# ABC’s Inventory Management System

## Project Proposal

## Summary Project Information

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| Project Name and Group Size | ABC’s Inventory Management System (3 members) |
| Project Members | Shirish Maharjan, Hieu Hanh Tran, Arik Maharjan |
| Quick Project Summary | Make warehouse and store inventory more efficient by making it digital. |
| Looking for additional members? | No |
| Work-related? | Yes |
| Sponsor | Dr Mahsa Razavi |

## Short Project Description

ABC is a retail company selling men’s clothing in New South Wales. The level of demands in managing stock allocation and transfer between stores and warehouse for the company has increased significantly. Technology has never been used for this and hence the whole system needs to be built from scratch. The purpose of this project is to provide a digitized inventory management system for ABC. When completed the system would **benefit** the company a lot saving valuable time and cost. Creating a digitized store and warehouse inventory system would allow ABC to get detailed and precise information about the stock movement and stock theft. This would also allow employees to look up current stock contents of the warehouse and each store and then request stock as required. Employees will also be able to send stock digitally i.e. automatically make an update to the database when stock is sent. Moreover, distribution of stock would also be much easier for the warehouse staff as they will know the quantity of each stock for each store.

All in all, this project will make inventory management easier for the company and open a gateway for technology for the company.

Methodology

In this project, software development process and project management will be conducted using the Unified Process (UP) Framework. UP is a use-case driven, architecture centric, risk prioritized, iterative, incremental’ process. There are four phases of UP which are The Inception Phase, The Elaboration Phase, The Construction Phase and The Transition Phase. This project will be conducted in two steps between two semesters. In the first step (semester 201830) the first two phases of the Unified Process will be conducted. While the final two phases will be conducted in the second step of the project i.e. semester 201860. Following the UP framework, this project will be iterative and incremental after each iteration. Therefore, a detailed iteration plan will be made for each iteration and each team member will be expected to conduct their tasks in accordance with the iteration plan and integrate their completed tasks. This way team members can keep track of what task was done when and when it was approved. Changes to the project and the iteration plan can also be made if required. Documentation changes can also be made as required. Finally, the final iteration will be conducted which will produce the final product of the project.

Similarly, after each iteration is completed, a team member will conduct an iteration assessment and write down an iteration burndown report. This will help clarify which task was completed and which task needs completion from the previous iteration. A check list will also be created for each task in the iteration to track the progress of the iteration which will help in the preparation of the iteration assessment report. Gantt charts will be used to plan and schedule the project. This will help team members assess time and resource needs and dependencies of the project. It will also provide a timeline of the entire project.

When all the iterations are completed, a final report will be prepared assessing the entire project to check if any changes need to be made.

Functionality and Feature

Stock is often transferred between store and the warehouse owned by the ABC company. Unless the software in PC is taken to process this transfer, stock control issues could arise. Below are the steps involved in transferring the goods.

* The store (where goods are arriving):
  + All store staffs will be provided with a store staff login account for ABC’s Inventory Management Application.
  + The store staffs can login to the ABC’s Inventory Management Application in the store’s computer.
  + The store staffs can search products by the product code to check its information.
  + If the information shows that the quantity of that product is 0 or low in stock, the store staff might choose the desirable quantity of that product and send a request to the warehouse. They may add other products to the same request too if desired.
  + As soon as the request is sent, the system will send an email to the default warehouse staff’s email to inform the warehouse staff about the information (product code, desirable quantity, product description, etc.).
  + The store staff can log out the account for securing information.
  + Application can be used in different stores if the number of store increases in the future, database update would allow new stores to be a part of the system.
  + Store staff can scan or type in the bar code of the received parcel containing requested stock.
  + If the details in the system about the contents of the items in the parcel matches the actual contents, store staff can accept the items in the system by clicking the accept button. This will update the database.
* The warehouse where (goods are leaving):
  + All warehouse staffs will be provided with a warehouse staff login account for ABC’s Inventory Management Application.
  + The warehouse staffs can login to the ABC’s Inventory Management Application in the warehouse computer.
  + The warehouse staffs can search the product by the product’s code to check its information.
  + The warehouse staff can add new products into the system.
  + The warehouse staff can also send parcel through the system by adding product code and quantity of each item in the parcel to be sent. This would then generate a barcode which is to be place in the parcel physically. This barcode when scanned by store staff will display contents of the parcel and its details on their store computer.
  + The warehouse staff can update the detailed information (except product code) in the system. Warehouse staff can also make changes to the number of stock available in both store and warehouse if stock discrepancies are found.
  + The warehouse staff can delete existing product that is no longer sold in the system.
  + The warehouse staff can check the report of the previous transactions.
  + The warehouse staff can add the new staff login account into the system.

## Architecture Outline

The main architecture components are:

* PC clients
* Server
* User and stock database

## Technology Skill Set

The following are the expertise of the group in the technology that is required for this project:

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| Technology | Group Proficiency |
| MySQL database | Experienced |
| Java | Experienced |
| Sketch | Beginner |
| JavaScript | Beginner |
| XML | Beginner |

## Potential Issues

The following are the potential issues that might arise:

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| --- | --- |
| Issue | Comment |
| Project Complexity | The project might end up being too complicated to be completed within the timeframe. |
| Feasibility | The project might not be feasible within the timeframe. |
| Group skill | The group does not have much expertise in some of the technology that needs to be used in the project. |
| Personal issues | Personal issues like work commitment, family, health issues could impact the project. |
| Business Data | Group members work in retail environments but only in a frontline customer service role. Therefore, there might not be enough business data to support the project. |
| Study Commitment | Other subject deadlines and exams might affect the schedule of the project. |
| Client Issues | The client does not like the final products. |
| No teamwork | The team members might be working without any synergy between them, always fighting with each other, blaming and passing the buck, without actual focus on the problem. |