Daniel Beer

Dr. Pulimood/Prof. Devlin

CSC 415-02

Github Repository: https://github.com/Dbeer21/Music-Drives

VM Pathname: sysadmin@csc415-server29.hpc.tcnj.edu:/local/home/sysadmin/musicdrive

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Project Proposal and Specifications

For Assignment 3, I chose Option 2 and will be creating a project by the name of "Music Drives" as a web-based application using Ruby on Rails with PostgreSQL. This project will attempt to address issues of poverty and the disappearance of the arts from public schools. Some families do not have the proper income to set aside money to purchase a musical instrument for their child. Also, many under-funded music programs at local public schools lack the instrumentation needed to give students a worthwhile and meaningful musical education. All the while, many Americans have musical instruments lying around their homes that they never touch. These instruments would be much better put to use at the hands of an eager child who wants to learn how to play music, but does not have the money or resources. Music can be a catalyst for humans as a way to bolster their creativity and exercise their minds in new ways so that they can apply this new work ethic and intelligence in other ways to better themselves. This project will allow individuals and organization to donate their unused musical instruments so that schools in the Trenton area can collect them and drastically improve their music program.

I will be implementing a binary search algorithm, which will allow users to type in the name of a musical instrument they desire to either acquire or donate. This will also most likely

use global alignment to accept misspellings and catch cases wherein the user does not know how to spell the name of an instrument. I will include an instrument class that will contain variables such as name, location, donor, etc. and functions such as updating the location, removing the entry, and editing the listing all together. This class will help organize the instruments into group, so that when a user searches for one, they are shown refined results based on the type of instrument, location, etc. I will attempt to follow the evolutionary software processing model since I am the only member of my team, have a relatively short time window to complete this project, and can adapt to changing requirements as I see fit.

I plan on developing a barebones prototype by March 4th, 2019. After that, I intend on implementing and pushing changes on a week-by-week basis. For example, by March 11th, I hope to have the basic web functionality developed and the back-end classes written out with their essential functions. By March 18th, I hope to have functionality for posting donated instruments to the web-app with the correct information. By March 25th, I hope to have functionality for searching for a musical instrument by name or category implemented. By April 1st, I hope to allow users to request musical instruments, sending a request to the user who posted the instrument with a message. This process will continue until the entire web-app has finished development. These dates are general guidelines that I am going to try to follow, but they may not be cemented in concrete.

Depicted below is a general use-case scenario involving a user (donor) donating a musical instrument and another user (recipient) receiving the donation: