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Medical Store Locator

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Abstract - *In today's world, Internet is the basic need of every individual. Internet makes the things easy and possible. So, our project is made with the things keeping in mind that how can we use internet in medical domain. The objective of the project is to facilitate the user with simple and customized software to find the medical store in which their required medicines are available. This project aims to locate a medical store in nearby area of the user by accessing the location of the user and give some statistical report to medical store. User will search the medicine in a search box and if the medicine is available in some medical store, the medical store will be located on maps. The data about the availability of medicines at medical store will be accessed from them. Software is designed for the medical store to use so that we can get the data of availability. Nowadays, one has to visit medical store to check the availability of medicine if not ordering online, with the help of our project one need not to visit medical store to check the availability of medicines which they need.*

***Key Words*: Medicines, Nodejs, Mongodb Database, bcyrpt, chartjs**

1. INTRODUCTION

Web Applications nowadays are playing a great role in everyday life. We are totally dependent on web applications for our needs. Everything we require can be founded using web application. With the proper use and creative idea, we can implement anything which can reduce human effort. An abundance of conferences, reports and news articles discuss and debate the prospective impact of web application. Commonly one visits a medical store to buy medicines if they want instantly. But many of the times that particular medicine is not available at medical store. One has to visit many medical stores to find a particular medicine.

As we all know, one has to visit the medical store to look for required medicine and to buy them. So, for medicine procurement, the basic way is to go to the medical store. But if the medicine is not available, we have to visit another store. Thus, this waste time and physical strength and if the patient is old, they can't visit every medical store for required medicine.

To overcome the everyday problems of medicine procurement, the online medical store locator is created. User will be provided a search box in which he/she will search a medicine. The availability of the medicine in a nearby medical store of the user location will be checked by the system. Once the availability is checked of the particular medicine which the user searched, the medical store is located on the maps where the medicine is available. A database is maintained to store the data about everything which will be required and based on the users search details, provide a report to medical store.

1.1 Aims and Objectives

1. **Online Medical Search:**
   With the help of search box provided, user can search medicines online which are available in their nearby location. It will start giving suggestion as soon as you type name of a medicine. If the suggestion doesn't come up, you can still search medicine by entering proper name.
2. **Modification of data:**
   The data in database will be regularly modified. Availability is the main focus of our project. So, our system will fetch the data about the availability of the medicines in medical stores will be modified in real time.
3. **Medical Store Locator:**
   As soon as the user enters the name of the medicine our application will locate all the nearby medical store of the user where the entered medicine is available. Maps are used to locate the medical store.
4. **Statistical Report:**
   Medical Store will have real time statistical report based on the user's searches. This can help medical store to make decisions about medicine stocks.

2. LITERATURE SURVEY

MEDICAL SHOP MANAGEMENT SYSTEM

In paper [1], R. Nishanthiand A.Thirugnanasambandhamurthy, proposed an online medicine purchasing system in android apps is made to help the professionals of the medical shop. The medical store master apps in the market that can fulfill all needs in the medical marketing field like keeping records of sale and

purchase for different companies, inventory management, and store management system. The main key feature or the key idea for the project is to automate the Medical store management which includes automating inventory system and search for the nearest Medical shop. We have developed an Application which will enable all the purchasers to shop for the products from the shop. The System is fully automated with all the features in Sales and Purchase. It is a virtual showcase for various sorts of medicine like health care, baby care, & home need products. Main aim of this project is to develop medical service for users through online Application which helps in their everyday life.

The following features were implemented in their proposed system:

- Users can online buy medicines and healthcare products.
- It provides the administrator facilities to update the list of products online without FTP.
- It provides the Credit Card interface for accepting and validating various Credit Cards through the Banks.
- Take care Securities for the Credit Card information.

MEDMAPS: MOBILE APPLICATION FOR FINDING, MANAGING AND COMMERCIALIZE PHARMACY

In paper [2] Nurfarahin Natasya Binti Hamid, Toni Anwar, the process of finding pharmacy is not as easy as finding any other stores, especially to locate the pharmacy that is selling the exact medical product or medicines that users are trying to find. The consequences will be a time consuming and waste of money if they had to drive all away to the wrong pharmacy. That is how the thought of this MedMaps: Mobile Application for locating, Managing and Commercializing Pharmacy is generated from. This application also provides Pharmacy a platform to commercialize their store and promote their products. As for public users, they will also manage their pill consumption intake by setting an alarm which will always remind them when to consume the tablets.

USING NODE.JS TO BUILD HIGH SPEED AND SCALABLE BACKEND DATABASE SERVER

In Paper [3], The most important thing with a web server is its ability to handle multiple requests and user's sessions efficiently. This has a lot to do with the programming language used to write backend scripts.

Node.js is a server-side platform mainly used for real-time application because of its event-driven architecture and non-blocking I/O. Node.js is found to be 10 times faster in I/O operations than servers which uses thread driven architecture. Program execution in multiple threads requires more memory and computation. This paper presents the framework using node.js to make a highly scalable and high-speed backend database server for web developers also as application developers. Node.js is an awesome tool if you would like some quite live interaction, real-time results. It is capable of very quickly delivering data to/from a web server. It also demonstrates the use of NoSQL databases such as Mongo dB in proposed project work over other traditional databases such as MySQL. Hence performance of server-side scripting languages like PHP, Python were taken into consideration when comparing with Node.js.

DATA VISUALIZATION USING CHART.JS

Sometimes in the software we build we find that we have to deal with data sets which cannot be viewed clearly unless we visualize it, we don't get the chance to have a bird-eye view to what 's really happening in our project's data, here where comes the importance of Data visualization, using charts is one of the ways to visualize data. The human brain tends to process visual information much more easily than written information. This provides a really clear sort of communication allowing business leaders to interpret and influence their information sooner. Big data visualization tools can provide real-time information that's easier for stakeholders to gauge across the enterprise. Text is usually used only to represent the info.

BCRYPT AND BLOWFISH ALGORITHM TO ENCRYPT PASSWORDS

Some applications transmit passwords over unencrypted connections, making them susceptible to interception. To exploit this vulnerability, an attacker must be suitably positioned to pay attention to the victim's network traffic. This kind of scenario usually occurs when a client (users) communicates with the server over an insecure public connection Wi-Fi, or a corporation network or home network that's shared with a compromised computer. So, storing passwords in plaintext must never be an option. Instead, we would like to supply a one-way road to security by hashing passwords. However, we also explored that hashing alone isn't sufficient to mitigate more involved attacks like rainbow tables. A better solution to store passwords is to feature a salt to the hashing process: adding additional random data to the input of a hashing function that creates each password hash unique. The ideal authentication platform would integrate hashing and salting, seamlessly.

Bcrypt was designed and developed by Niels Provos and David Mazières supported the Blowfish cipher. bcrypt in which, b for Blowfish and crypt for the name of the hashing function utilized by the UNIX password system. Blowfish is a symmetric encryption algorithm developed by Bruce Schneier to replace Data Encryption Standard (DES). Blowfish is a 16-round Feistel cipher. Its block size is 64-bit and key sizes range from 32 to 448 bits.

3. PROPOSED SYSTEM

Our project is basically an online medical store locator. It is web application which will take medicine name as input and query the www.healthos.co API which will return medicines with their descriptions. These names will be shown to users and user can select one medicine. The selected medicine will be search through database and will give different medical stores which will have that medicine. The medical store can see the graphical report of search score of different medicines.

Some of the features provided by our system are:-

- Availability of Medicine: Availability is the main focus of our project. So, our system will fetch the data about the availability of the medicines in medical stores which will be modified in real time.
- Statistical Report: Our system will also be providing a statistical report of medicine search score and price of the medicine to medical store. This report will help the medicine store to take decisions about the stock of medicine.
- Password Protection: When user register on the platform, the login id and password is stored in the database. If someone gets access to the database in unauthorized way, they can get a login credentials. To avoid this situation, password encryption is done by using bcrypt package.
- Email Alerts: when user or medical store register on the platform, then email will be as unique login id and your hashed password will be store in database. But sometimes it may happen that you don't remember the password, our system provides link to reset password to a registered email id. Thus, one can easily recover their account and change the password.

Flow Chart

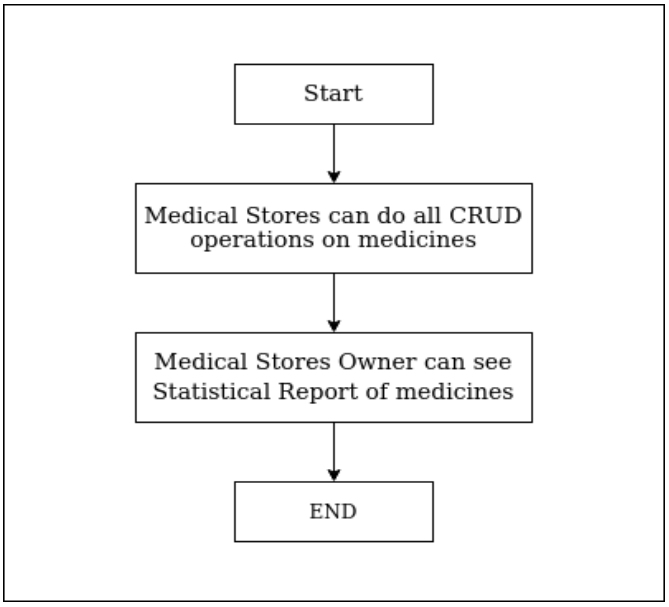

Fig. 3.1 Medical Store Workflow

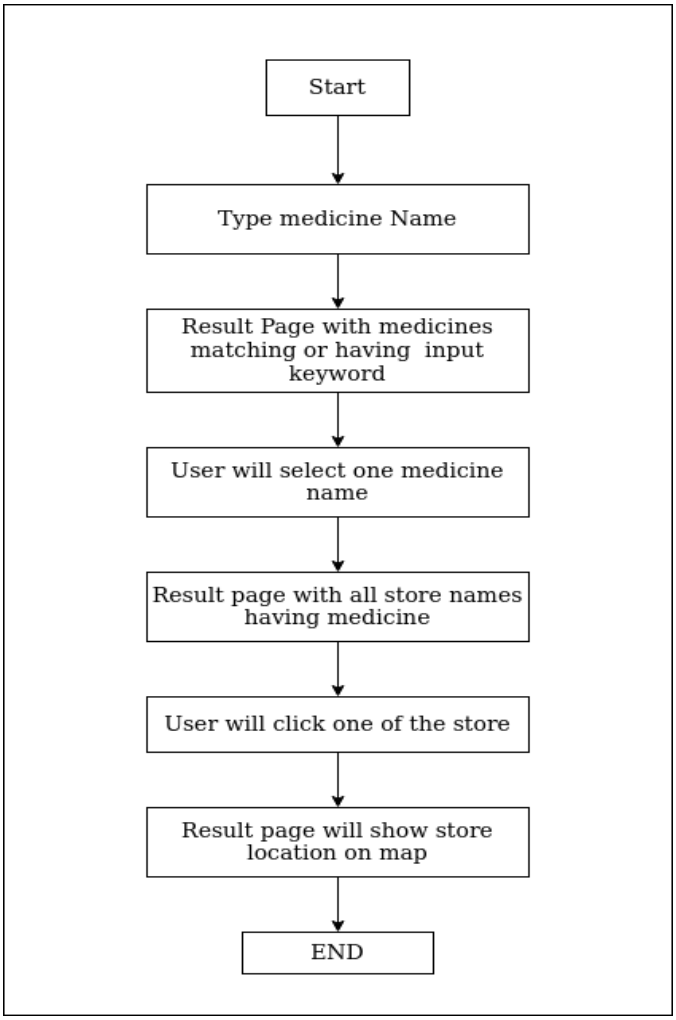

Fig.3.2 User Flow Diagram

4. Hardware and Software Requirements:

Hardware Requirements:
Minimum requirement - Laptop with configuration of 4GB RAM, 1TB Hard Disk, any OS can be used in development of the web application.

Software Requirements:

- Server-Side Scripting: Nodejs & express.js
- Database: MongoDB and mongoose
- Front end: HTML, CSS and JavaScript
- Version Control: Git and GitHub

5. Methodology

- When a user searches any medicine in medSearch Platform, then results from the medSearch platform will be shown to users in input dropdown.
- If the user selects any medicines from dropdown then, the next result page will contain all the medical stores which will have that medicine in their inventory.
- If input medicine is not present in the dropdown list of medicines then the user can directly search the medicine by pressing enter and the platform will show every medicine matching the name of that medicine. Now, users can select the medicine according to the medicine ratio and manufacturer. After selecting medicine, the next page will contain all the medical stores which will have that medicine in their inventory.
- Users can click any medical stores and see the map from their location to medical stores.

Medical Store Overview:

Medical store owners can login from the medSearch platform and will be redirected to dashboard which will contain the list medicine present in their database. Store owner can add medicine and generate bills (i.e. removing quantity of medicine). These changes will be reflected in their database. The store owners can access the activity tab from the navigation which will show the graphical chart created by using chart.js. When store the owner will logout then they will be redirected to the medSearch platform.

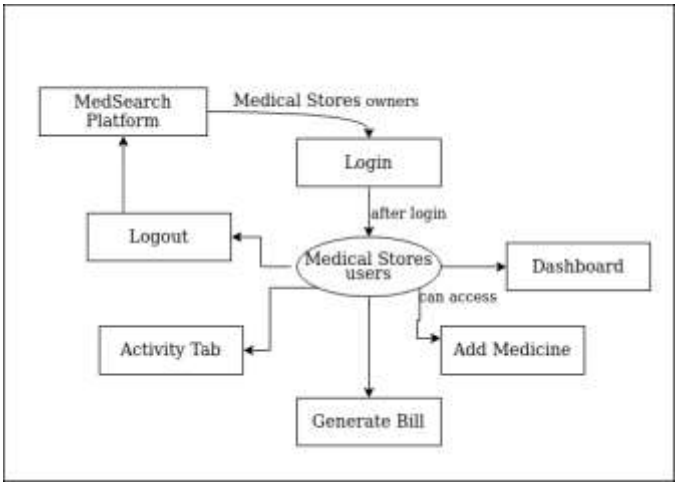

Fig.5.1. medical Store Actions

Each medical store will have their own database and they can do some operations which will change the inventory data in their database. These operations are:

1. Dashboard: Store owners can see all recent and most searched medicines in the dashboard section.

2. Add medicine: Can add the medicine in their own medical store.

3. Generate Bill: Store can generate the receipt and can see any receipt in pdf format.

4. Activity: Store can see top fifteen medicines which are searched by users, these reports are shown in daily, weekly, monthly format.

5. Logout: can logout and the redirected to medSearch platform.

6. CONCLUSIONS

The system shows the user about the medicine availability in the nearby medical store thus making the job easy for the user.

Even the stores are able to maintain their own logs which is one of the best things.

Reports are maintained for the medical store thus making them available with the analysis.

The system can be further modified for a large dataset thus can be used in real-time.

Fig.6.1 searching medicine on medSearch Platform

Fig.6.2 list of medicines which matches with input medicine

Fig.6.3 Medical Store Dashboard
(shows most and recent search medicines)

Fig.6.4 Medical Store activity tab (Weekly reports)

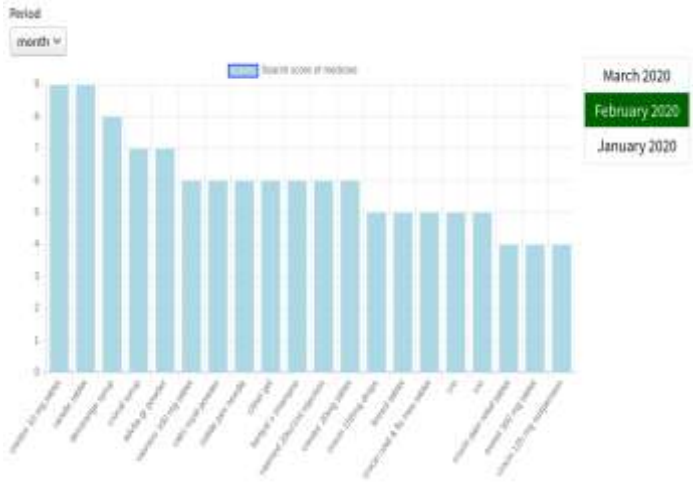

Fig.6.5 Medical Store Activity tab (monthly reports)

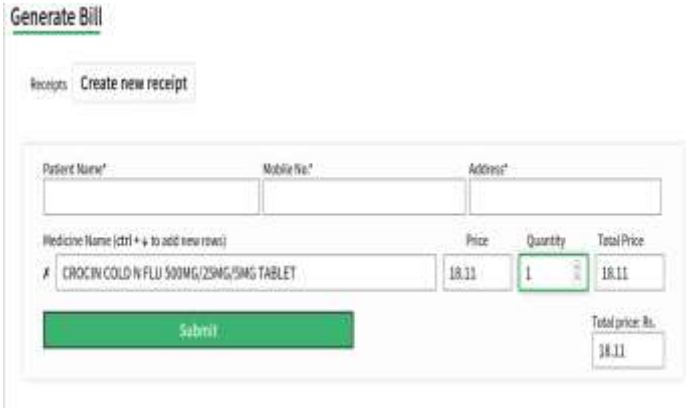

Fig.6.6 Generate Bill Section Of Medical Store

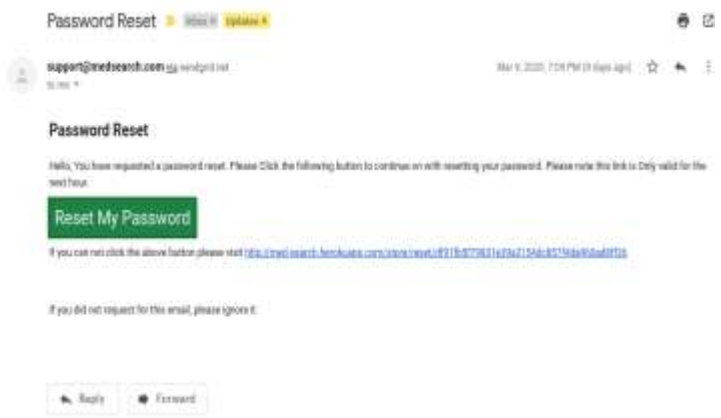

Fig.6.7 Email screenshot of forgot password reset link

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