SMART HEALTH CARE

(AN ANDROID APP TO PREDICT DISEASE ON THE BASIS OF SYMPTOMS)

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Abstract-*This paper is proposing an android app that allows user to get instant guidance on their health issues through an intelligent health care system. The system is fed with different symptoms and the disease associated with those symptoms. The system allows user to share their symptoms and issues. Here we use some intelligent data mining techniques to guess the most accurate illness that can be associated with patient's symptoms. The patients can easily identify the disease by just imputing their issues and the software generates what disease he/she may be infected from. The system will prove helpful in urgent cases where the patient is unable to reach hospital or in cases when there are no doctors available in the area.*

*Key Words***:** Android App, Data Mining, Symptoms, Naïve Bayesian

1. INTRODUCTION

In today's era, each and every human-being on earth depends on medical treatment and medicines. Every day we can hear some new diseases or new symptoms of the existing disease being discovered. But with the growing number of diseases and their symptoms, everyone cannot manage to be updated with it. So to deal with such situations, we are developing an android application "Smart Health Care" which has a list of large number of diseases, their symptoms, their treatment and medicines required to cure it.

One major problem in today's world is hike in Doctor's fee. So the middle class and lower class people are unable to afford for the fee and treatment charges. The application is developed taking this fact in mind. Using this application, one can easily find what disease he/she is infected with by simply inputting the symptoms faced. There are some other features such as inquiring about the diseases, medicines etc. [4]

2. LITERATURE SURVEY

The paper presented by Dr. Mahboob Khan (PHD) implements Smart Health Prediction Using Data-Mining. Data Mining is a technology which uses already existing data in the database to manipulate results. It also uses data mining and Database management system to extract knowledge from the large set of data sets. The database is fed with the list of various diseases, information about those diseases, their symptoms, and medicines. User is expected to input the symptoms he/she deals with. The system processes all the symptoms to search for different diseases associated with it and output the diseases which are most probable.

A paper by Daniel Lowd and Pedro Domingos on Naïve Bayes model for probability estimation, aimed to show that for a wide range of datasets, Naïve Bayes models have accuracy and less learning time compared to other Bayesian networks. The magnitude of order of Naïve Bayes inference is faster than Bayesian network inference.

A Survey of Health Care Prediction Using Data Mining by Sujatha, Sumathy, Anitha Nithya suggests Data Mining as one of the most motivating area that is becoming popular in health organization .The actual task of data mining is to extract data by automatic or semi-automatic means. Different areas of mining include clustering, forecasting, path analysis.

3. METHODOLOGY

"Smart Health Care" is an android application which includes two parts named as Patient login and Admin login. Patient will login into system using his login-id and password. Patient will specify the symptoms caused due to his illness. System will ask some questions regarding his illness and system will predict the disease from which he may be suffering using an efficient data mining algorithm. Patient can also search about the disease from which he may be suffering and medicine that can be taken to combat these diseases.

Admin can login to the system using his login-id and password. Admin is the person responsible for creating and maintaining database containing diseases and their symptoms. He can also add new diseases to the database, view diseases stored in the database and view the details of

the patient who had accessed the system and corresponding disease that has been predicted by the system.

.**4. IMPLEMENTATION**

There are following three modules of the app:

    I.   PATIENT LOGIN
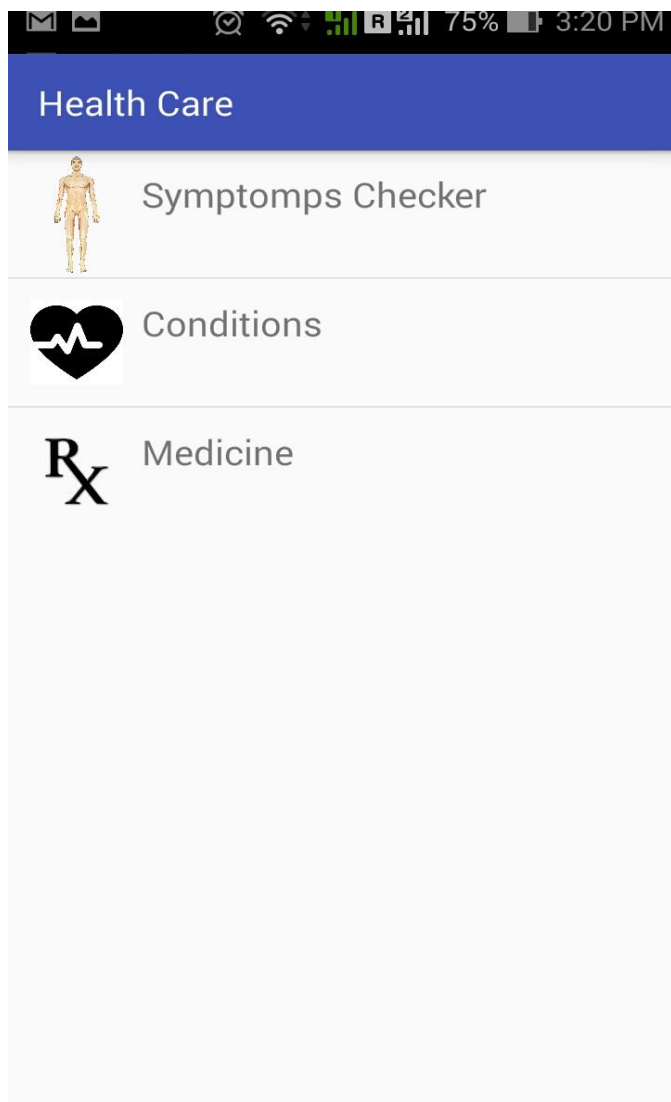   II.   DISEASE PREDICTION
    III.   ADMIN LOGIN

Fig1: Home Screen of Smart Health Care
4.1 Patient login

It is an android application which provides interface to the user. For the patient login there would be two parts, one is for the new registration and one for the already registered user. Here users have to give email and password to login to
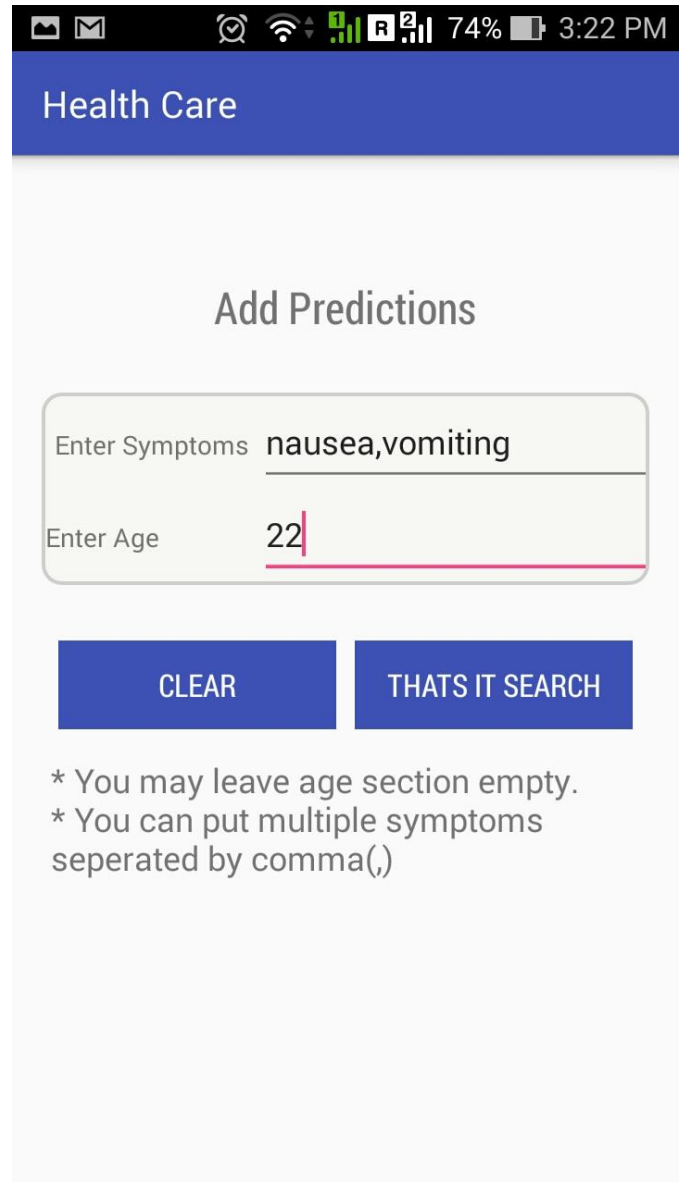
the system. We had used SQLite database which is used to save patient details. [1]

Fig2: Enter symptoms of the disease that has caused illness
4.2 Disease Prediction

Patient will specify the symptoms caused due to his illness. System will ask certain question regarding his illness and system predict the disease based on the symptoms specified by the patient and by using efficient data mining algorithm (Naïve Bayesian algorithm) which perform prediction on the basis of probability on a large datasets.[3] A detailed description about the disease ,symptoms, treatment and medicine is also provided by the app.
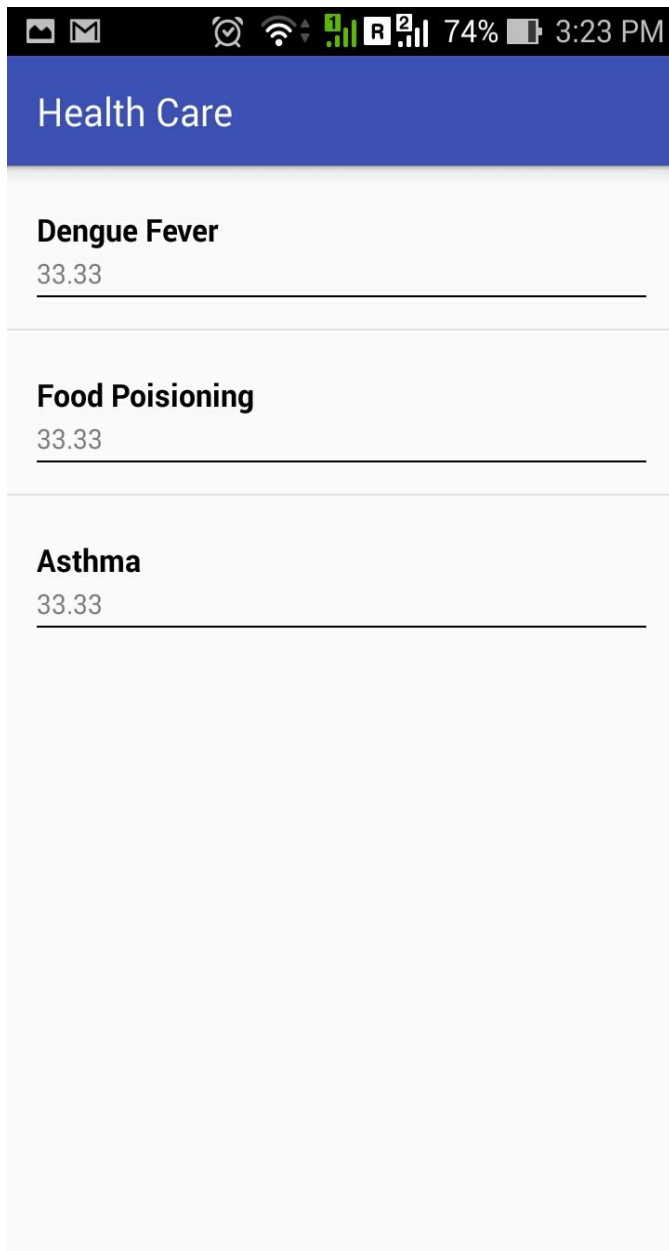
Fig3: Diseases from which patient may be suffering

4.3 Admin Login

Admin will login into database using his login Id and password. Admin can add new diseases and their symptoms to the database. He can also view the details of the patient who had accessed the system.

5. CONCLUSION & FUTURE SCOPE

In this paper we had proposed an app which will make use of data mining for health diagnosis. [6] The app will prove useful in urgent cases where patient is unable to reach doctor, for emergency cases that do not have doctors in an area, during late night emergencies and also for preliminary examination of patients. This app has large scope as it has following features:

- Automation of Disease Prediction
- To save the environment by using paper free work
- To increase the accuracy and efficiency so that patients can get direct help.
- Management of disease related data

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