

CS3343 Software Design

Self-Reflection Report

Group 12

**Team Information**

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| Name | Student ID | Title | Description |
| CHENG Yin | 56614557 | Project Manager | Management, Design, Development, Documentation |
| SONG Tao | 56642520 | Assistant Project Manager | Management, Design, Development |
| LUO Peiyuan | 56642728 | Programmer | Documentation, Design, Development |
| ZHOU Junchen | 56641511 | Programmer | Documentation, Design, Development |
| DU Wenxi | 56643530 | Tester | Documentation, Design, Testing |
| FENG Yong | 56642741 | Tester | Documentation, Design, Testing |

**Project Manager - CHENG Yin**

Throughout the project acting as a project manager, not only have I obtained project management knowledge and acquired skills, but also enhanced my programming ability as I have participated thoroughly in the programming exercise.

In the project initiation and planning phase, we overcame our very first challenge met in the project, which is the scope-defining process. We brainstormed many ideas on what we should do, and it was just too much. At last, we came up with the idea of doing a food court management system. However, our team did not realize the difficulties that a broad scope might bring us in the developing phase.

During project development, I also participated as a programmer. There is also a challenge brought by version control of our code and how to assign tasks since we are not so familiar with git from the very beginning. At first, all was a mess. We send out zip files of codes after modifying them, leading to chaos in version management. Luckily, we did not catch up too late. We applied git version control immediately. Each one of us has a responsible branch to work on. And everything pushed to the branch will be merged under consideration into the big picture. And everything was much more efficient.

For project management, I have understood that people are very difficult to deal with. Lack of or inefficient communication could cause massive project development problems, whereas requirements gathering from users and communicating with the project team are significantly essential. During the process, I have learned and tried to improve my ability to listen to others’ opinions and express my thoughts promptly.

Moreover, handling and keeping up with the schedule and satisfying the project management triple constraints of time, scope and cost are also challenging. Due to the heavy school work and placement work, the project team struggled to meet up and make progress. But luckily, everyone tried their best, using the experience and knowledge learned, and finished the project successfully.

Finally, I would regard this project as a huge success and really give a big thanks to all my wonderful group mates for being humble and supportive of each others’ work.

**Assistant Project Manager - SONG Tao**

This project is absolutely meaningful to me. It illustrates different aspects of an IT project and gave me a valuable lesson learned. Throughout the project, I was acting as an assistant project manager, which meant I had put my hands on different parts of this project and fought for success with every member in the project team. Each one of them is my strong backing, thus I would first thank everyone’s hard-work.

A saying says that things are done by people. I would add that an IT project is never a one man job. A blind spot that I used to get myself in was that I thought that success can be easily achieved with only good technical skills, interpersonal relationships are not a big concern. This project experience proved that I was wrong. We are human beings, filled with emotions. Emotions can be positive, it can also be negative. When a team member was in a negative emotion, communication would be affected and project performance would be further affected if proper action was not made. I believe in this project, I played an important role in adjusting members’ negative emotions and finding a balancing point between releasing the pressure and having efficient communication, then finishing the project work. With a good communication environment, things can be done much easier.

As for the technical perspective of this project, I further realized the difference between software engineering and programming. If say programming is the pigment, then software engineering would be the art of paint. Logic under software engineering is more thoughtful and abstract than pure programming. In modern industry, object-oriented is popular in developing approaches. It improves code modularity, reliability and ease of use. But to apply the benefits of O-O is not such an easy thing for beginners. Confused logic can make people write confusing codes, and will lead to a heavy cost of manpower to test and fix. In this project, six of us who lacked experience ran into struggles at the beginning. The ambiguity of the development process led us to take many detours. In the continuous learning afterwards, we each thought deeply about the project development. We carried out logical testing, design adjustment and code reconstruction based on the knowledge learned in the classroom, and tried our best to optimize the quality of our project.

This project is not only a practical test, but also deepened my experience and thinking about project development and future practical operations. Regardless of the final result of this project, I believe it is of profound significance to me. Thanks again to my teammates, we wouldn't have gotten this far without you

**Programmer - LUO Peiyuan**

Being an active participant, performing the role of developer and designer in the project enables me to get a deeper understanding of the software development life cycle, and gain a really unforgettable cooperation experience with my teammates.

For the overall experience, this project gave me a valuable opportunity to participate in the requirement analysis, definition, design, programming, and testing of software. I understood the significance of requirement analysis and definition of a software project, which was overlooked by me before this project. Besides, this project allows me to collaborate with my teammates for large coding tasks, and lets me know the importance of cooperation and patience.

During the development of the project, I realized the difficulty of software development, including the detailed consideration of the use cases, the holistic design of the code structures, the practice of software design patterns and principles, and the concrete implementation of each function. More importantly, although I am not the main testing member, when I modify the code from time to time, I get to know the necessity of the unit test, integration, system test, the importance of an efficient testing strategy, and the essentiality of communications with testing teammates . I also came to know that constant code refactoring will help us to optimize the code structure and quality.

Except for the technical part, through the experience, I understood that good communication will help us to reduce some inefficient effort and save some time. Being one of the developers also made me improve my understanding of object-oriented programming. Finally, I would say that this is a really unforgettable experience for me and sincerely thanks for my teammates' joint efforts towards the goal.

**Programmer - ZHOU Junchen**

During the group project, I have experienced the whole process of a back-end project formation. And I had an unforgettable experience with my teammates.

Being a programmer, I was mainly responsible for the development of the project structure and code refactoring. During the process, I met some difficulties when programming. When constructing the structure of the project, sometimes there were details that were left out, which would cause some error. Therefore, this required us to be patient and careful to perfect these details. In addition, when doing code refactoring, we hope that we can decrease code smell as much as possible. Therefore, I extracted the part which had code smell into another single function, which can make sure that code can decouple with other parts and be more simple. In addition, we adopted many design principles and design patterns in our code, which can make decoupling among several parts and avoid repeated labor.

For the whole experience in the project, I learned a complete life cycle of one project including defining requirements, designing, development, and testing, which provided me with valuable experience of software development. And in this process, I effectively improved myself in coding and programming.

In addition, I know that software development is not just the work of one person, but the result of teamwork. Cooperation and communication play an important role in software development. At this point, I am very grateful to my teammates. They are very responsible and serious. It's my luck to work with them!

**Tester - DU Wenxi**

As I start reflecting on my time in the GoGoEat development project, it has been nearly three months from we built our team. As a positive designer and tester of the project, I learnt a lot from the project experience and my teammates.

As a designer, cooperated with CHENG Yin, I've done the user case diagram of customer module and admin module. The user case diagram was changed and improved several times for the change of user requirements, I learnt that project scope management and time management is important in case for the change of user requirement and other unexpected. Moreover, I found it difficult in making diagrams together, which a good diagram tool with an online cooperate function is important and more efficient.

As a tester, I cooperated with FENG Yong. I made the testing strategy and finished the system testing and part of the integration testing. Benefit from my knowledge learnt from the software testing course, the selection of the testing strategy became efficient and reasonable. I also used Monkey test in the system testing part to cover more in order to find bugs. I learnt that teamwork is so important that excellent cooperation makes us successful. As for what I can do better, I think how to manage the time is the point I can improve. To improve the efficiency, the selection of testing strategy can be done according to the class diagram before the codes were done, and we should also reserve time for code refactoring and improvement after each part of the test.

As for the last part of the reflection, I want to express my thankness for my dear teammates for our efficient cooperation and their tolerance for my lack of time management. Hope to have more opportunities to cooperate with them all.

**Tester - FENG Yong**

Throughout the whole development period of the project, I have always played the role of the tester. It is quite unique for me to contribute to the whole project by testing some of the essential classes and functions of the whole system. Before the project started, I thought the testing part would be accomplished in a very short time with a relatively lower workload. But it turns out the reality is completely the opposite from what I had imagined at the beginning.

The testing part requires a thorough analysis of the system structure, therefore you can have a better understanding of what the actual output would be when you input some value into the function. It not only requires the ability to read the code, also the ability to estimate where bugs are most likely to occur. It requires time and effort to implement the bottom-up testing strategy, because we need to test almost every fundamental class before we go into the integration testing. After one detailed testing procedure finishes, it is also quite crucial to communicate to the programmer and developer to help them digest the information of the occurring bugs. And the testing procedure needs to be repeated once the system developers offer a new generation of code. Sometimes it may get frustrated when the original structure has been changed, and the old version of the test cases need to be updated to suit the new version.

In the last part of my self-assessment, I want to deeply express my appreciation to all my team members. Without their laborious work, the system can never be accomplished and I can not reach this far without their support.