John Schmidt

CS-499

Professor Bryant

**CS-499 Milestone Two Narrative**

1. Briefly describe the artifact. What is it? When was it created?

The artifact that I am working on is a full-stack application that is created using the original Java code from a previous class. This Java code included the appointment class and included the functionality to create an appointment. The original code was written while I was in CS-320, which was during an earlier term last year. Currently, the artifact includes a working React frontend that interacts with the Java backend by utilizing Axios for HTTP requests and Spring Boot for managing the requests on the backend. The Java code then performs operations to store and get the appointment information in an integrated database. This is how the current application looks:

**Login Page:**

**A screenshot of a computer

Description automatically generated**

\*Please note that username = “root” and password = “password123” if testing the program.

**Sign Up Page:**

**A screenshot of a computer

Description automatically generated**

**Appointment Page:**

**A screenshot of a computer

Description automatically generated**

1. Justify the inclusion of the artifact in your ePortfolio. Why did you select this item? What specific components of the artifact showcase your skills and abilities in software development? How was the artifact improved?

I believe that the artifact provided a good based for logic that could be used in a larger application. The current artifact demonstrates my ability to create a front-end application that can interact with a back-end application and a database as well. The artifact has been improved by making the original logic into a functional piece of a whole application. By itself, the original Java code served little purpose, as it was not implemented with any front facing functionality.

1. Did you meet the course outcomes you planned to meet with this enhancement in Module One? Do you have any updates to your outcome-coverage plans?

I believe that I have made good progress on my course outcomes. As this artifact will serve as the basis for both software engineering and design as well as databases, it is not complete yet and will need some additional work before it contains all of the features that I am hoping to implement. There are no updates to my overall plan, the implementation of the various steps may not be in the order I had originally thought.

1. Reflect on the process of enhancing and modifying the artifact. What did you learn as you were creating it and improving it? What challenges did you face?

I have learned a lot of new skills while developing this project. I have had some experience with Spring Boot and Maven from previous courses, but to create a Spring Boot project from nothing and alter the existing Java code to be functional with HTTP requests and the MySQL database took a lot of reading and trial and error over the last two weeks. It has also been a few months since I have done a lot of coding in React, so getting used to the syntax and flow of it took a little bit as well.

The biggest challenge that I ended up facing was the integration of both the React front end and the Java backend. I had the Java backend created with database integration rather early, and I was able to successfully test it with Postman. However, once I created the React frontend and began creating the code to submit requests through that, I came across several challenges including permissions, controller setup, config, and repository implementation. This all took quite a bit of work and has been the most challenging part of the development process. However, with my current features, everything is working as it should. The full database implementation needs to still be completed as well as some additional inclusions on the front end, but it has been coming together well so far.

1. Helpful notes –
2. The MySQL database that I am using is called appointments\_db. The username for it is “root” and the password for it is “password123” as seen in the application properties file of the Java backend. Without creating this database, the website will display an error message saying that it could not retrieve the appointments.
3. It was noted above – but the database has not been fully developed for the inclusion of usernames and passwords, so the sign-up page does not have full functionality yet, and the login information is currently hardcoded into the login files while this is being developed. The username is “root” and the password is “password123”, this can be seen in the LoginModel and the LoginViewModel files.
4. I have several “TODO’s” listed throughout the code, one of the biggest improvements that I still need to make is the inclusion of better in-line comments. Some of these will be implemented after the database is finished.
5. I still need to implement tests for the Java backend and more tests for the React frontend. If you run npm test, you will see some warning messages, but this appears to stem from “create-react-app” no longer being maintained. The tests still work, but I may end up moving to a more up-to-date framework such as React-Vite.
6. Commands to run the application:
   * + Path\CS-499 Appointment Service\Java-Backend> mvn spring-boot:run
     + Path\ CS-499 Appointment Service\react-frontend> npm start