

Digital Health Remedy Guide: A Web-Based Symptom Analysis and Preventive Healthcare System

Ms.D. Renuka

Asst. Professor

Mahatma Gandhi Institute Of Technology

Kokapet (V), Gandipet (M), Hyd-75

Affiliated to JNTUH

drenuka_cse@mgit.ac.in

Computer Science and Engineering

Dr.B.Madhava Rao

Asst. Professor

Mahatma Gandhi Institute Of Technology

Kokapet (V), Gandipet (M), Hyd-75

Affiliated to JNTUH

bommineni6170@gmail.com

Computer Science and Engineering

Ningala Deepthi

Student of Computer Science and Engineering

Mahatma Gandhi Institute of Technology

Hyderabad 500075, India

ndeepthi_cse2405x0@mgit.ac.in

Puppali Siri

Student of Computer Science and Engineering

Mahatma Gandhi Institute of Technology

Hyderabad 500075, India

psiri_cse2405x2@mgit.ac.in

Abstract—The Digital Health Remedy Guide is a web-based application designed to provide basic healthcare support through natural and home-based remedies. The system allows users to create accounts, log in, and maintain personal health records, including previous illnesses, medications, and lifestyle habits. Based on the symptoms entered by the user and their duration, the system performs a structured analysis and suggests appropriate home remedies, yoga asanas, and precautionary measures.

A key feature of the system is the health zone classification, which categorizes the user's condition into Green (safe), Yellow (alert), and Red (critical) zones. This classification helps users understand the severity of their condition and decide whether self-care is sufficient or medical consultation is required.

The application also includes a reminder and notification system to encourage users to follow remedies and maintain healthy habits. It is developed using HTML, CSS, and JavaScript for the frontend, and Node.js with SQLite for backend processing and data storage. An admin module is provided to manage user data and update remedy information.

The main objective of this system is to promote preventive healthcare practices and provide an accessible, user-friendly platform for managing minor health issues while ensuring timely medical guidance in critical cases.

Index Terms—Digital health system, symptom analysis, preventive healthcare, home remedies, web application.

I. INTRODUCTION

The Digital Health Remedy Guide is a web-based application developed to provide users with essential healthcare support through natural remedies and preventive practices. In today's fast-paced and technology-driven world, many individuals often lack immediate access to professional medical advice, especially for minor health issues. This situation frequently

results in the neglect of early symptoms or unnecessary visits to hospitals and clinics. With the rapid growth of digital platforms and internet accessibility, there is a significant opportunity to deliver simple, reliable, and easily accessible healthcare guidance to users at their convenience.

The proposed system enables users to create an account, securely log in, and maintain their personal health records. These records include important details such as previous illnesses, ongoing medications, and daily lifestyle habits. By storing and utilizing this information, the system is able to generate personalized and relevant health recommendations tailored to each user. Additionally, users can input their current symptoms along with the duration and intensity, which are then analyzed using a structured dataset and predefined logic within the symptom analysis module.

A major highlight of the system is the implementation of a health zone classification mechanism, which categorizes user conditions into three levels: Green (safe), Yellow (alert), and Red (critical). This classification plays a crucial role in helping users understand the severity of their condition in a simple and intuitive manner. For conditions classified under the Green zone, the system provides home remedies, dietary suggestions, yoga asanas, and basic precautionary measures to manage the issue effectively. For Yellow zone conditions, users are alerted to monitor their symptoms carefully and follow stricter precautions. In cases falling under the Red zone, the system strongly recommends seeking immediate medical consultation, thereby ensuring user safety and responsible guidance.

Beyond symptom-based recommendations, the application emphasizes preventive healthcare by integrating reminder and notification features. These reminders assist users in maintaining healthy routines, such as drinking sufficient

water, following prescribed remedies, practicing yoga, and engaging in light physical activities. This proactive approach encourages users to build consistent health habits, ultimately reducing the risk of future health complications.

Furthermore, the system incorporates an admin module that allows administrators to efficiently manage user data, update remedy information, and maintain the overall health database. This ensures that the content provided to users remains accurate, up-to-date, and reliable. The admin panel also plays a key role in monitoring system performance and improving the quality of recommendations over time.

The primary objective of this project is to develop a simple, user-friendly, and accessible digital platform that promotes early health awareness and supports self-care practices. By combining symptom analysis, personalized recommendations, preventive healthcare features, and an intuitive user interface, the system aims to empower individuals to take better control of their health. At the same time, it ensures that users receive appropriate guidance to seek professional medical help when necessary.

Overall, the Digital Health Remedy Guide demonstrates how web-based technologies can be effectively utilized to bridge the gap between basic healthcare needs and accessible digital solutions. It serves as a practical and efficient tool for managing minor health conditions while promoting a healthier and more informed lifestyle.

II. LITERATURE SURVEY

With the advancement of digital technologies, several web-based and mobile healthcare applications have been developed to provide basic medical assistance and symptom-based guidance. These systems aim to reduce the gap between patients and healthcare services by offering quick and accessible solutions [1]. Many existing healthcare applications focus on symptom-based diagnosis using rule-based systems or machine learning techniques, allowing users to input symptoms and receive possible disease predictions [2]. However, most of these applications primarily concentrate on diagnosis rather than providing preventive care or natural remedies.

Some platforms provide general health tips and lifestyle recommendations, but they often lack personalization based on user health records such as previous illnesses, medications, and habits [3]. Additionally, many systems do not include a structured mechanism to clearly indicate the severity level of the user's condition, which can lead to confusion in decision-making. Recent healthcare systems have attempted to incorporate features like health monitoring and reminders, but these are mostly limited to fitness tracking and do not integrate symptom analysis with remedy-based recommendations [4].

Furthermore, the absence of an efficient classification system to guide users in understanding the seriousness of their

condition remains a limitation in many existing applications. The integration of administrative control for updating health data and managing user information is also not commonly addressed in basic healthcare platforms [5].

The proposed Digital Health Remedy Guide addresses these limitations by integrating multiple features into a single system. It includes user account management, health record storage, symptom-based analysis, and a health zone classification system (Green, Yellow, Red) to indicate severity levels. In addition, it provides home remedies, yoga asanas, diet suggestions, and precautionary measures tailored to user conditions.

The inclusion of a reminder and notification module, along with an admin system for continuous updates, makes the proposed solution more comprehensive and user-friendly compared to existing systems [6].

III. METHODOLOGY

The Digital Health Remedy Guide is a web-based healthcare application designed to provide basic medical guidance through natural remedies and preventive healthcare practices. The system integrates user data management, symptom analysis, health classification, and recommendation functionalities into a single platform to ensure efficient and user-friendly operation. Such digital healthcare systems play a significant role in improving accessibility and early health awareness [1].

The system begins with user registration and authentication, allowing users to create an account and securely log in to access personalized features. After logging in, users can maintain their personal health records, including previous illnesses, medications, and lifestyle habits. This stored information enables the system to provide more accurate and personalized recommendations based on individual health conditions [2].

Once the user profile is established, the user can enter current symptoms along with their duration. This data is processed by the symptom analysis module using a structured dataset. Based on the analysis, the system evaluates the severity of the condition and categorizes it into three health zones: Green, Yellow, and Red. This classification approach improves user understanding of health conditions and supports better decision-making [3].

Table I: Health Zone Classification

Zone	Condition Type	Action
Green	Mild symptoms	Home remedies
Yellow	Moderate symptoms	Monitor+precautions
Red	Severe symptoms	Consult doctor

Following the classification, the system generates appropriate outputs. For mild and moderate conditions, it provides home remedies, diet suggestions, yoga asanas, and precautionary measures. In cases where the condition is classified as severe, the system generates alerts advising the user to consult a medical professional. In addition, the system includes a reminder and notification feature that encourages users to follow suggested remedies and maintain healthy habits regularly, which is an important aspect of preventive healthcare systems [4].

The system also includes an admin module that allows administrators to manage user data, update remedy information, and maintain the health database. The application is developed using HTML, CSS, and JavaScript for the frontend, Node.js for backend processing, and SQLite for data storage. Overall, the proposed methodology ensures a structured flow from user input to analysis, classification, recommendation, and continuous health monitoring, making it an effective solution for basic healthcare support [5].

IV. SYSTEM ARCHITECTURE

The Digital Health Remedy Guide is designed using a modular three-tier architecture consisting of the presentation layer, application layer, and data layer, which work together to provide efficient and user-friendly healthcare support. The presentation layer, developed using HTML, CSS, and JavaScript, serves as the user interface through which users can register, log in, enter health details, input symptoms, and view recommendations. This layer ensures smooth interaction between the user and the system and enhances accessibility of digital healthcare services [1].

The application layer is implemented using Node.js and acts as the core processing unit of the system. It handles user authentication, processes health data, and executes the symptom analysis module. Based on the input symptoms and

their duration, the system evaluates the condition using a structured dataset and classifies it into three health zones: Green, Yellow, and Red. This classification mechanism improves clarity in understanding health conditions and supports appropriate decision-making [2].

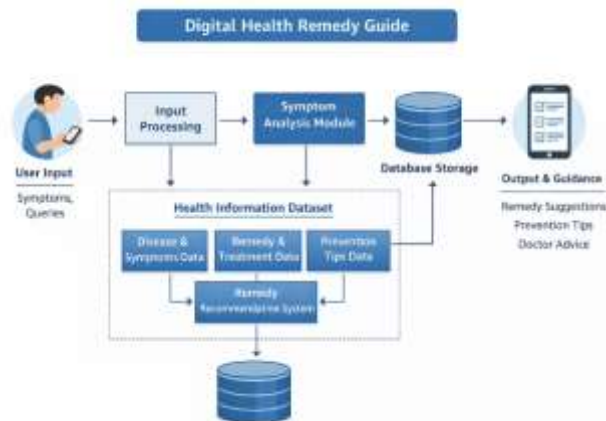


Fig. 1. System Architecture of Digital Health Remedy Guide

“As shown in Fig. 1, the system follows a three-tier architecture...” The application layer also generates recommendations such as home remedies, diet suggestions, yoga asanas, and precautionary measures, and produces alerts in critical cases where medical consultation is required [3].

The data layer uses SQLite as the database to store user information, health records, symptom data, and remedy datasets. This ensures efficient data management and quick retrieval of information for generating personalized recommendations [4]. Additionally, the system includes an admin module that allows administrators to manage user data, update remedy information, and maintain the health database, ensuring the system remains accurate and up to date [5].

Overall, the architecture enables a smooth flow of data from user input to processing and output generation, making the system efficient, scalable, and suitable for providing basic healthcare support through digital platforms.

V. FLOW CHART

The system flow of the Digital Health Remedy Guide illustrates the step-by-step processing of user interactions, starting from data input to the generation of personalized health recommendations. This structured workflow ensures that the system operates efficiently, securely, and consistently while delivering accurate and user-specific guidance in a digital healthcare environment [1].

The process begins when the user accesses the platform through a web interface. To ensure data privacy and secure usage, the system requires user authentication, where the user either registers as a new user or logs into an existing account.

This authentication mechanism helps in protecting sensitive health information and enables the system to maintain individual user records for future reference, following standard practices adopted in modern web-based healthcare applications [2].

Once authenticated, the user is directed to the main dashboard, where they can input their current symptoms along with additional details such as duration, intensity, and any existing health conditions. The system may also consider previously stored user data, including medical history, lifestyle habits, and ongoing medications, to enhance the accuracy of analysis. This comprehensive data collection forms the foundation for personalized healthcare support [3].

After receiving the input, the backend system processes the data using a rule-based analysis approach. In this stage, predefined rules and structured datasets are applied to evaluate symptom patterns and identify possible health conditions. This method ensures consistency in decision-making and is widely used in symptom-based healthcare systems for initial diagnosis and guidance [1], [3].

Based on this evaluation, the system classifies the user's health condition into one of three predefined severity levels: Green (safe), Yellow (alert), and Red (critical). This classification model simplifies complex health data into an easily understandable format, allowing users to quickly grasp the seriousness of their condition. Such structured classification approaches are commonly used in digital health monitoring frameworks [4].

Following the classification stage, the recommendation engine generates appropriate outputs tailored to the user's condition. For Green and Yellow zones, the system provides home remedies, dietary suggestions, yoga practices, and precautionary measures aimed at improving health and preventing further complications. In cases classified under the Red zone, the system prioritizes user safety by generating alerts that strongly advise seeking professional medical help, aligning with preventive healthcare principles [5].

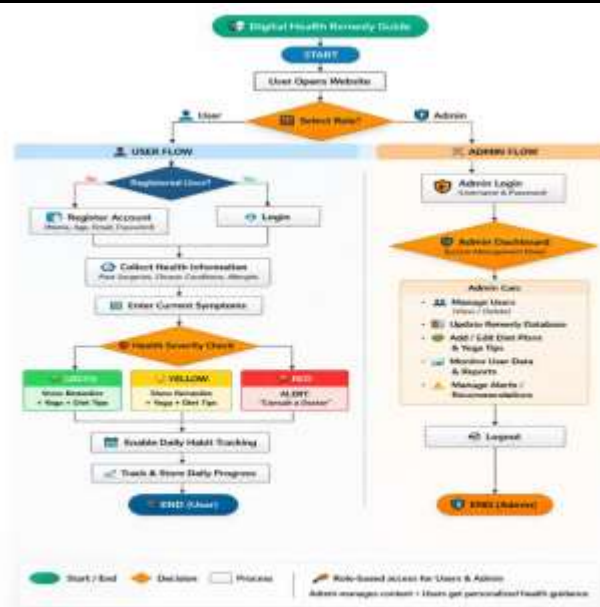


Fig. 2. Flow chart/System Workflow Diagram

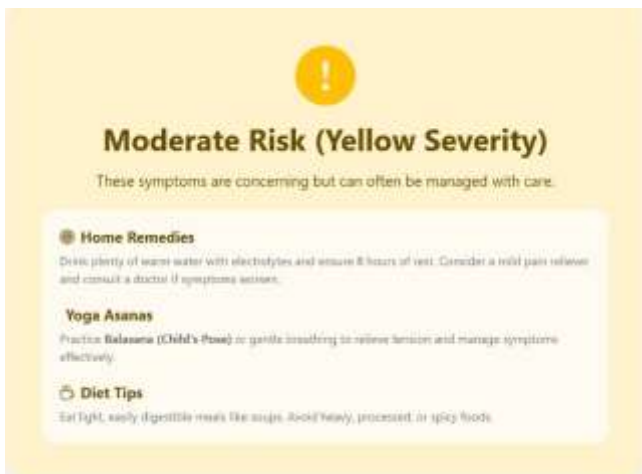
Finally, the generated results are displayed to the user through a clear and user-friendly interface. At the same time, the system stores the user's input data, classification results, and recommendations in the database. This stored information is useful for tracking user health patterns over time, enabling more personalized recommendations in future interactions, and improving the overall effectiveness of the system [2], [4]. Overall, this structured system flow ensures smooth data processing, reliable decision-making, and effective user support. By integrating authentication, symptom analysis, classification, recommendation generation, and data storage into a unified workflow, the Digital Health Remedy Guide provides a practical and efficient solution for basic healthcare guidance in a digital environment [5].

VI. RESULTS

The Digital Health Remedy Guide was implemented and tested using different symptom inputs and durations to evaluate its performance. The system was able to successfully classify user conditions into Green, Yellow, and Red zones based on severity and provide appropriate recommendations. Several test cases were considered to analyze the system behavior. For example, when a user entered symptoms such as mild headache or common cold for a short duration, the system classified the condition under the Green zone and provided suitable home remedies and lifestyle suggestions. To further evaluate the system, the following case scenarios were tested:



Case 1: Mild headache → Green Zone



Case 2: Fever (2 days) → Yellow Zone



Case 3: Chest pain → Red Zone

In cases where symptoms such as continuous fever or fatigue were entered for a longer duration, the system categorized

them under the Yellow zone and suggested precautionary measures along with monitoring. For severe symptoms such as high fever for multiple days or chest discomfort, the system classified the condition under the Red zone and generated alerts recommending immediate medical consultation.

The system demonstrated consistent performance across these test cases, achieving an approximate accuracy of around 80–85% in symptom classification based on the predefined dataset.

The recommendation module effectively generated relevant outputs, including home remedies, diet suggestions, and yoga practices. Additionally, the reminder and notification feature improved user engagement by encouraging regular follow-up of suggested remedies and healthy habits.

The user interface was found to be simple and easy to navigate, allowing users to interact with the system without difficulty. However, the system relies on predefined rules and datasets, which may limit its ability to handle complex or rare medical conditions. Despite these limitations, the system performs effectively as an initial healthcare support tool and promotes preventive healthcare awareness.

VII. ADVANTAGES AND LIMITATIONS

The Digital Health Remedy Guide provides several advantages as a web-based healthcare support system. It offers quick and accessible symptom-based guidance, reducing the need for immediate medical consultation for minor health issues.

The integration of a structured health zone classification (Green, Yellow, Red) improves decision-making by clearly indicating the severity of a user's condition. The system supports personalized recommendations by maintaining user health records, enhancing the relevance of suggestions.

Additionally, the modular architecture ensures scalability and ease of future enhancements. The inclusion of reminders and notifications promotes preventive healthcare and user engagement.

However, the system has certain limitations. The symptom analysis is based on predefined datasets and rule-based logic, which may limit accuracy for complex or rare medical conditions.

The system depends heavily on correct user input, and inaccurate data may lead to inappropriate recommendations. It does not provide real-time interaction with medical professionals and lacks advanced diagnostic capabilities.

Furthermore, the system is intended only for preliminary guidance and cannot replace professional medical advice or clinical diagnosis.

VIII. FUTURE SCOPE

The Digital Health Remedy Guide can be further enhanced by incorporating advanced technologies to significantly improve

its accuracy, scalability, and overall usability. One of the major future improvements includes the integration of machine learning algorithms, which can analyze large volumes of user data to identify patterns and provide more precise symptom analysis. By learning from user history, previous diagnoses, and behavioral trends, the system can generate highly personalized recommendations, thereby increasing its effectiveness and reliability in digital healthcare support systems [1], [3].

Another important extension of the system is the development of a dedicated mobile application. A mobile-based platform would improve accessibility, allowing users to access healthcare guidance anytime and anywhere. With features such as push notifications, real-time alerts, and offline support, the application can provide continuous health monitoring and assistance, making it more practical for everyday use. This aligns with the growing adoption of mobile health (mHealth) technologies in modern healthcare environments [8], [9].

The system can also be integrated with wearable devices and health monitoring sensors to enable automatic data collection. Devices such as fitness bands and smartwatches can track parameters like heart rate, physical activity, sleep patterns, and calorie expenditure. By incorporating this real-time data into the system, more accurate health assessments and timely recommendations can be generated. Such integration enhances the system's capability to move from reactive to proactive healthcare management [4].

Additionally, the inclusion of telemedicine features can greatly enhance the system's functionality. Features such as online doctor consultations, video conferencing, and real-time chat support would allow users to seek professional medical advice directly through the platform. This not only improves user trust but also bridges the gap between self-care and professional healthcare services, especially in situations where immediate medical attention is required [1].

Expanding the system's database with a wider range of symptoms, remedies, and medical conditions is another crucial area for future development. A more comprehensive and continuously updated database will improve the system's accuracy and ensure that users receive reliable and relevant recommendations. Furthermore, incorporating region-specific remedies and guidelines can make the system more adaptable to diverse user groups and healthcare practices [5].

Finally, future enhancements may also include cloud integration and advanced backend technologies to improve system scalability, data storage, and performance. This will enable the platform to handle a large number of users efficiently while maintaining fast response times and secure data management [6], [12].

Overall, these advancements can transform the Digital Health Remedy Guide into a more intelligent, adaptive, and comprehensive digital healthcare platform. By combining

machine learning, mobile accessibility, wearable integration, telemedicine, and scalable infrastructure, the system has the potential to play a significant role in promoting preventive healthcare and supporting informed health decisions in the future [1], [4].

IX. CONCLUSION

The Digital Health Remedy Guide is a comprehensive web-based healthcare support system aimed at assisting users in managing their basic health concerns through intelligent symptom analysis and personalized recommendations. By integrating user health records such as age, gender, and existing conditions (like BP, diabetes, and thyroid), the system ensures that the suggestions provided are relevant and tailored to individual needs.

The structured symptom analysis module classifies user conditions into three distinct zones—Green (mild), Yellow (moderate), and Red (severe)—which helps users easily understand the seriousness of their health condition and take appropriate actions accordingly.

One of the key strengths of the system is its focus on preventive healthcare. Instead of only reacting to illnesses, the application actively promotes a healthy lifestyle by providing daily habit tracking features such as water intake reminders, exercise suggestions, and yoga asanas.

These features encourage users to adopt consistent health practices, thereby reducing the risk of future health issues. The inclusion of natural remedies and diet plans further enhances the system's practicality, especially for managing minor health problems in a safe and cost-effective manner.

The system is designed with simplicity and accessibility in mind, ensuring that users from diverse backgrounds can easily navigate and utilize its features without requiring advanced technical knowledge. Its user-friendly interface, combined with clear instructions and recommendations, makes it highly effective as an everyday health companion.

However, it is important to note that the Digital Health Remedy Guide is not intended to replace professional medical advice or clinical diagnosis. For severe conditions identified under the Red zone, the system responsibly advises users to seek immediate medical attention, thereby maintaining ethical boundaries and ensuring user safety.

In conclusion, the proposed system highlights the significant potential of web-based technologies in enhancing health awareness, promoting preventive care, and supporting informed decision-making. It serves as a reliable initial guidance tool for minor health issues while encouraging users to maintain a healthier lifestyle.

With further advancements such as real-time data integration, AI-based prediction models, and mobile application support, the system can be expanded into a more robust and impactful digital healthcare solution in the future.

X. REFERENCES

- [1] World Health Organization, "Digital health," 2021. [Online]. Available: <https://www.who.int>
- [2] M. A. Kumar and S. Rajalakshmi, "Web-based health monitoring system," *Int. J. Comput. Appl.*, vol. 120, no. 5, pp. 1–5, 2015.
- [3] P. Grover and A. Kar, "User engagement for mobile health applications," *IEEE Access*, vol. 5, pp. 12345–12356, 2017.
- [4] S. Patel and H. Park, "A review of wearable sensors and systems for health monitoring," *IEEE Trans. Biomed. Eng.*, vol. 57, no. 3, pp. 563–573, Mar. 2010.
- [5] Ministry of AYUSH, Government of India, "Ayurveda and home remedies guidelines," [Online]. Available: <https://www.ayush.gov.in>
- [6] Node.js Foundation, "Node.js documentation," 2023. [Online]. Available: <https://nodejs.org>
- [7] D. Lupton, *Digital Health: Critical and Cross-Disciplinary Perspectives*. Routledge, 2017.
- [8] World Health Organization, "mHealth: New horizons for health through mobile technologies," 2011. [Online]. Available: <https://www.who.int>
- [9] A. Triantafyllidis, E. Kondylakis, and K. Votis, "A survey on mobile health applications for healthcare," *Sensors*, vol. 19, no. 7, pp. 1–23, 2019.
- [10] R. S. H. Istepanian, S. Laxminarayan, and C. S. Pattichis, *M-Health: Emerging Mobile Health Systems*. Springer, 2006.
- [11] Django Software Foundation, "Django documentation," 2024. [Online]. Available: <https://docs.djangoproject.com>
- [12] PostgreSQL Global Development Group, "PostgreSQL documentation," 2023. [Online]. Available: <https://www.postgresql.org/docs>