

# Inventory Management

## Objective

As per the clients need an inventory management system for the manufacturing of different products. The main objective of this system was to manage the buying products from the vendor to manufacture products and then to sell them in an easy way. This system was also expected to deal with the stocks and the history of the stocks of the raw materials, which is bought from the vendors and used to manufacture the products. The system required to be secured and robust with the huge data management. This system includes the third party integration, which will manage the end-to-end tracking of the stocks data from the user and the vendor side.

## 1. Business Needs

- The extensive information was expected to oversee for the record data of various vendors.
- The analytical reports and micro charts needed to maintain the raw material for the manufacturing, Which was crucial to manage manually. In this way this sort of framework expected to create these reports and recover each required information.
- The client demanded a system which provides the highly efficient and robust for handling the stock management of the raw materials. And also it was needed to update the vendor about the stock.

## 2. Strategy/Approach

To provide a required web solution as per the client's requirement our team has developed the solution to manage the inventory system in such a way where the user can easily view the required raw material's information along with the respective vendor information. The user can get exact data of the raw materials and also they can update regarding the stock they have with their own after usage, this functionality has been provided by implementing the integration of third-party API, where we used it for tracking and tracing the information regarding the stock for the product/raw material. Our team has managed the stock management or an inventory management part with accurate development where the user can get the marketplace for the raw materials. Here the user is able to buy the raw materials from the vendor, manufacture the product and can sell it. Here, the remaining stock of the raw material which has been bought is managed. Also, the required material is calculated so that the backorder can be done when the stock is less. We have also developed the barcode scanning functionality with which the user can scan the barcode to identify the product and accordingly the quantity will be managed.

As per the client's requirement, we have also delivered the solution for the chat communication similar as skype using the external third-party integration, where the user can send messages and communicate with the real-time chatting functionality. Also, the user can send files, pictures. Also, we have implemented the group communication as per the requirement.

We have also produced the solution for the invoice generation, customer management and also generation of the micro charts to provide the analytical reports using the third party. The client had also requested to develop the efficient loading of the system, which included the implementation of the caching management.

## 3. Challenges

- In a way concerning development, depended while coordinating conflicting frameworks and accomplishing process efficiencies. The difficulties were:

- The client required to have secure and robust architecture. To achieve this, we had to implement the third party caching API.
- Caching management was the main challenge for us to implement the efficient loading of the system. To achieve this, we stored each data in the cache and if any update or deletion process had made, the cache was updated subsequently.

#### **4. Business Benefits**

- Centrally managed the single system with minimal maintenance costs.
- The expanded efficiency of the productivity and engagement of the user.
- Simple access, and maintain the stocks of the inventory.
- self-benefit work for the user.

#### **5. Difficulties Before Requirements**

- The user had to maintain the stock management of the raw material manually, and it was difficult to track and trace the current stock for the required product.
- There was a lack of communication between the user and the vendor and the team of the users for the production.
- The main difficulty was the efficiency which was faced by the client.

#### **6. Timeline With Man Hours**

- Month : 12+
- Hours : 8000 +

#### **7. Tool And Technologies**

- Third Party Application
  - PubNub, SSRS, Itextsharp, SpreadsheetLight
- Front End
  - Bootstrap, CSS, HTML, jQuery
- Technology
  - .Net MVC
- Operating System
  - Windows, Apple
- Database
  - MySql
- Browser
  - Mozilla, Chrome, IE, Safari