**Acknowledgment**

I would like to express my special thanks of gratitude to my teacher **Mr. Arun Singh Yadav ‘sir who** gave me the golden opportunity to do this wonderful project on the topic “**Generalized Bot for stocks”,** which also helped us in doing a lot of research and came to know about so many new things we are really thankful to them.

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**Introduction**

Since we know that a company or an organization or any firm who imports some product in their stock and use them in their company to produce a finished (or new ) product. or a firm who import a number of products in his company and sell it in many parts but there is not a generalized bot for stock system by this, there is no record of product in the stock **GeneralizedBot For Stock** is a system.Similarly this website bot for stock is the online facility to managed the stock inventory system.

**Background**

An Inventory Management System (IMS) is asystem used by businesses and organizations to efficiently track, manage, and control their inventory or stock of products, materials, and goods. It plays a crucial role in ensuring that an organization has the right amount of inventory on hand to meet customer demand while minimizing carrying costs, preventing stock-outs, and reducing the risk of overstocking. Here is some background information on Inventory Management Systems:

* System keep record of all these product details and streamlines and automate all the processes with respect to **historical prospective.**
* The primary objectives of an Inventory Management System include optimizing stock levels, reducing holding costs, ensuring product availability, minimizing the risk of stockouts, and preventing overstock situations that tie up capital.
* IMS can manage different types of inventory, including raw materials, work-in-progress (WIP), finished goods, spare parts, and consumables.

**Current scenario**

Now a days, Inventory management system is being facilitated and maintained by following approach :

* Inventory management systems have increasingly embraced **automation to streamline processes.**
* Many businesses were moving towards **cloud-based inventory management systems** to improve accessibility, scalability, and data security.
* Mobile apps for inventory management allowed for greater flexibility and mobility in tracking and managing inventory, especially for businesses with field operations.
* Sustainability concerns led to greater attention on managing inventory efficiently to reduce waste and excess inventory.

**Problem Statement**

While this system has been evolved in significant manner and adds a lot values in today’s industry but there are still some issue and problems which are following :

* Real-time Tracking: Develop a system that allows real-time tracking of inventory levels, including stock-in-hand, stock on order, and stock movement. This will provide accurate and up-to-date information on inventory status.
* Demand Forecasting: Implement a demand forecasting module that uses historical data, market trends, and sales patterns to predict future demand accurately. This will help in preventing overstocking and under stocking issues.
* Inventory Classification: Categorize inventory items into different classes (e.g., ABC classification) based on their importance and consumption patterns. This will enable focused inventory management strategies.
* Data Security: Implement robust data security measures to protect sensitive inventory data from unauthorized access, breaches, and data loss.
* To streamline the stocks in and out records so that the product can be used in FIFO manner.
* Special alert when the stocks is going to be under-stocked.

**Objectives**

To manage and organize required WIP(work in progress ) for an industrial firm.

So that we can have Acknowledgment and holistic information for a particular inventory .

By this project we can have following advantage -

* Inventory optimization
* Cost reduction (such as holding cost and maintaining )
* Improve cash flow
* Order fulfillment
* Security maintain
* Reduction of dead stock.
* Automate routine tasks, such as reorder point calculations and order generation, to reduce manual effort and minimize human errors.

**System features**

**Inventory Tracking**: The core feature of any inventory management system is the ability to track the quantity, location, and status of all items in stock.

**Stock Alerts**: Set up alerts and notifications to inform users when inventory levels reach certain thresholds, helping to prevent stockouts or overstock situations.

**Order Management**: Create and manage purchase orders, sales orders, and transfer orders. Track order statuses and history.

**Multi-Location Support**: If the business operates from multiple warehouses or stores, the system should support tracking and management of inventory across all locations.

**Demand Forecasting**: Use historical data and algorithms to predict future demand and optimize stock levels accordingly.

**User Access Control**: Define roles and permissions for users to restrict access to sensitive inventory data based on their responsibilities.

**Audit Trails**: Maintain a log of all changes made to inventory data, including who made the changes and when.

**Proposed System**

In purpose system, we have design a three user interfaces system which will manage the security and it will provide AI based feature for the user .So that the inventory system of any company or organization will be easy to maintain and convenient to use.

So the interface to make AI based inventory management system we have focused on the following.

* The system will help to keep record the location of stored stocks.
* Automatic alert in the situation of under-stocks.
* Inventory for rejected product so that LRM (line rejected note ) can be managed .

**Tools /Platforms**

* Front end : HTML 5 ,CSS , JavaScript.
* Back end : Python , MYSQL .
* Text- Editor : Visual Studio code
* Frame work & Server : Django

**HTML-**

**The full form for HTML is for hypertext mark-up language.** HTML is used to describe the structure of web pages. it is a standard mark-up language used for creating web application

**PYTHON -**

Python is a popular programming language. it was created by Guido and rossum and released in 1991. Django is a high level Python web framework that enable rapid development of secure maintainable website it is used for :

* web development (server side),
* software development,
* system scripting

**CSS-**

**CSS stand for cascading style sheet it is a style sheet.** language used to save the HTML element that will be displayed in the browsers as a web page.

without using CSS , the website , which has been creating by HTML ,

will dull. CSS gives the outer cover on any HTML elements. If you consider HTML as a skeleton of the web page then the CSS will be the skin of the skeleton.

**Hardware requirement**

**Laptop or PC-** i3 Processor system

4 GB RAM or Higher

100 GB ROM Or Higher.

**Software requirement**

* Window 10 pro -

operating system used to house all the applications and tools.

* Microsoft Office 2016

Tools of writing and editing document.

* Pycharm is used as a code editor.
* Django as a framework and server.
* EdrawMax tools to draw diagram **.**

**Conclusion**

In this project “ Bot for Stock” we have design a inventory management system which provide the AI based functionality to manage the stock system .so that the system will be convenient to use and help the company to work properly.

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