

# Mobile Application for Health Prediction Using Data Mining and Tracking Data for Health Monitoring

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*Abstract— It might have happened such a lot of times that you simply or somebody yours want doctors to facilitate forthwith, however they're not on the market thanks to some reason. The Health Prediction system is associate user support and on-line consultation project with mobile Application. Here I propose a system that enables users to urge instant steerage on their health problems through associate intelligent health care system. The system is fed with numerous symptoms and also the disease/illness related to those systems. The system permits the user to share their symptoms and problems. It then processes user's symptoms to envision for numerous sicknesses that might be related to it. Here we tend to use some intelligent data processing techniques to guess the foremost correct ill health that might be related to patient's symptoms. In doctor module once doctor login to the system doctor will read his patient details and also the report of that patient. The doctor will read details regarding the patient search what patient sought for per their prediction. The doctor will read his personal details. Admin will add new sickness details by specifying the sort and symptoms of the sickness into the info. supported the name of the sickness and symptom the information mining rule works. Admin will read numerous sickness and symptoms hold on in info.*

## 1. INTRODUCTION

The use of PC systems in a higher cognitive process, prediction and recommendation are a trending topic of analysis for quite a decade. The recent advances in life science can be attributed to advances in engineering. But, the prediction of medical behavior continues to be an awfully difficult task that is finished with the assistance of a medical skilled. The prevalence of each malady shows a pattern supported its symptoms. the most focus of this paper is to propose a system to exploit these patterns for predicting the associated diseases and the time which may be spent on their treatment. The core idea behind this was that each symptom of a malady contains a unique impact on severity. Our system tries to quantify this by prediction we tend to mean to forecast an incident of a condition supported some mathematical calculation. For implementing this prediction, we'd like a recommender system[1].

A recommender system[2] could be a system that reads Associate in Nursing input, finds a pattern in it that is predicated on the dataset given to coaching the system.

supported the pattern it figures out an answer for the downside.

A naive resolution is to form an information of each possible disease and its symptoms and predicting diseases based on that. the most important disadvantage of this resolution is that the potency and speed of this resolution are terribly less and the size of this dataset would be terribly massive. The solution that we propose is, of victimization the symptoms with the priority is given to symptoms by the patient, to predict the potential diseases my resolution is novel and higher as a result of we tend to predict the diseases primarily based on the priority of the patient's symptoms is predicated on real-life information given by alternative patients. For Associate in Nursing correct prediction, we tend to provide totally different coefficients to all or any. The symptoms potential for a disease. we've gathered the data associated with diseases and their symptoms from 2 sources - Wikipedia [3] and WebMD [4].

## 2. BACKGROUND AND RELATED WORKS

Wasan et. al. [13] have planned the appliance of assorted data processing techniques as diagnostic tools to spot patterns in medical knowledge. they need known data discovery in hospital management systems as a possible field which might like associate degree application of such techniques. data processing is incredibly helpful in discovering patterns in giant amounts of knowledge. Medical medicine is one such field wherever pattern discovery will be of large use. The applications of such techniques are bestowed by Scales et. al. in Durairaj and Ranjani [14] have performed a comparative study of knowledge mining algorithms and tools on varied diseases. they need conjointly analyzed the success rate of medical techniques over existing datasets. they need complete that combination of multiple data processing strategies might yield higher leads to the medical domain. a technique for predicting sickness risk through feature choice has been planned by rule et. al. [8]. they need to be applied random forest and SVM techniques for this purpose multiple UCI datasets. Meisam shabanpoor and Mehregan Mahdavi [15] planned a technique for prediction of diseases and their cure time supported symptoms. Their technique classifies diseases into teams supported age and Body Mass Index. they need to develop a cooperative filtering technique that considers neighborhood choice for prediction. Their technique doesn't take into consideration completely different coefficients/weights for various symptoms of a

sickness. S Sudha [11] and S Vijayarani instructed to use data processing techniques to predict diseases principally of 3 sorts. They targeted additional on heart diseases, polygenic disease, and carcinoma. They used totally completely different algorithms for predicting different diseases.

Most of the literature on the topic of sickness prediction exploitation data processing techniques is targeted around anybody sickness. for instance, in [10], the authors have used a hybrid technique to predict bronchial asthma sickness. they need to use a mix of Naive Thomas Bayes and Neural Network. In [10] Krishnaiah et. al. has instructed the employment of Fuzzy K-NN approach for cardiopathy prediction. In the authors have used wood hen tool with ten-fold cross validation to predict Dengue sickness. Their dataset consists of options derived from symptoms of a sickness yet because of the current condition of the patient. though the experiments performed in above-named papers ar terribly helpful and yield sensible results, they're restricted to only 1 sickness. within the planned work, we tend to attempt to overcome this barrier by introducing a generalized approach to sickness prediction.

The planned approach relies on reinforcement learning [12] by Barto. during this technique, desired outcomes are rewarded extremely whereas unsought outcomes are given low rewards. This ensures that desired outcome is known properly most of the days once encountered.

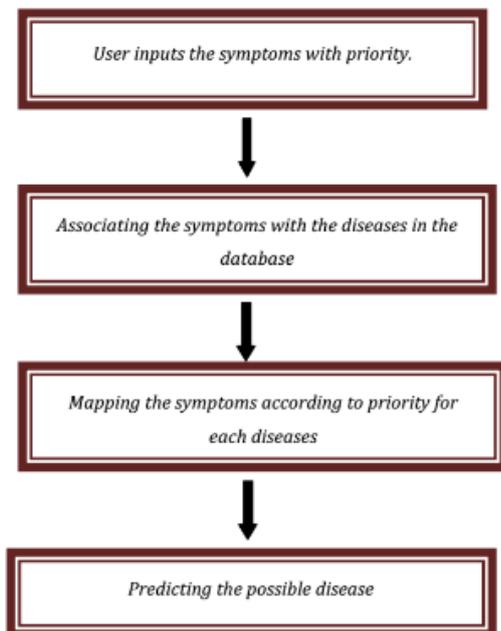


Figure 2.1: Flow Chart of the Proposed System

#### A. Reading Input

In this step, the user enters the symptoms, he/she is facing with the severity ratings.

#### B. Associating symptoms with diseases

In this step, the symptoms square measure then matched with the database entries, and also the

common symptoms and also the attainable diseases square measure selected for more process.

#### C. Mapping the symptoms according to priority for each disease.

In this step, user will insert symptoms with priority he enters. It means user will enter symptoms priority wise.

#### D. Disease Prediction

In this step, the minimum score for each disease, min (symptoms) are attending to keep the data and updated periodically. At the time of malady prediction, the cut-off issue for each malady metric capacity unit is compared with the minimum cut-off issue for that malady. If for a Disease D, n could also be a min (symptoms); then that illness is showed the user as a part of the prediction.

Design module of the proposed work includes the Collection and Study of relevant data set. The relevant data set is the records symptoms mapping with disease diagnosis.

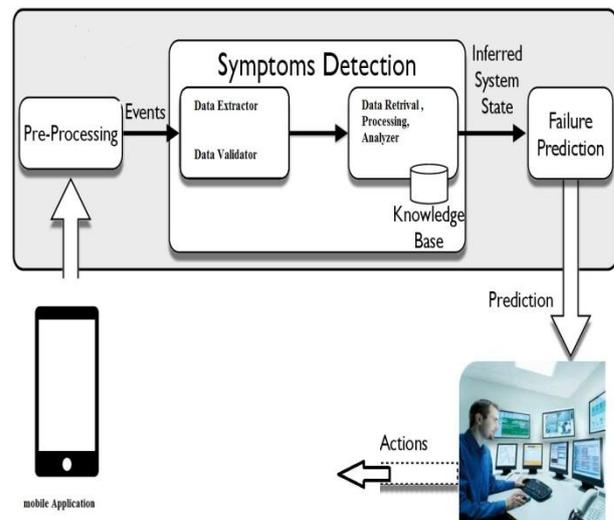


Figure 2.2: Symptoms Detection module design

### 3. RESULTS AND ANALYSIS

The main purpose of our approach is to predict the disease based on symptoms. For implementing this system, we made a mobile App that had 2 main functions. The first one was to require the medical record of the patient and also the second one was for taking the current symptoms of the patient with the priority rating.

For implementing this system, we need large dataset. The dataset consisted of the weight, height, age and also the medical record of the user. In the medical record, the user had to inform concerning all the diseases that he/she suffered from, and the symptoms that he/she suffered from, with the priority of 1-5 as shown in Table one. [9]

TABLE I: Disease and Symptoms

Serial Number	Disease	Symptom	Rating
1	Hepatitis-A	Fever	2
1	Hepatitis-A	Fatigue	2
1	Hepatitis-A	Jaundice	3
1	Hepatitis-A	Dark Urine	2

**Experimental Result:**

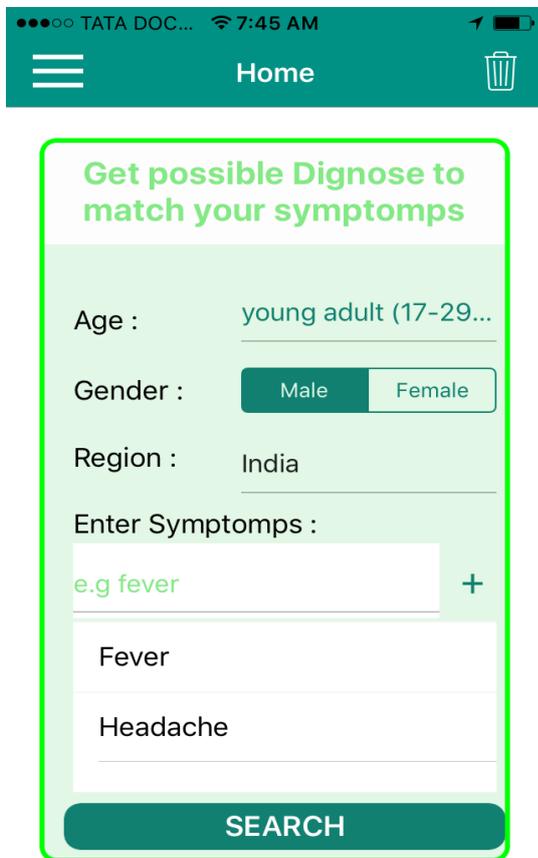


Fig 3.1: Home Screen that take input as Symptoms from patient



Fig 3.2: Diseases Prediction that showing all possible Diseases according Symptoms by patient.

**4. CONCLUSION AND FUTURE WORK**

As we've got already mentioned, we tend to address the matter of predicting diseases supported the symptoms. the most focus was on the classification of symptoms supported their priority and importance and victimization this data to calculate a numerical price to spot diseases. though the strategy was tested in a very restricted setting with high accuracy, it is extended to larger settings. we tend to additionally give a priority rating for this condition, relative to the opposite users with similar symptoms. the long run work will concentrate on victimization the anamnesis of the user with current symptoms within the prediction of diseases. The take a look at results for varied medical conditions is wont to more improve the dependableness of the system. The future work can focus on using the medical history of the user with current symptoms in prediction of diseases.

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