Project Planning Document

Individual Track Semester 3

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NOTE: The project ideas in this document are heavily subject to change.

1.Introduction

The main idea of this project is to build a full-stack web application. The topic of choice is similar to the popular online forum Reddit, albeit with functionality to the extent of the semester 3 study material. A feature not present in Reddit that I will aim to implement here is a live chat, utilizing Web Sockets. The process of development will follow the SCRUM methodology and will continue up until the end of the semester.

2.Tech Stack

The tech stack to be used will stay the same regardless of diversion from initial ideas about the project. Starting from the front end, React is the JavaScript framework(library) of choice that will be used to build the UI. Designing reusable and bug-free Components will be the main focus.

Regarding back-end, a solid architecture is essential to the scalability and maintainability of the code-base. Utilizing interfaces allows for dependence upon abstractions, not concretions, therefore DI has to be applied properly. A REST API will be built to manage calls to and from the MySQL Database with the Spring Boot Java framework. Additionally, to build up from semester 2, an Object-Relational Mapping tool will be used to save the state of Java objects (POJOS), into the Database. This will most likely be done using Hibernate.

3.Product Quality

Since SCRUM will be used for the development process, along with the project planning document and versioning table, a product backlog will be produced and updated at the start and end of every sprint. It will contain all user stories and use cases relevant to the project. The product backlog items can be described as: “what is needed, ordered by when it is needed”. Along the aforementioned pieces of documentation, a CI/CD pipeline will be set up to ensure automation in building, testing and deploying the application. Finally, SonarQube will be used to verify and provide assurance for code quality, along with Docker Containerization at the end of the project’s development life cycle.

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