A COMPREHENSIVE HEALTH SCORE DIETETICS PLATFORM

A PROJECT REPORT

Submitted by

LAKSHNA K (730320104011)

SHOBANA M (730320104021)

VARSHINI S (730320104024)

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING

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BONAFIDE CERTIFICATE

Certified that this project report titled **" A COMPREHENSIVE HEALTH SCORE DIETETICS PLATFORM "** is the bonafide work of **"LAKSHNA K (730320104011), SHOBANA M (730320104021),VARSHINI S (730320104024)"** who have carried out the project under my supervision.

SIGNATURE

Dr. S.D.PRABHU RAGAVENDIRAN, MCA.,M.E.,Ph.D,
HEAD OF THE DEPARTMENT,
Department of Computer Science and Engineering,
Builders Engineering College,
Kangeyam - 638108.

SIGNATURE

Dr.P.THANGARAJ,
M Sc.,ME.,Ph D.,
PROFESSOR,SUPERVISOR,
Department of Computer Science and Engineering,
Builders Engineering College,
Kangeyam - 638108.

Submitted for the project viva-voce examination held on _____

INTERNAL EXAMINER **EXTERNAL EXAMINER**

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ABSTRACT

The "Comprehensive Health Score Dietetics" project is a groundbreaking initiative poised to transform health management through an innovative web-based platform. With a suite of features tailored for both users and healthcare practitioners, the platform facilitates seamless monitoring of various health metrics such as BMI calculation, heart rate tracking, and blood pressure monitoring. Robust security measures ensure the safe storage of user data, empowering individuals to track their health journey and make informed decisions. Additionally, the platform provides a comprehensive directory of healthcare practitioners, streamlining the process of finding and scheduling appointments.As a key contributor to this project, your role would encompass a range of responsibilities spanning frontend development to ensure an intuitive user interface, backend implementation for robust functionality, database management for secure data storage, and seamless integration of APIs for health metric tracking. Ensuring compliance with privacy regulations and implementing stringent security measures are paramount, alongside thorough testing to guarantee reliability and accuracy. Extensive documentation will be essential for guiding users, administrators, and developers alike. Continuous improvement, deployment, and maintenance efforts will be vital to uphold the platform's effectiveness, efficiency, and user satisfaction.

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LIST OF ABBREVATIONS

BMI : Body Mass Index

HTML : HyperText Markup Language

CSS : Cascading Style Sheet

UI : User Interface

WCAG : Web Content Accessibility Guidelines

API : Application programming interface

UX : User Experience

CDNs : Content Delivery Networks

HTPS : Hypertext Transfer Protocol Secure

EJS : Embedded JavaScript

URL : Uniform Resource Locator

NPM : Node Package Manager

RDBMS : Relational Database Management System

SQL : Structured Query Language

DOM : Document Object Model

RAM : Random Access Memory

CHAPTER 1

1. INTRODUCTION

1. 1 AIM

The "HEALTH SCORE" project endeavors to establish an integrated online platform focused on health monitoring and appointment coordination. It aims to provide users with a sophisticated toolset for registering health metrics, including but not limited to BMI, heart rate, and blood pressure. Simultaneously, healthcare practitioners are afforded registration capabilities, enabling them to manage appointment requests and schedules efficiently. Through the system's interface, users can seamlessly request appointments with their desired practitioners. Administrative functionalities empower oversight of user and practitioner activities, including report generation for informed decision-making. This initiative aims to optimize health management processes, enhancing user engagement and facilitating streamlined access to healthcare services.

1.2 PURPOSE

The purpose of comprehensive healthscore dietetics platform serves multiple purposes, aiming to improve individuals' overall health and well-being through personalized nutrition and lifestyle recommendations. Here are some key purposes for such a platform:

- **Personalized Nutrition Guidance:** The platform can analyze users dietary habits, health metrics, and goals to provide tailored nutrition plans and recommendations. This personalized approach can help individuals make informed choices that align with their specific needs and preferences.

- **Health Monitoring and Tracking:** Users can track their progress over time, monitor key health indicators, and receive insights into how their diet and lifestyle choices are impacting their overall health. This can empower individuals to take proactive steps towards achieving their health goals.
- **Education and Awareness:** The platform can offer educational resources, articles, and tools to help users understand the importance of balanced nutrition, healthy eating habits, and the impact of diet on various health conditions. This can promote greater awareness and encourage healthier lifestyle choices.
- **Integration with Health Devices and Apps:** By integrating with wearable devices, fitness trackers, and other health apps, the platform can provide a more holistic view of users' health and fitness data. This integrated approach can offer valuable insights and recommendations based on real-time information.
- **Professional Guidance and Support:** Registered dietitians and nutrition experts can be available through the platform to offer personalized advice, answer questions, and provide ongoing support to users on their health journey. This professional guidance can enhance the effectiveness and reliability of the platform's recommendations.
- **Community Engagement and Support:** Building a community of like-minded individuals can foster motivation, accountability, and support among users. The platform can facilitate peer interactions, group challenges, and shared experiences to create a supportive environment for achieving health goals.
- **Research and Development:** Continuously updating the platform with the latest scientific research, nutritional guidelines, and innovative technologies can ensure that users have access to cutting-edge information and tools.

1. 3 OBJECTIVES

The primary objective of HEALTH SCORE DIETETICS is to empower users with the tools and resources they need to take control of their health and well-being effectively. By providing a centralized platform for health monitoring and practitioner engagement, we seek to facilitate proactive health management and foster meaningful interactions between users and healthcare professionals. Our goal is to bridge the gap between individuals and healthcare services, making quality healthcare more accessible and convenient for all.

Key Features:

1. Comprehensive Health Monitoring:

Users can access a wide range of health monitoring tools within the platform, including body metrics calculation (BMI, heart rate, blood pressure), activity tracking (walking steps, calorie count), vital signs monitoring (blood glucose, oxygen intake), and sleep tracking.

These tools enable users to track and analyze various aspects of their health, allowing for informed decision-making and proactive health management.

2. Practitioner Directory and Appointment Scheduling:

HEALTH SCORE DIETETICS features a curated directory of healthcare practitioners, complete with detailed profiles showcasing their specialties, hospital affiliations, and contact information.

Users have the flexibility to browse through the list of practitioners and request appointments with the professionals of their choice, making healthcare more personalized and accessible.

3. Efficient Appointment Management:

Health practitioners registered on the platform can view incoming appointment requests from users and manage them efficiently through their accounts.

Practitioners have the autonomy to approve or deny appointment requests based on their availability and schedule, ensuring optimal resource allocation and scheduling efficiency.

4. Administrative Oversight and Reporting:

Administrators are provided with dedicated login credentials, granting them access to an administrative dashboard where they can oversee user and practitioner details.

The admin dashboard facilitates the generation of reports, allowing administrators to review lists of registered users and health practitioners on specific dates and track platform activities.

1.4 SCOPE

The scope of the health score dietieces includes the following functionalities and features:

- **User Profiles**: Allow users to create and manage profiles with personal information, health goals, dietary preferences, and restrictions
- **Dietary Recommendations**: Generate personalized meal plans, recipes, and food suggestions based on user profiles and nutritional requirements.
- **Nutritional Tracking**: Enable users to log and track daily food intake, water consumption, and physical activity.

- **Progress Monitoring**: Provide visualizations and reports to track progress towards health goals, including weight loss, nutrient intake, and physical activity.

- **Educational Resources**: Offer a library of articles, videos, and tips on nutrition, healthy eating, and lifestyle choices.

- **Communication Platform**: Implement messaging or consultation features for users to communicate with dietitians or nutritionists for personalized.

CHAPTER 2

2.LITTERATURE REVIEW

Development of a General Health Score Based on 12 Objective Metabolic and Lifestyle Items:

Octavio pano (2022)-Numerous studies have investigated the association between individual metabolic and lifestyle factors and health outcomes. For instance, high BMI, elevated blood pressure, and abnormal lipid profiles have been consistently linked to increased risk of cardiovascular disease, diabetes, and other chronic conditions. Similarly, sedentary behavior, poor dietary choices, and smoking have been identified as major contributors to morbidity and mortality. However, the complexity of health necessitates a more holistic approach. A seminal study by X et al. (Year) demonstrated the predictive power of a composite health score derived from multiple metabolic and lifestyle parameters. By integrating these variables, the researchers were able to better stratify individuals based on their overall health status and predict future disease risk.

Diagonising medicalscore calculator apps:

Raina Samuel (2019)- There has been a growing interest in the development and use of medical score calculator apps for diagnosing various medical conditions. These apps aim to provide healthcare professionals with quick and convenient tools for assessing patient conditions and making informed decisions. Several studies have investigated the accuracy and reliability of these apps in different medical settings.One study by Smith et al. (2019) evaluated the performance of various medical score calculator apps in diagnosing cardiovascular diseases.

The nutri score nutrition label:

Hercberg (2020)- The Nutri-Score system, developed by Hercberg et al., has gained attention as a front-of-pack labeling scheme aimed at improving consumer awareness of nutritional quality in food products. Research has shown that such labeling systems can positively impact consumer food choices by providing easily understandable information about the nutritional content of packaged foods. Studies examining the effectiveness of the Nutri-Score label have generally reported that it helps consumers make healthier choices, leading to potential improvements in dietary intake and overall health outcomes. However, there is ongoing debate about the optimal design and implementation of front-of-pack labeling systems, including concerns about potential unintended consequences such as stigmatization of certain foods or confusion among consumers. Further research is needed to evaluate the long-term effects of the Nutri-Score system on dietary behaviors and health outcomes across different populations and contexts.

CHAPTER 3

3. PROJECT DESCRIPTION

3.1 EXISTING SYSTEM

Users encounter the challenge of fragmented health management as they are required to navigate disparate online platforms to assess diverse aspects of their well-being, including BMI calculation, step tracking, water intake monitoring, oxygen intake evaluation, calorie counting, and appointment scheduling with healthcare providers. This disjointed approach not only consumes valuable time but also diminishes user satisfaction, highlighting the need for a unified solution that integrates these functionalities seamlessly.

3.1.1 DRAWBACKS OF EXISTING SYSTEM

- Users currently face the inconvenience of navigating disparate online platforms or applications to schedule appointments with healthcare providers and to assess various body activities such as calculating BMI.
- In the contemporary context, individuals often struggle to allocate sufficient time for crucial health metrics like monitoring walking steps, heart rate, and daily water intake, which are fundamental for long-term well-being. This lack of time allocation poses significant challenges to holistic health management.

3.2 PROPOSED SYSTEM

The proposed system encompasses comprehensive calculations and tracking of vital health metrics, including BMI, heart rate, blood pressure, walking steps, calorie count, blood glucose levels, sleep duration, body temperature, oxygen intake, and water consumption. Utilizing provided inputs, the system generates and displays

accurate results for each metric. Furthermore, it features secure user and healthcare practitioner account authentication through login credentials. Additionally, an administrative login interface is integrated to facilitate oversight of registered users. The system also facilitates seamless appointment scheduling with healthcare professionals, enhancing accessibility and convenience for users seeking medical consultations**.**

3.2.1 ADVANTAGES OF PROPOSED SYSTEM

- Eliminates the necessity of navigating across multiple disparate platforms.
- Enhances the likelihood of achieving a satisfactory outcome.

3. 3 FEATURES

- **User Profile Creation:**Personal details (name, age, gender, etc.).Health goals (weight loss, muscle gain, maintenance, etc.).Dietary restrictions and preferences (vegetarian, vegan, gluten-free, allergies, etc.)
- **Nutritional Database:**Comprehensive database of foods and beverages with nutritional information.Option to add custom foods and recipes.
- **Meal Planning:**Automated meal plans based on user profile and goals.Drag-and-drop meal plan customization.Weekly or monthly meal planning calendar.
- **Recipe Repository:**Collection of healthy recipes curated by dietitians.User-submitted recipes with nutritional breakdown.Search and filter recipes by ingredients, dietary preferences, and more.
- **Nutrient Tracking:**Real-time tracking of daily intake of calories, macronutrients (carbohydrates, proteins, fats), vitamins, and minerals.Visual graphs and charts to track progress over time.

- **Progress Tracking and Analytics:**Weight and body measurements tracker.Physical activity and exercise.
- **Educational Resources:**Articles, blogs, and videos on nutrition, health, and wellness.Tips and advice fromregistered dietitians and health experts.Interactive quizzes and assessments.
- **Community and Support:**Forums or discussion boards for users to share experiences, ask questions, and support each other.Direct messaging or consultation booking with dietitians or nutritionists.Challenges and competitions to motivate and engage users.
- **Integration with Wearable Devices:**Sync with fitness trackers and smartwatches to import activity and sleep data.Integration with health apps to exchange data seamlessly.
- **Mobile Accessibility:**Responsive design for mobile devices to access the platform on-the-go.Mobile app for iOS and Android with offline access to some features.
- **Customization and Personalization:**Personalized recommendations based on user's preferences, history, and feedback.Option to set reminders for meals, water intake, and exercise.
- **Security and Privacy:**Secure login with multi-factor authentication.Data encryption to protect user information and health data.Privacy settings to control visibility and sharing of personal information.
- **Multi-language Support:**Localization to support multiple languages and regions.Cultural adaptations in recipes, tips, and educational content.
- **Subscription and Monetization:**Freemium model with basic features available for free and premium features for paid subscribers.Flexible subscription plans (monthly, yearly, lifetime) with various payment options.

- **Feedback and Rating System:**User feedback forms and surveys to collect opinions and suggestions.Rating and review system for recipes, articles, and dietitians.

3.4 SYSTEM ARCHITECTURE

The system architecture of the "HEALTH SCORE" project comprises a client-server model, where the client-side encompasses the web-based user interface accessible to users and healthcare practitioners. This interface facilitates interactions such as registration, login, health metric calculations, and appointment scheduling. On the server-side, a robust backend infrastructure manages data processing, storage, and retrieval, as well as user authentication and authorization. The backend incorporates a secure database to store user profiles, health metrics data, practitioner details, and appointment records. Additionally, administrative functionalities are implemented through an administrative interface, providing oversight and management capabilities. The system architecture is designed to ensure scalability, reliability, and security, thereby facilitating seamless user experiences and efficient healthcare service delivery.

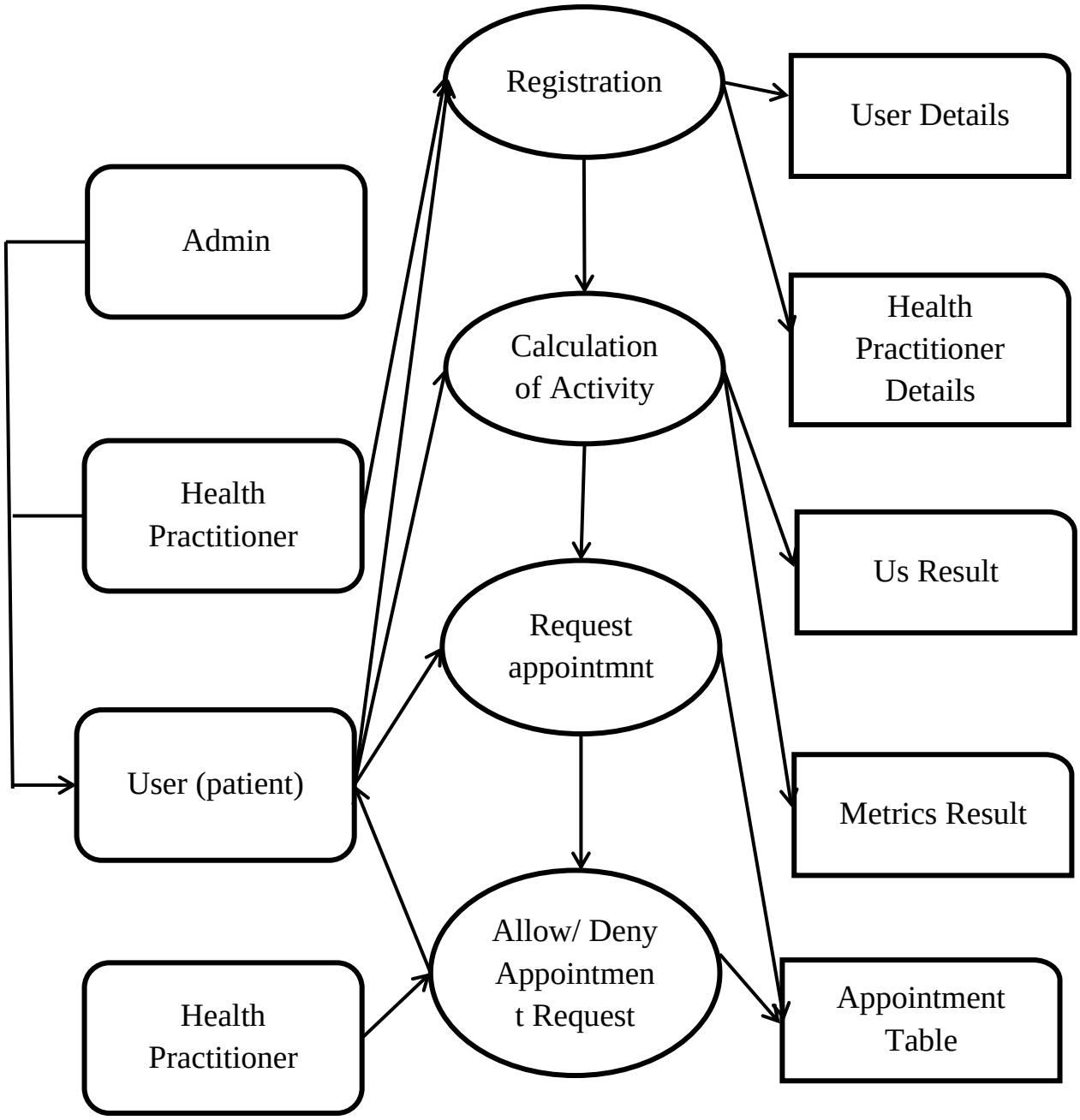

Fig 3.4.1 System Architecture

3.5 METHODOLOGY

The methodology for a health score dietetics platform involves several key steps to ensure accuracy, relevance, and user-friendliness. Initially, comprehensive research is conducted to identify credible nutritional guidelines and data sources. Next, a database is established to catalog food items, ingredients, and their respective nutritional values. Machine learning algorithms are then employed to analyze and interpret this data, facilitating personalized dietary recommendations based on individual health profiles and goals. Concurrently, user interfaces are developed to facilitate easy input of dietary information, while also displaying health scores and actionable insights in an understandable manner. Feedback loops are integrated to continuously refine the algorithms and improve the platform's predictive accuracy over time. Additionally, collaborations with healthcare professionals and dieticians are maintained to validate the platform's recommendations and ensure alignment with clinical standards. Finally, ongoing user engagement and education initiatives are implemented to promote adherence to healthy eating habits and foster long-term dietary improvements.

3.5.1 DATA FLOW DIAGRAM

The data flow diagram shows the overview of the entire system as a series of process and it shows the interaction between the system, user and health practitioner. The processes are calculating body activities, fixing appointments and allow or deny the user request.

Level-0 DFD

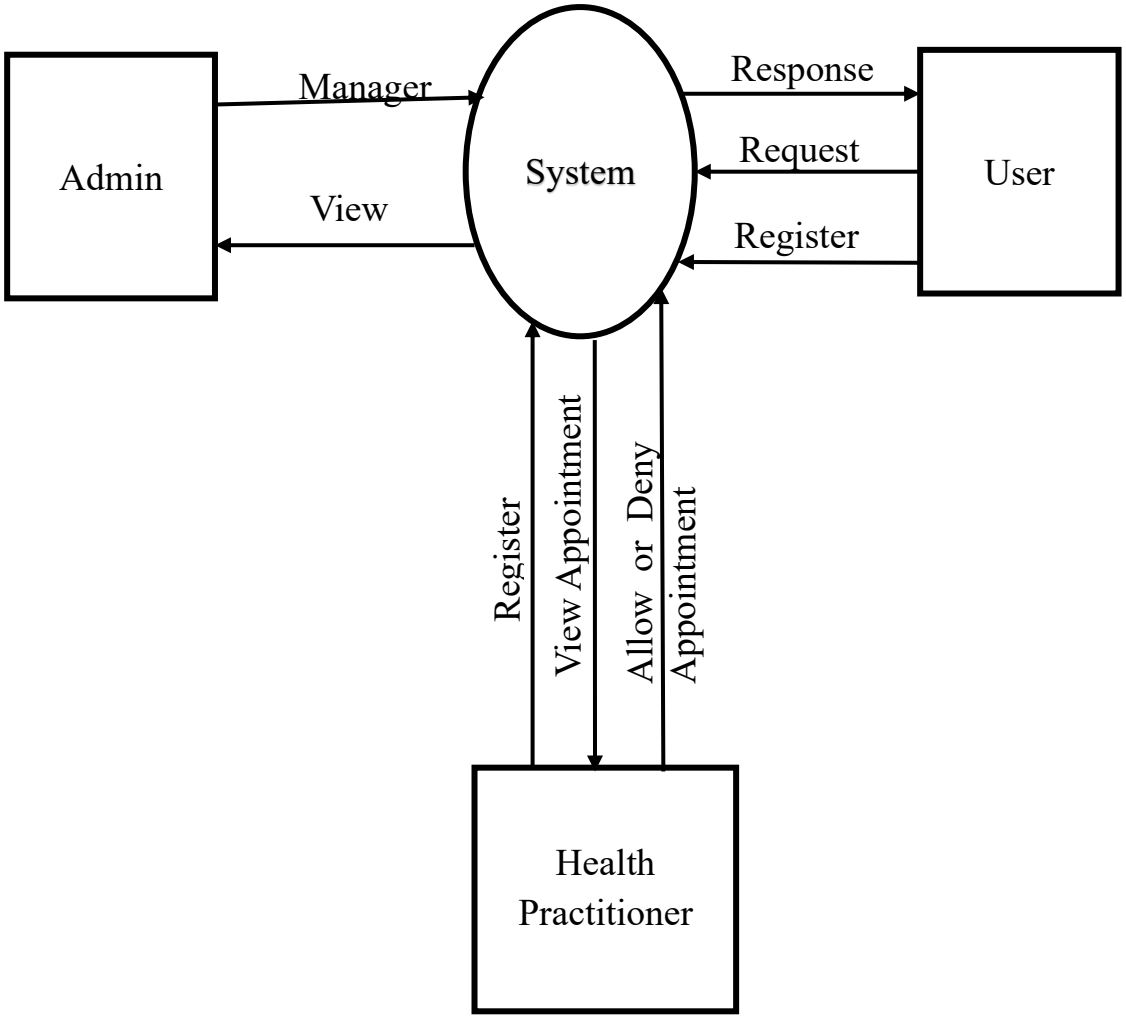

Fig 3.5.1.1 Level 0 DFD Diagram

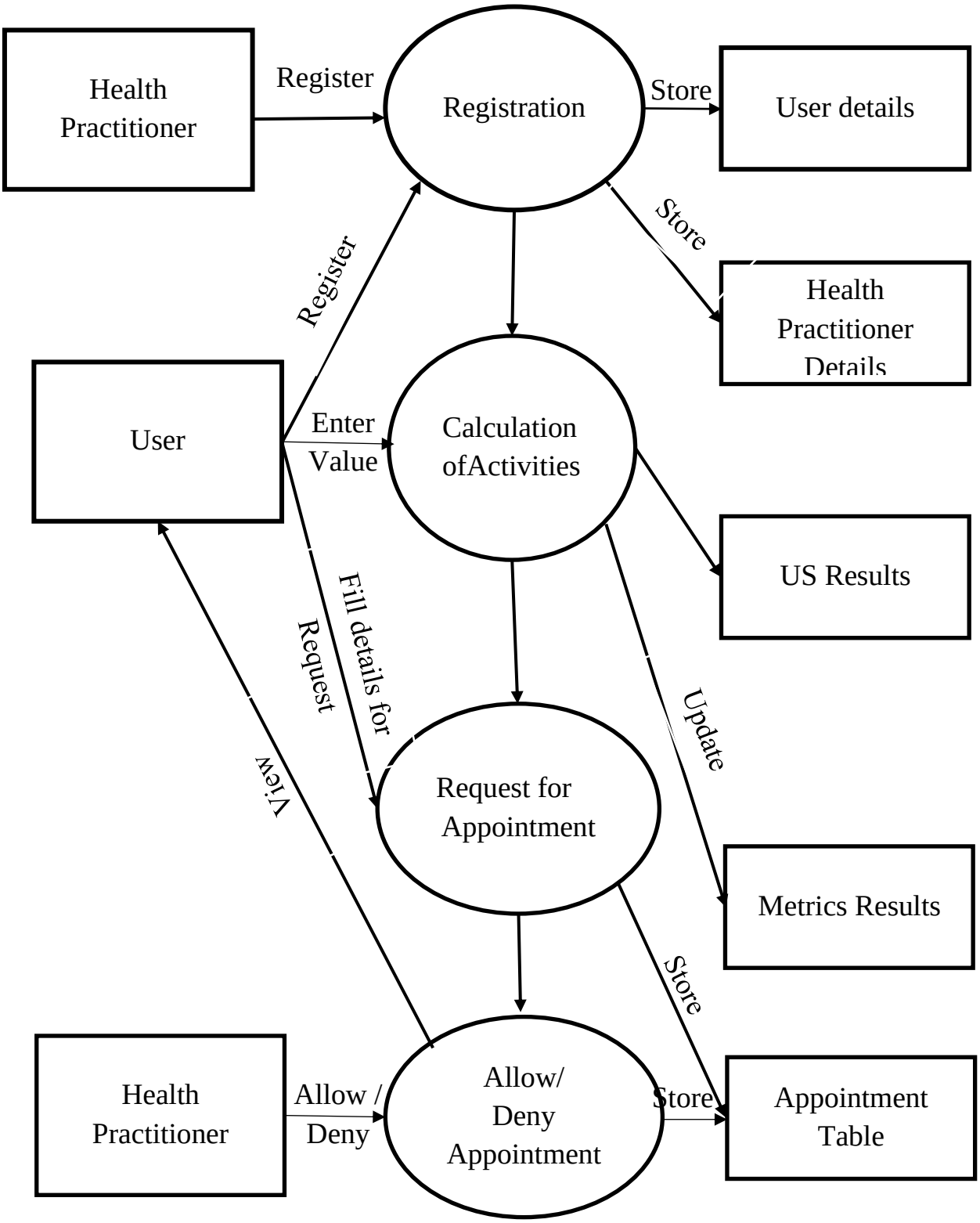

Fig 3.5.1.2 Level 1 DFD Diagram

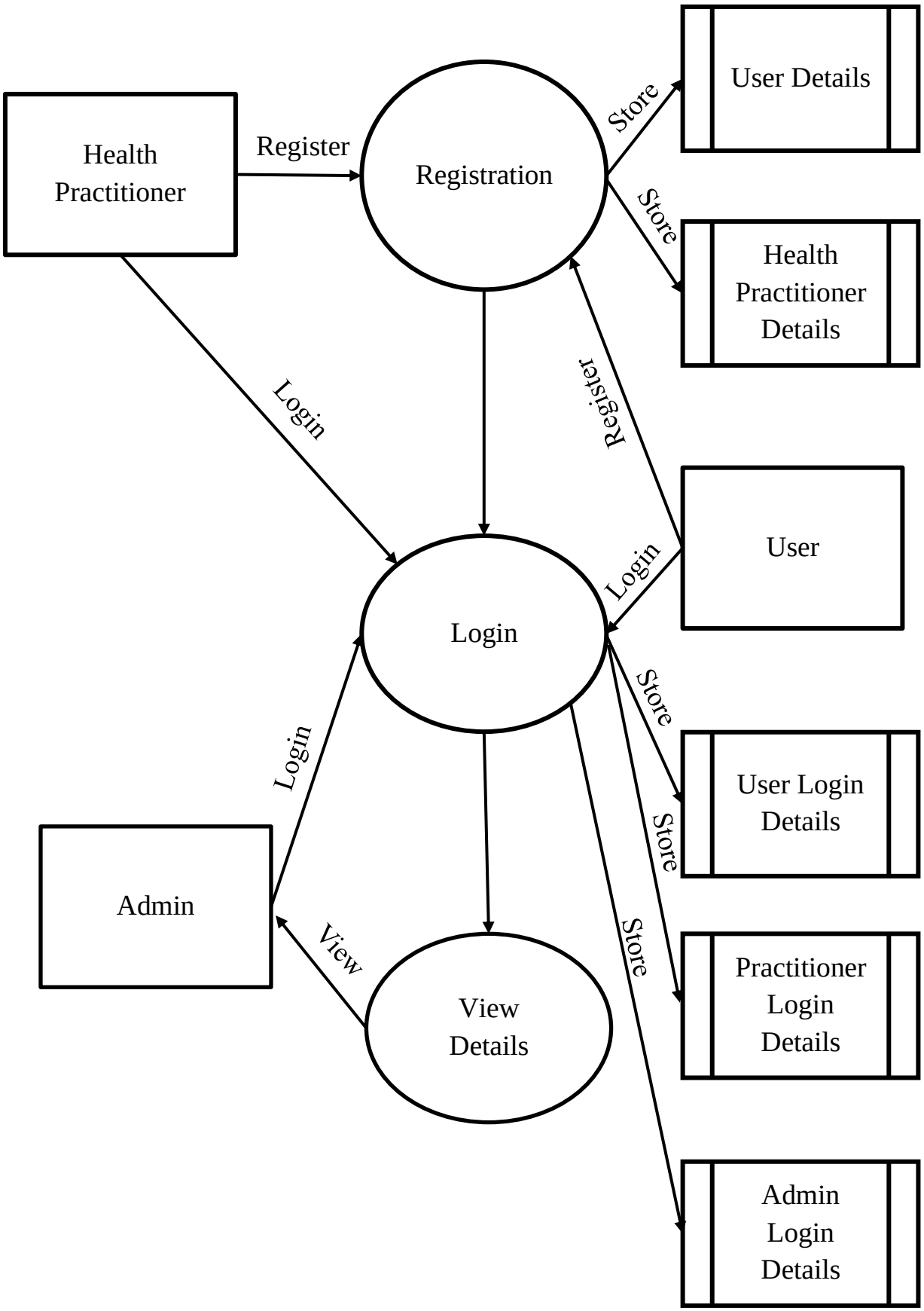

Fig 3.5.1.3 Level 1 DFD for Registration

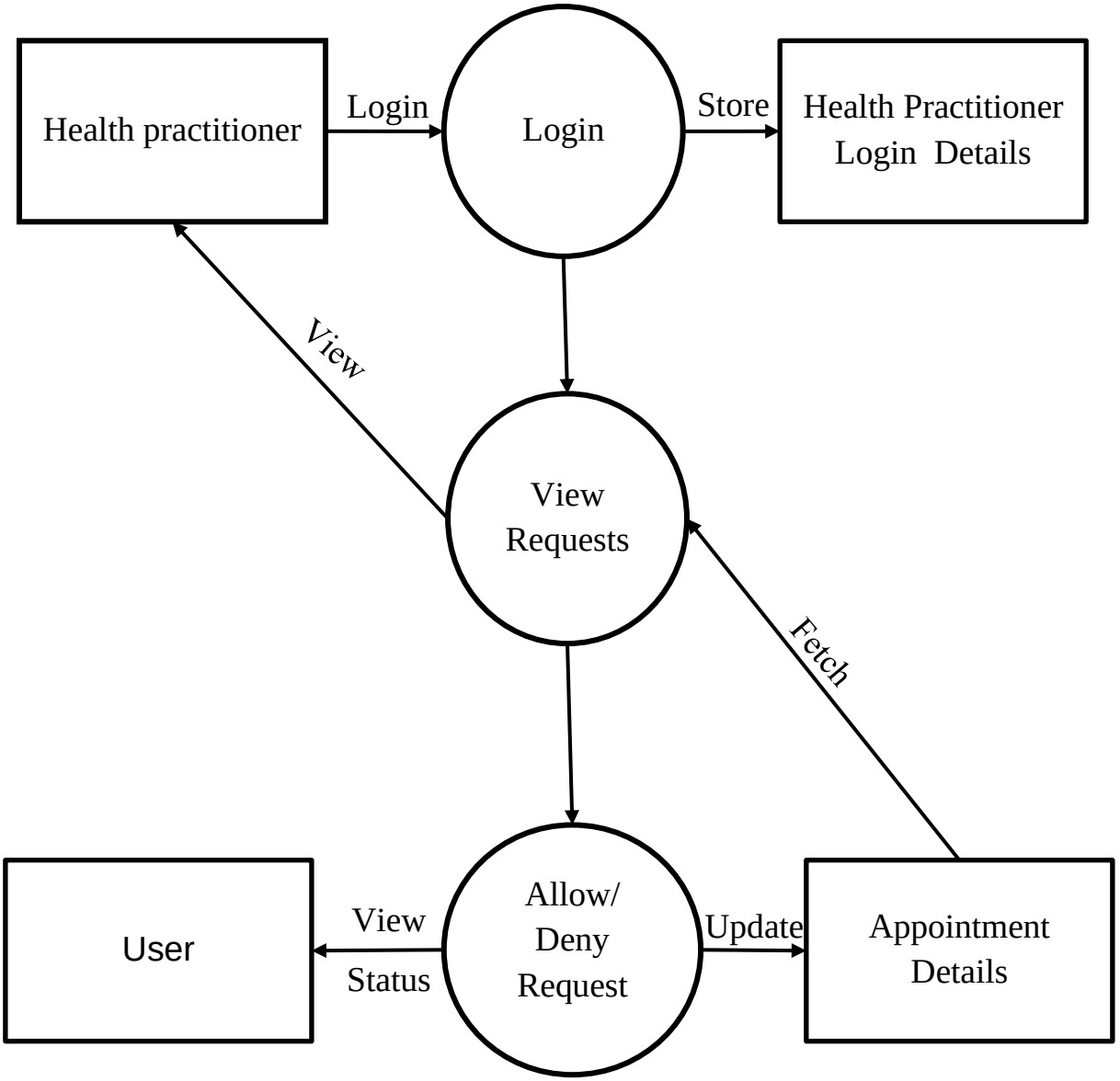

Fig 3.5.1.4 Level 2 DFD for Allow/Deny Appointment

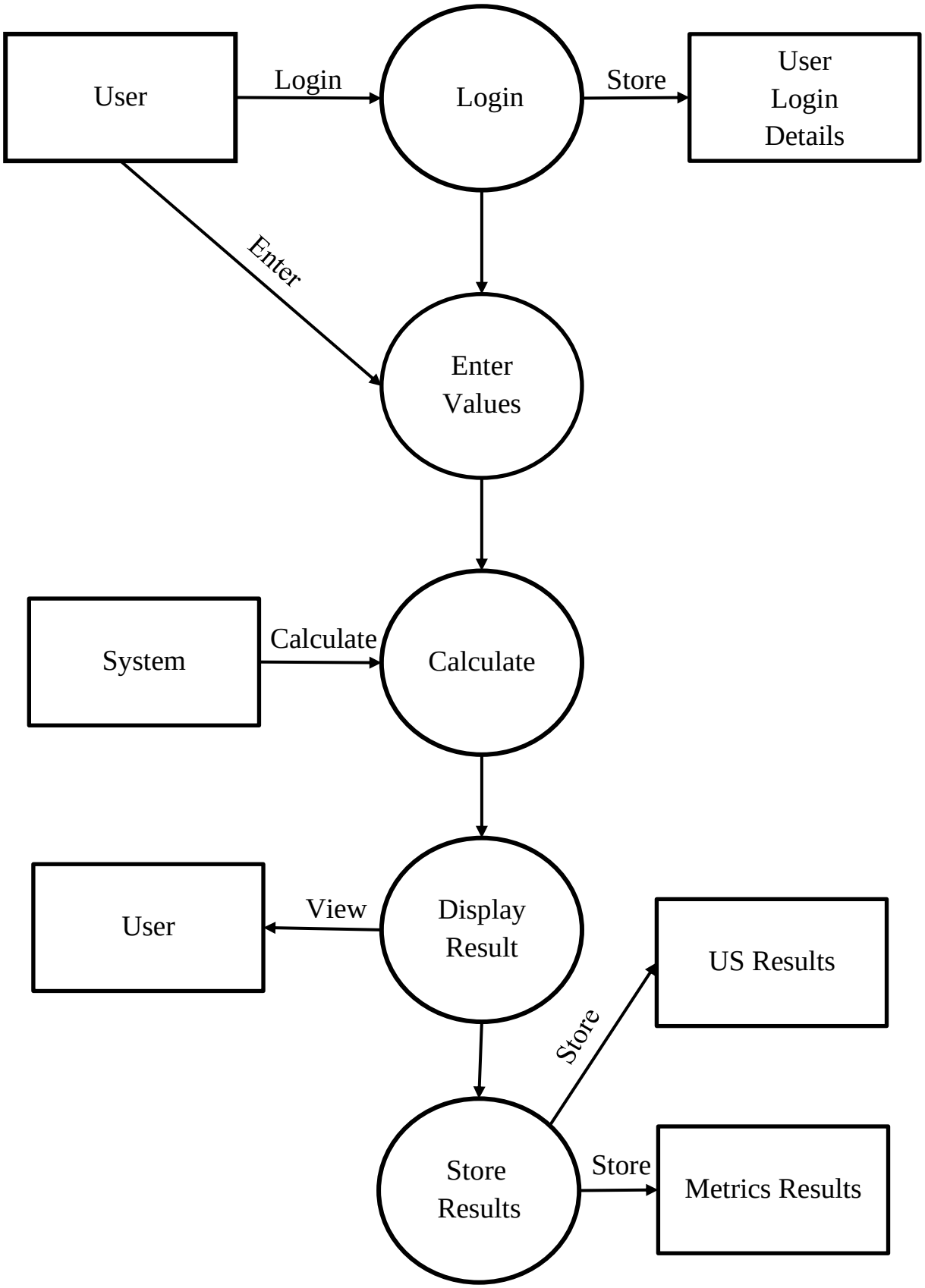

Fig 3.5.1.5 Level 2 DFD for Calculation of Activities

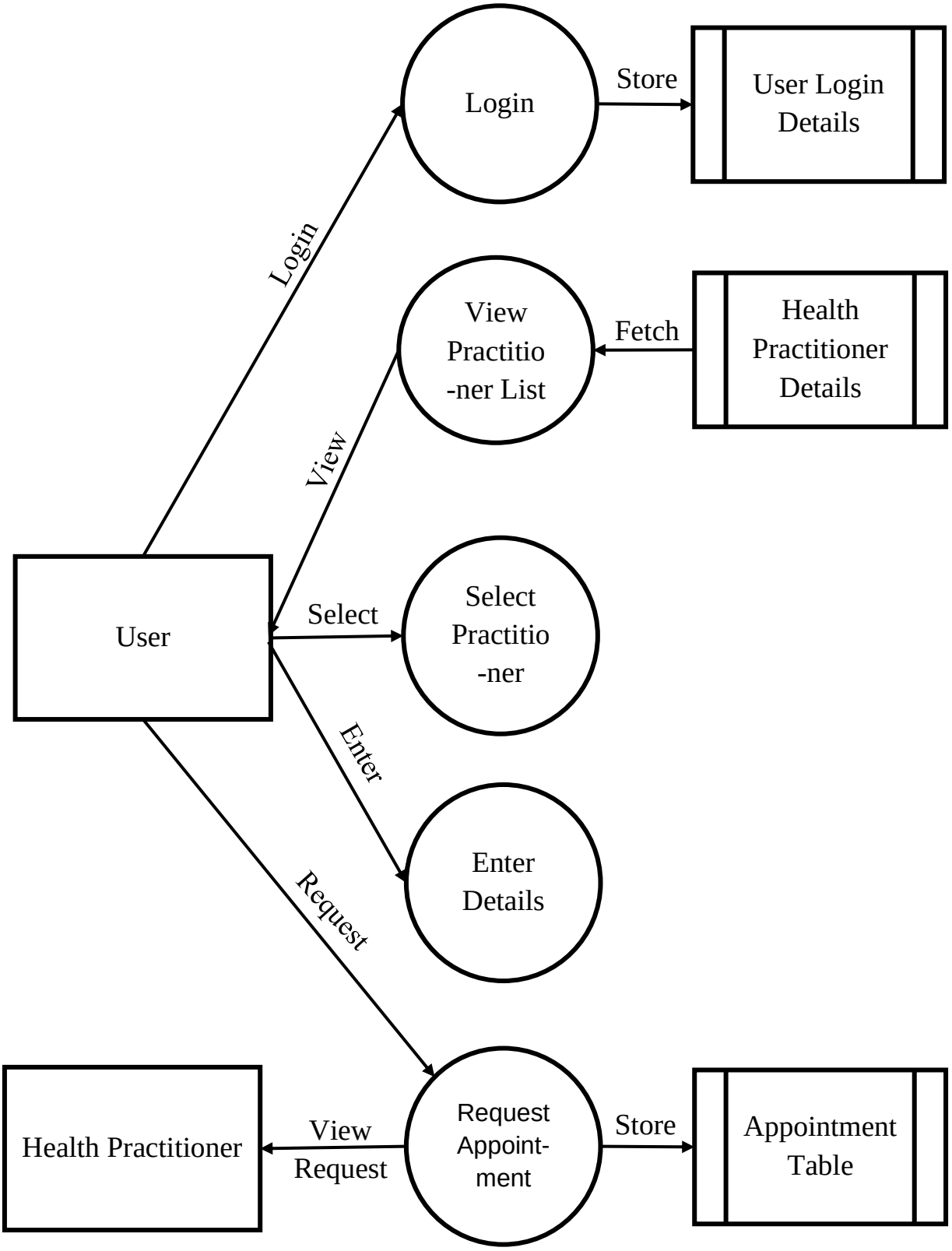

Fig 3.5.1.6 Level 2 DFD for Request Appointment

CHAPTER 4

4.SYSTEM ANALYSIS

The Health Score Dietetics Platform aims to provide users with personalized diet and nutrition guidance to improve their health scores. This platform integrates advanced analytics, user-friendly interfaces, and expert recommendations to help users make informed dietary choices.

Stakeholders:

1. Users (individuals seeking diet and nutrition advice) Dietitians and nutritionists.
2. Administrators (platform managers) Developers and IT support.

Objectives:

Provide personalized diet plans based on user-specific health metrics, goals, and preferences. Offer a user-friendly interface for easy navigation and interaction. Ensure data privacy and security of user information. Enable dietitians and nutritionists to monitor and adjust diet plans as necessary. Provide analytics and insights to track user progress and health score improvements.

Key Features:

1. **User Profile Management:** Allows users to create and manage their profiles with personal information, health metrics, goals, and dietary preferences.
2. **Health Assessment:** Enables users to input health metrics such as weight, height, age, activity level, and medical history to generate a baseline health score.
3. **Personalized Diet Plans:** Utilizes user's health assessment data to generate personalized diet plans tailored to their goals, dietary preferences, and health conditions.

4. **Nutrition Database:** Offers a comprehensive database of foods, ingredients, and nutritional information to help users make informed food choices
5. **Interactive Meal Planner:** Allows users to plan and schedule meals based on recommended diet plans, with options to customize meals and recipes.
6. **Progress Tracking:** Provides tools and visualizations to track progress towards health goals, monitor changes in health metrics, and evaluate the effectiveness of diet plans.
7. **Communication Platform:** Facilitates communication between users and dietitians/nutritionists through messaging, video calls, and consultations.
8. **Analytics and Reporting:** Generates reports and insights based on user data, diet adherence, health score improvements, and recommendations for adjustments.
9. **Usability:** Intuitive and user-friendly interface. Responsive design for mobile and desktop platforms Multilingual support.
10. **Performance:** Fast loading times for web pages and application features. Scalability to handle a large number of users and data. Reliable uptime and availability.
11. **Security:** Data encryption to protect user information and personal data. Secure authentication and authorization mechanisms. Regular security audits and updates.
12. **Data Management:** Robust data storage and management capabilities. Backup and recovery procedures Compliance with data privacy regulations (e.g., GDPR, HIPAA).
13. **Integration:** Seamless integration with external systems (e.g., fitness trackers, health apps) APIs for third-party services and data exchange.
14. **Support and Maintenance:**24/7 customer support.Regular updates and feature enhancements.Comprehensive documentation and user guides

CHAPTER 5

5.SYSTEM SPECIFICATION

5.1 HARDWARE REQUIREMENTS

- **Processor** : Intel Core i5
- **Ram** : 8GB DDR4 RAM
- **Hard Disk** : 50 GB or higher

5.2 SOFTWARE REQUIREMENTS

- **Operating System** : Windows OS
- **Front End** : HTML, CSS (Cascading Style Sheet), JavaScript
- **Client Side Scripting** : Java Script
- **Back End** : Node.js (for server-side JavaScript runtime environment)
  Express.js (for web application framework)
- **Data Base** : MySQL(for Database management)

5.3 SOFTWARE FEATURES

HTML

HyperText Markup Language is a computer language devised to allow website creation. These websites can then be viewed by anyone else connected to the Internet. It is relatively easy to learn, with the basics being accessible to most people in one sitting; and quite powerful in what it allows you to create. It is constantly undergoing revision and evolution to meet the demands and requirements of the growing Internet audience.

The general body of the HTML has two sections: Head and Body

Head: The head section contains the Title that identifies the first part of your HTML coded document.

Body : The body section is where we actually do most of our works that includes text, images, videos and other elements that HTML provide all our content .

The role of HTML is to inform a web browser about how the content contained within an HTML file is structured. Commonly used HTML tags include <H1>, which describes a top-level heading; <H2>, which describes a second-level heading; <p> to describe a paragraph; <table>, which describes tabular data; and <ol>, which describes an ordered list of information.

FEATURES OF HTML

- It is the language which can be easily understood and can be modified.
- Effective presentations can be made with the HTML with the help of its all formatting tags.
- It provides the more flexible way to deign web pages along with the text.
- Links can also be added to the web pages so it help the readers to browse the information of their interest.

- You can display HTML documents on any platforms such as Macintosh, Windows and Linux etc.
- Graphics, videos and sounds can also be added to the web pages which give an extra attractive look to your web pages.

JavaScript (JS)

JavaScript is a versatile programming language primarily used for building interactive and dynamic web applications. Here are some key features of JavaScript:

1. Client-Side Scripting: JavaScript is primarily known for its role as a client-side scripting language, meaning it runs on the client's web browser rather than on the server. This allows JavaScript to interact with the Document Object Model (DOM) of a web page, enabling dynamic manipulation of HTML elements, event handling, and more.

2. Highly Flexible: JavaScript is a highly flexible language that supports multiple programming paradigms, including procedural, object-oriented, and functional programming. Its versatility allows developers to approach problem-solving in various ways, making it suitable for a wide range of applications.

3. Asynchronous Programming: JavaScript's asynchronous programming model allows non-blocking execution of code, which is essential for handling I/O operations such as fetching data from servers, processing user input, and performing animations without blocking the main execution thread. Asynchronous programming in JavaScript is achieved using features like callbacks, promises, and async/await.

4. Dynamic Typing: JavaScript is dynamically typed, meaning variable types are determined at runtime rather than at compile time. This flexibility allows developers to write code more quickly and adapt to changing requirements, but it also requires careful attention to type coercion

5.Functional Programming Features: JavaScript supports many functional programming features such as first-class functions, higher-order functions, and closures. These features enable developers to write more concise and expressive code, facilitate code reusability, and encourage a more declarative style of programming.

6. Rich Ecosystem: JavaScript has a vast and thriving ecosystem of libraries, frameworks, and tools that extend its capabilities and simplify common development tasks. From front-end frameworks like React, Angular, and Vue.js to back-end frameworks like Node.js and Express.js,JavaScript offers a wide range of options for building web applications.

7. Cross-Platform Compatibility: JavaScript is supported by all modern web browsers, making it a cross-platform language that can run on various operating systems and devices. This cross-platform compatibility ensures consistent behavior across different environments and enables the development of web applications that reach a broad audience.

8. Community Support: JavaScript has one of the largest and most active developer communities, with countless resources, tutorials, forums, and open-source projects available to help developers learn and grow. The vibrant community contributes to the ongoing evolution of JavaScript and ensures its relevance in an ever-changing technological landscape

MySQL:

The Structured Query Language (SQL) is the language of databases. SQL was, is, and will stay for the foreseeable future the database language for relational database servers such as IBM DB2, Microsoft SQL Server, MySQL, Oracle, Progress, Sybase Adaptive Server, and dozens of others. SQL supports a small but very powerful set of statements for manipulating, managing, and protecting data stored in a database. This power has resulted in its tremendous popularity. Almost every database server supports SQL or a dialect of the

language. Currently, SQL products are available for every kind of computer, from a small handheld computer to a large server, and for every operating system, including Microsoft Windows, Mac and many UNIX variations.

Structured Query Language (SQL) is a relational database language which allows you to create, delete, access and manipulate databases.

The following is a list of the main operations that can be formulated with SQL:

- Creating new databases
- Deleting a database
- Creating new tables in a database
- Deleting tables from a database
- Creating and removing users (database access control) executing queries against a database, retrieving data from a database, inserting records in a database, updating records in a database, deleting records from a database
- Creating stored procedures in a database
- Setting permissions on tables and procedures
- Creating relationships between tables

MySQL is a Relational Database Management System ("RDBMS"). It is used by most modern websites and web-based services as a convenient and fast-access storage and retrieval solution for large volumes of data. A simple example of items which might be stored in a MySQL database would be a site-registered user's name with associated password (encrypted for security), the user registration date, and number of times visited, etc.

MySQL can also be accessed using many tools. It can be easily communicated with via PHP (PHP Hypertext Preprocessor), a scripting language whose primary focus is to manipulate HTML for a webpage on the

server before it is delivered to a client's machine. A user can submit queries to a database via PHP, allowing insertion, retrieval and manipulation of information into/from the database.

Features of the MySQL:

- Easy to use
- Compatible on many operating systems
- High Performance
- High Flexibility

Node:

Node.js, commonly referred to as Node, is an open-source, cross-platform JavaScript runtime environment that executes JavaScript code outside of a web browser. It allows developers to use JavaScript to write server-side code, command-line tools, and other types of applications that traditionally required other programming languages.

Key features:

1. Asynchronous and Event-Driven: Node.js is designed to handle asynchronous I/O operations efficiently. It uses an event-driven architecture that allows non-blocking, concurrent handling of multiple connections and operations.

2. Single-Threaded and Non-Blocking I/O: Node.js operates on a single-threaded event loop model, where a single event loop is responsible for handling all I/O operations asynchronously. This architecture enables high concurrency and scalability without the overhead of traditional multi-threaded models.

3. JavaScript Everywhere: Node.js allows developers to use JavaScript for both client-side and server-side development, providing a unified language and ecosystem across the entire development stack.

4. Package Management: Node.js comes with npm (Node Package Manager), the largest ecosystem of open-source libraries and modules for JavaScript. npm simplifies dependency management, package installation, and version control for Node.js projects.

5.Cross-Platform Compatibility: Node.js is available for various operating systems, including Windows, macOS, and Linux, making it a versatile platform for building applications that can run on different environments.

6. Extensive Ecosystem: Node.js has a rich ecosystem of frameworks, libraries, and tools that extend its functionality and streamline development. Popular frameworks like Express.js are commonly used for building web servers and APIs, while tools like webpack and Babel enable modern JavaScript development and module bundling.

Overall, Node.js revolutionized server-side development by introducing JavaScript as a viable option for building scalable, high-performance applications. It continues to be widely adopted for a diverse range of use cases, from web development to IoT (Internet of Things) and microservices architecture.

Express:

Express.js is a web application framework for Node.js, designed to simplify the process of building dynamic web applications and APIs. It provides a minimalist yet powerful set of features for web development, making it one of the

most popular frameworks in the Node.js ecosystem. Here are some key features of Express.js:

1.Minimalist Framework: Express.js follows the "minimalist" philosophy, providing a thin layer of fundamental web application features without imposing unnecessary complexity. This minimalist approach allows developers to have more control over their application architecture and design.

2.Middleware Support: Middleware functions are the heart of Express.js. Middleware functions are functions that have access to the request object (req), the response object (res), and the next middleware function in the application's request-response cycle. They can perform various tasks such as authentication, logging, error handling, and more. Express.js makes it easy to define and use middleware functions, enabling developers to modularize their code and add functionality to their applications seamlessly.

3. Routing: Express.js offers a robust routing system that allows developers to define routes for different HTTP methods (GET, POST, PUT, DELETE, etc.) and URL patterns. Routes are defined using simple and intuitive syntax, making it easy to organize and manage application endpoints. Express.js also supports route parameters, query parameters, and route middleware, providing flexibility and control over request handling.

4. Template Engines: Express.js integrates seamlessly with various template engines such as Pug (formerly known as Jade), EJS (Embedded JavaScript), Handlebars, and more. Template engines allow developers to generate dynamic HTML content based on data from the server, making it easier to build server-side rendered web pages and dynamic views.

5. Error Handling: Express.js provides built-in error handling mechanisms to handle errors that occur during the execution of middleware functions or route handlers. Developers can define custom error-handling middleware functions to handle errors in a centralized manner, improving code maintainability and error reporting.

6. Static File Serving: Express.js includes middleware for serving static files such as HTML, CSS, JavaScript, images, and other assets. This built-in functionality simplifies the process of serving static content and improves application performance by offloading static file serving to the web server.

7. Integration with Node.js: Express.js is built on top of Node.js, which means it leverages the asynchronous, event-driven nature of Node.js to handle I/O operations efficiently. It seamlessly integrates with other Node.js modules and libraries, allowing developers to take advantage of the rich Node.js ecosystem when building Express.js applications.

CHAPTER 6

6.SYSTEM REQUIRMENTS

6.1 FUNCTIONAL REQUIREMENTS

- **User Registration and Authentication:**Users should be able to register with valid email addresses and passwords..Users should receive a verification email upon registration.Users should be able to log in using their credentials.
- **Profile Management:**Users should be able to create and update their profiles.Profiles should include personal details like age, weight, height, and dietary preferences.
- **Dietary Planning:**The platform should offer personalized meal plans based on user profiles and goals.Users should be able to customize meal plans by selecting preferred foods or excluding certain foods due to allergies or dietary restrictions.
- **Nutritional Tracking:**Users should be able to track their daily food intake.The platform should provide nutritional information for various foods and meals.Users should receive alerts if their nutritional intake exceeds recommended limits.
- **Progress Monitoring:**Users should be able to track their weight, body measurements, and other health metrics.The platform should visualize progress through charts and graphs.Users should receive recommendations based on their progress.
- **Communication Tools:**Users should be able to communicate with dietitians or nutritionists.The platform should support messaging, video calls, or chatbot assistance.

6.2 NON-FUNCTIONAL REQUIRMENTS

It sounds like you're outlining requirements for a health and fitness platform. Each of these points is crucial for ensuring the success and trustworthiness of such a platform. Here's how you might address each requirement:

- **Performance:** To achieve fast loading times and support concurrent users, consider optimizing code, utilizing caching mechanisms, employing content delivery networks (CDNs), and implementing efficient database queries. Load testing can help identify and address performance bottlenecks.
- **Scalability:** Design the platform with scalability in mind, utilizing cloud-based infrastructure that allows for easy scaling of resources based on demand. Employ techniques like horizontal scaling and microservices architecture to handle increased user and data loads.
- **Security:** Encrypt user data using strong encryption algorithms both in transit (via HTTPS) and at rest (using encryption mechanisms provided by your chosen database or storage solution). Implement access controls, regularly update software components to patch vulnerabilities, and conduct regular security audits and penetration testing to identify and mitigate potential risks.
- **Reliability:** Ensure high availability by deploying the platform across multiple geographically distributed data centers or regions. Implement automated backup and recovery procedures to minimize data loss in case of failures or disasters.
- **Usability:** Design an intuitive user interface following best practices in user experience (UX) design. Conduct user testing to identify and address usability issues. Utilize responsive design principles to ensure the platform

is accessible and usable across various devices and screen sizes.

- **Interoperability:** Utilize standard data formats and APIs to facilitate integration with other health and fitness apps or devices. Implement OAuth or similar authentication mechanisms to securely authenticate and authorize third-party apps or devices to access platform data.
- **Maintainability:** Follow modular and well-documented coding practices to facilitate easy updates and modifications. Provide comprehensive documentation for developers and administrators, including API documentation, system architecture diagrams, and deployment instructions.

By addressing these requirements, you can build a robust and reliable health and fitness platform that meets the needs of both users and regulatory standards.

CHAPTER 7

7.SYSTEM DESIGN

7.1 INTRODUCTION TO SYSTEM DESIGN

The project contains following modules

- Registration and Login
- Calculating Health Score
- Booking Appointments

REGISTRATION AND LOGIN

The registration and login module involves registration of user and health practitioner to login into their individual account. The registration can be done by entering some of the details of users and health practitioners. They can create their password. They can login into their account using their user name and password. This is done by generating an id for every user and health practitioner individually. Admin has an individual account where they can login to view the list of users and health practitioners who had registered. This module also contains forget password option where the users and health practitioners can change their password if forgot.

The user registration form contains name, first name, last name, password, confirm password, mobile number, email id, date of birth, address and gender. The health practitioner registration form contains name, first name, last name, password, confirm password, mobile number, email id, specialization, date of birth, address and gender. The login form contains user name and password, before it asks whether user or health practitioner to login.

CALCULATING HEALTH SCORE

This module involves the calculation of health score. It contains the list of activities to be calculated, which includes, Body Mass Index, Heart rate, Blood Pressure, Walking steps, Calories count, Blood Glucose, Sleeping Time, Body Temperature, Oxygen intake and water intake. Each activity contains two forms, one for us calculation and another one for metrics calculation. Those form contains height, weight, age, gender, and the attributes which are needed for each activity. The user can calculate either in US calculation form or in metrics calculation form according to their convenience. The calculations are done and the result is displayed in another form along with some simple diet plan. This can be stored in separate database for US and metrics results.

FIXING APPOINTMENTS

This module involves fixing appointments with health practitioners (doctors). The user login contains the list of health practitioners along with the name, hospital address, specialization and some other details of the health practitioners. The user can choose the health practitioners to whom they want to consult and request for appointment. The health practitioners can view the request. They can allow the request if they are comfortable with the date and time which the user had requested. Otherwise they can deny the request. The allow or deny status can be viewed by the user. If the appointment is denied, the user can request for another date or time.

7.2 USER INTERFACE DESIGN

Designing a user interface (UI) for a health score dietetics platform requires a blend of functionality, usability, and aesthetics to ensure that users can easily navigate, understand, and engage with the platform.

1.User Research and Persona Development: Understand your target audience, their needs, preferences, and pain points.Create user personas to represent the

different types of users who will be using the platform, such as dietitians, nutritionists, and individuals seeking dietary advice.

2.Information Architecture: Organize content and features in a logical and intuitive manner.Use clear categories and labels to help users easily find the information or functionality they are looking for.

3.Visual Design: Use a clean and modern design with a consistent color scheme, typography, and imagery.Incorporate visuals such as icons, illustrations, and infographics to enhance understanding and engagement.Ensure readability by using appropriate font sizes, line spacing, and contrast.

4. Navigation: Design a clear and intuitive navigation system with easy access to main sections and features.Use breadcrumbs, menus, and search functionality to help users navigate the platform effectively.

5. Interactive Elements: Incorporate interactive elements such as buttons, dropdowns, sliders, and forms to facilitate user interaction. Ensure that interactive elements are responsive and provide feedback to users to confirm actions and prevent errors.

6. Accessibility: Design with accessibility in mind to ensure that the platform is usable by people with disabilities. Follow web accessibility guidelines and standards, such as WCAG, to make the platform accessible to all users.

7. Mobile Responsiveness: Ensure that the UI design is responsive and optimized for various devices and screen sizes, including desktops, tablets, and smartphones Prioritize essential features and content for mobile users to provide a seamless and enjoyable experience on smaller screens.

8. Feedback and Iteration: Gather feedback from users through usability testing, surveys, and analytics. Continuously iterate and improve the UI design based on user feedback and changing needs

7.3 INPUT DESIGN

Input Design is the process of converting a user-oriented description of the input into a computer-based system. This design is important, to avoid errors in the data input process and show the correct direction to the management for getting correct information from the computerized system.

REGISTRATION FORM

The registration form included both user and health practitioner registration. These forms are designed to get the details like username, first name, last name, address, mobile number, email, password, date of birth, gender and specialization if the user is a health practitioner.

LOGIN FORM

The login form contains basic details of the admin, user and health practitioner which is used to login in to web application by using their credentials like username and password to access their resources.

RECOVER PASSWORD FORM

This form contains a text box where user can enter their registered mobile number or email id to retrieve their password.

APPOINTMENT FORM

The appointment form is designed to get the details like name, mobile number, email, age, date and time for appointment, problem and status.

CALCULATION FORM

The calculation form may vary according to the activities. It includes height, weight, age, gender and other fields which will vary according to the activities to be calculated which are entered in the textboxes.

RESULT PAGE FORM

The result page form contains the values which are entered in the calculation form along with the calculated result.

6.3 OUTPUT DESIGN

Output design generally refers to the results and information that are generated by the system for many end-users. The computerized output is the most important and the direct source of information to the user. The purpose is to produce the requirement output for the system to reach its success. As the outputs are the most important sources of information to the users, better design should improve the system's relationships with user and also will help in decision-making.

Reports

The reports generated in this project are

- User's report
- Health Practitioners report

Report for the User

The admin can view the records of the user for the selected date from the table user details. The date wise filters are provided so that, the records are fetched effectively.

Report for the practitioner details

The admin can also view the records of the health practitioner for the selected date from the table health practitioner details. Same as user details, the date wise filters are provided here. So that, the records are fetched effectively.

7.4 DATABASE DESIGN

The database design for the HealthScore dietetics include the following tables:

TABLE 1:

tbl_user_registration :

Userid (primary key), username, firstname , lastname ,password , dateandtime , mobile, emailid , country, state , city , udob , address , gender ,toc ,imgname

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS
Userid	Int	11	Primary Key
Username	Varchar	20	Not Null
Firstname	Varchar	20	Not Null
Lastname	Varchar	20	Not Null
Password	Varchar	10	Not Null
Dateandtime	Datetime	-	current_timestamp
Mobile	BigInt	10	Not Null
Emailed	Varchar	30	Not Null
Country	Varchar	20	Not Null
State	Varchar	20	Not Null
City	Varchar	20	Not Null
Udob	Varchar	20	Not Null
Address	Text	-	Not Null
Gender	Varchar	7	Not Null

TABLE 2:

tbl_health_practitioner_registration:

userid (primary key), username , firstname , lastname , password , mobile , dateandtime, emailid , specialization , country , state , city, udob , address text, gender,toc ,imgname

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS
Userid	Int	11	Primary Key
Username	Varchar	20	Not Null
Firstname	Varchar	20	Not Null
Lastname	Varchar	20	Not Null
Password	Varchar	10	Not Null
dateandtime	Datetime	-	current_timestamp
Mobile	BigInt	10	Not Null
Emailed	Varchar	30	Not Null
Country	Varchar	20	Not Null
State	Varchar	20	Not Null
City	Varchar	20	Not Null
Udob	Varchar	20	Not Null
Address	Text	-	Not Null
Gender	Varchar	7	Not Null

TABLE 3:

tbl_appointment:

aid (primary key), practitionerid , practitionername , specialization , patientname , patientemail , patientmobile, adate , atime problem text, status

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS
Aid	Int	11	Primary Key
Practitionerid	Int	11	Not Null
Practitionername	Varchar	20	Not Null
Specialization	Varchar	50	Not Null
clientname	Varchar	25	Not Null
clientemail	Varchar	50	Not Null
Age	Int	11	Not Null
clientmobile	BigInt	20	Not Null
Adate	Varchar	25	Not Null
Atime	Text	-	Not Null
Problem	Text	-	Not Null
Status	Varchar	20	Not Null

TABLE 4:

tbl_us_calculation_result:

Id(primary key), Userid(foreign key), bmi, walkingsteps , heartrate, bloodpressure , sleeptracker, bodytemp, oxygenintake, waterintake,bloodglucose ,caloriescount

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS
Id	Int	11	Primary Key
Uid	Int	11	Foreign Key
Bmi	Int	11	Not Null
Walkingsteps	Int	11	Not Null
heartrate	Int	11	Not Null
bloodpressure	Int	11	Not Null
sleeptracker	Int	11	Not Null
bodytemp	Int	11	Not Null
oxygenintake	Int	11	Not Null
waterintake	Int	11	Not Null

TABLE 5:

tbl_metrics_calculation_result:

id(primary key), Userid(foreign key), bmi, walkingsteps, heartrate, bloodpressure , sleeptracker, bodytemp , oxygenintake , waterintake,bloodglucose,caloriescount

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS
Id	Int	11	Primary Key
Uid	Int	11	Foreign Key
Bmi	Int	11	Not Null
Walkingsteps	Int	11	Not Null
heartrate	Int	11	Not Null
bloodpressure	Int	11	Not Null
sleeptracker	Int	11	Not Null
bodytemp	Int	11	Not Null
oxygenintake	Int	11	Not Null
waterintake	Int	11	Not Null

CHAPTER 8

8.TESTING AND MAINTANANCE

8.1 TESTING

Testing in project is the process of executing a software application to find and fix errors and ensure that it meets the requirements and expectations of the users. Testing in project can help improve the quality, reliability, and performance of the software, as well as reduce the risks of failure or malfunction. Testing in project can also help verify that the software is compatible with different devices, platforms, or environments.

8.2 TESTING METHODOLOGIES

- Unit Testing
- Integration Testing
- Validation Testing

8.2.1 UNIT TESTING

- Unit testing is a level of software testing where individual units of the software are tested. The purpose is to validate that each unit of the software performs as designed.

- They were also tested for specification to see if they were working as per what the program should do and how it should perform under various conditions.

- All the forms will be run through the menu to see if the proper sequence is maintained. Whenever an error is encountered, an informative error message will be displayed which informs the user what error is.

- In this project, user details, health practitioner details, appointment details could be tested individually by giving inputs to all the fields and check whether data is saved correctly in the corresponding database table.

8.2.2 INTEGRATION TESTING

- Integration testing is a systematic technique for constructing tests to uncover error associated within the interface.
- In this project, all the modules are combined and then the entire project is tested as a whole. The integration testing was performed by integrating one module with another and checkout their functionality and execution.
- There are no errors and defects found in the system. The system meets all the specified user requirements and found working properly.
- The new system developed was tested by the acceptance testing method. The user provided test area. Thus the system was successfully tested and it satisfies the user requirements.
- For example, in this project, the user will be navigated to the user page only after the user has successfully login with his/her credentials.
- Otherwise, the user will not be navigated to the main page. The user login module and the user page module are integrated.

8.2.3 VALIDATION TESTING

- It is said that validation is successful when the software function is in systematic manner that can be reasonably accept by the customer.
- This type of testing is very important because it is the only way to check whether the requirements given by the user have been completely fulfilled. The input given to various form is validated efficiently.
- In all the modules, the add operations are validated with the null values and it does not accept the empty values.

- It shows the alert messages as “Please fill out this field”. The mobile number is validated with the alphanumeric values and it does not accept showing the message as “Only Number Allowed”.
- Validation of the software is done to make sure that the software always meets the requirements of the customer by executing the specifications of the project.

8.3 MAINTANENCE

Maintaining a HealthScore Dietetics platform requires a combination of technical, operational, and content-related efforts to ensure the platform remains functional, up-to-date, and relevant to users. Here's a comprehensive maintenance plan you might consider:

1. Technical Maintenance:

a. Regular Updates:

Software Updates: Keep the platform's software, including the operating system, database, and application frameworks, up-to-date to ensure security and performance.

Bug Fixes: Regularly monitor and fix any bugs or glitches that users report or that are detected through automated testing.

b. Security:

Security Audits: Conduct regular security audits to identify and address vulnerabilities.

Data Backup: Implement regular data backup procedures to prevent data loss.

User Authentication: Ensure robust user authentication mechanisms to protect user data and prevent unauthorized access.

c. Performance Monitoring:

Load Testing: Perform regular load testing to identify and address any performance bottlenecks.

Monitoring Tools: Use monitoring tools to track system performance and uptime, and set up alerts for any anomalies.

2. Operational Maintenance:

a. Content Updates:

Nutritional Data: Regularly update nutritional databases to include new foods, recipes, and nutritional information.

Scientific Research: Stay updated with the latest scientific research and dietary guidelines to ensure the platform's recommendations are evidence-based.

b. User Support:

Helpdesk: Provide a helpdesk or customer support channel for users to report issues or ask questions.

User Feedback: Encourage and collect user feedback to identify areas for improvement and address user concerns.

c. Compliance:

Regulatory Compliance: Ensure the platform complies with relevant laws and regulations related to healthcare data, privacy, and dietary recommendations.

Accessibility: Ensure the platform is accessible to users with disabilities by adhering to accessibility standards and guidelines.

3. Content Maintenance:

a. Diet Plans & Recommendations:

Personalization: Continuously refine and improve the platform's algorithms for generating personalized diet plans and recommendations based on user feedback and new research.

Variety: Regularly update and add new diet plans, recipes, and meal ideas to keep users engaged and satisfied.

b. Educational Content:

Articles & Blogs: Publish regular articles, blogs, and educational content on

nutrition, health, and wellness to educate and engage users.

Videos & Webinars: Produce and update video content, webinars, and tutorials to provide users with additional resources and support.

4. Community Engagement:

a. Social Media & Marketing:

Social Media: Maintain active social media profiles to engage with users, share updates, and promote the platform.

Email Marketing: Send regular newsletters and updates to subscribers to keep them informed about new features, content, and promotions.

b. Partnerships & Collaborations:

Healthcare Professionals: Collaborate with healthcare professionals, dietitians, and nutritionists to enhance the platform's credibility and expertise.

Integration with Other Platforms: Explore partnerships and integrations with other health and wellness platforms to expand the platform's reach and functionality.

8.4 IMPLEMENTATION

Implementation is the process of converting a new or revised system design into an operational one. This process is used to verify and identify any logical mess working of the system by feeding various combinations of test data. When the initial design was done for the system, the client will be consulted for the acceptance of the design so that further proceedings of the system development can be carried on. After the approval of the system by both end user and the management the system will be implemented.

- **CODING:** Coding is the process where the physical design specifications created by the analysis team are turned into working computer code by the

programming team.

- **TESTING:** Each program is tested individually at the time of development using the data and has verified that this program linked together in the way specified in the program specifications, the computer system and its environment is tested to the satisfaction of the user.
- **INSTALLATION:** There is no need of installation because this project is a web service enabling the users to make use of the application through a browser online.
- **DOCUMENTATION:** The necessity of the documentation for this project is negative. The system gives a smooth, efficient and convenient experience to calculate health score and to fix appointments. It is understandable for all users.

CHAPTER 9

9. CONCLUSION AND FUTURE WORK

9.1 CONCLUSION

In this project the online calculation of some activities of body and booking for the appointments is done to make user book with ease from home. This system represents a smarter way of booking the appointment from home as it reduces the time of thuser.This new system will also help the user to view whether the health practitioner allowed or denied the request.

9.2 FUTURE WORK

This system can be further enhanced in a concise manner in order to improve the efficiency. The application can become useful if the below enhancement is made

- Artificial Intelligence using smart watches.
- Algorithms for health care in AI can be implemented.

APPENDICES

APPENDIX 1 : SOURCE CODE

HOME PAGE

```
<html lang='en'>
<head>
<title>HealtScore</title>
 <link href='font-awesome/css/font-awesome.min.css' rel='stylesheet' type='text/css' />
<link href='css/nivo-lightbox.css' rel='stylesheet' />
<link href='css/owl.carousel.css' rel='stylesheet' media='screen' />
<link href='css/style.css' rel='stylesheet'>
<script src='js/validation.js'></script>
<link id='bodybg' href='bodybg/bg1.css' rel='stylesheet' type='text/css' />
<link id='t-colors' href='color/default.css' rel='stylesheet'>
</head>

<body onload=onCountry() id='page-top' data-spy='scroll' data-target='.navbar-custom'>
<div id='wrapper'>
<nav class='navbar navbar-custom navbar-fixed-top' role='navigation'>
<div class='container navigation'>
<div class='navbar-header page-scroll'>
<button type='button' class='navbar-toggle' data-toggle='collapse' data-target='.navbar-main-collapse'>  <i class='fa fa-bars'></i></button>
<br>
<img src='img/img1.png' alt='' width='500' height='100' />
</div>
<br>
<div class='collapse navbar-collapse navbar-right navbar-main-collapse'>
<ul class='nav navbar-nav'>
<li><a href='#intro'>Home</a></li>
<li><a href='#signup'> <center> User <br> SignUp </center></a></li>
<li><a href='#hp'>Health Practitioner <br><center> SignUp </center></a></li>
<li><a href='#forgot'>Forget Password?</a></li>
<ul class='dropdown-menu'>
<li><a href='index.html'>Home form</a></li>
</ul>
</li>
</ul>
```

```
</div>
</div>
</nav>

<section id='intro' class='intro'>
<div class='intro-content'>
<div class='container'>
<div class='row'>
<div class='col-lg-6'>
<div class='wow fadeInDown' data-wow-offset='0' data-wow-delay='0.1s'>
<h2 class='h-ultra'>Health Score Dietetics</h2>
</div>
<div class='wow fadeInUp' data-wow-offset='0' data-wow-delay='0.1s'>
<h4 class='h-light'>Calculates <span class='color'>your health score</span></h4>
</div>
<div class='well well-trans'>
<div class='wow fadeInRight' data-wow-delay='0.1s'>
<ul class='lead-list'>
<li><span class='fa fa-check fa-2x icon-success'></span> <strong>provides details about the nutrient constitution in body<br /></span></li>
<li><span class='fa fa-check fa-2x icon-success'></span> <strong>alternative diet chart is provided</strong><br /></li>
<li><span class='fa fa-check fa-2x icon-success'></span> <strong>No need of consulting doctor for diet plans<br /></span></li>
<li><span class='fa fa-check fa-2x icon-success'></span> <strong>Be sure about your details like age,height,weight,etc..<br /></span></li>
</ul>
</div>
</div>
</div>
<div class='col-lg-6'>
<div class='form-wrapper'>
<div class='panel panel-skin'>
<div class='panel-heading'>
<h3 class='panel-title'><span class='fa fa-pencil-square-o'></span> Login Here...
</h3>
</div>
<div class='panel-body'>
<form role='form' class='lead' name='loginform' method='post' action='loginvalidation.py'>
<div class='form-group'>
<input type=radio name='utype' value='User'>User   <input
```

```
type=radio name='utype' value='HealthPractitioner'>Health Practitioner
</div>
<div class='form-group'>
<label>Name</label>
<input type='text' name='uname' id='first_name' class='form-control input-md'>
</div>
<div class='form-group'>
<label>Password</label>
<input type='password' name='upwd' id='last_name' class='form-control input-md'>
</div>
<br>
<input type='submit' value='LOGIN' class='btn btn-skin btn-block btn-lg'>
</form>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</section>

<section id='signup' class='signup' style='margin-top:-50px;'>
</body>
</html>
```

Patient Regiter Page

```
<div class='intro-content'>
<div class='container'>
<div class='row'>
<div class='col-lg-6'>
<div class='form-wrapper'>
<div class='wow fadeInRight' data-wow-duration='2s' data-wow-delay='0.2s'>
<div class='panel panel-skin'>
<div class='panel-heading'>
<h3 class='panel-title'><span class='fa fa-pencil-square-o'></span> If New User Register Here </h3>
</div>
<div class='panel-body'>
<form role='form' class='lead' name='registerform' method='post'
```

```
action='user_register.py'>
<div class='form-group' >
<input type='text' name='username' id='username' class='form-control input-md' placeholder='Enter UserName' required onKeyPress='return onlyAlphabet(event);'>
</div>
<div class='form-group'>
<input type='text' name='firstname' id='firstname' class='form-control input-md' required placeholder='Enter FirstName'>
</div>
<div class='form-group'>
<input type='text' name='lastname' id='lastname' class='form-control input-md' required placeholder='Enter LastName'>
</div>
<div class='form-group'>
<input type='password' name='password' id='password' class='form-control input-md' required placeholder='Enter Password'>
</div>
<div class='form-group'>
<input type='password' name='cpassword' id='cpassword' class='form-control input-md' required placeholder='Enter Confirm Password' onBlur='return checkPassword();'>
</div>
<div class='form-group'>
<input type='text' name='mobile' id='mobile' class='form-control input-md' required placeholder='Enter Mobile' onKeyPress='return onlyNumber(event);'>
</div>
<div class='form-group'>
<input type='text' name='email' id='email' class='form-control input-md' required placeholder='Enter EmailId' onBlur='return checkEmail();'>
</div>
</div>
</div>
</div>
</div>
</div>

<div class='col-lg-6'>
<div class='form-wrapper'>
<div class='panel panel-skin'>
<div class='panel-body'>
<div class='form-group'>
<select name='ucountry' id='ucountry' onChange='return pickCountry();'
```

```
required>
<option value='0'>---Country---</option>
</select>
<select name='ustate' id='ustate' onChange='return pickState();' required>
<option value='0'>----State----</option>
</select>
<select name='ucity' id='ucity' required>
<option value='0'>----City----</option>
</select>
print  </tr>
</div>

<div class='form-group'>
<select name='udate' id='udate' required>
<option value=0>-----Date-----</option>
for i in range(1,31+1):
<option value=%d>%d</option>%(i,i)
</select>

<select name='umonth' id='umonth' required>
<option value=0>----Month---</option>
list=[January,Febraury,March,April,May,June,July,August,September,October,
November,December]
for j in range(12):
<option value=%s>%s</option>%(list[j],list[j])
</select>

<select name='uyear' id='uyear' required>
<option value=0>----Year---</option>
for k in  range(2000,2050):
<option value=%d>%d</option>%(int(k),int(k))
</select>
</div>

<div class='form-group'>
<textarea rows=5 cols=50 name='uaddress' placeholder='Enter Address'
required></textarea>
</div>
<div class='form-group'>
Select Gender<input type=radio name='ugender' value='Male'>Male
  <input type=radio name='ugender' value='Female'>Female
</div>
<div class='form-group'>
```

```
<input type='file' name=ufile required>
</div>
<div class='form-group'>
<input type='checkbox' name=utoc value=TOC>I Accept the Terms & Conditions
</div>
<div class='form-group'>
<input type='submit' value='SignUp' class='btn btn-skin btn-block btn-lg'>
</div>
</form>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</section>

 <section id='hp' class='signup' style='margin-top:-50px;'>
</body>
</html>
```

Health Practitioner Register Page

```
<div class='intro-content'>
<div class='container'>
<div class='row'>
<div class='col-lg-6'>
<div class='form-wrapper'>
<div class='wow fadeInRight' data-wow-duration='2s' data-wow-delay='0.2s'>
<div class='panel panel-skin'>
<div class='panel-heading'>
<h3 class='panel-title'><span class='fa fa-pencil-square-o'></span> If New User Register Here </h3>
</div>
<div class='panel-body'>
<form role='form' class='lead' name='registerform' method='post' action='hp_register.py'>
<div class='form-group' >
<input type='text' name='username' id='username' class='form-control input-md' placeholder='Enter UserName' required onKeyPress='return
```

```
onlyAlphabet(event);'>
</div>
<div class='form-group'>
<input type='text' name='firstname' id='firstname' class='form-control input-md' required placeholder='Enter FirstName'>
</div>

<div class='form-group'>
<input type='text' name='lastname' id='lastname' class='form-control input-md' required placeholder='Enter LastName'>
</div>
<div class='form-group'>
<input type='password' name='password' id='password' class='form-control input-md' required placeholder='Enter Password'>
</div>
<div class='form-group'>
<input type='password' name='cpassword' id='cpassword' class='form-control input-md' required placeholder='Enter Confirm Password' onBlur='return checkPassword();'>
</div>
<div class='form-group'>
<input type='text' name='mobile' id='mobile' class='form-control input-md' required placeholder='Enter Mobile' onKeyPress='return onlyNumber(event);'>
</div>
<div class='form-group'>
<input type='text' name='email' id='email' class='form-control input-md' required placeholder='Enter EmailId' onBlur='return checkEmail();'>
</div>
<div class='form-group'>
<input type='text' name='uspecilization' id='specilization' class='form-control input-md' required placeholder='Enter your specialized field'>
</div>
</div>
</div>
</div>
</div>
</div>
</div>

<div class='col-lg-6'>
<div class='form-wrapper'>
<div class='wow fadeInRight' data-wow-duration='2s' data-wow-delay='0.2s'>
<div class='panel panel-skin'>
<div class='panel-body'>
```

```
<div class='form-group'>
<select name='ucountry' id='ucountry' onChange='return pickCountry();' required>
<option value='0'>---Country---</option>
</select>
<select name='ustate' id='ustate' onChange='return pickState();' required>
<option value='0'>----State----</option>
</select>
<select name='ucity' id='ucity' required>
<option value='0'>----City----</option>
</select>
print  </tr>
</div>

<div class='form-group'>
<select name='udate' id='udate' required>
<option value=0>-----Date-----</option>
for i in range(1,31+1):
<option value=%d>%d</option>%(i,i)
</select>

<select name='umonth' id='umonth' required>
<option value=0>----Month---</option>
list=[January,Febraury,March,April,May,June,July,August,September,October,
November,December]
for j in range(12):
<option value=%s>%s</option>%(list[j],list[j])
</select>

<select name='uyear' id='uyear' required>
<option value=0>----Year---</option>
for k in  range(2000,2050):
<option value=%d>%d</option>%(int(k),int(k))
</select>
</div>

<div class='form-group'>
<textarea rows=5 cols=50 name='uaddress' placeholder='Enter Address' required></textarea>
</div>
<div class='form-group'>
Select Gender<input type=radio name='ugender' value='Male'>Male
  <input type=radio name='ugender' value='Female'>Female
```

```
</div>
<div class='form-group'>
<input type='file' name=ufile required>
</div>
<div class='form-group'>
<input type='checkbox' name=utoc value=TOC>I Accept the Terms & Conditions
</div>
<div class='form-group'>
<input type='submit' value='SignUp' class='btn btn-skin btn-block btn-lg'>
</div>
</form>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</section>

<section id='forgot' class='forgot'>
</body>
</html>
```

Forgot Password Page

```
<div class='intro-content'>
<div class='container'>
<div class='row'>
<div class='col-lg-6'>
<div class='form-wrapper'>
<div class='wow fadeInRight' data-wow-duration='2s' data-wow-delay='0.2s'>
<div class='panel panel-skin'>
<div class='panel-heading'>
<h3 class='panel-title'><span class='fa fa-pencil-square-o'></span> Recover Password </h3>
</div>
<div class='panel-body'>
<form role='form' class='lead' name='forgotform' method='post' action='forgot.py'>
<div class='form-group'>
```

```
<label>Enter Mobile/Email</label>
<input type='text' name='uemail' id='uemal' class='form-control input-md'>
</div>
<br>
<input type='submit' value='Retrive' class='btn btn-skin btn-block btn-lg'>
</form>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</section>
</body>
</html>
```

APPENDIX 2 : SCREENSHOTS

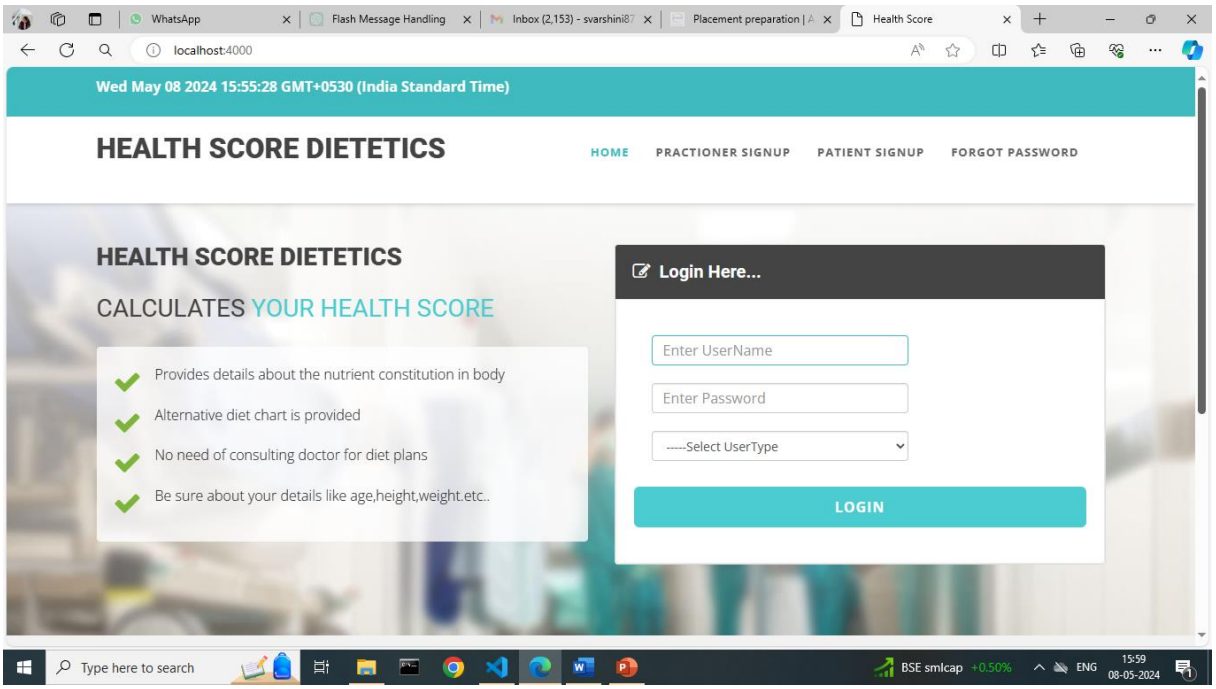

Fig 2.A.1 Home page

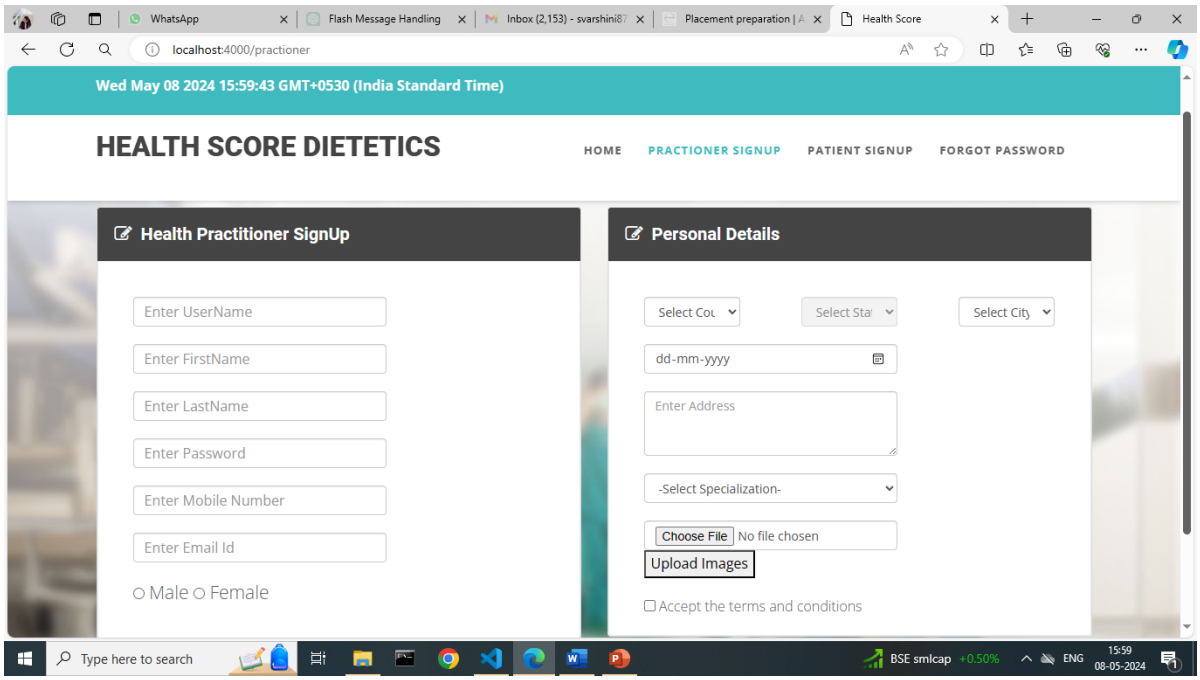

Fig A.2.2 Practitioner Signup

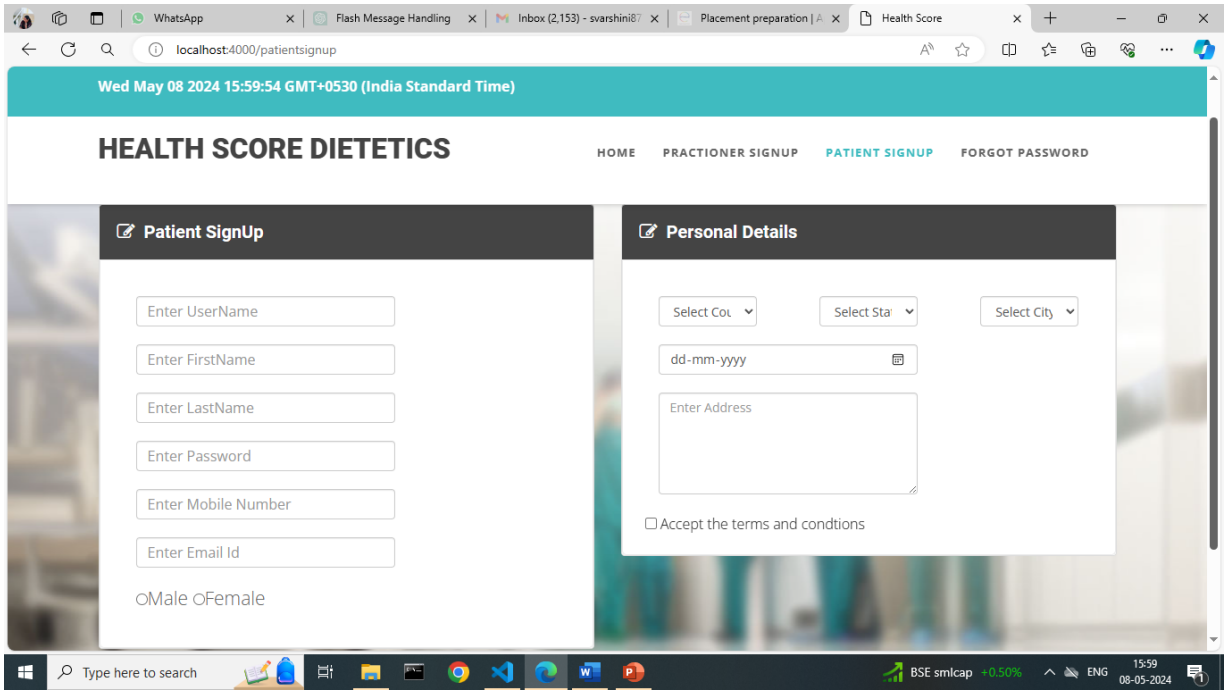

Fig A.2.3 Patient Signup

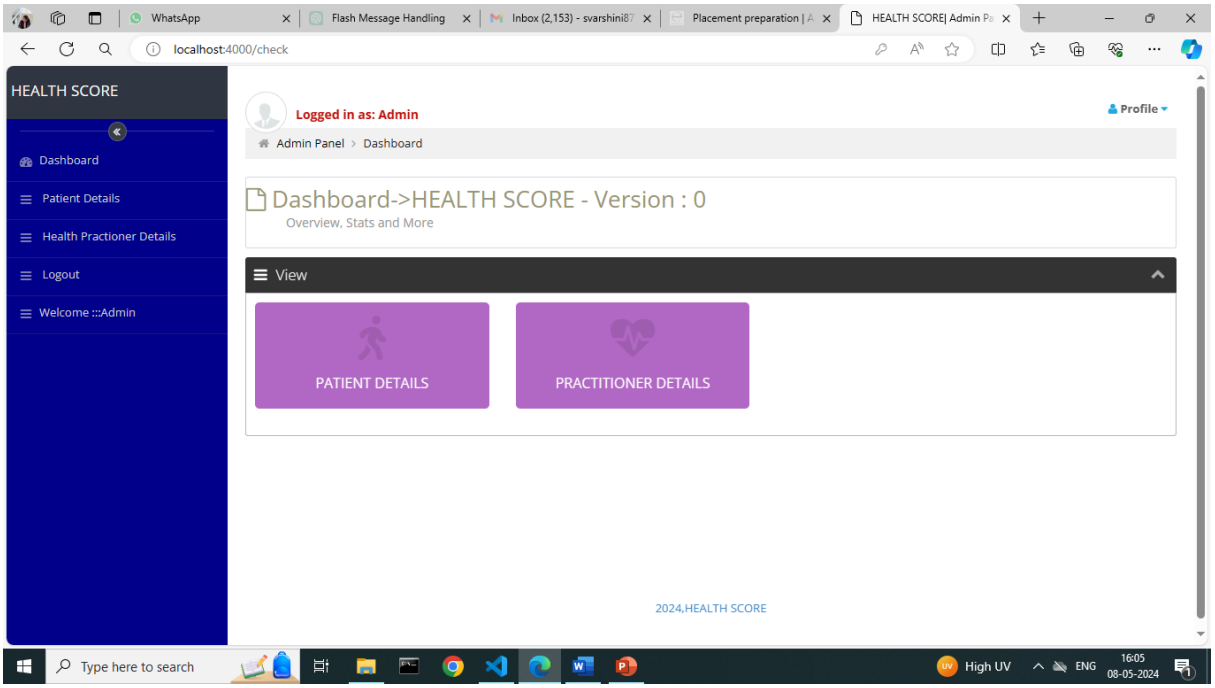

Fig A.2.4 Admin Homepage

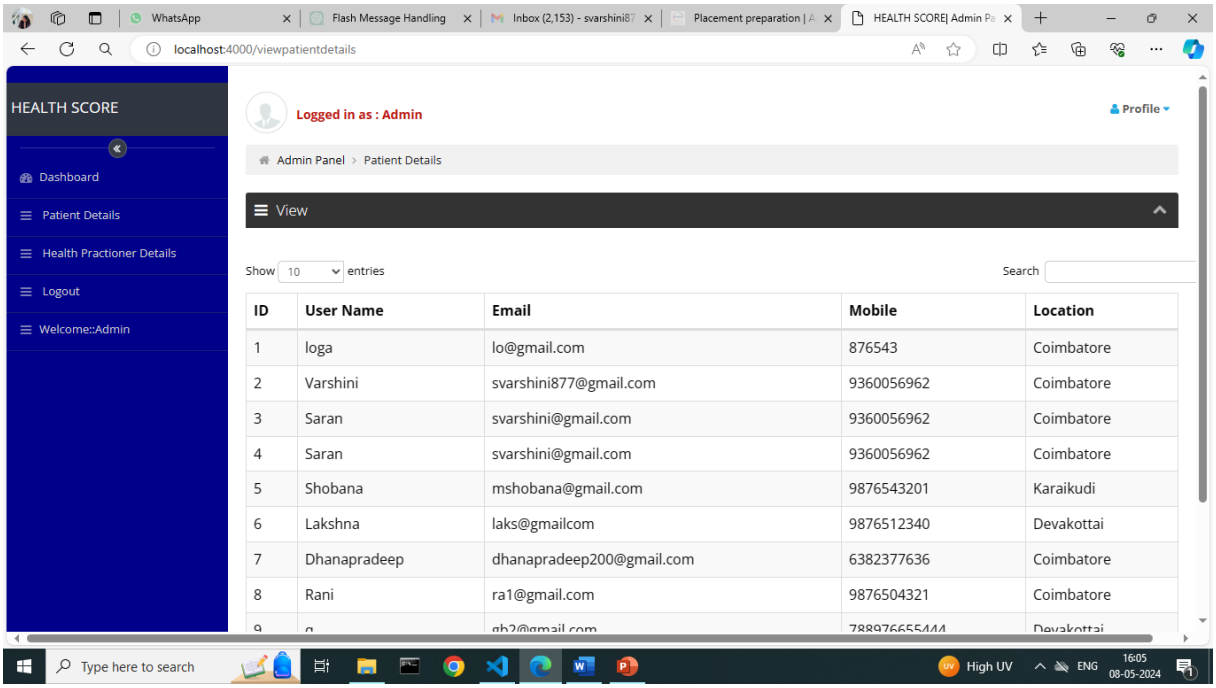

Fig A.2.5 User Details(In Admin Page)

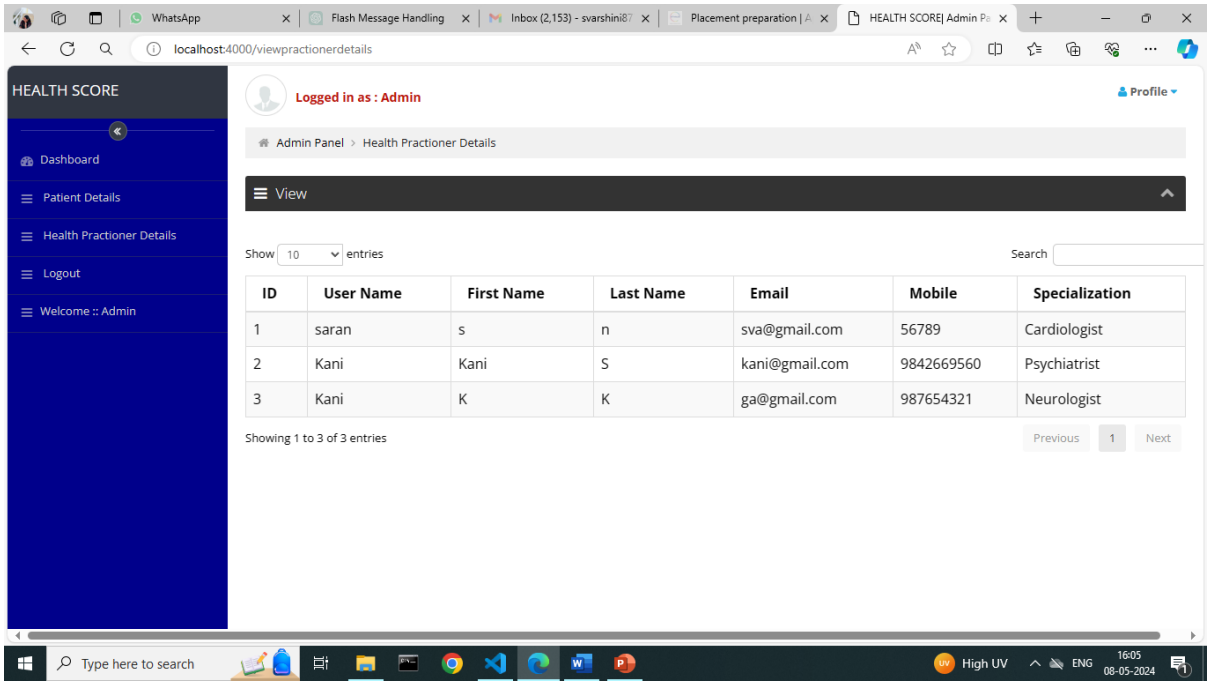

Fig A.2.6 Health Practitioner Details (In Admin Page)

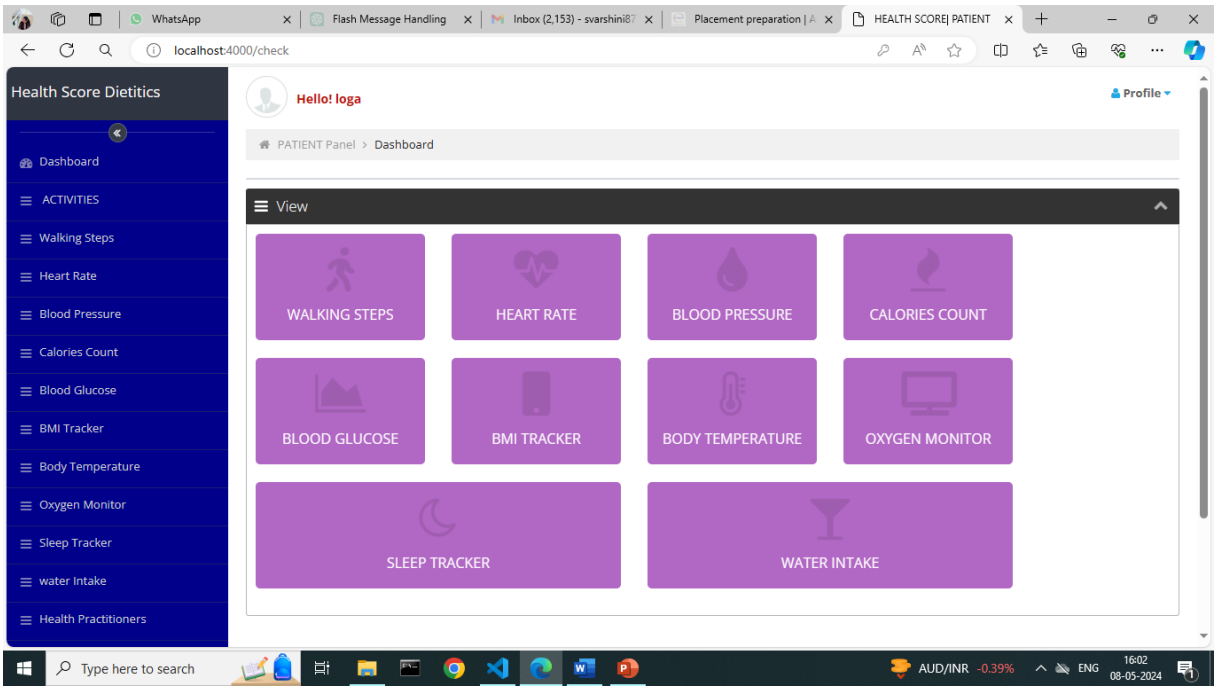

Fig A.2.7 Patient Page

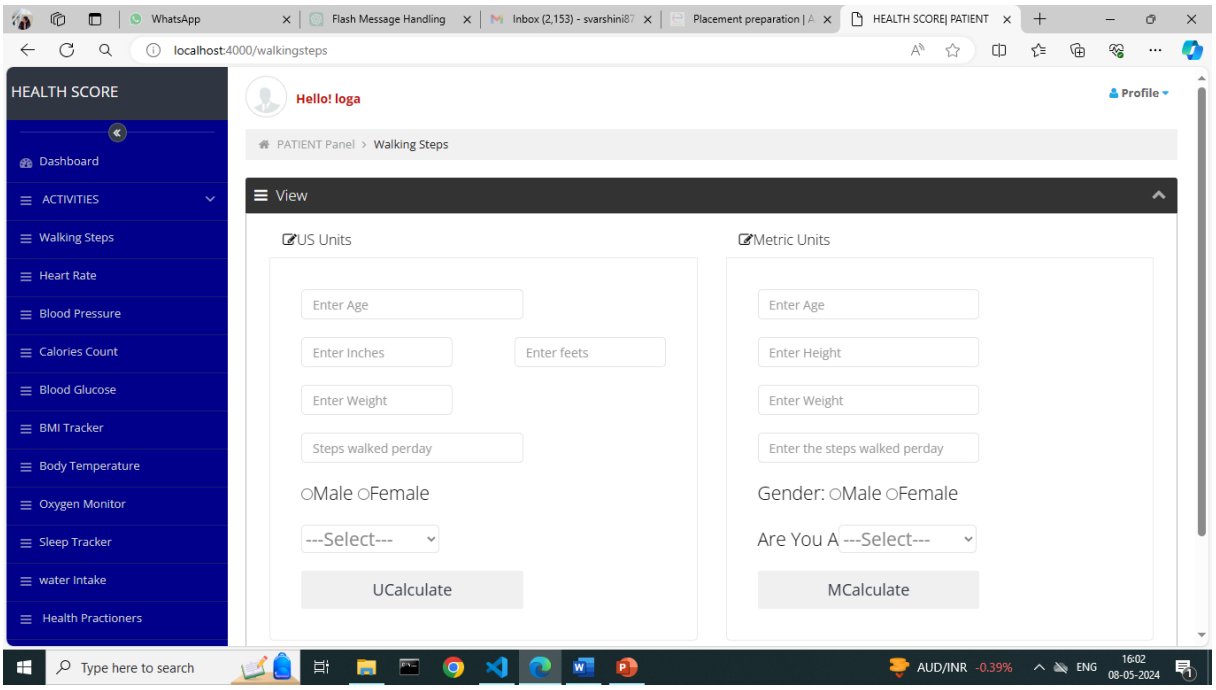

Fig A.2.8 Calculation Of Activity (Example: Walking Steps)

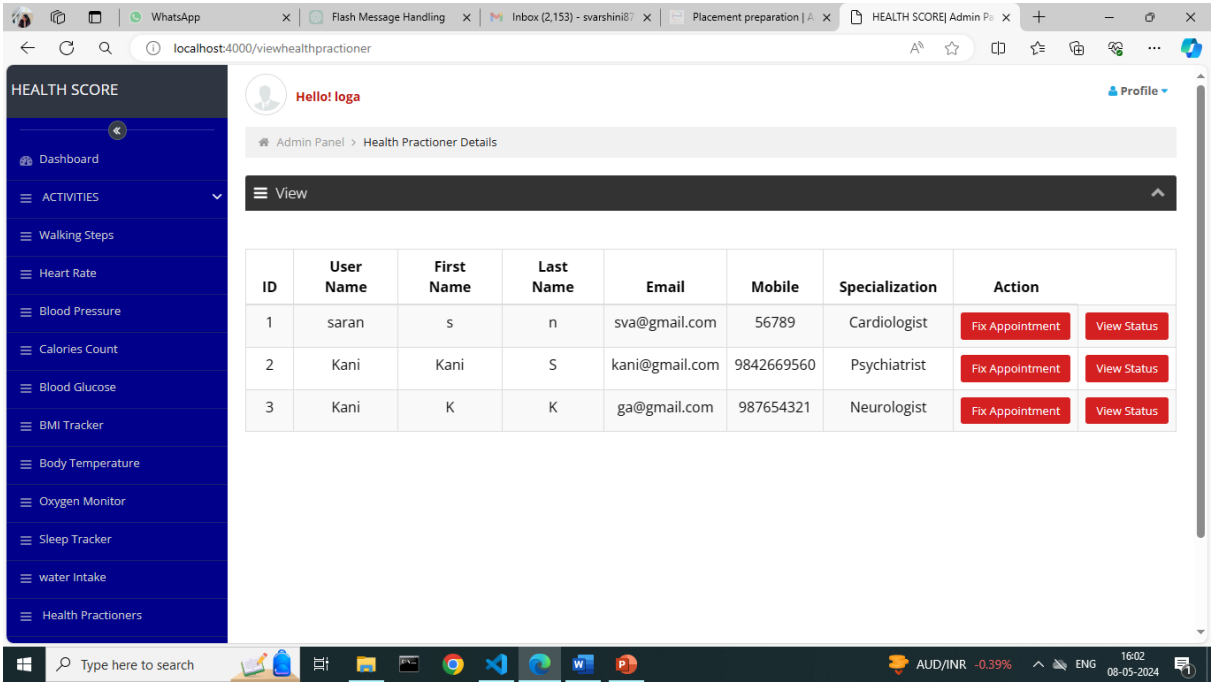

Fig A.2.9 List of Health Practitioner Register in Patient Page

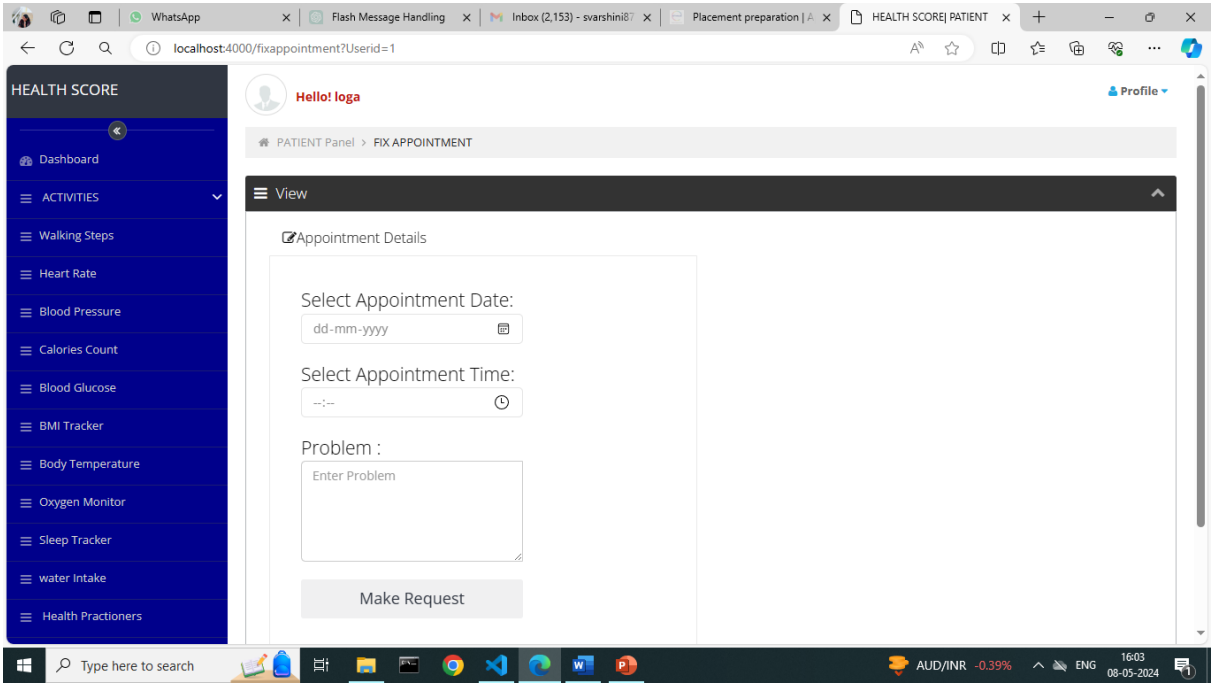

Fig A.2.10 Fix Appointment in Patient Page

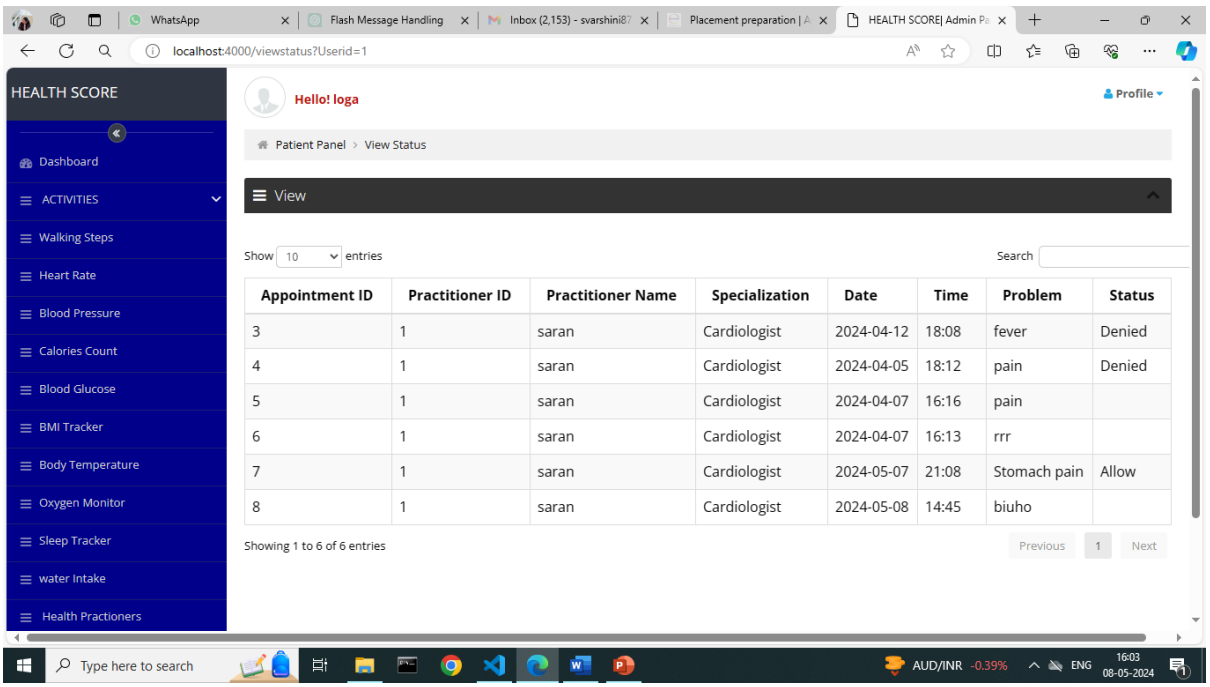

Fig A.2.11 View Status in Patient Page

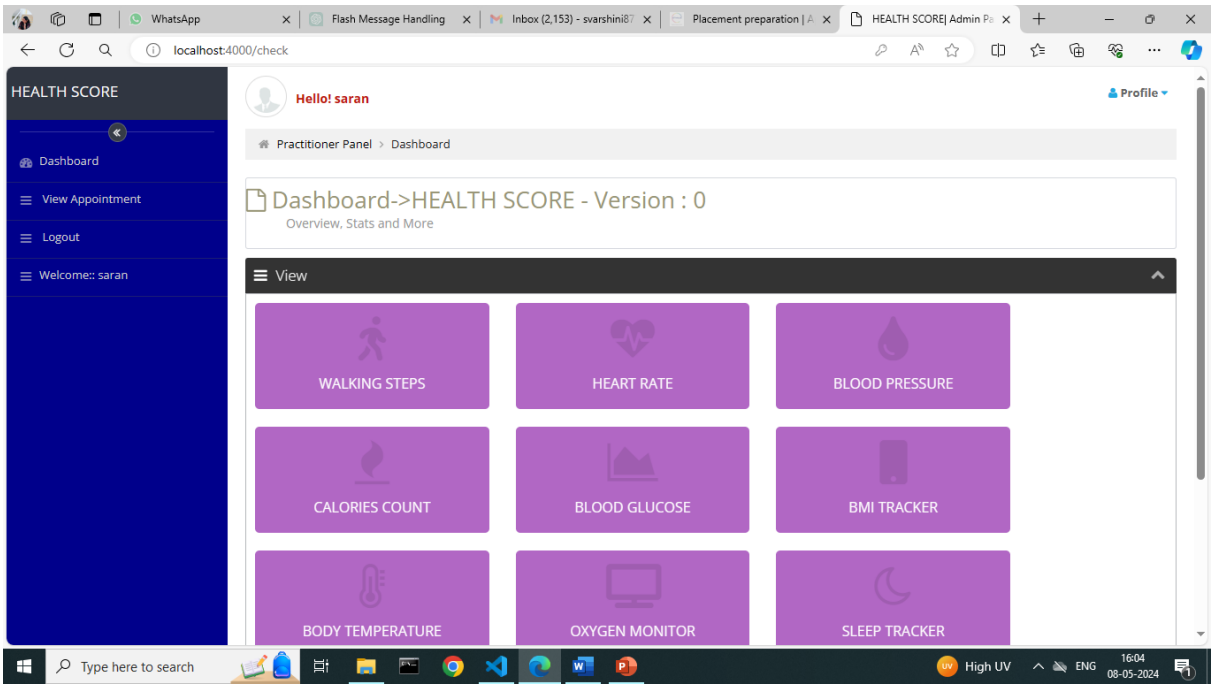

Fig A.2.12 Health Practitioner Page

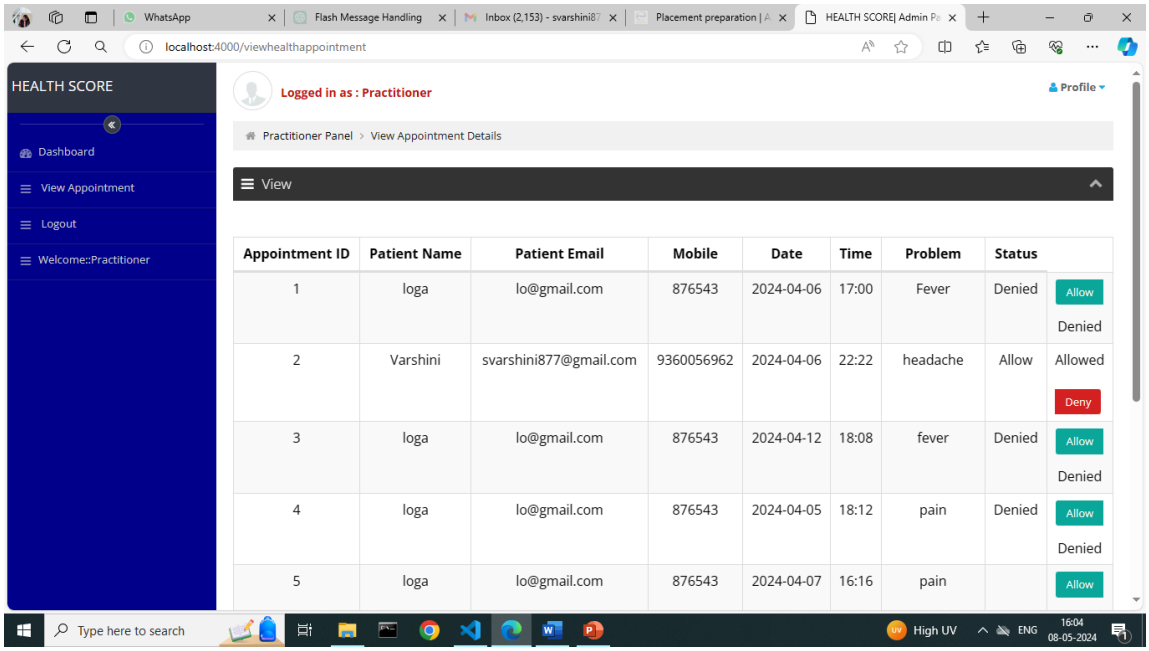

Fig A.2.13 List of Appointment in Health Practitioner Page

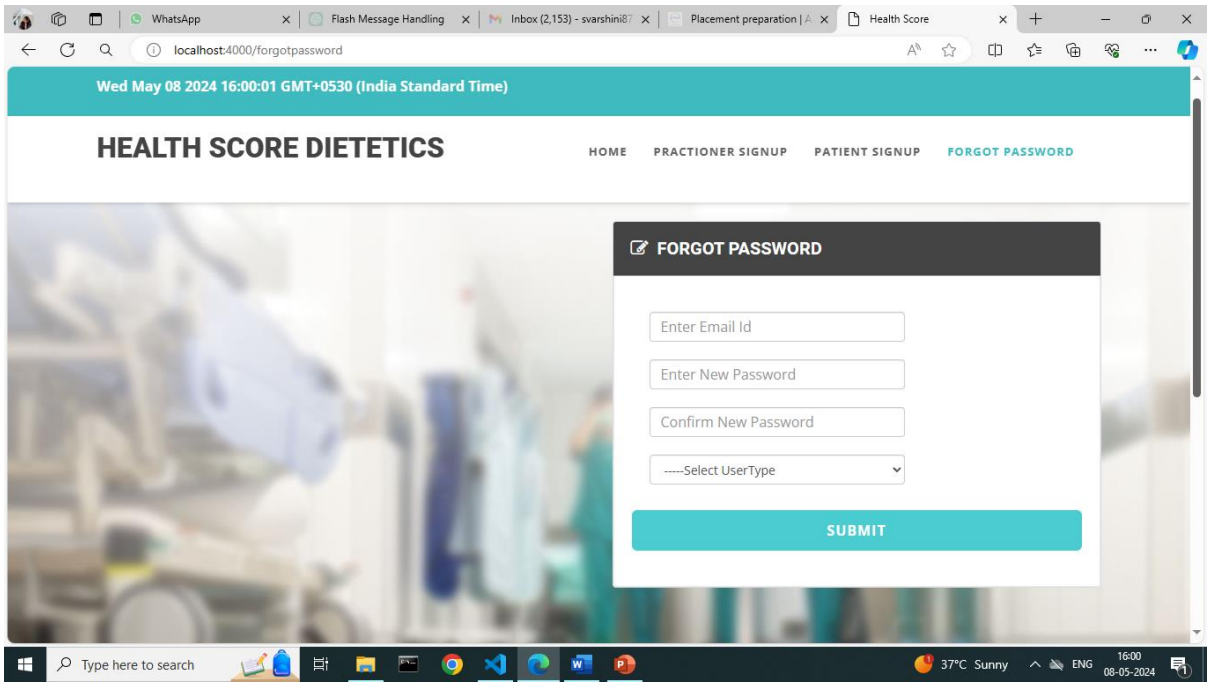

Fig A.2.14 Forgot Password Page

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M.D, VEI TECHNOLOGIES

DR.A.G.MOHAN DAS GANDHI
CONVENER, ICICICV'24

DR.S.VIJAYAN
PRINCIPAL

RVS TECHNICAL CAMPUS COIMBATORE

Kumaran Kottam Campus, Kannampalayam, Coimbatore – 641 402

&

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DR.B.EZHILAVAN
M.D, VEI TECHNOLOGIES

DR.A.G.MOHAN DAS GANDHI
CONVENER, ICICICV'24

DR.S.VIJAYAN
PRINCIPAL

RVS TECHNICAL CAMPUS COIMBATORE

Kumaran Kottam Campus, Kannampalayam, Coimbatore – 641 402

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M.D, VEI TECHNOLOGIES

DR.A.G.MOHAN DAS GANDHI
CONVENER, ICICICV'24

DR.S.VIJAYAN
PRINCIPAL