Personal Report

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Summary of The Final Product

Of this software project, our group has implemented the three-tier architecture, which stands for user interface layer, business logic layer and data access layer. The project consists of both mobile application and desktop web application, each has a dedicated UI system with similar visual style for consistency. In the business logic layer, the functionalities are implemented, and operations related to database is considered in the data access layer.

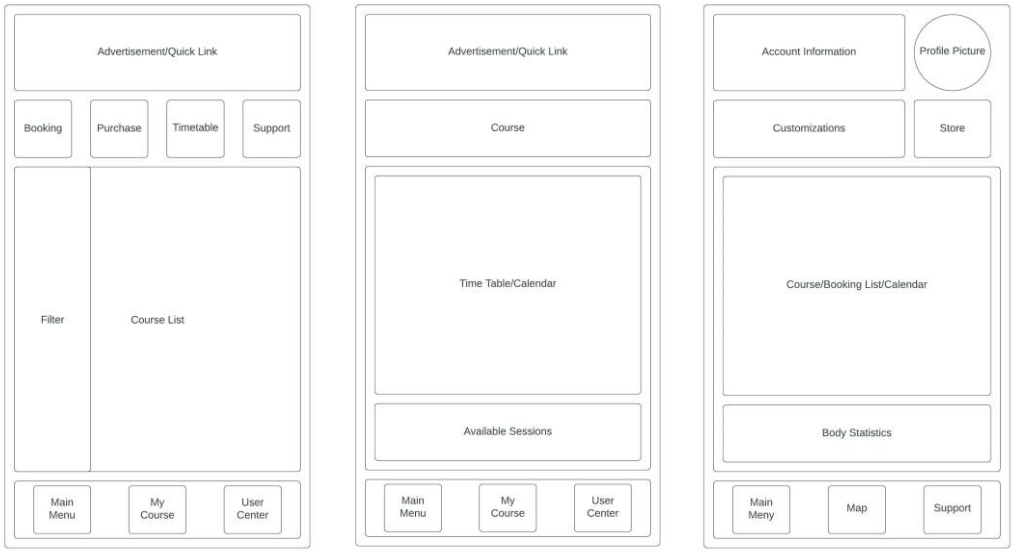
The mobile application aims to work on Android platforms, which is coded in java using IDEA and Android Studio; for the web application aims to work on mainstream PC systems, we chose Python Flask, java script and html because they are efficient and reliable. Mysql is our choice of database, it is set online to be accessed by both two applications in real-time.

The key functionalities of the gym system which has been fully implemented include login/logout, registry, change password, course searching, course booking, course quitting, commenting, personal information customization, and administrative functions which are user management, comment management and course management. These functions form the basis of the system, fulfils the purpose of reservation. There are also some functions which is not implemented fully, such as payment and shopping section, which is only simulated.

Contributions

Taiyu Chen, Yifei Xing and Yufan Zhang are in charge of mobile application development, meeting records, testing, part of presentation and part of documentation. Xinyu Li and Yuchen Yang and me oversaw desktop web development, UI design, database, part of presentation and part of documentation.

For my part, my role is UI design, web application development, main presenter, and documenter. I designed several prototypes of the mobile application user interface, which are improved and implemented later.



With my team memebers, we developed the web application with additional administrative fucntions. For my part, I'm in charge of UI design, user center and database links.

Other than programming, I'm also in charge of powerpoint making of all four sprints and presentation delivery. Together with Li Xinyu, we wrote the requirement report.

Team Work

The initial role of each team mate was not reasonable as we were not following the Belbin roles, and we had four members on programming and two on documentation and other tasks. Due to slow progress in sprint 1, we reaaranged team roles folloiwng Belbin

roles: I am resourse investigator, Xinyu Li is implementer, Yufan Zhan is plant, Yuchen yang and Yufei Xing are completer finisher, Taiyu Chen is teamworker. This is a better approach.

The roles are accurate compared to how our team members behaved. We all did our jobs, for me I did the majority of presentations and had found many useful resoures. The roles were fistributed based on each member's strength and weakness, as this gives efficiency and avoids unnecessary troubles for the project..

The strength and weakness were evident during the progress of project. As recorded in our meeting notes, people who were good at web programming volunteered to develop the desktop application, which turned out they finished programming with both great speed and quality. Meanwhile, there were also prople who said they are not capable of presenting things, thererfore I did the presentations and let them concern other things instead.

The overall team work of our project is good.

Critical Analysis

Our project achieved most of the goals, however, the finial product and development process still have problems which need to be evaluated critically.

For our product, it lacks of more personlized functions which relates directly to user experience. For example, we didn't consider the accessibility for disabled persons, which in detail is to implement different color schemes to use interface. This should be done better if we had more time, which is the result of bad management at the early stage of development process. During the first sprint, aside from unreasonable team roles, our group was lack of in-time communcations. This is a weakness of some of our team members as they are used to being not active. Due to this, our team pushed slowly in programming. After the first sprint, we redistributed roles and had several meetings to address the importance of communication, which has been improved greatly over time.

Another problem is inconsistancy. As each of the team members developed codes, many lacked good commenting. This had caused misunderstanding during code integration as people were struggle to understand each fucntion. There were also many functions which could not be tested before intergrated with other fucntions, thus programmer usually provides error codes to the integrator and resulted in more errors. This might be solved if we had many demo versions to test new features, which we didn't have.

The biggest issue could be agile development. I think our project didn't follow agile development very well. Agile development requires project to produce usable product with basic features in very short time, then make improvements and iterations based on designs and feedbacks. However, our useable product was produced in the third sprint,

which had been iterrated three times during the last two sprints. Therefore, not much improvements had been realized in such short time period. For future projects, agile development shall be strictly followed, demo version must be generated at early stages.

Lesson Learned

I have learned a lot from this team project experience, among them there are two main things I consider important for my future team project.

One is team communication, as it was mentioned, it decides efficiency which is crucial for software development. Good communication lowers the risk of misunderstanding, encourages team members being active and increases the productivity of team. I expect better communication in future projects.

The other is agile development, which must be emphasized and oversaw from the beginning of project. For future team project, each stage should be executed strictly, and an early demo version is the basis of further development.

There are also two significant things I have learned that may help me with the individual project in Year 3.

One is detailed planning. Before the project started, a detailed plan shall be generated, as it servers the purpose of guidance, clarifies aims and specifies approaches. This would give me a clear idea about tasks of each stage.

Another is version control. For the upcoming big project, good version control is crucial for each iteration if invertible error occurs. Also, if I decide to change methods, I could go to specific demo version to try another approach without damaging the whole project.