INVENTORY
MANAGEMENT SYSTEM

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NSBM GREEN UNIVERSITY TOWN

Software Development Project | CE208.3

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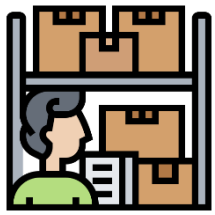
Introduction

Basically, addressed to cater the current vacuum of an online Inventory Management System at the Electronics Laboratory of the Engineering Faculty, we propose to structure, design, code and deliver a complete and immediate online solution, in reaching out for the readily available, reserved, and damaged models and quantities of all necessary electronic components, in the form of an all-new IMS, in facilitating both the administrator and student. Made possible by contributions from five software mainly incorporating MySQL, JAVA and HTML, this IMS is supposed to be launched online to always make access easy to all interest parties and individuals convenient. A dig down into its depths is to be followed below.

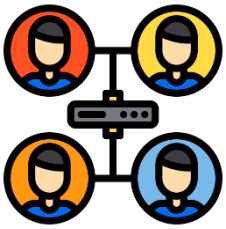


Objective

Our objective is to create a system that would efficiently manage coming in and going out of inventory. Every single inventory should be accounted for. Better Inventory Planning and Ordering.

Significance of the project

The software should have a user-friendly interface with the backend made with Java and the frontend made with HTML. It would be a web-based application, so the users would be able to access it anywhere. Inventory would be readily available for future undergraduates when they are doing their projects. Loss of instruments will also be minimized.



Technologies used in the product

Frontend: HTML, CSS, JavaScript, bootstrap

Backend: Java

Database: MySQL

Requirement Analysis

Our main stakeholders for the project are Students of Faculty of Engineering and administrator who will be the Inventory Manager. Requirements of these stakeholders should be satisfied after completion of the product.

Functional Requirements

Students

- Students should be able to register to the system to order inventory or rent instruments.
- Students should be able to log in to the system using their valid username and password. If the user forgets the password, he/she can reset it by confirming the identity by using the e-mail address.
- When a new student register to the system he/she should be able to enter full name, batch, department, email address, username, and password.
- Students should be able to change or update their profile details by login to their accounts.
- Unregistered students should be able to navigate through the application, but they will not be able to make any reservation until they register.
- Students should be able to enter necessary details and find available instruments or inventory before reserving.

System Administrator

- System administrator should be able to login to system using a valid username and password.
- System administrator should be able to update, delete and add new instruments or inventory to the system after validating them.
- System Manager should be able to generate reports.

System

- System should be able to store information about students and administrators.
- System should be able to store information about inventory and instruments.
- System should be able to validate the user when login to the system.

Proposed Colour palette for the system

- System should be able to send confirmation email when registering to the system and when making a reservation.

Non-functional Requirements

Performance requirement

- Web application must be available for anyone in the country.
- Web application must be accessible from any device.
- Web application must be available 24/7.
- All users must be able to access the system at the same time.
- Web application loading speed should be 3 seconds or minimum.
- System should be able to access data from the database quickly and display them.
- System should be able to fix unexpected errors quickly.
- Login information should be verified by the system within 5 seconds.

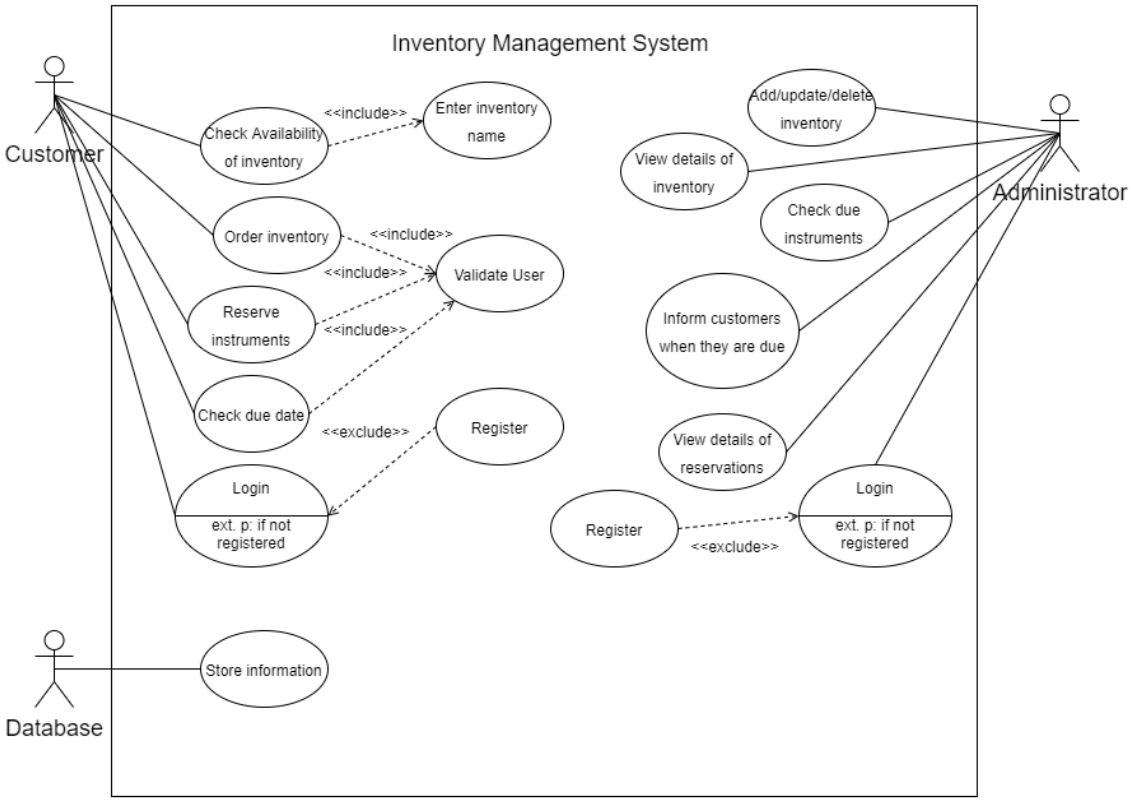
Security requirements

- System admin's and system manager's access must be protected by the system.
- Unauthorized users cannot access other user accounts, edit the details of other users' accounts, or make any reservation.
- Register confirmation e-mail must be sent to the new user when they register to the system.
- When registering users must provide a strong password.
- System should protect the web application from viruses.
- System should backup data to prevent data loss.

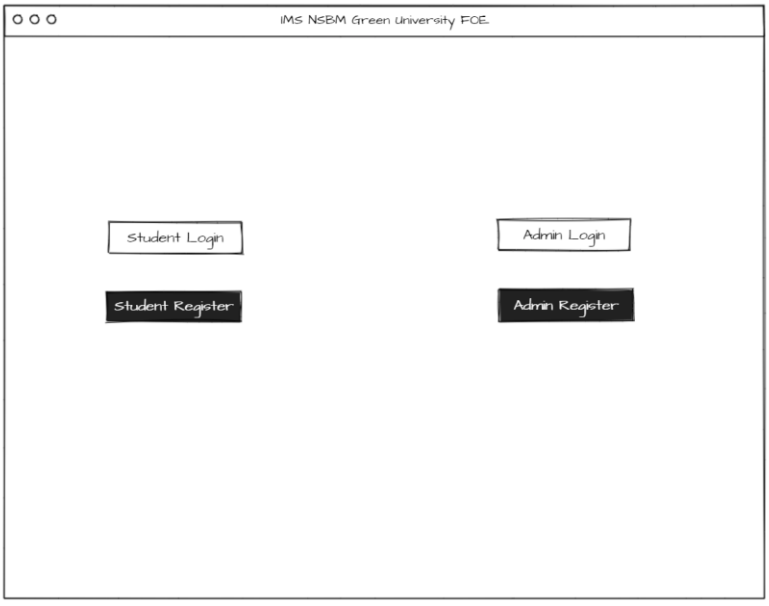
Maintenance requirement

- System should be able to run security checks at least once a week.
- System should be able to analyse most popular and least popular inventory/instruments according to user purchases and rentals accordingly.
- System should be able to check loading speed and fix the issues immediately.

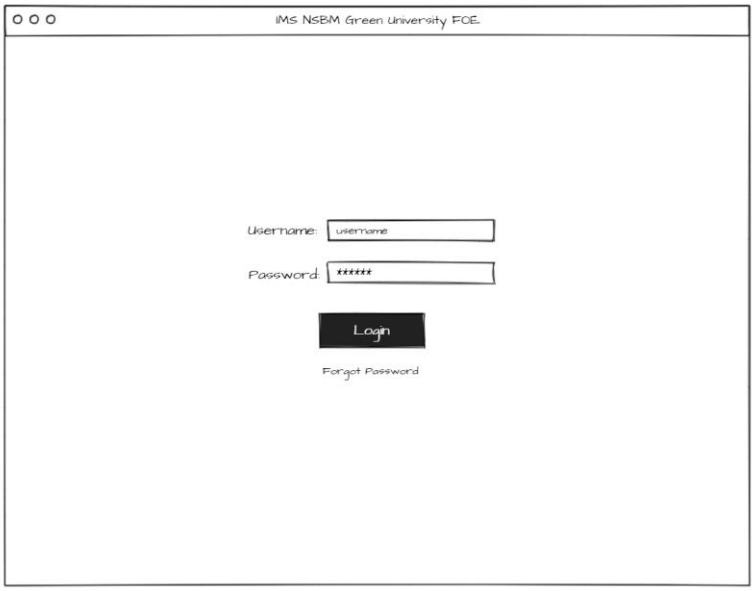
Use case diagram



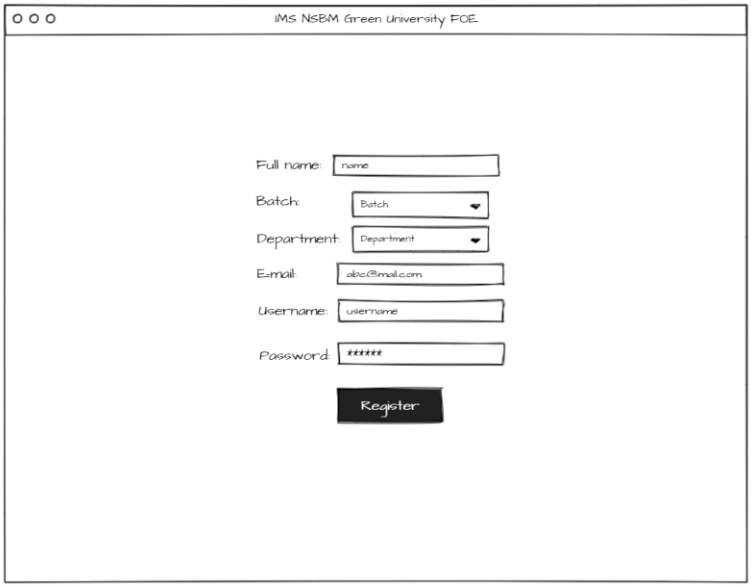
GUI Model



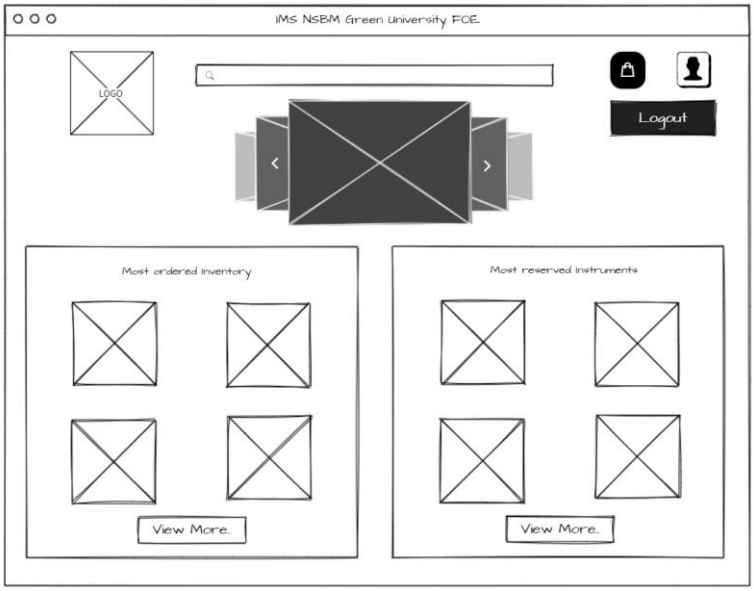
Welcome Page



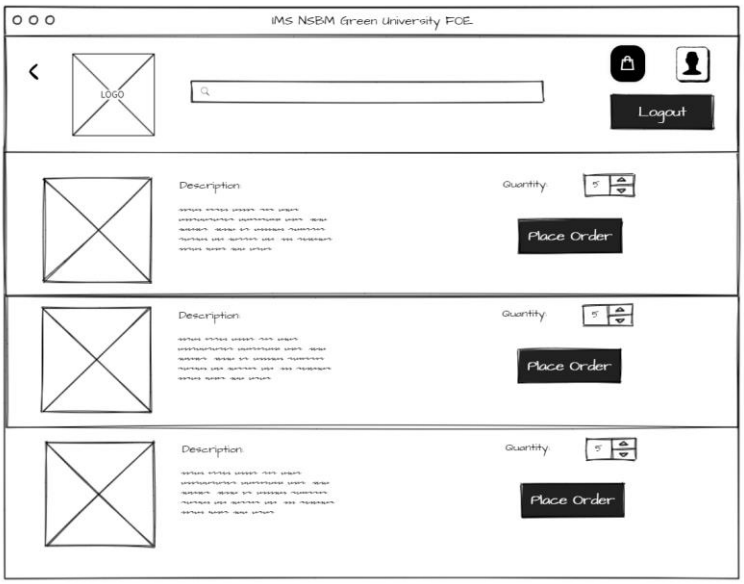
Admin/User Login Page



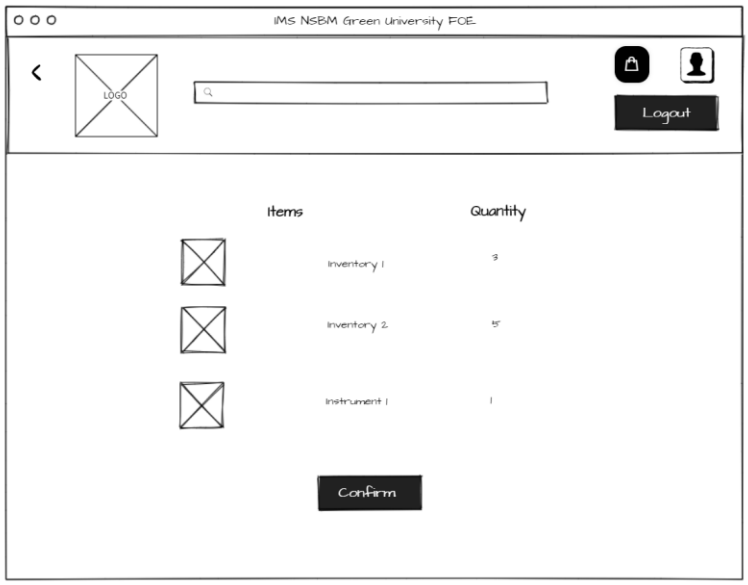
Admin/User Register Page



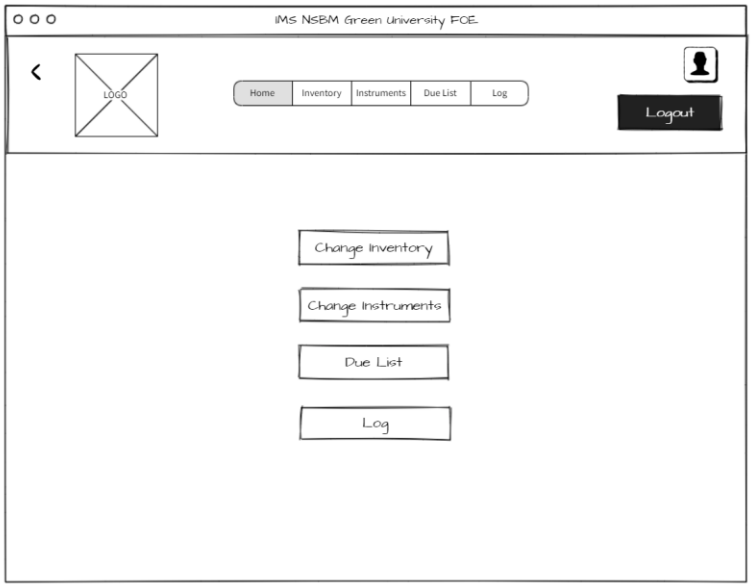
User Home Page



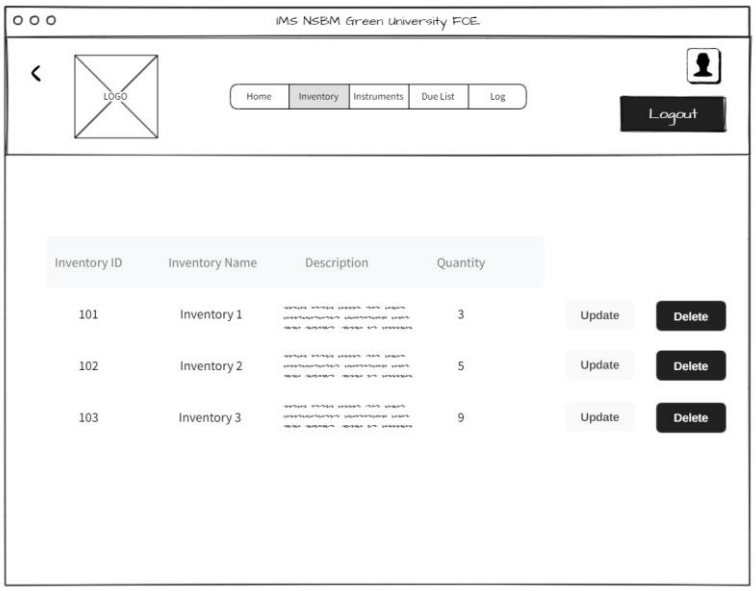
Inventory List Page



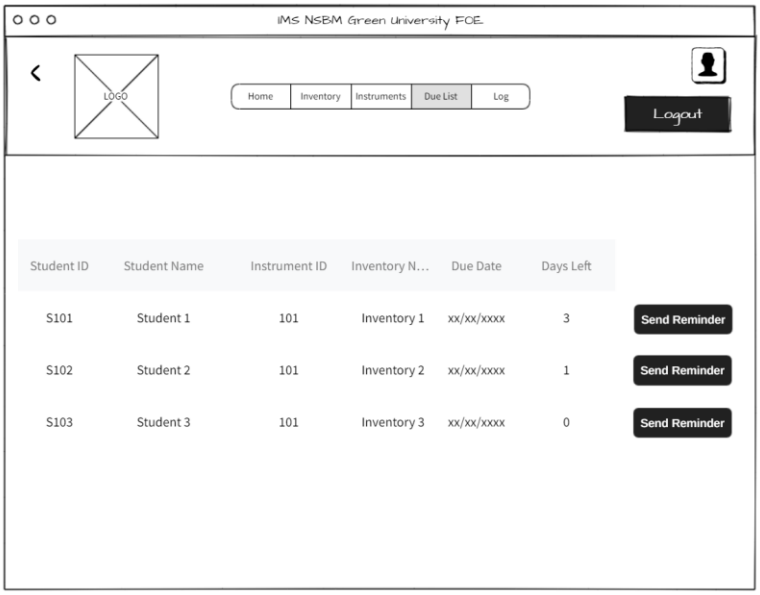
Reservation Page



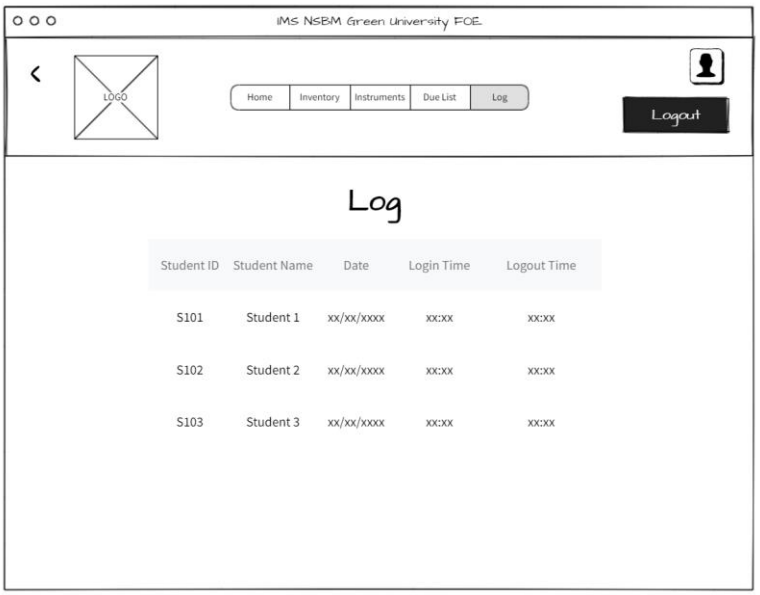
Admin Home Page



Insert / Update / Delete Page

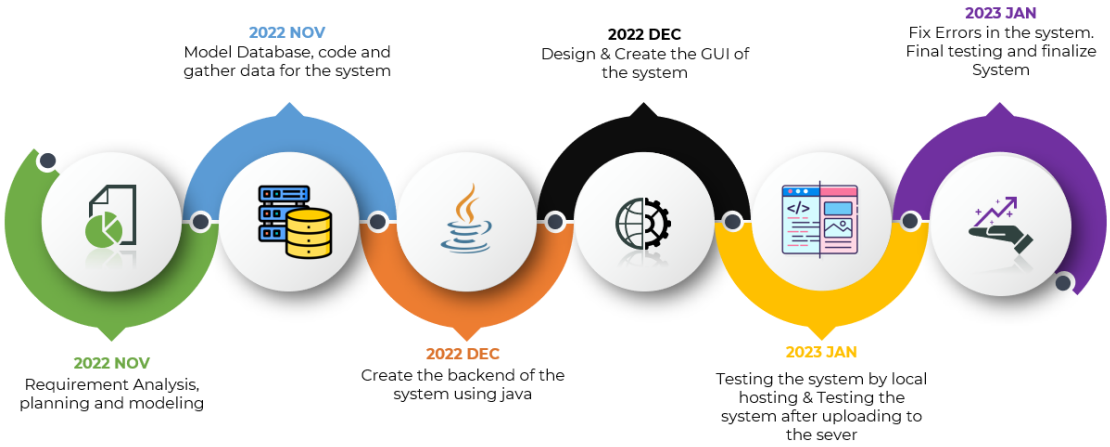


User due list Page



Log Page

TimeLine



Benefits of product to client

Students:

- Get list of available inventories
- Easily order or reserve inventories
- Request unavailable inventories
- See if you are due to return instruments

Inventory Manager (Administrator):

- Efficiently manage inventory
- Get list of available inventories
- Get list of due instruments
- Inform customers when they are due to return rented instruments
- Get details of inventory and instruments
- Minimize misplacement of inventory