

APPLICATION OF DENSITY BASED CLUSTERING ALGORITHM IN E-PHARMACY

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Abstract: Online web portals are best source for selling products. In present trend there are various websites which are selling medicine products through online. Using this project we will provide similar type of website through which users can search for various type of products and add products to cart and buy using various online methods. This system is a field concerned with purchasing and selling medicines, maintaining their inventory, generating sales invoices and generating reminders of expiry date about medicines. It requires more time and effort when all procedures are performed manually. Thus, in order to reduce time consumption and human effort the Medical Shop Management System application can be applied in medicals where manual procedure exists. The purpose of this project is to reduce time consumption and human effort. This application provides user friendly interface as well. Whether a user is checking into a social network, looking for a pharmacy in the middle of the night, or located in somewhere and needs help, the key is always the same: location. In this project, a web application is developed.

Keywords:- Pharmacy, Assistant, Hospital Pharmacy, Drug Regulation

1. INTRODUCTION

Pharmacy the board framework is a system that comprises of information passage, recovery and checking stock, deal, client records, account holder's and the executives manager's records and assurance of least amount of each medication. String looking through strategy additionally applied in this framework. This method is alluding by pharmacy name, pharmacy code and depiction of medications. Other than that, the framework additionally gives two sorts of techniques which are Quantity and Expire date of medications. This framework continually checking the date to remind the sales rep if the specific medication was terminated and will be set off to remind the deal man if the sure of the medications arrived at the base amount. This framework empower chairman to control and screen the medications stock adequately. Because of the size and amount administration of the pharmacy store, the drug store has an exceptionally enormous client base. The quantity of clients is rapidly increments because of the expansion of interest of medications in numerous regions. The present circumstance makes the pharmacy specialist to be occupied and utilize a great deal of time to oversee and control their business records. Then the drug specialist needs to safeguard fulfillment in administrations to keep their records adequately at a sensible time.

Pharmacy store the board manages dealing with the medication stock and choosing the appropriate medication required by the clients. The center of drug specialist calling is the upkeep of value and the ensuing ramifications for clinical screen and control in the pharmacy exercises.

2. RELATED WORKS

The use of portable pharmacy application has furnished extraordinarily advantages to patients with dependable data for treatment which can be utilized for reflection before the optional treatment at clinics or centers [1][2]. Besides, it can propose pharmacy data and different pharmacy items [4][5]. In any case, the difficult plan of highlights and functionalities of the versatile medical care application are the key factor which could show the accomplishment of the turn of events. How to convey valuable capacities to help clients for their life? The most effective method to urge clients to apply the medical care versatile application as a device for giving medication data as opposed to utilizing web indexes over the web webpage. Furthermore, the degree of acknowledgment, disposition of clients when utilizing the application or experiencing to the new innovation while advancing and their agreement should be thought of. Consequently, for the new turn of events, we painstakingly thought about what highlights and functionalities are expected to support clients and furthermore to diminish the webbased scanning conduct for pharmacy data. In this paper, the examination intended to (1) build up the Pharmacy Assistant Mobile Application (PAMA) for essential drug and (2) measure the application execution in term of good acknowledgment and clients' disposition towards the created highlights and functionalities.



This paper gives a summary of the present status of pharmacy practice as it identifies with the range of expert jobs what's more, obligations, the variety of patient populations served, the intricacies of patient administrations gave, and different parts of arising drug store practice. The paper centers around the patient consideration administrations gave by drug specialists; it doesn't address all potential exercises of pharmacy specialists, like organization and general the board. The paper is a distinct examination. It doesn't take a position in regards to future changes, however is expected to fill in as an establishment for understanding the relationship and arrangement between the calling's different compulsory and deliberate certifications and the extent of training continuum. The key instructive and credentialing guidelines for pharmacy specialists and drug store professionals are summed up and referred to.

3. EXISTING SYSTEM

Medical data management has become an important challenge. The emergence of new medical imaging techniques and the necessity to access medical data at any time have led to a need to find new solution for managing these data.

Disadvantages

- The existing system is manual.
- The manual system is more error prone.
- It is very costly.
- Immediate response to the queries is difficult and time consuming.
- Difficult to maintain record and more paper work is required.
- Report generation is difficult.
- The system is not secured. More men power are needed.

4. PROPOSED SYSTEM

Web based application which covers all aspects of management and operations of clinics. This website covers features of Medicine details, tablets, online order, cart details etc.

- To provide computerized data storage facility.
- We can search easily any medicine.
- The new system requires less time for completion of any work. All the stock of medicine is update automatically in the new system.
- The system is user friendly and anyone having computer knowledge can handle it easily.
- Suitability for computerized data entry.
- New system is provided security against unauthorized user.

5. IMPLEMENTATION

User Interface Design

Online customers must have access to a computer and a method of payment. In our system, the user interactions are login, registration, communication, online payments and transaction. User details are handled in backend common database. In computer security, a login or logon is the process by which individual access to a computer system is controlled by identifying and authenticating the user referring to credentials presented by the user. A user can log in to a system to obtain access and can then log out or log off when the access is no longer needed. To log out is to close off one's access to a computer system after having previously logged in.

Add Medicine stock Details

Stock management system will have the following processes Stock Ledger, Stock movement statement: Online stock information of selected products, User Management with respect to sale, Online stock status with P.O (Purchase Order) generation to referred vendor for multiple items, Batch Management: The system takes care of different prices and expiry for different batches. You always get up-to-date stock for different items with different batches and their units of measurement lying at different stores of the Company. The system will also give report showing the list of products expiring after a specified no. of days. The system also doesn't allow to sale the products already expired and Stocks Analysis

Add Drug details (medicine details)

User can add details of his dosage schedules. Using the date field one can enter the starting and ending dates between which he has to take medicines. The time field shows the time of dosage and on that time the alarm will get rung. The user can add the description of the medicine, including name, purpose and other related description. All the information will be saved in the database. This makes any time availability of the patients' records.

Online shopping (medicine purchase)

The main data stored for this table is all the information about the drugs. Some drugs have other medical names, side effects etc. So before any customer orders the drug online he or she can read all the description that is provided along with the drug name. Any customer can also find out about any drug that is new in the market.



Each customer can place an order online by signing in or also place an order via a staff member (administrator, also known as internal user) by phone. They can fill in the prescription and order for the required drugs. All the members of a single family can place a single order (several orders shipped to one address). Additional data stored will include Date (on what date it was placed), Tracking number, which will help the customer to track their orders, Total, Shipping Status, which will be helpful to find the current status of the order, Shipping Date (when it was shipped out), Shipping Fees, the Address where the order was shipped etc.

6.RESULTS DISCUSSION

The Online Pharmaceutical Management System in its plan meant to restrict singular individual utilization. Being that the application is intended for drug stores overall, rather than being customized for singular use, the issue of maltreatment of medications has effectively been lessened with the utilization of the application. Besides, just approved staff on the application can make the request for drugs from the medication producers. All exchanges made are put away in the framework to permit record keeping. Discoveries produced using this work show that the mindfulness and sensitisation to the accessibility (reasonable or something else) of online drug applications is negligible. Likewise, the utilization of these accessible applications (as talked about in the firmly related works segment) is additionally negligible. The head's dashboard permits just the director add clients on the framework. All information are submitted to the overseer, alongside every one of the applicable credible archives. This component keeps unapproved clients from requesting the medications accessible, and furthermore controls the records accessible.

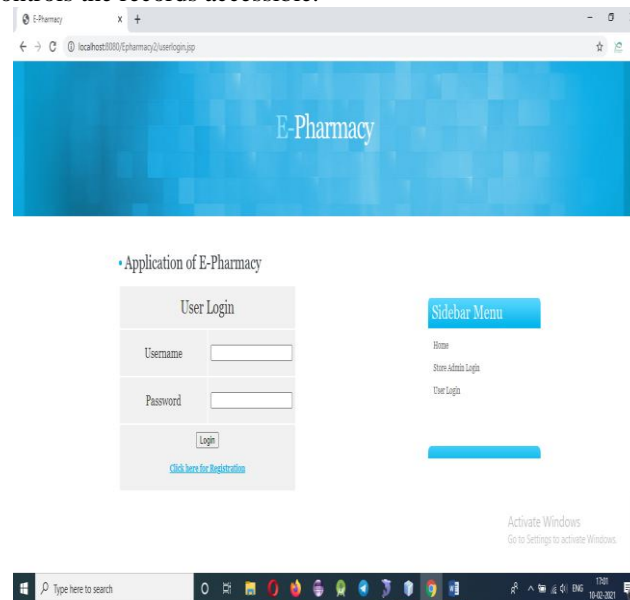


Fig 1. Home Page

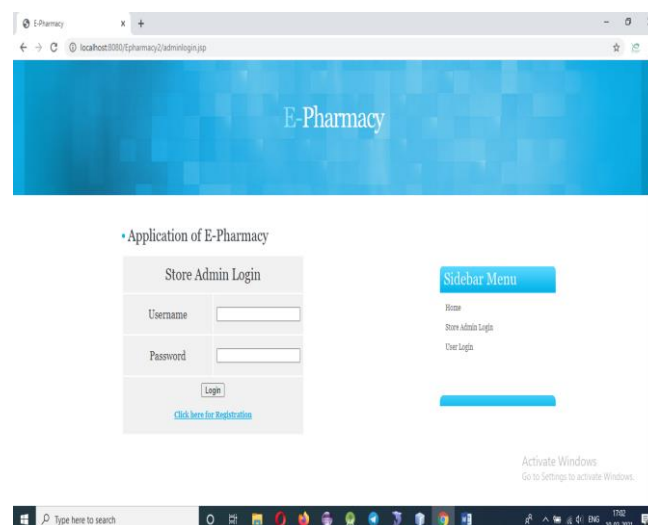


Fig 2 Admin Page

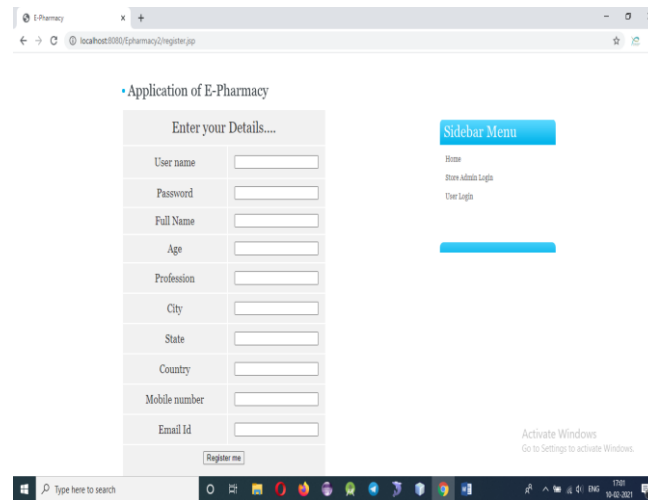


Fig 3 E-Pharmacy Application

7. CONCLUSION

The application was successfully developed and achieved its requirements, but it requires more testing to increase stability, especially the user's tracking feature. The application needs to be tested on real physical devices. All the testing of the application was done using emulators due to the lack of a real handset for testing. The application can be implemented to any particular company or university by editing the maps at open street maps. Further research can be done to change the map server to a server specified by the customer.

REFERENCE

- [1] R.C. Gonzalez, R.E. Woods, Digital Image Processing, third ed., Pearson Prentice-Hall, Upper Saddle River, NJ, 2008.
- [2] S. Theodoridis, K. Koutroumbas, Pattern Recognition, second ed., Academic Press, New York, 2003.
- [3] U.M. Fayyad, G.P. Shapiro, P. Smyth, R. Uthurusamy, Advances in Knowledge Discovery and Data Mining, MIT Press, Boston, MA, 1996.
- [4] S. Madeira, A. Oliveira, Bi-clustering algorithms for biological data analysis: a survey, IEEE/ACM Trans. Comp. Biol. Bioinforma. 1 (1) (2004) 24–45.
- [5] R.H. Gueting, An introduction to spatial database systems, VLDB J. 3 (4) (1994) 357–399.
- [6] A.K. Jain, Data clustering: 50 years beyond K-means, Pattern Recognit. Lett. 31 (8) (2010) 651–666.
- [7] M. Girolami, Mercer kernel-based clustering in feature space, IEEE Trans. Neural Netw. 13 (3) (2002) 780–784.
- [8] A.K. Jain, M.N. Murty, P.J. Flynn, Data clustering: a review, ACM Comput. Surv. 31 (3) (1999) 264–323.
- [9] B. King, Step-wise clustering procedures, J. Am. Stat. Assoc. 62 (317) (1967) 86–101.
- [10] G. Nagy, State of the art in pattern recognition, in: Proceedings of IEEE 56, 1968, pp. 836–862.
- [11] S. Guha, R. Rastogi, K. Shim, Cure: an efficient clustering algorithm for large databases, in: Proceedings of the International Conference on Management of Data (ACM SIGMOD), 1998, pp.73–84.
- [12] Z. Tian, R. Raghu, L. Micon, BIRCH: an efficient data clustering method for very large databases, in: Proceedings of the ACM SIGMOD International Conference on Management of Data, 1996, pp.103–114.
- [13] X. Chang, T. Dacheng, X. Chao, Multi-view self-paced learning for clustering, in: Proceedings of the 24th International Joint Conference on Artificial Intelligence, 2015, pp. 3974–3980.
- [14] X. Chang, T. Dacheng, X. Chao, Large margin multi-view information bottleneck, IEEE Trans. Pattern Anal. Mach. Intell. 36 (8) (2014) 1559–1572.
- [15] O. Chapelle, B. Schölkopf, A. Zien, Semi-Supervised Learning, MIT Press, Cambridge, MA, 2006.

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