ONLINE HEALTHCARE SERVICES APPLICATION

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Abstract

The average age growth led to a rise in demand for health care provision and improvement. The development of ICT led to the development of intelligent cities with several elements. The development of ICT. One component is intelligent health (s-health), which is used to improve healthcare by delivering a range of services like patient surveillance, early disease diagnosis and so forth. There are now numerous machine learning algorithms that make health services easier. The average age growth led to a rise in demand for health care provision and improvement. The development of ICT led to the development of intelligent cities with several elements. The development of ICT. One component is intelligent health (s-health), which is used to improve healthcare by delivering a range of services like patient surveillance, early disease diagnosis and so forth. There are now numerous machine learning algorithms that make health services easier. We have conducted a structured analysis of the various approaches in human health used to Machine Learning. The results demonstrate that the ML is employed in a number of health applications, such as the diagnosis of glaucoma, Alzheimer's illness, and the diagnosis of bacterial septicism, ICU and the detection of cataracts. The Artificial Neural Network (ANN), the Support Vector Machine algorithm and the CNN (Deep Learning Models) are the most often applied methods for machine learning, with excellent evaluation efficiency in most circumstances.

Keyword:-Internet, Health services, Customer service quality, Trust, android studio, deep learning.

1. INTRODUCTION

The Healthcare Management System which is basically a smart healthcare management system will be like an online healthcare management service with easy to use customizable options. This application is accessiblefrom anywhere and every patient, doctor, or any staff. This application is a secure AI-based data processing solution that will help many healthcare institutions and hospitals to study and analysis a patient's past medical records. It can assist patients with chronic medical problems in maintaining a healthy lifestyle by allowing them to track their health parameters and vitals on a regular basis. It has a chat window where the user/Patient may speak with the virtual doctor and discuss his or her health situation from the comfort of his or her own home. It provides general medical assistance which will be especially useful in cases of emergencies.

The software uses AI and NLP to predict words based on the conversation user is having. Using AI and ML, the app should be able to group items category wise, for example, food, drinks etc. This app can immediately connect medical staff to their emergency contact, immediately informing them if there's an emergency [1]. It is a secure app that knows who can gain access to the patient's medical information and medical staff can inform the contact of any new diagnoses or ailments. In emergency cases, an

ambulance should know the best way to reach the patient.

GPS monitoring can assist the ambulance while they're on the field as well as the hospital tracking the ambulance's location. The paramedics will navigate the best route to reach the patient. This app has information about all symptoms, illness, health problem, and also some type of health check-up services.

While determination and treatment may appear straight forward advances, numerous other foundation forms must happen for a patient to be appropriately dealt with, for instance:

- Deciding a proper treatment strategy (frequently introducing alternatives)
- Getting ready and directing the picked treatment strategy
- Patient monitoring.
- Aftercare, follow-up arrangements, and so on.

2. Related work

For individuals and diseases with specific characteristics, the data set in the present system is generally limited. These technologies are primarily intended for the treatment of more massive illnesses like heart disease and cancer. Changes in the illness and its affecting variables may not always match the pre-selected criteria, resulting in inaccurate findings. Disease symptoms change throughout time, since we live in an environment that is always changing. In addition, most existing systems make users wait extended periods of time by requiring them to complete extensive questionnaires. We propose a system with a user interface that is simple and elegant, as well as efficient in terms of time [2]. We're looking for a more precise questionnaire that the system will follow in order to make it less time demanding. Many systems' current strategy totally depends on automating this process, which falls short of establishing the system's user's confidence. By use of Doctor's suggestion in our system, we maintain user trust while also ensuring that the Doctor's will not feel that their business is not affected because of this system. Our new Smart Healthcare model takes a completely different approach to the traditional ML-based Smart Healthcare System (SHS). While most studies look at single medical device data or stored healthcare data to apply adversarial attacks, we look at a networked multi- device Healthcare System that uses machine learning models to identify disease and normal behavior. The following are the primary differences between existing method and our fresh new method:

- The majority of previous research has focused on modifying an ML model's data distribution not in online mode. We propose a real-time ML-based Smart Healthcare System in which we alter the input data distribution of several medical instruments to perform diagnosis and disease detection using CNN.

- We discover the smallest number of compromised medical devices in a SHS, whereas the previous method focuses on generating multi-label discrete EHR

3. Methodology

Modern medical systems have become smarter as a result of unprecedented advances in data analytics, and more pervasive as a result of IoT deployment. Our app, which is part of the patient remote monitoring, allows you to register patients and check their reports and histories [15]. An administration management system aids in the updating of patient data and encompasses all management rights, including human resources and administration. The main characteristic will be machine learning, in which we will use algorithms such as the Nave Bayes Algorithm, K-Nearest Algorithm, Decision Tree Algorithm, Random Forest Algorithm, and Support Vector Machine to predict disease accurately and to compare which model provides a faster and more efficient result[15, 1].
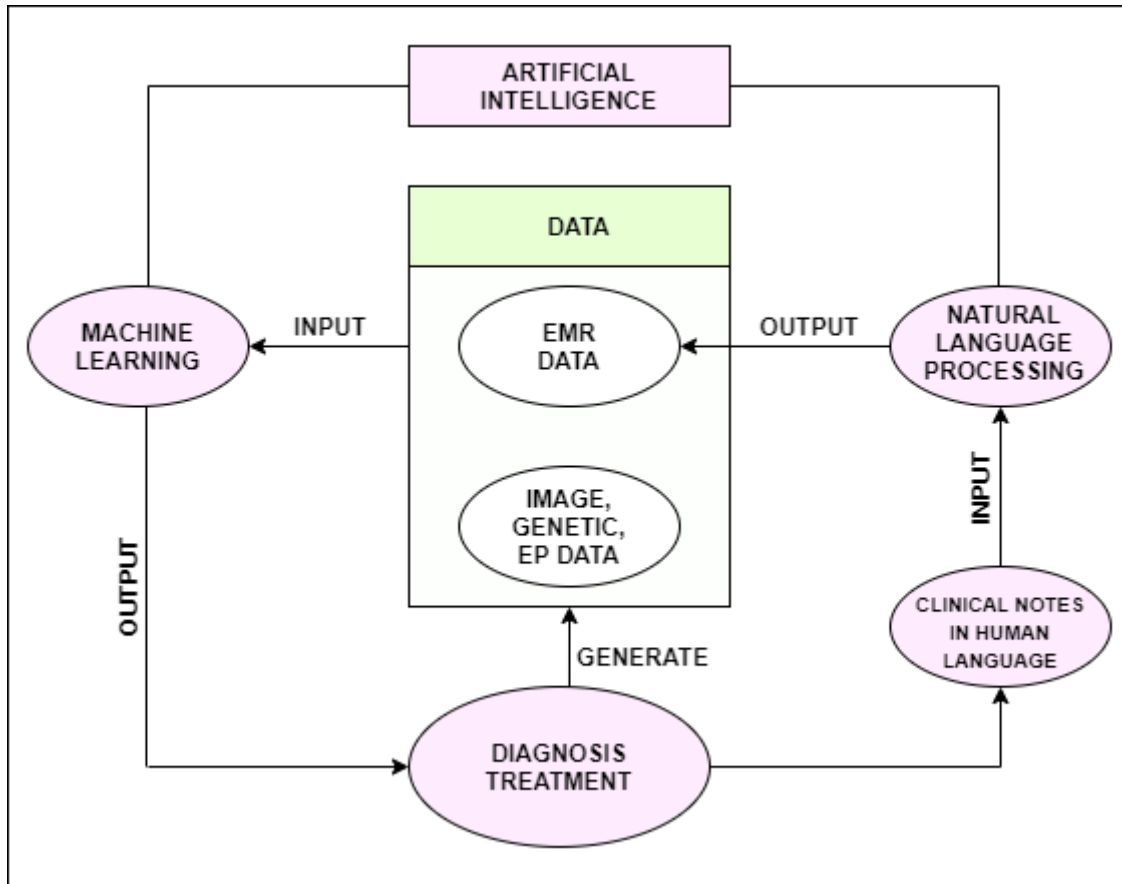
4. Proposed System.

The proposed system is used by the user/petients to search nearby hospitals , appointments, pre-scriptions.once the booking is done for a particular date and time then doctors will available at the proper time in vedio/voice call mode .

End-User Interface
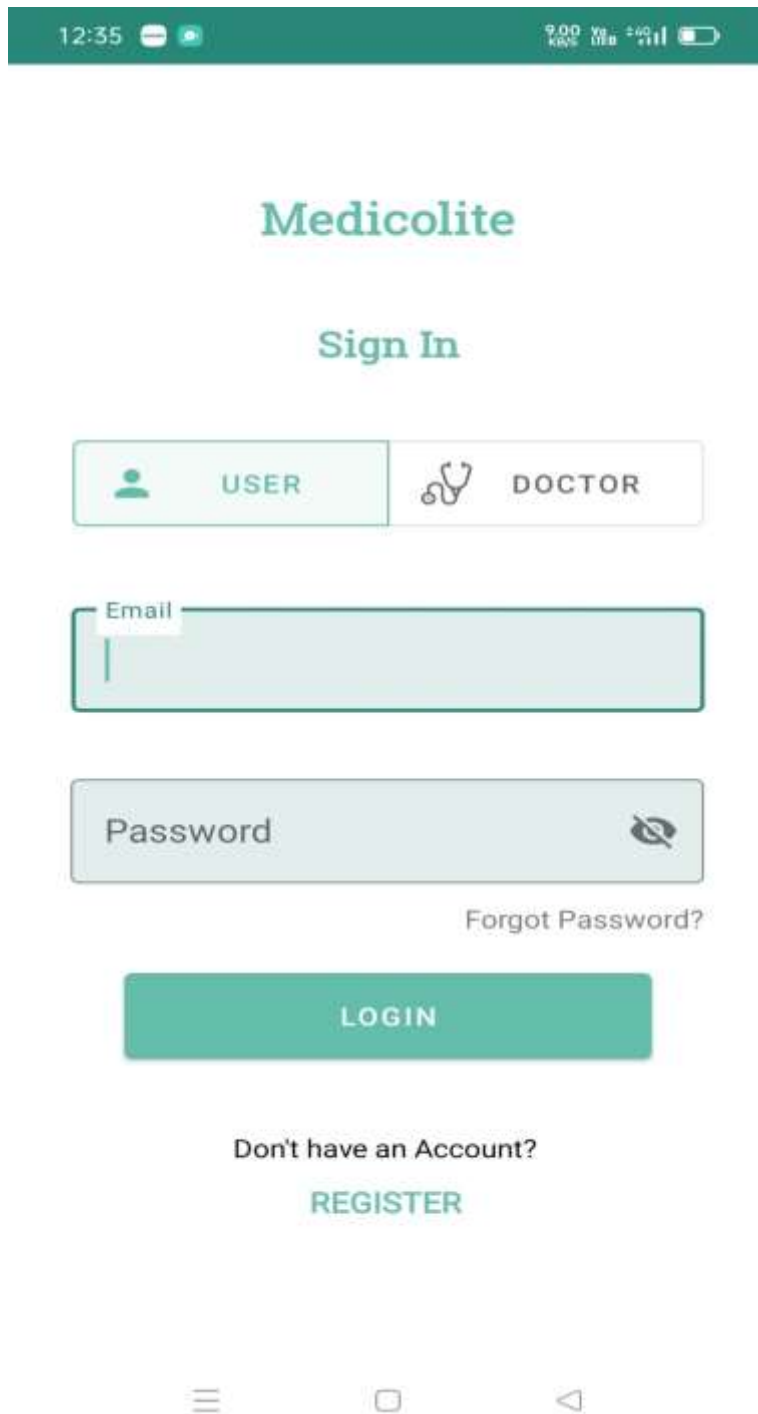
Petient management system

This module monitors the day-to-day activities of patient's. It assists the operator in providing accurate information to patients and efficiently answers all patient inquiries. It improves the quality of services provided to users by offering advanced search utilities and outstanding features. Fig. 5.3 shows the different features in the patient management system. This module is responsible for the following tasks
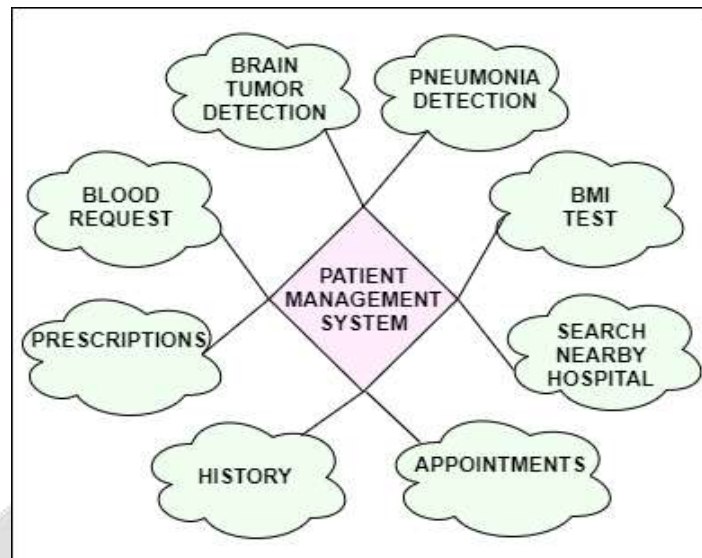
Appointments
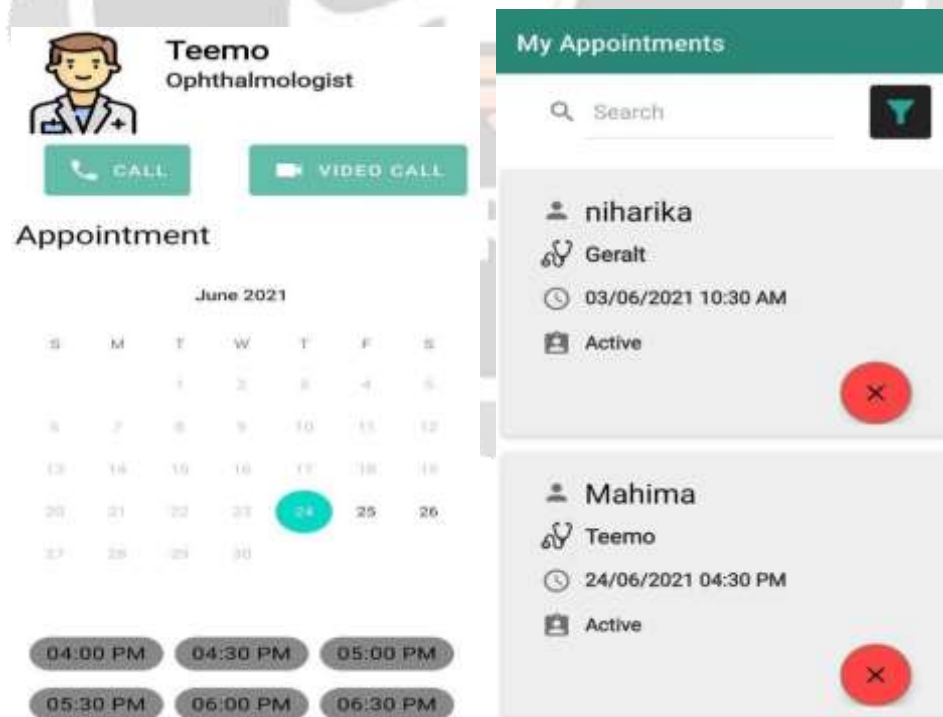
Conclusion

We developed a standard architecture for healthcare management system that will allow us to take advantage of the rapid medication safety growth increased by machine learning. Efficiency, security, accuracy, affordability, responsiveness, maintainability, scalability, dependability, and fault tolerance were all considered as design factors for both present and future smart medical systems [21]. Using some of these newly available software and technologies improves the productivity of medical workers. In the healthcare field, issues such as long-term patient-care in hospitals, support for elderly people at home. It is a real-time patient monitoring system that allows medical doctors to keep an eye on theirpatients from far, check their vital signs, and provide advice on first-aid treatments. On the central server, the data is available for inspection and may be viewed remotely using a regular web browser.

Future Work

Smart health is a rapidly evolving and vital study topic with the potential to have a significant impact on the traditional healthcare business. This paper provides an overview of the smart health problems, pipeline, and techniques. For traditional smart health, a systematic data processing pipeline is provided, which includes data gathering, data processing, data dissemination, data security and privacy, and networking and computer technologies. Despite the multiple opportunities and approaches for data analytics in healthcare provided in this work, there are numerous other aspects of healthcare data to be examined, such as quality, privacy, and so on. We plan to use Machine Learning techniques to spot anomalies in acute care patient data in the future. Government data platforms, population health organizations, payers, and other providers, as well as smart hospitals, are all part of an integrated, networked ecosystem. If the ecosystem is to ensure that patients obtain high-quality healthcare efficiently and conveniently, data sharing among all entities is critical (to the extent permitted by law, weighed against the need to safeguard patient privacy). Although the system appears to be fairly big, competent manufacturing will reduce it to a compact gadget in the near future. The video feature can be introduced to allow doctors and patients to consult face to face. Future studies can address certain more parameters that are critical in determining a patient's state, such as diabetes level, respiratory monitoring, and so on .

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