Introduction

In recent years, the vehicle rental industry has been thriving and has great prospects. In light of this, a vehicle rental company needs a new web-based rental system to ensure efficient management and enhance the user experience. The objective of this project was to design a car rental system that meets this requirement.

Currently, more young people enjoy traveling, expanding their horizons, and pursuing excitement. Having a car can provide people with more choices and a comfortable experience when traveling, but the majority of young people who enjoy traveling are college students and lack financial ability. Renting a car has become a better choice for them. In addition, middle-aged people may also need to rent different cars in important places, such as receptions. Therefore, designing car rental software is necessary and can develop the economy. This project has some potential risks. Vehicles may be damaged during leasing, and failure to repair them on time can affect leasing efficiency. In addition, users may not be familiar with the rental system, which can affect its promotion. If these risks can be addressed, they will have a significant impact on the success of our software.

This report analyzes our team's final product in five dimensions. The first is about software development process. The second part is about software design, mainly including the design and implementation of all PBIs that I independently developed. Then there is change management, which is an analysis of the changes in our requirements. The sixth section deals with the legal, social, ethical and professional issues that we may encounter. Finally, there is my summary of the project.

Software Development Process

This system is an online vehicle rental software, however most team members lack relevant experience or knowledge in building projects, connecting front-end and back-end, and security verification. It leads to uncertainty in the development process. Scrum helps teams generate value through adaptive solutions for complex problems. We will create the Product Backlog. Secondly, due to the different schedules of our members, we will hold weekly meetings to share project progress and achievements, and exchange experiences to progress together. For example, I am responsible for the login and registration section of the project's user end. I will create a task list, complete the corresponding workload in each iteration cycle, and present the results in weekly meetings. Afterwards, listen to the opinions of the members and make corresponding corrections based on their progress. At first, my progress was too slow. After holding multiple meetings, I received suggestions and assistance from members, and gradually completed the task. Scrum has indeed performed exceptionally well in motivating members, transparency, and quality.

Software Design

I designed eight PBIs for this project. There are 6 PBIs in terms of Registration.

PBI#A01: Sign up for a new account. Implemented.
PBI#A02: Set up a password. Implemented.
PBI#A03: Binding ID card. Implemented.
PBI#A04: Binding phone number. Implemented.
PBI#A05: Binding the driver's license number. Unimplemented (change to the age. Implemented).
PBI#A06: Binging the mailbox. Implemented.
There are 2 PBIs in terms of login.
PBI#B01: Log in using a password. Implemented.
PBI#B02: Log in using SMS. Unimplemented.

Change Management

The requirements of a project always change continuously during the development process. After the sprint execution ends, the team will hold a meeting. After members have demonstrated their progress and results, tasks will be adjusted based on the difficulty of implementation. First, observe if there is a dependency relationship between the adjusted task and the subsequent docking tasks, and then modify accordingly. For example, the PBI#A05 designed has no significant impact. After discussion, it was finally revised to the age. Similarly, I deleted the PBI#B02. Subsequently, I took on the task of drawing ER-pictures for members.

Legal, social, ethical, and professional issues

<Discuss where you have considered, or the project have been influenced by legal, social, ethical, and professional issues.>
<The discussion should include the issues and possible solution.>
<The discussion must be relevant to your project>
Our group project may encounter some issues.
As software developers and managers, we will have access to all personal information of users, and if this information is leaked or stolen, it will cause legal issues. Our team strives to ensure software security.
Vehicle Rental Service Information System is designed to serve adults, we cannot guarantee how the leased car will be used, perhaps by minors, which may lead to social problems. Our team strives to ensure that all rental personnel are adults and have access to vehicle information at all times when using the car.

Conclusion

This group project cost a lot of manpower and resources. I learned the importance of teamwork from the project. Meeting challenges, unifying goals, and respecting each other are the most important factors. In addition, I have learned a lot of programming