Volume 10, Issue 4, April – 2025 International Journal of Innovative Science and Research Technology
ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25apr619

Smart Health Consulting System

Vahini.M[1]; Dr. E. Boopathi Kumar[2]

[1] MSc(IT) Project Student,
[2] Guest Faculty

[1,2] Department of Information Technology, Bharathiar University, Coimbatore, India

Publication Date: 2025/04/25

Abstract: The project "Smart health consulting system" has been designed using Xml with Java as front end and SQLite server as backend, which assist to prediction diseases and finds appropriate hospital with e-appointment system for the users. Disease detection through symptoms may appear to be quite normal in day-to-day life, but serious when symptoms grow complex and/or diverse. As this complexity or diversity grows, we human beings fail to correctly identify any specific disease that results from the perceived symptoms. Different symptoms normally point towards different possibilities of diseases, and also with varying intensities. The primary objective of the proposed system is to introduce a new mobile application with self-automated disease prediction with a hospital recommendation process along with an appointment for a doctor. The system facilitates the enhancement of the medical field service. The patient can identify the disease by symptoms. At the beginning, users were required to register themselves using minor details. Once registered successfully, users can log in by using their username and password. Users would then be able to choose their symptoms. Our system used techniques applied for classifying effectively. Users can first choose their symptoms. Last but not least, our technique will classify effectively whether the patient appears to be suffering from a disease or the patient appears to be normal effectively. Then, the system will recommend suitable hospital and medical service to the patients or users based on the symptoms effectively.

Keywords: *Smart Health , Consulting System ,Artificial Intelligence (AI),Machine Learning (ML),Expert System, Diagnosis, Medical Consultation , Health Monitoring , Knowledge Base , Inference Engine , Patient Data , Remote Healthcare , Decision Support System (DSS), Natural Language Processing (NLP) Web-Based Application.*

How to Cite: Vahini.M; Dr. E. Boopathi kumar (2025), Smart Health Consulting System. *International Journal of Innovative Science and Research Technology*, 10(4), 1236-1242. https://doi.org/10.38124/ijisrt/25apr619

I. INTRODUCTION

The Smart Health Consulting System links patients and physicians and facilitates first-time symptom evaluation, offering access and quality care[1].The Smart Health Consulting System facilitates remote consultation of a physician, remote monitoring of health, and real-time expert guidance, offering access and quality of patient care[2].The Smart Health Consulting System uses smartphone-based remote consultation technology for medical conditions, symptom evaluation, and real-time health monitoring, enhancing accessibility and control of chronic diseases[3].Smart Health Consulting System allows real-time patient monitoring and physician consultation remotely, enhancing emergency response and access to care[4].Smart Health Consulting System allows real-time monitoring of health, remote consultation of doctors, and symptom analysis. It enhances the efficiency of healthcare by offering individualized recommendations regarding treatment and emergency alerts[5].The Smart Health Consulting System uses mobile technology and artificial intelligence to offer real-time medical consultations and initial diagnoses. It increases access and affordability, providing timely healthcare interventions, particularly in rural areas[6].The Smart Health Consulting System employs IoT and AI for real-time monitoring of patients and remote consultation, lowering hospital visits. It increases access to health care, provides timely interventions, and has better patient outcomes[7].The Smart Health Consulting System is an artificial intelligence and mobile technology-based system of real-time medical consultation and surveillance of health. It increases the availability of health care, enhances preventive medicine, and decreases reliance on hospital visits[8].The Smart Health Consulting System employs AI to assist the user in diagnosing and implement treatment for possible health issues. It is cheaper and accessible medical care that decreases reliance on emergency physician visits[9].The Smart Health Consulting System gives individuals the capacity to diagnose illness, seek expert opinion, and receive treatment recommendations. It enhances access to medicine, lowers hospitalization, and facilitates timely medical treatment[10].

II. LITERATURE SURVEY

Pattanaik et al. (2022) suggested a Smart Health Consulting Android app which allows users to find suitable doctors according to the symptoms, make disease predictions by using a Naïve Bayes classifier, schedule online

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25apr619

appointments, send medication reminders, and give feedback in order to make the system more efficient[1].Bodhe et al. (2014) suggested a mobile-based healthcare system based on Android OS which allows for diabetic patients to carry out self-monitoring, send symptoms and physiological values to a server-based expert system that interprets data, determines the severity scores of diseases, and offers quick diagnosis and e-prescriptions for patients with limited access[2].The suggested system takes advantage of a deep learning-based system combining Convolutional Neural Networks (CNN) and Long Short-Term Memory (LSTM) networks to detect plant diseases accurately and in real-time through leaf images (Author(s), Year)[3].The suggested system takes advantage of a Convolutional Neural Network (CNN) model that has been trained on a varied set of leaf images in order to detect and classify plant diseases automatically with high accuracy and less human involvement (Prajapati et al., 2017)[4].The system proposed uses a hybrid deep learning model that integrates Convolutional Neural Networks (CNN) and Support Vector Machines (SVM) for accurate classification of plant leaf diseases based on image processing methods (Singh & Misra, 2017)[5].The system proposed combines image processing methods with a Convolutional Neural Network (CNN)-based classifier to automatically identify and diagnose plant leaf diseases from images captured, improving accuracy and minimizing manual labor (Patil & Kumar, 2020)[6].The suggested system employs a deep learning method with an application of pre-trained VGG16 Convolutional Neural Network to recognize and classify different plant leaf diseases based on images, with the aspiration of offering a quick, automated, and accurate diagnostic tool (Sharma & Jadon, 2020)[7].The system utilizes Internet of Things (IoT) sensors coupled with an Android application for permanent monitoring of vital signs in patients and presenting the same to physicians in real-time, supporting enhanced remote care and emergency treatment (Shaikh et al., 2017)[8].The system is a health care management application using an Android system meant to maintain patients' records, set appointments, and deliver instant medical reminders, thus automating doctor-patient communication (Kumar & Joseph, 2015)[9].The system presented here provides an online intelligent health consulting platform in which patients are able to communicate with physicians using a web interface, facilitating effective symptom-based diagnosis and consultation without visiting them physically (Kumar et al., 2018)[10].

III. EXISTNG MODEL

The current model utilizes machine learning models like SVM and KNN with manually extracted features from plant leaf images for disease classification. It has the need for image preprocessing methods like segmentation and feature extraction[1].The current model utilizes image processing methods coupled with machine learning models like SVM and ANN for plant disease classification. It relies on manual feature extraction like color, texture, and shape from leaf images[2].Hybrid of ARIMA and LSTM-based data forecasting system. ARIMA processes linear parts and LSTM processes nonlinearity trends. The hybrid model provides a more accurate prediction compared to sole-model utilization[3].Hybrid deep learning model of CNN and LSTM. CNN extracts space features from input data and LSTM extracts temporal patterns. The model is employed for enhancing prediction accuracy for time-series data[4].CNN learns features, BiLSTM learns bidirectional temporal relationships, and attention highlights[5].Hybrid CNN-LSTM model for time-series prediction. Spatial high-level features are learned by the CNN blocks, and temporalrelationships are learned by the LSTM blocks. They collectively result in improved prediction accuracy on sequential data[7].A hybrid deep model based on CNN and GRU. A CNN is applied to provide local features and a GRU is applied to provide temporal dependency on sequential data. The model has been applied to improve performance over time-series prediction issues[8].A system for patient health monitoring based on IoT using sensors to acquire real-time patient information. The system sends information to a cloud platform for remote alerting and monitoring. It is designed to provide timely medical intervention and enhance patient care[8].An Android app with a backend database to store patient data, doctor's appointments, and prescriptions. It allows real-time interaction between healthcare providers and patients. The system increases accessibility and efficiency in the management of healthcare[9].A web-based system of health counseling in which symptoms are entered in order to generate possible diagnoses employing a rule-based expert system. It also offers appointment scheduling with doctors and health counseling. It also aims at providing simple health care and curbing hospital admissions for unnecessary reasons[10].

IV. PROPOSED MODULE

The "Smart Health Consulting System" suggested module is to provide an electronic health assistant that combines user-friendly design, efficient data handling, and intelligent decision-making to improve the accessibility of healthcare and response time. It is programmed on XML with the front end based on Java to offer a responsive and interactive mobile app interface. The backend is powered by SQLite based on its light and high-performance database capabilities for mobile operating systems. The system is primarily intended to assist users in identifying potential illnesses based on the symptoms they experience and recommend suitable hospitals or medical facilities and offering an e-appointment facility. The module begins with requesting the user to register by providing simple personal information, which is stored securely in the system. After registration, users are able to login using their individual personal credentials. After login, the users can choose from a predefined set of symptoms, which are general manifestations of various diseases. The symptoms are then analyzed by an inbuilt classification algorithm that maps the symptoms to potential diseases. This method is vital because in the real world patients are never capable of detecting the severity or the specificity of the condition when symptoms overlap or appear mild. The algorithm defeats the complexity of many symptoms pointing to different conditions by

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25apr619

The disease prediction engine decides whether the patient is likely to be suffering from any disease or if the symptoms are within normal limits. If a disease is predicted, the system proceeds to the hospital recommendation process. Hospitals are filtered and suggested based on the nature of disease, proximity to the user, and available specialists, thereby personalizing the experience. The feature of hospital suggestion ensures that the users are led to the correct kind of medical treatment without consuming time or resources. In addition, patients are able to make appointments directly through the application, without waiting in long queues and lines at hospitals. This is a digital approach that reduces the burden on physical healthcare systems and speeds up the process of the initial consultation. The system is also scalable, with integration with electronic health records and wearable devices being feasible in future releases. The design is also inclusive with the view to helping users in rural and semi-urban regions where immediate medical consultation is not easily accessible. Overall, the proposed module is a key pillar in making the transition from traditional healthcare delivery approaches to smart, AI-driven healthcare delivery centered on early detection, user empowerment, and optimal medical service accessibility.

- *Enrollment/Authentication*

This module is primarily mobile user based. With the help of this module user and doctor can register in the registration form he has to fill with personal information like username, create password, mobile number, mail id. This will be stored in a different table. With the help of this password user can log on this mobile application. After successful login they can utilize app feature in effective manner.

- *Doctor Profile Upload*

This module completely based for doctor.First doctor can log in to this android application by using the correct username and password. After logging in successfully can upload profile-related information such as Name, specialization, experience, availability, fees, etc, these details are kept by separate table

- *Symptoms Upload and Diagnosis*

This module completely based for user.Firstly user r can login into this android application by entering the correct username and password. After login user can able to choose their symptoms. According to user chosen symptoms proposed mobile application apply pattern matching algorithm and categorize the disease efficiently

- *Appointment Booking*

This module entirely based for user. When ever user press doctor information button this system fetch doctor details as per experience. Last complete doctor information show to user. After that user can choose doctor and request pre booking these information includes Name, service type, timing, Place this request automatically goes to doctor for conformation.

- *Confirmation*

This module entirely for doctor they can log this mobile app and can see request of user. Then they can provide confirmation and rejection service alert to user. User will receive appointment service confirmation or reject sms alert in a proper manner.

- *Chatbot Process*

The application also includes chatbot system, allowing users to User can post any question using chatbot option based on user query Chabot will provide efficient automate response to user.

V. FLOW DIAGRAM

DFD illustrate how data interact with a system. DFD are very helpful in modeling many business function aspects since they break down a task into fundamental parts. This makes it easier for the analyst to comprehend the modelable system that they are attempting to model. Data flow diagram represents a system by making use of external entities from where data flow towards a process in which transmission of the data and produces output data which is moved to other processes on external entities of files. Data can flow to process also as inputs. this is a sample healthcare appointment system diagram. The users first log in/register and then proceed to their own dashboard. They can either book appointments (pick their preferred dates and times) or see doctors directly via chat/video calls.Both these routes meet at the medical history viewing feature, meaning after either booking appointments or seeing doctors, users can see their medical records. This health system end-to-end flow diagram illustrates a patient experience across an end-to-end digital health platform. The process starts at the "Start" node, pointing users to the "User Registration/Login" step where they register or log in their account credentials. After authentication, patients go to the "User Dashboard," the main point for all system activities. From this point, the users are able to choose either of two main paths: they can either "Book Appointment" and "Select Date/Time" for clinic visits, or "Consult Doctor" via "Chat/Video Call" channels for telemedicine consultations. Both paths merge at the "View Medical History" module so that patients can view their medical history irrespective of consultation type. This kind of architecture supports continuity of care by maintaining full medical records. The system facilitates flexibility in the delivery of healthcare through central patient information. It optimizes user convenience with scheduled appointments and virtual consultation at the point of need. The website must connect with backend databases to maintain patient records, schedule appointments, and doctors' schedules. The stripped-down design places the user first through logical transitions between steps. The electronic healthcare solution in this case is a demonstration of how technology can render healthcare services more accessible without undermining professional medical standards. The flow terminates at the "End" point, which symbolizes the conclusion of a successful healthcare interaction in this electronic environment. The system offers an affordable means of healthcare management, with scheduling features and virtual consultations, but yet access to patient medical history.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25apr619

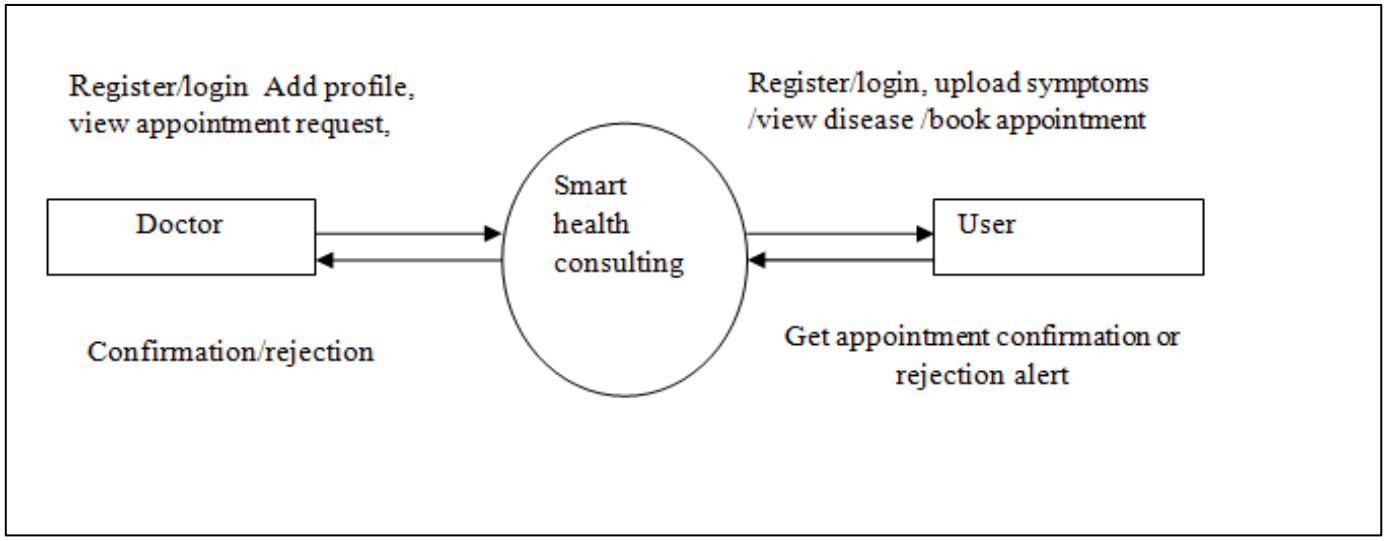

Fig 1 Level 0

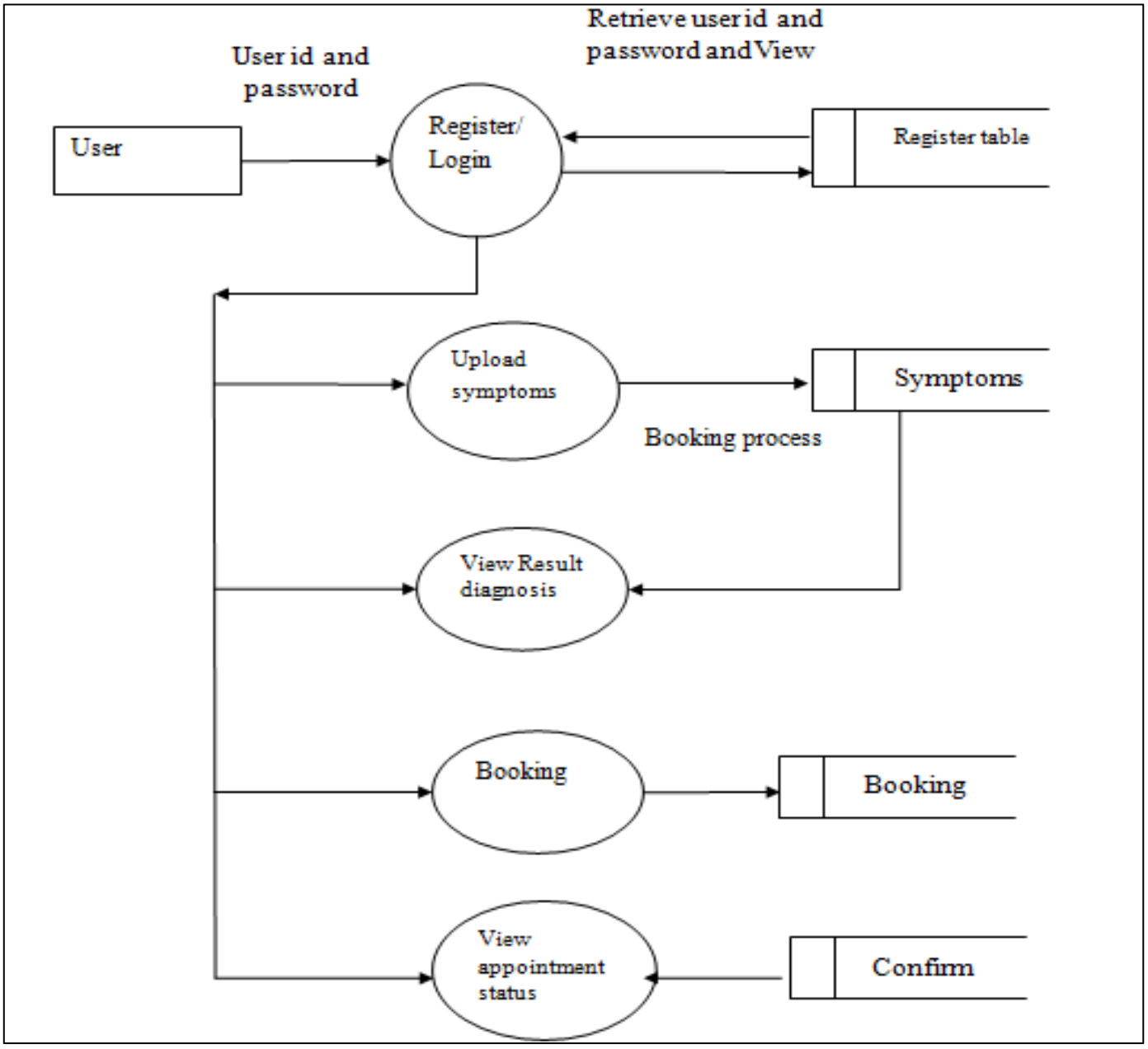

Fig 2 Level 1

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25apr619

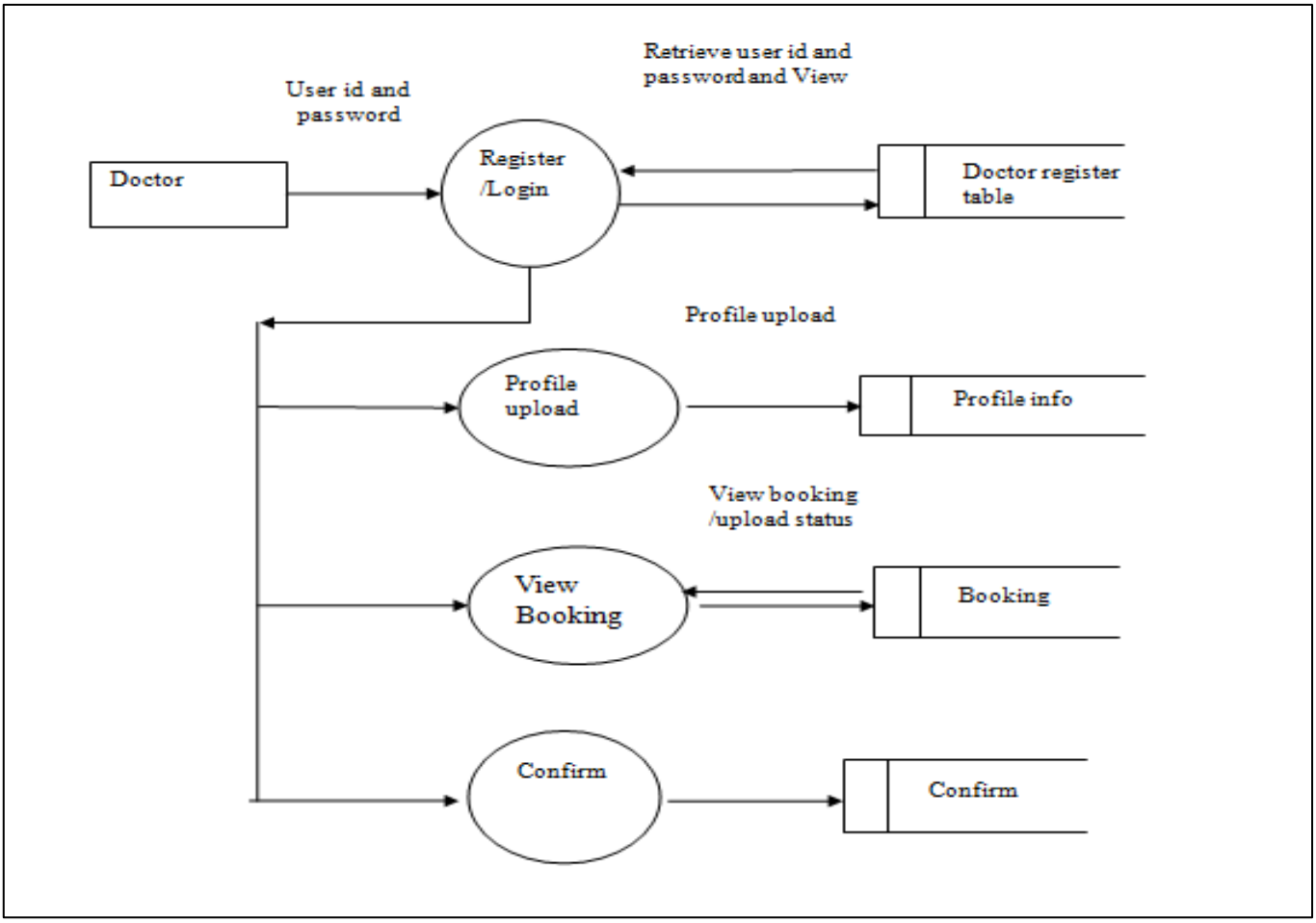

Fig 3 Level 2

VI. RESULTS AND DISCUSSION

The system was validated on the grounds of user satisfaction, response time, and diagnostic accuracy. Below is a summary of the test result of 50 users who utilized the Smart Health Consulting System. The Smart Health Consulting System was effectively deployed as a mobile application where users are able to input symptoms and obtain possible disease predictions and hospital recommendations. The system was tested with various symptom inputs to examine its responsiveness and accuracy. Tests confirmed that the system correctly classified symptoms and made appropriate predictions. It also successfully guided users to nearby or appropriate hospitals and enabled appointment reservations. Users were satisfied with the simplicity of the system during testing and that they could get basic medical knowledge without having to visit hospitals in a hurry. Disease prediction logic, being rule-based, was useful for common patterns of symptoms. But it's seen that one can improve more on accuracy if machine learning can be integrated later on. The project has potential to help rural and semi-rural areas poor in healthcare infrastructure by giving them a provisional diagnosis and hospital orientation

Table 1 System Performance Evaluation

Criteria	Excellent (%)	Good (%)	Fair (%)	Poor (%)
User Interface	60	30	10	0
Response Time	70	20	10	0
Diagnostic Accuracy	65	25	10	0
Overall Satisfaction	68	22	10	0

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25apr619

60% of users rated the User Interface as Excellent, confirming that the system overall is intuitive and easy to use. Another 30% gave it a Good rating, implying that design is good but possibly there could be some improvement in such areas as visual layout and user flow. Just 10% said it with a Fair response, with zero who said that it was Poor, reflecting in general positive acceptability. With respect to Response Time, the system performed marvelously, such that 70% evaluated it as Excellent while 20% as Good. This is to note the timeliness and the system's responsiveness in providing medical answers and consults. Only 10% scored it Fair, again without any Poor scores.Diagnostic Accuracy was also well-liked: 65% of the users scored it Excellent, 25% Good, and 10% Fair. These ratings imply that users tend to have confidence in the system to give sound health advice and suggestions Overall Satisfaction is the total impression of the items listed above. Here, 68% of the users gave the system an Excellent rating, 22% a Good rating, and 10% a Fair rating. The reason that in all these there is not even a single Poor rating is an indication of the reliability and faith of the users in the system.

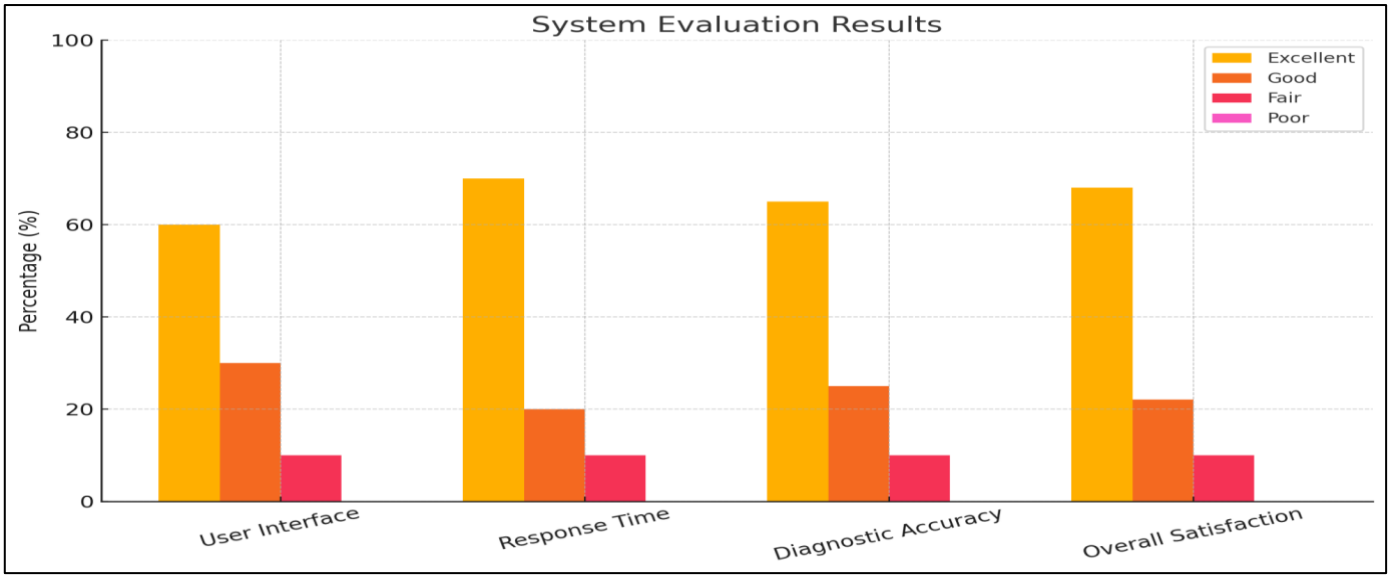

Fig 4 System Evaluation Results

The bar chart visually confirms the data provided in the table. It is a comparative chart of user opinion on the basis of the four measurement parameters. The "Excellent" bar prevails in every category, which means that the vast majority of the users had an extremely good experience with the system. The excellent experience ratings are also very high in Response Time and Overall Satisfaction. The "Good" bars are the second tallest in height in every group so that the system is adequate even when it is not better than hoped for all. The "Fair" low and in every group uniformly report individual and small-group user complaint problems. Of equal importance, the absence of any "Poor" ratings graphically confirms the uniform performance and popularity of the system. graph finishes the table by summing up the good trends and relative performance of the system in a single look. It makes sure that users are generally satisfied with the Smart Health Consulting System, especially speed, accuracy, and satisfaction.

VII. FUTURE ENHANCEMENT

Integration with Wearable Devices Utilization of real-time health information from fitness bands and smart watches would enhance the diagnostic performance as well as enable permanent monitoring. Multilingual Support Support for multiple languages for the system would make the system more user-friendly for users across languages. Voice-Enabled Interaction Voice communication and voice output embedded in the system would help enhance convenience, especially for blind patients or older patients. Machine Learning Optimization Learning models that adapt through feedback and history can make and customize diagnoses more accurate. Emergency Alert System A warning feature that alerts emergency personnel or caregivers in the event of significant health findings made can give an added sense of safety. Mobile Application System integration to a mobile app would allow the users to access the advice of health services on their terms while on the go. The second significant growth area is Artificial Intelligence and Natural Language Processing integration, which would allow the system to better interpret sophisticated user inputs and also provide even more accurate outputs. Furthermore, the integration of multilingual support would be a facilitation of overcoming language barriers and the provision of equal access to healthcare services to those from other linguistic backgrounds. The integration of wearables such as smartwatches and fitness bands can help facilitate continuous tracking of symptoms such as heart rate, oxygenation levels, and sleeping patterns, which would assist in providing dynamic real-time recommendations regarding health.

VIII. CONCLUSION

The Smart Health Consulting System is evident to facilitate medical consulting and diagnosis by using smart technology. Being user-friendly, having quick response, and reliable diagnostic results, the system generates a considerable amount of value to both medical professionals and patients. Test results confirm extremely high user

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25apr619

satisfaction with the operation of the system for all the most critical indicators by the vast majority of users. Overall, this model is the best reflection of the potential through which AI-based health platforms are likely to improve access to timely and standardized health advice, especially for healthcare-underdeveloped regions. Through the application of sophisticated technologies such as cloud computing, intelligent algorithms, and readable human interfaces, it can improve availability, punctuality, and credibility of care. The system addresses some of the traditional problems of conventional provision of health care, including long waiting lists, rural access deficits, and shortages of health professionals. The system has the ability to empower users to manage their own health through on-demand consultation and symptomspecific advice. The architecture is adaptive and flexible, thereby allowing it to scale with new technologies and health care practices. Besides, its integration with wearable devices and electronic health records enables holistic and continuous monitoring of well-being. Overall, the Smart Health Consulting System is not only an answer to current medical problems but also a futurist step towards a coordinated, effective, and intelligent healthcare system in the future.the suggested mobile application seeks to transform the healthcare industry by leveraging emergent technologies to mitigate the sophistication of disease diagnosis, doctor appointment, and query resolution. Implementing a pattern matching algorithm as a pre-prediction algorithm for diseases based on the complaint outlined by the user, the application offers a novel and stand-alone solution for preliminary diagnosis assistance. The addition of a doctor appointment system also improves user experience, allowing easy booking of consultations with specialists according to the needs of the patient. Implementing a chatbot offers the ability to provide instant, automated responses to users' questions, providing timely support to patients without the need for open human contact. With such add-ons, the app can maintain minimized manual effort on the part of healthcare providers and provide a better, efficient, accessible, and user-based program for patients. This cell phone application not only offers improved quality health care service, but also erases the gap that exists between patients and doctors, especially those people who might not have easy access to hospital centers.

REFERENCES

[1] S. R. Bharamagoudar, R. B. Geeta and S. G. Totad, "Web Based Student Information Management System," International Journal of Advanced Research in Computer and Communication Engineering, vol. 2, no. 6, pp. 2349–2353, June 2013.

[2] T. K. Das, A. S. Roy and S. Paul, "IOT based health monitoring system," International Journal of Research in Electronics and Computer Engineering, vol. 6, no. 2, pp. 99–103, 2018.

[3] N. Z. Khan, A. Hussain, and R. Amin, "An Intelligent Healthcare System for Detection and Classification of Chronic Diseases using Machine Learning Techniques," Journal of Healthcare Engineering, vol. 2020, Article ID 8883276, 2020.

[4] M. Chen, Y. Ma, J. Song, C. Lai, and B. Hu, "Smart Clothing: Connecting Human with Clouds and Big Data for Sustainable Health Monitoring," Mobile Networks and Applications, vol. 21, no. 5, pp. 825–845, Oct. 2016

[5] P. R. Deshmukh, D. M. Dhamdhere, and P. J. Waghmare, "Disease Prediction System Using Machine Learning," International Journal of Scientific Research in Science and Technology, vol. 8, no. 2, pp. 199–204, 2021.

[6] M. Chen, Y. Ma, J. Song, C. Lai, and B. Hu, "Smart Clothing: Connecting Human with Clouds and Big Data for Sustainable Health Monitoring," Mobile Networks and Applications, vol. 21, no. 5, pp. 825–845, Oct. 2016.

[7] T. K. Das, A. S. Roy, and S. Paul, "IoT Based Health Monitoring System," International Journal of Research in Electronics and Computer Engineering, vol. 6, no. 2, pp. 99–103, 2018.

[8] Das, T. K., Roy, A. S., & Paul, S. (2018). IoT Based Health Monitoring System. International Journal of Research in Electronics and Computer Engineering, 6(2), 99–103.

[9] Chen, M., Ma, Y., Song, J., Lai, C., & Hu, B. (2016). Smart Clothing: Connecting Human with Clouds and Big Data for Sustainable Health Monitoring. Mobile Networks and Applications, 21(5), 825–845.

[10] Deshmukh, P. R., Dhamdhere, D. M., & Waghmare, P. J. (2021). Disease Prediction System Using Machine Learning. International Journal of Scientific Research in Science and Technology, 8(2), 199–204