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Class: CS-476
Title: Project Proposal

Soundio

A music playing client

Project Overview

The software project that our team has collectively decided upon is a music media client named “Soundio”. This software would be similar to other well known music apps such as ‘Spotify’ and ‘Soundcloud’ with some notable differences, so as to not create something that is already made. This idea was decided upon during our first meeting and later refined to a clear understanding of tasks, difficulties, roles, responsibilities, timeline, etc, all in compliance to course guidelines and decided upon with special regard to collective learning, communication, and a focus on individual team members areas of interest in reference to the aggregation of tasks and responsibilities.

Anticipated Problems

There were numerous problems that were addressed during our second meeting. The first of which being the music itself, with royalties and copyrights we decided the best course of action will be to use royalty-free, ‘fair use’ music for the development of Soundio, How we will obtain and store the royalty-free music will be addressed during our first sprint, as we have decided on using Agile for this software development. Similarly, the storage, retrieval, and manipulation of audio data (a data type none of the team is familiar with) poses a challenge that the team has expressed eagerness to resolve. The final large hurdle for us to surpass is the learning and use of a new language, ReactJS, to build the front end framework. Aside from these challenges we expect this software project to be your typical front-end, back-end, application. The conceptual design for the client-side and server-side are the first focus of the group, with strong communication between team members so everyone has an idea of exactly what the other members are doing and ensure the secure and efficient flow of data.

Team Roles & Responsibilities

During our second meeting we took the time to discuss the roles of each individual member, while keeping in mind to keep the workload in equal parts to each member and only assigning roles that compliment each member's interests in the project. The final decision of distributed responsibilities resulted in myself (Andrew Petrie) being made team lead, as well as, responsible for the backend development and server management, especially in regards to the audio data management challenge. (Raj Wadia) to focus on frontend development, with a focus on the learning and use of ReactJS, and to help assist in database creation and management. (Tomiwa Ogunleye) To oversee and assist in the creation and development of the frontend, as well as, learning ReactJS and specifically NodeJS as our server-side language. (Pingsong Huang) Mainly concept and graphic U.I and U.X developer for this project to ensure the application is as user friendly and easy to use as possible. We also agreed that an overall responsibility for the whole team is to stay informed and connected with each other and each other's work as much as possible to ensure that every member understands how each part of this project works even if they themselves were not the member who created said part.

Software Requirements

In order to accomplish the goals set out, we're required to use certain tools and languages in order to complete the project. The operating system should be Windows (version 7 and up) as well as any kernel of Linux will be sufficient to run this application. The languages we will be using are ReactJS for the front-end design and function, nodeJS for the server side programming, and SQL for the database construction and queries. Our IDE of choice was universally agreed upon to be Visual Studio Code. All of our work will be posted to our Github Repo [here](#).

Use Cases

We understand that there should be at least eight use cases for this project... well we went over that amount. As we discussed amongst ourselves we were able to come up with the following use cases for Soundio; Playing and manipulating music (pause, play, rewind, fastforward), Giving a song a 'like', Searching for music, Recommending music to other users, Users for Soundio (sign in, register) as well as a special user titled 'Artist' which grants special privileges, such as, uploading their own songs, Following artists you enjoy, Creating playlists, Creating album, and the inclusion of various music categories to choose from.

All in all, the team is eager and excited to start our first sprint. We are in high spirits and look forward to overcoming the challenges ahead