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AN APPROACH FOR PREDICTION OF DISEASES TO SUGGEST DOCTORS AND HOSPITALS TO PATIENT BASED ON RECOMMENDATION SYSTEM

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Abstract

Sufferer fulfilment has become an important measurement for keeping an eye on health maintenance and gig of convalescent homes. This shape has thrived into a new feature: the perspective of the sufferer's side of egis. Currently data stored in medical Database is growing rapidly. Analysing the data is important for medical decision making. It is extensively recognized that medical data analysis promotes well care by improving sufferer gig. This shape has thrived into a new feature: the perspective of the sufferer's side of egis. Currently, data is stored in the form of medical Database is growing rapidly. Analysing the datum is important for medical decision making. It is extensively recognized that medical data analysis promotes well care by improving sufferer direction gig. Sufferer length is the most commonly used outcome quantify for monitoring convalescent homes resource utilization and convalescent home show. It helps to manage the kitty and pronouncement fittingly.

Victim feedback takes into exposition the opinions and beliefs of patients and ministries of expertise int them. The company can collect speculations in a number of ways, including gazing at, audits and comments and complains. Inclusion, credible backing for can be systematically posed using a variety of together with, including focus lots. With latter vanguard we are creating praxis for predicting syndromes and recommending the best convalescent homes and quacks based on sufferer reviews. Sufferer satisfaction is one of the best validated indicators for quacks convalescent homes, where they provide care and it is even more chief that sufferer/s review is the best outcome. Most convalescent home care providers receive sufferer's review is the best outcome. Most convalescent homes are providers reviewer input and analyse data from sufferer write-ups and privately gather data from the quacks' office, clinics and convalescent homes and they

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evaluate quacks performance and record the experience of the convalescent home's services and governance the sufferers.

The data is scrutinised using random forest step by step procedure to solve a problem and K-Nearest-Neighbours step by step procedure to problem where it approaches the issue with a specified query to scrutinize and find the answer between two or more canon constrained variables and non-constrained variables. They will do the survey and compute the solution revived from the patients and they convert into percentage based on hospital services or managements
Keywords– Convalescent homes, gigs Nearest Neighbour, Random forest algorithm

1. Introduction

Health plays a major role in human's life to lead a peaceful life, but people are stepping into many diseases due to deficiency in nutrients and food. In modern technology we are creating application where we will be predicting diseases and recommending the best hospitals and doctors based on the patient's reviews. Patient's satisfaction is one of the best valid indicators for the doctors and the hospitals where they are for quality and each and every patients review is more important to give a best result. Many health care providers will be fetching the patient's inputs and analyse the data of patient's reviews and personally they will collect data from doctor's office, clinics, hospitals and they will record the patients experience to evaluate doctor's performance and hospital services and management. The set of data is analysed by using random forest algorithm and K-nearest neighbours (K-NN) algorithm where they approach the problem with the specified query to analyse and find solutions between two independent variables and dependent variables. They will do the same and compute the answers received from the survey convert into percentage based on the hospital's services management. Here we are concentrating on three diseases Heart attack, diabetes and breast cancer.

2. Literature Survey

There is a survey tool used by many treatment centres to reduce the victim's experience. This data is provided by the Treatment Consumer Assessment of Healthcare Providers and Systems Database, which is funded by the US. Funded by Health Care Research. Use of Centres for Medicaid and Medicare Services the scores form of cordial infraction prediction using big datum techniques. In 2017 international conference on intelligent computing and control. From Hospital Consumer Assessment where in the users actually give their valuable feedbacks based on their experience with the doctor. Taking the feedback in front of the

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doctors is not advisable [1]. A model is made using the heart disease prediction techniques. For the analysis of heart and its disease. Provides an accuracy of 98.3% based on ISE datasets and during test runs. Accuracy is <70% for real-world datasets. Variation in ISE not frequent and high [2]. Not rare risk factors in the returns on disease and shackles, using 5 common risk factors to justify the variations so that it can be used to predict the recommendation returns. The five factors do explain about the nature of Hospitals to some extent**.** The research is outdated, as the Hospital review model has changed [3]. Analysing Heart Attack and Diabetes Using waveform transforms and repetitive neural networks: An integrated system based on the artificial bee colony algorithm. It combines the infinite neural networks and the wavelet changes from the artificial bee colony step in order to predict the diseases [4].

In the Hospital management system, both fundamental and technical analysis is considered to predict the diseases. Sentiments towards the diseases are compared with the diseases prices to train the model. Provides a broader range of attributes from which we can predict the diseases [5].

This paper deals with the application of support vector machines on economic time series estimation. Multiple criteria for the dataset collation filter the dataset of anomalies Low accuracy results. Comparing SVM with BP is waste of time [6]. The Raspberry Pi board is the platform where the user interface of the Variable System Control and Route Track ability system is developed. This platform has all the resources needed for the application of the greenhouse model. For example, it processes multiple control of the system. Additionally, it allows the design of graphic interfaces and includes remote communication modules such as Wi-Fi. In some studies, the communication and control process are carried out using other platforms with similar communication protocols. However, the Raspberry Pi has 3 embedded modules and improved performance [7]. According to Y. Yang et.al in ‘‘Design of workshop Hospital Management system Internet of Things based surveillance system” in Government Hospitals. That is why the quality and safety of the Hospitals is significant here actually he used Find S algorithm which is now outdated [8]. Diseases Prediction Method based on Support opposite of Scalar Machine and Not dependent Component Analysis. To predict the financial time series, using a model based on Support not scalar Machine and not dependent Component Analysis [9].The system was proposed and the key components in the architecture were analysed in theory. The work investigated from the help of ZigBee-based upon wireless sensor networks for monitoring of indoor air quality [10].

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3. Design and Implementation

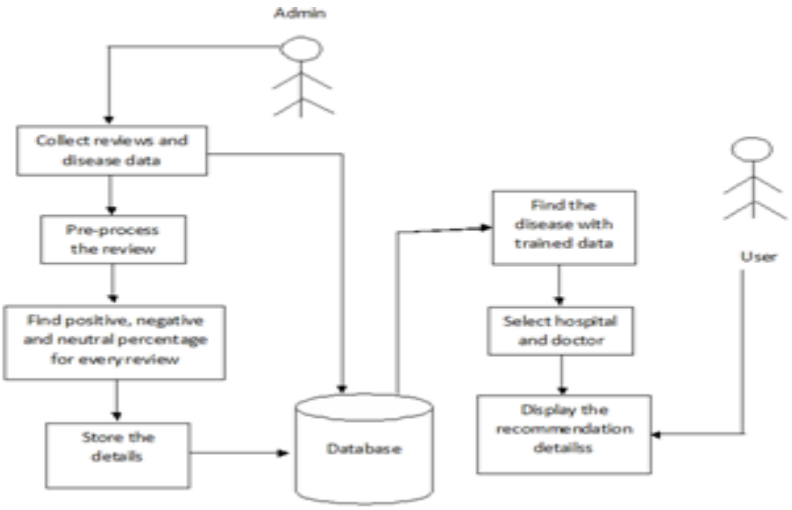

Figure 3.1: Architecture for prediction of Diseases to suggest for Hospital & Doctors.

A. User's Side

Enter the symptoms: User enters the symptoms he is having, or the guardian enters the patient's symptoms.

Find the disease with trained data: The disease is being predicted by the structure and also based on the information given by the user.

Select Hospital and Doctor: This module helps in selecting the appropriate doctor and hospital according to requirement specified by the user.

Display the recommendation details: The doctor is being predicted by the structure based on the information given by the operator.

Database: The data given by the user is being stored on the hard disks in the form of the table it is made more efficient.

B. Admin Side

Collect the reviews: Admin collects the reviews from patients.

Pre -process the review: Admin confirms that the information provided is genuine and correct.

Find positive, negative and neutral review: Admin then classifies the user provided review as positive, negative and neutral review.

Store the review: Admin then stores the reviews on the table.

3.1 Algorithms

3.1.1 KNN Algorithm

Step 1: Take the set of numbers
Step 2: Find the nearest number of mean and put it in cluster
Step 3: Redo steps 1 and 2 until we get the same mean

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3.1.2 Random Forest Algorithm

Step 1: First begin with the choosing of random samples from a given set of data. Next this step builds a decision tree for each model. Then we get the expected result from the decision tree.

Step 2: This step election will be performed for each predicted consequence and the non-predicted outcome.

Step 3: Finally select the highest polling consequence as non-predicted outcome.

4. Results

4.1 Entering the details of the symptoms and submission button page

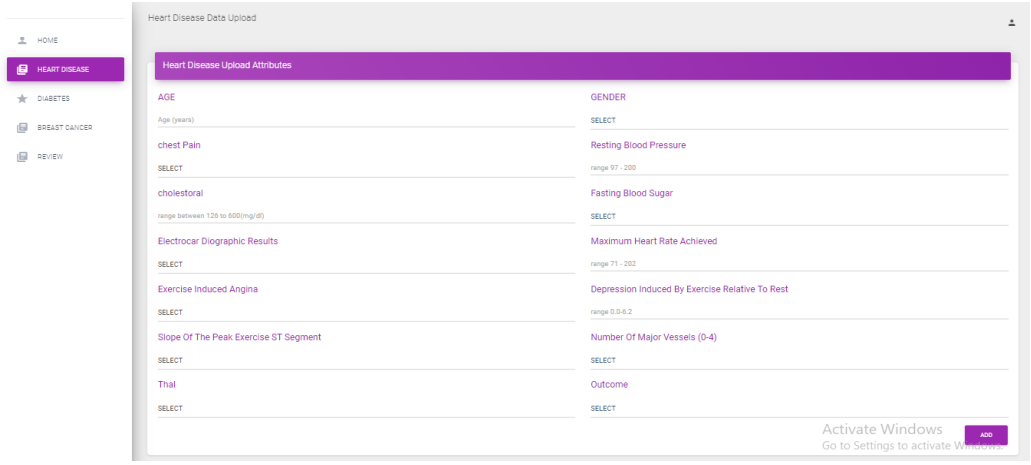

Figure 4.1: The symptom entry page for guardians or patients after entering the symptoms.

4.2 Hospital recommendation page

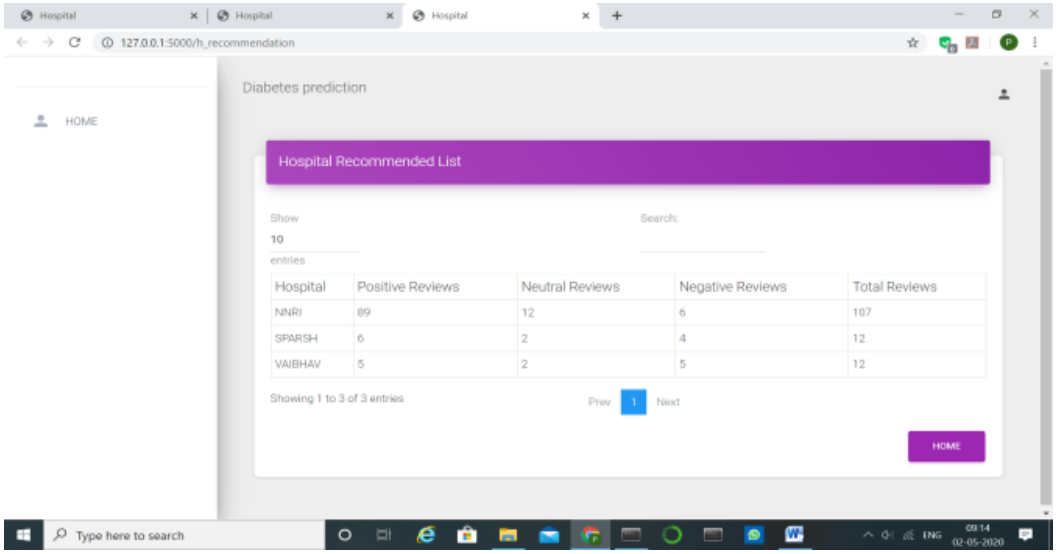

Figure 4.2: The hospital recommendation page to view the list of hospitals

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4.3 Doctor recommendation page along with positive, negative and neutral reviews followed by the total reviews

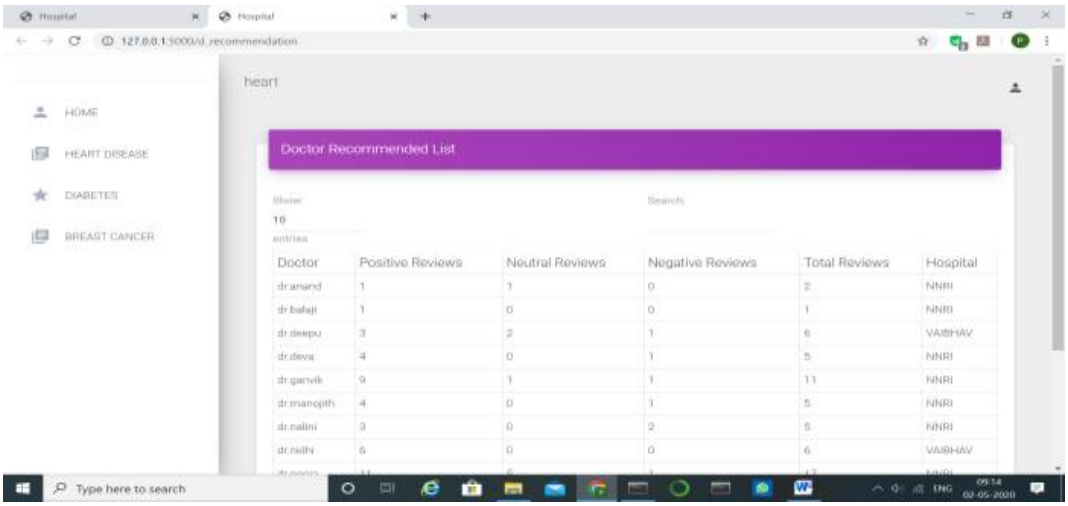

Figure 4.3: The doctor recommendation page to view the list of doctors and reviews given by various patients

Table 1: The diseases which are being predicted by the application

Symptom Analysis and Disease Prediction		
Test case	**Test Unit**	**Pass/Fail**
Heart Disease	General parameters like pain in hand, pain in chest is considered. Specific analysis like BP, ECG	Pass
Diabetes	Analysis in various parameters like pedigree analysis, range Diabetes mellitus(range)	Pass
Breast Cancer	Chest radiograph is done for analysing the lump size(ranges between 1-5 cm)	Pass
General Symptoms	The symptoms are analysed, and the prediction of the disease is done accordingly	Pass

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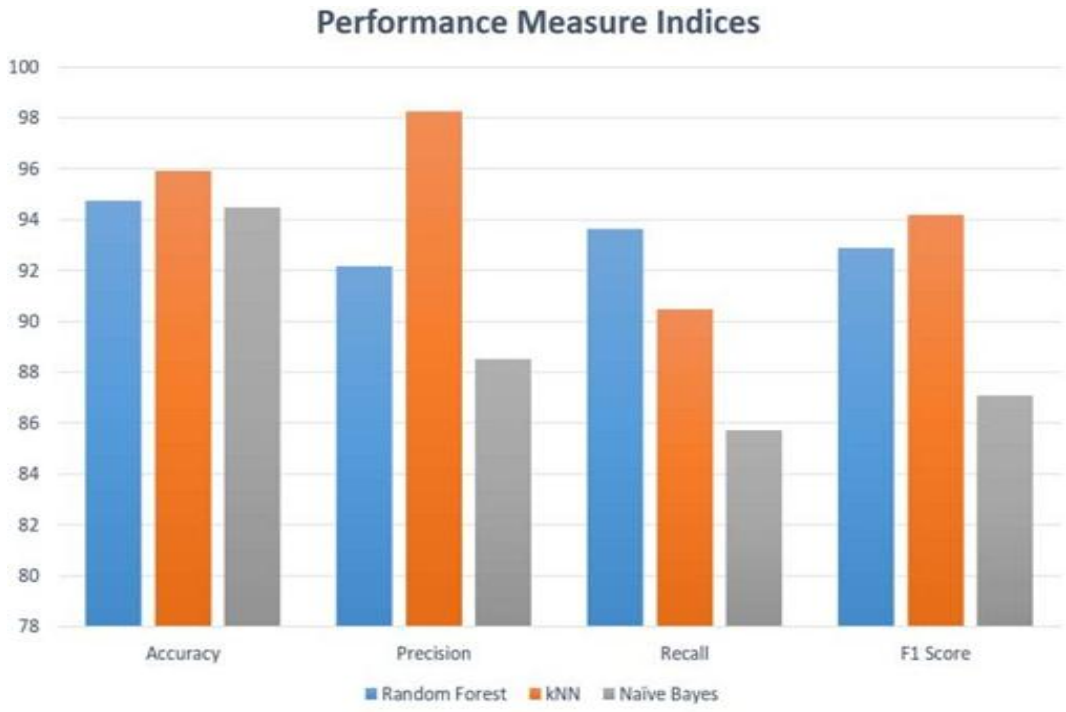

Figure 5: measures the efficiency of various algorithms

5. Conclusion

This project predicts the diseases like breast cancer, heart attack and diabetes by making use of KNN, random forest and decision tree algorithm and also suggests users' various hospitals and doctors so that user can diagnosed for diseases. We have also added an additional feature that if any patient enters any extra symptom, we as the server will update in the excel sheet and the correct the application. We also encourage users to give their humble reviews to doctors and hospitals

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