SMART HEALTH PREDICTION

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ABSTRACT

The "Smart Health Prediction Using Machine Learning" system, which is based on predictive modelling, is able to anticipate the disease of patients or users based on the symptoms that the user supplies as an input to the system. This is done using the basis of the "Smart Health Prediction Using Machine nLearning" system's name, which stands for "Smart Health Prediction Using Machine Learning." The system will then establish a diagnosis based on these symptoms in order to determine whether or not a disease is present. This application provides users with a total of three different login options to choose from: user/patient login, doctor login, and admin login.The user (or patient) enters their symptoms into the device, which then does an analysis of those symptoms and outputs the probability that the disease is present based on the prediction given by the algorithm. This allows the device to assist in the diagnosis process. The Naive Bayes Classifier is applied so that precise forecasts regarding health issues can be created. This allows for better patient care. The Naive Bayes Classifier computes the disease's % likelihood of occuring by taking into consideration all of its attributes. These properties are trained during the training phase.The correct interpretation of disease data enables early disease prediction for the patient or user and provides the user with a clearer perspective on the disease.

INTRODUCTION:

It's possible that you or someone you know has needed immediate medical help on numerous occasions, only to find that doctors are unavailable for various reasons. To address this, we present the Health Prediction system, which offers end-user support and online consultation. Our project aims to provide users with instant guidance on their health concerns through an intelligent healthcare platform. The system is equipped with a diverse range of data, allowing users to share their symptoms and receive accurate predictions related to potential illnesses.

The system is designed to analyze symptoms and identify the corresponding disease/illness. Users can share their symptoms and health issues, and the system utilizes intelligent data mining techniques to accurately identify potential illnesses associated with the provided symptoms. By processing the user's symptoms, the system employs advanced data mining algorithms to make informed predictions about the most likely illness related to the patient's condition.In doctor module when doctor login to the system doctor can view his patient details and the report of that patient. Doctor can view details about the patient search what patient searched based on their input prediction. Doctor can view his personal details. The admin can input new disease details, including type and symptoms, into the database. The data mining algorithm processes disease names and symptoms. The system also allows the admin to view various diseases and symptoms stored in the database, providing proper guidance when users specify their illness symptoms.

LITERATURE SURVEY

1. The Prediction Model of Blood Glucose Concentration for Smart Health

AUTHORS: Han Yu; Jianmin Lu; Yue Jin Year:2019 Since the inception of the field of study known as artificial intelligence (AI), the technology that supports AI has been put to use in a broad variety of settings. In the field of medicine, artificial intelligence is capable of managing and analysing massive volumes of medical and health data, gaining insights through cognitive analysis, and providing service to the government as well as health care institutions, pharmaceutical corporations, and individual patients. It is possible that an abnormal amount of sugar in the blood is a factor in the the advancement of diverse diseases. In this study, an early warning model of abnormal blood sugar concentration was established by employing artificial intelligence technology to anticipate blood sugar concentration by evaluating and mining related physiological data. This was done to provide an early caution of abnormal blood sugar concentration. The model was utilised to determine an early warning system for abnormally high or low blood sugar levels. The performance could be improved using the cross-Stacking fusion model or the average fusion model, which were both recommended by this body of work. These models were constructed using the ideas of ensemble learning and cross validation as its foundations. The fusion model that was described in this article has been shown to be accurate beyond any reasonable question thanks to the experiments that were conducted. By bringing forward treatment and prevention programmes, the blood sugar concentration model can serve to

help remind individuals and support medical workers in providing intelligent medical care. This is accomplished through the use of the model.

2. IoT Enabled Smart Healthcare Assistance forEarly Prediction of Health Abnormality
AUTHORS: Mutra Venkata Sai Girish; Azaad Pallam Year:2021 The domain of intelligent healthcare is a significant one that is currentlyundergoing significant expansion and has obtained a great deal of significance as a direct result of the development of new technology. Continuous monitoring and timelyreporting of health issues is an essential component in diagnosing and treating a disease in its early stages when the disease is still in its early stages. This is especially true ifthe disease is still in its early stages. The development of a smart healthcare tool that is enabled by the Internet of Things (IoT) has made this possible. Once it is stored on the cloud, sensitive medical information can be viewed and shared from virtually any location. The important signals are put through an intelligent analysis, and the results of that analysis are then disseminated through the use of sophisticated apps. This offers a system that is comprehensive in nature, addressing every area of intelligent healthcare. foremost implication ofthis study is that patients will capable of use the recently developed smart app on their portable electronic devices to keep track of their health in real time and get projections about the future. An intelligent system that includes IOT, Cloud Computing (CC), and Machine Learning (ML) methodologies is provided in this research as a method for the early prediction of health issues As a consequence of this, we provide an advanced architecture that we refer to as "BlockAI." to facilitate machine learning processes, it is planned to make use of blockchain technology and smart contracts for the purpose of continuously obtain data from participating healthcare infrastructures. BlockAI makes it possible to conduct sustainable machine learning on a much largeramount of healthcare data amassed from healthcare facilities located all over the world.
This is made possible with the assistance of transactions that are built on top of incentive mechanisms and smart contract. In addition to analysing the performance costs of our system, we have also evaluated its accuracy and compared it to both guideline-based and ML-based sepsis mortality prediction methods. The findings of this examination have revealed that there is room for advancement in the relevant areas. The eventual broad implementation of BlockAI will ensure that healthcare providers acquire correct and timely information for complicated patients with numerous comorbid disorders that are rare and emerging diseases that they do not have much information about. This would be a significant benefit. This will be of tremendous assistance to healthcare practitioners throughout the diagnosis process and will ensure that patients receive improved care asa result

SYSTEM ANALYSISEXISTING SYSTEM:
The model is able to produce estimates regarding the prevalence of chronic diseasesin a certain demographic and geographical region. Disease prediction can only be used to make predictions about certain diseases. This approach takes advantage of large amounts ofdata besides an algorithm known as convolutional neural networks to achieve estimate the chance of an individual contracting a disease. This technique uses Machine Learning techniques for S-type data,such as K-nearest neighbours and Decision Tree, amongst others. These techniques are used to improve classification accuracy. The equipment has a degree of accuracy that is equivalent to 94.8 percent for determining thepresence of specific illnesses.In the work that came before this onewe simplified the machine learning approaches that were used to forecast effective chronic disease outbreaksin populations that are prone to disease. This allowed us to more accurately predict the occurrence of disease outbreaks.

PROPOSED SYSTEM:

In order to mitigate the negative effects of the framework that was previously in place, we have devised a novel method for the accurate forecasting of health and disease. Wehave designed a specialised framework that is known as the Smart Health Prediction framework. This framework was created by us. The goal of utilising this framework is to facilitate a simpler working environment for professionals. A patient is examined by a framework at the initial level, which then suggests the possible problems that the patient may have. It begins with the patient supplying basic information about their symptoms, and if the system is able to identify the proper condition, it then suggests a specialist who is available to the patient in the location that is geographically nearest to them. This process begins with the patient providing basic information about their symptoms, and it continues with the patientproviding basic information about their symptoms. In the event that the framework does not have sufficient certainty, it will administer a few tests to the patient and interrogate them regarding their health. If the framework is still unsure, it will show the patient a few more tests and ask them a fewmore questions in the case that it is still uncertain. The outcome will be demonstrated by the framework, which will be based on theentirety of the data that is easily accessible. Here, we make use of some creative ways to choose the most accurate disorder that could be related with patient's looks, and grounded in database of a couple of patients' restorative records, a computation called naive bayes is connected for mapping theadverse effects with prospective diseases.

IMPLEMENTATION:

MODULES

Patient Login : In order for a patient to log in to the system, he will need both his ID and hispassword. A patient cannot log in without both of these pieces of information. 'Patient Registration: - If the Patient is a new user, he will submit his personal details and he will begiven a user ID and a password that will allowhim to connect to the system.

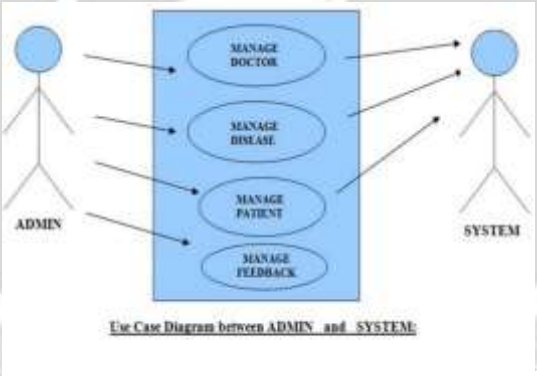
'Registration of the Patient: If the Patient already has an account, he will log in and input his personal information. The "My Details" tab gives the patient the ability to review his or her own private information. The system will question about particular parts of the patient's condition, after which it will formulate a prognosis of the illness by virtue of the symptoms listed by the patient,and additionally, it will offer recommendations regarding medical experts derived from illness. Patients have the option of searching for physicians by name, address, or kind of specialty using the "Search Doctor" tool.

Patient Details: Doctor can view patient'spersonal details.

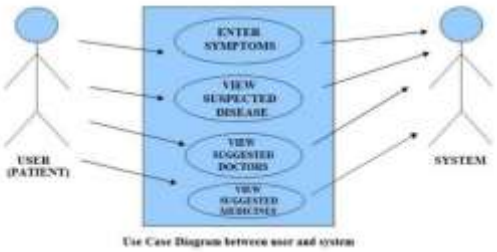
message: A message will be sent to the doctor notifying them of the total number of illnesses that were anticipated by the systemalong with the count of individuals who had accessed the system. 'Admin is able to log intothe system by using his ID and password for the sake of do so. The administrator has the ability to add new doctor information to the database by using the "Add Doctor" button. The Admin user can import a dataset file intothe database by using the 'Add Dataset' button. The Admin user is granted the powerto add disease data, which may include symptoms and the condition's classification.

View Doctor : The Admin user has the capability to view several Doctors, along with any biographical information that may be linked to them. When an Admin clicks the "View Disease" button, they are granted access to various sickness details stored within the database.When a patient logs into system and the administrator is given thepower to access a range of the patient's personal information.

SYSTEM ARCHITECTURE:



Use Case Diagram between ADMIN and SYSTEM:



Use Case Diagram between user and system

The "Smart Health Prediction System" provides a variety of features that, when taken as a whole, improve the operation of the information system and lead to an increase inthe overall productivity of the system. The system is not only simple to operate, but alsoquite convenient to have due to thecharacteristics that it possesses. The following is a list of a few of the crucial components that are comprised of this offering: IntelligentUser Forms DesignThis product is made up ofthe following components: Intelligent User Forms Design Access to the data and alteration of the data using the same formsThe vast bulk of the required information iseasily accessible. Privacy and security of sensitive information Only those who have the correct login credentials will be granted access to the data. This restriction is very stringent. astorehouse of information that is not only arranged but also meticulously structured.

The process of planning your approach has never been made more straightforward. The quality of older records does not diminish over time. a detailed accounting regarding the condition of the company's finances at the present time.The consumer always has the option to look for medical help, and this option is available at any time. likely for the user to discuss their ailment and obtain a quick Access to the data and editing of the data using the same forms Access to most of the necessary information Data protection and privacy Access to the data is strictly limited to only those with the appropriate login credentials. a repository of information that is both organised and well-structured. Planning your strategy has never been simpler. There is no deterioration of older Records. a precise description of the company's current financial situation At any time, users can seek medical assistance, discussing their condition and receiving an instant diagnosis. This website has led to an increase in the number of patients seen by physicians.

CONCLUSION:

Having the opportunity to work on such an exciting and challenging project has been a true delight for me. Throughout this entire procedure, I've picked up a lot of useful information. This project was useful for me since it provided me with hands-on experience in not only programming in Python and Sqlite but also in web-based apps that use those languages. This exposure was very beneficial to me. It also contains information regarding the most modern technology that is used in the development of web-enabled apps and client server technologies, both of which are anticipated to be in high demand in the foreseeable future. In the future, this will provide better opportunities and assistance in the process of projects being generated on their own.

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