WICN Radio Music Broadcast Interface Design Document

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Introduction

This document will go over the overall design of a music search program tailored to fit the needs of the personnel at WICN radio. In it we will describe the UI complete with a mockup and descriptions, functions described to us through interviews with personnel, and how it will interface with WICN's current system.

Core Features

Fade between songs

The hosts mentioned the issue of discontinuity between played songs due to the old CD players and expressed his desire for crossfade between songs to provide a more fluid listening experience. One host uses MegaSeg DJ software, which will automatically crossfade between music unless changed. The crossfade in our interface should have a slider placed between the information of the currently playing song and the upcoming song that would determine the amount of crossfade, i.e. amount of overlap, between the two songs. There should also be a "disable" option above or below the slider to disable crossfade completely, which would grey out the slider so that the user could be sure crossfade is disabled.

Allow for two songs to be displayed at the same time, this avoids downtime and leads to a smoother hosting experience

One host mentioned that it would be nice to be able to have two songs visible at the same time to allow for less downtime in the show. Another's MegaSeg DJ software does this with it being able to have two songs being played simultaneously to be able to be crossfaded. In our software, users will see the current song and the next song in the queue so that the host can minimize any amount of down time in their show and better cross fade their songs.

Queue to display and add upcoming songs in customizable order

The queue would be populated by double-clicking music from the search window, adding the selected song after the other songs in the queue. Additionally, users could drag the songs from the search window and drop in between songs to add to queue. Songs in queue could also be dragged to other places in queue or out of the queue to remove them. Multiple songs could be selected like in the Windows File Explorer and Finder and moved to different places in the queue as well. Multiple of the same song could be added to the queue without issue. The first in queue

would be the upcoming song played after the currently playing song. The first song and all its details would also be displayed next to the details of the currently playing song, effectively displaying the name of the song twice.

A built-in crossfade option between 0 and 6 seconds

The software will only have basic mixing features, mainly the crossfade dial in the middle of two songs to make it easier for the hosts to view and access. Compatibility with a manual mixing board will also be provided so that the hosts can access more complex features if required.

Automatic upload to Spinitron

Spinitron is a DJ reporting software to track the songs played at WICN. All hosts at WICN report the music they play through Spinitron. Our interface would hook into Spinitron's API and automatically upload song information to Spinitron as the songs enter the interface's history, i.e., when the song begins to play. There is a subscription for Spinitron to automatically upload songs by listening to WICN's radio, but WICN has not yet taken advantage of it.

Be able to see metadata from the original CD

The metadata from a CD can be an extremely crucial piece of information for a host since providing the name of the artist and the year it was created could be valuable for the listeners. Thus, the metadata from the CD will be displayed in our interface to make sure the hosts can have all the information required about the song being played and the song on deck.

Search for keywords and have a dropdown menu to filter by artist, album, or song.

Since a lot of the hosts have different genres of shows and prefer to broadcast different types of music, we need to integrate a holistic search function which provides results based on the host's preferences and requirements. The dropdown menu will be provided to either narrow down or expand the search results.

Saved Songs

Scrollable list of saved music by host name. Music can be saved by right clicking "save music" on the song in the queue, history, or search, or dragged to the "saved songs" bar from other areas to be added that way.
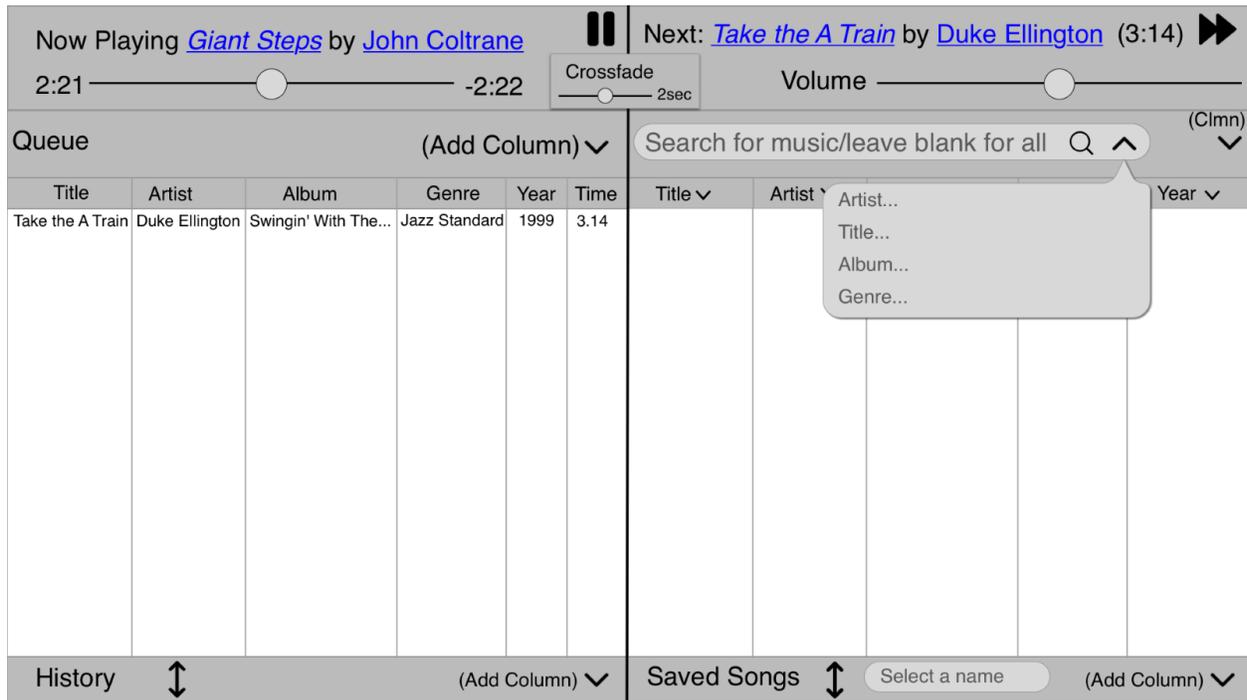
Play and Pause and Fast Forward function

Since hosts must do an underwriter spot three times an hour, we see the need for a play and pause function so that a host can keep their queue populated while running the underwriter spot. This will also allow for a more seamless start to their show. When pausing, the current audio would need to fade out so as not to have a harsh break in the music. Also, a fast forward button will allow hosts to quickly switch to the next song.

History and last played function

One host mentioned that they use the last played feature from apple music. This will show the timestamped last time a specific song was played on the station, next to the other metadata in the search, history, and queue, so a host can avoid a song that was played recently. Together with this, the history of the last songs played can be displayed so the host can see all the songs they played during their show. The details shown in the history would be the same as the information shown in the queue but in reverse order and clearly displaying the windows clock timestamp of when the song was started.

Mockup

The Add Column feature on all four tabs is a list of metadata to add or remove from the four tabs: the title, artist, album, genre, year, length/time, composer, and date last played (except in History).

The two tabs on the left are sorted only chronologically:

Queue:

Songs can be dragged from one position in the queue into another position in the queue or dragged out into the history or search to remove them. Songs can be dragged from any of the other 3 tabs into the queue to add them.

History:

Pull the history tab up from the bottom left, and it will show the songs last played on WICN in chronological order, from Spinitron.

The two tabs on the right can be sorted by any metadata column:

Search/All songs:

Search for keywords or just press enter in the main search bar for all songs, or search specifically the artist, title, album, or genre.

Saved Songs:

Pull the saved songs tab up from the bottom right and select your name. Add saved songs by dragging them into the saved songs from the other three tabs, remove saved songs by dragging them into the history or search tabs, or drag saved songs into the queue to add them to the queue. The saved songs section could also connect to the Spinitron sign-in and each user's account.

The top bar:

On the top bar, there is a slider that displays and controls the current song, a slider for volume, and a slider for crossfade, as well as a play/pause button and a button to skip to the next song. The blue text signifies artists and songs that can be searched.