Mobile Based Heuristic Healthcare Maintenance with Online E-Prescribing

M. Thirunavukkarasu

Department of Computer Science and Engineering

SCSVMV University

Abstract: **Health Care is very important factor in life, may be due to unexpected changes in health may cause some health problem and it may lead to serious conditions. To reduce this problem my work is added the new health care application in mobile, it provides the user knowledge of various health problems, solutions etc. Also ,Electronic-Prescribing, Computerized Prescribing, or E-RX has increased dramatically of late in the modern Health care system, a long overdue alternative to the written form for over billions of drug treatments annually , E-prescribing allows providers in the ambulatory care setting to send prescriptions electronically to the pharmacy, patients.**

1.INTRODUCTION

E-prescribing, or electronic prescribing is an emerging technology framework that allows doctors and other medical practitioners to write and send prescriptions to a participating pharmacy and patients electronically instead of using handwritten prescriptions. Mobile Health care is the maintenance or improvement of health via use of mobile phones in medical care**.** In our project we make use of health care maintenance with the help of e-prescribing by use of mobile application to educate patients about preventive health care services which includes health tips, check for symptoms, music therapy, setting notification remainders in mobile application.

2.EXISTING WORK

In existing system there are many problems with the paper prescription system which, the patient may lose it and is temporary. Also the patients are not aware of buying proper prescribed medications in the medical shop. Also he/she forgets the instructions given by the doctor to take medications in proper time written in a piece of paper .The patient also is not aware of proper HealthCare that he has to take in his daily life

2.1 DRAWBACKS OF THE EXISTING SYSTEM
- ➢ Patient lacks accessibility of Medicines once prescription is lost.
- ➢ The patient can mistakenly take overdoses, wrong tablet etc., if the prescription paper is lost.
- ➢ He cannot remember instructions given by doctor to in-take medications.
- ➢ He may forget taking medications from time to time.
- ➢ He is unaware of taking care of his own personal health which leads to adverse health effects.

3. PROPOSED SYSTEM

In proposed system, all of the problems that are stated in existing system are remedied through the implementation of e-prescriptions in mobile technology. The electronic prescription are directly sent to the patient's mobile application. Also we provide some personal Health care tips and features to be maintained in his mobile applicaion by the user to cure himself faster and does not effect to the same disease again.

3.1 ADVANTAGES OF PROPOSED SYSTEM
- ➢ Patients are able to take medications from medical shop by showing the e-prescription any time.
- ➢ Patient can avoid errors from written prescriptions and be safer.
- ➢ We can have access to Prescription Records of the patient.
- ➢ They are able to set remainders to take medications in proper time.
- ➢ Patients can take care of their health by following some health tips.

4. SYSTEM DESIGN STRUCTURE
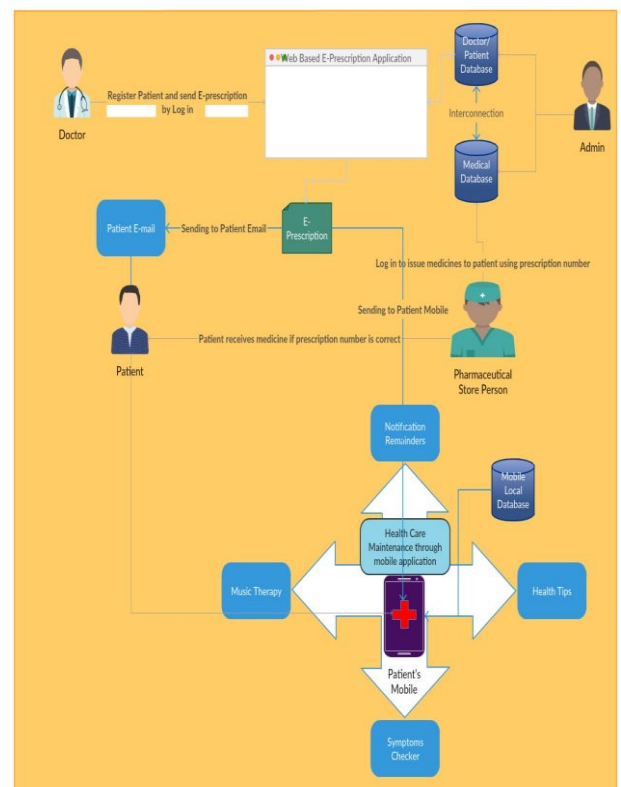

Fig.4.1 System Architecture

4.1MODULES

- Web Application Modules
  - Doctor Login
  - Pharmaceutical Login
  - Patient Login
  - Admin Login
- Mobile Application Modules
  - Prescription Viewer
  - Notification Remainders
  - Health Tips
  - Symptoms Checker
  - Music Therapy

4.2MODULES DESCRIPTION

4.2.1 DOCTOR LOGIN:

The doctor log in to the web application to enter patients details (if the patient visits for first time) and issues Prescription online along with the prescription number to the patient to his email and mobile.

4.2.2 PHARMACEUTICAL LOGIN:

The Pharmaceutical(Medical shop Persons) log in to the web application to dispense medicines to the patient with the help of patient unique prescription number and if prescription number is valid then the medicines are issued to the patient and acknowledgement is sent to the doctor.

4.2.3 Admin Login

The admin log in to the web application to manage that is adding/deleting/modifying the doctors ,patients and prescriptions data in the database

4.2.4 Patient Login

The patient logs in inside prescription viewer of mobile application to see the e-prescription that has been issued to him.

4.2.5 Prescription Viewer

In this module ,the patient receives the Prescription to his mobile application into prescription viewer so that the user can view the prescription**.**

4.2.6 NOTIFICATION REMAINDERS

Here the patient can set remainders to take the medication on time using the prescription viewer in his mobile application

4.2.7 HEALTH TIPS

In this module, the patient is provided with several health tips into his mobile application to get recover from his illness faster for maintaining proper health.

4.2.8 SYMPTOMS CHECKER

Here the patient is featured to check for symptoms of diseases if he is affected with any illness so that he can be aware of his health**.**

4.2.9 MUSIC THERAPY

In this module the patient will be given some music to listen to cure his mental illness which enhances his health.
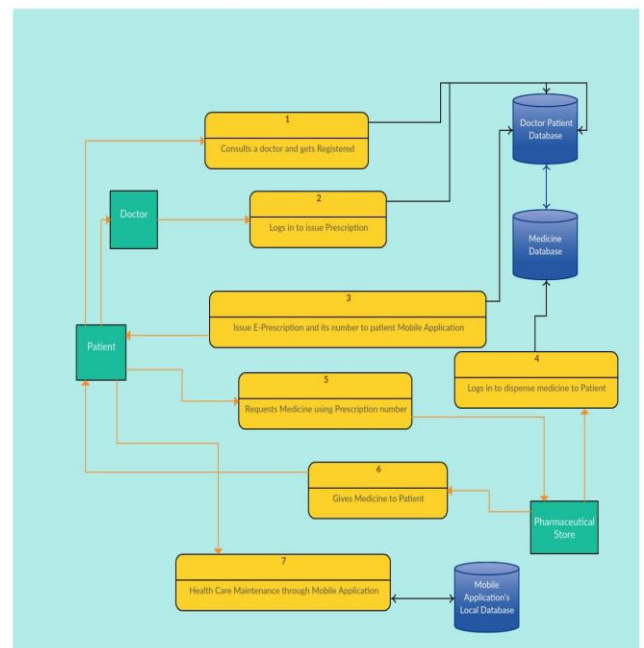
5.1 DATA FLOW DIAGRAM

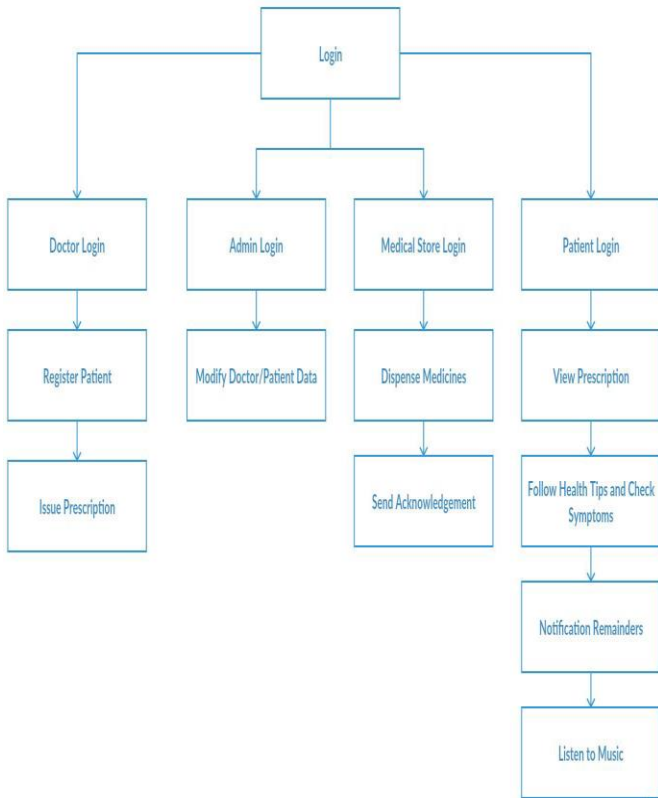Fig.5.1 Data Flow Diagram

5.2 CONTROL FLOW DIAGRAM

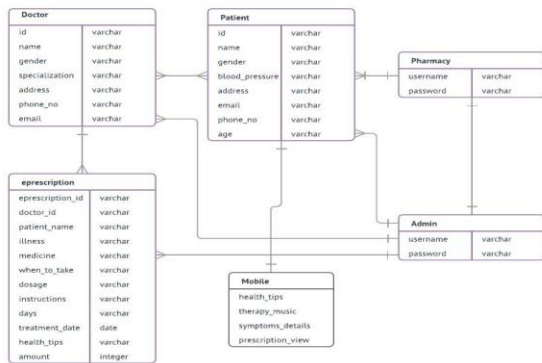Fig 5.2 Control Flow Diagram

5.3 Database Design Structure

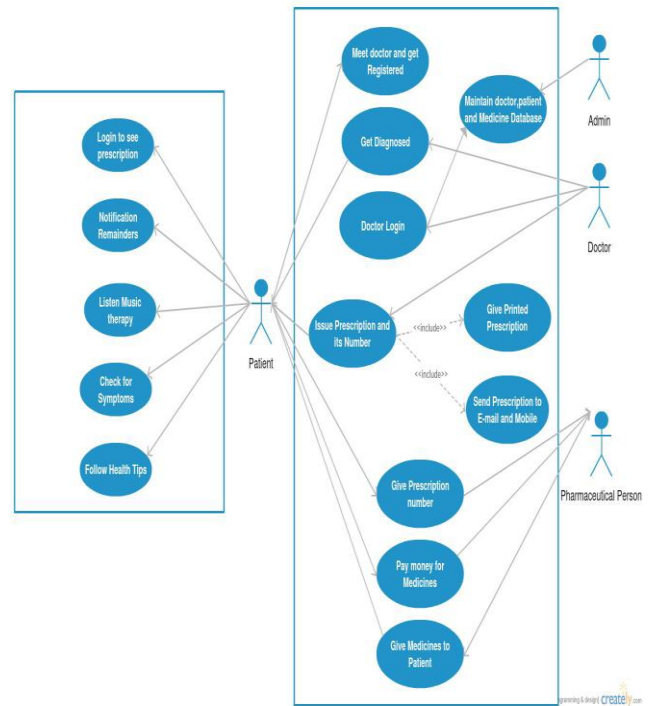Fig 5.3 Database design structure

5.4 UML DIAGRAMS

Fig 5.4 Use Case Diagram

5.5 SYSTEM IMPLEMENTATION

5.5.1 Motivation and Problem statement

The current system of prescribing and dispensing medications has widespread problems with safety and efficiency. Converting the prescribing process from paper to an electronic process is often referred to as the "final mile" for ambulatory electronic medication management. Patients can't record various health problems or symptoms, occurring during their daily life. Technical description of diseases cannot be understood. Patients are always concerned about their health care. Also the patients can't take care of their health in proper manner.

5.52 Description of the project work

In our project, we made use of both web technology(HTML,PHP etc.,) and mobile technology(Android application) for E-prescribing and Health care respectively. We keep track of doctor, patient and e-prescriptions data in an database mysql, php and phpmyadmin. In mobile application there are many features and they are prescription viewer, notification remainders, health tips, check symptoms of diseases, and music therapy.

5.5.3 Methodology

This study's examination of the benefits of and barriers to e-prescribing and mobile health care was conducted following the basic principles of a systematic review.The study was conducted in three stages: (1) identifying the literature and collecting the data, (2) analyzing and evaluating the literature found, and (3) categorizing the literature.

Step 1: Literature Identification and Collection

The key phrases "electronic prescribing" or "e-prescribing" and "m-health care" or "mobile health care" were combined with the terms "Meaningful Use" or "ambulatory" or "quality" as inclusion criteria to search online scholarly databases for articles. Databases included EBSCOhost, PubMed, Academic Search Premier, and Google Scholar. The government websites of CMS, the Centers for Disease Control and Prevention, were used to obtain updated statistics and data regarding e-prescribing. Databases also included CS Pattichis - 2006 – Springer, Engineering in Medicine, Journal of medical systems, 2012, Australasian physical statistics and data regarding mobile health care.

Step 2: Literature Analysis

Literature was selected for review in the categories of governmental acts, meaningful use, and benefits of and barriers to e-prescribing and mobile health care implementation. Given that the use of e-prescribing and mobile health care has been growing in recent years as a result of legislation and incentive programs, the search results were limited From a total of 138 initial references, only 47 sources were deemed suitable for use in this research study

Step 3: Literature Categorization

Abstracts of the articles were reviewed first to determine the relevancy of the data to the study. If academic articles and studies were found to be relevant from the abstract reviews, the data were analyzed and categories were generated on the basis of the findings. The findings of the systematic review are presented in the results section below, in the categorizations of benefits and barriers of e-prescribing implementation.

RESULTS

An important factor in the quality of patient care is whether medical errors are present. Deaths occur yearly from preventable medical mistakes and hospital infections. Errors in medication prescribing and filling are some of the most common types of medical errors. Medication errors have been defined by the National Coordinating Council for Medication Error Reporting and Prevention as preventable events that may cause or result in inappropriate use of medications or harm to patients while the medication is being used by a healthcare professional, patient, or consumer.

5.54 Technique Used

Searching:

TextWatcher technique is used for searching. We can perform search operation and keep watch on which characters are being entered or how many characters are being entered in the Search-box. It then filters the data what we searched for. It consist of 3 searching types i.e., after Text Changed, before Text Changed, and on Text Changed. This algorithm is used for checking diseases symptoms in mobile application.
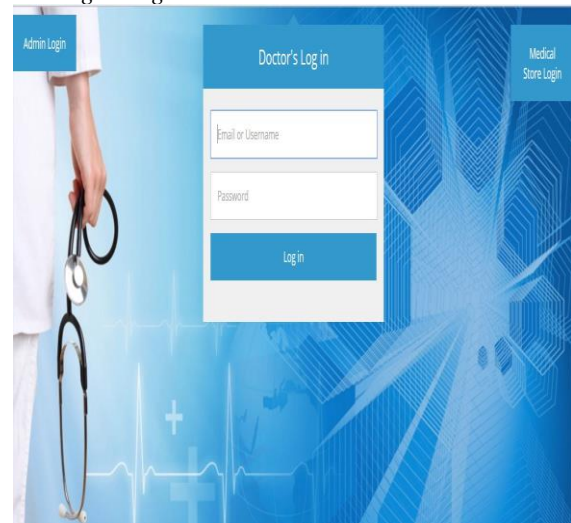
6. SAMPLE SCREENS SHOTS

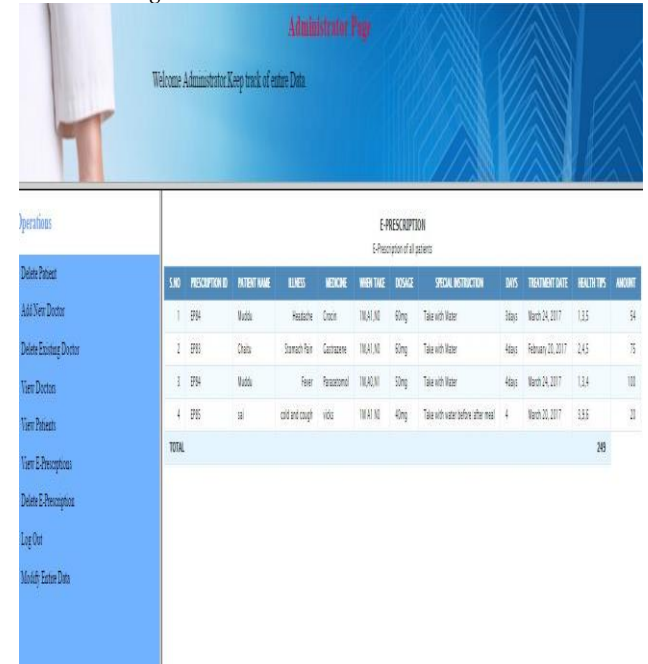*6.1 Login Page*

Fig 6.1 Login Page

6.2admin Page

Fig 6.2 Login Page
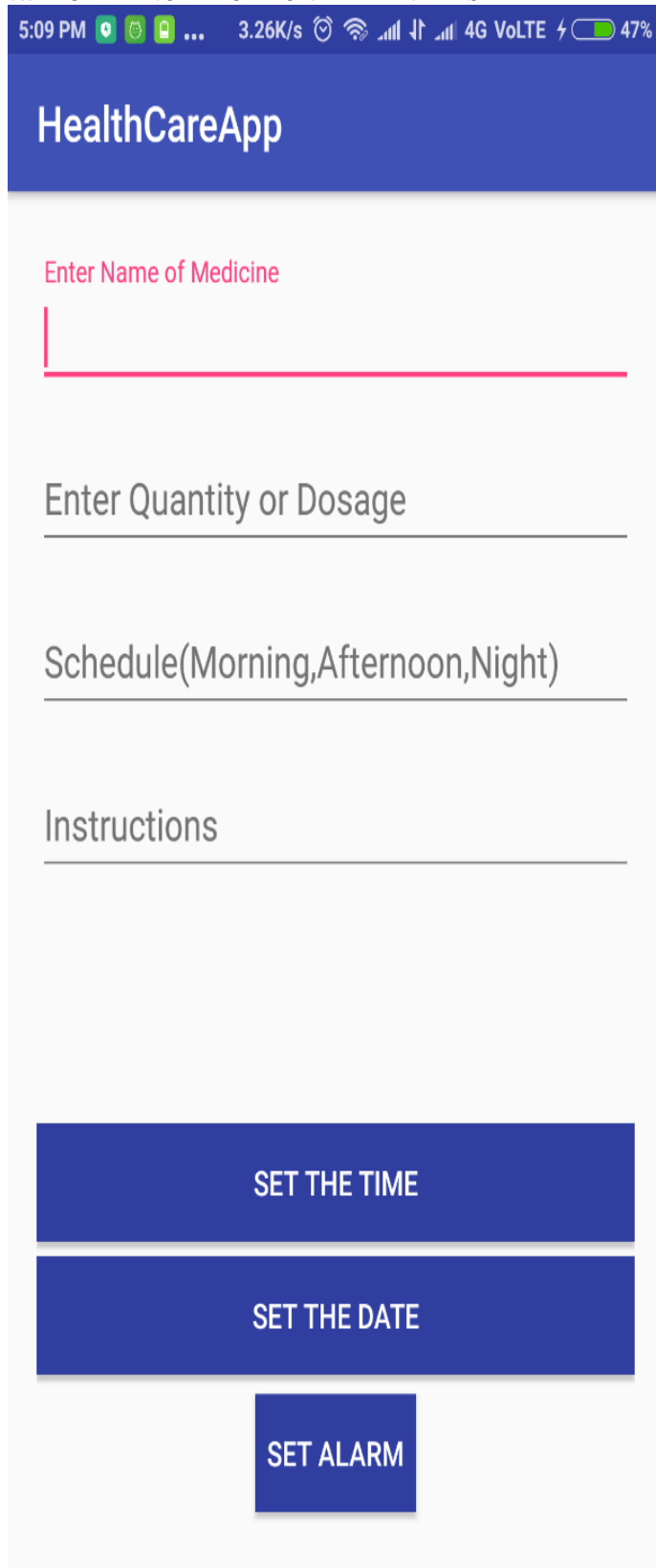
6.3 MOBILE NOTIFICATION REMAINDERS

Fig 6.3 Mobile Notification Remainders Pag

6. CONCLUSION

This web application will help doctors and medical store persons to store e-prescription data and dispense medicines and to maintain proper health care to patients respectively. This development of health care application will help patient in every instant part of his life to overcome from dangerous health problems. This application in mobile will improve the efficiency of health care maintenance of a person..

7. SCOPE OF THE PROJECT

In further development ,implementation of patients mobile application will be simple, easy to understand and easy to interact for the patients .The entire mobile application can be done in all Indian languages and further more easy way of understanding to people.

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