

HEALTH PREDICTION APPLICATION USING DATA MINING

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Abstract The data mining comprises of analysis of large data from various perspectives and obtaining summary of useful information. The information can be transferred into knowledge regarding future trends and history. Data mining has a very important role in the information technology domain. Huge amounts of complex data is generated by health care sector today. These data includes details about diseases, patients, diagnosis methods, electronic patient's details hospitals resources etc. The data mining methods are very helpful in making medicinal decisions in disease curing. The vast data collected by healthcare industry are not mined and hence information is hidden. And as a result the decision making is not effective. The knowledge discovered can be used by the healthcare administrators for enhancing the service quality. In this project, we are predicting the diseases on the basis of the previous data and frequent item sets produced using Apriori data mining technique based on association rules.

Keywords: rule-based, hibernate, data mining, predict, symptoms, diseases.

I. INTRODUCTION

In this world of global marathon, everyone is too close to smart technology but is moving miles away in taking care of health. The traditional approach has been replaced by smart technologies integrated in every discipline of science. In this, a methodology is presented to predict diseases based on user input symptoms. It built a prototype to demonstrate the efficiency of these methods which will inform users about the disease they are suffering from. It predicts probable diseases by mining data sets and provides suggested doctors, and remedial solutions. It will also guide the users by giving tips to live a healthy life, some diet tips and also usefulness of plants and food items. It will identify probability of diseases using Rule-based technique. Everyone falls ill sometime or the other and need quick analysis. Everyone is in under the wrong impression that doctors are expertise in their domains and have good knowledge of all their solutions. Today, the rat race is so fast and furious that everyone just wants good amount of salary, name and fame but neglect and do not pay any need to good health. Technology is far ahead and medical science is today doing miracles. But it can't possibly happen that everything cannot be at their fingertips. Even if it has to access the massive amounts of data it still need expert teams to predict analysis in various domains. This kind of detailed research and statistical analysis is more than what a human mind can think. It is the reason everyone is moving towards predictive analytics. Predictive Analytics (PA) uses manipulations to search through huge amounts of information, and analyses it to predict outcomes for users. It can include data from past results as well as latest advancements. It is used for predictions and also gives that it will never thought of. In medicine, predictions can range from responses to smart health care.

II. LITERATURE REVIEW

Mohammed Abdul Khaleel (2013) states data mining as a concept that studies large amount of data and extracts patterns that can be converted to useful knowledge. In this, set out to identify efficient algorithm for mining results. By using all these predictive analytics and data mining techniques, this project creates versatile applications for medicine sector so as to fulfil:

1. This tells how Apriori algorithm is used to find frequent data items and compares them with the existing algorithms.
2. Data mining techniques can be applied on medical data which has abundant scope to improve health solutions.
3. Electronic health records and other historical medical data can prove miracles if used for a right purpose.
4. Huge amounts of complex data generated by health care sector include details about diseases, patients, diagnosis methods, electronic patient's details hospitals resources.

It provides a survey of latest techniques in predicting heart diseases using data mining techniques of knowledge discovery. So many experiments are conducted to compare the performances and to determine the outcomes. The survey reveals that in accuracy wise Bayesian classification is having similar results as of decision tree. When these are compared to other methods, like Neural Networks, Classification based on clustering they are performing well. Decision tree algorithm and Bayesian classification are improved by applying Genetic algorithm optimal data sets are obtained by reducing the actual data size which is useful in predicting Heart diseases

[1]

Divya Jain and Jyothi soni (2013) presents a review of the implementation of Apriori Algorithm on datasets using machine learning tool Weka. Provide a survey of latest techniques in predicting heart diseases using data mining techniques of knowledge discovery. So many experiments are conducted to compare the performances and to determine the outcomes. The survey reveals that in accuracy wise Bayesian classification is having similar results as of decision tree. When these are compared to other methods like Neural Networks, Classification based on clustering are performed well. Decision tree algorithm and Bayesian classification are improved by applying Genetic algorithm optimal data sets are obtained by reducing the actual data size which is useful in predicting Heart diseases [2].

Krishnaiah et.al. (2013) aims to evaluate various methods of data mining in applications to develop precise decisions and also provides a detailed discussion of medical data mining techniques can improve various angles of clinical predictions [3].

III. SYSTEM ARCHITECTURE

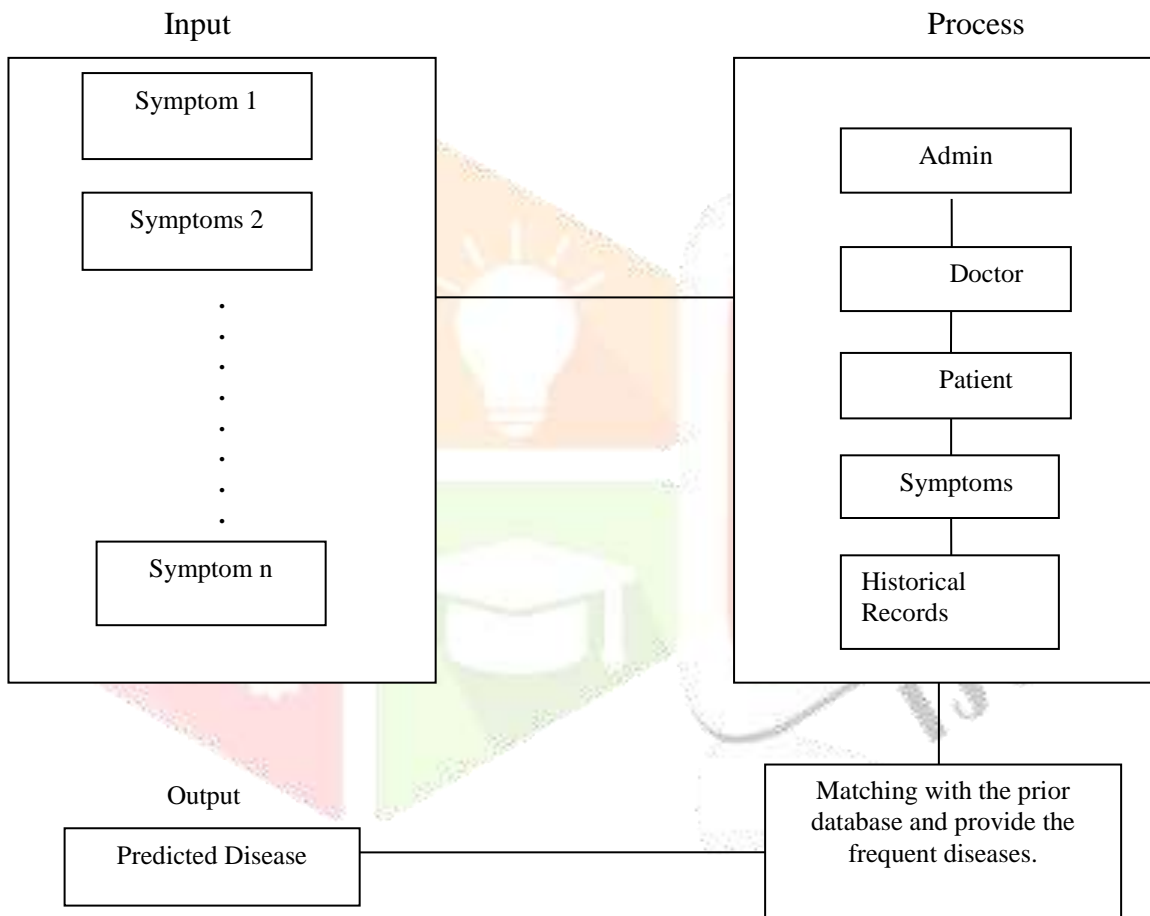


Fig3.1: system architecture

IV. MODULES

There are two modules for this application which are as follows:

1. Patient module
2. Admin module

4.1 Patient module

Nowadays, people are busier in their work but they always ignore their health. So, the patient module is providing the different patients with the predicted diseases on the basis of their input symptoms. In Patient module, the patient has to register first to create their own login ids. Then the registered patient only can access and enters the symptoms they are suffering from, asks for recommended doctor and give feedback

4.2 Admin module

Admin will validate the patient registration, and predict the related diseases. Admin will also search for doctor related to disease from database.

V. SYSTEM SPECIFICATIONS

5.1 Minimum Hardware:

Processor: Intel core i3,i7 or any latest

RAM: 512MB

Hard Disk: 40GB space

5.1 Minimum Software:

OS: Windows, Linux

Programming Language: Java, Android

Front end: Android layout

Web Server: Apache Tomcat

VI. RESULTS AND DISCUSSION



Fig. 5.1 Login Page

The user login page is used to login into the application. If the user is already registered into the app then the user can directly login by entering the email-id and password. If the user is new to this application then user can register himself using new user registration.



Fig. 5.2 URL Settings

In android phone, users need to set the URL for connecting with the server. It is the necessary Step to run this Application.

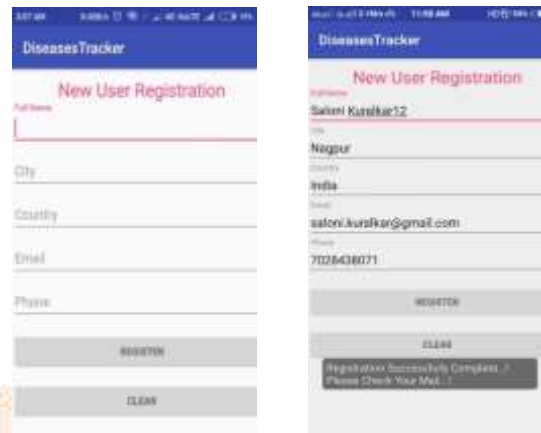


Fig. 5.3Registration Page

The registration page is used for the registration of new users into the application. The user can register by entering his required details into the application.



Fig. 5.4Disease Search Page

This is a disease search page, if the user login successfully they can enter into this page and search for symptoms they are suffering from. This page is used for searching a disease. If the user is suffering from more than one symptoms then as per that user will enter the symptoms.

VII. CONCLUSION

This system can be accessed by others in future to make android apps, or can be embedded in other applications locally available doctors could be referred to the patients. Further, the software they made may be extended, by adding a link, for buying medicines online, for predicted diseases, prescribed by doctors. Also, features like, detecting the causes of the detected diseases can be added. For more concern of the patients, the software can have features, saying what things should be avoided by the patients, during the illness period.

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