknown helped with the eerie atmosphere as well.
142	This album just came out right before Halloween. Being a big Pumpkins fan I bought it the first day it was released. Listened to this album while waiting for kids to come to the house to pick up candy. It has a weird circus-like quality to the sound and the fact the song is called "We only come out at night" was perfect to play on Halloween night when the little monsters only come at night.
143	Just bought the new album from D'Angelo called Voodoo. Made me think of the time when my family took a trip to New Orleans and all the talk about black magic and witchcraft. The song "Devil's Pie" made me think of Halloween.
144	This song had an ominous feeling to it because of the church bell sounds in it. Also, it was the content of the song that made it feel deadly....as if we were all taken on a journey into Snoop's criminal past. Feels like it should be a song used for Halloween.
145	Listening to the radio when this song came on. Next to Thriller, I think this is the second most appropriate song for Halloween.
146	Great song! Makes me think of halloween for some reason.
147	Private Story
148	Private Story
149	Private Story
150	Private Story

151	I first heard this song watching a Steve Nash produced video called, "Training Day" where he was seen doing various sports around the city. The scene that struck me was when he was practicing soccer in a loft and this song was in the background. Something about being alone at the top of the tower reminded me of being on a mountain overlooking everything and having that solitude, that peace. I added it to my playlist and while I was working out in a hotel in Shanghai, overlooking the city, I felt that same calm and inspired me to work harder. iTunes Link: http://itunes.apple.com/ca/album/nyoka-musango-lora-chiorah/id82050012?i=82049534 YouTube link where I got it from...took me FOREVER to find: http://www.youtube.com/watch?v=8VwiRnQ0M4M
152	The release of Kanye West's College Dropout coincided with me receiving my acceptance letter to university. Upon picking up the album on release date I had a self-realization that everyone's path is different and nothing is set in stone. I realized it's up to the individual to find their craft in which they are gifted it and pursue it with ambition.
153	This was the first time I heard this song playing in a club, and it was during my first trip to Cuba. It was also the first club i had ever been to in Cuba, and the DJ was slowly building the excitement and energy of the crowd. Once this song came on, the energy of the crowd exploded and everyone, despite where they came from or what language they spoke all knew this song. It was amazing to share a bond with people from around the world.

154	Every time I hear this song, or even the band Moneen itself, I am reminded of my very humble musical beginnings alongside some of the most talented individuals the GTA had to offer - at least at that age, and for their respective instruments. Jon, Paul and Kevin were all a year older than me and had, for some reason, asked me to play with them in an upcoming Battle of the Bands. This was probably due to the fact that they didn't know anyone else who played bass, and let's face it, not many people will really mind the lack-luster performance of a bassist when you have three of the school's best guitarists playing together in the same band. Learning this particular song was a pain in the ass. It was the first time playing anything on bass outside of a standard tuning, and at the beginning of every practice, Paul or Kevin would have to make sure I was properly tuned because none of us owned an electronic tuner and I didn't know how to tune my bass by ear. Typing that out 7 years after the fact makes my skin crawl with embarrassment, but I think the worst part about this story is being able to remember the exact part of the song that I would always screw up... that long interlude around the 2 minute mark right before the final chorus came in.. I think I even messed that up on the night of our performance. Ugh. Despite all of this, I really started getting into Moneen and all of their stuff, and realized after time that people didn't love them because they were the greatest musicians out there. I don't mean to say that they weren't talented. If you listen to any of their songs, the music can attest to the fact that they laid down some solid melodies and demonstrate a higher level of musical progression than a lot of bands in similar genres... but for the most part, they gained a loyal following because of their do-or-die, rock out with your [*some text missing*] out attitude and immeasurable energy. At the very least, I look back on that time and think that I stayed true to them in that respect. Actually no. I think I was awkward as hell at that performance. But I learned that lesson with the next band I played with and almost body-checked my guitarist off the stage. So yeah.
155	I was very young (about 12 or 13) when I heard that song. At that point in my life, I was a preteen struggling with adult issues and hearing that song at that exact moment was like a relief, escape and comfort for what I was dealing with at the time. I realized how powerful the genre and culture of Hip-hop was, and it opened me up to learn more and dig deeper into the culture - which brought me so much confidence and delivered me so many positive life experiences. Today, i can truly say that Hip-hop is a big part of what defines me, and I owe it all to that one song.
156	The unofficial proposal.
157	great relaxing track after a stress week

158	I've been through a lot in my life, and this song reached the core of these experiences in approximately 5 minutes. It was my first live concert experience, and I was being introduced to alternative/rock for the first time in my life. Until then, I had been listening to rap/urban, but a new transition took place as I began my high school years. In addition to my personal life experiences, this was the first song that made me appreciate music in a live sense or state. Contrary to what the lyrics say at the beginning, I've always had a healthy relationship with my father; however, this song touched me at such a deep level that its meaning went beyond what was presented on the surface. In other words, it was about all of the past experiences that I had, without having the right time, experience, tools, people, wisdom - at my disposal - to make sense out of all. This might explain why I later specialized in human behaviour and thoughts, but this was a stepping stone in that direction. Of course, I didn't realize this at the time, and I am now reflecting on the experience and its true meaning in hindsight. Ultimately, the song was a longing for understanding, and a vulnerability that I may not. It was the sadness of not knowing, and the comfort of accepting the unknown. Realizing that there were always good intentions behind people's contributions to my life, but that they may not have been able to express it properly. It's about the good, and the bad, and relying on one's mind to sort it all out without conforming to the norm. As the song states, 'if I don't make it, know that, I loved you all along... and I hope that I figure out what's wrong'. It wasn't until I moved and studied in the UK, over 10 years later, that I could sit with my thoughts and figure out that all that I thought was wrong had turned out to be all right. Nobody is perfect, and there is always a reason for why things happen... such realizations comes with patience, and time. At that point in time, during this musical experience, I remember feeling like I wasn't alone - the collective, crowd, was singing along to the lyrics with such passion and devotion that I knew we all felt the exact same things in different ways. I also knew that everything would turn out ok, every time I heard this song, because its meaning ran deeper than what some may read as lyrics. In the end, my initial intuitive feeling was right - I just have the wisdom to make sense out of it now, and have moved on to other songs that resonate or challenge my current or momentary state(s).
-----	--

159	I missed the key word 'brief' for my last entry, so I will do better this second time around! :) Simply put, the song Shelter by Ray Lamontagne, inspired me and instilled a new sense of faith for me in love. I had just attended a wedding which was over the top, and quite pretentious of something it wasn't - unfortunately, many shared this view and it made me sad about the whole idea of marriage, unity, love, and question what love actually is or what it is meant to be. Different situations raise different questions about certain concepts, and this was one which raised the question of love. I was questioning love and the idea of marriage. Anyway, I came across this song which I played, and replayed, again and again. Truly, every time I listen to it, it makes me believe in the beauty that is love, and the unity of marriage, and soul mates. It's an extremely passionate song that inspired deep feelings of what love means and is for me. Thus, the song is sort of like a reminder of what I always knew or wanted it to be, but sometimes doubt due to other pressures or heartaches. It provides me with faithful 'shelter' , or a sense of knowing and believing in what is real.
160	She closed the door and went upstairs I also closed the door and drove east It was a crisp autumn night, or was everyday like today? City lights were dim, some leaves scattered I remembered being close and cold With two dark coats The CD spun and I remembered myself saying to I will hold your hand, until we all fall down
161	It was a Sunday morning. The sky was blue, and I was sitting on the coach. I thought a bit of music might just help. A lot had happened recently, and I thought back to what I had said or done. What was it that caused all these anxiety, confusion, and frustration? I began to see my true intention and feeling. It was like digging myself out of a graveyard; and I was disgusted. Then I let out my emotions and regained myself. I could see a clearer picture of myself, finally feel awake. Vaka, in Icelandic.

162	This is a song that best reminds me of the time that I was driving on the autobahn in Germany in bright sunshine. It's just a song with such a happy feeling and I couldn't help but feel uplifted and inspired by listening to it. It makes me feel like I can do anything and that everyday is such a great day for living life! Ever since the Germany trip, everytime I wanted to feel better about the day and make the week look brighter I always listen to this song. It just gives me such a positive vibe whenever I hear it!
163	bought my new c.d. player (new format) & one of my first tracks was this & today it is a powerful thoughtful track
164	bonfire night > fireworks > appropriate song xxx
165	it was just the perfect song for the perfect morning when i was feeling nostalgic
166	Living in Vancouver, away from family and most of my friends, sometimes I get a sense of alienation when life is overwhelming. The lyric really reflects that sense of loss in a city. Whenever I drive home after work feeling emotionally drained, I think of this song. Somehow the guitar solo in the beginning gives me a sense of serenity that I can enjoy on an evening like this.
167	one of the first dates with my wife, and realising we had the same taste in music and so much more else in common, this song reminds me of what binds us together and the feeling of falling in love.
168	bought one of my first records & played this track repeatedly @ the youth club just three brilliant muscains
169	out with friends in a busy bar music on juke box place was rocking
170	I was really curious to hear what the music album I was just handed in would bring, because I was promised a surprise. And usually music is very personal, and subject to instant dislike. The surprise was real, because this represents an unexpected love declaration from a very introverted person, as well as a tribute to all the shy people in the world. All the times I listen to it it reminds me about the deep feelings we may want to share, but we don't have the courage to reveal to the others.
171	First Fall in Manchester and just brought my whole family over from Canada. Listening to this song makes me think of all the Autumns that were spent in my home country over the years and how everything is changed now. And I remember thinking that I better know what I was doing here to have dragged my entire family to another continent. I felt nostalgic and rejuvenated at the same time, if that makes any sense.
172	A great song that made me think this was a song I would sing to my future wife during our wedding, engagement or during a very sensual moment.
173	Another song that made me think of my future with my significant other and the love that we will share once we are married.
174	Yet another song to think about a wedding in the future.
175	Just bought this album from HMV. I think it was my first "country" album that I ever bought and it was because of this song. Pictured singing it to my girlfriend at the time or to my future wife. Had a vision of us just sitting in our backyard in the summer listening to this song.
176	Private Story
177	Late, stressed, no time, looking for a relaxing song.

178	
179	My roommate and I had just started College (or rather French competitive preparatory school to "Grande Ecoles") and we were starting to realise how hard and competitive it was. We were both slightly depressed because of that and my roommate (who was Turkish) was feeling home sick. She introduce me to K's Choice (never heard of it before) and especially to the song "My Heart" that is so beautiful but also so sad. That band was her favorite band, and the song reminded her of her former boyfriend (she was having a hard time recovering from their breakup). We were listening that song over and over again in our room. I think that this song and specific moment is when I understood what it was to become an adult and how hard life can be sometimes.
180	I was in line at Livestock for a sale and realized that the wait didn't seem so long because the music playing outside was great. I recognized the voice as J. Cole and had not heard his new mixtape, "Friday Night Lights" until then. I couldn't help but enjoy the moment in the crisp Autumn air.
181	This song is important to me because it always makes me think of my dad. He passed away this year and everytime I hear it i think of him. Last year, when we were at home together he played the song and told me that it was our song and when listening to the lyrics he said that was how he felt about me.
182	The song is specifically 'When you were young', a cover of the Killers song. The instrumentals and atmosphere really helps you think of the best times together and the lyrics remind me of how invincible I feel when I'm around her.
183	Just walking around town listening to this new song I have discovered. It works in any situation (day or night) so I listen to it constantly when I am on the move.

APPENDIX C – MY OOPUS RESPONDENTS

Respondent No.	Age	Gender	Country
1	35	Male	United Kingdom
2	26	Male	Canada
3	35	Male	United Kingdom
4	36	Male	United Kingdom
5	34	Female	United Kingdom
6	40	Female	USA
7	26	Female	Canada
8	40	Male	USA
9	32	Male	Canada
10	33	Female	Canada
11	34	Female	Canada
12	28	Male	United Kingdom
13	26	Male	Canada
14	26	Female	Canada
15	26	Male	United Kingdom
16	50	Male	United Kingdom
17	26	Male	Canada
18	26	Male	Canada
19	25	Female	Canada
20	26	Female	Canada
21	34	Male	Canada
22	37	Male	Canada
23	36	Male	United Kingdom
24	48	Male	United Kingdom
25	42	Male	United Kingdom
26	27	Male	United Kingdom
27	42	Male	United Kingdom
28	29	Female	United Kingdom
29	40	Male	United Kingdom
30	45	Male	United Kingdom
31	28	Male	United Kingdom
32	35	Female	United Kingdom
33	42	Male	United Kingdom
34	25	Female	Canada
35	31	Male	Germany
36	32	Female	Taiwan
37	40	Female	Canada
38	25	Female	Canada
39	29	Female	United Kingdom
40	47	Male	United Kingdom
41	26	Male	United Kingdom

APPENDIX D – YLWM RESPONDENTS

Respondent No.	Age	Gender	Country	Respondent No.	Age	Gender	Country
1	39	Male	United Kingdom	25	24	Female	Canada
2	26	Male	Canada	26	35	Male	Canada
3	27	Male	Canada	27	15	Male	
4	37	Female	Australia	28	28	Male	
5	36	Male	United Kingdom	29	27	Female	
6	27	Female	United Kingdom	30	35	Female	
7	27	Female	United Kingdom	31	28	Male	United Kingdom
8	61	Male	Canada	32	27	Male	
9	26	Male	Canada	33	27	Female	
10	29	Male	United Kingdom	34	35	Male	Canada
11	38	Male	Germany	35	37	Male	United Kingdom
12	36	Male	Canada	36	26	Female	
13	42	Male	Germany	37	44	Male	Germany
14	40	Male	United Kingdom	38	24	Male	United Kingdom
15	36	Male	Canada	39	42	Male	United Kingdom
16	34	Male	Canada	40	40	Male	United Kingdom
17	27	Male		41	32	Male	
18	63	Male	Canada	42	38	Male	United Kingdom
19	28	Male	France	43	27	Female	United Kingdom
20	27	Male	Korea	44	33	Female	United Kingdom
21	26	Female	Canada	45	23	Male	United Kingdom
22	36	Male	Canada	46	28	Female	
23	26	Male	Canada	47	16	Female	
24	54	Female	Romania				