**Stock Maintenance System**

**Introduction**

The stock maintenance system is a system which simplifes the process of managing stock, making the process more efficient ,accurate and time saving. It will help businesses keep track of stock levels in real time, alerting them when stock is lesser than a particular threshold .It will be very helpful for businesses as it would indicate them timing and quantity of order and it would avoid the problem of overstocking , stockout, time delays in placing order etc

**Functional requirements**

**Stock Tracking** The user should be able to see the current stock levels of all products in real-time. This includes details like, name, quantity, category, description, performance of that particular stock etc.

**Stock Addition and Deletion** Users should be able to add new products to the inventory and remove outdated or discontinued items efficiently.The system should ensure that these changes are reflected immediately in the records.

**Update Stock quantity**

The system should immediately update stock quantities and reflect it in the database after any sales or restocking in real

time or any change in information.

**Low Stock Alerts** There should be a alert mechanism which would notify users when stock levels fall below the predefined threshold and also inform users quantity of products which needs to be restocked with the help of previous data.

**Filter Options** Users(company) should be able to search for specific product by applying filters such as price (high to low or low to high), category, bestseller, low performing products and be able to view their quantity, daily, weekly, monthly reports of sales etc.

**Report Generation** The system should generate reports on daily, weekly, monthly and yearly basis and provide all relevant insights such as on which day a particular product sells more, what is the age group of people purchasing it, which products should be discontinued, which category products should be added etc.

**Software requirements**

**DBMS**

MySQL is a widely used open source database management system for storing and managing data efficiently.

**IDE**

VS Code is a very popular IDE by Microsoft used for debugging,

compiling and running the code.

**Compiler**

Compiler is required to compile and run the code.

**Operating system**

Software must be compatible with operating system such as macOS, windows etc.

**Design Requirements**

The design requirements define how the system should be structured. They are focused on enhancing user experience.

It focuses on making user interface simple, appealing and clean.

* **User Interface (UI)**

The design of the user interface should focus on how users will

interact with the system. Users should be able to navigate

through the system easily. User should have option of add stock,

update stock, view reports ,filter products etc.

* **Input validation**

If a user inputs decimal or negative number in field of stock

quantity it must display error message.

* **Readability**

Use proper formatting to make data readable, proper

arrangement of stock details for reports. It should also highlight

products of low sales with red and bestsellers with green colour

for clarity.

* **Database Management** A robust database management is needed for the storage and retrieval of inventory data. The database should support operations like adding, updating, searching, filtering and deleting data and system should be flexible to add new features. It should have features like exporting report of a product in pdf form etc.

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