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# Design and Implementation of a Pharmacy Billing System

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**ABSTRACT:** The goal of this project is to create an alert system that alerts managers and store owners when inventories or products are going to expire. The researcher set out to create a computerized system for managing product expiration in order to address the issues that store owners encounter with losses and health risks resulting from outdated goods. When a product is about to expire, the product expiry management system warns or notifies the store manager so that they can take immediate action. By giving customers easy access to products with expiration notifications on a daily, weekly, or monthly basis, this initiative, product expiry alert management, helps supermarkets operate more efficiently. The QR code technology makes it simple for the customer to pay a bill. It also provides the standard function of maintaining product, membership, and staff information. This gives basic membership and product information to employees and gives managers the ability to add, amend, and remove basic employee information. The disorganized data found in supermarkets can be easily managed, entered, output, and located with the use of a product expiration management system. The application has a large memory that can hold all of the store's products and information, and it is incredibly accurate and efficient.

## I. INTRODUCTION

A software application or service known as a "product expiry alert system" assists companies in monitoring and controlling their product inventory by notifying them when things are about to expire or have already passed their expiration date. Businesses who deal with perishable commodities, such as food, medicine, cosmetics, and other products with a short shelf life, will find this method very helpful. The system keeps track of a company's inventory and the expiration dates of each product. The business owner, manager, or appropriate staff person receives an alert or notification from the system when a product is about to expire. There are several ways to send the alert: by email, text message, or application interface. Product expiry alert systems assist companies in cutting waste, preventing losses from outdated goods, and guaranteeing the quality and safety of their offerings for consumers. Additionally, it gives businesses real-time visibility into their inventory, enabling them to make informed orders, stock replacements, and inventory maintenance. Pharmacy administration has kept paper data in file cabinets. Managing a large pharmacy on paper records will be difficult and time-consuming because it will be difficult to maintain track of inventory on the pharmaceuticals in the store, their expiration dates, the quantity of drugs accessible based on categories, and their functions. The pharmacist needs to place an order for new drugs to supplement the already depleted inventory. Orders for medications are also handled manually. It takes a lot of time for the pharmacist to write the order because they have to check the stock balance and estimate how much to order. It is not recommended to utilize drugs past their expiration dates. The project work will alert the pharmacist to drugs that are about to expire, forbidding the sale of those drugs, and provide a solution to the previously listed problems. The primary goals of are to increase efficiency, safety, and accuracy in the pharmacy. Today, one of the most crucial components of all forms is management. Management offers expertise to carry out any kind of activity in a specific way.

## II. LITERATURE SURVEY

**AUTHOR NAME: Tinuke O. Oladele**

This study concentrated on creating an inventory management system. The system would be able to perform a number of tasks, including receiving updates about what is in stock, maintaining accurate records of products in stock, calculating products sold correctly, putting orders to suppliers via email, alerting users when a product is about to run

out completely, and generating reports on a daily, weekly, monthly, or annual basis, as well as for specific days that do not fall into those categories (e.g., it could be decided to generate reports only on Monday and Tuesday, and so forth). The system opens on a login page and asks the user to enter their username and password. If these match those that are already saved in the database, the user is connected; if not, the page remains open and the user is notified that they entered the wrong information. If the user hasn't been created yet, they can add or create a new account. In order to ensure that only authorized users may access the inventory system, a login page is required.

**AUTHOR NAME: Sha Zhu**

The most significant source of demand for spare parts for many maintenance businesses comes from on-condition repair jobs. Intermittency in the demand for spare parts is largely caused by an uneven distribution of maintenance jobs over time, and this intermittency makes inventory monitoring of spare parts extremely difficult. We suggest using the maintenance plan, or the scheduled maintenance chores, as a source of information in an effort to partially address these issues advance details about demand. We create a dynamic spare part demand distribution model and provide a straightforward forecasting method based on the maintenance schedule. inventory management strategy depending on these projections. Using data from two sizable maintenance organizations, the effectiveness of this strategy is compared to cutting-edge time series forecasting techniques. Comparing the suggested approach to the conventional methods, we discover that cost savings range from 23 to 51%. For the purpose of managing spare part inventories, preventing excessive shortages, and minimizing holding costs, spare part demand forecasting is crucial.

**AUTHOR NAME: Nigel A. Scott**

Maintaining research sites' enrollment in multisite clinical treatment studies requires effective monitoring of study drug inventory shipments. Time-zone variances, shipment transit delays, and import permission approval timeframes were not taken into account by the Tuberculosis Trials Consortium (TBTC) while using a normal manual drug management approach. During a global 34-site clinical trial run by the TBTC, we contrasted a novel web-based approach with the manual procedure. By combining the regulatory and logistical needs for medicine imports with statistical simulations that calculated stock-out times in an online medicine Management Module (DMM), we created and executed a technology solution. For the purpose of evaluating the DMM's effectiveness in comparison to the manual method, we tracked the average time to medicine availability and stock-outs related to shipments. An analysis of Interrupted Time-Series (ITS) revealed that the average shipment-related study drug stock-out decreased by 15% [p-value=0.03; 95% C.I. (-28.8%, -2.0%)] following the installation of DMM. Study sites' median transit times for sites connected to a depot were shortened by two days [95% C.I. (-3.0, -1.0)] thanks to the DMM's streamlining of the restocking procedure. In contrast to the manual procedure, which required waiting one day following delivery, the DMM allowed study medicines to be assigned for treatment the day they were received.

In order to manage and reliably maintain study medicine inventory at enrolling sites, the DMM gave the Data and Coordinating Center of the TBTC and site staff more effective processes. Future multicenter clinical trials may be more productive with the help of this DMM architecture.

**III.SYSTEM ANALYSIS****EXISTING SYSTEM**

One of the most crucial instruments in pharmacies nowadays is the chemical control system. Pharmacy administration is frequently used for tasks such as medical inventory, record keeping, sales management, stock management, and updating pharmaceutical information, to name a few. A large number of pharmacies in India still operate entirely by hand since they lack the equipment necessary to handle day-to-day management. If a pharmacist just checks a medication's expiration date twice a week, it may take some time to determine if it is running low.

**DISADVANTAGES**

- Reading books might make it challenging to stay up to date on crucial knowledge.
- To produce the necessary reports, more manual labor hours are needed.
- It is challenging to handle and requires a lot of storage space to keep up with all of the ledgers, records, and other historical data from prior years.
- Daily transactions must be immediately entered into several books in order to prevent disputes, which can be very challenging to settle.

## **PROPOSED SYSTEM**

The database of this new system, which is presently being developed, will enable the management of product releases, the storing of point-of-sale data, and the storing and retrieval of data pertaining to each transaction and items in the store. Consequently, improvisation would occur more quickly and with less effort. This system is expected to assist users in making informed decisions as they manage their inventory in accordance with their store's sales volume, since the purpose of an inventory management system is to remove paperwork and inefficient methods of managing inventory. A software program called the proposed system eliminates the need for additional human labor in maintaining records and producing reports. All users have simultaneous access to the data stored in a centralized manner by this application.

## **ADVANTAGES**

- Managing every day transaction is easy.
- It is possible to handle historical data safely and easily.
- A centralized database helps to prevent conflicts.
- Receive a notification when the supply of a drug is about to run out.
- Ensure that users may easily access the data.

## **IV.SOFTWARE DESCRIPTION**

### **Front End: Python**

Python is an interpreted language that is used at a high level for general-purpose programming. Python's architecture placed a strong focus on making code readable, especially with its generous use of whitespace. Guido van Rossum invented it, and it was made available for usage in 1991. It provides structures that help make programming comprehensible at both large and small scales. Van Rossum left his position as the language community's leader in July 2018. Python comes with an autonomous memory management system and a dynamic type system. It boasts an extensive and well-rounded standard library and supports a variety of programming paradigms, including as imperative, functional, procedural, and object-oriented.

The creators of Python work hard to prevent over optimization and reject fixes to non-essential C Python code that would only slightly speed up the system at the expense of readability. When speed matters, a Python programmer can utilize Py, a just-in-time compiler, or transfer time-sensitive routines to extension modules written in languages like C. Additionally, there is C Python, which converts a Python script into C and invokes the Python interpreter directly from C-level APIs. Python programmers frequently use the term "pythonic," which has a variety of connotations relating to programming style. Code that adheres to Python's minimalist philosophy and emphasizes readability, uses Python idioms skillfully, and is natural or demonstrates proficiency in the language is said to be pythonic. On the other hand, pythonic code is hard to read and sounds like a sloppy transcription from another programming language. Pythonists, Pythonistas, and Pythoners are terms used to describe Python users and fans, particularly those who are regarded as knowledgeable or experienced. Python is an object-oriented, interpreted, high-level language with dynamic semantics. There is no compilation phase, therefore the edit, test, and debug cycle is very fast. Segmentation faults in Python programs are never triggered by flaws or erroneous input, making troubleshooting them easy. Instead, if an error is discovered, the interpreter raises an exception. If an exception is not caught by the program, the interpreter outputs a stack trace. A source level debugger allows you to step through the code one line at a time, evaluate arbitrary expressions, view local and global variables, set breakpoints, and perform other operations.

### **Back End: My SQL**

The most widely used open-source relational database management system (RDBMS) worldwide as of 2008 is MySQL. It serves as a server and enables several users to access different databases. The source code for MySQL has been made available under the GNU General Public License and several proprietary agreements by the MySQL development team. MySQL was created and sponsored by a single for-profit company, MySQL AB of Sweden, which is presently owned by Oracle Corporation.

One popular database choice for use in web applications is MySQL. Additionally, it is a fundamental component of the widely used LAMP open source web application software stack, an acronym for "Linux, Apache, MySQL, Perl/PHP/Python." Free-software-open-source applications that require a feature-rich DBM often employ MySQL. Additional premium editions with additional features are available for business use. MySQL databases are used by

applications built on the LAMP software stack, including TYPO3, Joomla, Word Press, phpBB, MyBB, Drupal, and others.

### **Inter images**

Since MySQL is mainly an RDBMS, it comes without any GUI tools for managing data in databases or for administering databases. In addition to the command line tools that come with the package, users can create and administer MySQL databases, construct database structures, back up data, check status, and work with data records using MySQL "front-ends," desktop programs, and online applications. MySQL Workbench, the official suite of front-end tools for MySQL, is open source software that is actively maintained by Oracle.

### **Graphical**

Users can graphically administer MySQL databases and visually build database architectures with the official MySQL Workbench, a free integrated environment created by MySQL AB. MySQL GUI Tools, the former software package, has been replaced by MySQL Workbench. While MySQL Workbench is still regarded as the official MySQL frontend, it functions similarly to other third-party packages in that it allows users to handle database design and modeling, SQL development (which takes the place of MySQL Query Browser), and database administration (which takes the place of MySQL Administrator). There are two editions of MySQL Workbench available: the standard edition, which is proprietary and enhances the features of the community edition, and the ordinary free and open source Community Edition, which can be obtained from the MySQL website.

## **V.IMPLEMENTATION AND RESULT ANALYSIS**

### **MODULES**

- Establishing a framework
- Enrolling users
- Updating product information
- Email alert (product expiration)

### **MODULE DESCRIPTION**

#### **• Interface creation**

This module provided the user with a web application framework so they could receive alerts without needing assistance from a human.

#### **User enrolment**

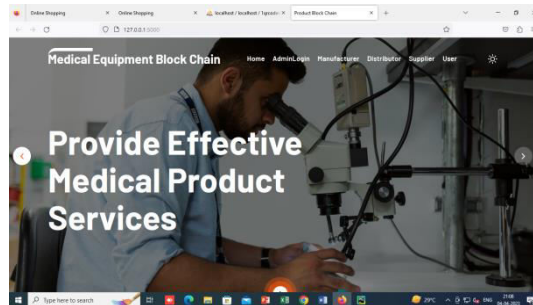
A registration form is offered on which new users can create an account by giving the system the necessary data. Details such as name, email, gender, phone number, address, and so on are requested on the registration form. The database has these specifics. and after that, you can access the system's username and password. Using their username and password, the administrator can access the system following the login process.

#### **Update stock details**

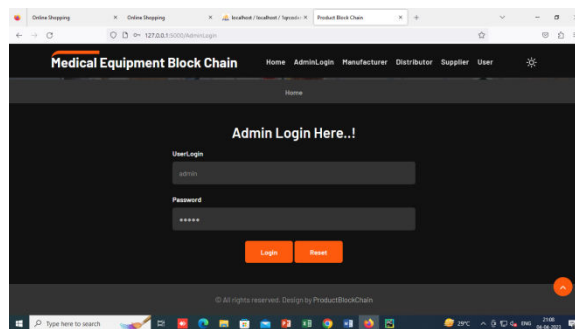
After logging in, the user can upload stock, sales, and bill details to this program.

**Alert through email** This module is where the alarm system is obtained. The system will notify the user via email if any of the products they had on hand were about to expire.

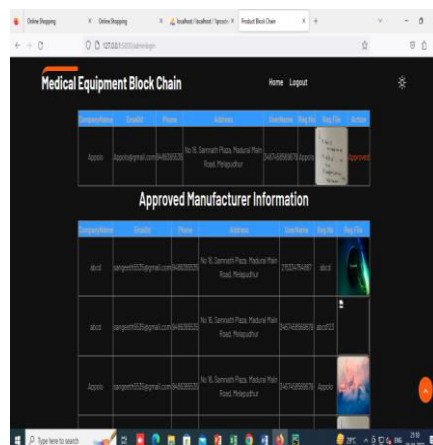
**VI.RESULTS**



**Figure:6.1 Home page**



**Figure:6.2 Admin login**



**Figure:6.3 Admin Information**

**VII. CONCLUSION**

The project's goals are to increase the pharmacy's efficiency, safety, and accuracy. Through the use of a computer-based tool, pharmacists can enhance medical security, cost, collection management, etc. In order to guarantee data security and the accuracy of pharmacy records when it comes to customer access and services, a pharmacy management system is designed. The results of a thorough analysis of the data gathered throughout the data collection period served as the foundation for the new system. The program was tested and found to be effective and the results generated by the program were encouraging. The app will minimize information loss unlike the existing system and details will be processed immediately.

### **FUTURE ENHANCEMENT**

The store will have more time to spend advising customers, and one of the main strategies to prevent prescription errors is through user counseling. We can adjust our strategy based on the requirements of shop managers, but we have a lot of ideas for the future that will streamline the procedure and be very helpful. Some things we can rely on for the future are: a. creating a program that runs the same tiny database on Android smartphones. b. to install and update a program or device across a network. c. The Android app can be used as a remote app to control a system. possess a barcode device—though not necessarily a unique one—that may be utilized from a distance via a Wi-Fi or Bluetooth connection.

### **REFERENCES**

1. Heinold, Brian. "A practical introduction to Python programming." (2021).
2. Kneusel, Ronald T. Practical deep learning: A Python-based introduction. No Starch Press, 2021.
3. Dhruv, Akshit J., Reema Patel, and Nishant Doshi. "Python: the most advanced programming language for computer science applications." Science and Technology Publications, Lda (2021): 292-299.
4. Sundnes, Joakim. Introduction to scientific programming with Python. Springer Nature, 2020.
5. Hill, Christian. Learning scientific programming with Python. Cambridge University Press, 2020.



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