ISSN 2277-2685
IJESR/April-June. 2025/ Vol-15/Issue-2s/670-678
Y Rishitha *et. al.*, / International Journal of Engineering & Science Research

Intelli Stock

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ABSTRACT

Tracking your assets should be one of your several business priorities. To get the most out of your fixed assets, you must at all times be in the know about the history of your assets. To collect and analyze info you need an asset tracking system in place. The traditional way of tracking assets involves using barcodes, which is still popular, however, many businesses now use QR code inventory management software. As hard as it may be for you to believe, QR codes were invented for asset tracking and not marketing. You can use a smartphone or a handheld scanner to scan QR codes. That said, only scanners that can read both 1D and 2D barcodes can scan QR codes.

1. INTRODUCTION

Intelli Stock is an online website which fulfills the requirement of a typical Stock Analysis in various godowns. It provides the interface to users in a graphical way to manage the daily transactions as well as historical data. Also provides the management reports like monthly inwards, monthly deliveries and monthly returns.

The aim of this website is to reduce the manual effort needed to manage transactions and historical data used in various godowns. Also this website provides an interface to users to view the details like the daily Stock Statements of all godowns

Existing System

Current system is a manual one in which users are maintaining ledgers, books etc to store the information like suppliers details, inwards, deliveries and returns of items in all godowns, customer details as well as employee details. It is very difficult to maintain historical data. Also regular investments need to purchase stationary every year.

2-REQUIREMENT ANALYSIS

Functional Requirements

The Intelli Stock is designed to streamline the tracking, management, and control of stock items, ensuring efficiency and accuracy across all operations.

Below are the key functional requirements categorized by modules:

1. Manufacturer
2. Vendor

1. **Manufacturer Module**

- In this module manufacture will stick product QR on the product box
- Login
- Generate Product QR

2. **Vendor Module:**

In this module vendor can login into application and he can manage employee like add new employee, view employee and delete employees, and he can view inventory details also.

- Login
- Add Employee
- View Employees
- Delete Employees
- View Products

Non-Functional Requirement:

- Performance:

The system should handle a large number of transactions quickly without slowing down and it

must ensure smooth performance even during peak usage times.

- Scalability:

The system should easily grow to support more users, products, and vendors and it must be ready to handle future business expansion without major changes.

- Security:

Sensitive data like user and product information must be protected with strong security measures and prevent unauthorized access and ensure data privacy.

- Usability:

The system should be simple to navigate and easy to learn for all users.

- Reliability:

It must recover quickly from issues to avoid interruptions.

3. ARCHITECTURE

Project architecture represents number of components we are using as a part of our project and the flow of request processing i.e. what components in processing the request and in which order. An architecture description is a formal description and representation of a system organized in a way that supports reasoning about the structure of the system. Architecture is of two types. They are

1.Software Architecture 2.Technical Architecture

Software Architecture

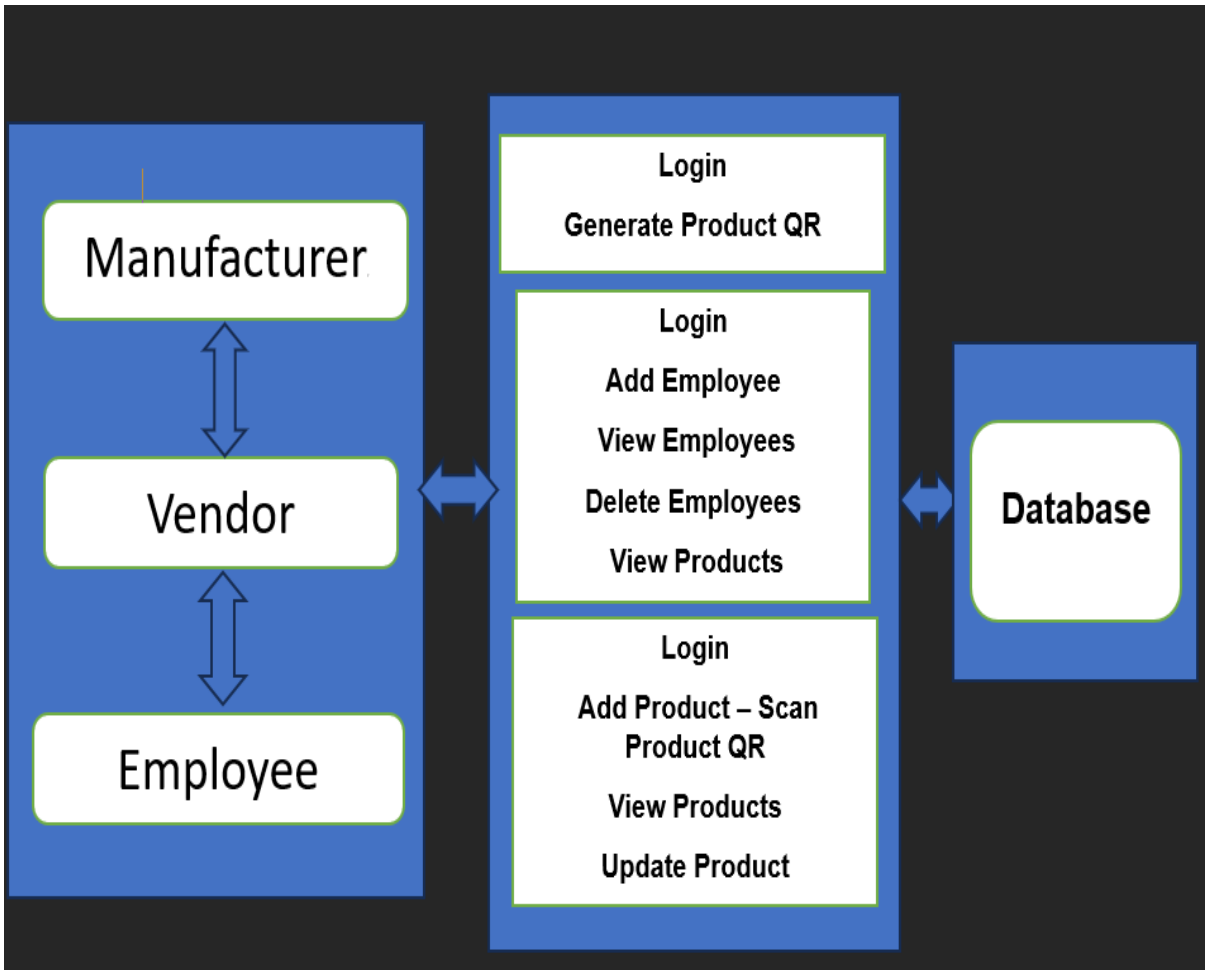


Fig 3.1 Software Architecture

Technical Architecture

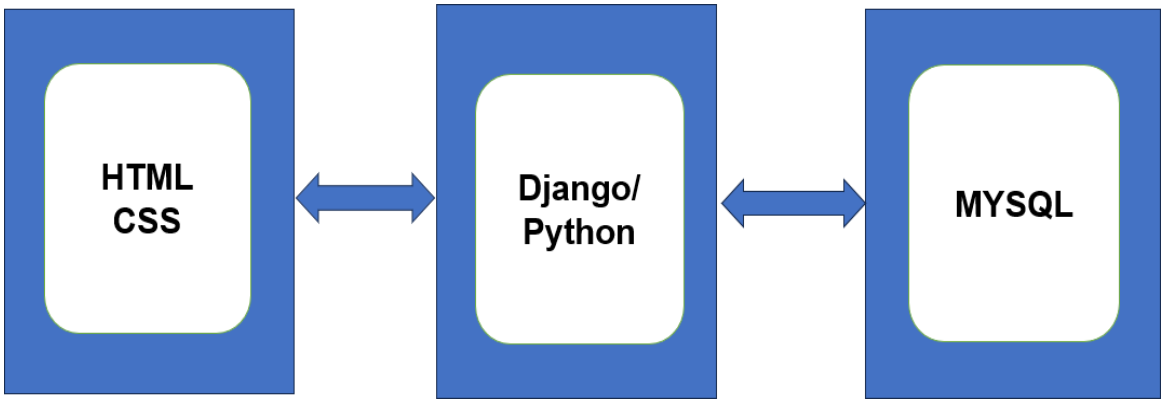


Fig 3.2 Technical Architecture

4-IMPLEMENTATION

Python

The Python programming language is an Open Source, cross-platform, high level, dynamic, interpreted language.

The Python philosophy emphasizes readability, clarity and simplicity, whilst maximizing the power and expressiveness available to the programmer. The ultimate compliment to a Python programmer is not that his code is clever, but that it is elegant. For these reasons Python is an excellent first language while still being a powerful tool in the hands of the seasoned and cynical programmer.

Python is a very flexible language. It is widely used for many different purposes. Typical uses include:

- Web application programming with frameworks like Zope, Django and Turbogears
- System administration tasks via simple scripts
- Desktop applications using GUI toolkits like Tkinter or wxPython (and recently Windows Forms and Iron Python)

DJANGO

Django is an open-source framework for backend web applications based on Python — one of the top web development languages. Its main goals are simplicity, flexibility, reliability, and scalability.

Django web applications typically group the code that handles each of these steps into separate files:

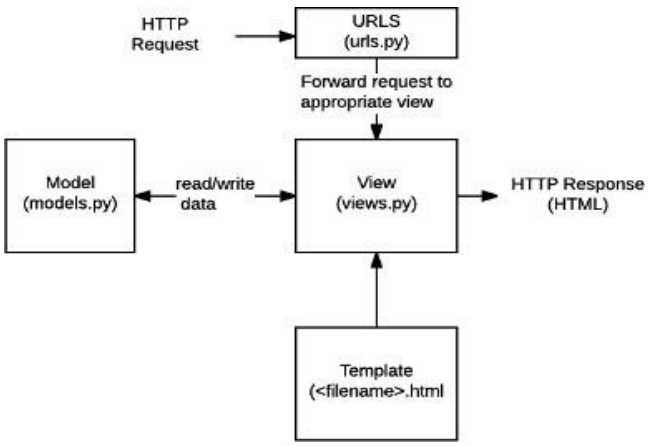


Fig:4.1.2 Steps into separate files:

5. TESTING

Software testing is a critical element of software quality assurance and represents the ultimate review of specification, design and code generation.

Testing Objective:

- To ensure that during operation the system will perform as per specification.
- To make sure that system meets the user requirements during operatio
- To make sure that during the operation, incorrect input, processing and output will be detected
- To see that when correct inputs are fed to the system the outputs are correct
- To verify that the controls incorporated in the same system as intended
- Testing is a process of executing a program with the intent of finding an error
- A good test case is one that has a high probability of finding an as yet undiscovered error

Black Box Testing:

- Unit Testing: Unit testing is essentially for the verification of the code produced during the coding phase and the goal is test the internal logic of the module/program.
- Integration Testing: All the tested modules are combined into sub systems, which are then tested.
- Validation Testing: This testing concentrates on confirming that the software is error- free in all respects.
- System Testing: This testing is a series of different tests whose primary is to fully exercise the computer-based system.

6. SCREENSHOTS

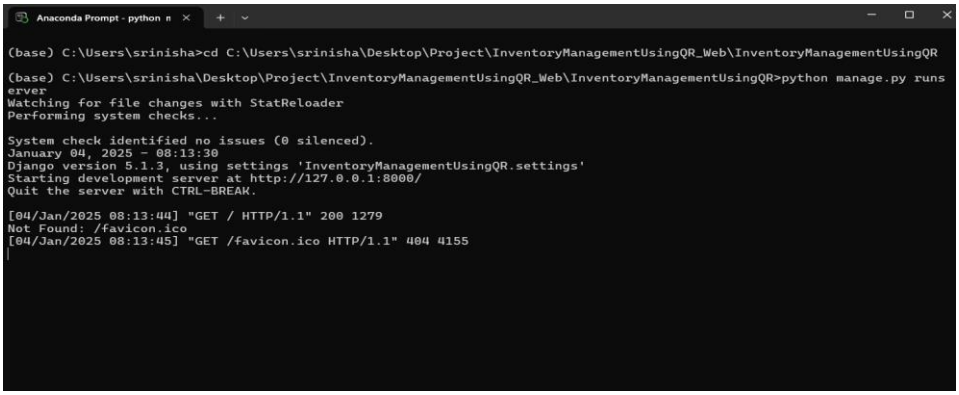


Fig:6.1 prompt to generate the URL

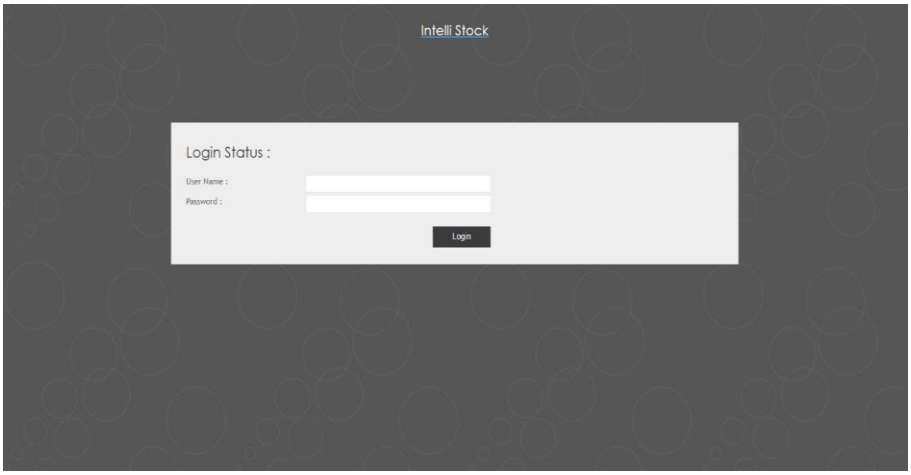


Fig:6.2 Website

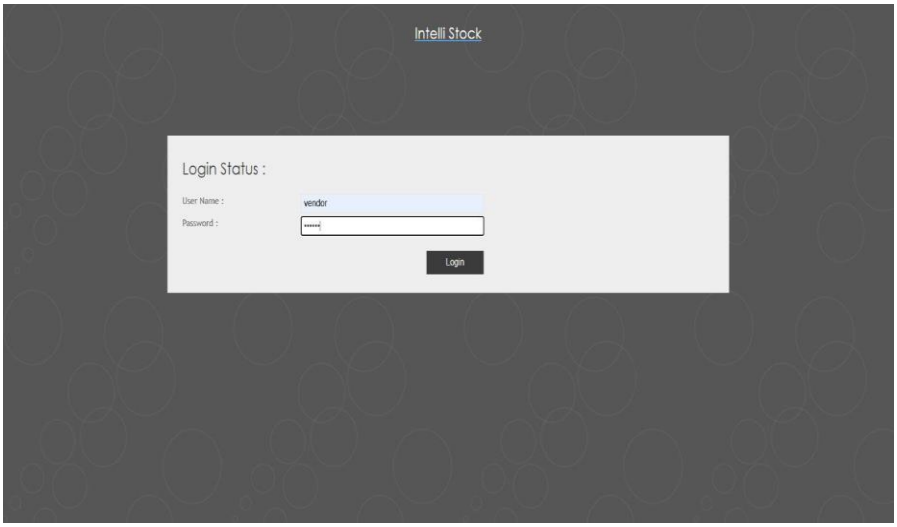


Fig:6.3.1 Vendor Login

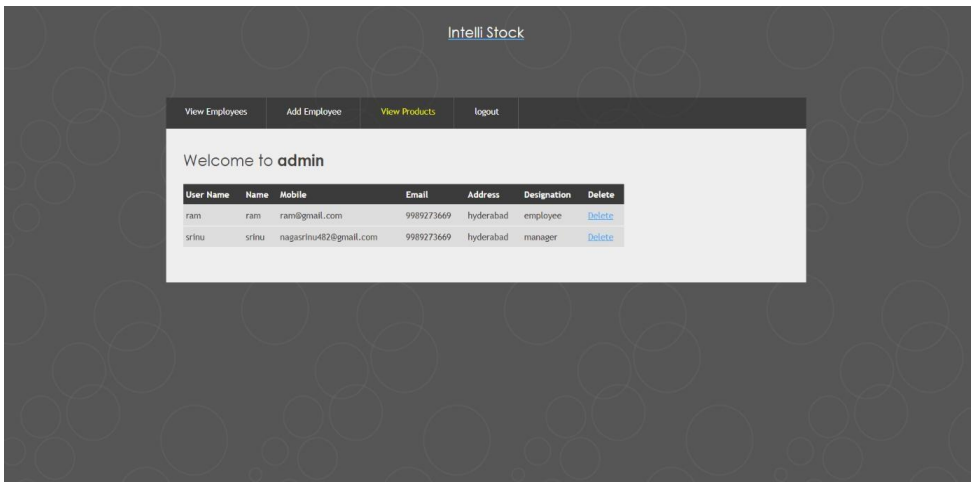
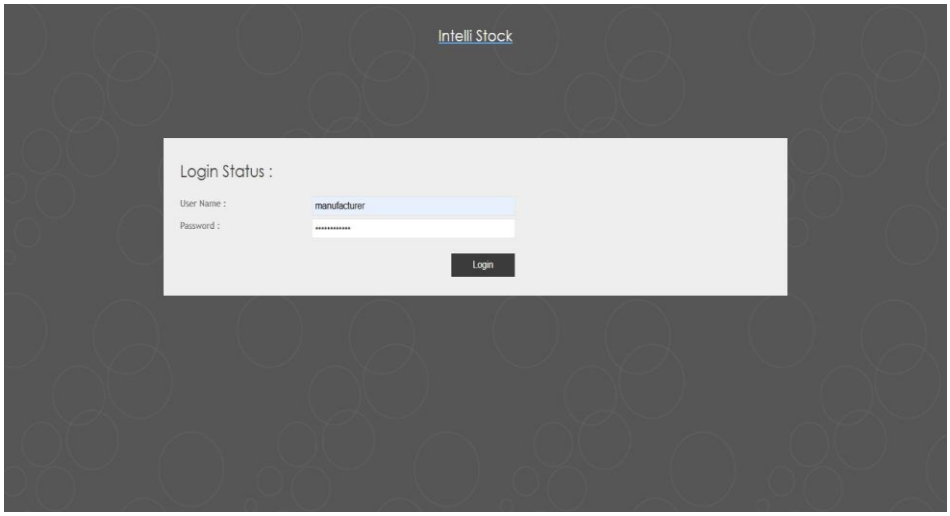


Fig:6.3.2 Vendor page



6.3 Manufacturer:

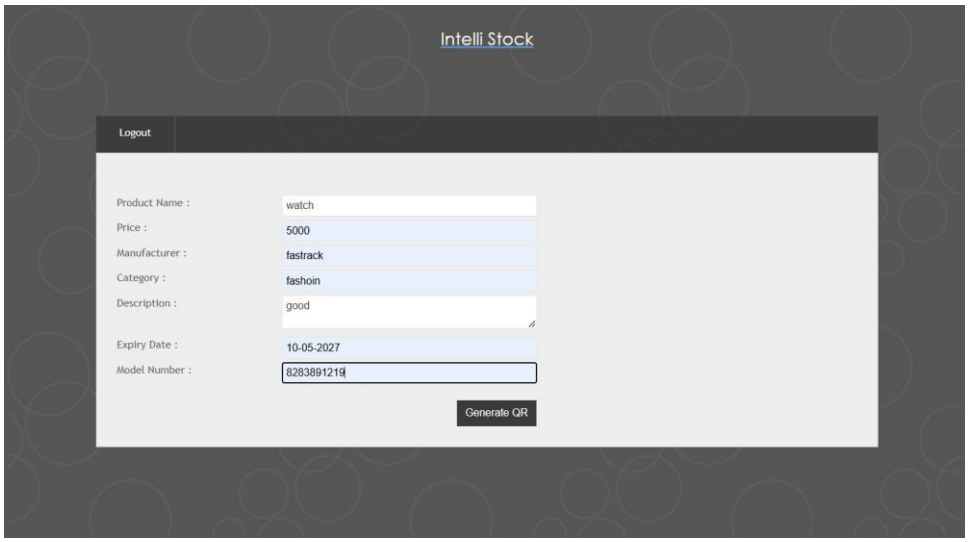


Fig:6.4.2 Add product page

Fig:6.4.3 QR Code

6.4 Employee:

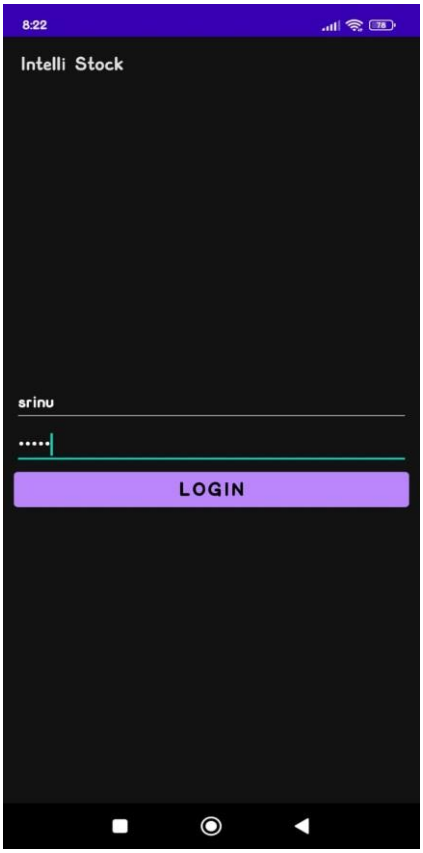


Fig:6.5.1 login page

Fig:6.5.2 Employee page

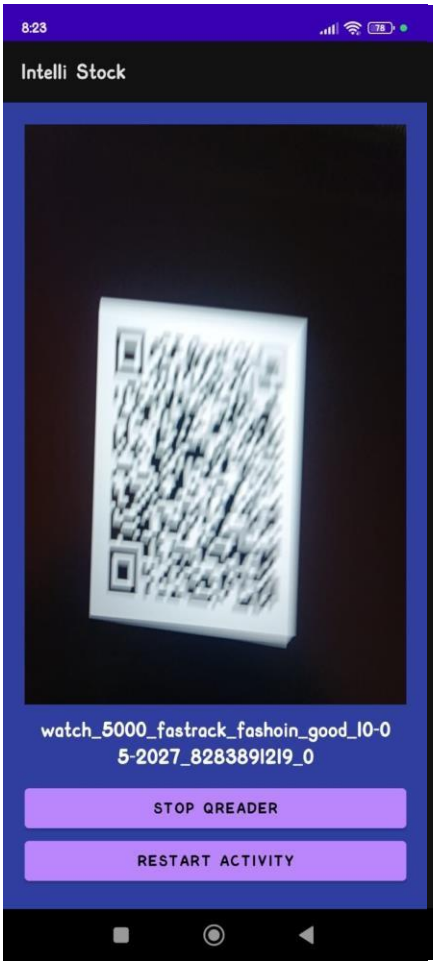


Fig:6.5.3 Scan QR Code

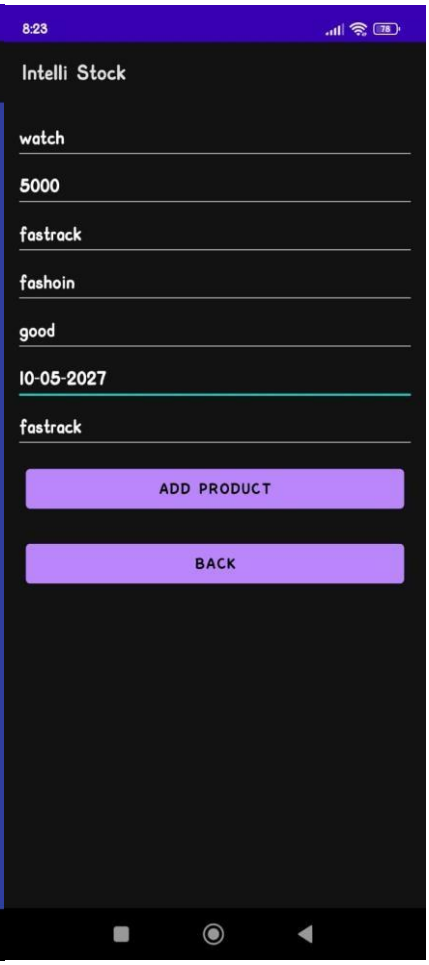


Fig:6.5.4 Add Product

7-CONCLUSION & FUTURE SCOPE

Conclusion

Intelli Stock is used as "Stock Analyser" of every outlet or factory of the products. This helps to handle the large data of the industries.

A QR code Intelli Stock is meant to serve you in the best and easy way. So, you can manage, maintain and track your inventory in the best possible way. It will reduce the worker's efforts to manually maintain the track of each item and their headache of maintaining the register since everything would be stored in the database. It will also make the workers give accurate gold price(item price) to the customers and will reduce the process time in which worker goes to the owner to ask information related to the item and also save the time to calculate the item price, since the current gold price will be automatically fetched from the server and item price will then be automatically calculated and shown to the customer.

Future Scope

- Integration with AI for Predictive Analysis: Intelli Stock can be enhanced with AI algorithms to predict inventory demand based on past trends, seasonal patterns, and customer preferences. This would help industries manage inventory more efficiently and reduce wastage.
- Cloud Integration: By integrating cloud storage and computing capabilities, Intelli Stock can allow real-time data access and synchronization across multiple outlets or factories. This feature would enable centralized management of inventory for large- scale operations.

- Mobile Application Development: Developing a mobile application for Intelli Stock would provide users with the ability to manage and track inventory remotely. This app could include notifications for low-stock items, order placement, and live inventory updates.

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