HOME CARE SERVICE FOR SENIORS

21IT902 – ADVANCED APPLICATION DEVELOPMENT

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BONAFIDE CERTIFICATE

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ABSTRACT

The aging global population has created a growing demand for healthcare solutions tailored to the unique needs of senior citizens. Many seniors prefer to receive care in their homes, highlighting the need for efficient coordination and delivery of home care services. However, the existing healthcare infrastructure lacks a dedicated platform to connect seniors, caregivers, and healthcare providers seamlessly. This project aims to address these challenges by developing a user-friendly and secure web-based application. The application will provide a centralized system to efficiently match seniors with suitable healthcare providers, streamline appointment scheduling, facilitate real-time communication, and coordinate services effectively. The core feature of this system is to overcome the miscommunication between seniors and care providers by providing suitable services and booking schedules based on the user's necessity. By providing a dedicated platform for coordinating and delivering home care services for seniors, this project aims to enhance the quality of care and ultimately improve the quality of life for seniors receiving care at home.

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LIST OF ABBREVIATIONS

S. No	ABBREVIATIONS	EXPANSION
1	ADL	Activities of Daily Living
2	RAM	Random Access Memory
3	GB	Giga Bytes
4	VS	Visual Studio
5	OS	Operating System
6	HTTP	Hyper Text Transfer Protocol
7	JPA	Java Persistence API
8	API	Application Programming Interface
9	JDBC	Java Database Connectivity
10	SQL	Sequential Query Language
11	UI	User Interface
12	DOM	Document Object Model
13	JSX	Java Script XML
14	JWT	JSON Web Token
15	UML	Unified Modelling Language
16	DFD	Data Flow Diagram
17	FAQ	Frequently Asked Questions

CHAPTER 1
INTRODUCTION

1.1 OVERVIEW

The aging global population has brought about a significant shift in healthcare needs, with a growing demand for specialized solutions tailored to the unique requirements of senior citizens. Many seniors prefer to age in place, receiving care and support in the familiar environment of their homes. This preference highlights the need for efficient coordination and delivery of home care services to ensure the well-being and quality of life of seniors.

The Home Care Service for Seniors project aims to address the increasing need for healthcare solutions tailored to the unique needs of the aging population. With seniors preferring to receive care in their homes, there is a growing demand for efficient coordination and delivery of home care services. However, the existing healthcare infrastructure often lacks a dedicated platform to seamlessly connect seniors, caregivers, and healthcare providers.

This application will serve as a centralized system to efficiently match seniors with suitable healthcare providers, streamline appointment scheduling, facilitate real-time communication, and coordinate services effectively. One of the core features of this system is to overcome the miscommunication between seniors and care providers by providing suitable services and booking schedules based on the user's necessity.

The existing healthcare infrastructure often falls short in providing a dedicated platform to seamlessly connect seniors, their caregivers, and qualified healthcare providers. This gap leads to inefficiencies, miscommunications, and difficulties in matching seniors with suitable

healthcare providers. To address these challenges, the Home Care Service for Seniors project proposes the development of a user-friendly and secure web-based application.

The application will enable efficient matching of seniors with suitable healthcare providers based on their specific needs and preferences. This will help ensure that seniors receive personalized care that meets their requirements. The application will provide a user-friendly interface for scheduling appointments with healthcare providers. This feature will help seniors and their caregivers manage their schedules effectively.

The application will facilitate real-time communication between seniors, caregivers, and healthcare providers. This will help improve coordination and ensure that all parties are informed of any changes or updates. The application will allow for the seamless coordination of services, such as medication management, meal preparation, and transportation services. This will help ensure that seniors receive comprehensive care that addresses all their needs.

One of the core features of this system is to overcome miscommunication between seniors and care providers. By providing suitable services and booking schedules based on the user's necessity, the system aims to ensure that seniors receive the care they need, when they need it.

Overall, the Home Care Service for Seniors project aims to enhance the quality of care and improve the quality of life for seniors receiving care at home. By providing a dedicated platform for coordinating and delivering home care services, this project seeks to address the evolving healthcare needs of the aging population and promote independence and well-being among seniors.

1.2 COMPONENTS OF SYSTEM

1. **System landing page**

   The landing page provides a form for user queries and contact information for direct communication. Offers information about the service's mission, values, history, team. Allows users to view service providers and availability for personalized care options.

2. **System dashboard**

   The system dashboard serves as the central hub for users to access key information and functionalities. It provides an overview of available services, booking status, and upcoming appointments, allowing users to navigate the application efficiently.

3. **Availability of services**

   This component allows users to browse through a comprehensive list of available home care services tailored to the needs of seniors. Users can view detailed descriptions, pricing information, and availability of each service, empowering them to make informed decisions about their care options.

4. **Service booking**

   Users can easily book home care services directly through the application. They can select their desired service, specify scheduling preferences, and confirm bookings with just a few clicks. This streamlined process ensures convenience and accessibility for seniors and their caregivers.

5. **Status of booking**

   This feature provides real-time updates on the status of booked services. Users can track the progress of their bookings, receive notifications for any changes or updates, and stay informed about upcoming appointments. This transparency enhances trust and confidence in the service delivery process.

6. **User profile update**

Users have the ability to manage and update their profiles within the system. They can edit personal information, update contact details, and specify preferences for future bookings. This ensures that user profiles remain accurate and up-to-date, facilitating seamless communication and service customization.

7. **Booking history**

The booking history component allows users to access a comprehensive record of their past appointments and transactions. Users can review details of previous bookings, view invoices, and track payment history. This feature enables users to maintain a complete overview of their interactions with the system.

8. **Security and Access control**

Security measures, including user authentication and role-based access control are implemented. These measures are implemented to safeguard user data and ensure compliance with privacy regulations. Access control mechanisms are in place to manage user permissions and restrict unauthorized access to sensitive information.

1.3 ADVANCED TECHNOLOGIES

Advanced technologies enhance the Home Care Services for seniors by improving efficiency, effectiveness, and overall quality of care for seniors.

1. **Community Partnerships**

Collaborating with local community centers, senior centers, and non-profit organizations to provide access to social activities, educational programs, and support groups for seniors. This can help reduce social isolation and improve overall mental and emotional health.

2. **Volunteer Networks**

   Establishing a volunteer network of trained individuals who can provide companionship, assistance with errands, and light household chores for seniors. Volunteers can also serve as a valuable resource for connecting seniors with community services and resources.

3. **Holistic Care Approach**

   Implementing a holistic care approach that considers seniors' physical, mental, and social well-being. This can include integrating services such as mental health counseling, nutrition counseling, and physical therapy into the home care program.

4. **Technology for Social Connection**

   Utilizing technology platforms that facilitate social connection and communication among seniors, caregivers, and healthcare providers. This can include virtual social gatherings, online support groups, and video calls with family members.

5. **Transportation Services**

   Providing access to transportation services for seniors who may have difficulty getting to medical appointments, grocery stores, or community events. This can help seniors maintain their independence and stay connected with their community.

6. **Care Coordination Services**

   Implementing a care coordination team that works closely with seniors, caregivers, and healthcare providers to develop personalized care plans and ensure that all aspects of care are well-coordinated and integrated.

1.4 GLOBAL PERSPECTIVES

Global perspectives on home care services for seniors vary based on factors such as healthcare systems, cultural norms and economic conditions.

1. **Aging Population**

   Many countries are experiencing a significant increase in the proportion of elderly individuals in their populations. This demographic shift is driving the demand for home care services as seniors prefer to age in place.

2. **Preference for Home-Based Care**

   There is a growing recognition of the benefits of home-based care for seniors, including improved quality of life, increased independence, and reduced healthcare costs compared to institutional care.

3. **Technology Adoption**

   Advanced technologies such as remote monitoring, and wearable devices are increasingly being used to enhance home care services. These technologies help improve access to care, monitor health conditions, and provide support for caregivers.

4. **Caregiver Support**

   There is a greater emphasis on supporting informal caregivers, such as family members, who provide the majority of care for seniors. This includes providing education, respite care, and financial assistance to caregivers.

5. **Integration of Services**

   There is a trend towards integrating home care services with other healthcare and social services to provide a comprehensive care approach. This integration helps address the complex needs of seniors and ensures continuity of care.

CHAPTER 2
SYSTEM ANALYSIS

2.1 EXISTING SYSTEM

“Golden Years in Home” is a comprehensive home care service specifically designed for seniors, aiming to provide them with personalized care and support to help them live independently and comfortably in their own homes. The system offers a wide range of services tailored to meet the unique needs and preferences of each senior client. Each senior client receives a personalized care plan developed in consultation with healthcare professionals and tailored to their specific needs and preferences.

“Golden Years in Home” employs qualified and compassionate caregivers who are trained to provide high-quality care and support to seniors. Caregivers undergo thorough background checks and receive ongoing training to ensure they are equipped to meet the diverse needs of senior clients. The system offers a wide range of services to meet the varying needs of senior clients, including personal care, nursing care, physical therapy, occupational therapy, speech therapy, and medical social services. This system prioritizes the safety and security of senior clients, implementing measures such as fall prevention strategies, medication safety protocols, and emergency response systems to ensure seniors are well-protected in their homes.

In addition to providing essential care services, "Golden Years in Home" also focuses on promoting companionship and socialization among seniors. Caregivers engage seniors in meaningful activities, outings, and social interactions to enhance their quality of life. The system recognizes the importance of family involvement in senior care and encourages family members to participate in care planning and decision-making. Family members are kept informed about their loved one's care and are encouraged to provide feedback and

suggestions. Golden Years in Home continuously monitors and evaluates the effectiveness of its care plans to ensure they are meeting the needs of senior clients. Care plans are regularly reviewed and updated based on the client's changing needs and preferences.

Overall, “Golden Years in Home” is a comprehensive and personalized home care service that strives to enhance the quality of life for seniors by providing them with the care, support, and companionship they need to live independently and comfortably in their own homes.

2.1.1 DRAWBACKS

1. Quality of Care

The quality of care in “Golden Years in Home” can vary depending on factors like caregiver turnover, lack of training, or inadequate supervision.

2. Limited Scope of Services

Some specialized Home Care services may not be available, requiring seniors to seek additional care elsewhere.

2.2 PROBLEM DEFINITION

1. Quality of Care

The quality of care in “Golden Years in Home” may vary due to caregiver turnover, lack of training, or inadequate supervision, leading to inconsistencies and potential issues in care delivery.

2. Limited Scope of Services

“Golden Years in Home” may not offer certain specialized medical services or non-medical services, requiring seniors to seek additional care elsewhere, which can be inconvenient and lead to fragmented care.

2.3 PROPOSED SYSTEM

In our proposed system, we have overcome the drawbacks of “Golden Years in Home”. We have ensured high-quality care by including trained nurses, certified doctors, and well-assured staff in your service provider network. This helps to minimize caregiver turnover and ensures that caregivers have the necessary skills and training to provide consistent, high-quality care to seniors. Additionally, your focus on supervision and support can help to address any potential issues that may arise.

To address the limitations in the scope of services, you've included a wide range of services in your system. This includes not only specialized medical services but also non-medical services like home appliance repair, grocery shopping, and gardening maintenance. By offering such a comprehensive range of services, you're able to meet the diverse needs of seniors and reduce the need for them to seek additional care elsewhere.

Overall, in our proposed system appears to be well-equipped to provide high-quality, comprehensive care to seniors.

2.3.1 ADVANTAGES

- High-quality care
- Comprehensive range of services
- Improved quality of life
- Better communication and coordination

CHAPTER 3

SYSTEM REQUIREMENTS

The hardware and software requirements and also the platform description of the system are explained under sections 3.1, 3.2 and 3.3 respectively.

3.1 HARDWARE REQUIREMENTS

1. Processor Type : Ryzen i5
2. RAM : 8GB RAM
3. Hard Disk : 512GB

3.2 SOFTWARE REQUIREMENTS

a. Operating system : Windows 11
b. Front End, Back End : Visual studio code
c. Coding Language : ReactJs, Java

3.3 SOFTWARE DESCRIPTION

Fig. 3.1. VS Code Logo

Visual Studio Code, also commonly referred to as VS Code, is a source-code editor made by Microsoft, it can be used to work with Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, embedded Git.Users can change the theme, keyboard shortcuts, preferences, and install extensions thatadd functionality.

3.3.1 FRONTEND

ReactJs

ReactJS is a popular JavaScript library for building user interfaces, particularly for web applications. React follows a component-based architecture, where UIs are broken down into reusable components. Each component encapsulates its own logic and UI making it easier to manage and maintain complex user interfaces. React uses a virtual DOM (Document Object Model) to improve performance. Instead of directly manipulating the DOM, React creates a virtual representation of the DOM in memory and updates it efficiently. When changes occur, React compares the virtual DOM with the actual DOM and only updates the necessary parts, reducing the number of DOM manipulations and improving performance.

React uses JSX, a syntax extension that allows developers to write HTML-like code within JavaScript. JSX makes it easier to write and understand React components, as it closely resembles the final UI structure. React follows a unidirectional data flow, also known as one-way data binding. Data flows from parent components to child components via props, and child components can communicate with parent components via callbacks. This helps maintain a clear and predictable data flow in the application.

Features of ReactJs

1. **Declarative**

   React makes it easy to create interactive UIs by using a declarative programming approach. Developers can describe how the UI should look based on the application state.

2. **Component-Based**

   React uses a component-based architecture, where UIs are composed of reusable and self-contained components. This makes it easier to manage and maintain complex UIs, as each component can be developed, tested, and updated independently.

3. **Virtual DOM**

   React uses a virtual DOM (Document Object Model) to improve performance. Instead of updating the entire DOM when the state changes, React compares the virtual DOM with the actual DOM and only updates the parts that have changed.

4. **JSX**

   JSX is a syntax extension for JavaScript that allows developers to write HTML-like code within their JavaScript code. This makes it easier to create and manage UI components, as JSX code can be more readable.

5. **Unidirectional Data Flow**

   React follows a unidirectional data flow, from parent components to child components. This helps to maintain the consistency of the application state and understand the data flow in the application.

6. **React Native**

   React Native is a framework for building native mobile applications using React. It allows developers to use the same codebase to build both iOS and Android applications, saving time and effort in development.

7. **Community and Ecosystem**

   React has a large and active community of developers, which has led to the development of a rich ecosystem of libraries, tools, and resources that can be used to enhance and extend React applications.

3.3.2 BACKEND

Java

Java is a versatile, object-oriented programming language renowned for its platform independence, security, and portability. Java is a high-level, general-purpose programming language that is widely used for developing a variety of applications. Java is object-oriented, emphasizing the use of classes and objects for organizing code and data.

It boasts a comprehensive standard library with built-in classes and APIs for various tasks, from data manipulation to networking. Java enforces strong type checking, enhancing code reliability and reducing runtime errors. The language includes automatic memory management through garbage collection, simplifying memory allocation and deallocation.

The extensions used to develop my backend part of the project are,

1. **Spring Boot Extension Pack by VMware**

   This extension pack provides a set of tools and features to enhance your development experience with Spring Boot, including code snippets, syntax highlighting, and project templates.

2. **Extension Pack for Java by Microsoft**

   This extension pack includes essential tools for Java developers, such as debugging support, code navigation, and IntelliSense for Java files.

3. **Spring Boot Snippets by Developer Soapbox**

   This extension provides a collection of code snippets for commonly used Spring Boot annotations and configurations, helping you write code more efficiently.

Dependencies used to build my project are,

1. **Spring Web**

   This dependency provides the necessary components for building web applications with Spring, including controllers, request mappings, and HTTP message converters.

2. **Dev Tools**

   Spring Boot DevTools provides a set of tools to improve the development experience, including automatic application restarts, live reload, and enhanced debugging capabilities.

3. **Data JPA**

   Spring Data JPA provides support for easily working with JPA (Java Persistence API) repositories, simplifying the implementation of data access logic in your application.

4. **Postgres Driver**

   This dependency provides the JDBC driver for PostgreSQL, allowing your Spring Boot application to connect to a PostgreSQL database.

5. **Lombok**

   Lombok is a library that helps reduce boilerplate code in Java classes by automatically generating getters, setters, and other repetitive code based on annotations.

6. **Spring Security Web**

   This dependency provides support for securing your web application using Spring Security, including authentication and authorization mechanisms.

CHAPTER 4

SYSTEM DESIGN

4.1 MODULE DESCRIPTION

- Providers management
- Service management
- Booking management
- User profile management

4.1.1 PROVIDERS MANAGEMENT

The admin manages service providers by adding, editing, and deleting their profiles. This includes managing qualifications, availability, and contact information. This ensures that users have access to accurate and up-to-date information about service providers.

Table 4.1. Providers Management

	provider_id [PK] integer	description character varying (255)	image character varying (255)
1	1	trained nurses	https://www.gmercyu.edu/images/learn_pages/learn_nursecareerguide.jpg
2	2	personal care	https://www.brysonhealthcare.com/admin/images/post/image20181010074748.jpg
3	3	personalised yoga	https://advancedspinesports.com/wp-content/uploads/2020/07/iStock-1147930007.j...

4.1.2 SERVICE MANAGEMENT

The service management system organizes and controls various aspects of services to ensure efficient delivery and customer satisfaction. These aspects include specifying the service type, describing the service, setting the charge, defining the duration, and indicating service availability. Efficient management of these aspects helps ensure smooth service delivery, meets customer expectations, and maintains competitive pricing.

Table 4.2. Service Management

	available boolean	charge double precis	service_id [PK] integer	duration character var	image character varying (255)	service_description character varying (255)	service_type character var
1	true	1000	1	2hrs	https://health.wordpress.clevelandclinic.org/wp-content/...	Walking is a great way to improve or maintain your overall health. Just 30 minutes every day can increase cardiova...	walking
2	true	1000	3	1hr	https://www.thetrendandstyle.com/wp-content/uploads/...	garden service means the provision of gardening services by a licensee including the cutting of grass, pruning of tr...	garden
3	true	2000	2	1hr	https://www.ziprecruiter.com/svc/fotomat/public-ziprecr...	Electrical Repairs means fixing any sort of electrical device should it become out of working order or broken. Tech...	electronic...
4	true	1000	52	1hr	https://images.shiksha.com/mediadata/images/articles...	Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and commun...	nursing
5	true	1000	53	1hr	https://i0.wp.com/www.yogabasics.com/yogabasics201...	Yoga is a practice that connects the body, breath, and mind. It uses physical postures, breathing exercises, and me...	yoga

4.1.3 BOOKING MANAGEMENT

In the booking management, various details are managed to facilitate the scheduling and tracking of services. These details include the user's name and mobile number for identification, service type, date and timings for scheduling. Additionally, information about the care beneficiary, address, and booking status (which is managed by the admin) is also tracked. Efficient management of these details helps ensure that bookings are accurately scheduled, communicated, and executed, leading to improved customer service and satisfaction.

Table 4.3 Booking Management

	booking_id [PK] integer	date date	phone_number integer	address character varying (255)	care_beneficiary character varying (255)	description character varying (255)	duration character varying (255)	name character varying (255)	service_type character varying (255)	status character varying (255)
1	4	2023-08-09	94862678	salem	suhas	need nursing service	3hrs	suba	nursing	completed
2	3	2023-08-09	94862678	salem	suhas	need walking	3hrs	suba	walking	on-going
3	1	2023-08-09	94862678	salem	suhas	need garden service	3hrs	suba	garden	on-going

4.1.4 USER PROFILE MANAGEMENT

In the user profile management system, users can manage their details such as their name, email ID, and mobile number. However, while users can update their mobile number, they cannot edit their name and email ID. This setup ensures that critical user information remains accurate and secure, while still allowing users some control over their profiles.

Table 4.4. User Profile Management

	mobile_number integer	email character varying (255)	id [PK] character varying (255)	name character varying (255)	password character varying (255)	role character varying (255)
1	0	admin@gmail.com	75671621-46cf-48b1-9809-df953325d1...	Admin	$2a$10$7LV/ugPWeoUJUPZPlkXzIOfpaovqmRezgFeg.1a9hDojLDTY72wHq	ADMIN
2	948627475	suba@gmail.com	997c8f9b-218d-4abb-ac5f-41c49c38aaf0	suba	$2a$10$e4OBqRfyzFBdSpMApOlzruc53y/EiHnWsG0LMBGnQNT7hMVbJRe...	USER

4.2 USE CASE DIAGRAM

A use case diagram is a visual representation in UML (Unified Modelling Language) that illustrates the interactions between actors and a system or software application. It is used to depict the various ways users or external entities can interact with the system and the specific functionalities or use cases it offers.

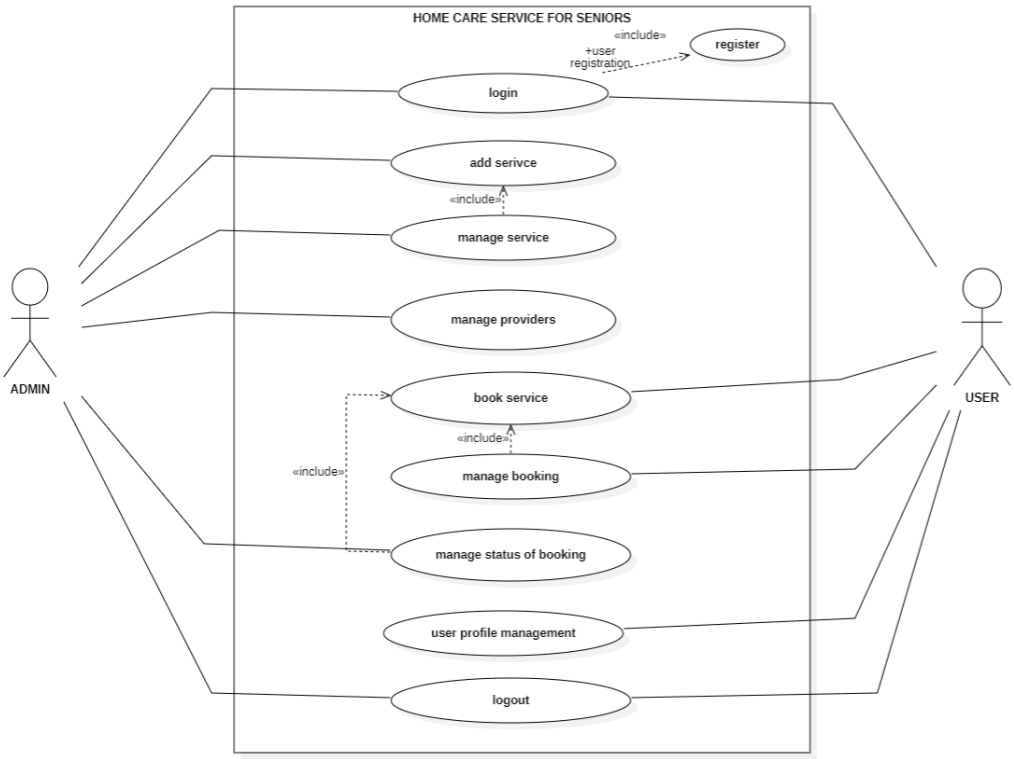

Fig. 4.1. Use Case Diagram

4.3 SEQUENCE DIAGRAM

A sequence diagram is a visual representation used in software engineering to illustrate the interactions and communication between different objects or components in a system over a specific period of time. It shows the chronological order of messages or method calls exchanged between these entities, helping to depict the dynamic behaviour of a system or a particular scenario. In essence, it provides a time-ordered view of how various parts of a system collaborate to achieve a particular task or functionality.

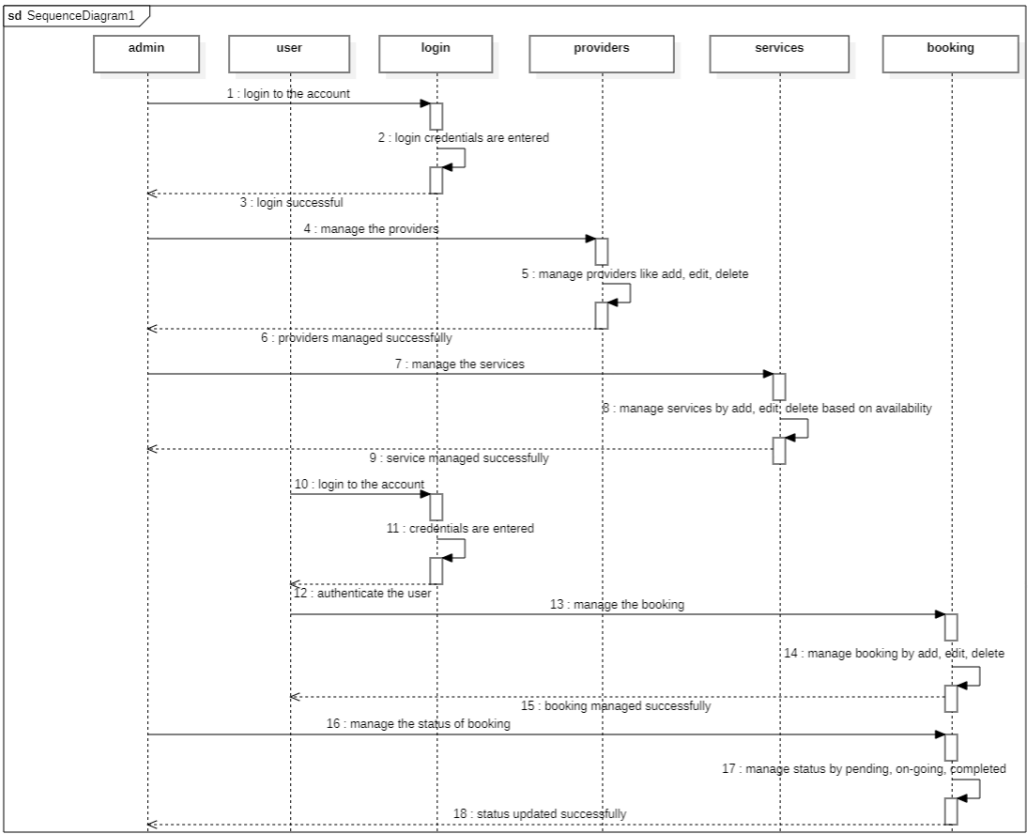

Fig. 4.2. Sequence Diagram

4.4 DATA FLOW DIAGRAM

A Data Flow Diagram (DFD) is a visual representation that illustrates the flow of data within a system or process. It uses symbols to depict processes, data stores, data flow, and external entities. DFD helps to analyse, design, and document information systems, showing how data is input, processed and output, while emphasizing the interactions between different elements in the system.

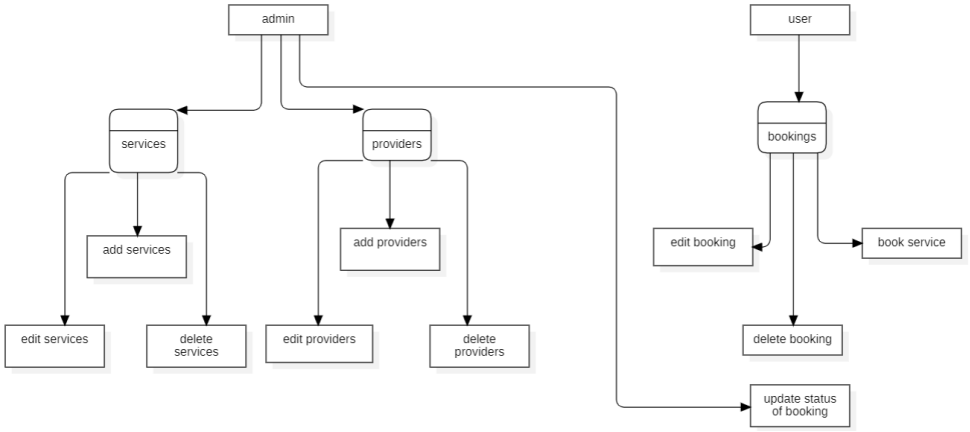

Fig. 4.3. Data Flow Diagram

CHAPTER 5
TESTING

5.1 UNIT TESTING

Unit testing forms the foundational layer of the testing process for the Home Care Service for Seniors project. It involves testing individual software components in isolation to identify and rectify issues early in the development cycle. In this context, unit testing would entail examining Java classes and database queries individually. Unit testing, often conducted concurrently with development, focuses on validating the smallest units of the software, ensuring that each component works correctly and integrates seamlessly into the larger system.

5.2 INTEGRATION TESTING

Integration testing for the Home Care Service for Seniors project focuses on ensuring seamless interactions and interfaces between different components of the system. The goal is to validate that API endpoints responsible for data exchange between the front-end and back-end work harmoniously together. This phase ensures accurate data flow and cooperation among components, ultimately validating the overall functionality of the system for efficient coordination and delivery of home care services.

5.3 SECURITY AND AUTHENTICATION

In the home care services platform for elders, ensuring the security and authentication of user data is of utmost importance. To achieve this, JSON Web Tokens (JWTs) are used for user authentication. During user registration, the platform securely stores encrypted credentials in its database. Upon successful registration, a unique JWT is generated and issued to the user. This JWT serves as a digital authentication token, allowing the user secure access to the platform's

features. The JWT, containing essential user information, is securely signed using a secret key known only to the server. This ensures the authenticity and integrity of the token. Whenever a user interacts with the platform, they include this JWT in their requests. The backend then validates the JWT to grant access to the requested resources. To enhance security, JWTs have a finite expiration time. Upon expiration, users must re-authenticate by logging in again to obtain a new JWT.

```
try {
    const response = await axios.post('http://localhost:8080/api/v1/auth/login', { email, password });
    if (response.data.token) {
        localStorage.setItem('token', response.data.token);
        localStorage.setItem('name',response.data.name);
        if (response.data.role === 'USER') {
            setTimeout(() => {
                console.log('Login response:', response.data);
                navigate('/UserDashboard');
            }, 1000);
        }
        else {
            setErrors('Invalid Email and Password:(');
        }
    }
    else {
        setErrors('Token not received');
    }
}
catch (error) {
    console.error('Login error:', error.response.data);
    setErrors({ email: 'Login failed. Please check your credentials.' });
}
```

Fig. 5.1. Storing the Token in Local Storage

```
try {
    const response = await axios.post('http://localhost:8080/bookdto/post', formData, {
        headers: {
            Authorization: `Bearer ${token}`,
        },
    });
    if (response.data === 'Booking Confirmed') {
        alert("booked successfully");
        console.log('Service added!', response.data);
        setFormData({
            name: '',
            phoneNumber: '',
            address: '',
            duration: '',
            date: '',
            description: '',
            careBeneficiary: '',
            serviceType: '',
        });
    } else if (response.data === 'Provide the registered Username') {
        alert("Provide the registered Username");
    } else if (response.data === 'Oops!! Service Unavailable') {
        alert("Oops!! Service Unavailable");
    }
    } catch (error) {
    alert("unable to book");
    console.error('Form submission failed:', error);
}
```

Fig. 5.2. Authenticating the User using Bearer Token

5.4 TEST CASES

Test cases are crucial for evaluating the Home Care Service for Seniors project's functionality, including matching seniors with healthcare providers and coordinating services. They are essential for thorough testing, identifying issues, and ensuring quality assurance.

5.4.1 TEST CASE I

Fig. 5.3. Test Case I

EXPECTED OUTPUT: Registration failed and error message occurs, to enter the credentials.

ACTUAL OUTPUT: Registration failed, indicating to enter the credentials.

5.4.2 TEST CASE II

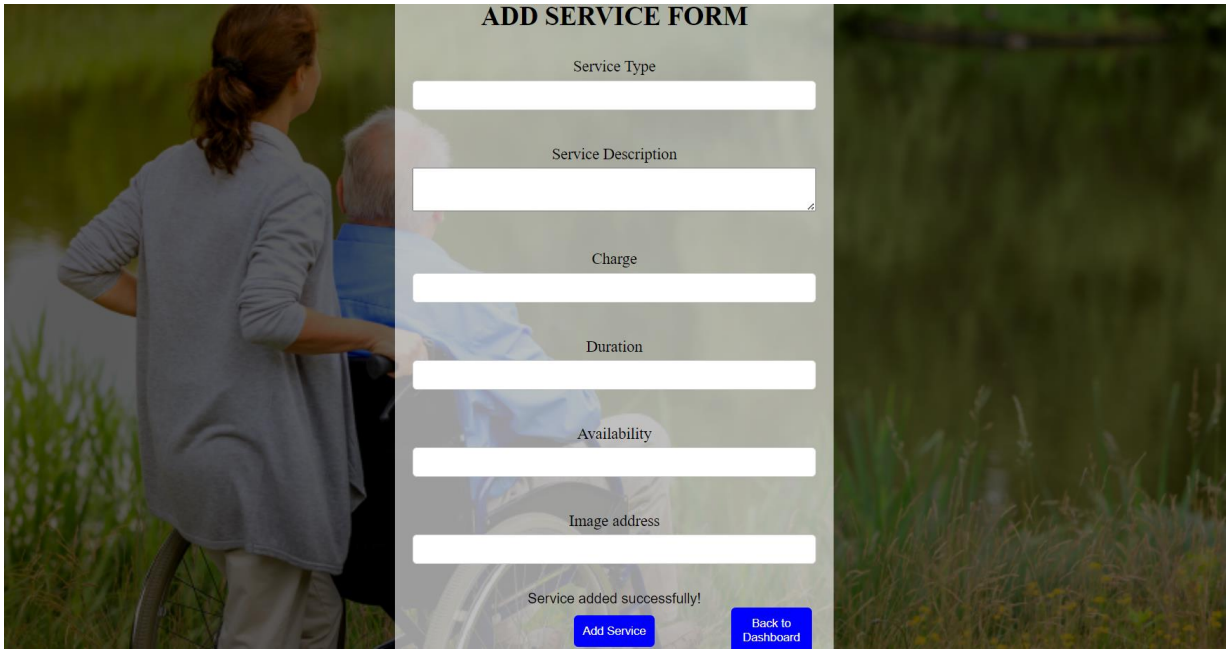

Fig. 5.4. Test Case II

EXPECTED OUTPUT: After booking the service, return message will be displayed.

ACTUAL OUTPUT: After booking the service, service added successfully message be displayed.

CHAPTER 6
CONCLUSION AND FUTURE WORK

6.1 CONCLUSION

The Home Care Service for Seniors project is a crucial initiative aimed at addressing the evolving healthcare needs of the aging population. By providing a dedicated platform for delivering home care services, the project seeks to improve the quality of life for seniors. The project's focus on overcoming miscommunication, facilitating efficient matching with healthcare providers and streamlining service coordination is essential. Overall, this project represents a significant step towards meeting the unique healthcare challenges posed by an aging global population.

6.2 FUTURE WORK

An alternate solution for monitoring seniors' health metrics in real-time could be to develop a mobile application that allows seniors to input their health data manually. The application could include features such as symptom tracking, medication reminders, and appointment scheduling. This approach would not require the use of wearable devices and could be more cost-effective and accessible for seniors who may not be comfortable or able to use wearable technology.

For the separate portal for family members and caregivers, an alternate solution could be to create a secure online platform where caregivers can access relevant information and communicate with healthcare providers. This platform could include features such as messaging, appointment scheduling, and access to medical records. This approach would provide a centralized hub for caregivers to stay informed and engaged in the senior's care without the need for a separate portal.

CHAPTER 7

APPENDICES

APPENDIX I

SOURCE CODE

UserHome.jsx

```
import React from 'react';
import '../assets/css/UserHome.css';
import ImageGallery from '../components/ImageGallery';
import UserNavbar from '../components/UserNavbar';
import About from './UserAbout';
import Contact from './Contact';
import UserProvider from '../components/UserProvider';
function UserHome() {
 return (
  <>
   <div>
    <UserNavbar />
   </div>
   <div className='usermain' id='UserHome'>
    <div className="userhome">
     <div className="homeright">
      <div className='leftcontent'>
      <h1 style={{color:'black'}}>Golden Years Companion<br></br> Your Home, Your Health, Our Care</h1><br></br>
      <h3 style={{color:"black"}}>Customized In-Home Care Solutions Catering <br></br> Each Stage of the Senior Experience</h3>
       <br></br>
       To care for those who once cared for us is <br></br>one of the highest honours,"
```


</br>- Tia Walker.

</br>

We at Golden Home Healthcare endeavor to bring
</br> healthcare to the doorstep of the elderly.

</br>
</br>

Once your home care needs are clearly defined, our dedicated team
</br>will help you get expert health care along with

attendants
</br> if needed for personal hygiene, mobility, or activities of daily living
</br> like taking a bath, feeding,

exercise, etc...

<ImageGallery />

<UserProvider/>

<About/>

<Contact/>

<footer>

<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css"></link>


```
            <a                href="https://www.google.com/"                target="blank"
className="custom-icon fa fa-google "></a>
            <a                href="https://www.linkedin.com/"              target="blank"
className="custom-icon fa fa-linkedin "></a>
            <a                href="https://www.youtube.com/"               target="blank"
className="custom-icon fa fa-youtube "></a>
            <a              href="https://www.instagram.com/"               target="blank"
className="custom-icon fa fa-instagram "></a>
          </div>
          <div className="row">
            Golden Years Copyright @ 2024  Subaharini -
            All rights reserved || Designed By: SUBA
          </div>
        </div>
      </footer>
    </>
  );
}
export default UserHome;
```

UserDashboard.jsx

```
import React from 'react';
import '../assets/css/UserDashboard.css';
import { Link } from 'react-router-dom';
const UserDashboard = () => {
   const
book='https://cdn.feather.blog/?src=https%3A%2F%2Fusenotioncms.com%2Fp
roxy%2Fblock%2F1ed2872a-ec42-44fd-abec-fc0997dc5111%252Fdba71857-
58c6-47d6-a44a-
```

```
e9a3d3ad675d%252FWhat_is_the_Real_Impact_of_Online_Booking_Systems_
.jpg&optimizer=image';
  const avail = 'https://cdn-production.checkfront.com/wp-
content/uploads/2022/05/better-online-booking.jpg';
  const edit = 'https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcScq7UsPxr54m3DgUyO6TkhEYl6dp2
9GEZAFA&usqp=CAU';
  const history = 'https://cdn.pixabay.com/photo/2016/03/31/19/50/checklist-
1295319_1280.png';
  const profile = 'https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcStjt304IEFaJ1QzAbNkeifMxnd5Q6Al
xl59mx1hkyPhQOdla4gaIBBZQLOqqMwA9EcOp8&usqp=CAU';
  return (
    <div className="dashboardcontainer" >
      <div className="image-container" >
        <h2 style={{ paddingRight: '10rem', marginRight: "15px" }}>No
longer, they can take care of themselves,..</h2>
        </div>
        <div className="user-info" >
      <h3 style={{ fontSize: '200',marginTop:'40px',marginLeft:'10rem'
}}>Personalized dashboard to experience the feature,..
      <div className='logout' style={{marginTop:'-
50px',paddingLeft:'35rem'}}>
      <Link to='/Main' style={{ textDecoration: 'none' }}>

      <div className="card" style={{width:"50%"}}>
            <p>Logout</p>
          </div>
        </Link>
```

```
        </div>
</h3>
<div className='usercontent'  >
        <div className="appointments" >
            <h3 style={{ marginTop: '20px' }}>Services</h3>
            <br></br>
            <ul>
            <Link to='/AvailableService' className='dashboardlink'>
                    <li >
                        <div className="card">
                            <img src={avail} alt="Service Available" />
                            <p>Available Service</p>
                        </div></li>
                </Link>
                <Link to='/BookService' className='dashboardlink'>
                    <li >
                        <div className="card">
                            <img src={book} alt="Book Service" />
                            <p >Book Service</p>
                        </div><li>
                </Link>
                <Link to='/ViewBooking' className='dashboardlink'>
                    <li>
                        <div className="card">
                            <img src={edit} alt="Edit Booking" />
                            <p>View Booking</p>
                        </div>
                    </li>
                </Link>
```

```
            </ul>
          </div>
          <div className="quick-links">
            <h3>Quick Links</h3><br></br>
            <ul>
              <Link to='/BookingHistory' className='dashboardlink'>
                <li>
                  <div className="card">
                    <img src={history} alt="Booking History" />
                    <p>Booking History</p>
                  </div>
                </li>
              </Link>
              <Link to='/Profile' className='dashboardlink'>
                <li>
                  <div className="card">
                    <img src={profile} alt="Update Profile"  />
                    <p>Update Profile</p>
                  </div>
                </li>
              </Link>
            </ul>
          </div>
        </div>
      </div>
    );
};
export default UserDashboard;
```

APPENDIX II

SCREENSHOTS

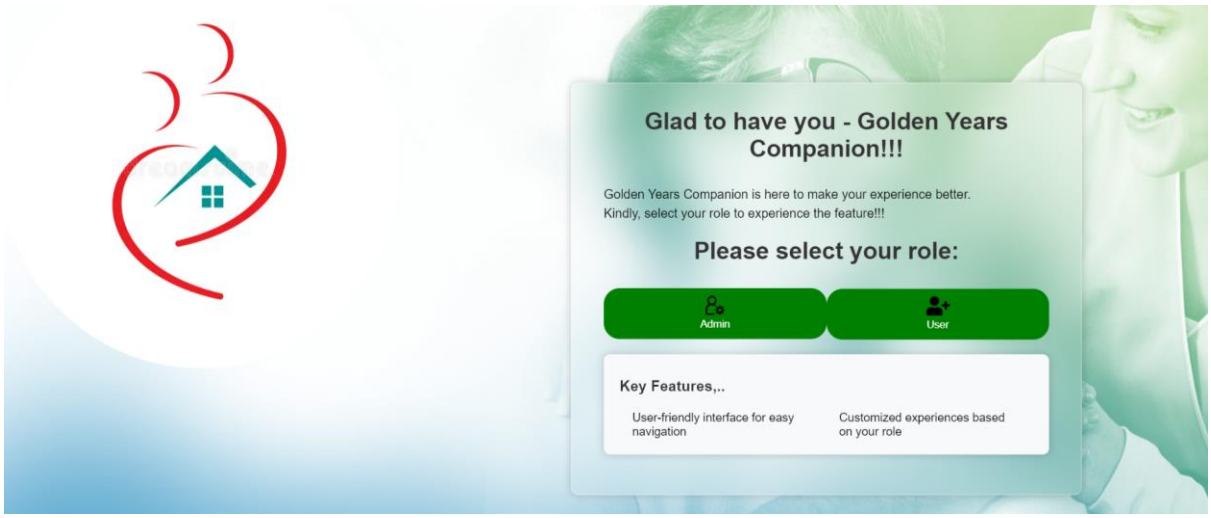

Fig. A.2.1. Main Page

Fig. A.2.2. Admin Login

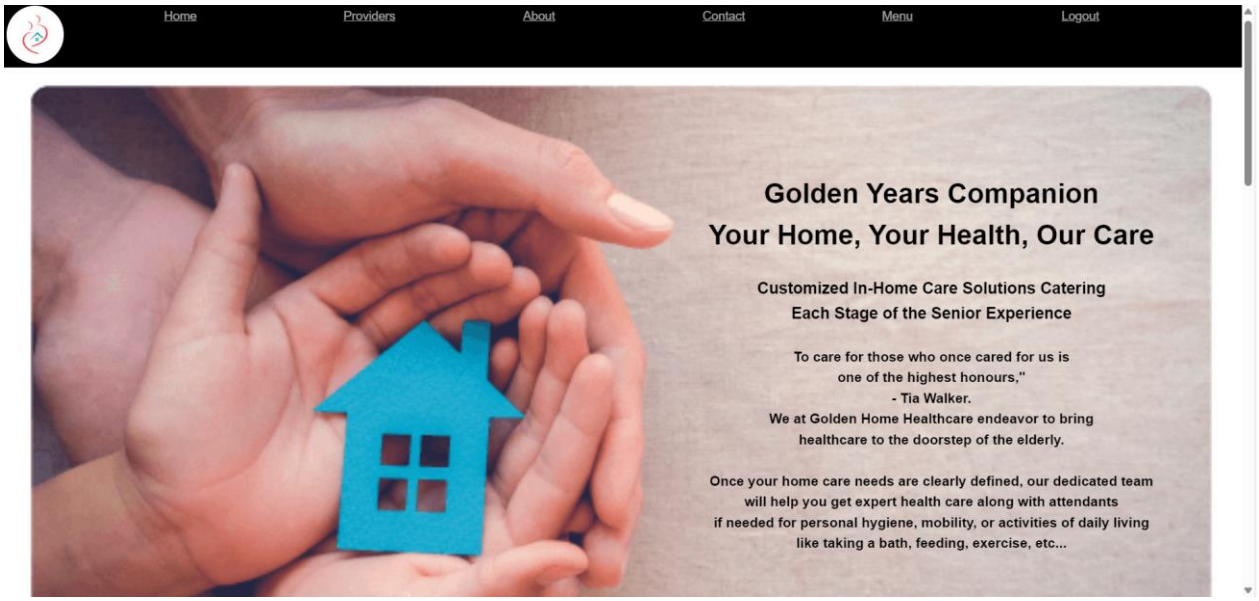

Fig. A.2.3. Admin Landing Page

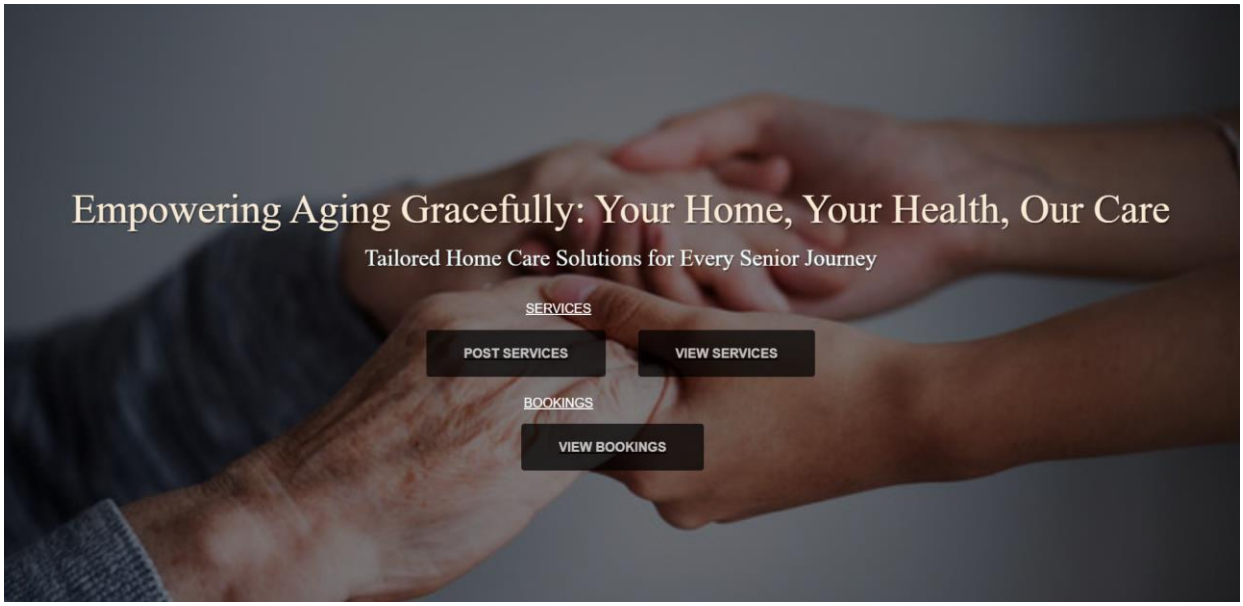

Fig. A.2.4. Admin Dashboard

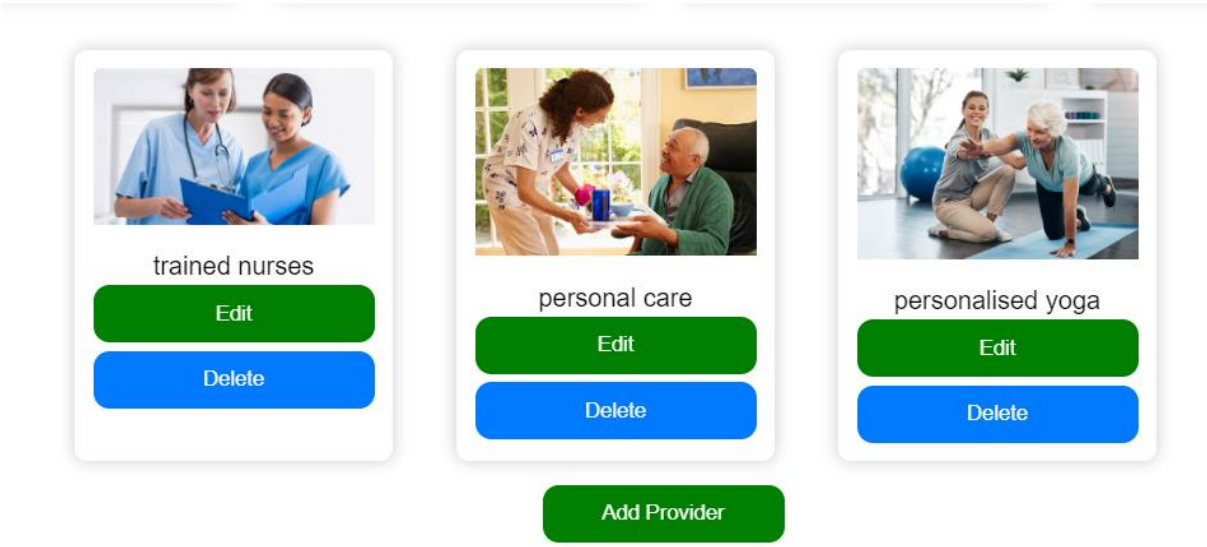

Fig. A.2.5. Providers Management

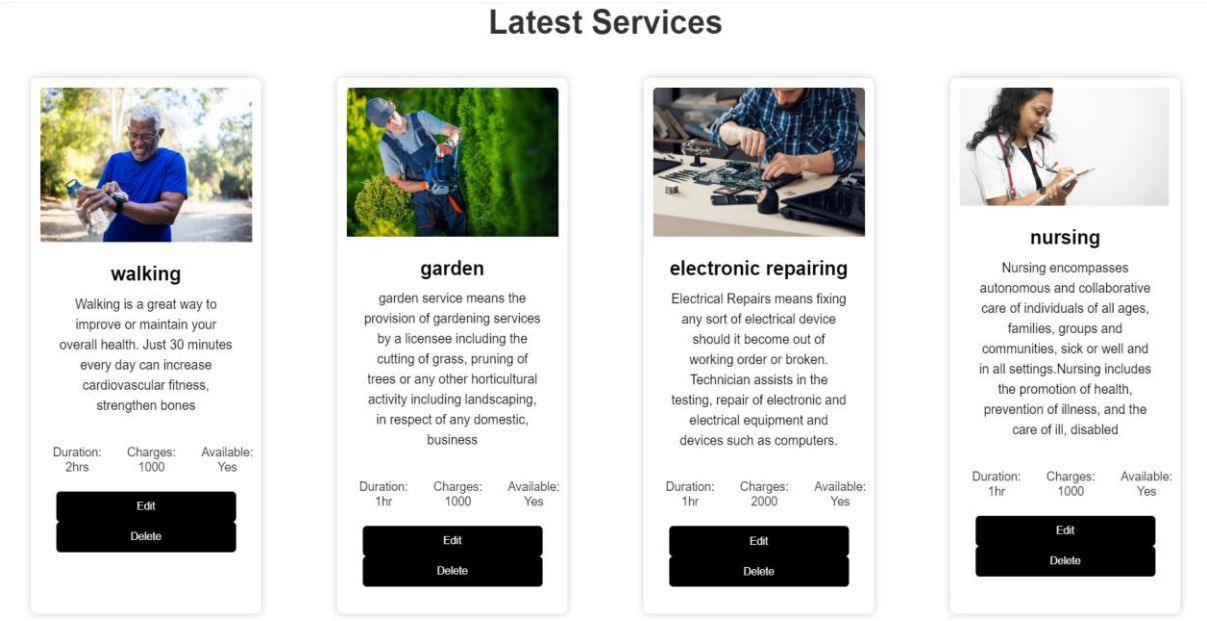

Fig. A.2.6. Service Management

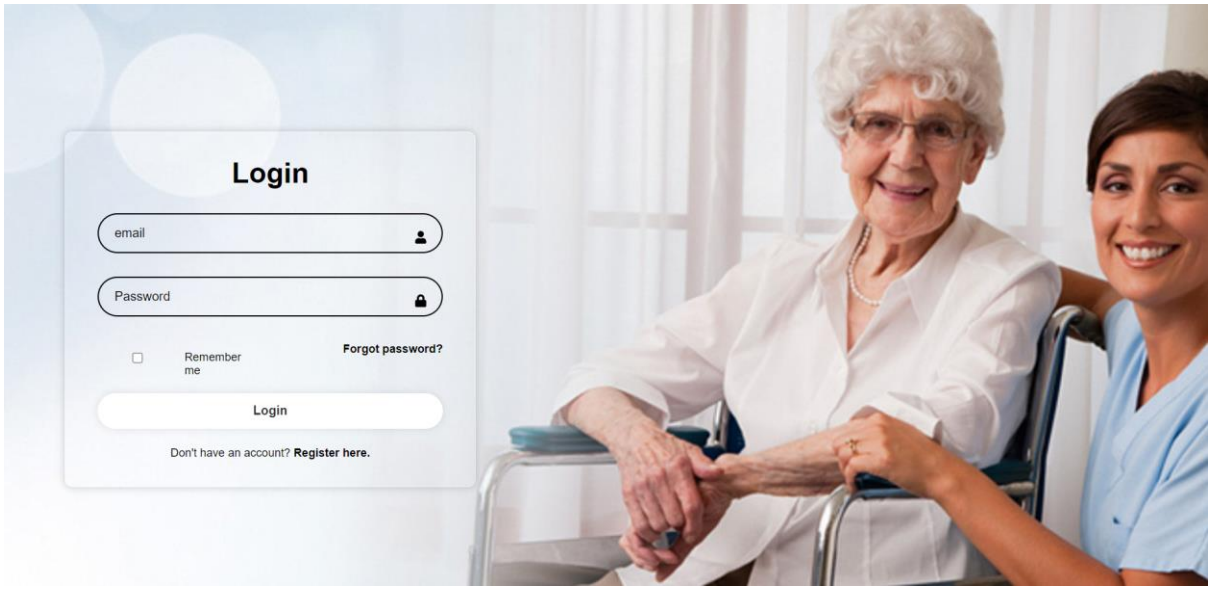

Fig. A.2.7. User Login Page

Fig. A.2.8. User Registration Page

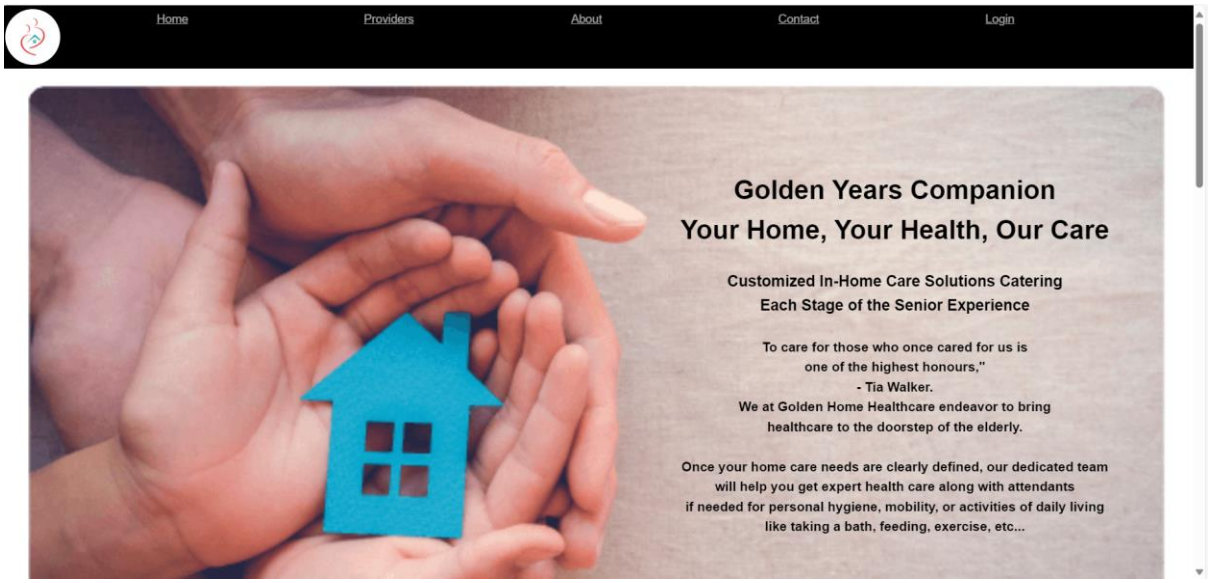

Fig. A.2.9. User Landing Page

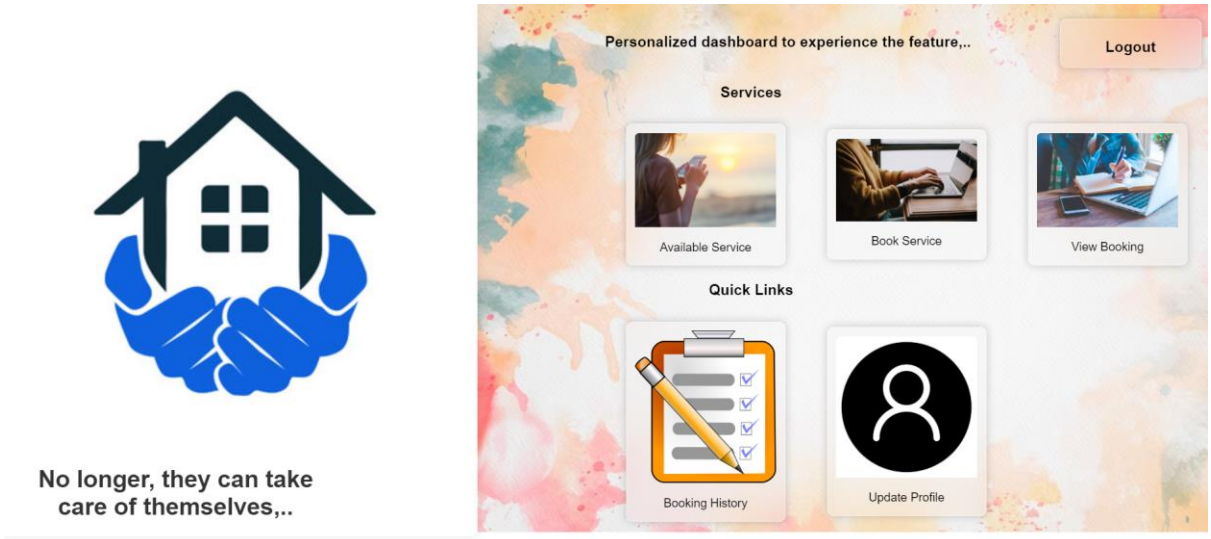

Fig. A.2.10. User Dashboard

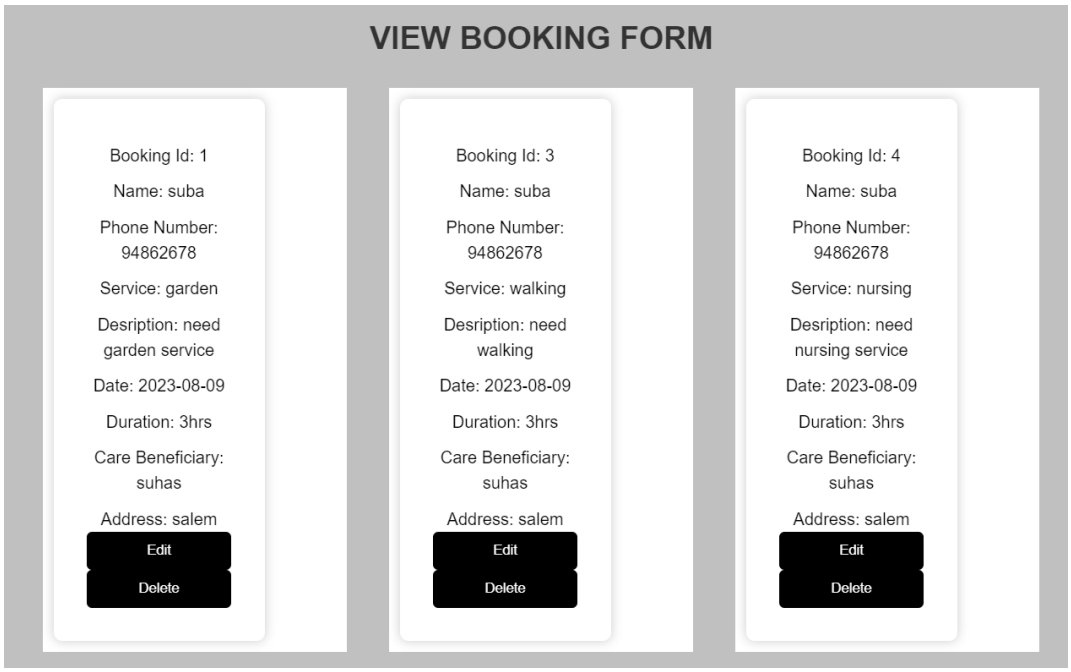

Fig. A.2.11. Booking Management

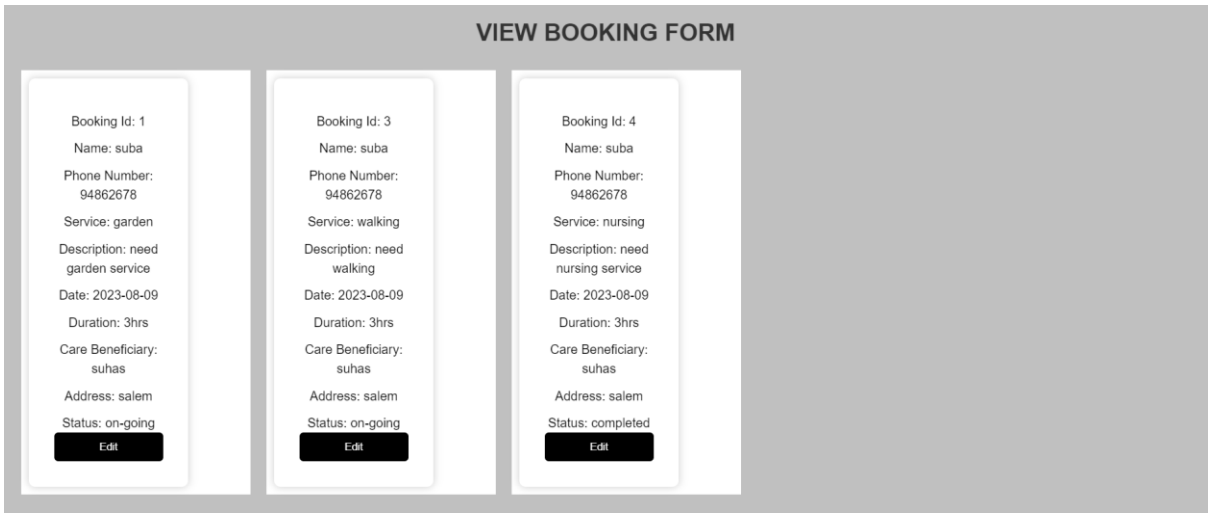

Fig. A.2.12. Managing the Status of Booking

Fig. A.2.13. User Profile Management

REFERENCES

Web references:

[1] PostgreSQL Official Documentation: https://www.postgresql.org/docs/

[2] React Official Documentation: https://reactjs.org/docs/getting-started.html

[3] Swagger Official Documentation: https://swagger.io/tools/swagger-ui/

[4] Java Extensions for Visual Studio Code Official Documentation: https://code.visualstudio.com/docs/java/extensions

Book references:

[1] Amanda Davis (2022), "The Ultimate Guide to Home Care for Seniors: Everything You Need to Know", Senior Care Publications

[2] Emily Wilson (2022), "The Complete Guide to Home Care for Seniors", Elderly Care Books

[3] Jennifer Brown (2021), "Aging in Place: A Comprehensive Guide to Home Care Services", Senior Care Publishers

[4] Jessica Adams (2022), "Home Care Solutions for Seniors: A Complete Handbook", Caregiver Press

[5] Kimberly Johnson (2021), "Home Care for Seniors: A Practical Guide", Senior Care Publishers

[6] Laura Miller (2021), "Home Care Services for Seniors: A Comprehensive Manual", Caregiver Resources

[7] Rachel Smith (2021), "Senior Home Care: A Step-by-Step Guide to Caring for Your Loved One at Home", Family Care Guides

[8] Sarah Thompson (2022), "Caring for Aging Parents: A Practical Guide to Home Care Services", Aging Well Books