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Health Monitor System

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Abstract: Health is a crucial part of human lives. Nowadays, healthcare is becoming vital each day, as there are lots of diseases that emerge around us. Technology is transforming the medical sector by massively impacting almost all practices and processes of medical professionals. Despite this, many of the people and medical staff still dealing with paper-based medical records and prescriptions while conducting treatment. When a patient wants to appoint any hospital or clinic, to carry previous medical reports or past prescriptions is becoming essential for them. It is necessary because the doctor gets an idea about the patient's health status by referring to their previous medical histories, helping for better treatments and medications. However, patients cannot maintain every medical documentary for years. Conventionally, the doctor asks patients about their previous diseases, prescription, or medicine details orally, nevertheless it becomes difficult to get exact information from the patient. Sometimes, it becomes more important for the doctor to know about the medical history of a person so that they can provide suitable treatment with better clarity of that person's health. Focussing on this, a smart medical assistant system is designed where doctors can record all prescriptions, treatment, or medical details of the patient on software instead of writing on a paper. All these records are stored in the central cloud and made visible to doctors as well as patients. Each patient has assigned a unique authentication card for maintaining the privacy of their medical history account. Doctors can access and update a patient's medical history anytime and anywhere by logging into their account through a smartcard swipe. The system can avoid overdue to treatment decisions. Likewise, the system helps to keep transparency about medicines and treatment.
Keywords: Medical Records, Prescriptions, Doctor, Authentication, Patient, Treatment etc.

I. INTRODUCTION

Health is the primary factor that is indispensable for each and everyone in the world. Without health, neither success nor attainment emanates in one's way. Everyone is suffering from some of the other sicknesses, so appointing clinics or hospitals for check-ups. Sometimes, there will be situations where the doctors may not be available in the hospitals. What if there is an application that will allow the user to consult with the doctor through the online mode? With the technological developments in the medical sector, more applications are being operatable through smart and mobile devices. Then yes, it is possible to connect your doctor through online mode using smart health consulting android system applications. The system offers a complete solution for patient's health monitoring and treating them in a better way.

In today's world, everyday several lives are seriously getting affected just because the patients are not well-timed and properly operated. Although, some real-time health parameters may not efficiently be measured or reported properly in the clinic as well as in hospitals. Additionally, it is very challenging for hospitals to frequently check a patient's basic health parameters to predict their health conditions. To deal with these types of circumstances, a smart medical assistant system is beneficial. The system is designed to be used in hospitals and pathologies to monitor and predict the patient's health condition by referring to their medical history.

In this paper, we will discuss a smart medical assistant system comprising of different options of hardware and software.

We are naive bayes and other algorithms for prediction of health diseases.

So, through our dynamic system, we are developing a unique platform for doctors, patients, and pathology, that collaborate all details together and made treatment transparent with better clarity.

The main objectives of this Research paper are:

1) To maintain a person's entire medical details into unique dedicated platform.
2) To made medical field and treatment process transparent and easier to deal
3) To save the doctor's time while treating emergency cases.

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II. LITERATURE REVIEW

1) The authors have suggested five practices that help to deal with the problem of data missing in the case-based reasoning (CBR) system. Data pre-processing steps including data transformation, data cleaning, handling missing values, and feature selection can able to be applied in any directive. For transforming database structure to case base structure and renovating electronic health records (EHR) generic data to specified case base these pre-processing steps are applied to the EHR.

2) The paper has recommended an agenda for formulating a case-base for case-based reasoning (CBR) systems. CBR systems are well-thought-out the most appropriate systems for making efficient decisions.

3) The authors have represented the EHR system implemented on cloud networks. The recommended application uses a two-level approach that accomplished semantic interoperability; these approaches are the archetype model and reference model. The data integration engine is used by the proposed application to collect data from distant data sources and to provision progressive security features.

4) The authors have publicized an analysis and survey of several electronic health record applications in the e-Health system. The numerous EHR applications have been studied and compared into the paper including EHRs for monitoring diseases, diagnosing, and EHR for selecting the most effective ways for treatments. Additionally, paper has elaborated on the usage of EHR systems as a base for constructing a database for clinical decision support systems (CDSS). Besides, the paper has highlighted challenges while implementing the EHR system in the healthcare environment.

III. WORKING OF PROPOSED SYSTEM

The represented system undergoes through total five operational stages. The detailed elaboration for
Each working stage is defined below:

A. Information Gathering and Planning

This is the initial stages of working where we have decided to set the goals for our proposed application. We decided our website actors / panels that included administrator, doctor, pathology and patient. We created a sitemap sketch and decided technology stack by focusing to our project outcomes. We planned the aim of each website actor and rough data flow as outlined below:

B. Designing

As web application development is project core, we select HTML (Hyper Terminal Markup Language) and CSS (Cascaded Spread Sheet) for design.
By using appropriate commands and instructions, page layout, layout designs, and data fields has been generated and precisely organized.

C. Coding

Dynamic web application is aimed to save, update and retrieve the information filled by various user interfaces. Thus, it is necessary to precisely create, add, access, and manage the database at local host network first. This work can be carried out by relational database management system (RDBMS).
The system has used heidiSQL software, for MySQL database creation where, C# scripted language has been used for MySQLcoding. ASP.net is used as scripting language to develop html code.

D. Test, Review, Launch

Once, web application and database generation is done, it is needed to test the working of created web application. These stage include testing for functionalities like data entry, data storage, data access, data retrieve and management as per expectations. Then, all the tested system work files including html, css, .net, and other necessary files will be uploaded to the cloud. Using Go daddy web hosting service, data would be stored at cloud and website will be launched online

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IV. PROPOSED SYSTEM

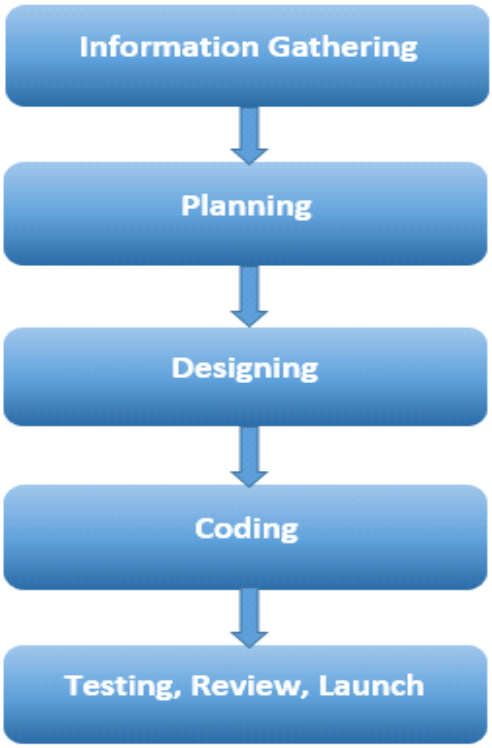


Figure 1.Workflow of Proposed System

A. Use of Naive Bayes Algorithm in Treatment

It is a classification technique based on Bayes' Theorem with an assumption of independence among predictors. In simple terms, a Naive Bayes classifier assumes that the presence of a particular feature in a class is unrelated to the presence of any other feature.
For example, a fruit may be considered to be an apple if it is red, round, and about 3 inches in diameter. Even if these features depend on each other or upon the existence of the other features, all of these properties independently contribute to the probability that this fruit is an apple and that is why it is known as 'Naive'.
Naive Bayes model is easy to build and particularly useful for very large data sets. Along with simplicity, Naive Bayes is known to outperform even highly sophisticated classification methods. Using Naive bayes Model helps doctors to find the probable and proper treatment to be given to the patients based on the symptoms recorded through the system**.**

V. CONCLUSION

From this project, we can develop unique, dynamic, and flexible software platforms, which collaborate all medical system parameters together. The platforms made all health parameter results stored together into the database in well-organized manner. This database can be used by doctors for analysis and generating valuable insights for better decision making. Authentication by central administrative system help to avoid medical frauds and make medical system transparent. Authentication will safeguard vital information. The system can be developed at a global level, build a flexible environment for both doctors as well as patients. Naive bayes model helps doctor to select best probable treatment.

VI. FUTURE SCOPE

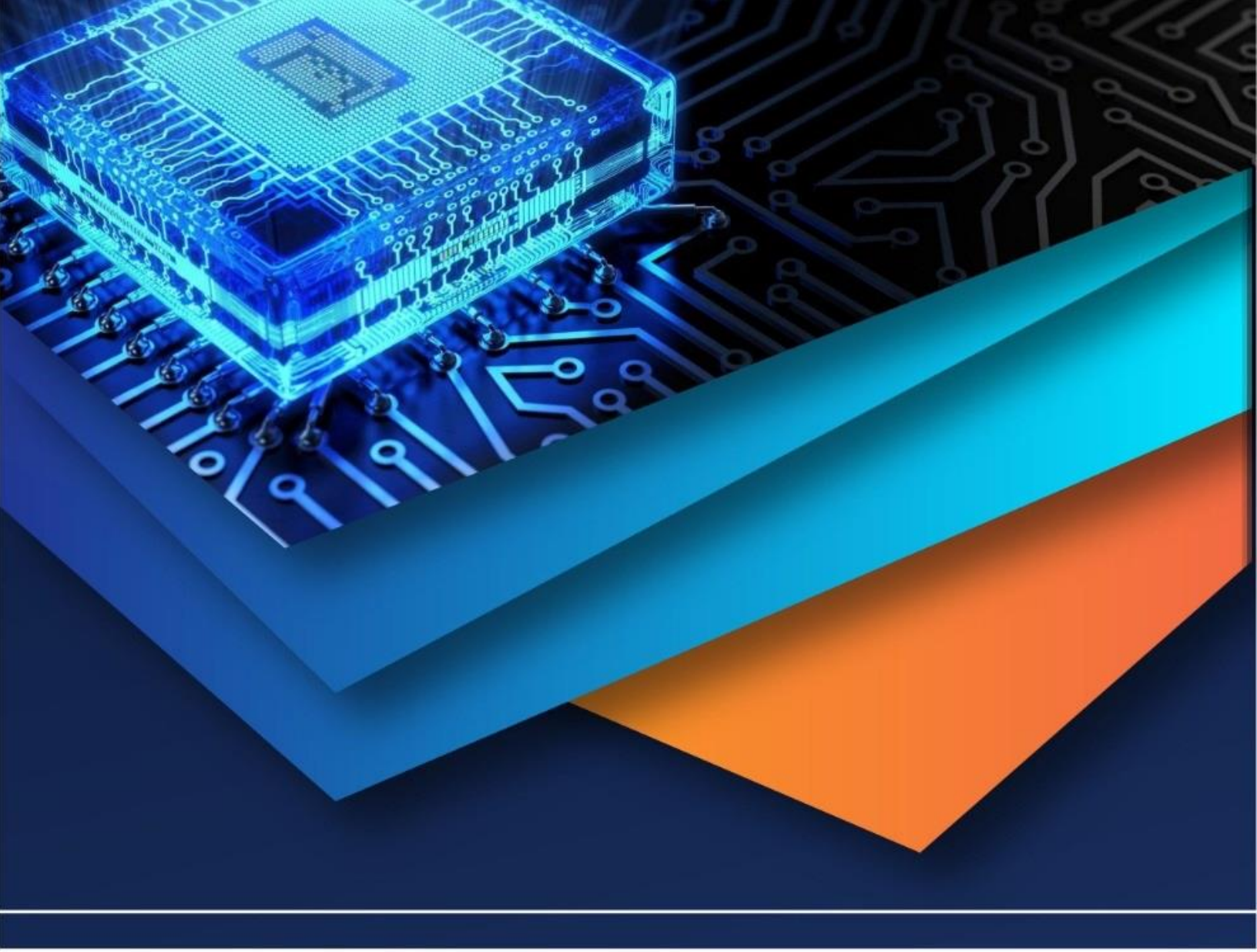
In many countries, the system has been started deploying . As the system relies on the tremendous amount of database collections it can be used in the future for medical big data collection and medical analytics purposes. The system can be connected with medical equipment to automate the process of data filling. Authentication can be replaced by any other authentication system like the fingerprint module. By connecting to payment gateway and chemists with the web application, fees transaction and medicines purchasing also added to the system. The system can be developing in numerous ways in the future.

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