# Group Report for Software Engineering Project

Project Title: Newsagent Project   
Module: Software Engineering 3  
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## 1. Introduction

This report presents an overview of our software engineering project, where the goal was to develop software for a newsagent shop. The software aims to streamline the agent's work by automating tasks such as managing daily work performed by now manually, including managing customers, delivery people and publications database, generating delivery dockets, orders, invoices and customer warning letters, as well as stock management and reporting. This project allowed us to apply software engineering principles to address real-world challenges faced by small businesses and their owners, while being able to apply our knowledge and skills earned during college education onto the project, which is the closest so far to a real-life industry environment and while enabling us to learn new skills and recognize our strengths and weaknesses better in order to improve and reflect on our education up to date.

## 2. Prediction of Grade

Based on our efforts and the outcomes achieved, we predict our grade for this project to fall in the range of around 80% out of 100 or around 50% out of 60 (First Class Honours 1.1). This prediction is based on our collective belief that our implementation of the Newsagent application is reliable, simple to operate for the non-technical user and linked to project requirements. We have implemented the application, while having a strong collaboration as a group and we have collectively neglected some of our other assignments, just to give all the best we can to make this one possibly as good as we can. At the same time, we leave a few percent out of our prediction, since we have reasons to believe our implementation of the Waterfall Software Development Lifecycle was not exactly aligned with all the principles of a Waterfall Model due to our lack of experience. Also, the reason which is more relevant to the product quality is that we are aware of the testing not being completed fully for the software and we believe we could have implemented more extensive JUnit testing, which instead we have chosen to mock test due to running late in accordance with our teams plan.

## 3. Individual Contributions

An important part to mention is that the workflow strategy for our group has changed with time, as we got to know our strengths and weaknesses on the go, during the first 4-5 weeks of development. During the mentioned first 4-5 weeks, our group work has been split between 10 entities we have agreed upon, with each team member having 2 entities assigned to them and 2 entities being spread across the whole team. This strategy has worked for us while working on User Stories, Acceptance Criteria, UML diagrams, Skeletons, CRUD methods for entities and initial first version of Database.

After initial Database development, we have decided as a team, to change our strategy, based on our strengths. Based on that we have employed a pair programming strategy as a base for our development process.

Fernando took upon himself the role of Backend Developer, working closely with Khai on Processing Engine, Database adjustments and changes, as well as playing crucial role in system integration, leading the team towards the right direction.

Kasandra on the other hand, took upon the role of Frontend Developer and Tester, sharing responsibilities with Patrick, working on Command Line and taking part into preparing all the documentation, test design, writing JUnit testing, as well as helping Fernando and Khai with integration, while working together.

As a team, while considering the amount of work done by each of us, we believe that we have done all we possibly could to ensure the workload being managed fairly and split in the way, each of us have got the chance to contribute equally, which brings us to conclusion that each team member have contributed to approximately 25% of overall assignment workload, with every small abbreviation, being generally recognized and made up for in the following week.

## 4. Reflection on Development Process

Throughout the development process, our team experienced both successes and challenges. One of our significant successes was our team dynamics and environment we have created together, where every idea was recognized and never criticized, every mistake was reflected upon and general working atmosphere was very good, letting all team members feel comfortable and work in efficient and suitable manner.   
  
However, we also faced several challenges. For instance, we underestimated the time required for UI testing and integration, we have encountered initial miscommunications about roles and responsibilities, as well as we have been struggling with GitHub management through the whole process, due to technical issues with operating it on our personal machines. These issues highlighted the need for more thorough planning and improved time management in future projects, as well as making us reconsider other Version Control approaches in the future.

## 5. Knowledge Gaps and Lessons Learned

At the start of the project, we identified several knowledge gaps that impacted our initial progress. These included a limited understanding of database interaction between the tables, integration processes, certain operations required for processing engine to work at its best and testing. Also, from a non-technical point, we have faced a challenge when it comes to planning in a timely manner, due to our inexperience in developing integrated systems and underestimation of time needed for certain development processes. Over the course of the project, we addressed many of these gaps, gaining significant knowledge in the development of bigger, more advanced projects with the need for multiple files, development stages and documentation. This project has significantly enhanced our technical skills and collaborative abilities.

## 6. Overall Reflection and Conclusion

Overall, this project was a valuable learning experience that allowed us to apply software engineering principles to solve real-world problems. We are proud of the progress we made as a team and the functional software we delivered. Looking ahead, we plan to carry forward the lessons learned from this project to future endeavors, focusing on better time management, planning and continuous learning.

## 7. Appendix

Below, we are including relevant coverage test documentation, as well as any other relevant information, which showcases our project's workflow and dynamics. It is important to mention that our projects entities are reusing the same dynamics and operation logics, so both JUnit and general coverage should be more or less the same for all of them.