Project LOGICAL

Project Report

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# Introduction

Project LOGICAL was a project embarked by 8 members from Team 4, to build an automated stationery store inventory system for Logic University. The project spanned 4 weeks, the end of which saw the delivery of a functional automated system.

The members of Team 4 came from different levels of programming background. Hence, the Rational Unified Process (RUP) Model was adopted. During the 2 days of the project, in addition to the drafting of the project charter, project schedule and initial project plan, the requirement specifications were established, particularly the generation of use cases and activity diagrams. The use cases were generated based on the Project Objective Document provided by the service requestor as well as 2 user requirement clarification sessions, a store clerk and a department head respectively.

After establishing the use cases, the Team followed on by generating activity diagrams which correspondingly served as guides for UI design. A set of preliminary screen designs for both web and Android application was created for a UI Design Walkthrough with the same clerk and department head who were present during the requirement clarification sessions. During the UI Design Walkthrough, feedback was given by users with regards to the preliminary UI screengrabs made. The department head suggested a more visual button and label color scheme. The department head also suggested to retain read-friendly information while minimizing information that was not as intuitive to the user (i.e., retain item description but not item code). The clerk suggested development of a chart which could observe requisition trends across periods, departments/requisitions and suppliers/orders. The clerk also suggested having a mobile function for item retrieval at the store and disbursement to the respective departments. Based on the feedback from the UI Design Walkthrough, the existing UI designs were modified to suit user requests.

UI designs were finalized in the middle of week 2. The team then started creating sequence diagrams. Towards the end of week 2, the team was split into a mobile development group and a web development group. Coding of the applications was started at this juncture which last until the middle of week 4. Throughout the coding process, completed use cases would be submitted to the designated integrator for integration to ensure a smooth transition.

Towards the end of week 4, both divisions of the team gathered together for a final integration and testing. By the end of the testing, various issues were sorted out and the team proceeded for the user acceptance presentation. Further feedback was given during the user acceptance presentation with regards to both the functionality and the appearance of the system. This marked the end of the project.

# Product Deliverables

The product deliverables for this project include: Requirement Specifications, UI Specifications, Architectural Platform description, Sequence Diagrams, Class Diagrams, Relational DB, Code as well as testing specifications. The relevant documents have been uploaded to IVLE for detailed reference.

# Recommendations

More user-friendly functions could be incorporated into the system. For example, the requisitions function could keep track of the requisition history of the staff and suggest items for requisition instead of having the staff to repeatedly search for the same item over again.

More validators at key areas to prevent corruption of database: Retrieval and disbursement values should tally, system should more allow retrieval quantities beyond actual stock quantities.

The app can be expended to the IOS ecosystem so that users of the iPhone will also have access to the app. Currently, the app is exclusive to Android devices.

# Lessons Learnt

During the UI Design Walkthrough, there were certain demands made by the customer that may have been difficult to execute in the given time based on the ability of the team as well as the number of manpower resources available. Unfortunately, due to the lack of experience of the team, the conditions requested were too readily agreed to. Instead, negotiation could have been done at this early stage to address such issues to prevent the team from over-promising and under-delivering.

The specifications provided by the Project Objective Document and users were taken at face value and the results of those specifications/demands were focused on too strongly without a more in-depth appreciation of the use case. For instance, in the process of automating stock retrieval, issues such as the stock level requested being more than the actual value, as well as the retrieval vs. disbursement quantity tallying was not addressed.

# Problems and Solutions

Taking into account the formation of a new team (different members prior to AD project), as well as the different coding competencies of members, the RUP structure was adhered to allow members an adequate grasp of each use case and its sequence and UI. Members could code with greater clarity leading to less mistakes in the output. As mentioned, one member was designated as integrator and the process of integration was a continuous one to enable smooth transition from the start to the end of the coding phase.

However, due to limited time and skill, the team decided to split into 2 divisions for mobile and web development respectively. As each group became more focused along the progress of the project without adequate cross-division meetings, it resulted in a few use cases having significant deviations between mobile and web that had to be hastily addressed prior to the UAT. This could have been prevented by inculcating a habit of ideas sharing by having standup meetings in a disciplined manner as the start of each work day.

# Looking Back

The use cases presented could have been approached with a more user-centric mindset, in addition to having a focus on results to deliver a more wholistic solution. For instance, requisition history could be used to suggest a user’s most frequently requested item and eliminate the need for him/her to make repeated searches for the same item.

A standup meeting routine could have been created at the start of the project. Members could have been more open about sharing their work and problems faced. This would not only keep the team on the same page and allow a more coherent output between different sections of the team, but also serves as a platform that allows suggestions/solutions to be raised for problems that might not be as evident to the individual.

Towards the UAT the team realized that there was a lack of time to deliver certain additional “good-to-have” functionalities and decided to stop and do a wrap-up to ensure that the code to deliver during the UAT would be functional. On hindsight, this was the right decision to make as the chances of having the system breakdown during the UAT would have had a more severe consequence although a greater familiarity in coding (of which there were significant gains during this project experience) and better time management skills would serve the team and its members well in future projects.