

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

Individual Report

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Group No: 6

Project Title: Personality Test Mobile Application (Soma)

Contributions to the Project (1 page)

Role: Back-End Developer

Database planning

- Planned out what our project needs and how our program will be running the codes.
- With that in mind, sorted out database tables with the necessary fields and datatypes to allow accessibility for the program's usage of HashMap's, etc.
Final tables being:
 - o User → user information
 - o Questions → question bank
 - o Personality → records of all user's quiz results
 - o Traits → all details and descriptions of the different traits/personalities.

Database creation

- Created the skeleton tables for the database.
- Automation: Sent out the format of the question bank. After receiving the confirmed questions, created a separate formatted excel sheet and converted to csv to allow for automation using python to load the questions and traits.

Model Creation in app

- Created models to help store information from the server ← api ← database.
(e.g. User Model, Trait Model, Question Model, Personality Model)

Server calls

- Created server call functions for front-end team using Volley library to interact with the api.
 - o Get all users
 - o Edit(update) user
 - o Signup
 - o Login
 - o Get all Personalities
 - o Add new Personalities
 - o Get all Traits
 - o Get all Questions
- Implemented server calls in the program itself.

Visibility

- Changed the visibility of cardview in fragments when certain conditions are met.
 - o Visible: when user has taken the specific quiz
 - o Gone: when user has not taken the specific quiz yet

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: (d) Design/development of Solutions

Being a part of the backend developer team in charge of the database and server calls, I had to design and develop the database tables in a way that would be accessible and easy to use for the front-end team. For this to happen, I would have to understand and work together with the other teams (design and front-end) in order to understand what is required of the project/program. I realized that for the whole project to run smoothly, a thorough understanding of what the other team members are doing and what they need is important. By understanding their needs, I was able to design and develop a database that would help the team access the tables efficiently such as the planning of the question banks, utilizing binary as answer to be able to create a HashMap if needed. After various discussions with the front-end team, it was decided that I create a service page with all the server functions with the Volley library that the front-end team can call as opposed to initializing server calls in every page which would make the codes very long and messy. Although I may not be skilled at the design and development of database and server calls, I believe this project gave me more experience and there's more to learn in the future.

Point 2: Individual and Team Work

With this being a team-based project, having good communication is important to split the work done. This would ensure that there won't be any duplicated work and wasted efforts. As an individual, I am responsible for the work assigned to me and take the initiative to pick up more work when I can to help my team. As a team member, I believe it is important to check up on the others on their progress and what has been done, as well as help those that are stuck. Some things that I think I could improve on was to have a more open discussion and more frequent updates on the project and the progress. As we have meetings about once to twice a week, some updates were not mentioned, and I would wait till the next meeting for any questions I have to ask the team members. This was not as efficient and effective as I would have liked it to be, and I should proactively approach my team members.

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