Music Manager Usage Guide

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## Usage

The primary function of the music manager is to play music in the background and provide global hotkeys to control what is being played. The music manager is also used to keep track of which songs you tend to listen to the most. It assigns a rating of 1 through 10 depending on how often you listen to a song in full and how often you skip to the next song. You can then assign a rating threshold to only play songs above a certain rating. This is useful if you want to play your favorite songs from a wide variety of albums, but don’t want to reorganize your collection by splitting up albums or creating duplicate files.

Songs are loaded through the file menu. Picking a folder will search all folders inside recursively. Song data is then stored in a SQLite database and loaded when the program is run again. Songs on the database will appear in a table and can be played by double-clicking the row.

Currently, only MP3 files are supported.

## Hotkeys

There are three hotkeys that are currently hard-coded into the program.

* Skip – Pressing CTRL + ALT + “+” will skip to the next song. It will also make a note in the database that the song was skipped, lowering the rating. It is important to note that only the “+” key on the numpad will work. This is because they have separate keycodes. I selected this combination because it was easy to press without looking.
* Play/Pause – Pressing CTRL + ALT + “-“ will halt or resume the song currently being played. It is important to note that only the minus key on the numpad will work for the same reason as the Skip hotkey.
* Console – Pressing CTRL + ALT + SPACEBAR will open a command console. At this console, a quick command can be entered to play a certain song, artist, or album, or to assign a rating threshold to filter songs. Pressing escape will close the console and pressing enter will send the command.

The advantage of these hotkeys is that they can be used while in another program. It is unnecessary to leave the current task to change what you are listening to.

## Technology Stack

* The Music Manager is written in Visual Studio 2013 using C#. C# was selected because it allowed me to directly hook into System32 libraries to register the hotkeys. It also gave me the opportunity to learn some .NET programming.
* WMPLib/AxWMPLib – these DLL files allowed me to use Windows Media Player to play music. AxWMPLib is NOT included in a standard Windows installation – it needs to be created with an ActionX importing tool. This tool (aximp.exe) is available with the Windows & SDK. I used a tutorial at <http://www.timwylie.com/playlist.html> as a baseline for my own playlist class and rewrote all of the functions to use my own Song class (instead of raw file URLs) and to write to the database on certain events. I also wrote functions to search for songs by name, index, artist, or album.
* SQLite – SQLite was chosen because I did not need to create a large, involved database. Only a single table is used. I also value portability – the program can be run off of a flash drive if needed. I can also move my database to another computer.
* TagLib – I used this third-party library to grab information about MP3 files.
* Hotkeys – I used a tutorial at <http://www.dreamincode.net/forums/topic/180436-global-hotkeys/> to get me started on the hotkey process. I used the basic functionality shown there and expanded it to use the hotkeys I needed.