

**CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING
INFOWAY TECHNOLOGIES, PUNE**

Documentation On
“Elderly Care”
E-DAC SEPTEMBER 2021

Submitted By:
Group No:7

Namrata Devidas Vidhate 201943120115

Shraddha Vijay Inamdar 210943120093

Chinmayee Ramesh Kulkarni 210943120045

Tasleem Dondesab Nadaf 210943120058

ABSTRACT

A software product which provides solution for Healthy and Customised meal, Orthopaedic/Seniority Product, Assistant if you need assistance, Healthcare professionals such as doctors etc. It provides Home Services On Demand by Providing only verified and high quality professional. One stop for elderly care. The idea is to help people find the best services easily and provide the large base of individuals and small businesses and healthcare professionals with a platform to manage and grow their client network. Eldercare Management System is a platform that aims to effortlessly connect and serve a large local base of individuals with healthcare professionals.

The main scope of this project is to provide Elderlycare Services at your ease and also on your doorstep, by providing trusted quality products and professionals. One stop for all your Elderly care. Our aim is to connect customers to professionals with ease, also providing required healthcare products at their doorstep.

Table of Contents

1. Introduction
 - 1.1. Problem Definition
 - 1.2. Objective of Project
2. Feasibility Study
3. Analysis
 - 3.1. Existing System
 - 3.2. Proposed System
 - 3.3. Software Requirement Specification
 - 3.4. Tools and Technologies
4. Design
 - 4.1. UML diagrams
5. Implementation
 - 5.1. Modules
 - 5.2. Module description
 - 5.3. Introduction of technologies used
6. Test cases
7. Screenshots of Webpages
8. Conclusion
9. Future Enhancement
10. Bibliography

1. Introduction:

Senior family members require more attention and care, which you and your family members may not be able to provide due to work or other commitments.

Most elders are reluctant to say or admit that they need help even if they are no longer capable of taking care of themselves properly. However, there are certain signs or tells whenever your elders already need help and attention in his or her life.

For this reason, hiring professionals to provide general service for your elders is the best solution to ensure that your elderly loved ones are taken care of properly and their health is consistently monitored for their safety and well Being.

1.1. Problem Definition

Finding the best healthcare is all we need for our Senior family members as so as to fulfil the requirement we came up with this idea which will connect users who are in search of healthcare services to the healthcare professionals directly.apart from that our platform is having different services including Healthy and Customised meal, Orthopaedic/Seniority Product, Assistant if you need assistance,Healthcare professionals such as doctors .

1.2. Objective of Project

In this era of nuclear families and hectic schedules, elderly people living alone have become a very common scenario Most of the time older people need care and attention for their overall well-being.However,finding caretaker for elderly is not an easy job.With these reliable and expert services our elders are enabled to live a quality life at home.

In this we create a Support structure for elder people.We think this is necessary because there are many elder people who are not able to get proper support be it emotional or situational.It can be a case where son/daughter are abroad or in some different city and can not give proper attention to their parents but want to do a little more

2. Feasibility Study

2.1.Title

Feasibility Study for Elderly Care.

2.2.Executive summary

Senior family members require more attention and care, which you and your family members may not be able to provide due to work or other commitments.

Most elders are reluctant to say or admit that they need help even if they are no longer capable of taking care of themselves properly. However, there are certain signs or tells whenever your elders already need help and attention in his or her life.

For this reason, hiring professionals to provide general service for your elders is the best solution to ensure that your elderly loved ones are taken care of properly and their health is consistently monitored for their safety and well Being.

In this era of nuclear families and hectic schedules, elderly people living alone have become a very common scenario Most of the time older people need care and attention for their overall well-being.However,finding caretaker for elderly is not an easy job.With these reliable and expert services our elders are enabled to live a quality life at home.

In this we create a Support structure for elder people.We think this is necessary because there are many elder people who are not able to get proper support be it emotional or situational.It can be a case where son/daughter are abroad or in some different city and can not give proper attention to their parents but want to do a little more

A software product which provides solution for Elderly Peoples health, Products,Meals,Doctors,Assistant etc.It provides Home Services On Demand by Providing only verified and high quality professional.One stop for Elderly care.The idea is to help people find the best services easily and provide the large base of individuals and small businesses and healthcare professionals with a platform to manage and grow their client network. Elderly Care Management

System is a platform that aims to effortlessly connect and serve a large local base of individuals with healthcare professionals.

The main scope of this project is to provide Eldercare Services at your ease and also on your doorstep, by providing trusted quality products and professionals .One stop for all your Elderly`s care.Our aim is to connect customers to professionals with ease ,also providing required healthcare products at their doorstep.

2.3.Technical feasibility

➤ Server Side :

- ✓ Processor: Intel® Xeon® processor 3500 series
- ✓ HDD: Minimum 500GB Disk Space
- ✓ RAM: Minimum 4GB OS: Windows 10, Linux 6 Database: Oracle 11g

➤ Client Side (minimum requirement) :

- ✓ Processor: Intel Dual Core
- ✓ HDD: Minimum 80GB Disk Space
- ✓ RAM: Minimum 1GB
- ✓ OS: Windows 7, Linux

3. Analysis

3.1. Existing System

They provide healthful meals and health screenings under the current system.

However, these services are available on a variety of platforms and are not accessible with a single click.

3.2. Proposed System

A software product which provides solution for Elderly Peoples health, Products, Meals, Doctors, Assistant etc. It provides Home Services On Demand by Providing only verified and high quality professional. One stop for Elderly care. The idea is to help people find the best services easily and provide the large base of individuals and small businesses and healthcare professionals with a platform to manage and grow their client network. Elderly Care Management System is a platform that aims to effortlessly connect and serve a large local base of individuals with healthcare professionals.

The main scope of this project is to provide Eldercare Services at your ease and also on your doorstep, by providing trusted quality products and professionals. One stop for all your Elderly's care. Our aim is to connect customers to professionals with ease, also providing required healthcare products at their doorstep.

3.3. Software Requirement Specification

Server Side :

- Processor: Intel® Xeon® processor 3500 series
- HDD: Minimum 500GB Disk Space
- RAM: Minimum 4GB
- OS: Windows 10, Linux 6 Database: Oracle 11g

Client Side (minimum requirement) :

- Processor: Intel Dual Core
- HDD: Minimum 80GB Disk Space
- RAM: Minimum 1GB
- OS: Windows 7, Linux

3.4.Tools and Technologies

Technologies Used

- Spring-Boot
- React-JS
- MySQL

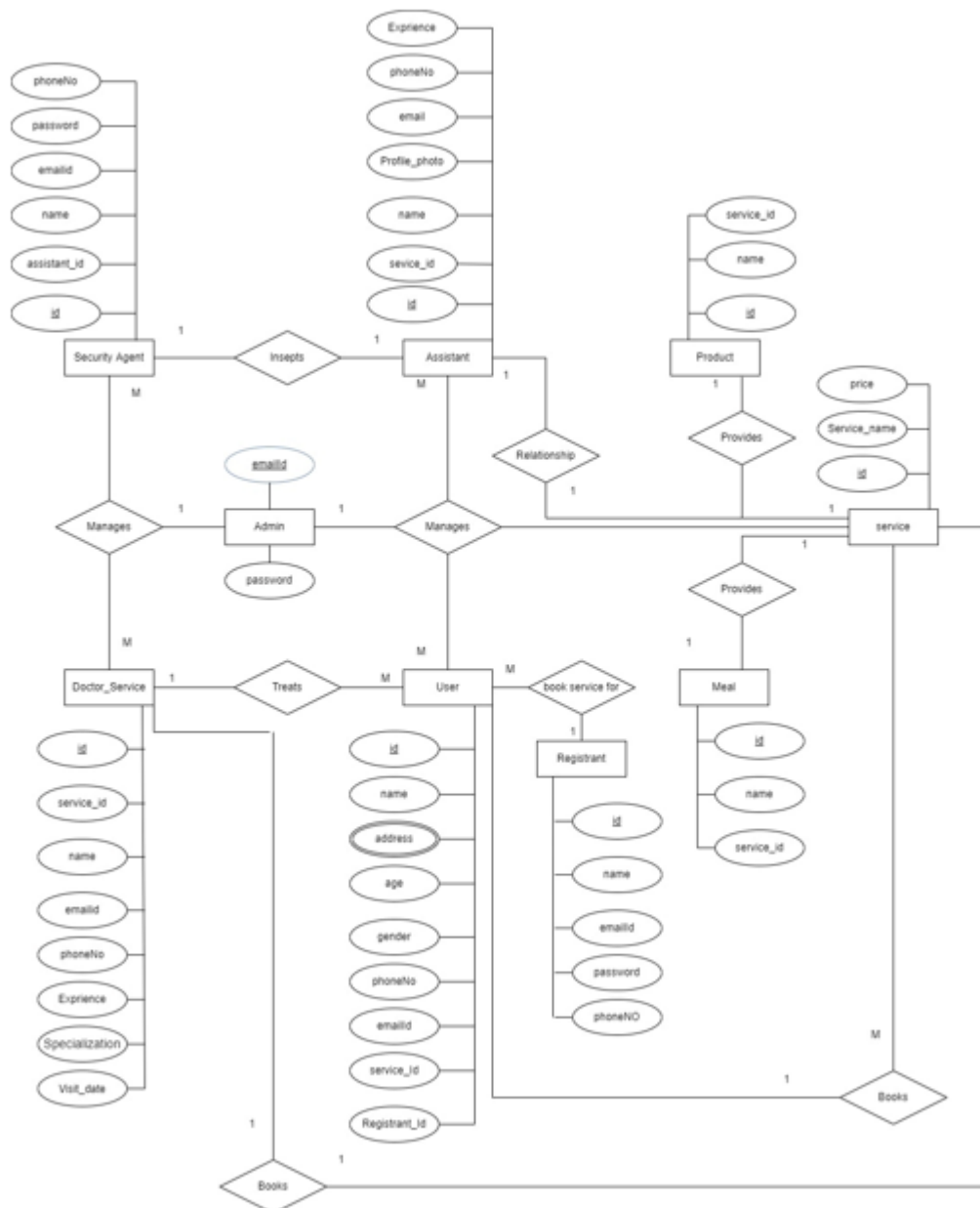
Development Tools

- Visual Studio Code
- Spring Tool Suite
- MySQL Relational Database

4. Design

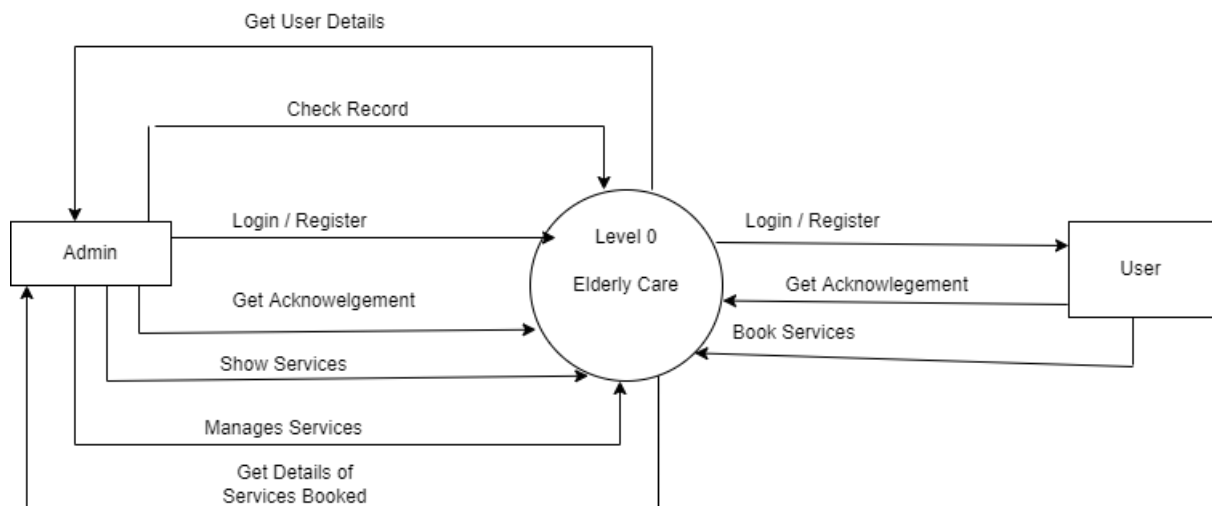
4.1. UML diagrams:

4.1.1.ER Diagram

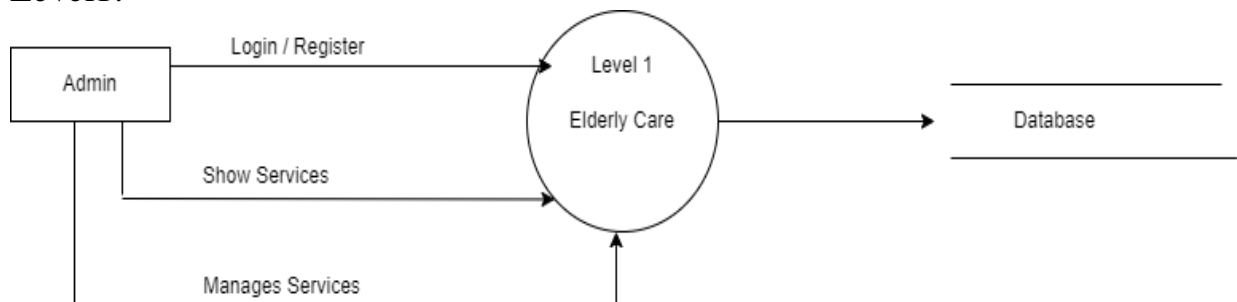


4.1.2.Data Flow Diagrams:

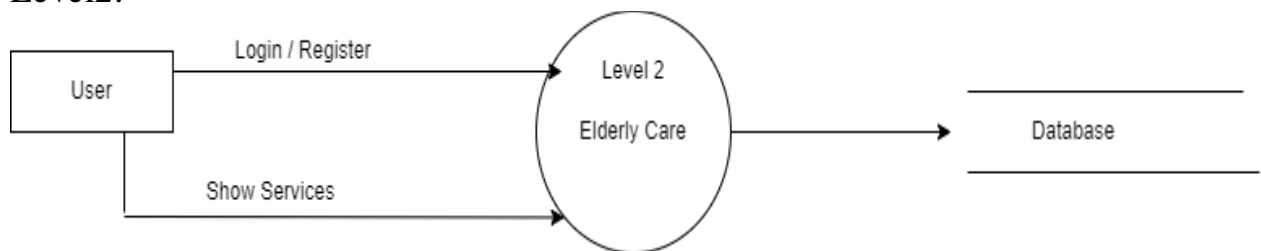
Level 0:



Level1:

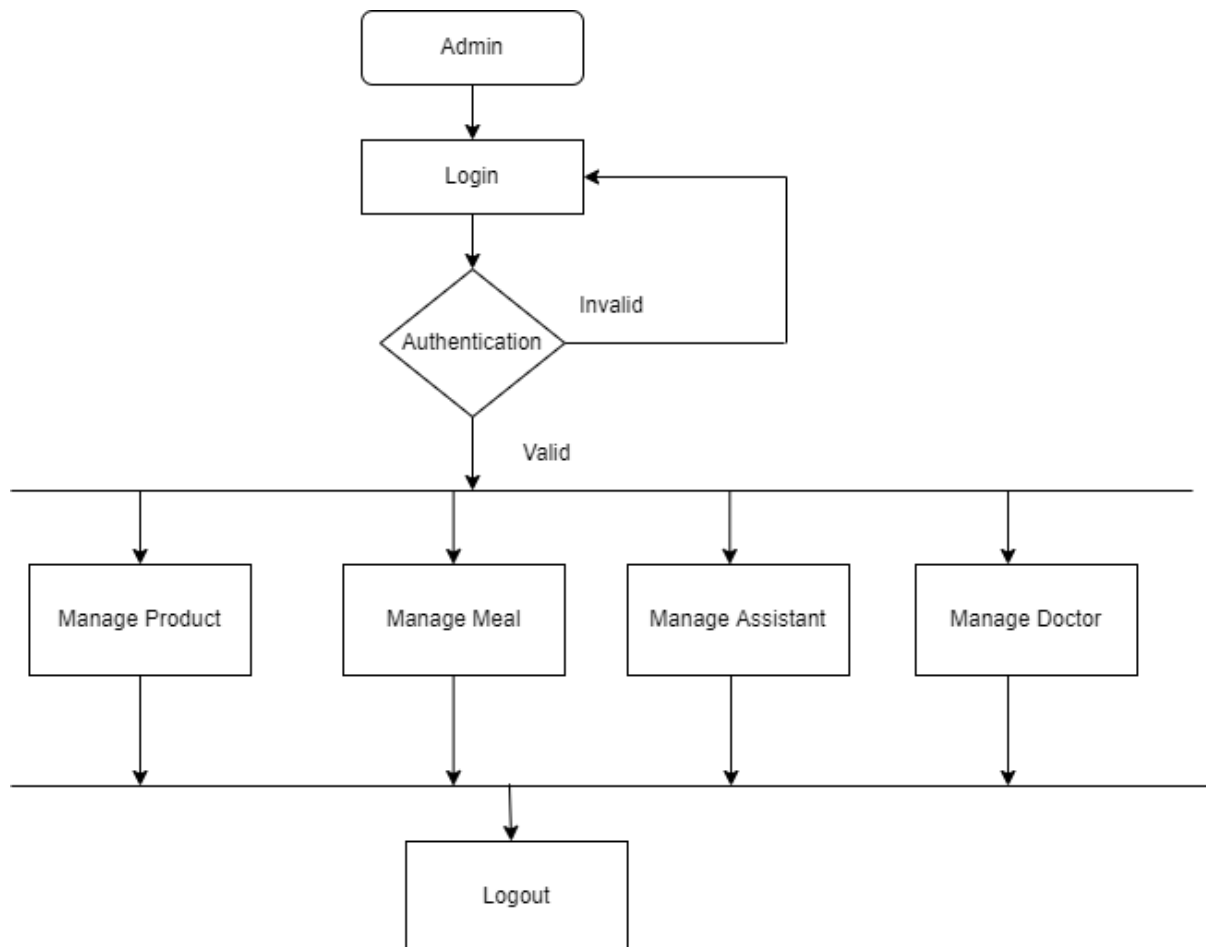


Level2:

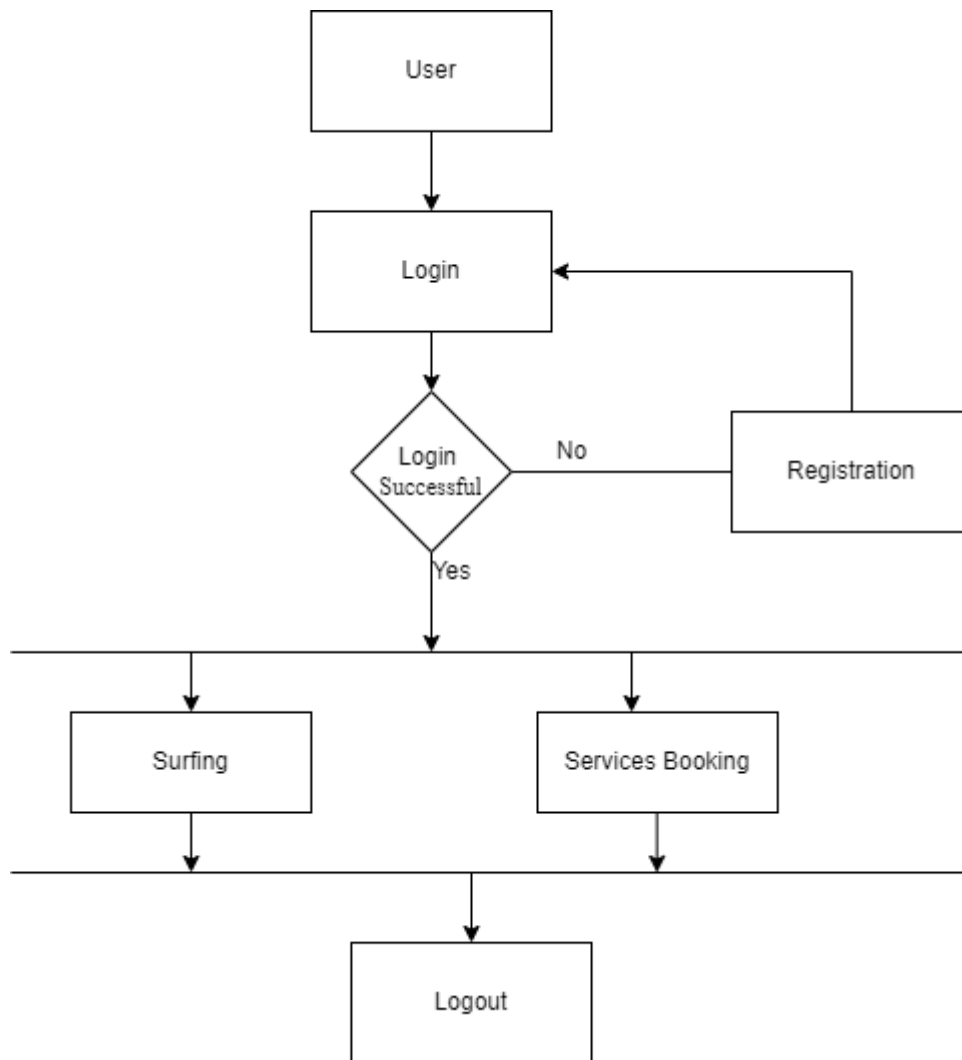


4.1.3.Activity Diagram:

1.Admin:

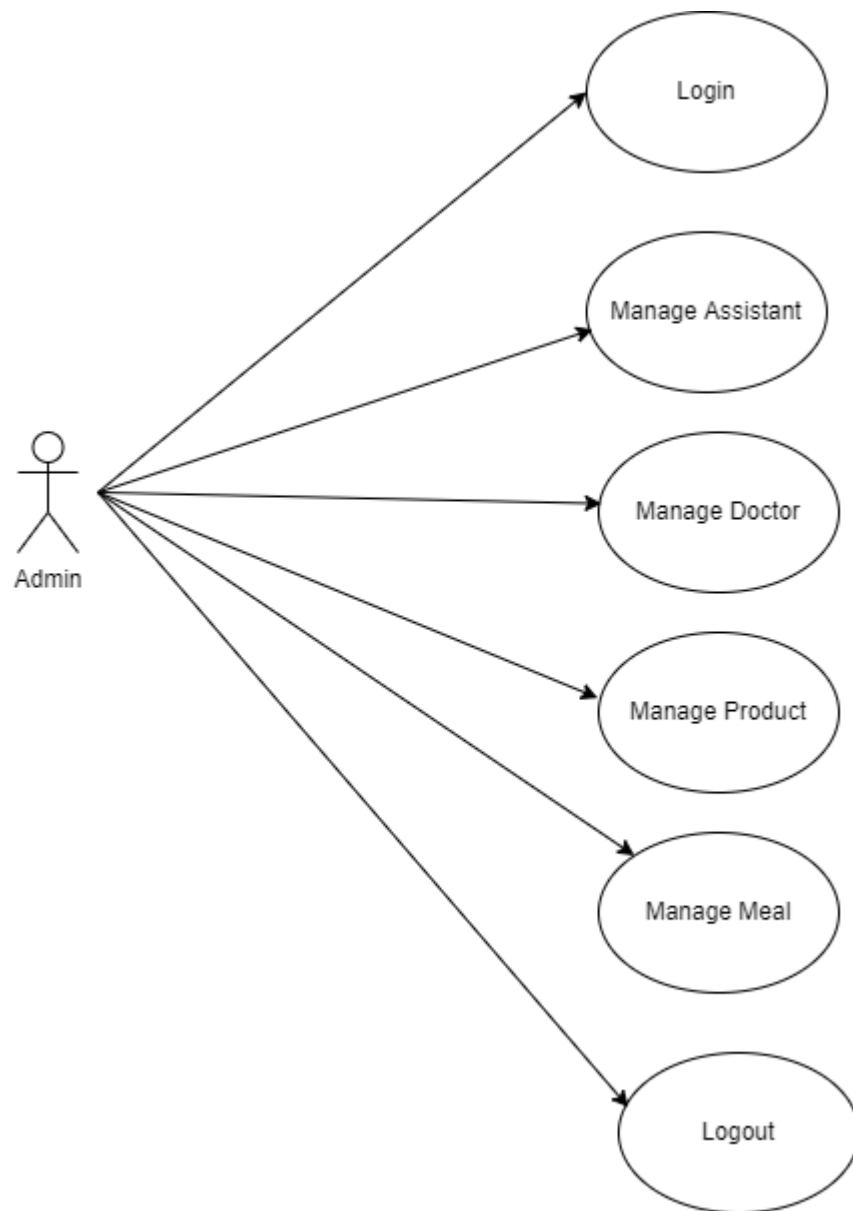


2.User

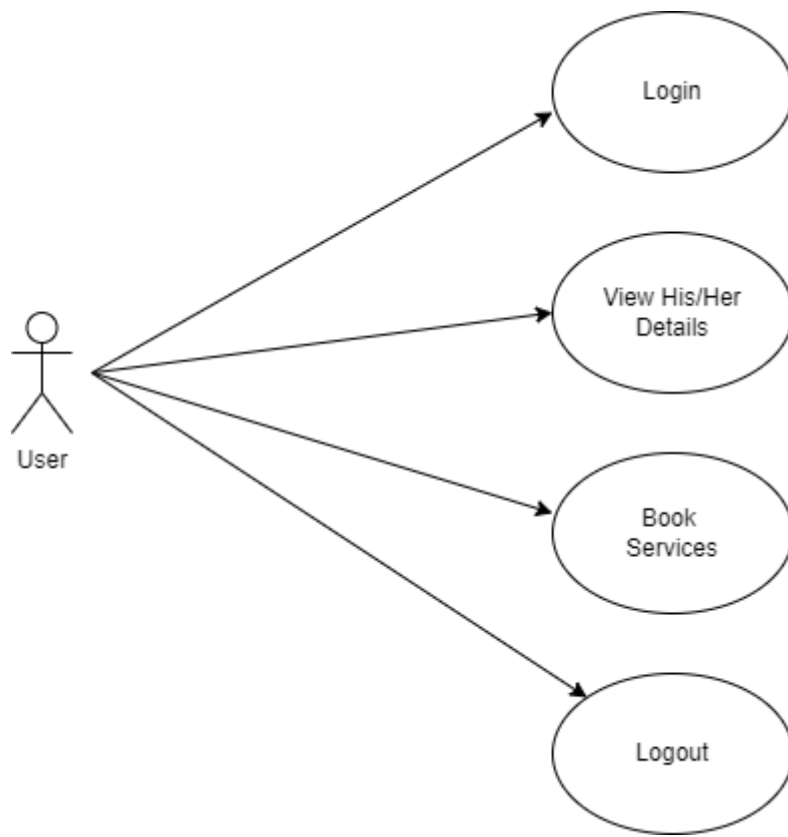


4.1.4. User Case Diagram

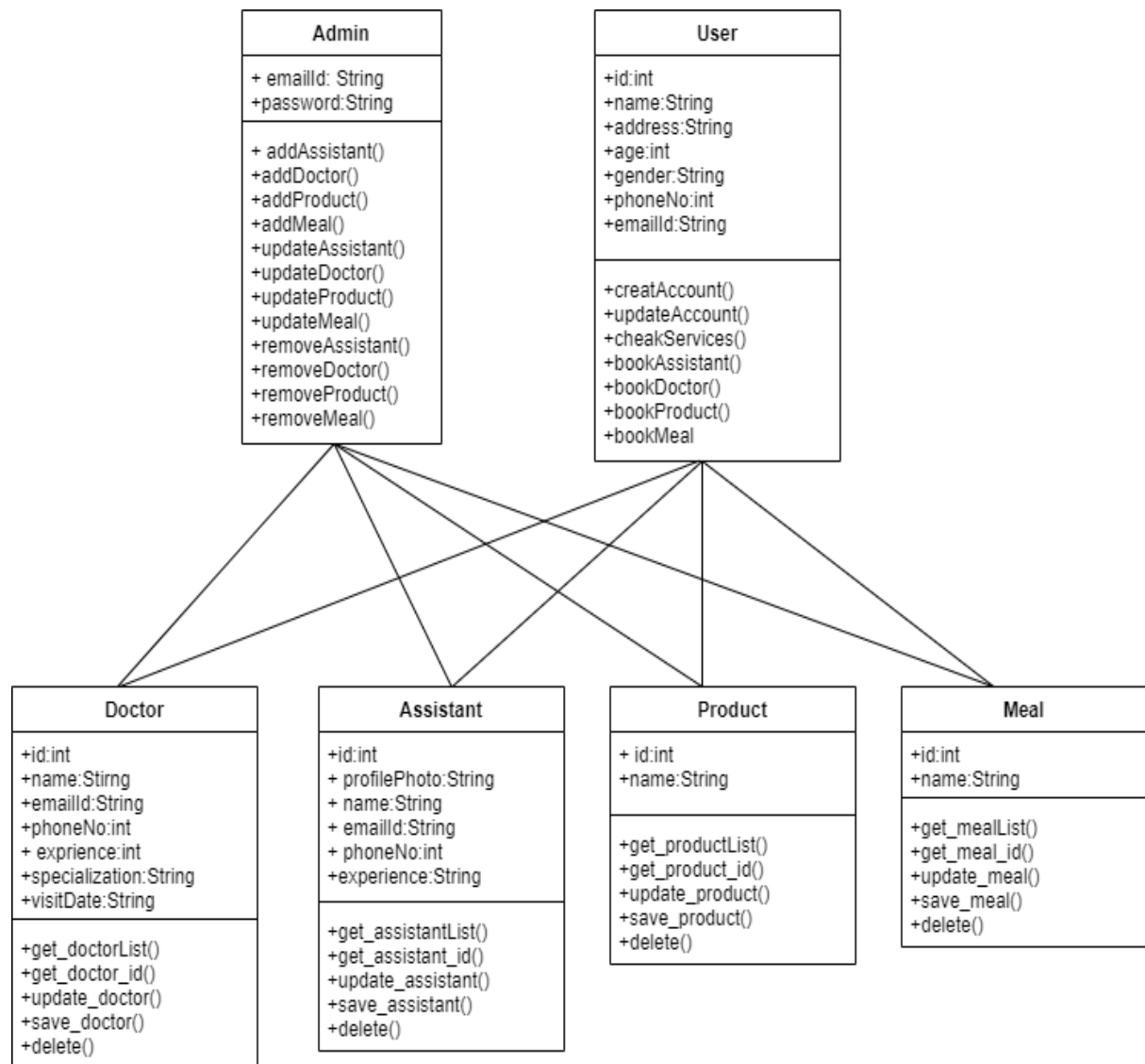
1. Admin



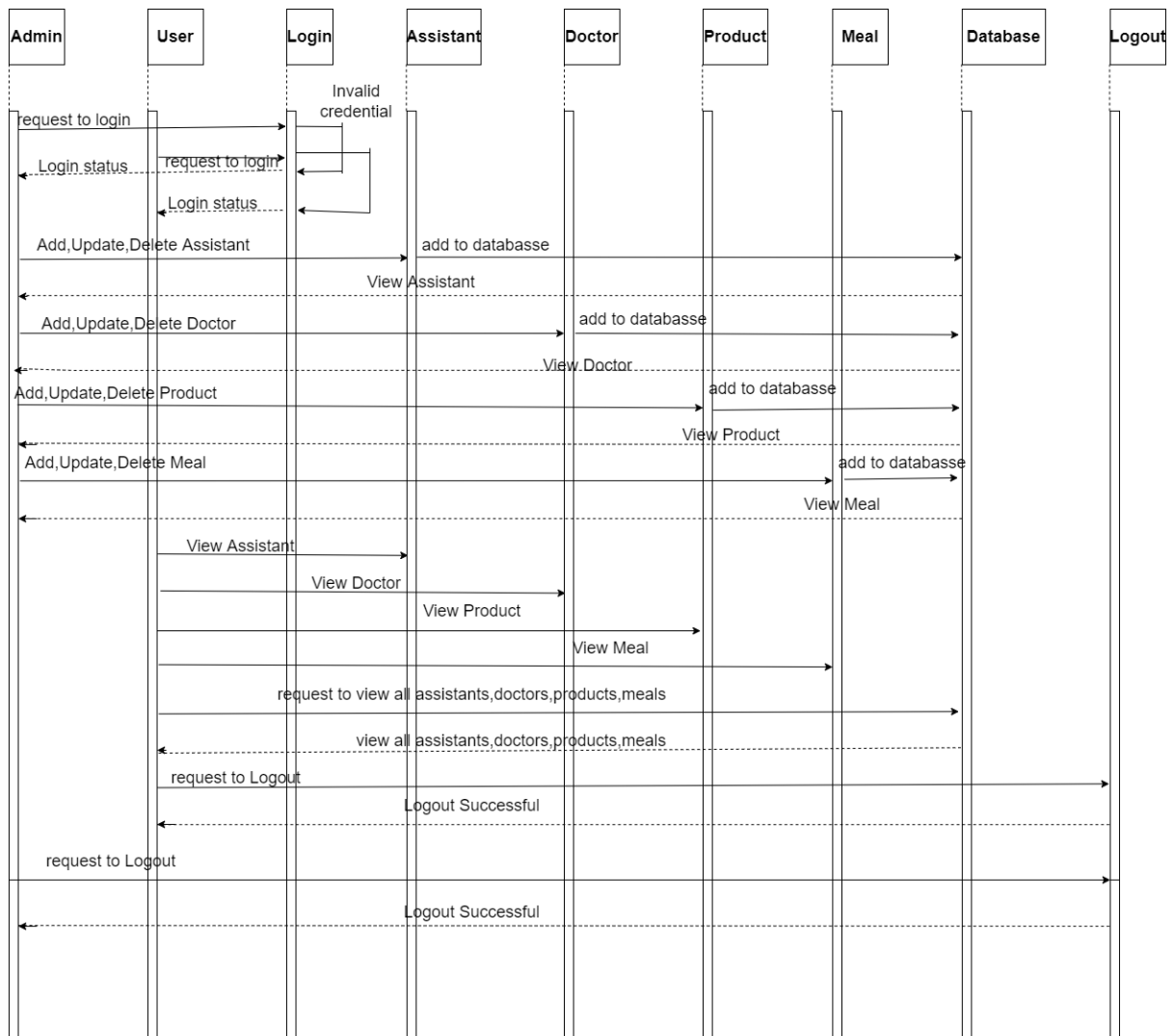
2.User



4.3.5.Class Diagram:



4.3.6.Sequence Diagram:



5. Implementation

5.1. Modules

- Login
- Service Booking

5.2. Module description

→ Login

Admin, user and assistant Login.

→ Services Booking :

1.Healthy and Customised meal:

Many elderly persons are afflicted with various health problems. As a result, individuals require food that is appropriate for their health. As a result, we cater to their dietary requirements.

2.Othopedic/Seniority Product:

Walkers , Wheelchairs ,Back Support, Cold and Hot Packs, Angle

Traction Kit

3.Virtual Daughter:

- 1.She will call them on a daily basis and assist them in taking their prescription on schedule.
- 2.In addition, she will participate in friendly conversation and provide emotional support.
- 3.She will go to an elder's residence once a week.

4. Regular Health Checkup and Emergency Support:

Booking for Monthly Doctor Visit at Home

5.Activities:

- 1.Yoga Classes
- 2.Laughter Club
- 3.Theatre Play
- 4.Travel Plan

6.Security:

The security agency will perform a police verification or background check on the virtual daughter/son and also install and configure nanny cam in the elder's home. One notification will be issued to the agency and another to their son or daughter at the time of weekly visit of virtual son or daughter. Nanny cam footage will be checked by security agents during this visit, with the approval of their son and daughter.

5.3. Introduction of technologies use

1.Spring Boot:

Spring Boot is a project that is built on the top of the Spring Framework. It provides an easier and faster way to set up, configure, and run both simple and web-based applications. It is a Spring module that provides the RAD (*Rapid Application Development*) feature to the Spring Framework. It is used to create a stand-alone Spring-based application that you can just run because it needs minimal Spring configuration. Spring Boot is the combination of Spring Framework and Embedded Servers. In Spring Boot, there is no requirement for XML configuration (deployment descriptor). It uses convention over configuration software design paradigm that means it decreases the effort of the developer. We can use Spring STS IDE or Spring Initializr to develop Spring Boot Java applications.

We should use Spring Boot Framework because:

- The dependency injection approach is used in Spring Boot.

- It contains powerful database transaction management capabilities.
- It simplifies integration with other Java frameworks like JPA/Hibernate ORM, Struts, etc.
- It reduces the cost and development time of the application.

Advantages of Spring Boot:

- It creates stand-alone Spring applications that can be started using Java - jar.
- It tests web applications easily with the help of different Embedded HTTP servers such as Tomcat, Jetty, etc. We don't need to deploy WAR files.
- It provides opinionated 'starter' POMs to simplify our Maven configuration.
- It provides production-ready features such as metrics, health checks, and externalised configuration.
- There is no requirement for XML configuration.
- It offers a CLI tool for developing and testing the Spring Boot application.
- It offers a number of plug-ins.
- It also minimises writing multiple boilerplate codes (the code that has to be included in many places with little or no alteration), XML configuration, and annotations.
- It increases productivity and reduces development time.

2.MySQL:

MySQL is a very popular open-source relational database management system (RDBMS).

- MySQL is a relational database management system
- MySQL is open-source
- MySQL is free
- MySQL is ideal for both small and large applications
- MySQL is very fast, reliable, scalable, and easy to use
- MySQL is cross-platform
- MySQL is compliant with the ANSI SQL standard
- MySQL was first released in 1995
- MySQL is developed, distributed, and supported by Oracle Corporation
- MySQL is named after co-founder Monty Widenius's daughter: My

Features of MySQL:

MySQL is a database management system:

A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To add, access, and process data stored in a computer database, you need a database management system such as MySQL Server. Since computers are very good at handling large amounts of data, database management systems play a central role in computing, as standalone utilities, or as parts of other applications.

MySQL databases are relational:

A relational database stores data in separate tables rather than putting all the data in one big storeroom. The database structures are organised into physical files optimised for speed. The logical model, with objects such as databases, tables, views, rows, and columns, offers a flexible programming environment.

MySQL software is Open Source:

Open Source means that it is possible for anyone to use and modify the software. Anybody can download the MySQL software from the Internet and use it without paying anything.

The MySQL Database Server is very fast, reliable, scalable, and easy to use:

MySQL Server was originally developed to handle large databases much faster than existing solutions and has been successfully used in highly demanding production environments for several years. Although under constant development, MySQL Server today offers a rich and useful set of functions. Its connectivity, speed, and security make MySQL Server highly suited for accessing databases on the Internet.

MySQL Server works in client/server or embedded systems:

The MySQL Database Software is a client/server system that consists of a multithreaded SQL server that supports different back ends, several different client programs and libraries, administrative tools, and a wide range of application programming interfaces (APIs).

3.ReactJs:

ReactJS is a declarative, efficient, and flexible JavaScript library for building reusable UI components. It is an open-source, component-based front end library which is responsible only for the view layer of the application. It was initially developed and maintained by Facebook and later used in its products like WhatsApp & Instagram.

Advantage of ReactJS:

1. Easy to Learn and Use

ReactJS is much easier to learn and use. It comes with a good supply of documentation, tutorials, and training resources. Any developer who comes from a JavaScript background can easily understand and start creating web apps using React in a few days. It is the V(view part) in the MVC (Model-View-Controller) model, and referred to as one of the JavaScript

frameworks.? It is not fully featured but has the advantage of an open-source JavaScript User Interface(UI) library, which helps to execute the task in a better manner.

2. Creating Dynamic Web Applications Becomes Easier

To create a dynamic web application specifically with HTML strings was tricky because it requires complex coding, but React JS solved that issue and made it easier. It provides less coding and gives more functionality. It makes use of the JSX(JavaScript Extension), which is a particular syntax letting HTML quotes and HTML tag syntax to render particular subcomponents. It also supports the building of machine-readable codes.

3. Reusable Components

A ReactJS web application is made up of multiple components, and each component has its own logic and controls. These components are responsible for outputting a small, reusable piece of HTML code which can be reused wherever you need them. The reusable code helps to make your apps easier to develop and maintain. These Components can be nested with other components to allow complex applications to be built of simple building blocks. ReactJS uses a virtual DOM based mechanism to fill data in HTML DOM. The virtual DOM works fast as it only changes individual DOM elements instead of reloading complete DOM every time.

4. Performance Enhancement

ReactJS improves performance due to virtual DOM. The DOM is a cross-platform and programming API which deals with HTML, XML or XHTML. Most of the developers faced the problem when the DOM was updated, which slowed down the performance of the application. ReactJS solved this problem by introducing virtual DOM. The React Virtual DOM exists entirely in memory and is a representation of the web browser's DOM. Due to this, when we write a React component, we do not write directly to the DOM. Instead, we are writing virtual components that will turn into the DOM, leading to smoother and faster performance.

5. The Support of Handy Tools

React JS has also gained popularity due to the presence of a handy set of tools. These tools make the task of the developers understandable and easier. The React Developer Tools have been designed as Chrome and Firefox dev extensions and allow you to inspect the React component hierarchies in the virtual DOM. It also allows you to select particular components and examine and edit their current props and state.

6. The Benefit of Having JavaScript Library

Today, ReactJS is choosing by most of the web developers. It is because it is offering a very rich JavaScript library. The JavaScript library provides more flexibility to the web developers to choose the way they want.

7. Scope for Testing the Codes

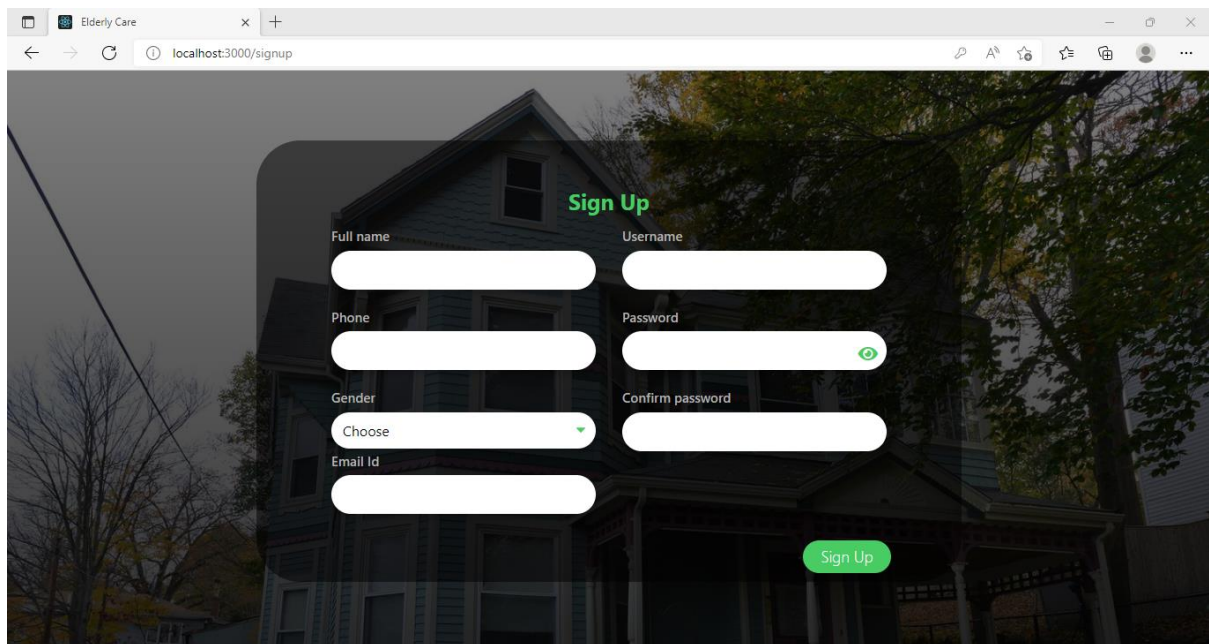
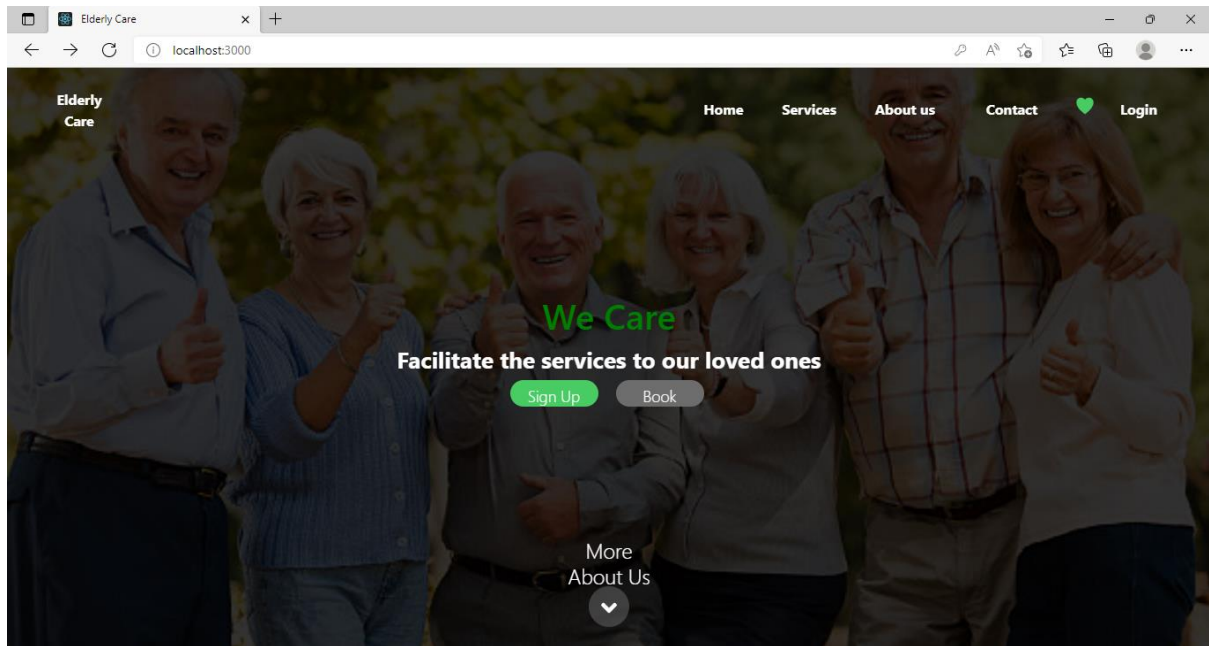
ReactJS applications are extremely easy to test. It offers a scope where the developer can test and debug their codes with the help of native tools.

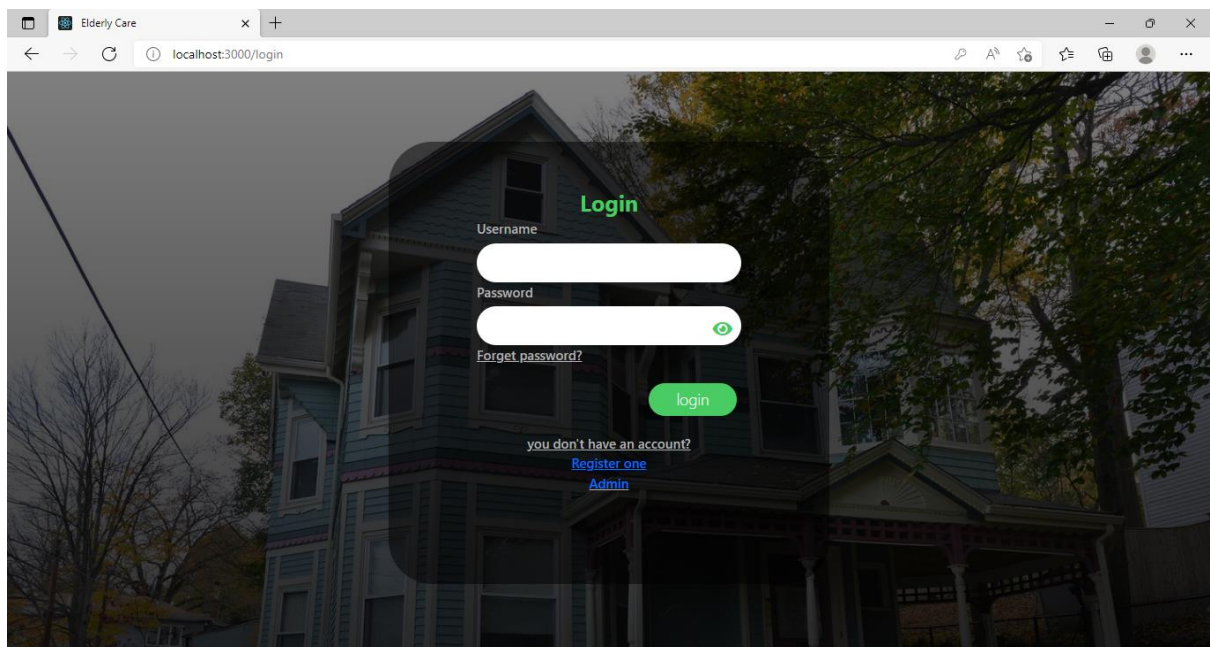
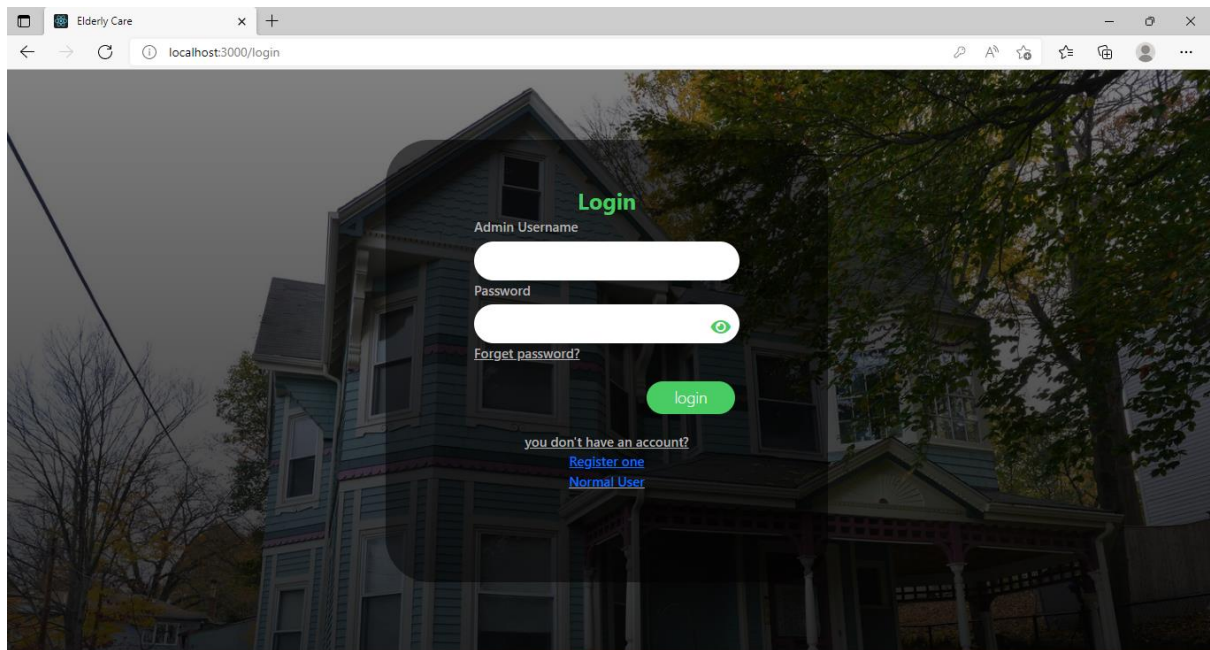
6. Test cases

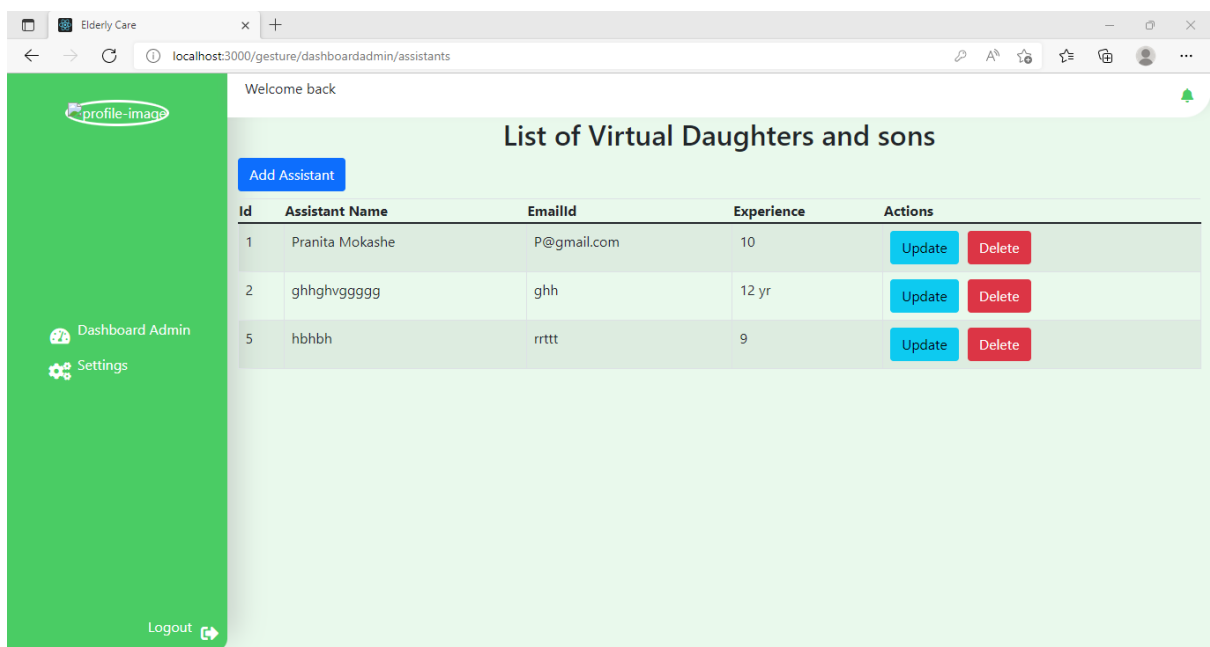
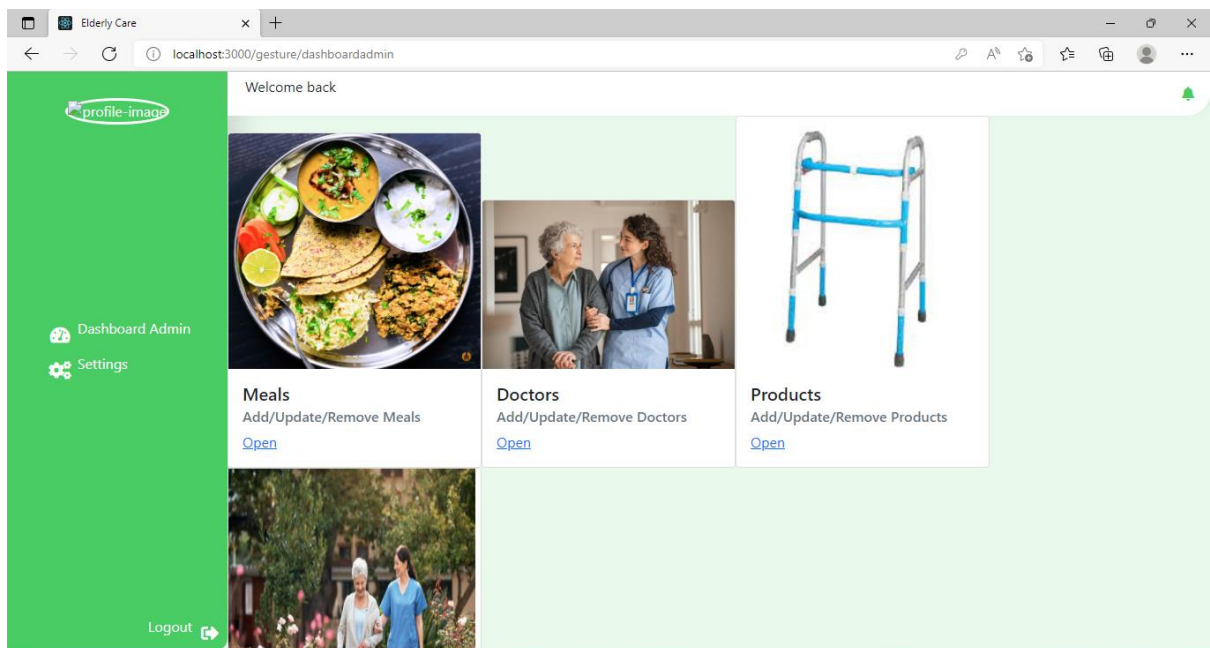
Test Id	Item to be Tested	Steps	Input	Actual Output	Expected Output	Pass/Fail
1	User Id	User enters user Id	User Id	Display Success	Display Message successful	Pass
2	System check for proper username and password entered by users	System compares the data entered by user and the entered data in database				
		If username and password is valid		Make Connection	Make connection	Pass

		If username and password is invalid		Report invalid user id	Report error	Pass
3	System checks whether details of user are entered as per the format	System checks the data entered by user is in valid form or not.				
		If valid	User entered data	Entered in database	Entered in database	Pass
		If invalid	User entered data	“Invalid Data” message will be printed	“Invalid Data” message will be printed	Pass

7. Screenshots of Webpages







profile-image

Dashboard Admin

Settings

Logout

Welcome back

List Doctors

Add Doctor

Doctor Id	EmailID	Experience	Name	PhoneNo	Specialization	Actions
1	pushparar23@gmail.com	20 Years	Dr.Pushparaj Karmarkar	9876543212	General Surgery	<div>Update</div> <div>Delete</div>
2	jatinderkumar@gmail.com	30 Years	Dr.Jatinder Kumar	7865439012	Consultant Cardia and Vascular Surgeon	<div>Update</div> <div>Delete</div>
3	manishakulkarni@gmail.com	25 Years	Dr.Manisha Kulkarni	8605468798	Cardiac Rehabilitation and Physiotherapy	<div>Update</div> <div>Delete</div>
4	vaibhavsasurkar@gmail.com	15 Years	Dr.Vaibhav Sasurkar	9087654321	Consultant Orthopaedic Surgeon	<div>Update</div> <div>Delete</div>
5	amolkhot@gmail.com	35 Years	Dr.Amol Khot	890987651	Consultant ENT Surgeon	<div>Update</div> <div>Delete</div>

profile-image

Dashboard Admin

Settings

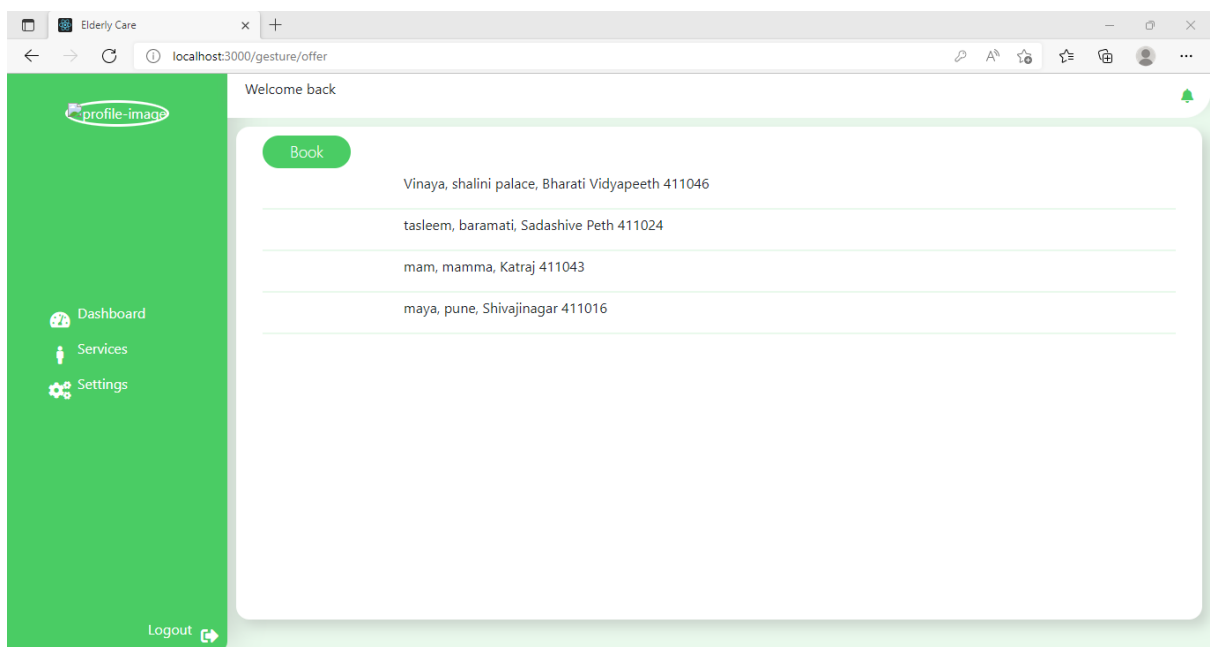
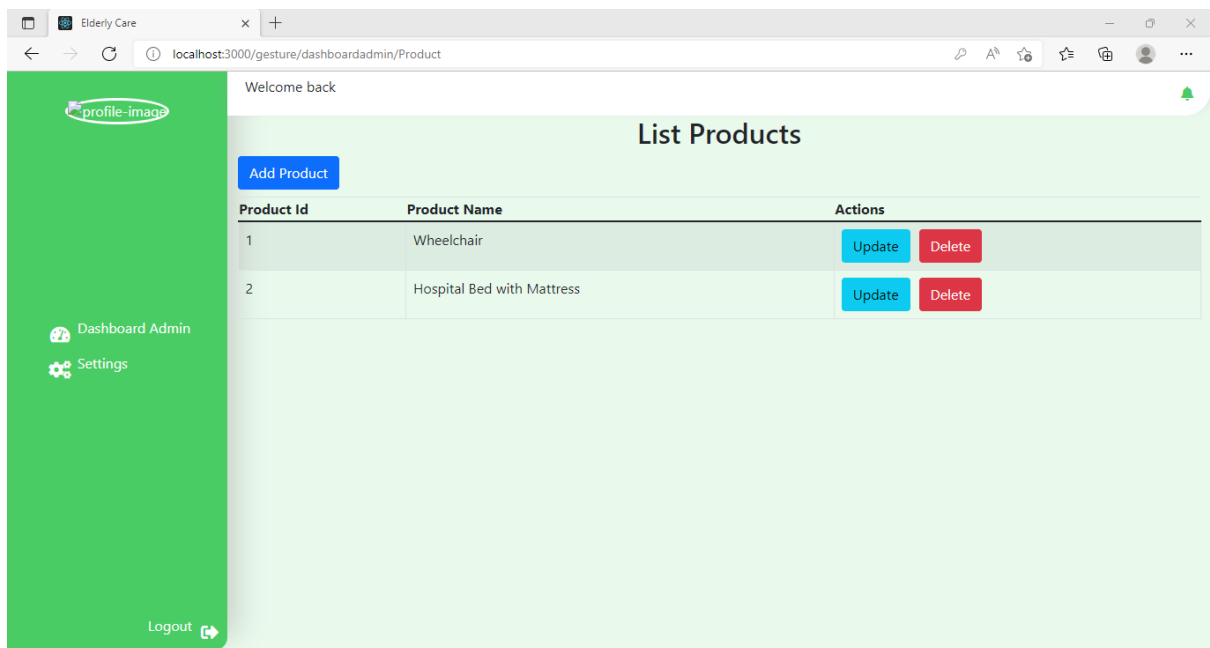
Logout

Welcome back

List Meals

Add Meal

Id	Meal Name	Actions
1	Diabetic Meal	<div>Update</div> <div>Delete</div>
3	Regular Meals	<div>Update</div> <div>Delete</div>



Elderly Care

localhost:3000/gesture/offer/add

profile-image

Welcome back

Book Service

Assistant Service

true

Meal Service

true

Products Service

true

Doctor Service

true

Next

Logout

Elderly Care

localhost:3000/gesture/offer/add

profile-image

Welcome back

Book Service

User 1

Namrata Devidas Vidhate

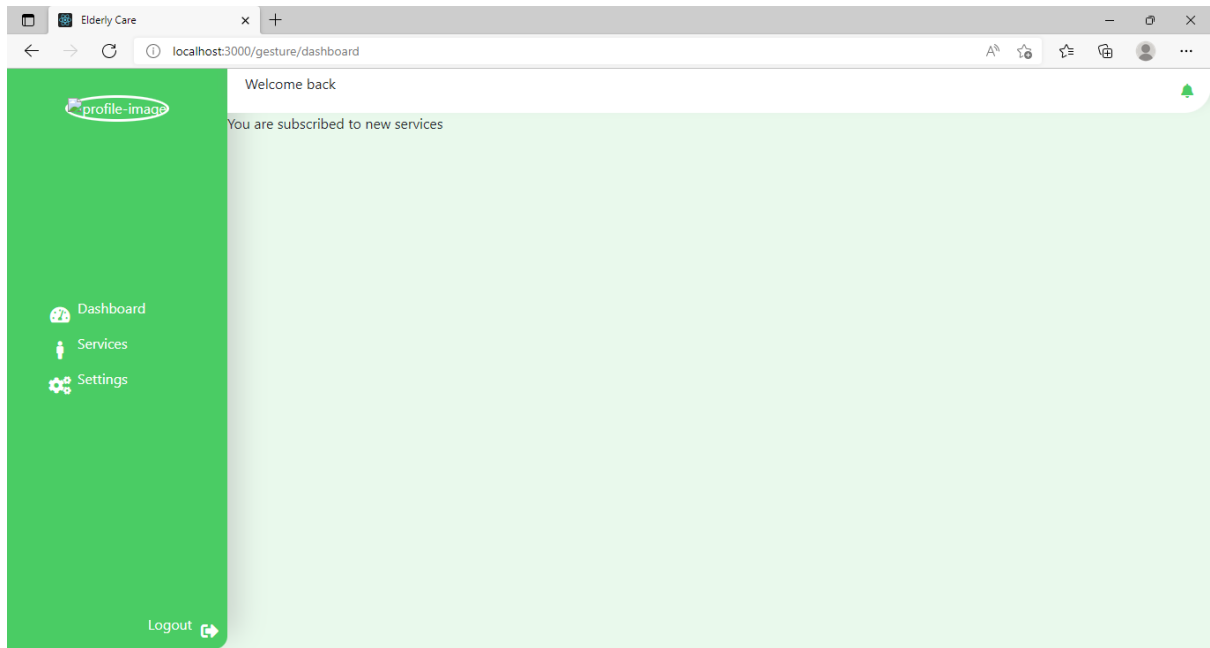
satara

Katraj 411043

Back

Submit

Logout



8. Conclusion

In today's fast growing and busy world ,every Person looks for an easy convenient and at the same time professional healthcare and Elderly care services for their loved ones.Finding everything at one spot is the main thing which everyone looks for in today's busy life.Providing trusted quality service was the main motto of Elderly Care management system ,so we came up with this idea as our platform provides major facilities Healthy and Customised meal, Orthopaedic/Seniority Product, Assistant if you need assistance,Healthcare professionals such as doctors at one stop .We hope this platform will help users find everything they need about elderlycare ,Working on this project was fun and insightful at the same time as we got to learn a lot of thing about spring.

9. Future Enhancement

- 1.Palliative Care.
- 2.Complaints and feedback system.
- 3.Chatbot.

10. Bibliography

- [1] Object Oriented Analysis and Design with Applications by: Grady Booch, Ivar Jacobson, and James Rumbaugh
- [2] Software Engineering: Principles and Practice by: Hans van Vliet.
- [3] SQL Notes from www.GoalKicker.com.

Online References

- [1] www.w3school.com
- [2] <https://stackoverflow.com/>
- [3] www.bootswatch.com
- [4] <https://www.npmjs.com>