CMPT 756 Kube Squad/Square Term Project Report

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| **Team Name** | Kube Squad/Square |  |  |  |  |
| **GitHub project repo URL** | https://github.com/scp756-221/term-project-kube-squad/tree/music-service-port |  |  |  |  |
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| **Additional Notes** | Currently the development branch we are using is "music-service-port". We will be changing to "main" once the project is complete. | | | | |

# Summary of Application

Due to the large number of members in our group, and general interest we developed three original micro-services that work together to form a playlist application with corresponding authentication and subscription services. The application is visualized below in Figure 1.

Graphical user interface, diagram

Description automatically generatedFigure 1: Playlist Application

The architecture of the application has been split into three separate micro-services that run on Kubernetes. Beginning with the Authentication service. This service allows users to create or login into their account respectively and subsequently access the Playlist microservice that will be described shortly. Like any normal application, accessing features often requires a paid subscription. Our application is no different, accessing the features in the playlist micro-service requires a paid subscription. We have implemented this in the Subscription service, where users after logging in can subscribe by adding a credit card that passes through a simulated validation. Once users have logged in and subscribed to the service, they can access the Playlist service that contains a variety of features. In this micro-service users can create, view, and edit playlists, as well as find information related to specific songs such as the lyrics, genre, and artist. All three services leverage Dynamo DB and independently query Dynamo DB to access information like users, song information, subscription status etc. Finally, from the user perspective, we have modified the given MCLI application to make HTTP requests to each micro-service. The MCLI application continues to run as a command line application.

# GitHub Guide

Beginning with the structure of the GitHub repository, the central branch is “[music-service-port](https://github.com/scp756-221/term-project-kube-squad/tree/music-service-port)” that contains the most recent working build of the application. It is expected that any team member that merges their work into this branch, verifies that the branch remains in an error free condition. It should be noted that once the application is completed, the “[music-service-port](https://github.com/scp756-221/term-project-kube-squad/tree/music-service-port)” branch will be merged into the [“main”](https://github.com/scp756-221/term-project-kube-squad/tree/main) branch. Furthermore, we utilize branching extensively during the development process. When a developer is actively working on a feature or bug, they create a new branch to use as their working copy and merge the branch into the “[music-service-port](https://github.com/scp756-221/term-project-kube-squad/tree/music-service-port)” branch once their work is complete. This is reflected in at the time of writing, there are 15 separate branches within the repository.

To augment our development, we make extensive use of GitHub’s Project features and log every item of work as an issue in the repository. The project we use to visualize the to be completed, in progress and completed work is the [“756 Project”](https://github.com/scp756-221/term-project-kube-squad/projects/2). In this project, whenever a user embarks on a new piece of work, they create the corresponding tickets and place them in the “To do” column. When the issue is actively being worked on, it is moved into the “In progress” column and finally once the issue is completed it is moved to the “Done” column. It should be noted, we do attempt to link our commits to the relevant issues, however we have found that remembering to do this a hit or miss.

# Observations

## Reflection on Development

**What did you observe from applying and using the scrum methodology? What worked well? What didn’t? What surprised you?**

We found that by applying scrum methodology and holding weekly scrums, we were able to make a more accurate assessment of the state of the project, particularly what our expected completion during the next sprint would be.

and in particularly getting an accurate assessment of everyone’s current workload.

# Analysis