



**BSc (Hons) in Computer Science**

**GRADUATE DIPLOMA IN SOFTWARE ENGINEERING**

**ITS1066**

**PROFESSIONAL SOFTWARE PROJECT IN IT**

**Hospital  
Inventory Management  
System**

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## List of Abbreviation

IJSE - Institute of Java & Software Engineering

IT - Information Technology

SE - Software Engineer

AO – Administration Officer

## **1. Introduction**

An Inventory in a hospital/ward, is a detailed list of all goods or materials received, stored, used and condemned, with their specification and standard number of quantity. Managing of Inventory is the process of stocking adequate number and kind of stores, so that the materials are available whenever required and wherever required.

Inventory Management plays a vital role in the Healthcare Industry. Keeping a precise and an updated stock record especially for pharmaceuticals, surgical equipment and other necessary items(Furniture,Linen) is one of the most significant task for any hospital organization which is also equally important as patient caring.

Healthcare workers often face an uphill battle when it comes to managing inventory. From the smallest inventory to the largest, it's crucial to have inventory records that are managed as precisely as possible, especially when you're trying to maintain proper levels of expensive surgical items. With the advent of the novel corona-virus, these needs have become even more emphasized, converting inventory control into one of the most crucial aspects of healthcare operation.

Well managed and executed inventory control can impact staff productivity and overall peace of mind for patients as well as healthcare workers. Efficient healthcare inventory management procedures are essential for smooth patient care and a remarkable experience.

## 2. Project Overview

The ward manager / person in-charge of a ward(Ward Master/Ward Sister/Nurse in-charge) is responsible for the inventory that is currently in the ward/unit.

He/She is responsible for:

- keeping an adequate amount of equipment and supplies in the ward
- ensuring that equipment and supplies are in good condition
- ensuring that equipment and supplies are conveniently located
- put in a requisition for necessary equipment for repair and maintenance when needed
- to condemn and dispose defective and obsolete goods

Whenever there is a shortage of goods in the ward, the ward in-charge himself/herself should have to visit the stores and request the necessary Inventory from the storekeeper. Unless it is the in-charge of the ward , the inventory will not be released from the stores. More importantly, there should be a letter of request with ward in-charge given by the administration, in order to issue goods from the stores. Hence, before every order, ward in-charge should visit the related administration officer and have a request letter before visiting the stores.

Storekeeper maintains a book for Inventory Registration for each ward and a duplicate book is maintained by each ward in-charge. Once the inventory are about to release, the same set of inventory are recorded in these two separate books, one book which is at the stores named under the particular ward number and the other book which is with the ward in-charge of the particular ward. The records of these two books must always tally with each other.

An equal process is managed during the Inventory Condemnation. Storekeeper maintains a separate book for Condemnation Inventory and a duplicate book is maintained by each ward in-charge.

Inventory items that are defective are sent to Maintenance where it will be decided whether the particular item can be re-used or not. If not in a condition to be re-used, an Administration Officer(AO) will provide a Condemnation Certificate to condemn the item. Re-usable items will be returned to the ward once they are serviced.

The ward in-charge is responsible to create a list of Condemning Inventory of his/her ward and present it to the Condemnation Committee on the provided date. The items in the list will be approved for condemnation or either approved to be opened to auction, based on the decisions taken at the committee meeting. The ward in-charge should then again visit the store with the approval letters issued at the committee in order to update and balance the records in all four books.(at the end of the day records of each duplicate book must tally with its original book which is at the store).

### **3. Challenges of Current System**

- Having to move to multiple places to place a single order(Administration and Store) maybe exhausting and result in wastage of time.
- Lack of minor employees to collect Orders
- Managing and continuing multiple books at two places for the same set of records.
- As both Orders and Condemnation of Inventories are recorded together, records maybe unorganized hence difficult to filter when needed
- No any awareness until the stock is empty
- Must go through a regular checkup to ensure that there is an adequate stock available.

Considering the above mentioned details, I would like to propose to develop an Inventory Management System for the Wards/Units of Teaching Hospital of Karapitiya by eliminating the current manual system.

#### **4. Benefits of the Proposed Solution**

Ward In-charges :

- will be able to place Orders via Email
- will be notified to collect the Order from the Store once the Order is ready
- will not have to waste their time at Stores and Offices anymore, hence can give the optimum contribution to other duties and responsibilities
- will be alerted once there is any shortage in stock
- will be able to calculate the time period of usage of inventory items easily, hence list of condemning inventory can be created with less time
- will be able to view the available stock of each inventory item

Storekeeper :

- will be able to get a complete view of the inventory stock available
- will be able to view all inventory transactions on a single page
- will get alerts and notifications when inventory goes below the defined level
- will only have to go through a simple process to keep records rather than dealing with a multiple books

## 5. Use Case Diagram

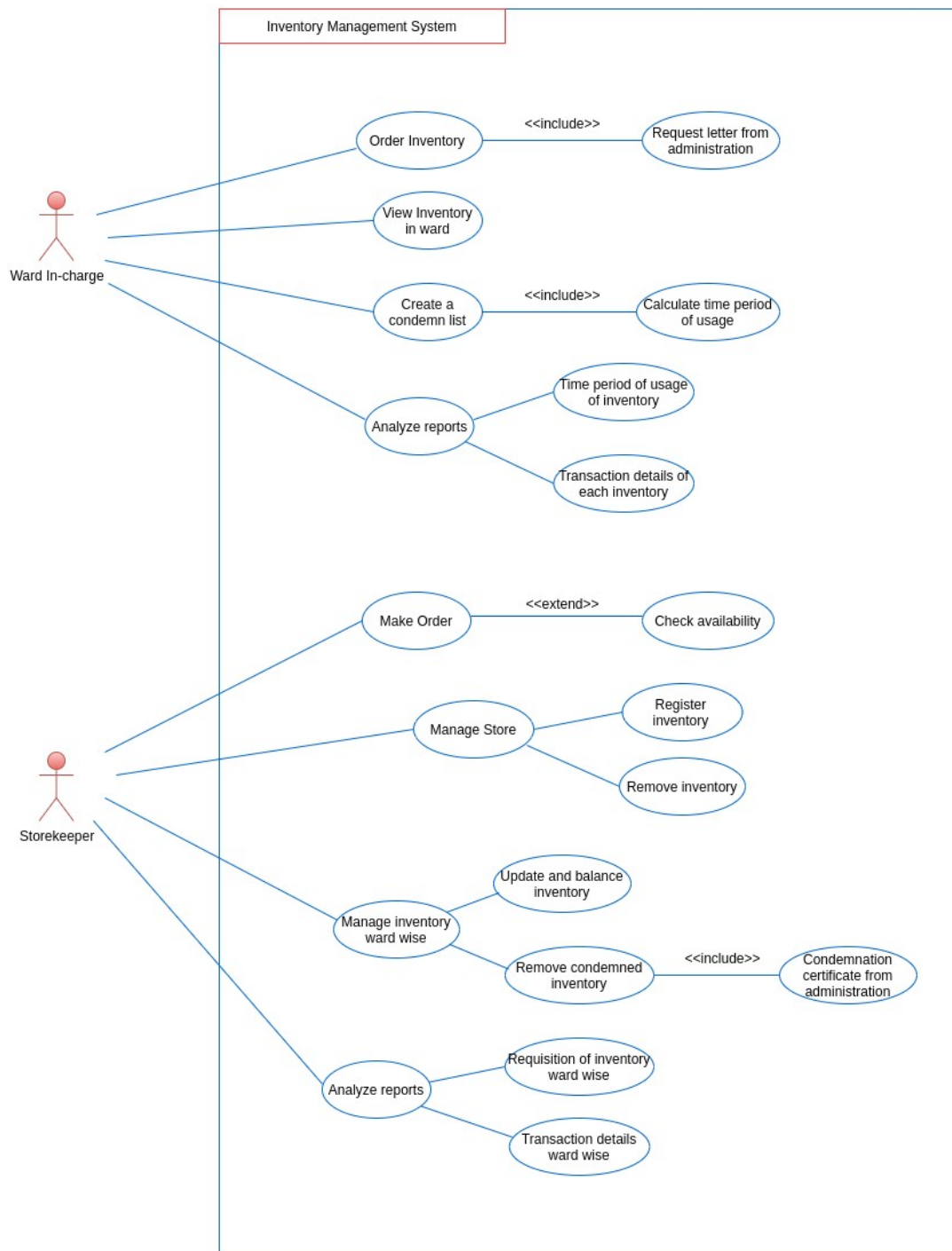


Figure 1: Use Case Diagram

## 6. Entity Relationship Diagram

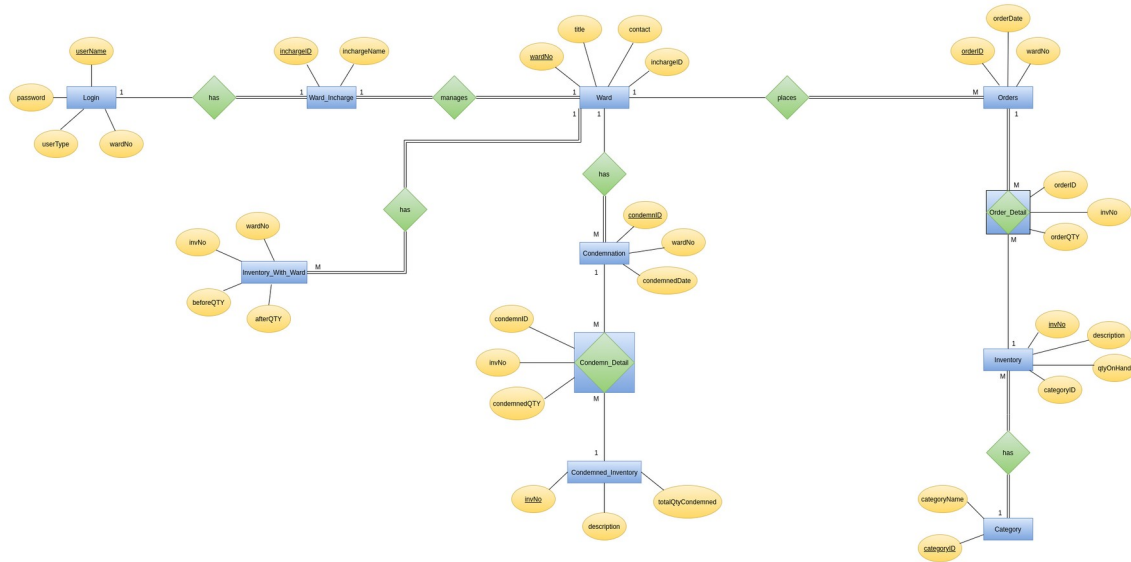
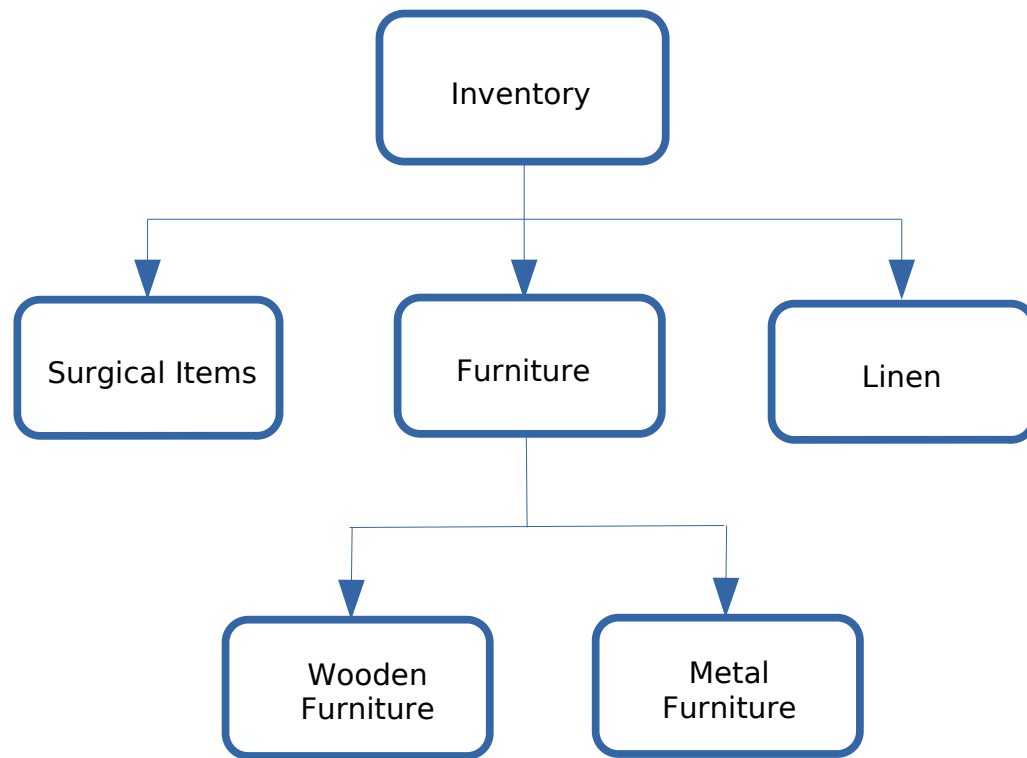


Figure 2: Entity Relationship Diagram



## 7. Inventory Hierarchy



*Figure 3: Hierarchical Structure of Inventory*

## 8. References

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