MUSICAL FACTION

THE FINAL REPORT

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**Problem:** Discovering new music that is actually good should be easier

We of Musical Faction ultimately seek to facilitate the discovery and sharing of good music. We do this by re-creating aspects of the hailed 8-track era. Namely, Musical Faction helps to bring back the copious amount of thought that went into creating mix tapes. A mix tape for a friend was a labor of love and of thought. Even when making a mix for yourself, with only 8 tracks you had to really think about what you put on there. You would not, for example, see Justin Timberlake and Rammstein on the same playlist (if you did, that person does not count for obvious reasons). These mix tapes were great tools for sharing music with your friends, and, due to the extensive thought put into them, facilitated the discovery of new music that was actually good.

Today however, with the ubiquity of large-space media players, this aspect has been completely lost. When sharing music with others or making a playlist for yourself, there is insufficient impetus to put significant thought into it. The result is often long, incohesive, and redundant playlists. How is one looking for new music to separate the wheat from the chaff?

**Audience**

The potential audience for Musical Faction is actually quite large. We cater towards anyone that wants to find new music. As a result, essentially anyone with an internet connection who wants to discover new music is a potential user. That being said, we expect our greatest user base to be technically literate young people of the college/graduate school age, and have designed Musical Faction accordingly. Below are several examples of expected users and sample tasks:
A college student interested in new music

- The user wants to find new music. They are bored of their current album collection and they want to find music that fits their taste.
- They want to find music related to the Red Hot Chili Peppers, their favorite band. Specifically, they like the funk/rock genre of music and want to find some bands that someone like him/her would like.
- They want to use a system that knows their current music and finds similar music.
- They want to begin the system by entering their favorite bands and songs.
- After that, they desire a way to find music based on their favorite music.
- When they discover this new music, they want to be able to listen to it and share it with others.
- The task should be repeatable and give meaningful results along the way, I.E. not the same songs/bands over and over again.

- **Interview** with a female college student:
  - User has used Pandora and iTunes Genius.
  - She says that Pandora gives good results, yet genius can be redundant with artists.
  - When asked about how they could improve their systems, she says that the variety of music is not enough.
  - User control would be good, because Pandora and Genius create the results for you, sometimes they want to say "I don't want to listen to this ever again".
  - Music discovery is something she would like to be able to do easily, as well as see what their friends are listening to.

- **Interview** with a male college student:
  - User uses Pandora a lot.
  - Looking for new music - he would use Pandora and iTunes What's New.
  - Popularity is important, can be unrelated to what he likes.
  - Prefers to have something find music for him.
  - Reaction to social music networking: He likes to share with friends a lot. He thinks looking through friends’ music is a great way for him to find new music.

A grade school student with little internet experience

- The user here does not know exactly what types of music they like.
- They know their favorite songs, but not many genres or related artists.
- Ideally the system should be easy to use and straight forward.
- To them, all they want is a way to listen to the music and to see if they like it.
- It is important, then, to have a way for the user to easily access their music after they find it.
• The goal for this user should be to make the interface as straightforward as possible and with good user feedback so they know they are moving in the right direction.

A user who wants to share their music with friends

• The user has a set goal in mind: to get other people interested in their favorite music.
• It should be easy for this user to create their playlists and find new people to share with.
• Our interface should make user connections very straightforward and easy.
• Also, it should be easy for other users to find this person's music.
• Our whole system revolves around discovering music through other people, so it will be a great way for this user to accomplish their goal.

A middle-aged, non-technical user who wants to find new music

• This user is less technologically savvy, so the interface should be straightforward.
• This user is also less familiar with social network sites, so they should be able to easily figure out the friend system and discovering new music that way.
• The user knows what their favorite songs are and want to find new music related to their 60's and 70's favorites.
• Once they put in their music, it should be clear how to find new music.
• Once they find other people with similar musical interests, actually purchasing and listening to the music should be as easy as we can make it.
• A minimal number of steps should be taken by the user to get a hang of the interface, as short term memory could be an issue.

An internet savvy user who frequently uses other internet music search engines

• User understands the internet and should find the layout of our site easy to navigate.
• Shortcuts should exist for this user and be easily accessible, because they will quickly become an expert at the interface. This is due to their technical nature.
• Prior experience on another related interface gives the user certain expectations:
  o Music should be easy to find.
  o Playlists should be easy to create.
  o The music should be purchasable by some means.
• Only a small number of steps should have to be taken for user to create playlists and purchase music.
Competitor Solutions

There are many competing solutions that attempt (unsatisfactorily) to facilitate the discovery and sharing of new music. These competitors include Apple’s iMixes, Apple’s Genius, Pandora, Last.fm, and more traditional social networking sites.

The most similar competitor to Musical Faction is likely Apple iTunes’ iMixes. However, this solution has no reasonable limits on the size of the mixes or how many you can make. If you were to conduct a search for the iMixes that include one of your favorite songs of all time, it would be a bonified needle-in-the-haystack problem to find a mix that was carefully constructed, and thus useful to you in finding new music that you will enjoy.

Apple’s Genius, Pandora, and Last.fm utilize similar methodologies in attempting to facilitate the discovery of new music. These programs perform analysis on the technical aspects of songs that the user already knows he/she enjoys and makes recommendations based on that analysis. Unfortunately, the algorithms used by these services are limited, and run out of unique suggestions after a time. The result is repetition of songs that have already been recommended, or a somewhat haphazard shift in the type of music that is recommended. Ultimately, what these solutions lack is user control. The user is not sufficiently empowered to guide their music discovery process in a way that is most beneficial to them.

More traditional social networking sites such as Facebook and Myspace can also be seen somewhat as competing solutions. These sites have personal information about people you know, including favorite music. However, these sites are not designed primarily to
facilitate the finding of new music. Consequently, the favorite music information is often unsearchable or poorly searchable. Only one person’s profile can be viewed at a time, so a user looking for new music must comb through their friends’ profiles, find out which friends have similar tastes, and independently research those friends’ favorite music information.

**Problems Discovered in the Usability Study**

Our usability study uncovered the following problems that required addressing:

1. A description of each tab or a small help dialog for reference. Some test users had a difficult time understanding what was on each tab and what functionality lay within.

2. Clarification of terminology, including:
   - Playlist
   - Faction
   - Discovery

3. Better error handling / Minimizing user mistakes:
   - Stop user from adding blank named items
   - Stop user from adding items multiple times

4. Implementing missing features, including:
   - Adding a playlist to your discoveries
   - Viewing a public profile from your faction (crucial to view other peoples playlists)

5. More feedback to the user, including:
   - Loading messages
   - Confirmation dialogs / messages for clicking on an item
   - Clearing text boxes after adding something.
   - Column names should be clearer
**Revised Prototype** *(found at http://www.musicalfaction.com)*:

1. A description of each tab or a small help dialog for reference

   Our revised prototype addresses this issue in two important ways. First, each tab has a small question mark icon that opens a popup describing the purpose and functionality of that tab. Each help dialog describes the actions you can do on that tab. It gives simple instructions on how to do several common tasks that may be unclear at first, such as “Adding a user to your Faction”. Additionally, hovering over the title of any tab shows a shorter version of the aforementioned popup as alternate text to the graphic. It includes a brief description of what is located in each tab. The user is also guided in the searching process by the ability to hover over (+) buttons in the various tables for a description of what the button will do in the context that the user is currently in.

2. Clarification of terminology

   The revised prototype takes steps to clarify the terms and tasks unique to our website. Our website makes heavy use of the “Faction” idea, and we use this word throughout the site. The main words that confused users, including Faction, Discoveries, and Faction Feed, are now addressed. These terms are clearly defined in the popups of the small question marks on each tab. This allows a new user to familiarize him/her self with the terminology, but keeps the information one level removed from the user interface so as not to hamper intermediate and advanced users.

3. Better error handling / Minimizing user mistakes

   There are many small improvements of this kind reflected in the revised prototype. In our previous prototype, users were able to enter blank song names, artist names,
and playlist titles on their Your Music page. Similarly, all text entry boxes did not clear the previous contents. Now, users are unable to enter in blank artist/song/playlist names. Our interface displays a popup notifying the user if any fields were left blank for an add attempt. In addition, all text entry boxes are cleared after the user searches or adds a song/playlist. Finally, users are prevented (and notified) from adding the same content multiple times to their discoveries tab.

4. Implementing missing features

The missing feature of viewing other peoples’ playlists from the faction tab has been implemented in the revised interface. Our users can now navigate to the Discoveries “main” tab, and then click on their “Faction” sub-tab to view the people in their faction. They can view other users playlists and the playlist contents. However, the adding of an entire playlist to the user’s discoveries tab was deemed unnecessary. The reason for this is because other users can delete playlists fairly easily and will probably modify or delete playlists many times. If you were to add a playlist to your Discoveries, the potential for it to be deleted or invalid made this feature useless. Instead, we believe that by adding a user to your Faction solves this problem. You can view all of your Faction’s playlists, which eliminated the need to add a specific playlist to your discoveries.

5. More feedback to the user

With the revised prototype, the user gets additional feedback to assist in their navigation of the interface. Status messages such as “User added to your faction” and “Already in Discoveries” now appear at the bottom left of the interface. The columns of the search tab are now more clearly labeled with fuller descriptions. Text boxes
are now cleared when the user clicks a button. The need for loading messages has been largely eliminated since the backend of the interface has been sped up considerably.

See Appendix A for a comparison of prototypes that highlights the improvements in our final prototype.

**Open Issues and Future Work**

While we are generally quite happy with the Musical Faction functionality and interface, there are some outstanding issues that we would like to address given more time.

Our use of Google Web Toolkit and some of the included table and grid functionality did ease our development cycle, but has also proved somewhat problematic for us. The categories of each column (e.g. artist, song, add) resize unpredictably, and sometimes a column will be collapsed. This has been a frustrating issue, and the nuances of these grids would really be worthy of more attention.

In addition, although GWT is designed to provide cross-browser support, we have actually had a lot of trouble getting our site to work properly in Internet Explorer. Our site does works with Firefox, and seems to work well with Safari and Opera, but Internet Explorer support eludes us at the moment.

Another major feature that we really hoped to include, but were not able to due in part to time, is the “listening cart” functionality. It was our hope to include a section of the
website that was essentially a small streaming media player for clips of the songs that the user has discovered, in order to aid them in determining whether or not they would like to purchase and/or add them to their own playlists. We believe that this feature would really enhance the user experience, but turned out to be beyond our scope for this semester.

Two simpler items of potential future work are adding album artwork for aesthetic purposes and some way to display information such as a bio/discography for artists. It is possible that these features as well as the ability to support streaming clips and song purchasing would be gained by switching from the Last.fm API to Apple iTunes’, which is a possible direction for the Musical Faction project to head.

The final major contender for future work that occurs to us is some kind of integration with existing web technologies and social networks such as Digg and Facebook. If the unique features of Musical Faction could be brought to an established user base effectively, that would be a happy day indeed.
Appendix A: Comparison of first prototype to final prototype screenshots

Figure 1: Old search page. Note lack of titles for the tables and small search text field.
Figure 2: New search page. Improved with larger text box for artist searching, and clear headers for each table that clearly describe what each table is displaying.
Figure 3: Old discoveries page. Once again, the user doesn’t know exactly what is being displayed at each sub-tab.

Figure 4: New discoveries page. We now include a small header that tells the user what is in each tab and the information being viewed in the grid.
Figure 5: Old faction view. Here, the user is given a list of seemingly useless users. There is no interaction here to view their music.

Figure 6: New faction view. This is much improved, as the tab says “Your Faction”, as well as the title on the grid telling you what user you are viewing. It now allows you to browse other users playlists and view their favorite songs.
Figure 7: Old your music page. The old page had poor placement of the add song area. It has no visual association with a certain playlist.

Figure 8: New your music page. Now, the add song functionality is clearly associated with the selected playlist. The user can no longer arbitrarily click add song without first selecting a playlist. In addition, the headings in the grid are clearer.