ANDROID BASED PHARMACEUTICAL PRODUCT INFORMATION SYSTEM

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***Abstract*—** Now-a-days most of the people take medication regarding any diseases for curing on daily basis. The need for pharmaceutical product after consultation from doctor requires each person to buy that product. Pharmaceutical products are easily available in medical store, hospital. Before taking medicines, people must know about it. Methods that had commonly been used to identify the medicine are through website, barcode scanner, RFID tags. However, in this project, the proposed method is QR code scanner on android platform. This system will identify the status of pharmaceutical products, whether the medicine is genuine or not by using search query. It also consists of other information like product's name, manufacturer's details, ingredients contained in the medicine. All the information regarding pharmaceutical products which are collected from Central Drugs Standard Control Organization is stored in the online database server.

IndexTerms-: Android, Pharmaceutical, QR Code.

I. INTRODUCTION

The scale of Counterfeit medicine in market is growing rapidly so reducing it is our major concern. We are building a robust and secure system which would detect the counterfeit medicine in the running market and justify it from from original medicine. The consequences of this problem will also be affecting the economy. This problem can be prevented if the consumers concern about the ingredients of the medicine. Therefore, Pharmaceutical product information system based on android platform is needed to help people in identifying the status of the products. Main objective of proposed system is to find the medicine which we are consuming is counterfeit or not through our application. the application provides all the information related to medicine and also defines it is counterfeit or not through comparing data present in our database. The database contains all the registered drugs and genuine drugs after going through many tests conducted by an authorized company. The application contains two searching methods which are text and QR code. Both the methods can be easily implemented in mobile application. The availability of the system will guide and provide awareness to public about pharmaceutical drugs and medicine that have being approved by the authority in charge. Pharmaceutical product information system is used in variety of areas like Medical, Hospital and Patients. In medical, it is used for checking of pharmaceutical product came from manufacturing companies. Patient will use this system to be aware about content of medicine which he is going to take for good health.

II. LITERATURE SURVEY

1] Turkish pharmaceuticals track & trace system by Altunkan, S. M., Yasemin, A., Aykaç, I. T., & Akpinar in 2012. In this paper, system uses data matrix to scan the identification number of the product to be traced via web service. In this system RFID (Radio Frequency Identification) tag is used which is very costly and there is possibility of damage the RFID tag.

2] Cost Effective Drug Pedigree Tracking & Authentication using Mobile Phones by J. C. Michael Paik, Lakshmi Narayan and Subramanian in 2009. In this paper, Epothecary method is used that means a system that uses built in functionality in middle level mobile telephone including camera, SMS and optionally GPS. It is technically robust and cost-effective system for tracing, tracking & authenticating the drugs.

3] Reliable Identification of counterfeit medicine using camera equipped mobile phones by S. ur Rehman, R. Ur Rasool, M. S. Ayub, S. Ullah, A. Kamal, Q. M. Rajpoot, and Z. Anwar in 2011. In this paper, system utilizes the existing infrastructure of the mobile technology for medicine verification. Data matrix is used in this system which is printed on the back side of the medicine.

4] Drug Incompatibility Checking System on mobile platform by Li, J., Xu, M., Dong, H., Zhang, Z., & Kang in 2012. In this paper, smart phone is used to check the compatibility of the drug. It is an android based system. The drug is checked for the compatibility through three types of examination that are Simple Interaction Examination (SIE), Multi-Drug Interaction Examination (MIE) & Further Interaction Examination (FIE) by insert the name of the drugs.

5] Pharmaceutical Product Information Based on Android Platform by Naimah Mat Isa, Shuria Saaidin Norakmar, Arbain Sulaiman, Azwati Azmin in 2014. In this paper, system uses two types of method that are software and processing. Software contains description about the tools & processing describe how the data will be processed. This system easily identifies the status of the medicines whether it is genuine or not. It provides convenience for the customer. This system only provides product authentication using text-search method.

III. PROPOSED SYSTEM

The system is divided in two parts client and admin. On client side, client can operate or use the system using mobile device or PCs. Mobile device will be used by the patients or Consumer. Proper network connectivity will be provided between client and the admin through internet. The server consists of database which will store detailed information of the authenticated medicines and tests carried on medicine, contents, reviews etc. and admin can update or change the information related medicines when required. Mobile device will show the information related to medicines and contain a local database to store temporary data. Our proposed system provides an android application-based solution. Our proposed system provides an android application-based solution. Whenever a new medicine is added the government authority or health ministry department which currently maintains all medicine details, Tests data and contents manually will instead use our App to store that crucial data without much hassling. Consumer has to be able to be updated for details that might be of interest to him while visiting like new information is invoked, Finally, the medical authority personnel in charge will be able to record vital information i.e. side effects, restrictions on consumption, dosage, hazardous contents, thus reducing the clerical work involved in the process. The data has been taken from Server of medical authority which verifies the medicine. This system is it will only store information of medicine that has been certified by Ministry of Health.

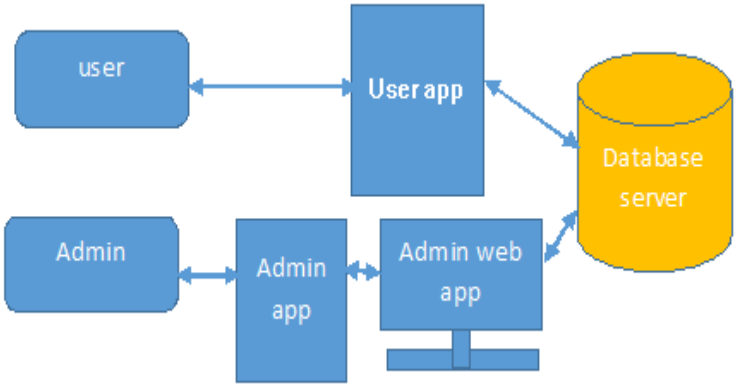

Fig-1: System Architecture

IV. SYSTEM IMPLEMENTATION

In our proposed system, we are going to implement two methods for searching medicines:

1] Text Search Method

2] QR Code Scanning Method

Using android application, users can search for medicines by typing the medicine name and scanning QR code printed on backside of the medicine using in-built QR scanner in mobile. After this, information regarding searched medicine will be displayed on screen such as ingredients, manufacturer name, approved date etc. If users have any query regarding medicines, then users have provided feedback facility in this system. The system operation is shown below using UML diagram.

Use Case Diagram: -

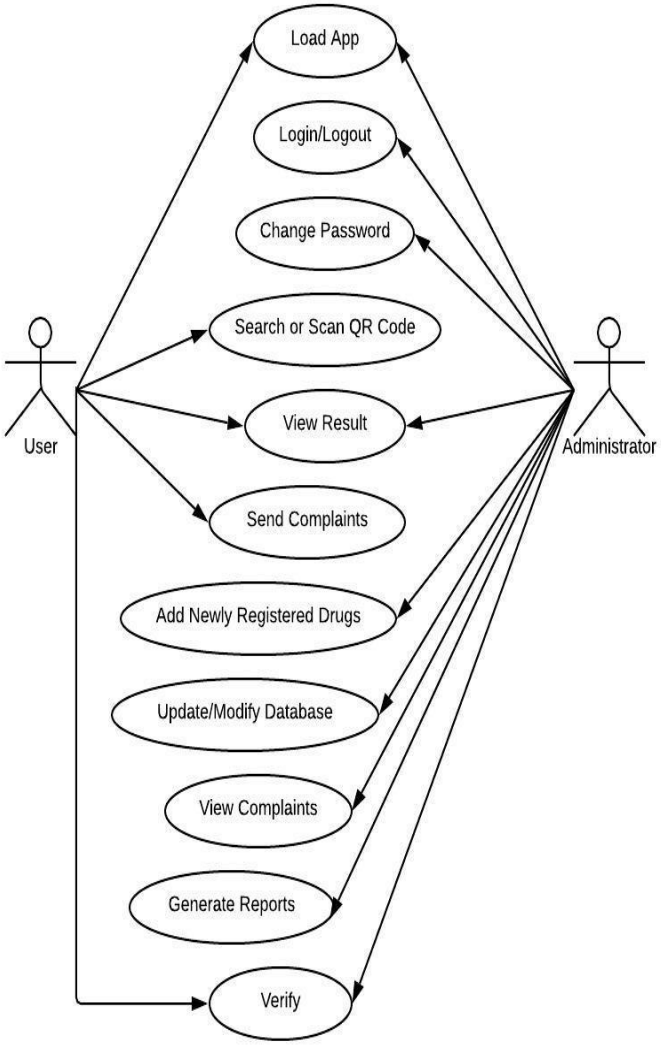

Fig-2: Use Case Diagram

Activity Diagram: -

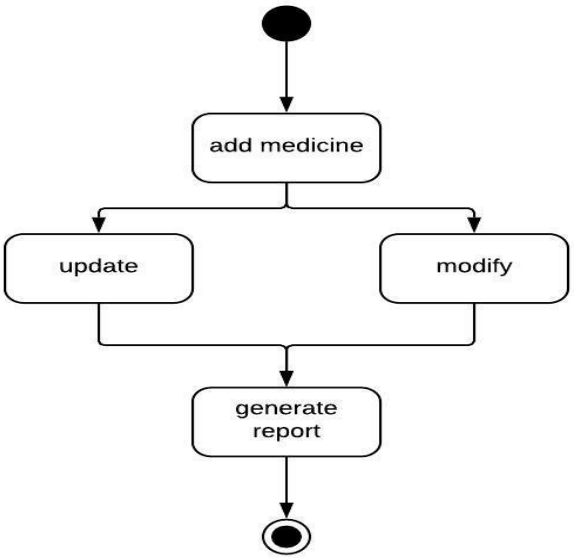

Fig-3: Activity Diagram for Admin

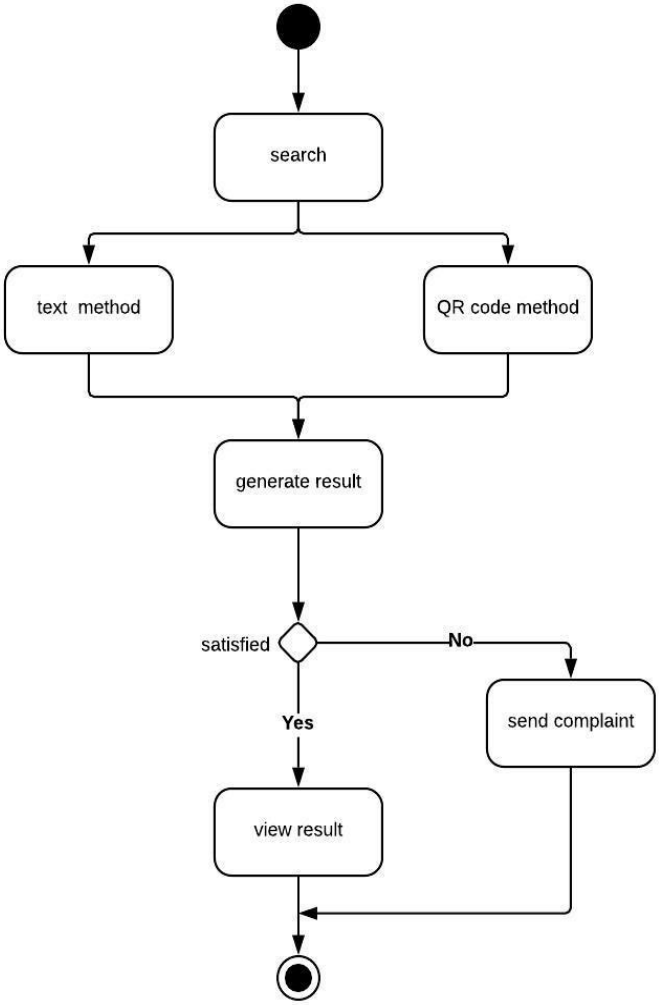

Fig-4: Activity Diagram for User

CONCLUSION

The global counterfeit problem is rising day by day. It was found that, when there is a good relationship developed between medicine or drug manufacturers, consumers and the health ministry, it would be a step to the successful implementation of drug verification systems. The system is designed for the consumer to be safe with the counterfeit or illegal drugs used in medicines. Drug labels are supposed to be tagged or coded with standardized IDs in centralized and open system systems that are made easily available for different devices such as mobile apps. The method that has been chosen for this project that is using text-search and graphical search on android platform has been completed. By applying this method, it is easy to identify the status of the medicine whether it is genuine or not. Since it is an application in the mobile phone and easy access, it provides convenience for the consumer. The central conclusion is that verification & authentication approach using inexpensive QR Code that store data with a square filled like version information, format information.

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