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Inventory Management System

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Abstract- Inventory management system is a system used to maintain the status of the inventory stocks. We can use it to create a new purchase order which is a requisition for the materials or goods. Using inventory management systems we can edit, manage, approve, and delete purchase orders. This system is crucial for the efficient management of a company or organization's inventory and saves a lot of time. This project is an application based on a local server which can be accessed by multiple users. It utilizes properties such as CRUD operations and ACID properties, ABC analysis, and Just in Time. It also comes under the domain of Enterprise Resource Planning systems which is a software to manage day to day functions.

Keywords- inventory management system, purchase order, time saving, ACID, CRUD, ERP.

I. INTRODUCTION

Inventory management system is a crucial tool used by a wide range of companies, organizations, and institutions. It keeps track of purchase orders and keeps stock of the inventory. With increasing access to resources, the demand for products and services has increased exponentially and humans are unable to keep up with the high volumes of inventory coming and going.

For a long time inventory management was done manually. This method has its drawbacks. First of all and the most important one is the scope for human error. A slight calculation mistake or data entry mistake could lead to either surplus inventory or deficiency in supplies. Additional drawbacks include the painstakingly time consuming process of manual data entry and the extremely high scope for human error.

Inventory management has been used for a long time. This project makes the entire process digital thus saving time and increasing efficiency. This inventory management system is going to tackle the above mentioned problems. The front end is developed using HTML, CSS, and JavaScript while the back end uses PHP and MySQL.

II. LITERATURE REVIEW

Most research papers related to inventory management systems focus on either purchase order or inventory records. Very few relate the two in depth. The base paper for this project was based on the windows operating system and was a windows application. It primarily focused on inventory control and to generate the various reports that are required and are of different types

Other papers used a similar approach with back end work done in PHP and MySQL. Front end work was done using HTML, CSS, JavaScript and JQuery.

One paper focussed on using inventory management systems to decrease stock levels. This is done by using inventory reports and analysing them, the stocks which are depleted or finished are only replenished instead of adding everything and creating a surplus. This is an extremely efficient technique and is used in this project.

The system generates a periodical report and according to it stocks are added to the inventory. Inventory management systems also identify factors causing expenditure of unnecessary resources in order to maintain high levels of accuracy in the inventory records.

After going through several research papers related to this topic, we have decided to implement some of their common and key features in our own project. These include a login page, purchase order module, and inventory module.

III. METHODOLOGY

This inventory management system follows developing an application based on one computer called the host. It will be based on a local host using Xampp. After developing the system using php and mysql we worked on the front end and how the application would look.

The framework follows the flowchart below. We can add, edit, approve, manage, and delete a purchase order. We can also view all our purchase orders. Furthermore we can add old purchase orders to the database even after we have received them, just to keep track of all the orders we can log in later.

To view the records we need to go to the side navigation bar named Pro Admin then select db manage from the drop down menu. From there we need to select the foreign data table and then we can view all the purchase orders we

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have issued, all the items issued and received, and the current stock in the inventory.

Furthermore we can print a purchase order by selecting it and going to edit purchase order. There we will find a print po report button which will show the purchase order in pdf view.

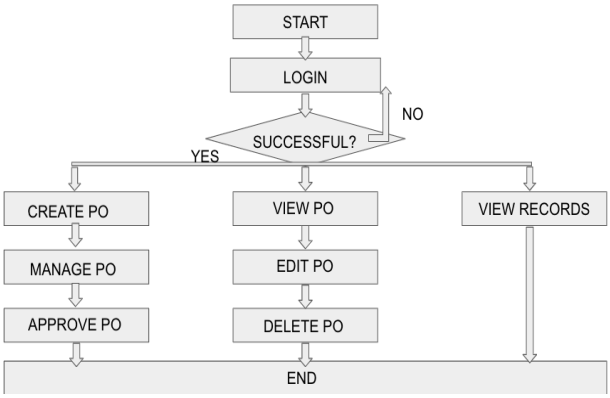

Fig 1. Flowchart of Inventory Management System.

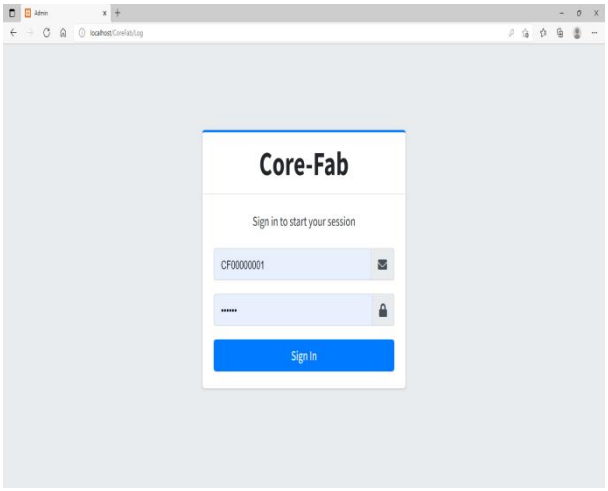

Fig 2. Login Page.

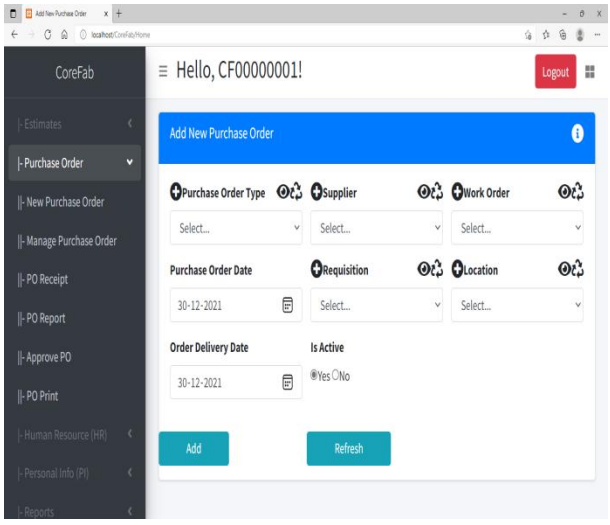

Fig 3. Add new Purchase Order.

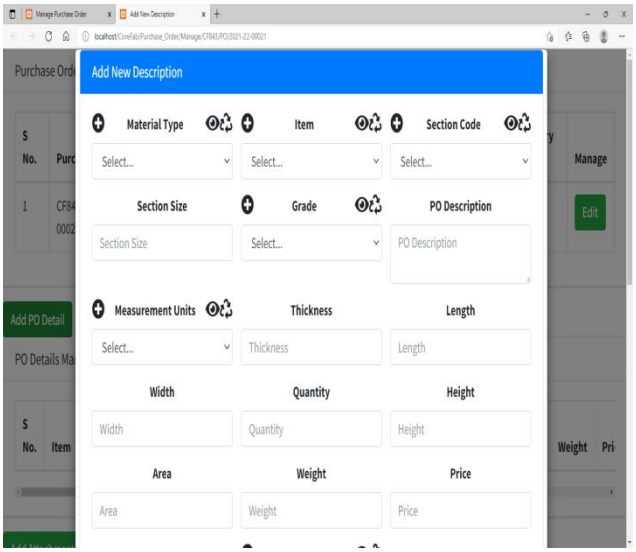

Fig 4. Add new description by editing Purchase Order

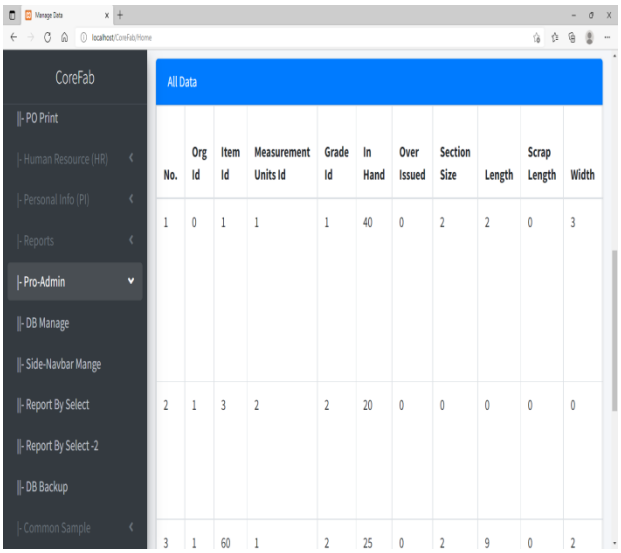

Fig 5. View all Purchase Orders.

IV. APPLICATION

In today's world inventory management systems have a huge range of scope in almost all fields that have inventory to keep stock of. Most often it is used in supply chain management. Inventory management system streamlines the process of keeping inventory and reduces human errors to zero. The only error possible is during manually entering the data into the system.

Inventory management also has its application in viewing the entire stock of the company and keeping it in mind when getting new stock.

V. FUTURE SCOPE

The future scope of this project is to implement this new inventory management system to practical companies and

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organizations. It is a very simple and easy to use application which can do a wide assortment of tasks. Additionally it can be tailored for a specific industry and additional modules can be added easily with reference to the existing modules already being used in the system. Furthermore this system is unique in that it can be suited for other applications like making sales order, work order, and all this can be done extremely efficiently.

VI. CONCLUSION

To conclude, this project looked at a lot of existing inventory management systems, took out their flaws and incorporated their key features into one simple and robust application. This application can be used in all kinds of fields. This project was aimed at developing a system which can be used for purchase order and inventory records, it fulfills both of these requirements efficiently.

This application also used a lot of concepts from database management system, PHP coding, and implementation of various properties.

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