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Workshop Inventory Management System

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Abstract:
Inventory management involves overseeing and organizing goods in a facility, managing the flow of goods from manufacturers to warehouses and to the point of sale. It includes acquiring and maintaining merchandise assortment, handling orders, logistics, returns, and controlling costs. It is crucial for business operations.
Advancements in technology and software applications have revolutionized inventory management. Functions in an organization are interconnected, making inventory management important for marketing managers and finance controllers. It impacts the supply chain and financial health of the balance sheet.
Maintaining optimum inventory is vital for organizations to meet requirements and avoid over or under inventory. Inventory is dynamic, requiring constant evaluation of internal and external factors through planning and review. Dedicated inventory planners monitor and control inventory, collaborating with production, procurement, and finance departments. They ensure effective inventory management.

Overall, inventory management is the backbone of business operations, ensuring smooth flow of goods and influencing financial figures. It requires continuous evaluation, careful control, and collaboration among different departments to maintain optimal inventory levels.

Keywords: *Inventory Management System (IMV), Java, Xampp Server, Database.*

I. INTRODUCTION

The present scenario offers manual data entry. A lot of time is wasted in creating the reports as well as maintaining them. In case, if you want to manage the inventory of products i.e. totals products coming and no. of remaining products, the whole report is re-typed or xeroxed. This seriously affects the authentication of the system. This kind of Inventory Management System is totally outdated and involves high risk of ambiguity and redundancy. Managing inventory can be very challenging, and when you are a growing business it can be really painful.

If you are facing issues in tracking your inventory and if it is getting difficult for you to optimize your warehouses and storage facilities then you have come to the right place. The problem of competition is increasing in global market place. It has forced the firms to consider

ways of improving the inventory control system. Severe competition makes it necessary to continuously introduce new products and new designs of products.

Now a day every company will face the competition, because of that every company maintains flexible inventory system. It will depend on how the company will respond to the fast changing market needs, customer expectation and technological advancement.

The company will focus on improvements on the following measures :-

- The Inventory Level and work-in-progress
- Quality of the Product and Technological advancement
- Flexibility and responsiveness of the production process.

To meet the increased demand of the product, it iis necessary to increase the capacity of existing construction facility.

Need of System :

The necessity of effective inventory management is being increasingly realized in industrial and non-industrial organization both in India and abroad. The realization has come about because of increasing complexity of the task of managers and administrators. In most organization, the problem of effective inventory control is now viewed as the most critical problem with changes in social climate.The project aims at providing an efficient interface to the restaurants or any shops for managing their grocery inventory based on each item sold and manages their regular customers on the basis of their purchase to provide discount offers.

The basic idea involved here is that each item is linked to its atomic ingredients which are stored in a database. At the end of each day, the system analyzes the total sale of menu items and proportionately deducts appropriate amount from the resource database. Then it compares the current available resources with the threshold level of each ingredient. If it finds that certain ingredients are below the threshold, it will generate a purchase order for those item(s) and send it to the manager (admin) for approval.

Our Inventory Management System is an offline software application 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. This application maintains the centralized database so that any changes done at a location reflects immediately. This is an online tool so more than one user can login into system and use the tool simultaneously.

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

1.3 Software Aim :

This proposed project aims at inventory control in the restaurant , shops and catering Industry. Such a large domain would result in an equally as large scope of development. Our target domain is full of software to track sales of food items, but lacks in this area of inventory management. Our software can be scaled from large corporate dining all the way to small privately-owned restaurants or shops. It is also fairly domain specific: the database runs off recipes which generate the necessary ingredients. It also updates the inventory based off of the sale of those recipes.

This requirement focuses our product to our domain and makes it more appealing to those looking for a solution to this specific problem It is crucial for an organization today to understand its inventory to achieve both efficient and fast operations, that too, at an affordable cost. An effective management of inventory helps in reducing costs which further keeps accounts and finances in check. From a customer's point of view, it helps you to provide better customer services through fast delivery and low shipping charges, hence, meeting customer expectations.

I. LITERATURE SURVEY

Existing System:

We have analyzed other existing web applications, software's and android applications related to our desktop application "Inventory Management System ". and there we conclude the pros and cons of these existing system and compare our website with them and try make our website suitable beyond these 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

The disadvantages of existing inventory management can be listed as under:

1. Expensive:

Although the system provides such great features and makes the entire business a lot better and efficient, all this comes at a cost. Big time businesses can cover up the cost or the one time investment in some time but in the case of small or medium-sized businesses, it is at times not feasible to maintain such software.

2. Complexity :

Although the use of an inventory management system makes handling the inventory quite easy but learning how to operate it is quite a task. Special training sessions and manuals should be adhered to, to successful.

3. Malicious Hacks:

Hackers look for any way to get company or consumer information. An inventory system connected to point-of-sale devices and accounting is a valuable resource tohack into in search of potential financial information or personal details of owners,vendors or clients.

Proposed System:

Inventory management refers to the process of handling inventory, starting from sourcing materials to fulfilling customer orders. It involves the science of purchasing, supervising, controlling, and distributing stock for sale, all of which is stored in a facility.

The proposed system is a software application that aims to simplify inventory management by reducing the need for manual record-keeping and report generation. This application stores data in a centralized manner, allowing all users to access it simultaneously. Managing historical data becomes effortless with the database. Additionally, no specific training is required for employees to use the application. They can easily utilize the tool, saving time on routine tasks and improving overall performance. With centralized data, maintaining stock levels for various items in multiple warehouses becomes highly convenient.

III. SYSTEM SPECIFICATION

1. It allows admin to manage two types of users, hold their details, authenticate these users at the time of login and accordingly provide different options. Smart Inventory Management System.
2. It holds the details of all the godowns which are part of our organization.
3. It holds the details of all Product Stocks held in the ware-house of thecompany.
4. The system allows the godown manager to log into the system and enter theirinwards entries related to their godown.
5. It also allows them to view the list of inward entries.
6. The system allows the godown manager to log into the system and enter theiroutward entries and their purpose related to their godown..
7. It also allows them to view the list of Outward entries.
8. Whenever an inwards entry is entered then accordingly the stock number will be automatically updated.

IV. Working

The Workshop Inventory Management System is a software application designed to efficiently manage and track inventory in a workshop or manufacturing setting. This system streamlines the entire inventory management process, from receiving and storing materials to tracking usage and reordering.

The system begins with the receiving process, where incoming materials or parts are logged into the system. Each item is assigned a unique identification number, and relevant details such as quantity, supplier information, and date received are recorded. This information helps maintain a comprehensive record of all inventory items.

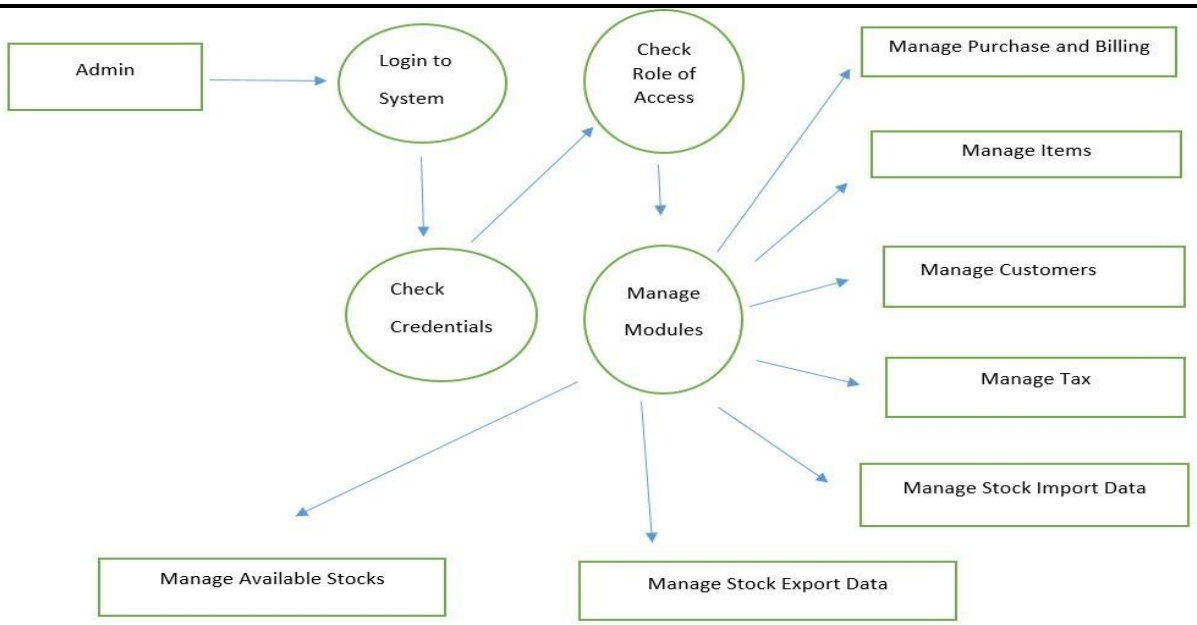
Once the materials are logged into the system, they are stored in designated locations within the workshop. The system provides the ability to define specific storage areas and assign items to these locations for easy retrieval. This ensures that inventory is organized and easily accessible when needed.

When materials are used in the workshop for production or repairs, the system tracks the usage. The inventory is automatically updated, reducing manual effort and eliminating the risk of errors. This real-time tracking feature allows for accurate monitoring of stock levels and helps in avoiding stockouts or overstocking situations.

To optimize inventory levels, the system generates notifications when stock reaches predefined reorder points. This enables timely reordering of materials, ensuring that there is no disruption in workshop operations due to insufficient inventory. Additionally, the system can generate reports and analytics on inventory usage, stock levels, and reorder patterns, providing valuable insights for inventory planning and cost optimization.

The Workshop Inventory Management System also facilitates inventory audits and stock reconciliation. It allows for periodic physical counts of inventory to verify the accuracy of the system's records. Any discrepancies can be identified and addressed promptly, ensuring data integrity and minimizing inventory discrepancies.

Overall, the Workshop Inventory Management System simplifies the entire inventory management process, from receiving to usage tracking and reordering. It improves efficiency, reduces manual effort, minimizes stockouts, and provides valuable insights for better inventory control and cost management in a workshop environment.



Data Flow Diagram

V. Final Result:

Figure : Output

It displays the final result of sotware interface, it includes Purchase and Billing, Tax Management, Customer management & Digital History of Records.

VI. Conclusion

While developing the system a conscious efforts has been made to create develop a software package making use of available tools, techniques and resources, that would generate a proper system.

While making the system, an eye has been kept on making it as user- friendly, cost-effective and as flexible as possible. As such one may hope that the system will be acceptable to any user and will adequately meet his/her needs.

As in case of any system development processes where there are a number of shortcomings, there have been some shortcomings in the development of this system and that is why the project still under modification.

VII. Future Scope

The scope of the project include that what all future enhancements can be done in this system to make it more feasible to use :

1. To add more and more exciting Function for both customers and workers.
2. To add more trustworthy that we can provide in many ways accordingly.
    a. Manage & backup versions of documents online.
    b. More graphics can be added to make it more user- friendly andunderstandable.
    c. Databases for different products range and storage can be provided.
    d. Multilingual support can be provided so that it can be understandable by the person of any language.
3. To add more reliable improvement in our application if its needed in future.
4. To make an android application for this desktop application.
5. To add more modulus.

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