

IM3080 Design and Innovation Project (AY2022/23 Semester 1)

Individual Report

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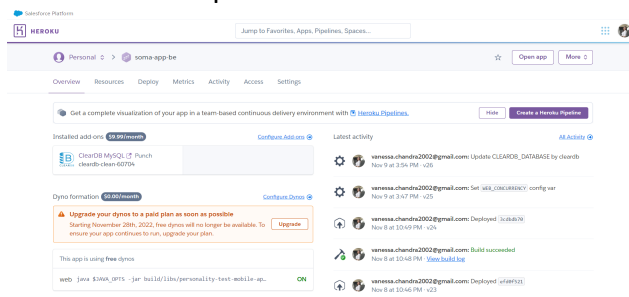
Group No: 6

Project Title: Soma - Personality Test Mobile App

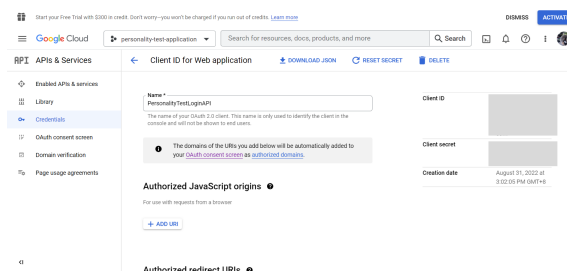
Contributions to the Project (1 page)

Role: Backend Developer

1. Contribute to the brainstorming process of planning, and designing the flow of the applications, especially in the database and function development
2. Develop the [REST API services](#) of the application using the SpringBoot framework
 - a. Creation of model (User, Traits, Personality, Questions) with the OOP structure, services (functions such as getAllQuestions(), addNewUser()), controller of the HTTP Request (implement baseline CRUD function of Create, Retrieve, Update, and Delete Request for each model) (i.e. GET Request to the <https://soma-app-be.herokuapp.com/api/v2/users>, /api/v2/questions)
 - b. Implement password hashing with SHA-256 algorithm using MessageDigest class from Java security, to securely store the user password in the database
3. Deploy the REST API services and MySQL database using Heroku as the hosting Platform as a Service (PaaS), so that the backend endpoint and database can be accessed anytime, and increase data-transfer security with the HTTPS as the communication protocol



4. Integrate Sign-In with Google API in the Android application



5. Contribute to the function implementation on the Android UI side, such as preserving the data when moving activities, quality checking, and fixing some services when there is an error

Reflection on Learning Outcome Attainment

Reflect on your experience during your project and the achievements you have relating to at least two of the points below:

- (a) Engineering knowledge
- (b) Problem Analysis
- (c) Investigation
- (d) Design/development of Solutions
- (e) Modern Tool Usage
- (f) The Engineer and Society
- (g) Environment and Sustainability
- (h) Ethics
- (i) Individual and Team Work
- (j) Communication
- (k) Project Management and Finance
- (l) Lifelong Learning

Point 1: Design/development of Solutions

Through these approximately 13 weeks of project development, I believe I've achieved an excellent and essential learning experience, especially in the design and development of solutions. As an engineering student and a person who is really enthusiast about technology development, I believe that this is one of the most fundamental aspects of building software or any other problem-solving area. Starting from doing a brainstorming process on how we want the flow of the application to be like, planning the database design, even developing the services function that supports the efficiency of the application flow, and most importantly providing both user interface and user experience. I'm really grateful that this project truly helped me to grow especially in my thinking process when approaching a problem and finding or building the solutions for it, which I believe will also be extremely beneficial for my career path in the future.

Point 2: Individual and TeamWork

From this group work experience, I truly learned that teamwork is the core of the whole process is. Just like the famous quote "Teamwork makes the dream work". I realized that everyone came from different backgrounds, and different technology or tools exposure experience, we have different interests, and opinions, and that's where teamwork comes to play. Starting from the way we divide the group work into several chunks and allocate the group members based on their preference and experience, and the most important and fun part, which is to hand in hand helping the other team members when needed, is definitely one of the most important and fruitful experiences that I have achieved through this project. It helps me to grow in the way I communicate with other people and work together in achieving the same vision and mission.

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