TELEHEALTH- ONLINE HEALTHCARE

Shubham Kaloge[1], Rohit Moriya [2], Rahul Bhujbal [3], Prajwal Patil [4]

MET Bhujbal Knowledge City,
Nashik, Maharashtra, India

Abstract: As technology is growing rapidly, most of the manual systems are being replaced and becoming automated. In this context, we are going to create an easy, faster and smooth appointment system between doctor and patient. With the development of online healthcare consultations, more and more doctors provide medical consultation services online. However, due to the poor healthcare knowledge and high consultation fees, selecting a proper doctor becomes a difficult problem for many users. We are creating a system which uses recommendation model takes the real consultation data from online as the research object, fully testifying its effectiveness. Specifically, this model would make recommendation to patients on department and doctors based on patients' information of symptoms, diagnosis and geographical location, as well as doctor's specialty and their department. Our system uses online video call consultation and smart recommendation system for patient with different diseases. System also recommends pathology labs for user to do different testing. online doctor recommendation model integrates ontology characteristics and disease text mining. The model gives a relatively more accurate recommendation advice. Furthermore, the model also gives full consideration on patients'' location factors. As a result, the proposed online doctor recommendation model would improve patients' online consultation experience and offline treatment convenience, enriching the value of online pre-diagnosis data. We are creating a system which uses recommendation model takes the real consultation data from online as the research object, fully testifying its effectiveness. Specifically, this model would make recommendation to patients on department and doctors based on patients' information of symptoms, diagnosis and geographical location, as well as doctor's specialty and their department. Our system uses online video call consultation and smart recommendation system for patient with different diseases.Telehealth: Online healthcare recommends pathology labs for user to do different testing. online doctor recommendation model integrates ontology characteristics and disease text mining. The model gives a relatively more accurate recommendation advice. Furthermore, the model also gives full consideration on patients'' location factors. As a result, the proposed online doctor recommendation model would improve patients' online consultation experience and offline treatment convenience, enriching the value of online pre-diagnosis data

*Keywords***:** Doctor consultation, Video Conference, Patient, Machine Learning, Encryption, Portal.

INTRODUCTION

A Web application (Web app) is an application program that is stored on a remote server and delivered over the Internet through a browser interface. Web services are Web apps by definition and many, although not all, websites contain Web apps. According to Web.AppStorm editor Jarel Remick, any website component that performs some function for the user qualifies as a Web app. Web applications can be designed for a wide variety of uses and can be used by anyone; from an organization to an individual for numerous reasons. Commonly used Web applications can include webmail, online calculators, or e-commerce shops. Some Web apps can be only accessed by a specific browser; however, most are available no matter the browser. Web applications do not need to be downloaded since they are accessed through a network. Users can access a Web application through a web browser such as Google Chrome, Mozilla Firefox or Safari. For a web app to operate, it needs a Web server, application server, and a database. Web servers manage the requests that come from a client, while the application server completes the requested task. A database can be used to store any needed information. Web applications typically have short development cycles and can be made with small development teams. Most Web apps are written in JavaScript, HTML5, or Cascading Style Sheets (CSS). Client-side programming typically utilizes these languages, which help build an applications front-end. Server-side programming is done to create the scripts a Web app will use. Languages such as Php, Java, and Ruby are commonly used in server-side programming.

LITURATURE SURVEY

"Users Preferences for Telemedical Consultations", Shirley Beul etal.,This paper explained that, Within industrialized countries healthcare systems currently change to cope with the upcoming consequences of the demographic change. One of the most serious challenges is the maintenance of the area-wide supply chain of medical care despite the threatening shortage of physicians. In this context, telemedical services for communication between doctors and patients gain in importance. Crucial for the success of such electronic services is the choice of the medium, which must be appropriate for this special purpose of use and, finally, accepted by its users. In this paper, an exploratory survey was conducted to detect acceptance motives of five different media (face-to-face, telephone, videophone, video conference, interactive wall) in two different usage situations. 103 respondents participated (17-83 years). Findings show that for the standard case, a face-to-face consultation is still highly preferred compared to any 4 Telehealth: Online healthcare telemedical applications. For emergency situations, participants' attitudes change: A telephone consultation was similarly well accepted than face-to-face communication. As the most comfortable service a face-to-face-consultation was corroborated, followed by the videophone consultation.[1]

"Design and implementation of mobile health consultation between doctors and diabetes patient", David P Irsan Jaya Simarmata etal., This paper presents, In general, consultation among doctor and patient is done by the patient went to the doctor in real situation. Therefore, patients must provide time and cost to consult with a physician. Nowadays, everybody can communicate with one another by use smart phone through internet connection. Particularly in Indonesia, nearly 54 percent people use the internet and mostly of them use the internet by phone or smart phone. Because this phenomena, this research has purposed to designed consultation system among doctor and patient by using smart phone through internet connection. The consultation can be done in anytime, anywhere since we connect with internet connection. In this research, we choose the specific patient. We pick diabetes patient because in Indonesia, the number of diabetes patients has the fourth highest ranking in the world according from WHO database.[2]

"A Fuzzy Linguistic Method for Evaluating Doctors" , Yuan Luo etal., this paper studied that , With the development of online healthcare consultations, more and more doctors provide medical consultation services online. However, due to the poor healthcare knowledge and high consultation fees, selecting a proper doctor becomes a difficult problem for many users. Therefore, this paper investigates a fuzzy linguistic method for evaluating doctors of online healthcare consultation platform. Considering that different users have different preferences for attributes when selecting doctors, BWM is used to obtain importance of attributes. Then, gains and losses of users with linguistic terms are calculated using 2-tuple linguistic representation model with user's expectations as the reference points. Next, fuzzy prospect values of each available doctor are obtained based on prospect theory, which takes users' risk attitude into consideration. A fuzzy linguistic method based on BWM and prospect theory is proposed for evaluating doctors of online healthcare consultation platform. Finally, a case is given to demonstrate the effectiveness of the proposed method.[3] MET's Institute of Engineering 5 Telehealth: Online healthcare

"Doctor-to-Doctor TeleDermatology consultation", Hideaki Imaizumi, etal., This paper presents, create AI-based Diagnosis System for Dermatology as a final goal, we started Doctor-to-Doctor TeleDermatology consultation service in Japan as a way to collect a lot of dataset of skin diseases. In this paper, we explain the overview of the service and the data format to be training data for machine learning in the future.[4]

"Doctor Consultation through Mobile Applications in India: An Overview, Challenges and the Way Forward", Neeraj Agarwal, etal., In this paper, A cross-sectional, observational and web-based study was conducted. We searched the Google Play Store with the search strategy "health apps in India". In the results, 250 applications (apps) appeared. Out of 250 apps, finally, 22 apps were found to be providing online doctor consultation and/or doctor appointment booking-related services.[5]

AIM & OBJECTIVES

- To develop a system which is more Security.
- To develop a system which take less time.
- The system should be completely digital so no need to paper work required.
    - To develop a system is to provide direct role for the higher officials.

MOTIVATION

- To develop a system which has more Security.
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- The system should be completely digital so no need to paper work required.
- To develop a system to provide direct role for the higher officials.
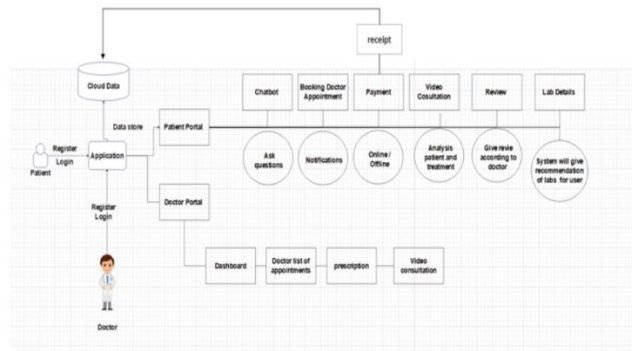
SYSTEM ARCHITECTURE

Fig -1: System Architecture Diagram

APPLICATION:

• In defense where doctors are unable   to visit

• In some rural areas where they lack specialty hospitals.

 • Hospitals management system.

FUNCTIONAL & NON-FUNCTIONAL REQUIREMENTS

Functional requirements: may involve calculations, technical details, data manipulation and processing and other specific functionality that define what a system is supposed to accomplish. Behavioral requirements describe all the cases where the system uses the functional requirements; these are captured in use cases.

Nonfunctional Requirements: (NFRs) define system attributes such as security, reliability, performance, maintainability, scalability, and usability. They serve as constraints or restrictions on the design of the system across the different backlogs.

Functional requirements

- Registration
- User Login
- Creation of database: Users Mandatory Information

Design Constraints:
1. Database
2. Operating System
3. Web-Based Non-functional Requirements

Security:
1. User Identification
2. Login ID
3. Modification

Performance Requirement:
1. Response Time
2. Capacity
3. User Interface
4. Maintainability
5. Availability

SYSTEM REQUIREMENTS
   Software Used:
- Php 3.9.0 or above, Xampp, Vscode, Google firebase

Hardware Used:
o　　　I3 processor or above
o　　　150 GB Hard Disk or above
o　　　4 GB RAM or above

CONCLUSION

Thus, we are able to create a system where patients can book an appointment and he/she can consult with the doctor via video conference. Also, doctors can share their knowledge through blogs. The system can also recommend skilled doctors to the patients. The system is also enriched with things like prescriptions, online payment, chatbot, etc. Hence, we can provide healthcare to people via telecommunication technologies.

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