

# Individual Report:Rate My Teammate (ver.CWRU)

Haihan Jiang

November 2021

## 1 Project Responsibilities

In this project, I am in charge of Backend Design and Implementations. With out team, we also complete discussion for database and prototype designs.

In the Backend Module,I am responsible for implementing CRUD operations, Criteria Queries,general Requests Handling, and some backend functionalities.

Specifically,

- Maven Configurations for dependencies with JDBC drive and Spring JPA Data.
- Completed **Every Model Class** mapping to MySQL Database tables.
- Completed **Every Repository Interface** with JPA repositories to ensure basic CRUD(Create,Read,Update,Delete) operation and customized Criteria Search.
- Completed **Every Service Interface and Service Implementation Class**.
- Completed **Account,Major,Profile,Review Controllers** in backend to guarantee SignUp, Login, Search, Update Profile, Review Correction functionalities could work properly.

With helps from Liyuan and Nora, we together make connection between backend and frontend smoothly. They also helped me to understand some logic between different modules.

## 2 Achieving Objectives

To achieve our goal, I read official documentations and video tutorials on Spring Boot, Maven, MVC design, JPA Data, and Restful API to understand how to architect out Back-end Design. Start from scratch, I completed backend setup, connections, and core functionalities based on our designs. Exceptions and errors made me become more adapted on web application based on Spring Boot framework.

## 3 Issues

During the implementation, I encountered several issues:

- Annotations: Since Spring Boot needs annotation injection, and sometimes the missing Parameters or annotations could cause errors, such as `@Qualifier`, `@Autowired`. After reading many technical blogs and official documentations, I am able to solve problems.
- Implementation foreign key implementations in Model classes. There are many constraints for Spring Boot to implement foreign keys and Easy to cause Data inconsistency Problems.
- JPA criteriaQueries. When we try to customize our queries, we may face many potential conflicts of Mapping between JPA and MySQL.

## 4 Lessons Learned

A great takeaway is I obtained from this project is that I provided a fully functional backend and it is also maintainable application. In this project, I obtained deep understanding and Hands on experience in Spring Boot framework, MySQL, JDBC driver, Hibernate and JPA. Every debugging process made me understand those applications well.

Also, it gave me a lesson that design clearly first was much more efficient than writing code directly. Although the design of website is quite simple compared to websites that deployed in the industry, it made me understand more about software engineering process, which I may not understand well by learning from documentations or some tutorials. The hands on experience made me understand even add a simple feature needs many considerations

and discussions with others. We need understand the system fully first to make sure the changes are wise. It is important to set up core API first, and have sufficient discussions with frontend. These are all keys that can contribute to a successful Application.

## 5 Insights

This is my last project in CWRU. This collaboration of work gave me pleasure and helped me to improve a lot. We had setted up a clear and reasonable goal at the beginning of this semester. This project pushed me to learn some state-of-art techniques, and gave me opportunities to design a fully functional website. It is valuable for me to gain those practical experiences. Also, out team can communicate fluently to help others to know each other's progress and problems one face. With these inspiration, in the future, I will continue learn new knowledge in software engineering and become a qualified full stack engineer.