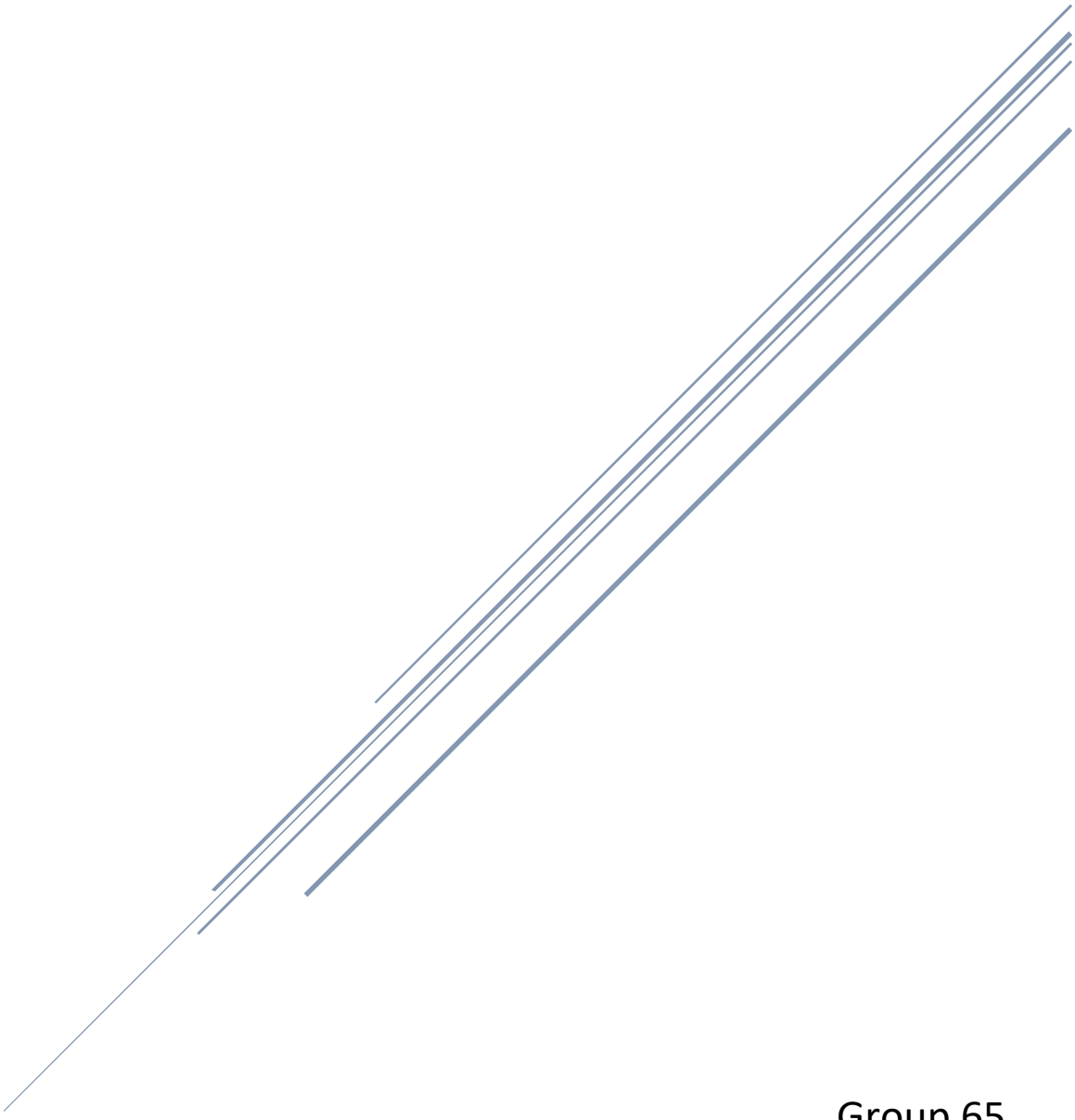
INVENTORY MANAGEMENT SYSTEM

Project Report



Group 65
22.1 Batch

Inventory Management System

This construction rental item inventory management system is a software solution designed to make it efficient and automate the process of managing and tracking rental items in a construction business. It provides a broad set of tools and features to efficiently handle the entire inventory Lifecyle; from obtaining and tracking to renting and returning items.

The purpose of making this inventory management system to streamline operations and increase overall project efficiency. Using a comprehensive system approach construction organization can effectively track, manage, and optimize their rental inventory, which results in greater resources utilization, lower costs, fewer downtime, and increased production vlog.

Background of the application

The construction industry greatly benefits from the rental of a Varity of tools, specialized equipment to huge machines. Now, constructions companies don’t have to shell out expensive ownership storage, and maintenance fees to acquire the resources they need. However, managing the rental inventory successfully presents unique challenges, including keeping track of many items across different projects, ensuring fast returns, and avoiding unwanted downtime due to equipment shortages.

Importance of the inventory management system

The following are some reasons why construction rental inventory management is important:

a) Resource Allocation: Constructions organizations can precisely plan resource allocation thanks to the efficient inventory management system. The system can estimate equipment requirements, avoid shortages, and guarantee timely availability of the necessary inventory by checking the old data and the required items for the project.

b) Optimal resource utilization: Construction rental inventory system management enables companies to track trends in the use of equipment and identify unused assets, by utilizing all available equipment and cutting down and idle time, business can improve operational efficiency and reduce lease expenses.

c) Simplified Maintenance & repair: A well designed system will allow for the recording of the maintenance schedules and repair histories, guaranteeing that equipment is maintained and resulting project delays can be minimized through proactive maintenance demand. Management which eventually leads to increased productively.

d) Precise monitoring and reporting: project managers may keep track of each piece of equipment`s location, availability, and use with help of a reliable and precise construction rental inventory system that provides real-time tracking of the equipment. It is necessary to have access to the comprehensive reports that the system provides to make educated decisions about rental renewals, returns, and replacements.

Benefits of the inventory management system

Below will be the importance and the benefits with having an inventory management system for a construction rental company:

a) **Benefits & outcomes:** the following benefits may result from implementing a successful construction rental inventory system management: cost reduction: By optimizing equipment use, limiting downtime, and avoiding late fees or penalty.

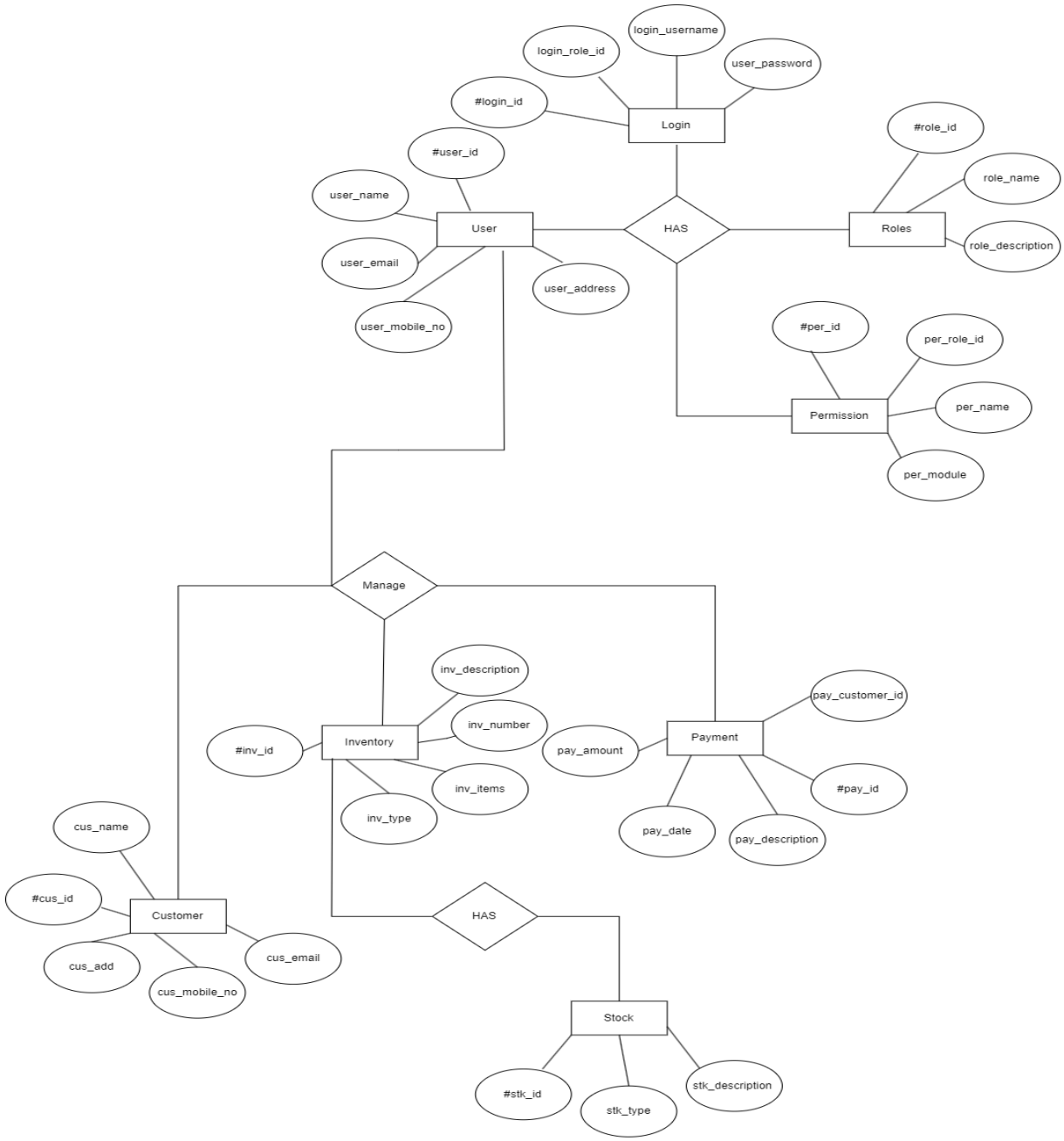
b) **Increased project Efficiency:** Uninterrupted project progress is guaranteed with seamless access to the appropriate machinery at the appropriate time, removing delays and increasing overall efficiency. Customers will be happier therefore the company will gain credibility.

c) **Improved security and agreement:** systematically keeping track of equipment maintenance and inspection records ensures compliance with safety standards, lowering the probability of mishaps and the associated liabilities.

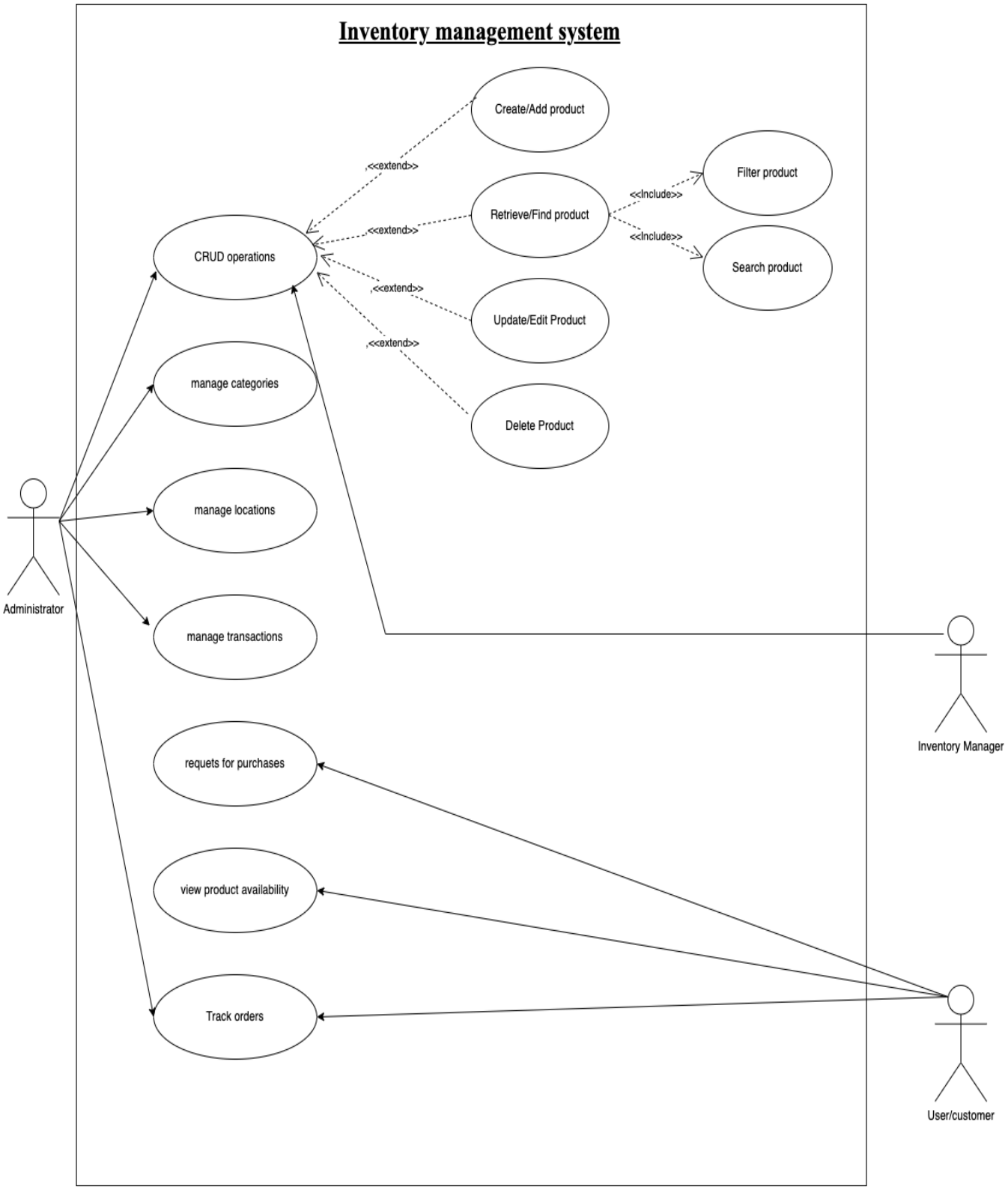
d) **Information – Driven Choices:** by utilizing the analytics data given by the inventory management system, construction business can decide wisely, see patterns, and put strategies into place to improve their rental and operations continuously.

Graphical illustrations of the system

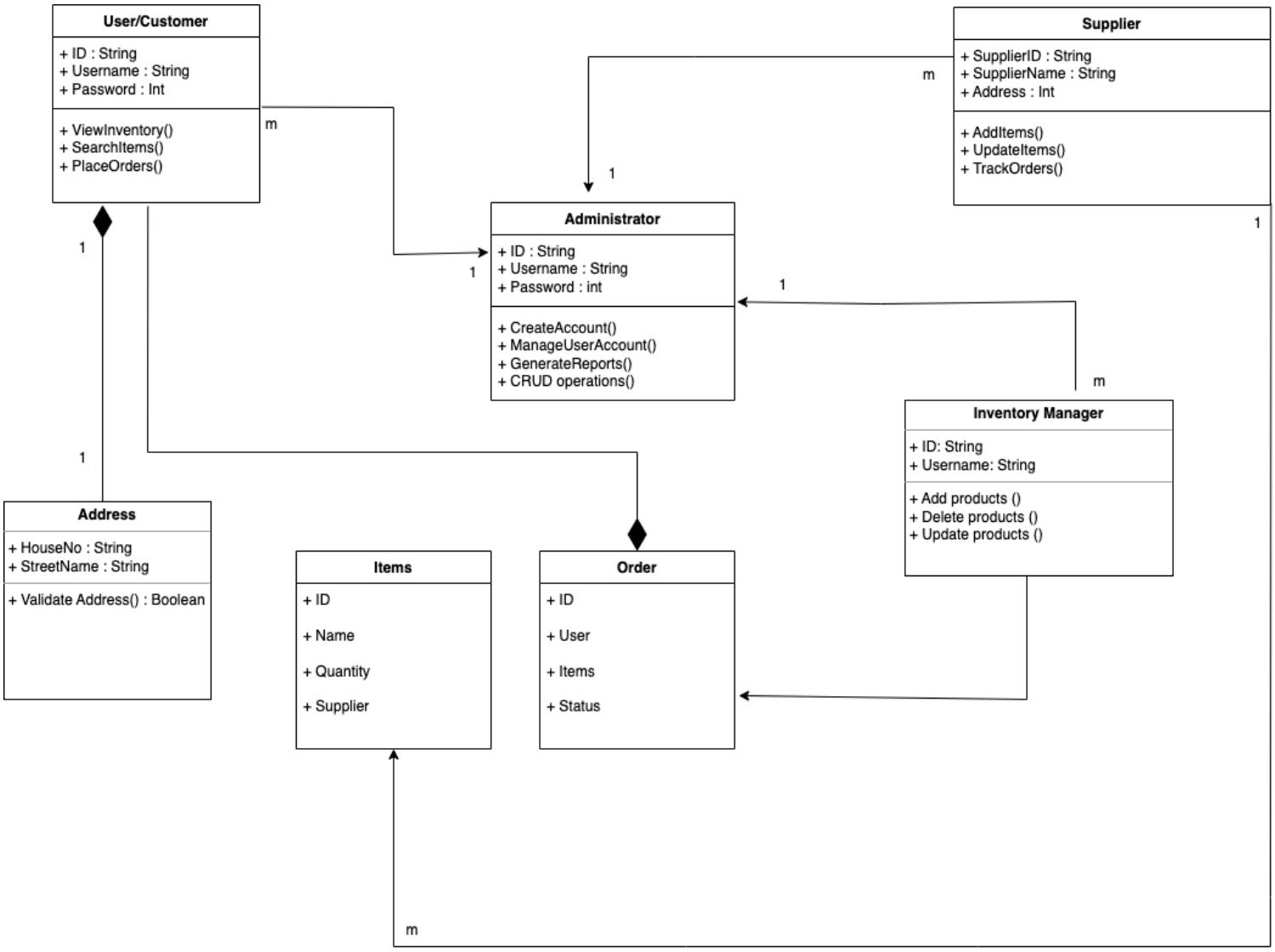
- ## ER Diagram



- **Use case diagram**



- **Class diagram**



UI designs with necessary specifications along with the coding

1) Login page.

2) Register page

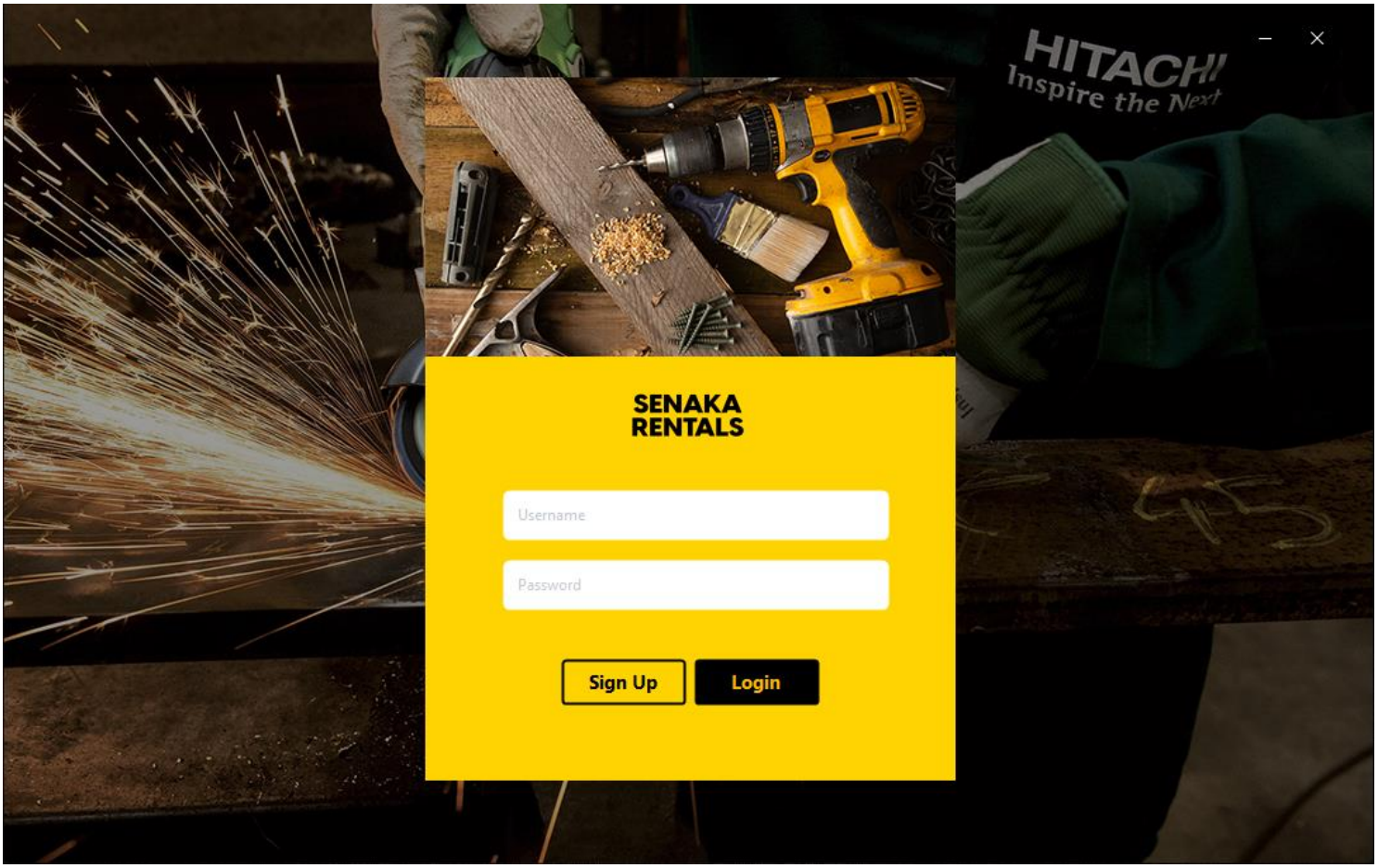
3) Dashboard (add item)

4) Update page

5) Delete page

6) Other details page

1) Login Page

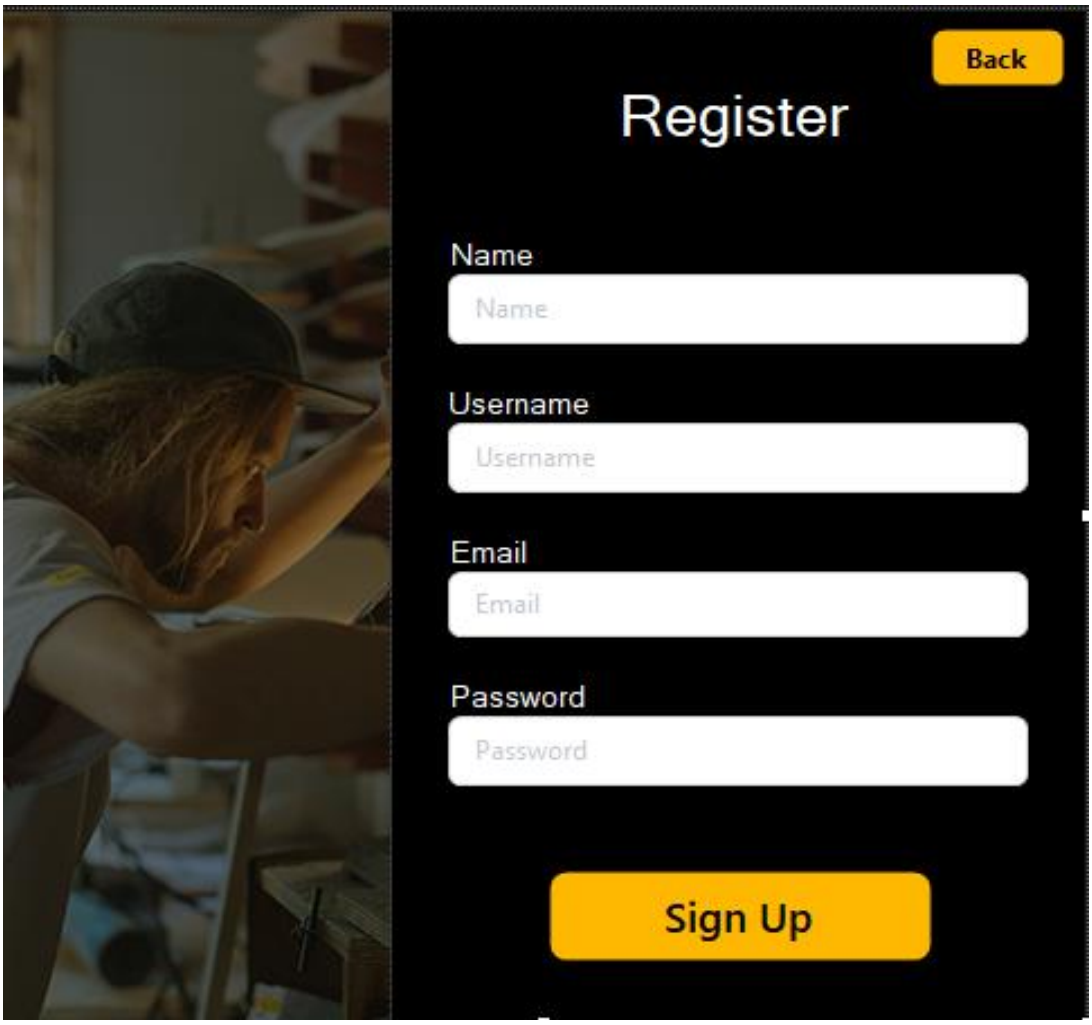


This Login page is consisting of components such as:

a) Username field: This is where users enter their unique username associated with their account.
b) Password field: uses enter their password in this field, usually masked o hides the actual characters for security purposes.
c) Login button: after entering the uses username and password, uses click the login button to setup the login process.
d) Also includes the company logo, background image etc.

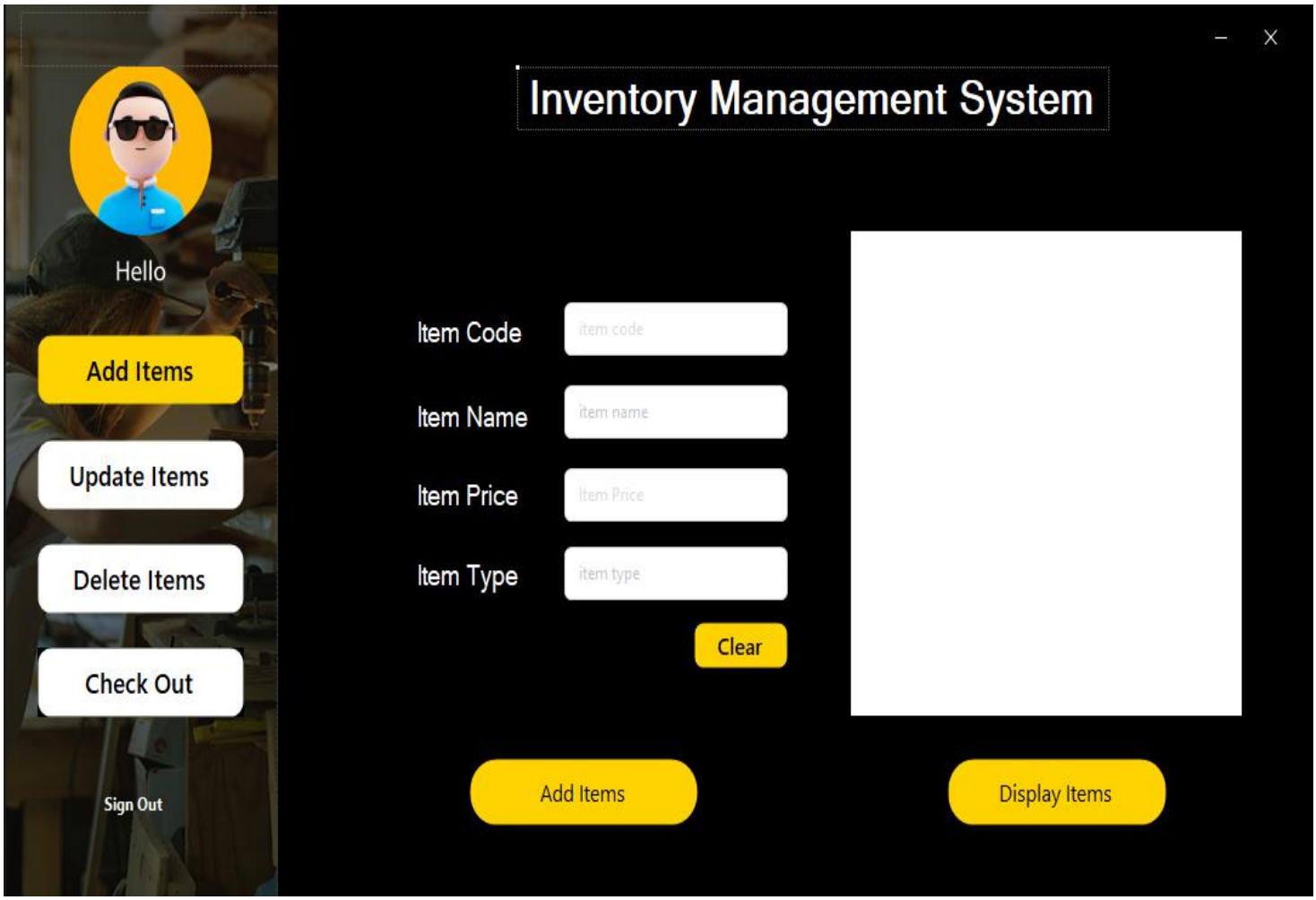
This login page is designed to give a smooth authentication experience or users while maintaining standards.

2) Register Page



Our C# hardware inventory system's register page acts as a safe entry point for users to register accounts and obtain seamless access to our system's full range of features. The registration page has a user-friendly design that seamlessly walks users through an assortment of precisely built necessary input fields. It was meticulously developed with an emphasis on simplicity and durability. To create an account, users must submit basic information such as a chosen username, password, complete name, email address, and contact information. This ensures system-wide confidentiality, security, and customization of user accounts. The register page's strong validation processes ensure data quality and completeness, allowing customers to easily create accounts and begin on a path of effective hardware inventory management.

3) Dashboard (Add items)



A dashboard is typically a central hub that provides an overview of key information and actions. It allows users to quickly access and manage various features of the application. Here are some components you might consider including:

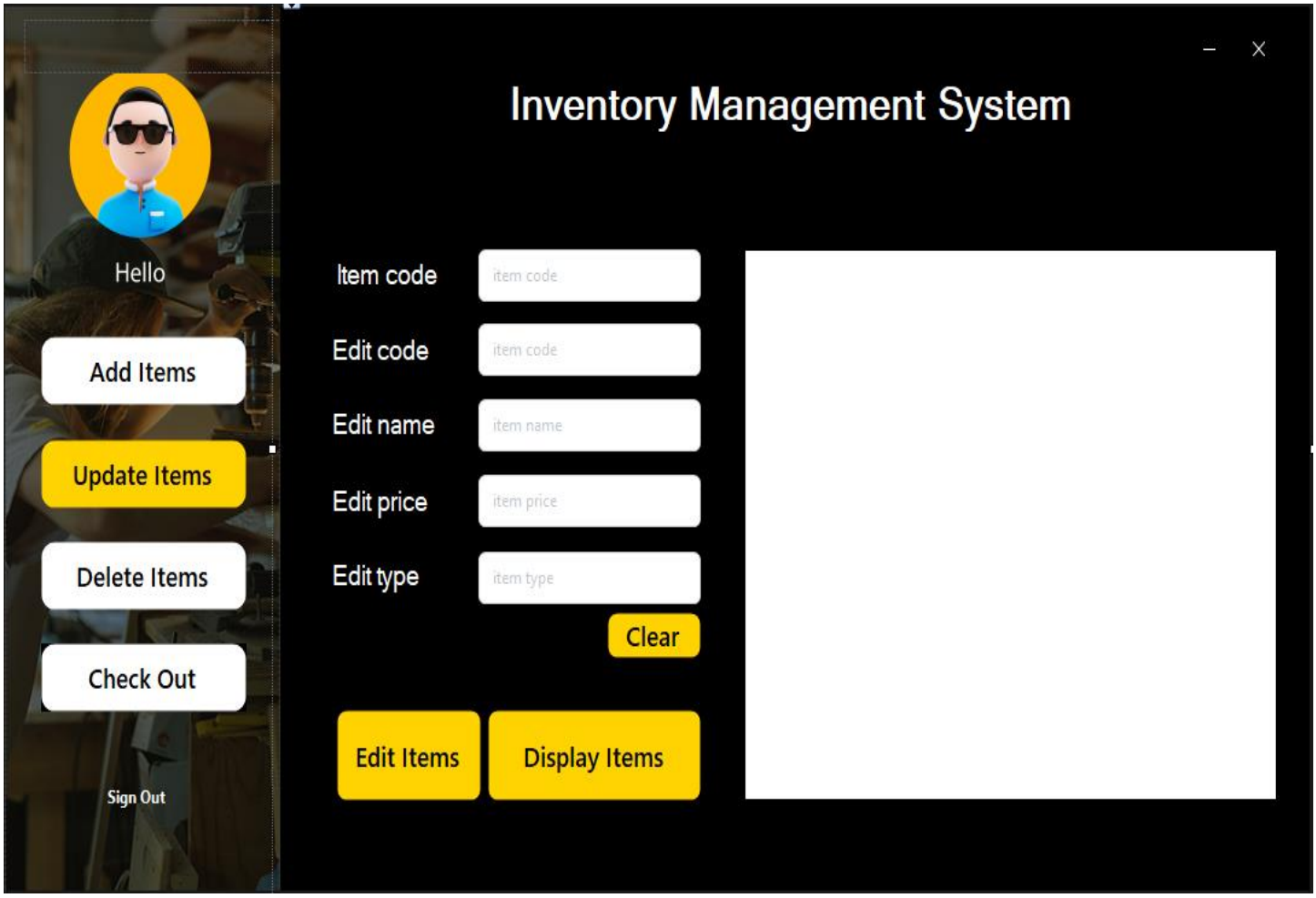
a) **ADD Items:** Page allows users to enter details and save a new item into the system.

b) **UPDATE Items:** The "Update Item" page allows users to modify and update the details of an existing item.

c) **DELETE Items:** The "Delete Item" page allows users to confirm the deletion of an item from the system.

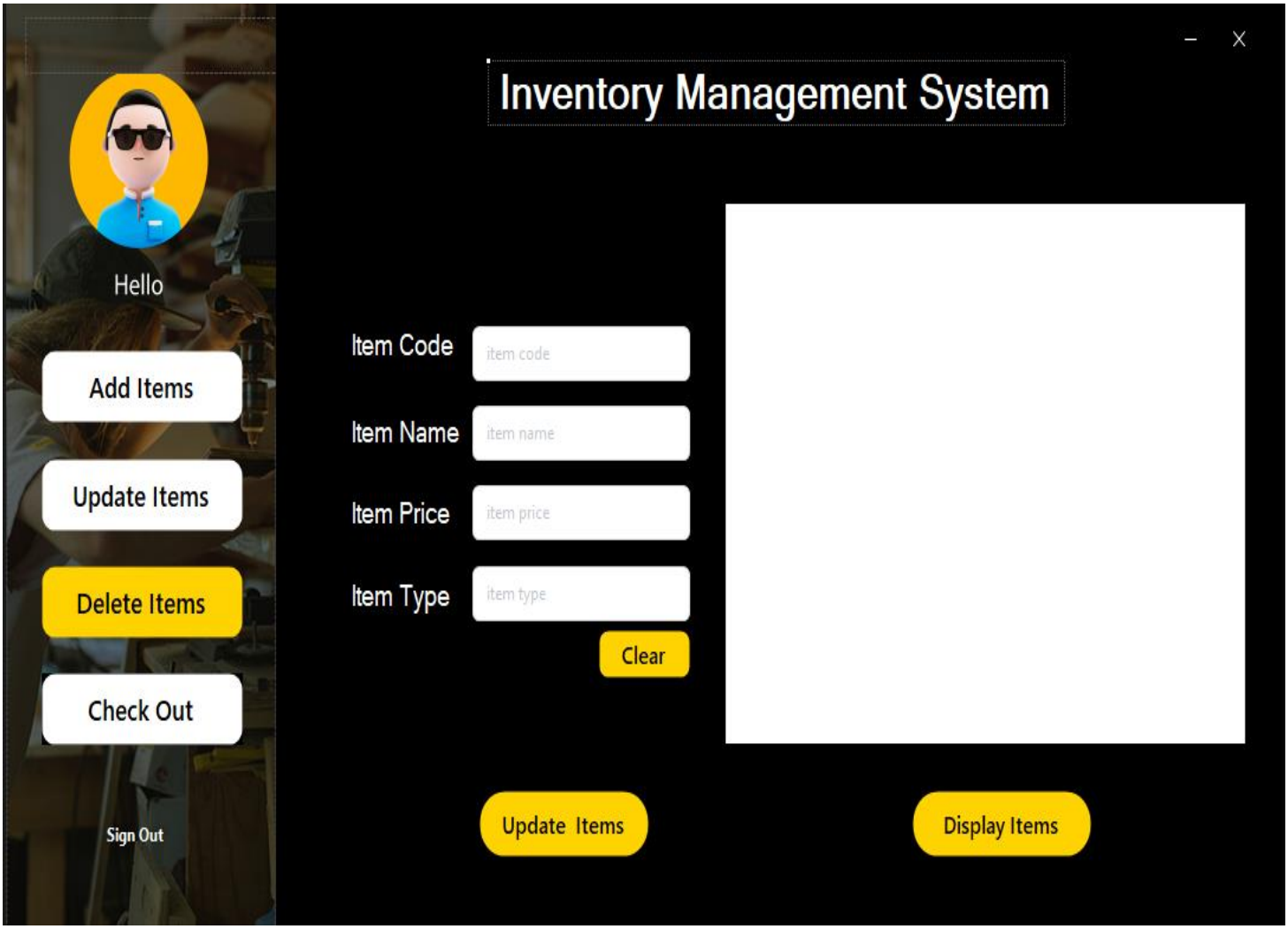
d) **ORDER Details:** The "Order Details" page provides a comprehensive view of a specific order placed within your system.

4) Update page



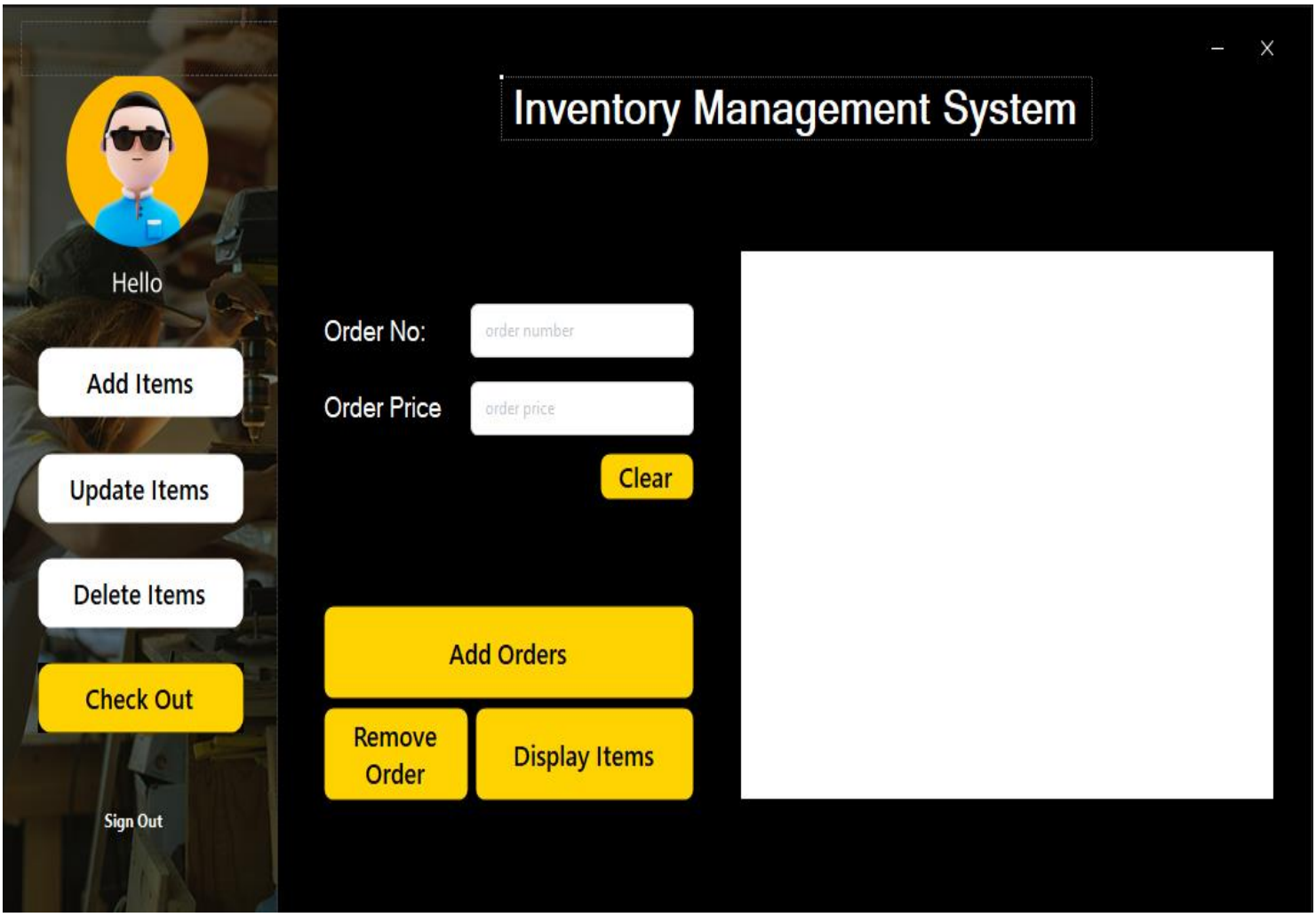
Our C# hardware inventory system's update page is a sophisticated tool built exclusively for administrators to easily edit and update information about existing goods. The update page, with its user-friendly layout, enables administrators to efficiently manage the hardware inventory by readily accessing and amending product data. Administrators are shown a full list of existing items, from which they can choose a single item to edit its details. The update page includes customizable fields such as product name, description, quantity, price, etc. Using this user-friendly interface, administrators may easily make revisions, corrections, or updates to guarantee accurate and up-to-date product information. The update page assures data integrity and consistency with each modification.

5) **Delete page**



The delete page in our C# hardware inventory system gives administrators the option to manage and maintain inventory more effectively by eliminating things that are no longer needed or relevant. The delete page, which was designed with simplicity and utility in mind, offers admins with a user-friendly interface for quick item deletion. Administrators are shown a detailed list of existing inventory items, including with important characteristics such as product name, description, quantity. Using this interface, administrators may quickly choose things for deletion or utilize search and filtering features to discover the needed objects. Confirmation prompts are included on the delete page to prevent unintentional deletions.

6) Checkout page



Our C# hardware inventory system's order details page offers users with detailed information about their placed orders, allowing them to easily evaluate and track their purchases. The order details page, designed with clarity and simplicity in mind, provides consumers with a concise overview of their transaction, including the list of products ordered, quantities, the price, and any additional costs. This page may be accessed by users after finishing the checkout process or by going to their purchase history. The order details page may also offer important information such as the order number, purchase date, and expected pickup date. Users may also see the status of their orders, whether they are pending, processing, sent, or delivered, allowing them to watch the progress of their purchases.

Workload of the team

Name	Student ID	Workload
WGHM FERNANDO	21547	Coding.
KSP PERERA	20960	Backend.
SG WALPITA	20919	UI Designing
MGP MALHAN	20896	Backend / UI Designing.
MYNS MEDONZA	21421	Found details for the report / Coding.
HBM AKASHMIKA	21515	Report Writing / Coding.