Your World, Your Music

An Exploratory Study of Music Diversity within the Virtual World of Second Life

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INTRODUCTION

As I write this a digital representation of myself -- my avatar -- grooves to the jazz stylings of a musician who goes by the name of “Flaming Moe.” Flaming Moe’s avatar at the moment appears to be playing a saxophone, but from my computer speakers I hear the sounds of a trio performing a jazz-fusion number. Someone from the audience jokes that Flaming Moe must be drumming with his toes.

I am logged into “Second Life,” a 3D virtual environment managed by a company called Linden Lab, based in San Francisco. More specifically, my avatar is in an open-air concert space at the Rockcliffe University sim, with twenty or so other avatars enjoying the jazz being played for us live by Mr. Flaming Moe. It’s a rather mundane audience for the virtual world – no robots, furries, samurai or floating balls of spaghetti gracing the dance floor. Clearly this event is much more about the music than about flashy displays of your coolest digital outfit. Some of them dance, others pose artfully with digital cigarettes. Everyone keeps the chatter to a minimum and concentrates on the music.

Musical events like this one happen every day, several times a day, in the virtual world of Second Life. From your internet-connected computer you can zip around to various digital venues and catch live musicians and DJ’s performing everything from reggae to Celtic to swing.

As a fan of various genres of music and someone interested in the intersections of culture and technology, I have wondered how does this new channel for sharing music in this virtual environment compare to other more traditional music distribution channels? Do virtual performance spaces enlarge the opportunities for listeners to be exposed to music not available in other media? Are there ways to measure this?

In order to get at these questions, I conducted an admittedly crude data analysis of musical events in Second Life over the entire month of July 2006. Specifically, I analyzed 838 public music-oriented events that occurred during this period and coded them by music format, which I used to draw some initial conclusions about the presence and absence of various kinds of music in Second Life. My hypothesis is that Second Life music broadcast provides greater exposure to certain niche music styles that are under-represented within more traditional music broadcast media, while also subject to its own internal imbalances in musical diversity.

In this paper, I will give a brief background on Second Life and music within Second Life. Then I will describe how music formats are used to measure other forms of music distribution, particularly broadcast radio. I will describe the methodology I used to conduct a data analysis of Second Life music events. And I will close with my initial findings and recommendations for future research.

3 See http://www.lindenlab.com and http://www.secondlife.com
ABOUT SECOND LIFE MUSIC

Linden Lab describes Second Life as “a 3-D virtual world entirely built and owned by its residents”.4 Launched in 2003, the virtual environment is populated by tens of thousands of residents from around the world, predominantly the United States and Europe.5 While the technical requirements for running Second Life are quite steep (a fast internet connection, a late-model computer with good graphics capabilities), the number of registered users of Second Life is currently more than 4 million.6

What sets Second Life apart from other 3-D online environments is that all of the content in-world is user-created rather than management-controlled. Second Life residents have built entire careers around the creation, marketing and selling of virtual goods and services to other residents – from digital sneakers to simulated lap dances to lavish pretend mansions.7 The trade in virtual goods and services is facilitated by the linden dollar, a virtual currency that is bought and sold against the US dollar at a rate of around 260 linden dollars to one US dollar.8

Various kinds of artists have found new ways to distribute their works within Second Life. Photographers, sculptors, architects, and machinimators9 have discovered entirely new audiences through Second Life. For example in the February a dance troupe performed the first in-world ballet entitled “Olmannen”.10

Second Life offers unique opportunities for musicians to get their work before new audiences. Streaming audio can be delivered to a Second Life concert venue by musicians with even modest technical skills.11 From March 2006 to February 2007, more than 7,000 events categorized as “live music” occurred in Second Life.12 Beyond the immediate benefits of performing before an appreciative -- albeit virtual -- audience, Second Life musicians have used their in-world performances to promote CD sales, garner real world press, and even perform on MTV.13

Meanwhile, real world musicians and record companies have begun to look to Second Life as another means of promoting their music. Musical acts as varied as Brazilian techno-duo

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4 See http://secondlife.com/whatis/
6 See http://secondlife.com/whatis/economy_stats.php. Linden Labs counts as a “resident” anyone who has downloaded the Second Life software and logged in at least once. This is a widely disputed number in the popular press and the blogosphere. See the comments in the official Second Life blog here: http://blog.secondlife.com/2006/10/18/1000000-residents-happy-crushing-signup-load-sad/
8 See http://secondlife.com/whatis/economy-market.php
9 See http://machinima.org/machinima-faq.html
10 See http://slballet.org/
11 See http://secondlife.com/knowledgebase/article.php?id=083
12 Statistic drawn from eventful.com, which receives and archives events listings from Second Life’s official event listings.
13 See http://www.mtv.com/overdrive/?name=news&id=1545799
Montage, folk singer Suzanne Vega and rapper Twalib Kweli have appeared in-world, complete with custom avatars, instruments and animations.\textsuperscript{14}

In addition to performances by live musicians, there are a number of events in Second Life that feature recorded music being played live by a disc jockey. Music is nearly ubiquitous in Second Life, from gentle ambient music at a fashion show, to throbbing techno at a glitzy discothèque, waltzes wafting through elegant ballrooms, and gritty blues in dive-bars.

Given the wide variety and plethora of music-oriented events in Second Life, the question I seek to address is how does one measure relative diversity in the kinds of music being made available through this new medium? To get at this question, we have to step out of the virtual and consider a more familiar technology: broadcast radio.

**MEASURING MUSIC DIVERSITY**

The broadcast radio media industry has established industry-wide, comprehensive databases to keep track of what kind of music is being played in the various radio markets in the United States. These databases are used by marketing firms and advertisers to better sell their products to radio listeners, by the Federal Communications Commission (FCC) to make policy determinations about media ownership and licensing, and by academia for scholarly research.

The BIA Media Access Pro database is the main repository of information about the radio industry, including radio revenues, ratings, circulation, ownership, transactions, and demographics.\textsuperscript{15} In addition, Arbitron collects data on audience demographics, ratings and charts and Radio and Records houses music chart information.\textsuperscript{16}

In the radio industry, different kinds of station programming are categorized using a limited set of “music formats.” The main music formats currently used by the BIA to categorize radio station programming are the following:

\begin{verbatim}
(1) Adult Contemporary  (11) News
(2) Album Oriented Rock/Classic Rock  (12) Nostalgia/Big Band
(3) Classical  (13) Oldies
(4) Contemporary Hit Radio/Top 40  (14) Public/Educational
(5) Country  (15) Religious
(6) Easy Listening/Beautiful Music  (16) Rock
(7) Ethnic  (17) Spanish
(8) Jazz  (18) Sports
(9) Middle of the Road  (19) Talk
(10) Miscellaneous  (20) Urban
\end{verbatim}


\textsuperscript{15} See http://bia.com/data_mapro_radio.asp

\textsuperscript{16} See http://www.arbitron.com/about/home.htm and http://www.radioandrecords.com/Formats/Charts/All_Charts.asp
The exact definitions of these different music formats are highly interpretative, and BIA data relies on self-reported assessments of individual radio stations and groups rather than on a more objective measure. Thus one station’s “Adult Contemporary” might be another’s “Contemporary Hit Radio.” Wikipedia contains some useful information and discussion on these various formats, but they remain highly subjective and not without controversy.\(^{17}\)

To complicate matters, BIA in recent years has been classifying radio stations using primary, secondary and tertiary formats. Thus a station might be “News / Religious / Spanish” or “Urban / Ethnic / Rock.” (Arbitron uses a much larger group of 54 music formats.\(^{18}\))

In the Future of Music Coalition’s 2006 study of radio ownership and diversity, entitled “False Premises, False Promises,” DiCola examines the level of music diversity in the radio broadcast industry using a modified dataset drawn from BIA.\(^{19}\) The chart below summarizes his findings for commercial radio in 2006:

![Radio Format Pie Chart]

Note that Country is the largest radio format by far, at 19%, with Talk, Oldies and Adult Contemporary at around 7% each. It is also important to observe what is not represented there: jazz, classical, ethnic, easy listening, and big band all register at less than 2% each. Put another way, if you turn on the radio in any town in the United States and pick a random station, chances are that you will hear country music, talk radio or some variant of “adult contemporary.”

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\(^{17}\) See http://en.wikipedia.org/wiki/List_of_music_radio_formats

\(^{18}\) See http://www.arbitron.com/radio_stations/formats.htm

METHODOLOGY

In this preliminary paper I intend to examine music format diversity within the virtual world of Second Life using the BIA music formats as a frame of reference. That is, I attempt to apply these same music formats to Second Life music broadcast to begin to understand what is and is not being made available through this new form of media.20

To do this, I have relied upon the public descriptions of music events contained in the Second Life event database, a publicly available listing of events in Second Life that can be accessed both on the web and through the Second Life user interface.21 Within the database, I limited my search to the following parameters:

- July 2006 events
- Entries categorized as “live music” or “nightlife/entertainment”
- Entries in which music was a primary purpose or focus of the event

These search parameters exclude events that were not published on the official events database or general audio streams hosted in-world but not classified as events.

I exported these entries from the Second Life events database and imported them into a custom-built database to do my data analysis. Each entry was examined and coded using the following fields:

- date
- description of event
- format
- performer
- live or recorded broadcast
- additional notes22

Music Format Coding

Coding each entry by music format was the most difficult and important part of this undertaking. I used a slightly modified set of BIA’s radio formats. I added three formats -- “Alternative,” “Blues,” and “Techno/Electronic/Dance” -- based on initial scans of Second Life music listings and discussions with musicians. I also excluded “Miscellaneous,” “News,” “Public/Educational,” “Sports,” and “Talk” as not being pertinent to this study.

20 I am cognizant of “apples to oranges” problems with trying to compare broadcast radio stations to virtual musical events. I use the BIA music formats, despite their many flaws, because of their general acceptance by the music industry.
21 See http://www.secondlife.com/events
22 In the interest of transparency, I will be happy to make my dataset available to anyone who would like to examine it. Contact me at rik@rikomatic.com if you would like me to send it to you.
Thus I was left with the following modified music format list:

1. Adult Contemporary
2. Alternative
3. Big Band
4. Blues
5. Classic Rock
6. Classical
7. Country
8. Easy Listening
9. Ethnic
10. Folk
11. Jazz
12. Middle of the Road
13. Oldies
14. Religious
15. Rock
16. Spanish
17. Techno/Electronic/Dance
18. Top 40 / Contemporary Hit Radio
19. Urban

For each individual music event I relied upon publicly available information about the event, typically the website of the main performer or news coverage of the event, to determine the closest music format. Where I was not able to make a clear determination, I coded the event simply as “Other.” While there is certainly a possibility of researcher bias, my hope was that over a large enough dataset that small errors in judgment on my part would not overly taint the findings. (In future studies, having multiple researchers coding the events would be a wiser course.)

Where there were multiple musicians performing at an individual event, I coded each musician’s performance as a separate entry. Thus an event that featured three musicians has three separate entries in my dataset.

I had particular difficulty determining the difference between “live” DJ’ed sets and pre-queued recorded music streams. I recognize that there is an important distinction between a turntableist spinning unique songs combining various music elements on the fly and someone pressing “shuffle” on their MP3 collection. However there were few indications in the public event descriptions enabling me to determine which category of DJ a particular event fit into. Thus all “DJ’ed” events were classified as recorded music. Hopefully future researchers can make more finely grained distinctions between various kinds of DJ’ed events.

**FINDINGS**

After eliminating duplicate and erroneously-coded entries, there remained 838 discrete entries / music events in my dataset. Of these, I was able to code 508 as fitting within an identifiable music format.
My overall findings were as follows:

<table>
<thead>
<tr>
<th>Genre</th>
<th>Number</th>
<th>Percentages</th>
<th>Live</th>
<th>Recorded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Techno</td>
<td>112</td>
<td>22.05%</td>
<td>11</td>
<td>101</td>
</tr>
<tr>
<td>Spanish</td>
<td>64</td>
<td>12.60%</td>
<td>0</td>
<td>64</td>
</tr>
<tr>
<td>Folk</td>
<td>63</td>
<td>12.40%</td>
<td>63</td>
<td>0</td>
</tr>
<tr>
<td>Rock</td>
<td>58</td>
<td>11.42%</td>
<td>40</td>
<td>18</td>
</tr>
<tr>
<td>Alternative</td>
<td>56</td>
<td>11.02%</td>
<td>17</td>
<td>39</td>
</tr>
<tr>
<td>Country</td>
<td>44</td>
<td>8.66%</td>
<td>9</td>
<td>35</td>
</tr>
<tr>
<td>Jazz</td>
<td>38</td>
<td>7.48%</td>
<td>9</td>
<td>29</td>
</tr>
<tr>
<td>Blues</td>
<td>30</td>
<td>5.91%</td>
<td>26</td>
<td>4</td>
</tr>
<tr>
<td>Easy Listening</td>
<td>12</td>
<td>2.36%</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Classic Rock</td>
<td>10</td>
<td>1.97%</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Adult Contemporary</td>
<td>8</td>
<td>1.57%</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Middle of the Road</td>
<td>4</td>
<td>0.79%</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Big Band</td>
<td>4</td>
<td>0.79%</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Urban</td>
<td>2</td>
<td>0.39%</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Ethnic</td>
<td>1</td>
<td>0.20%</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Standards</td>
<td>1</td>
<td>0.20%</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Oldies</td>
<td>1</td>
<td>0.20%</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total w Genre</strong></td>
<td>508</td>
<td>100.00%</td>
<td>198</td>
<td>310</td>
</tr>
</tbody>
</table>

Note first that there are many more music events with recorded music (310) as compared to live music events (198). This is understandable given the significantly higher technical and staff requirements for organizing a live music event versus a recorded one.

In addition, Techno/Electronic/Dance is the clear leader in music formats at 22% of all occurrences, nearly double the number of occurrences of its closest neighbors Spanish, Folk, Rock and Alternative. In terms of absences, Top 40 and religious formats are not represented at all.
Here is the same data as chart:

![Chart](chart.png)

The recorded events data tells a similar story:

![Chart](chart.png)
Here we see that Techno/Electronic/Dance and Spanish are still dominant formats. In fact, nearly all occurrences of Techno/Electronic/Dance and Spanish music were recorded music events. In addition, all Spanish music events featured only one form of Spanish music: salsa. Folk and Ethnic are non-existent, and Urban, Middle of the Road, Standards and Oldies nearly so.

Observe that the dominance of Techno/Electronic/Dance and Spanish completely disappears once we examine just the live music events:

![Live Events Chart](image)

Here we see that Folk is by far the dominant music format. Rock trails, followed by Blues and then a smaller number of occurrences of the remaining formats. Urban, Adult Contemporary, Big Band and Standards do not occur as live music events.
DISCUSSION

What can be made of these preliminary findings looking at this slice of data from July 2006?

The Power of One
One general conclusion that I have come to is that in Second Life one musician or one venue can still make an enormous difference in the diversity of musical offerings. For several of the music formats, the large majority of events were performed by a single musician or at the same venue multiple times. Astrin Few for example was the only jazz performer represented in the dataset. And music venues Club Republik and Voodoo were the primary sources of Techno/Electronic/Dance music in the period of this study.

What this means is that there are potentially enormous opportunities for musicians performing styles that are currently underrepresented to greatly enrich the cultural diversity within Second Life.

Technical Considerations
Because of the increased technical demands of live music, the predominant form of in-world music broadcast is likely to continue to be recorded music. Streaming MP3s to a Shoutcast or Icecast server is a relatively simple task compared to setting up a live audio stream from multiple audio sources with various sound levels.

In addition, certain music genres seem to more naturally lend themselves to in-world live performance, particularly folk, rock and blues. That is, these music formats can be performed by one person on a single instrument with no additional tracks or musicians necessary. Other formats such as big band, salsa, and hip-hop have higher technical and personnel requirements to be adequately performed.

Growing Internationalization
The Ethnic format is almost non-existent in this dataset, comprised of one entry for Celtic music. Later in the Fall of 2006 I observed a growing number of celtic and Irish music events and venues. One would anticipate that as Second Life continues to grow and to include significant populations of residents from other countries that the international diversity of cultural offerings should also improve. In March for example there are performances by an Australian jazz crooner, a German guitarist and a Brazilian electronic duo. Modifications to the music formats used to analyze music diversity may be in order in the near future.

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23 Later in the Fall of 2006 I observed a growing number of celtic and Irish music events and venues.
FOR FUTURE STUDY

This very preliminary study is meant to be suggestive rather than conclusive. There are a number of possibly fruitful areas for future study that I would hope researchers might take up.

A Multi-format Music Study
Future researchers might wish to adapt my methodology to include multiple formats for each music occurrence or venue, similar to how BIA conducts its data collection. Thus a listing might be coded as “Jazz / Rock / Religious” for example. This might fine-tune the findings towards more useful conclusions.

Audience Metrics
Researchers might wish to examine data from the streaming media servers to attempt to better assess audience attendance, duration of stay, tipping behavior and music sales. I understand that some Second Life musicians already collect this data for their own purposes and might be willing to share their data with a larger undertaking.

New Media Comparisons
There might be useful comparative analyses that could be conducted looking at Second Life in contrast to web-based streaming media, such as Live365 or iTunes, or satellite radio.

In conclusion, I hope that this modest, initial study helps initiate a broader dialogue about the kinds of music that is made available through Second Life. Amidst our wide varieties in taste and style, members of the Second Life music community – musicians, promoters and fans alike – share the desire to move beyond the often slim musical offerings of traditional media and to create a space with as rich and diverse a cultural and artistic environment as possible.

In the end, that’s what makes a Second Life worth living.

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