SHAHEED ZULFIKAR ALI BHUTTO
INSTITUTE OF SCIENCE AND TECHNOLOGY

Final Year Project Report

Health First

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Date: 2nd August, 2022

Submitted in partial fulfillment of the requirements for the degree of

Bachelor of Science in Computer Science in the

Faculty of Computing and Engineering Sciences

Shaheed Zulfiqar Ali Bhutto Institute of Science and Technology (SZABIST) Karachi Campus

Plagiarism Free Certificate

This is to clarify that Fiza Ahmed (1812149) and Aqsa (1812147) had done their FYP Project "Health First" at the Computer Science Department of SZABIST, Karachi. This final document is checked by their FYP supervisor.

Date: 2nd August 2022

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Declaration of Authorship

We Fiza Ahmed (1812149) and Aqsa (1812147) declare that this report "Health First" and the work presented in this report is our own. The work has been done completely while in the candidacy for a bachelor's degree at Shaheed Zulfiqar Ali Bhutto Institute of Science and Technology (SZABIST) Karachi, any report previously submitted on this topic in this university or any other institution is clearly mentioned in this report. Everything we used in this report which is submitted by others or belong to any other person or organization is stated in this report. We have always cited the work we have used. We have acknowledged all source of help we used for this report. The report is based on the research work done by the team members with, we have clearly stated the sources where we took help from to conduct the research.

Signed: **Fiza Ahmed (1812149)** **Aqsa (1812147)**

Date
2nd August, 2022

Project Description

Healthcare is one of the most important priorities in the world. By the help of this application, our mission is to improve the healthcare system by using great technology. Nowadays, people are not taking care of their health and are reckless when it comes to it. They have also gotten lazy and do not prefer going to hospitals so easily. Diseases will be detected and access to doctors will also become easier because if a person goes to the hospital and the doctor is not available, their time might get wasted. They can also order medicines online through this application, so they do not need to worry about going to the stores. The users can also read home remedies for their ease.

The project is of real value because it is going to target the healthcare industry and be a good source for the users to find out about any disease that they might have. The targeted domain can benefit greatly by this application because it will make the connection easier between the doctors and the patients.

Acknowledgement

In the name of ALLAH, the most beneficent and merciful, who gave us the knowledge and courage to work on this project. We are grateful for the outcome and success of this project over the year are gratitude towards the people who have provided us with the guidance and assistance to be able to complete this project in such a difficult time.

We would like to thank our supervisor “Asif Khalid” of the Computer Science faculty at Shaheed Zulfiqar Ali Bhutto Institute of Science and Technology. He was integral part in the project as he was always there when we would get stuck at a point in our project. He consistently guided us, motivated us and cooperated with us throughout the duration of this project.
We would like to thank to the teachers at Shaheed Zulfiqar Ali Bhutto Institute of Science and Technology, who guided us and taught us throughout our time in the university. We would also like to express our gratitude to our parents and family members who helped and encouraged us during this time. Furthermore, we would like to thank the staff at SZABIST for allowing us to use their labs and services to be able to complete the project.

Lastly, we would like to extend our gratitude to everyone at Shaheed Zulfiqar Ali Bhutto Institute of Science and Technology for creating and environment for students to thrive in. The quality of education, the cooperative faculty members and the motivation provided by them.

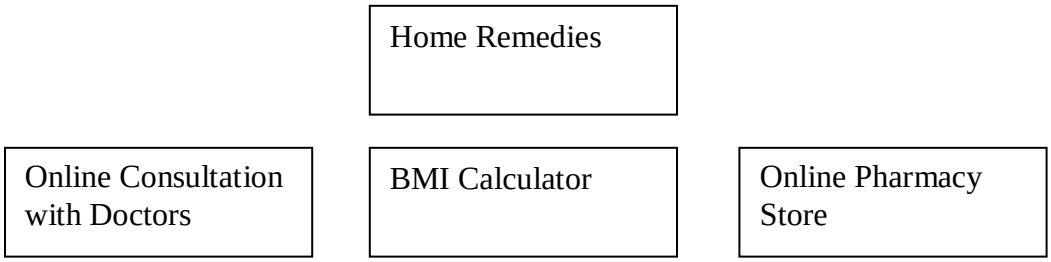
Contents

Project Proposal

Introduction

The main idea is to create a functional healthcare application which will help the human life become easier as they do not need to go to the hospital frequently but can talk about whatever problem they have by the help of a mobile application. It will also have a BMI Calculator and free online consultation with doctors so patients can contact easily. It is going to be a very handy application for the users because doctors and users can communicate with each other. It will also have a login and sign-up feature. The user can also read about home remedies for certain diseases. It will also have an Online Pharmacy Store so that users can order their medicines from the application.

FEATURES



1. Objective

To create a healthcare application, made for humanity, to make their lives easier, and find out diseases according to symptoms told to the doctors. It will also provide a connection between the doctors and patients and provide other functionalities such as checking BMI, and ordering medicines online from the ease of their homes.

2. Problem Description

Healthcare is one of the most important priorities in the world. By the help of this application, our mission is to improve the healthcare system by using great technology. Nowadays, people are not taking care of their health and are reckless when it comes to it. They have also gotten lazy and do not prefer going to hospitals so easily. Diseases will be detected and access to doctors will also become easier because if a person goes to the hospital and the doctor is not available, their time might get wasted. They can also order medicines online through this application, so they do not need to worry about going to the stores. The users can also read home remedies for their ease.

3. Methodology

Since people have gotten lazier and do not prefer going out of their homes so easily, this healthcare application on their devices will help to identify diseases based on the user's symptoms told to the doctor. Access to doctors can become easier as the patients can take

an appointment by the help of the application or even talk to the doctors online. We will be using React Native in this application.

4. Project Scope

Health is the first thing people should be taken care of, so we are making a healthcare application which will benefit a lot of people who needs immediate treatment at home. Implementation of the BMI Calculator measures BMI. There will also be online consultation of doctors with patients and patients can order medicines online easily without needing to go the store. All in just one application makes people easier to check up on their health.

5. Feasibility Study

Yes, we would be able to meet our project schedule. We would only be using a PC or Laptop to do the coding and an Android or iPhone device.

6. Solution Application Areas

The project is of real value because it is going to target the healthcare industry and be a good source for the users to find out about any disease that they might have. The targeted domain can benefit greatly by this application because it will make the connection easier between the doctors and the patients.

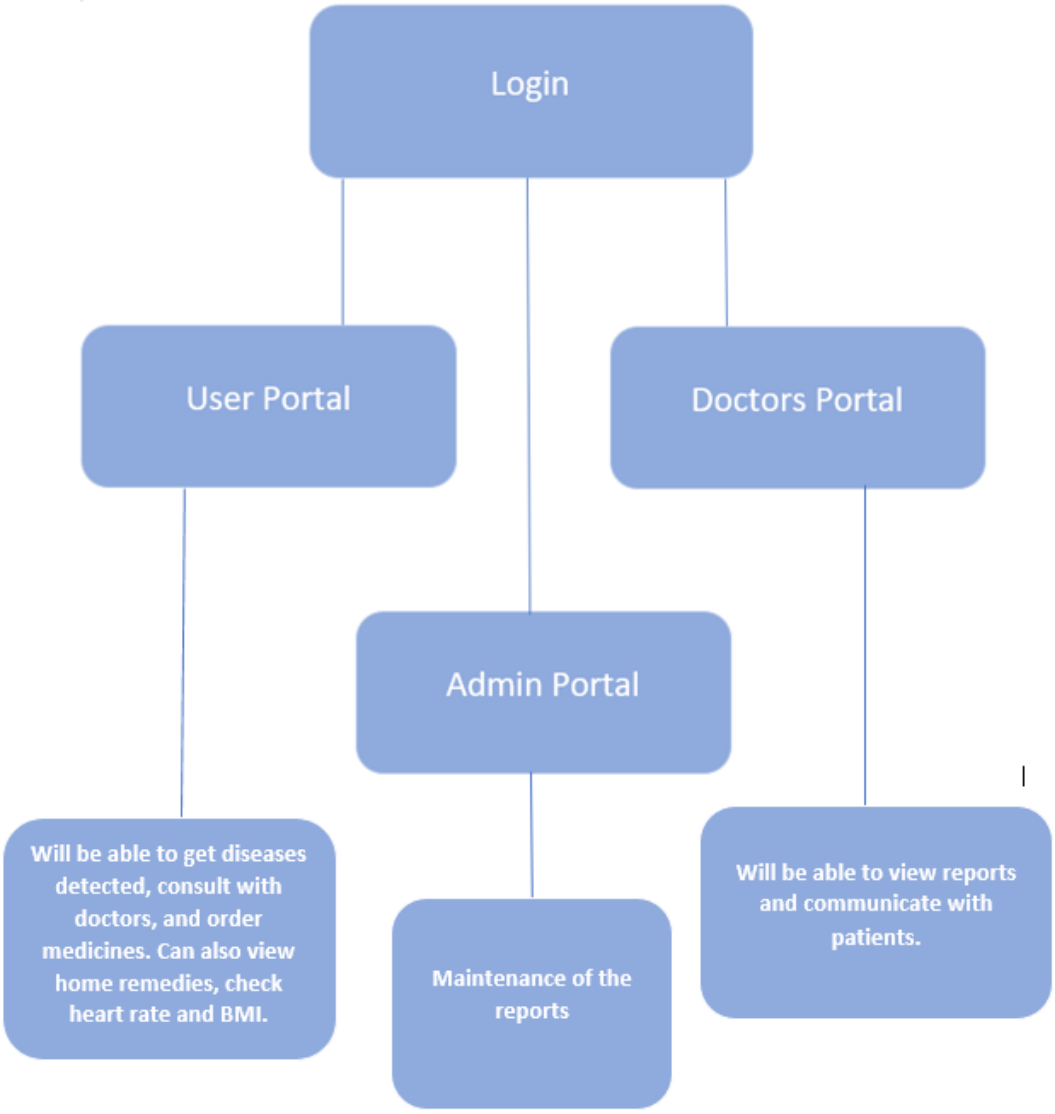
7. Tools/Technology

This project will make use of Visual Studio Code, React Native, Node, and Firebase for database.

8. Expertise of the Team Members

Yes, both the team members are well pre-equipped with the level of knowledge needed for the completion of this project. We are currently studying one of the relevant courses named “Web Engineering” in which we are studying about React Native. Yes, this project is of equal interest to both the team members.

10. Milestones



The milestones that need to be accomplished throughout the complete 1-year project are:

FYP 1:
• Home Remedies.
• Online Consultation with Doctors of Patients.

FYP 2:
• BMI Calculator.
• Online Pharmacy Store to order medicines.

13. References

- Book: Norvig, Peter. J. Russell, Stuart. “Artificial Intelligence: A Modern Approach”. City: Publisher: Prentice Hall.Page numbers: 1136
- Symptom Tracking by user’s given symptoms and information Dataset:
- https://www.kaggle.com/kaushil268/disease-prediction-using-machine-learning

Software Requirements Specification

for

Health First

Version 1.0 approved

Prepared by Fiza Ahmed 1812149

Aqsa 1812147

SZABIST

6/20/2022

Revision History

Name	Date	Reason For Changes	Version
Software Requirement Specification	29-11-2021	Unchecked	1.0
Software Requirement Specification	7-1-2022	Need Formatting	2.0
Software Requirement Specification	20-06-2022	Approved	3.0

1. Introduction

1.1 Purpose

Our overall final year project works on helping people to access medical facilities from their homes just by the help of an application. The purpose of this project is to provide an organized, straightforward, and helpful way to contact doctors to make communicate better. This project will also have an online pharmacy store, which can be helpful to view and order medicines. It will also have a separate section for home remedies, so people can easily find out about quick solutions to their problems from the ease of their homes. There will also be a BMI calculator so people can keep themselves up to date with their BMI.

1.2 Document Convention

The list of convention utilized in this documentation are as following:

Font: Times new roman

Headings: 14 font size

Body: 12 font size

Line spacing: 1.5 line spacing

This document is organized according to the software requirements specification template.

1.3 Intended Audience and Reading Suggestions

The audiences of this project are all the people who have any interaction with the healthcare, the intended audience are admin, doctors, users, and store owners. The doctor can belong to any department and category for example, trainee doctors, radiology technicians, pharmacy technicians, surgical technicians, electroencephalogram technicians, patient care technicians.

The rest of the SRS document contains the interface requirements which include both the software requirements and the hardware requirements. Then all the features are discussed in the document and lastly all of the Non – Functional Requirements are discussed in detail. The SRS is divided into different sections, in order to make it easier for the readers to read.

In order to completely understand the project, it is essential for the intended audience to read the documentation starting from the very top as it will give you all the details necessary to understand this project, special emphasis should be given to project scope and project features.

1.4 Product Scope

Health should be the most prioritized. If a person is healthy, they are more likely to stay happier and perform his daily activities in a regular manner, so we are making a healthcare application which will benefit a lot of people for their better health. Online consultation from doctors, BMI calculator and an online pharmacy store, all in just one application makes people easier to check up on his health.

1.5 References

https://www.perforce.com/blog/alm/how-write-software-requirements-specification-srs-document

2. Overall Description

2.1 Product Perspective

This project will highly benefit humanity because it deals with all the health facilities.

2.2 Product Functions

List all the requirements here in bullet form:

- Log in
- Logout
- Sign-up
- Online reports
- Patients ID
- Consultation with doctor
- Information of the patient
- Patient care
- Staff schedule
- Doctors information
- Billing information
- Online Pharmacy Store
- Home remedies
- BMI Calculator

2.3 User Classes and Characteristics

Doctors

- Doctors will be able to login
- Will be able to check online reports
- Will be able to consult properly

Administrator

- Will be able to login
- Will be able to check staff timings
- Will be able to update patient medical summary

Patients

- Will be able to login
- Will be able to take a session with doctors
- Will be able to check their BMI
- Will be able to check the online pharmacy store

2.4 Operating Environment:

The operating system that will be used for our project is **Microsoft Windows (Windows 10)** for coding of this application and the hardware configuration is,

Processor: Intel® Core™ i7-106G7 CPU @ 1.30 GHz 1.50 GHz

System Type: 64-bit Operating System, x64-based processor

RAM: 8.00 GB

Hard disk space: 292 GB

Graphics card: NVIDIA GeForce MX230

2.5 Design and Implementation Constraints

We are not limited to use any specific software or hardware and there are no constraints. It is solely up to us to use whatever we want as per our comfort and requirements of the project. Expo, Visual Studio Code, Node JS, React Native, Firestore for Database.

2.6 User Documentation

This project will deal with the completion of three necessary documents which are necessary for the users to go through in order to completely understand the features of this website. The documents are Software Requirements Specification (SRS) this document will give all the details regarding the features and functionalities of this project. Then the next document is Software Design Specification (SDS) which tells about everything related to the design of the project. The last document with the project is Software Test Description (STD) which contains test cases and test procedures which are to be used.

2.7 Assumptions and Dependencies

- All users should have knowledge of how-to login and make use of the functionalities.
- All users should come with a proper purpose/reason to talk to the doctors, and not waste their time.
- The device should have a stable internet connection to properly get login into the application and use its functionality.

3. External Interface Requirements

3.1 User Interfaces

We will utilize an easy GUI so that the GUI will be easy to use for all the individuals and the users can effectively communicate with the doctors. For example, from youths to more established middle-aged clients/doctors. The GUI needs to be made according to the age group. The GUI verify data integrity. It also checks for screen validations and check usability conditions.

3.2 Hardware Interfaces

A User can interact with the website by both the computer and a mobile phone in whatever they are comfortable with.

- ✓ If users are using a computer to interact with the website, they should just require a mouse and a keyboard to access it.
- ✓ If users are using mobile phone to interact with the website, they should only be using the touch of his mobile phone to access it.

3.3 Software Interfaces

Our project runs on React Native, for mobile phones. The project also used libraries and services such as API for maps which enables the nearest stores to be displayed.

3.4 Communications Interfaces

Important data such as text, images, and other multimedia files can easily be shared using Hypertext Transfer Protocol (HTTP). HTTP is used for sharing the reports of the patients whenever they request them. Hypertext Transfer Protocol Secure (HTTPS) is used for protecting the data so that no one else captures the data provided by a specific person and no one gets the access to the chats between the doctor and the patient. Transfer Control Protocol (TCP) is also used to communicate over a network and look if a connection is established.

4. System Features

4.1 System Feature 1:

USE CASE NO. 1

Use-case name: Online Consultation with Doctors.

Summary of this use-case/its usage: This use-case is used for online consultation with doctors.

Actors: User and Doctor.

Pre-conditions:

1. Users must have an internet connection.
2. Users must click on the correct option.
3. Users must have a valid reason to talk to the doctor.

Basic course of events/happy path:

Actor action	System response
1. Actor will click on online consultation option.	2. System will open the chat window.

3. Actor will write the problem he/she is facing to the doctor.	4. System will show the doctor's response.

Alternative path:

2. If the internet connection is not stable, then the system will not open the chat window.

Post condition:

1. The user will get online consultation with the doctor.

Author Name: Fiza.

4.2 System Feature 2:

USE CASE NO. 2

Use-case name: Order Medicines

Summary of this use-case/its usage: This use-case is used to order medicines.

Actors: User

Pre-conditions

1. Users must have an internet connection.
2. Users must know the valid medicine name.
3. Users must click on the correct option.
4. Users must have money to pay for the medicines.

Basic course of events/happy path

Actor action	System response
1. Actor will click on order medicines option.	2. System will show the requested page for medicines and show stores.
3. Actor will select the medicine he/she wants to order.	4. System will add it to the cart and then ask for payment method.
5. Actor will enter the payment method and click on submit.	6. System will process the order.

Alternative path

5. If the user does not have sufficient money to complete the order, the order will not be completed.

Post condition

1. The user will order the required medicines.

Author Name: Fiza.

4.3 System Feature 3:

USE CASE NO. 3

Use-case name: View Home Remedies

Summary of this use-case/its usage: This use-case is used to view the home remedies.

Actor: User

Pre-conditions

1. Users must have a stable internet connection
2. Users must click on the correct option.

Basic course of events/happy path

Actor action	System response
1. Actor will click on View Home Remedies on the home page.	2. System will show the different home remedies.
3. Actor will click on the desired home remedy.	4. System will show information about that selected home remedy.
Alternative path	2. If the Actor does not have a stable internet connection, the system will not be able to load the View Home Remedies.

Post condition

1. The User will be able to view information about the different home remedies.

Author Name**:** Fiza.

4.4 System Feature 4:

USE CASE NO. 4

Use-case name: BMI Calculator

Summary of this use-case/its usage: This use-case is used to find the BMI of the actor.

Actor: User

Pre-conditions

1. Users must have a stable internet connection
2. Users must know the correct height and weight.
3. Users must click on the correct option.

Basic course of events/happy path

Actor action	System response
1. Actor will click on the BMI Calculator option.	2. System will show the area to enter the weight, height and a submit option.
3. Actor will enter the accurate height and weight and click on the submit option.	4. System will calculate the BMI and show the actor the results.
Alternative path	2. If the Actor does not have a stable internet connection, the system will not be able to load the BMI Calculator page.

Post condition

1. The user will be able to find the BMI.

Author Name: Aqsa

4. Other Nonfunctional Requirements

5.1 Performance Requirements

There will be a significant increase in the application's performance if the code behind it is efficient. The code needs to be properly written so that the application does not crash when the user clicks an option. The application should also run on a fast device so that the users can access everything quickly. Clicking on an option, such as "View Patient Information" and then displaying information regarding it should not take more than 7 seconds. The connection between the doctors and patients should be efficient so that they can communicate properly. The BMI measurement should be accurate and show the results in under 5 seconds.

5.2 Safety Requirements

To ensure that data remains maintained while using the application (due to a crash or a bug of some kind) we make sure that all of the patient's current and past data remains safe in our database. If anyone faces any kind of problem at the application, then they can contact us.

5.3 Security Requirements

- If any record has been inserted, deleted or updated in the database, the database has to be synchronized according to that.
- The user of the system has to be assigned a unique login ID and set a secure password so that no one can access the information.
- The doctor will have the option to view all the data but will not have permission to alter the data.
- The system should not take the user back to the login session upon pressing the back option after the user has logged out.
- The data should be hidden from outside sources so that information does not get leaked.
- No other individual can enter the chatroom when the doctor and the user are communicating.

5.4 Software Quality Attributes

- **Usability requirement**

  The application will be easy to use by the audience and it will also require less training time because the users will quickly become familiar with it. There will be no difficulties while finding an option because the user interface is user-friendly, and all the options are easy to find. For example, the “Home Remedies” option is on top of the application and users can click on it easily.

- **Delivery requirement:**

  The report of the user will have the following information: the date and time of when the report was generated and information about the patient and disease. The users can also access different types of reading materials which will be available on the application and the materials will consist of relevant information about the topic. For example, if the user clicks on “How to keep bones strong?”, the user will get information according to that topic.

- **Legal requirement**

  The application will have its own logo so that no one can publish stuff by their name; otherwise, it will create issues. The reports of by this application will only be published under this application’s name and logo.

- **Flexibility requirement**

  The application will be flexible because there will be an option for editing. For example, if the user has entered an old address, they can easily enter the updated address because of the flexibility. Users can also choose a payment method which they are more comfortable with.

- **Reliability**

  Proper coding, organization, and database management should be present in the application to make it free of any type of viruses, bugs or errors so that it cannot be a reason of the failure and inaccurateness of application. For example, if a user books an appointment for a doctor and its information is not added to a database of their system due to some problem by the system side, it will be an issue for both the doctor and the patient because the doctor cannot be able to find the name of the patient in their system for which patient couldn’t be able to attend the doctor.

- **Interoperability**

  File sharing software should be present in the application so that data can be exchanged between them. For example, if the reports have been uploaded on the application by the doctor for the patients, the patients should be able to view it and if the patients has asked them to receive an email as soon as the report is uploaded on the application, the emails must be sent to the patients.

- **Portability**

  The application should be portable. It is a very important thing to make a application portable because as time goes on, new upgrades are developing in the market. For example, we are making this health care application on React Native because we want it to work on Android and iOS.

5.5 Business Rules

We have 5 business rules for our project which is based on our application.

1. For logging in, correct username and password should be entered otherwise it will keep on giving an error. If a Username is entered incorrect then it will display a message of "Invalid Username!", if password is entered wrong then it will display a message of "Invalid Password!" and if both the username and password is entered incorrect, then it will give the same error as it gives in the case of incorrect username.
2. A Patient can have one or many Addresses.
3. Each Patient can have one or many Patient Records.
4. A Patient can have one or many Methods of Payment.
5. Doctor can have one or many Addresses.

Software Design Specification

for

Health First

Version 1.0 approved

Prepared by Fiza Ahmed 1812149

Aqsa 1812147

SZABIST

6/20/2022

1. Introduction

1.1 Purpose of this document

SDS stands for Software Design Specification which describes the design of the project. The purpose of making a SDS Document for the project is because it describes the architecture for our application and design by the visual representation about the functionalities of the features. It provides a clear and easy way to explain the application architecture and design it in a quicker, efficient, and creative way.

1.2 Scope of the project

Health should be the most prioritized. If a person is healthy, they are more likely to stay happier and perform their daily activities in a regular manner, so we are making a healthcare application which will benefit a lot of people for their better health. Online consultation from doctors, BMI calculator and an online pharmacy store, all in just one application makes people easier to check up on his health.

1.3 Intended Audience and Reading Suggestions

The audiences of this project are all the people who have any interaction with the healthcare, the intended audience are admin, doctors, patients, and store owners. The doctor can belong to any department and category for example, trainee doctors and skin specialists.
The rest of the SDS document contains the interface requirements which includes the graphical user interface of the application. The SDS is divided into different sections, in order to make it easier for the readers to read.
In order to completely understand the project it is crucial for the intended audience to read the documentation starting from the beginning because it will give all the details necessary to comprehend this project, more emphasis should be given to project scope and project features.

1.4 References

https://docs.google.com/document/d/1ludeSa0PF10nPcg5KEzHqWtpvBEUdH0H/edit

1.5 Overview of document

The software design specifications include a suitable architectural pattern and provide a detail design. It includes class diagram, object diagram, activity diagrams, component diagram,

deployment diagram, state transition diagram, use case diagram, collaboration diagram and sequence diagram and user interface design in details. The system is design with maximum user efficiency and ease of use. The system also includes a brief description of use cases and it has an architectural design to perform all the functions included in the System.

2. System architecture description

This section provides an overview and rationale for the application's data and architectural design decisions.

2.1. Section Overview

This section mainly focuses on the system architecture of this project, the system architecture describes the major components of the system and describes how all the components are linked with each other and how they work together. In this section first there's a discussion about the general constraints of the project, which include both the software and hardware limitations. Then we discuss about the data design of the project, this includes the designs of the databases etc. After that, we discuss the program structure which includes the information about architectural model chosen and other major components. Finally, then there's a discussion about the alternatives that could have been used for this project

2.2. General Constraints

2.2.1 Mobile

Both Android and iPhone.

It is necessary that the user must have an active internet connection for some features to run the application. Otherwise, they won't work.

2.3. Data Design

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐	1	Department_ID	int(10)			No	*None*		AUTO_INCREMENT	Change Drop More
☐	2	Department_Name	varchar(20)	utf8mb4_general_ci		No	*None*			Change Drop More

Here, we have created the "departments" table. It has two attributes which include Department_ID and Department_Name. The type of Department_ID is int, the length is 10 and it is the primary key of the table because there is a golden key next to it. The type of Department_Name is varchar and the length is 20. There are no foreign keys in this table.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	Staff_ID	int(10)			No	None		AUTO_INCREMENT	Change Drop More
2	Staff_FirstName	varchar(15)	utf8mb4_general_ci		No	None			Change Drop More
3	Staff_LastName	varchar(15)	utf8mb4_general_ci		No	None			Change Drop More
4	Staff_Age	int(10)			No	None			Change Drop More
5	Staff_Address	varchar(30)	utf8mb4_general_ci		No	None			Change Drop More
6	Staff_DateofBirth	date			No	None			Change Drop More
7	Staff_PhoneNumber	int(15)			No	None			Change Drop More
8	Staff_Position	varchar(15)	utf8mb4_general_ci		No	None			Change Drop More
9	Department_ID	int(10)			No	None			Change Drop More

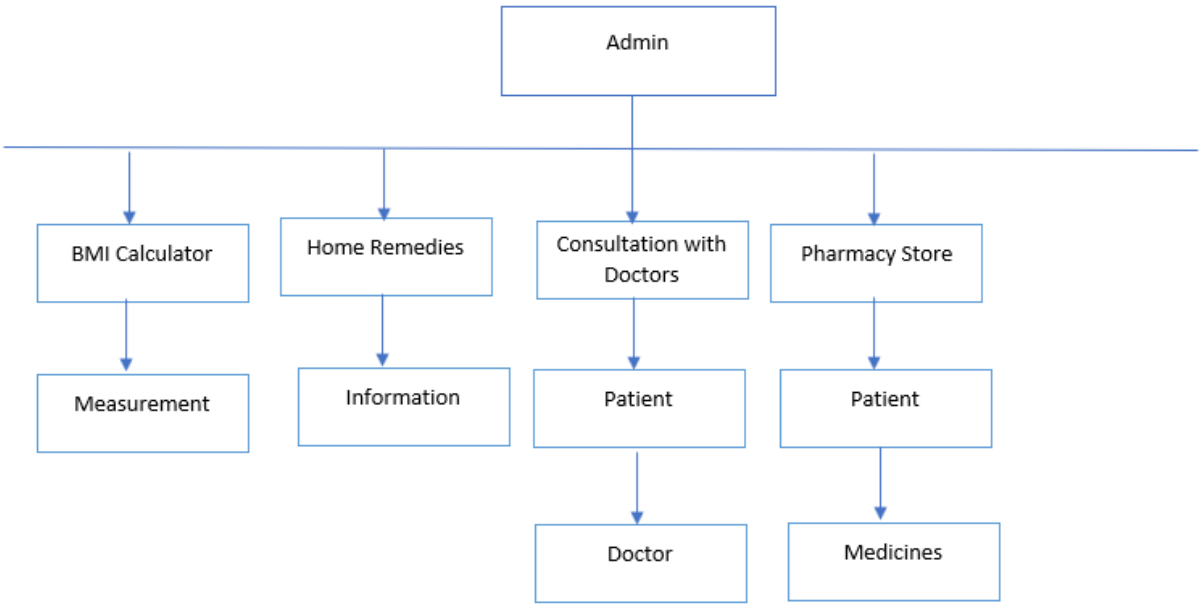
Here, we have created the “staff” table. It has nine attributes which include Staff_ID, Staff_FirstName, Staff_LastName, Staff_Age, Staff_Address, Staff_DateofBirth, Staff_PhoneNumber, Staff_Position, and Department_ID. The type of Staff_ID is int, the length is 10 and it is the primary key of the table because there is a golden key next to it. The type of Staff_FirstName is varchar and the length is 15. The type of Staff_LastName is varchar and the length is 15. The type of Staff_Age is int and the length is 10. The type of Staff_Address is varchar and the length is 30. The type of Staff_DateofBirth is date and there is no length. The type of Staff_PhoneNumber is int and the length is 15. The type of Staff_Position is varchar and the length is 15. The type of Department_ID is int and the length is 10. The silver key represents foreign key, so here, Department_ID is the foreign key, which is the primary key in the “departments” table.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	Patient_ID	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	Patient_FirstName	varchar(20)	utf8mb4_general_ci		No	None			Change Drop More
3	Patient_LastName	varchar(15)	utf8mb4_general_ci		No	None			Change Drop More
4	Patient_Age	int(11)			No	None			Change Drop More
5	Patient_Gender	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
6	Patient_MaritalStatus	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More
7	Patient_DateofBirth	date			No	None			Change Drop More
8	Patient_Address	varchar(30)	utf8mb4_general_ci		No	None			Change Drop More
9	Appointment_Date	date			No	None			Change Drop More
10	Staff_ID	int(10)			No	None			Change Drop More

Here, we have created the “patient” table. It has ten attributes which include Patient_ID, Patient_FirstName, Patient_LastName, Patient Age, Patient Gender, Patient_MaritalStatus, Patient_DateofBirth, Patient_Address, Appointment_Date and Staff_ID. The type of Patient_ID is int, the length is 11 and it is the primary key of the table because it has a golden key next to it. The type of Patient_FirstName is varchar and the length is 20. The type of Patient_LastName is

varchar and the length is 15. The type of Patient_Age is int and the length is 11. The type of Patient_Gender is varchar and the length is 10. The type of Patient_MaritalStatus is varchar and the length is 10. The type of Patient_DateofBirth is date and there is no length. The type of Patient_Address is varchar and the length is 30. The type of Appointment_Date is date and there is no length. The type of Staff_ID is int and the length is 10. The silver key represents foreign key, so here, Staff_ID is the foreign key, which is the primary key in the “staff” table.

2.4. Program Structure



3. Detailed description of components

Identification	BMI Calculator
Type	Calculator
Purpose	This component will be used for displaying the BMI measurement accurately.
Function	This component will help in showing information about the BMI.
Dependencies	The BMI information is dependent on the displaying of BMI measurement.
Data	The data of this component will be stored in the form of integer in the database because it requires numeric values.

Identification	Google Maps
Type	API
Purpose	The purpose of this maps API is to enable the users to locate the nearest store
Function	The API will help in locating the nearest stores
Dependencies	Users can enter their location and the maps will show the nearest stores
Data	Google Maps API data will be saved as integer in our database.

Identification	Patient Data Record
Type	A data file
Purpose	This file is used to maintain the Patient Data Record
Function	This file helps doctors to provide the medicines by looking at the condition.
Dependencies	To display the Patients data record, this file is dependent to it because if this file is not present, the Patients Data Record cannot be shown.
Data	Patient record data will be saved as both text and integer in our database.

4. User Interface Design

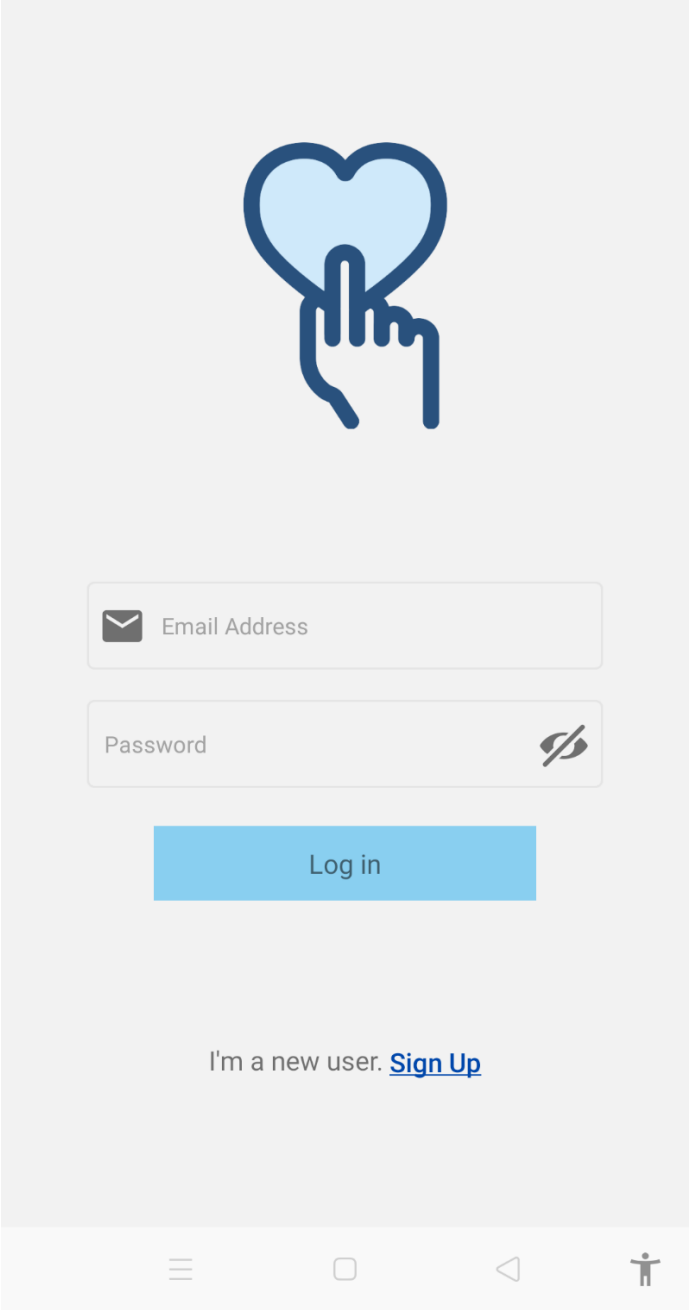
4.1. Section Overview

This Overall Section is based on the User Interface (UI) Design of the website. It covers the screenshots of the GUI screens which displays the features and functionalities by which user interact with.

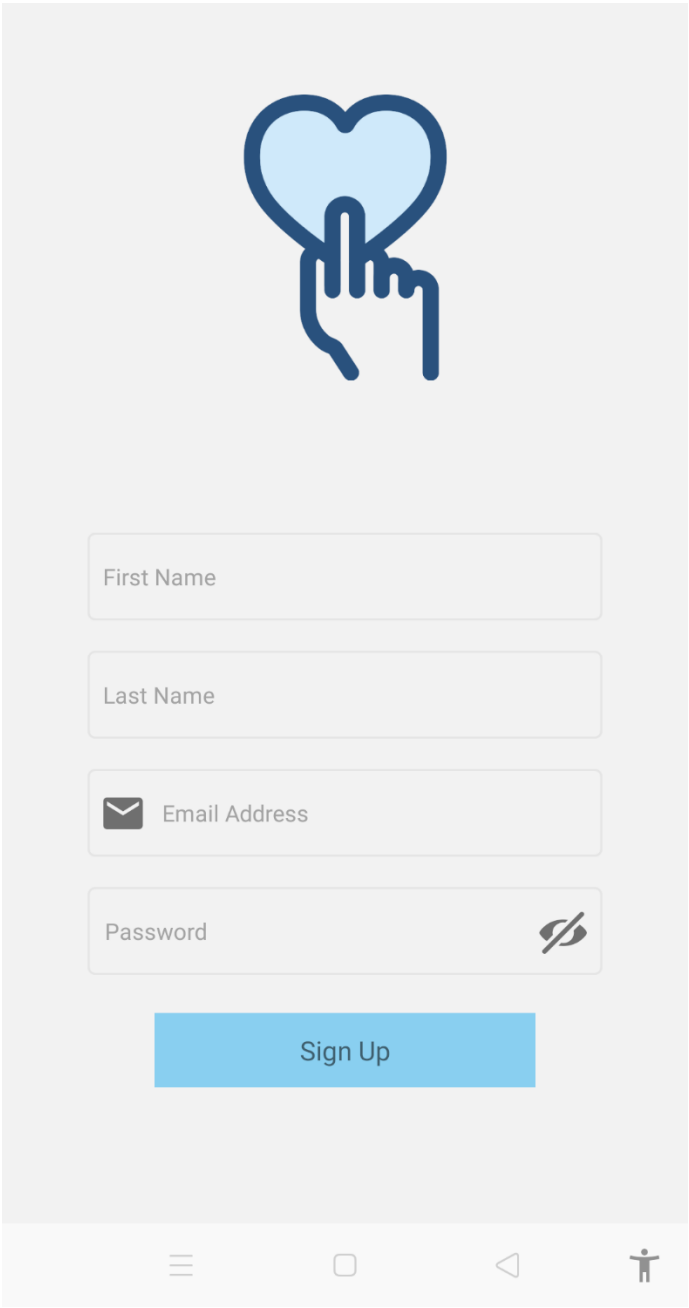
4.2 Detailed description

Splash Screen

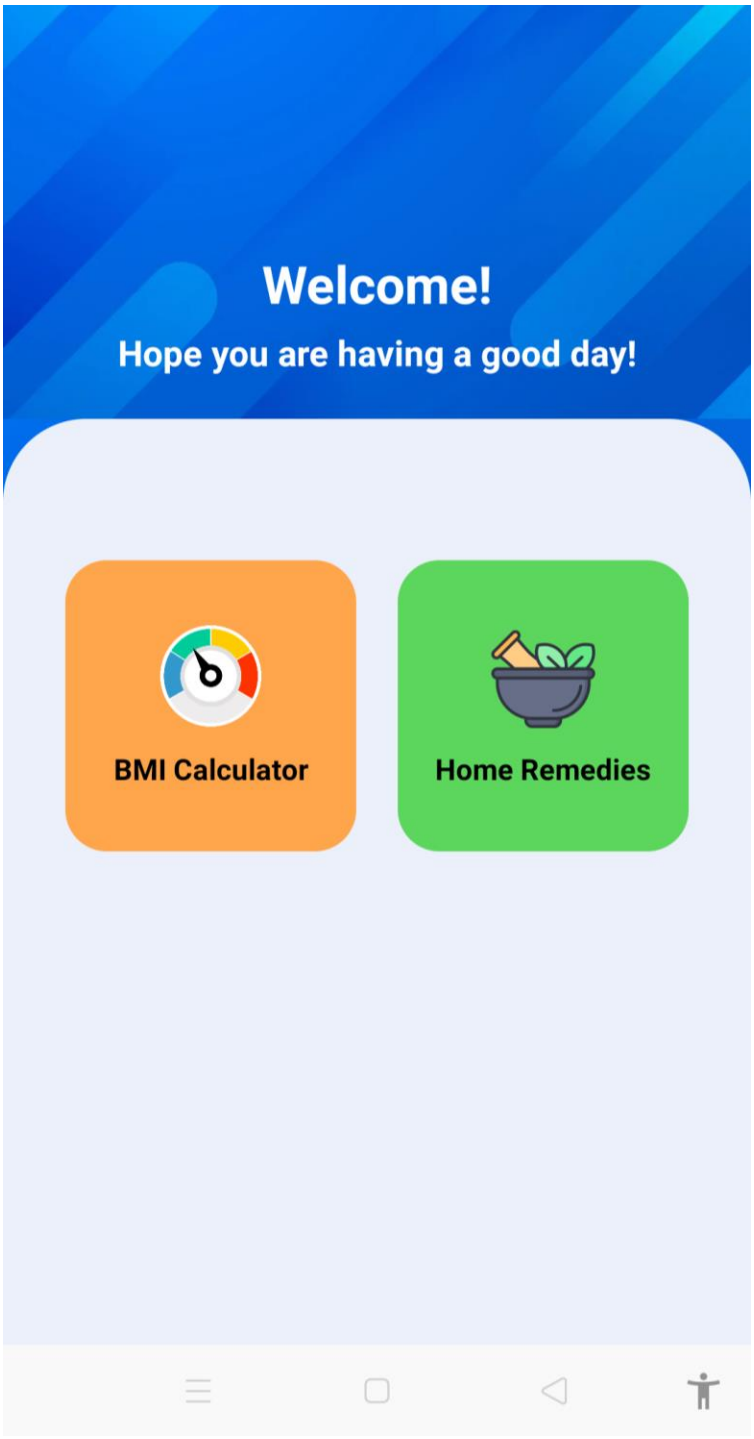
Login



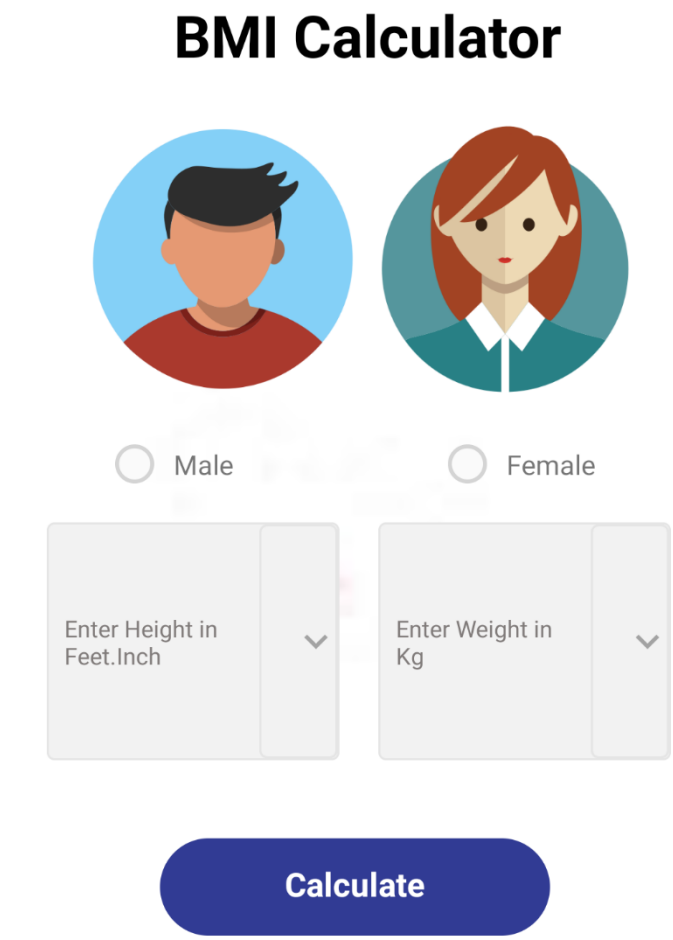
Sign-Up



Home Page


Welcome!
Hope you are having a good day!
BMI Calculator
Home Remedies

BMI Calculator



BMI Calculator

Male Female

4.5 40

Calculate

BMI = 22

Normal Weight

Home Remedies

Body Pain

1- Migraine Pain

Eating an apple on an empty stomach in the morning relieves one of migraine pain. This must be done for a few mornings.

2- Joint and Bone Pain

Hot or cold packs, or a combination of the two, can soothe sore areas. Heat can help reduce muscle spasms and cold can help reduce inflammation.

2- Joint and Bone Pain

Hot or cold packs, or a combination of the two, can soothe sore areas. Heat can help reduce muscle spasms and cold can help reduce inflammation.

Skin Diseases

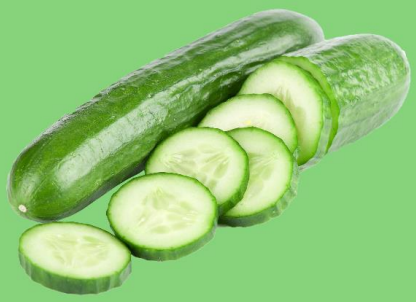
1- Acne and Blackheads

Grated cucumber applied over the face, eyes, and neck for fifteen minutes is very beneficial for acne and blackheads.

Skin Diseases

1- Acne and Blackheads

Grated cucumber applied over the face, eyes, and neck for fifteen minutes is very beneficial for acne and blackheads.



2- Skin Rashes

Aloe Vera is a great choice to manage rashes as it possesses strong antibacterial, antifungal, and anti-irritant properties. The fleshy gel of aloe soothes rashes

2- Skin Rashes

Aloe Vera is a great choice to manage rashes as it possesses strong antibacterial, antifungal, and anti-irritant properties. The fleshy gel of aloe soothes rashes

Flu

1- Dry Cough

Open 6 dates and boil in 1/2 liter of milk for 25 minutes over low heat. Drink three cups a day. This is the ultimate dry cough remedy.

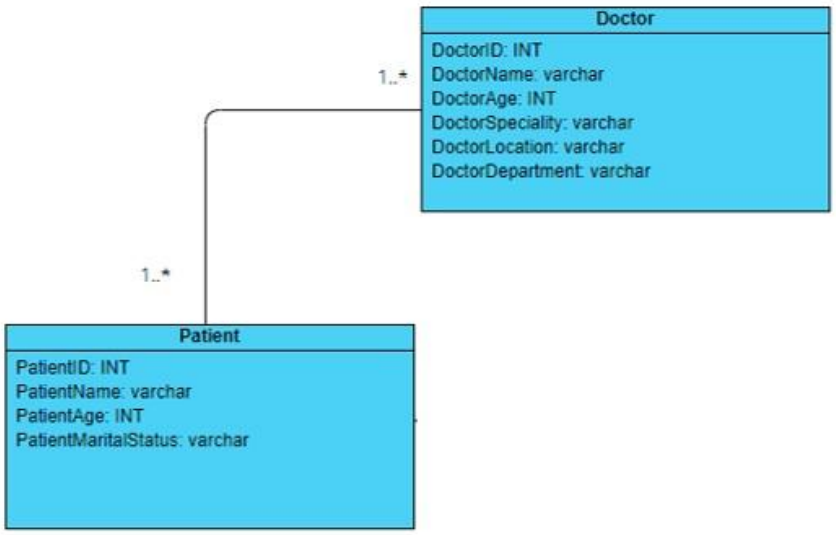
Open 6 dates and boil in 1/2 liter of milk for 25 minutes over low heat. Drink three cups a day. This is the ultimate dry cough remedy.

2- Cold

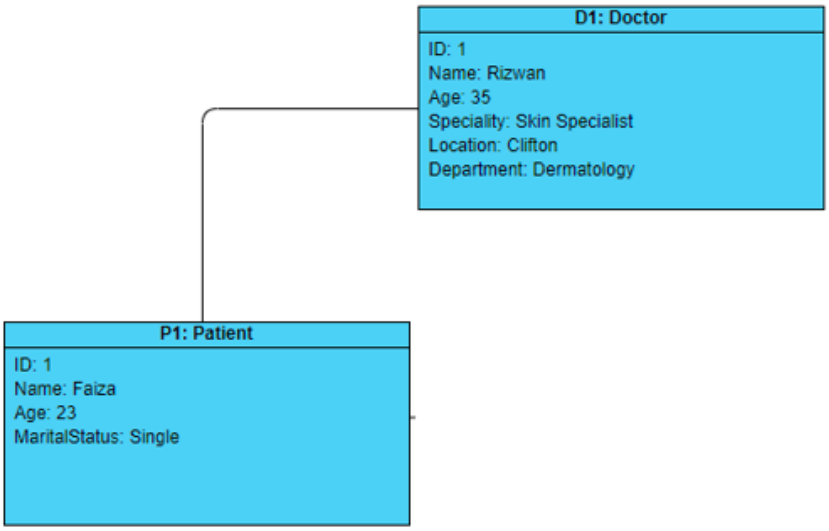
Turmeric mixed in warm milk is a popular and effective way to fight against cold. Drinking a glass of warm turmeric milk before sleeping helps in faster recovery from cold

5. Appendices:

CLASS DIAGRAM:

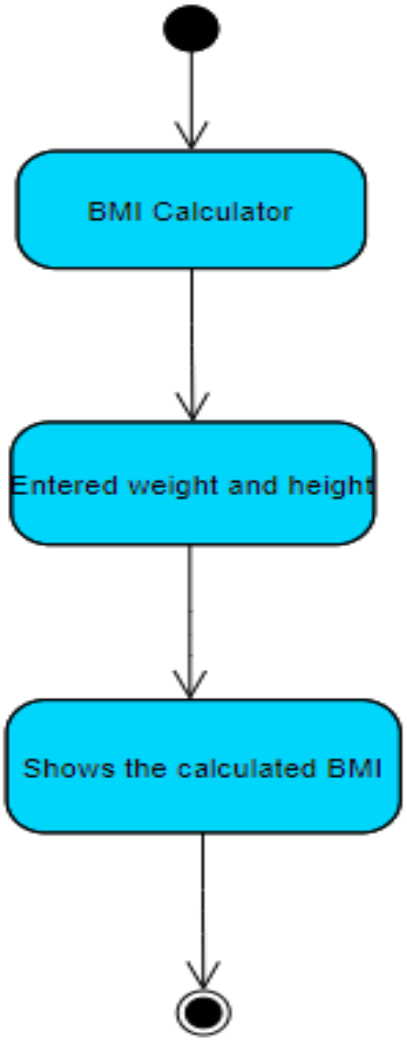


OBJECT DIAGRAM:

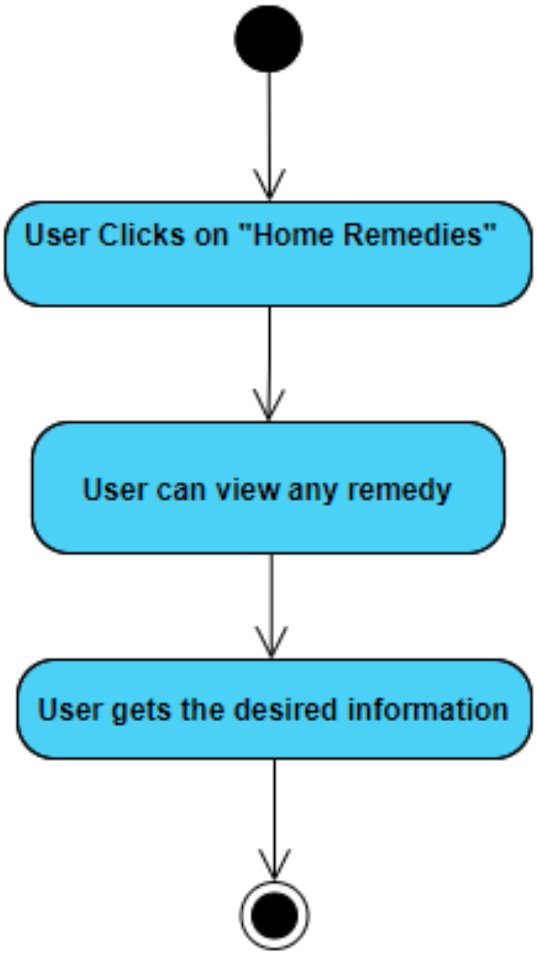


ACTIVITY DIAGRAMS:

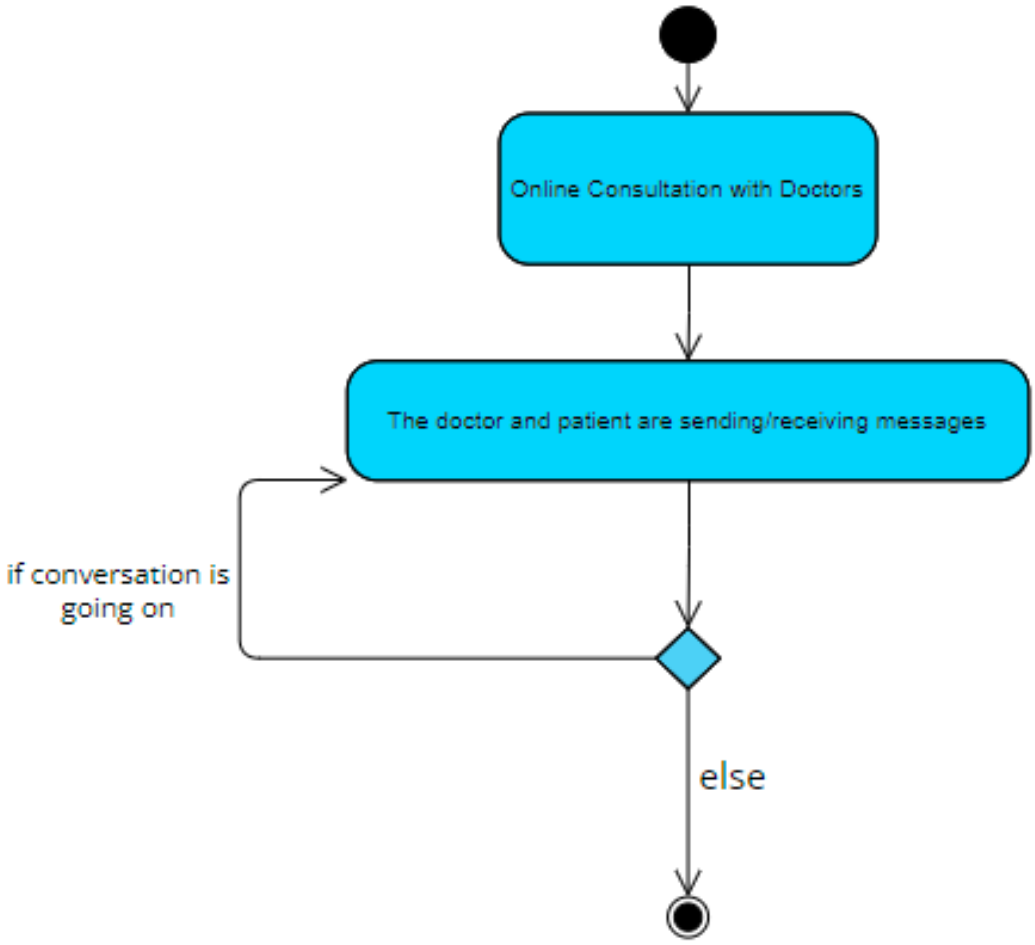
1. BMI Calculator



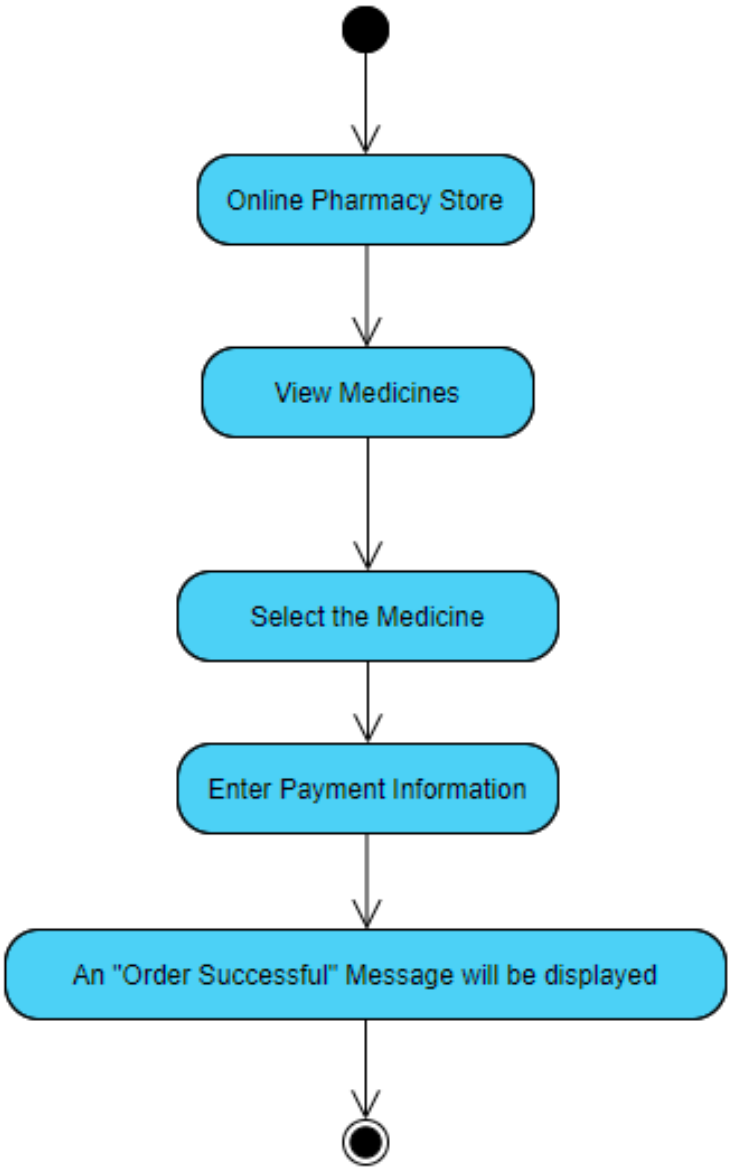
2. Home Remedies



3. Online Consultation with Doctors

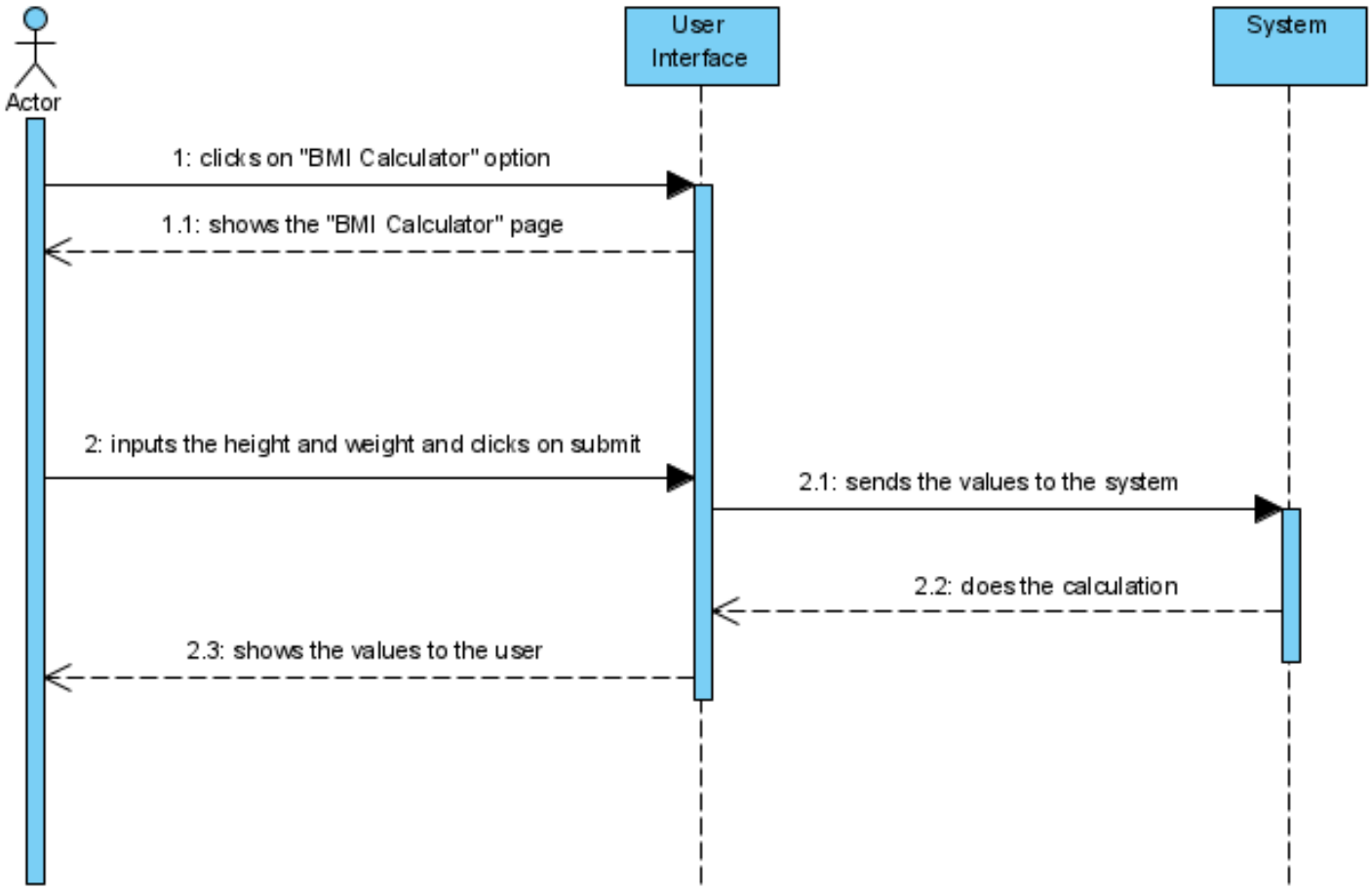


4. Online Pharmacy Store

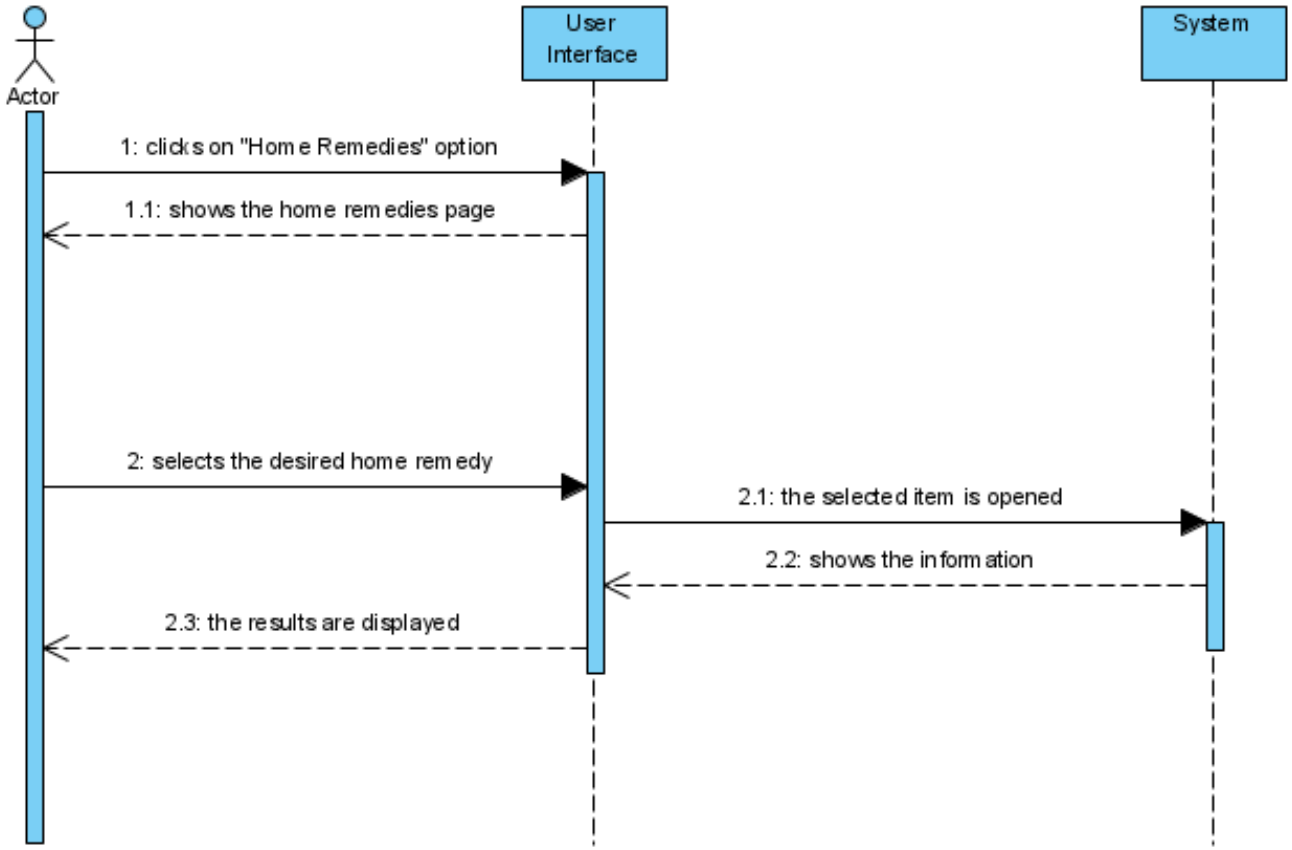


SEQUENCE DIAGRAMS

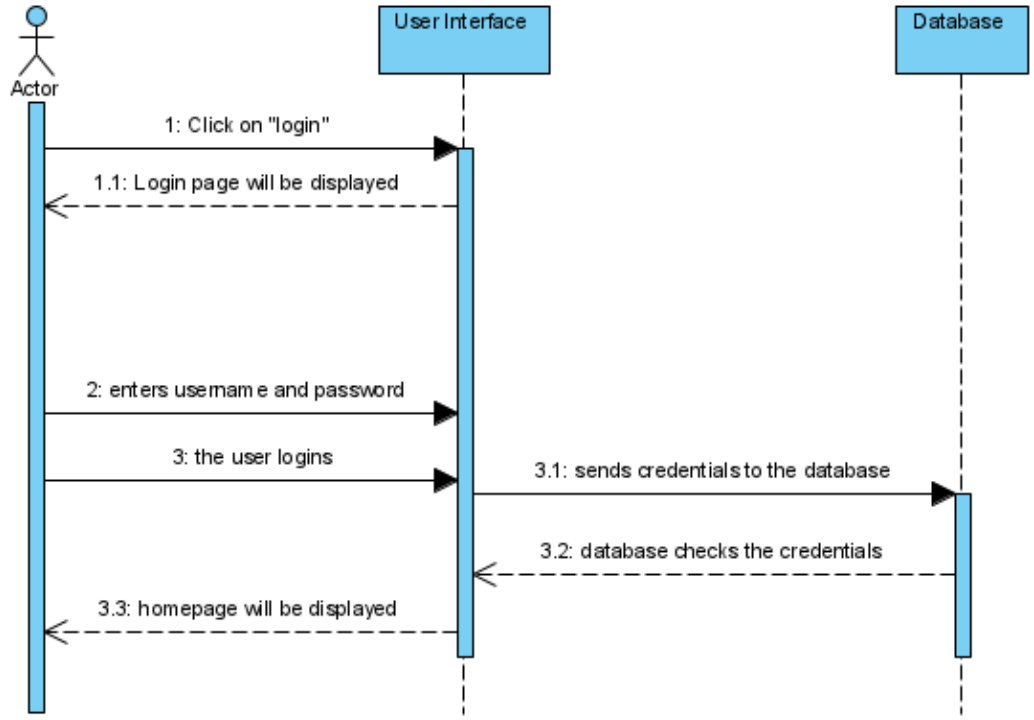
1. BMI Calculator



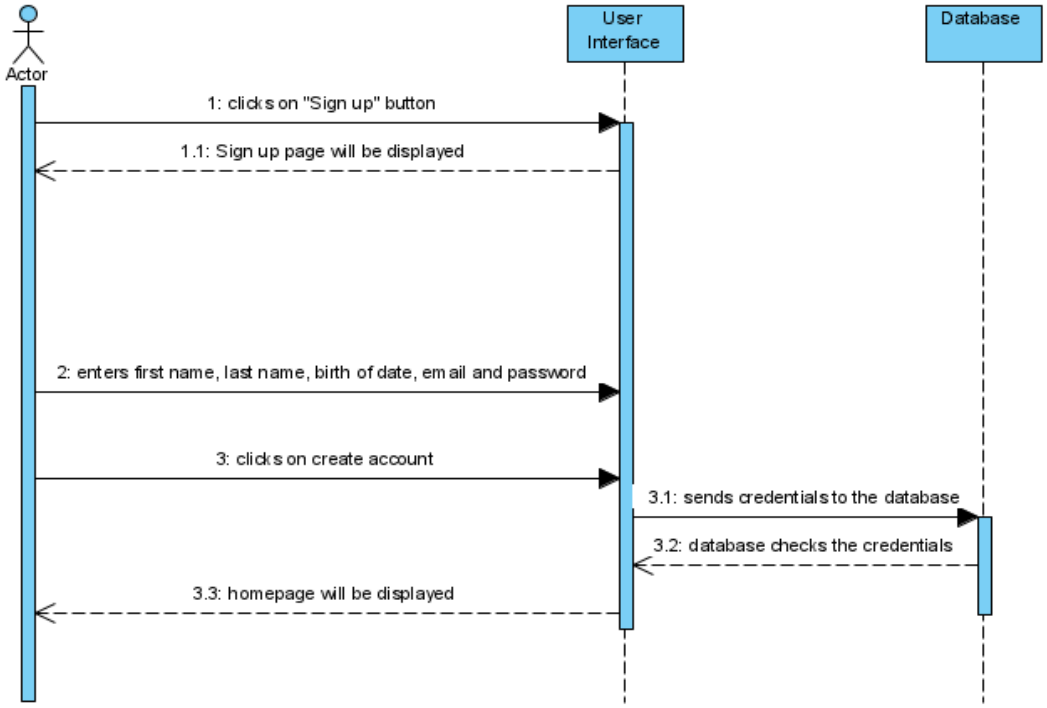
2. Home Remedies



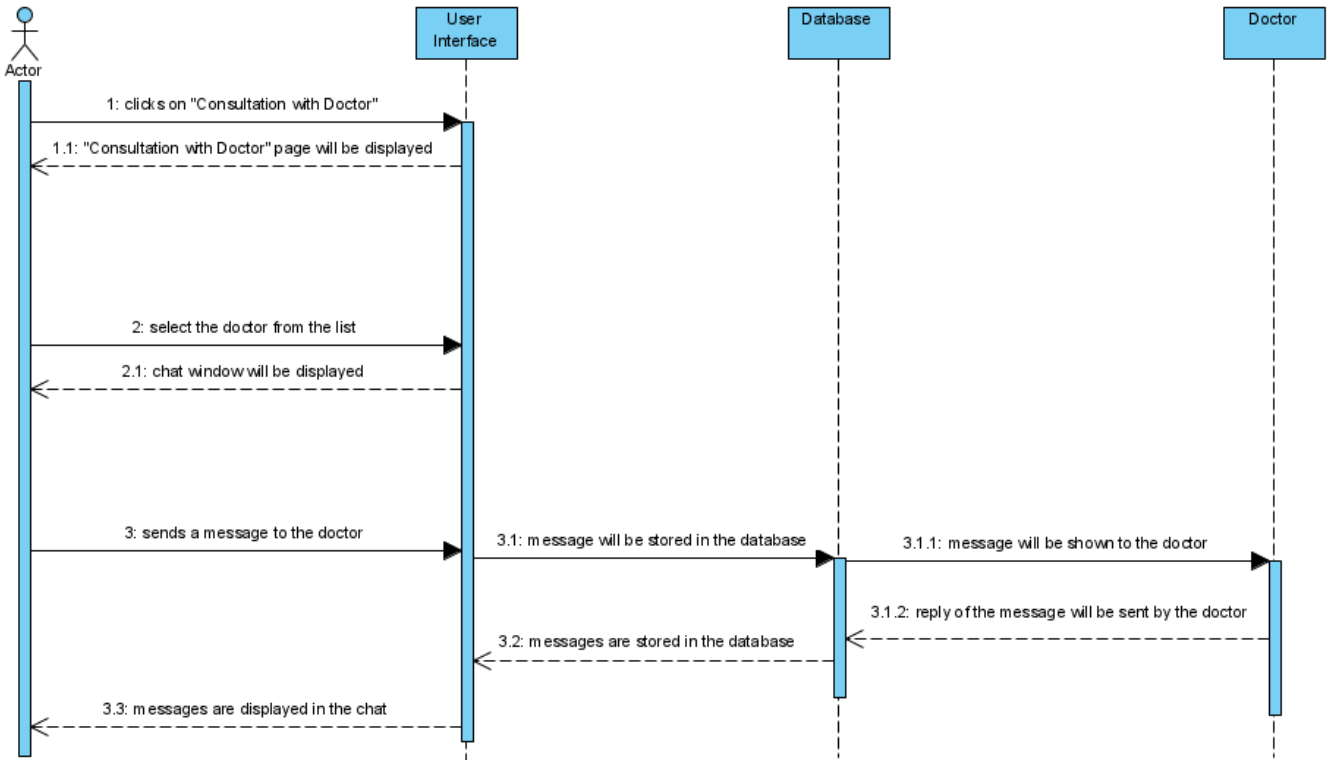
3. Login



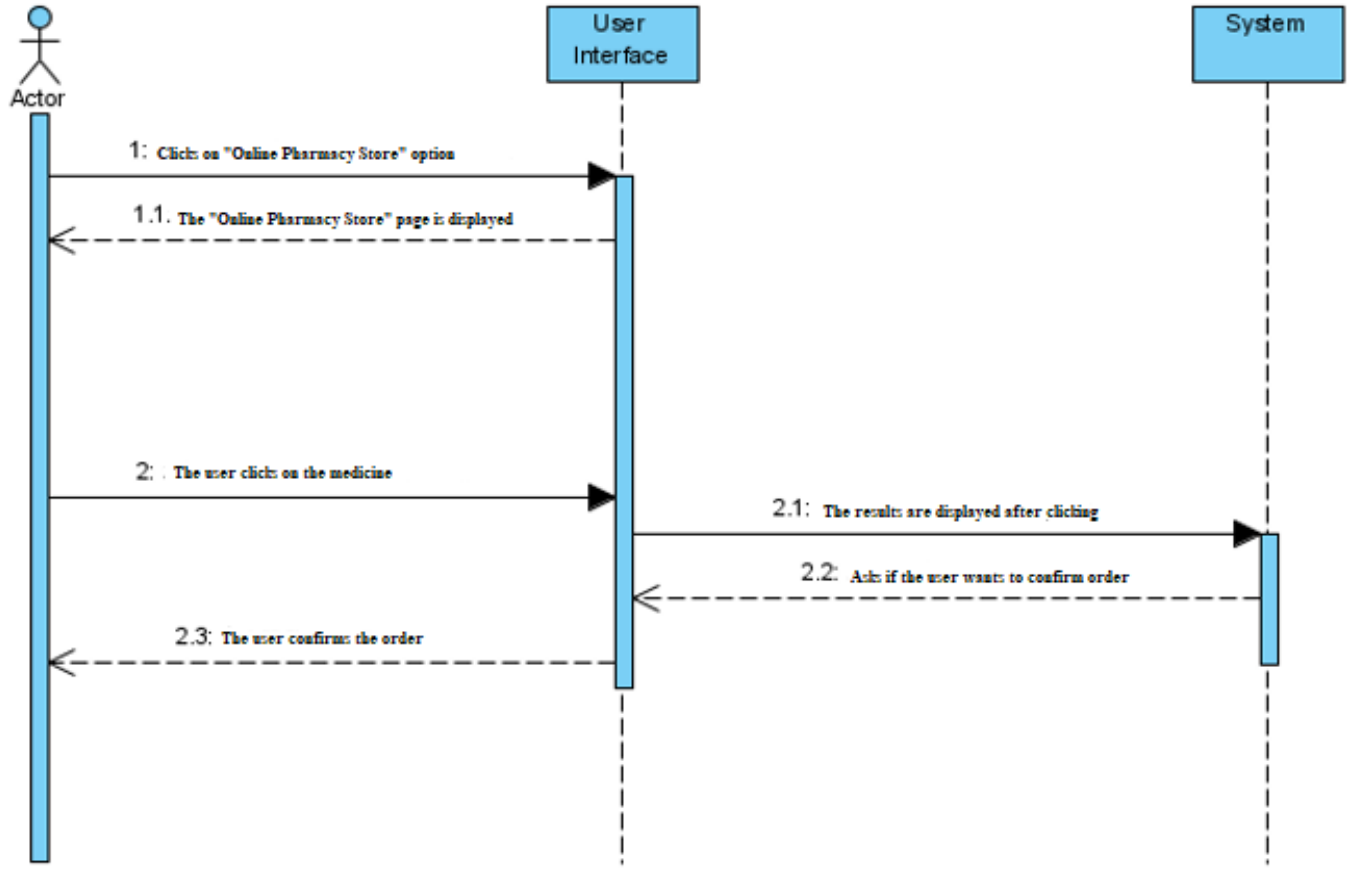
4. Sign up



5. Consultation with Doctor

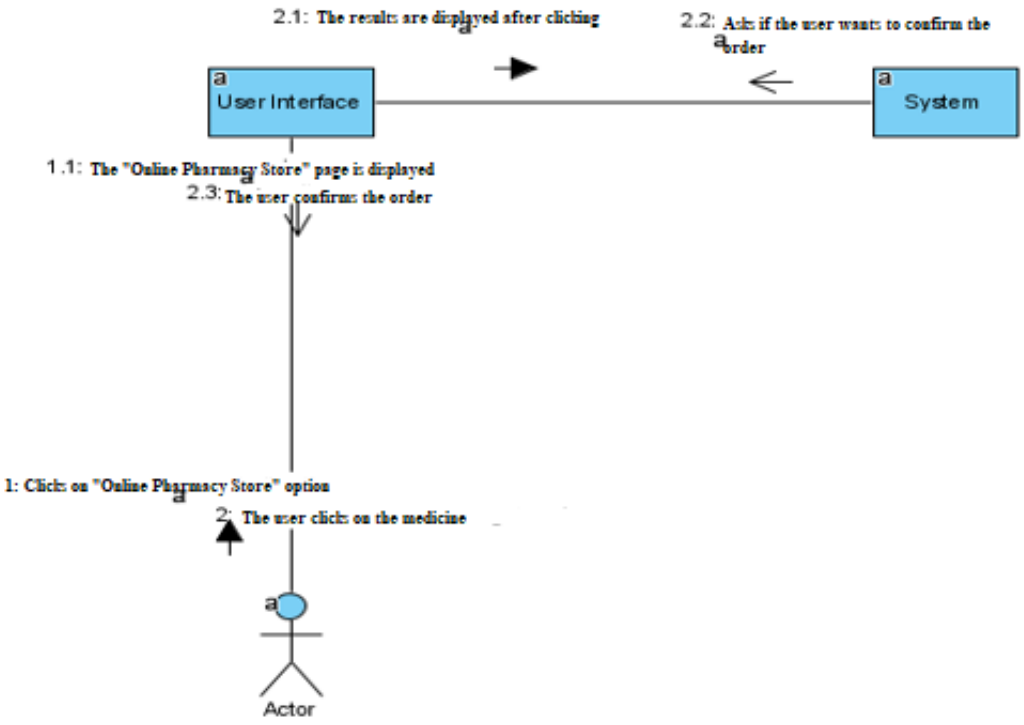


6. Online Pharmacy Store

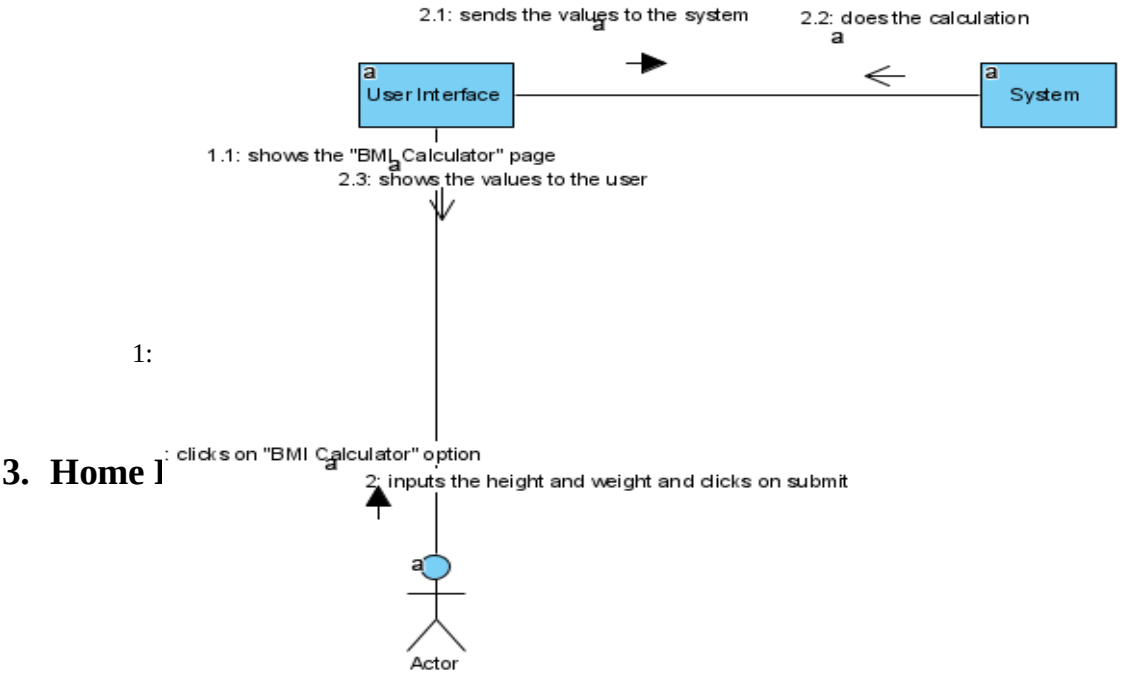


Collaboration Diagrams:

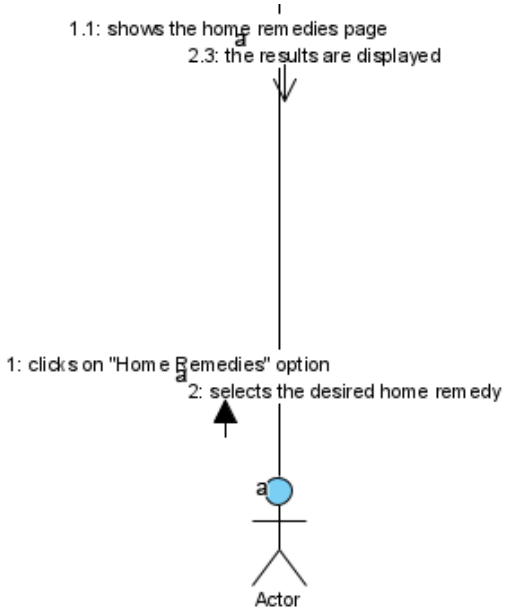
1. Online Pharmacy Store



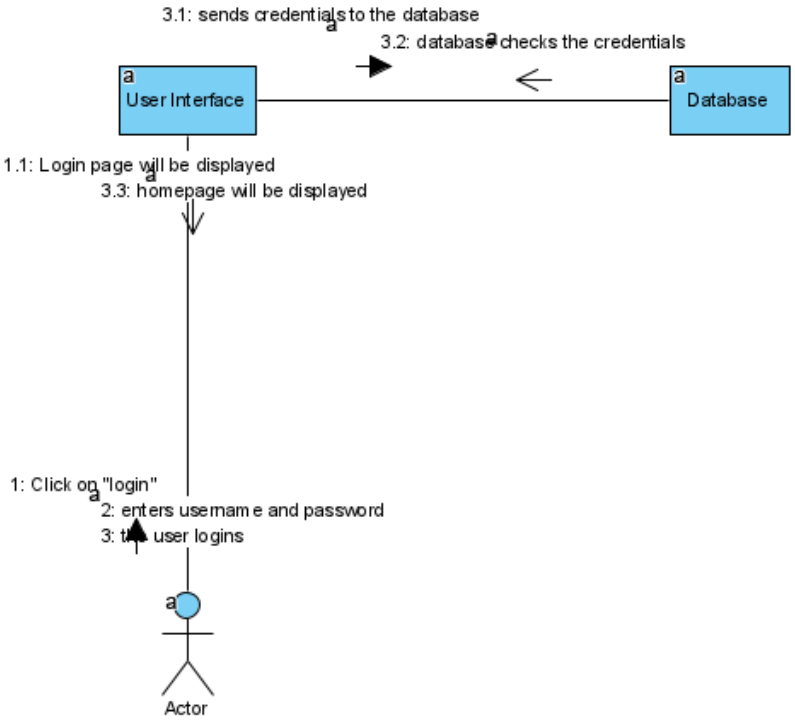
2. BMI Calculator



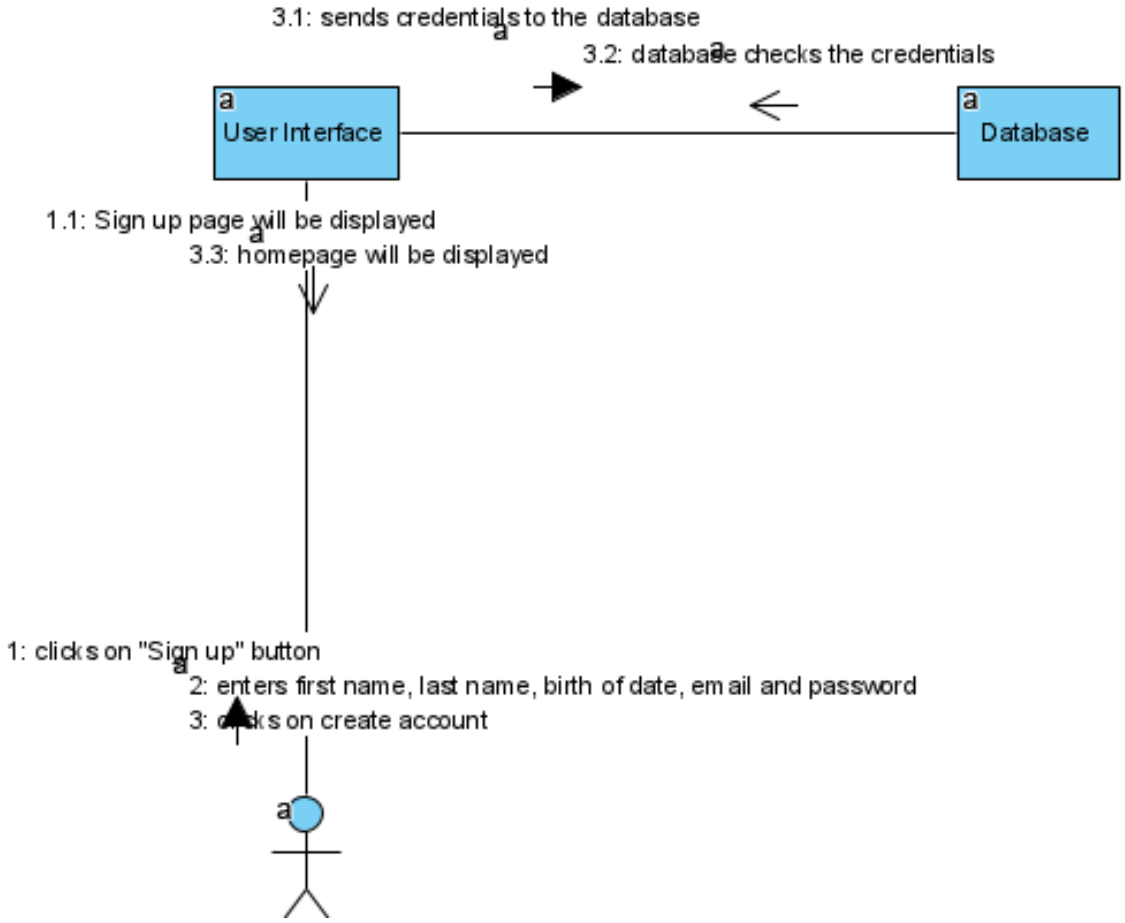
3. Home l



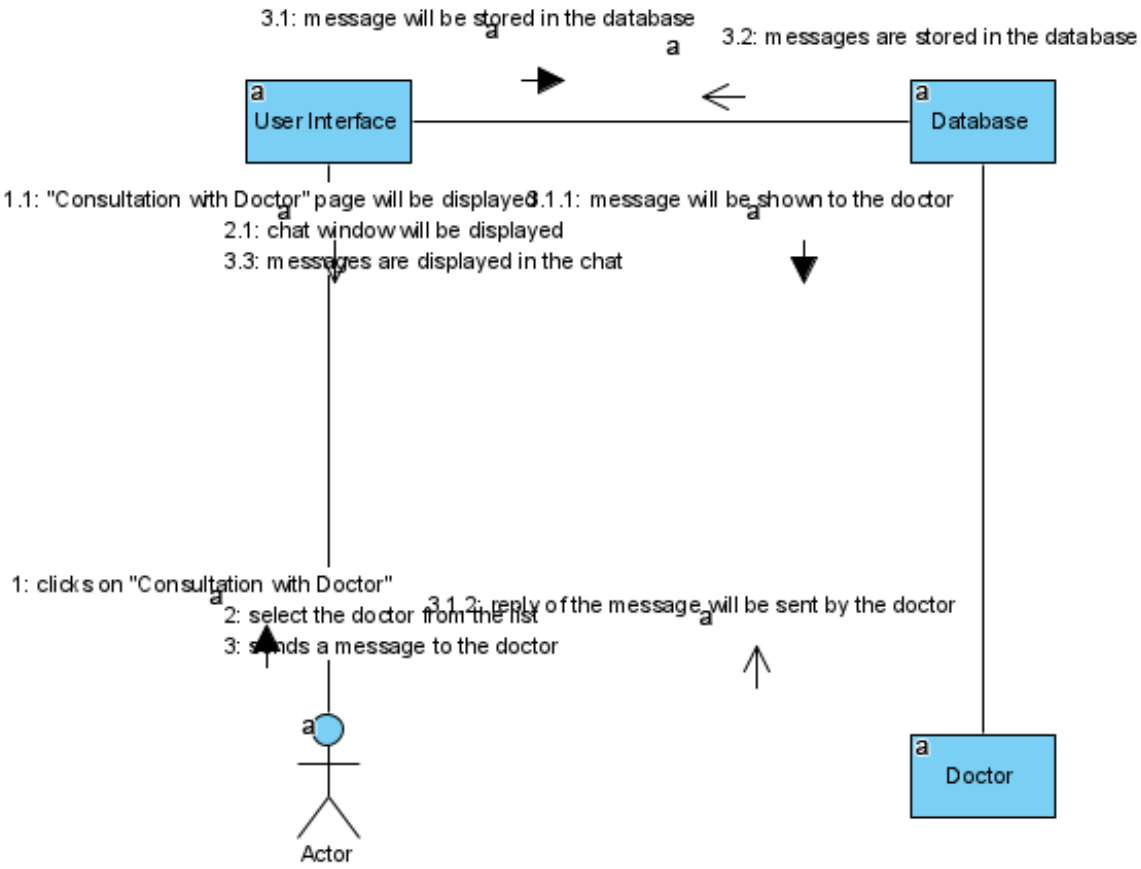
4. Login


3.1: sends credentials to the database
3.2: database checks the credentials
User Interface
Database
1.1: Login page will be displayed
3.3: homepage will be displayed
1: Click on "login"
2: enters username and password
Actor

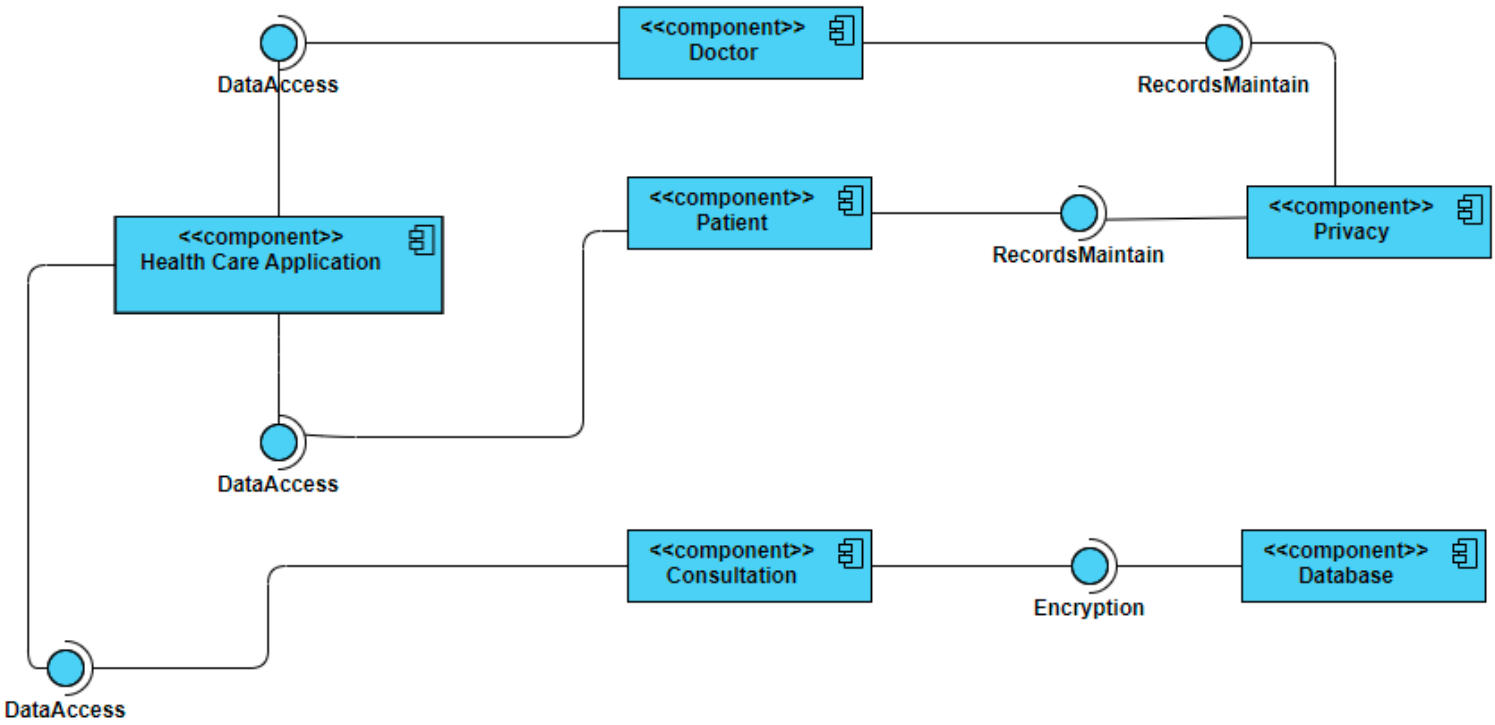
5. Sign up


3.1: sends credentials to the database
3.2: database checks the credentials
User Interface
Database
1.1: Sign up page will be displayed
3.3: homepage will be displayed
1: clicks on "Sign up" button
2: enters first name, last name, birth of date, email and password
3: clicks on create account

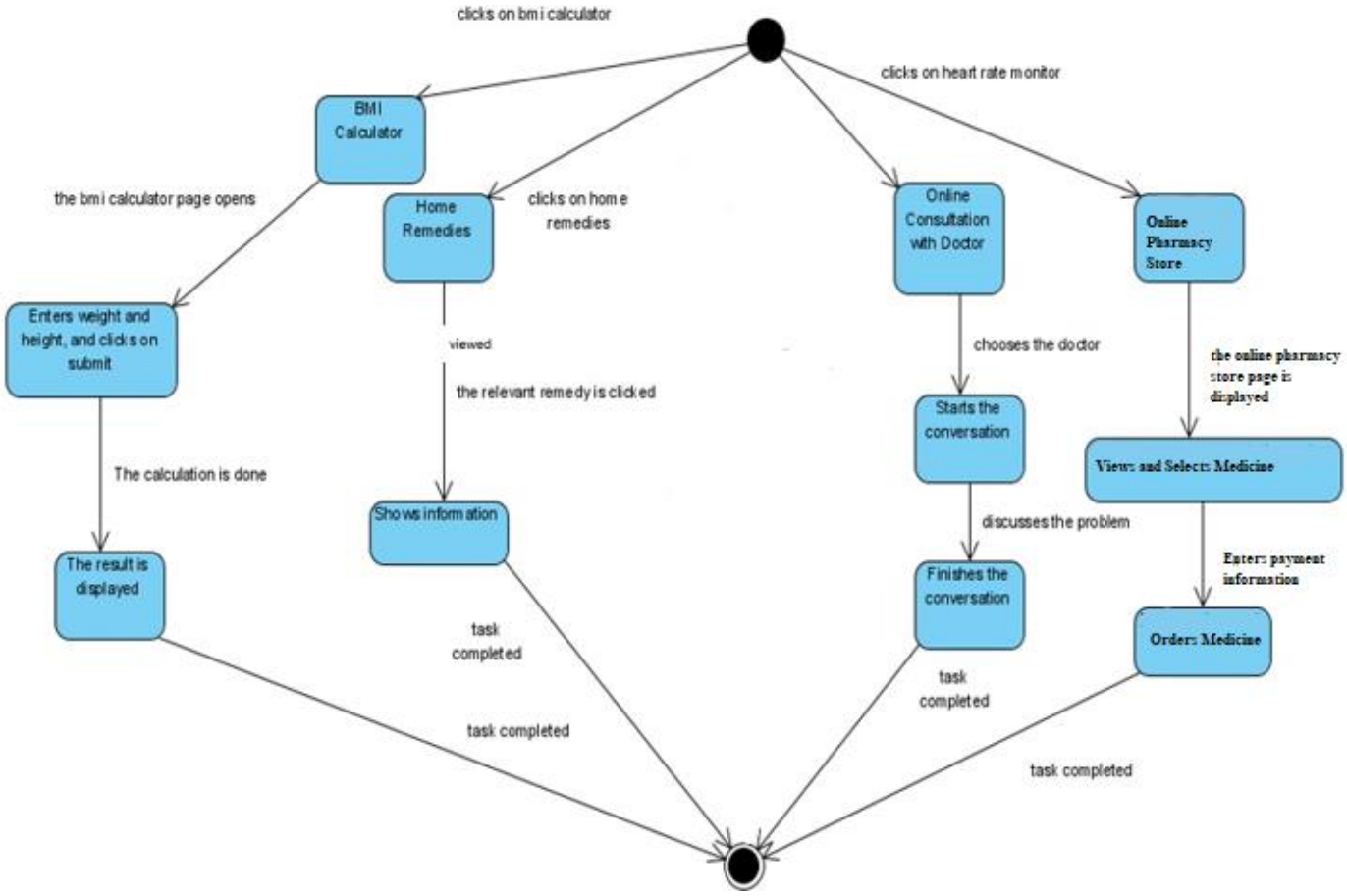
6. Consultation with Doctor



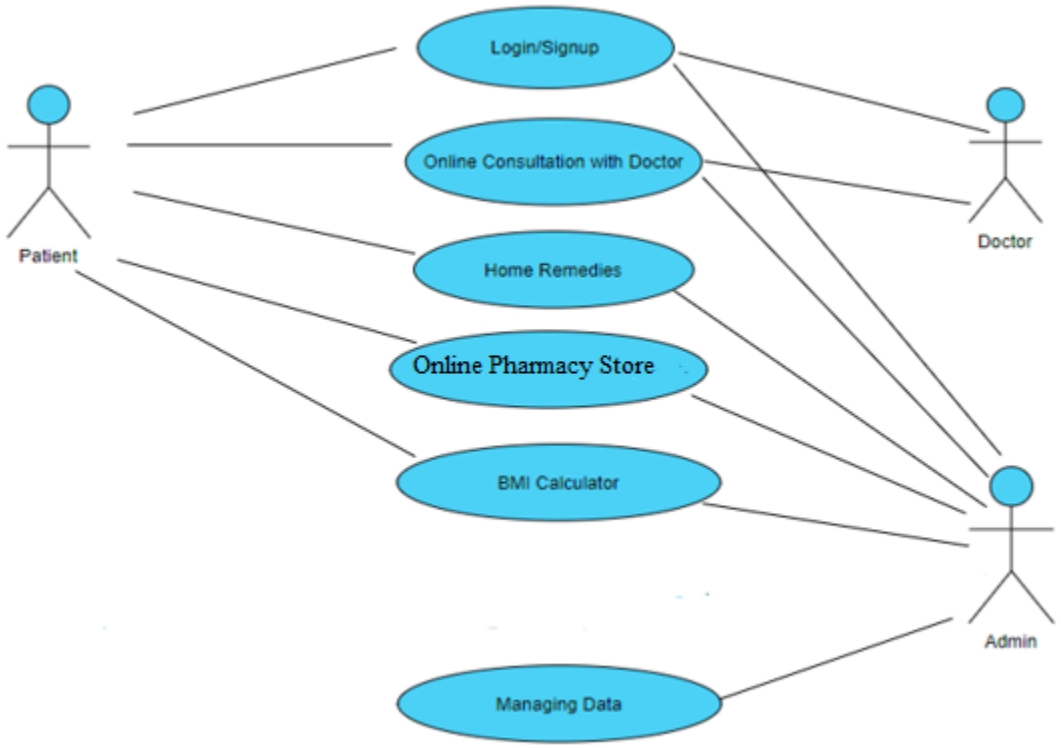
Component diagram



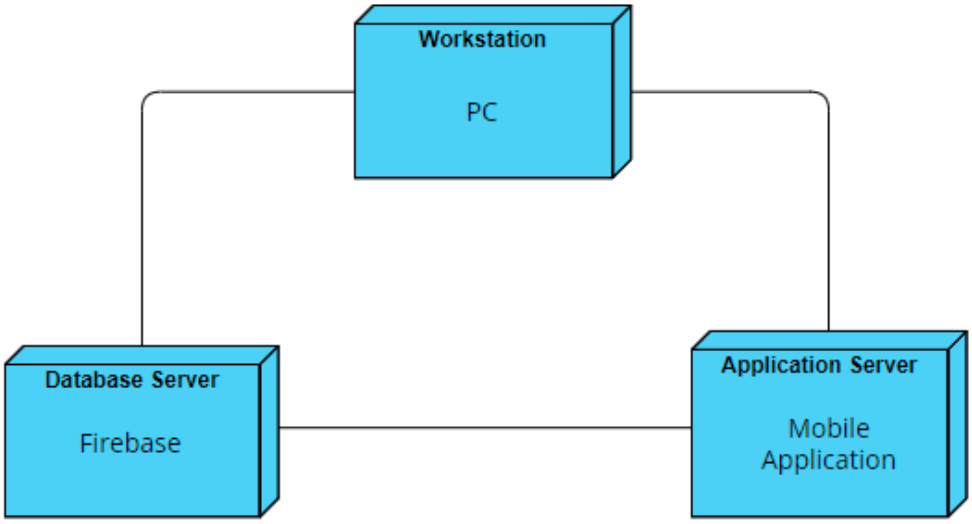
State Transition Diagram



Use Case Diagram



Deployment Diagram



Software Testing Document

for

Health First

Version 1.0 approved

Prepared by Fiza Ahmed 1812149

Aqsa 1812147

SZABIST

6/20/2022

Login

Test Case ID	Test Case Name	Test Case Summary	Test Case Steps	Expected Result	Actual Result	Pass/Fail
1	Login	This test case is used to test the "Login" page functionalities	1. Enter correct username and correct password	Login will be successful	Login is successful	PASS
			2. Enter incorrect username and incorrect password	Login will be unsuccessful	Login is unsuccessful	PASS

Sign Up

Test Case ID	Test Case Name	Test Case Summary	Test Case Steps	Expected Result	Actual Result	Pass/Fail
2	Sign Up	This test case is used to test the "Sign Up" page functionalities	1. Enter correct details	Sign Up will be successful.	Sign Up is successful	PASS
			2. Enter incorrect details	Sign Up will be unsuccessful	Sign Up is unsuccessful	PASS

BMI Calculator

Test Case ID	Test Case Name	Test Case Summary	Test Case Steps	Expected Result	Actual Result	Pass/Fail
3	BMI Calculator	This test case is used to test the "BMI Calculator" page functionalities	1. Enter correct height and correct weight	Correct results of BMI will be displayed	Correct results of BMI are displayed	PASS
			2. Enter incorrect height and weight	Incorrect results of BMI will be displayed	Incorrect results of BMI are displayed	PASS

Home Remedies

Test Case ID	Test Case Name	Test Case Summary	Test Case Steps	Expected Result	Actual Result	Pass/Fail
4	Home Remedies	This test case is used to test the "Home Remedies" page functionalities	1. Click on correct remedy	The information about the remedy should be displayed.	The information about the remedy is displayed.	PASS

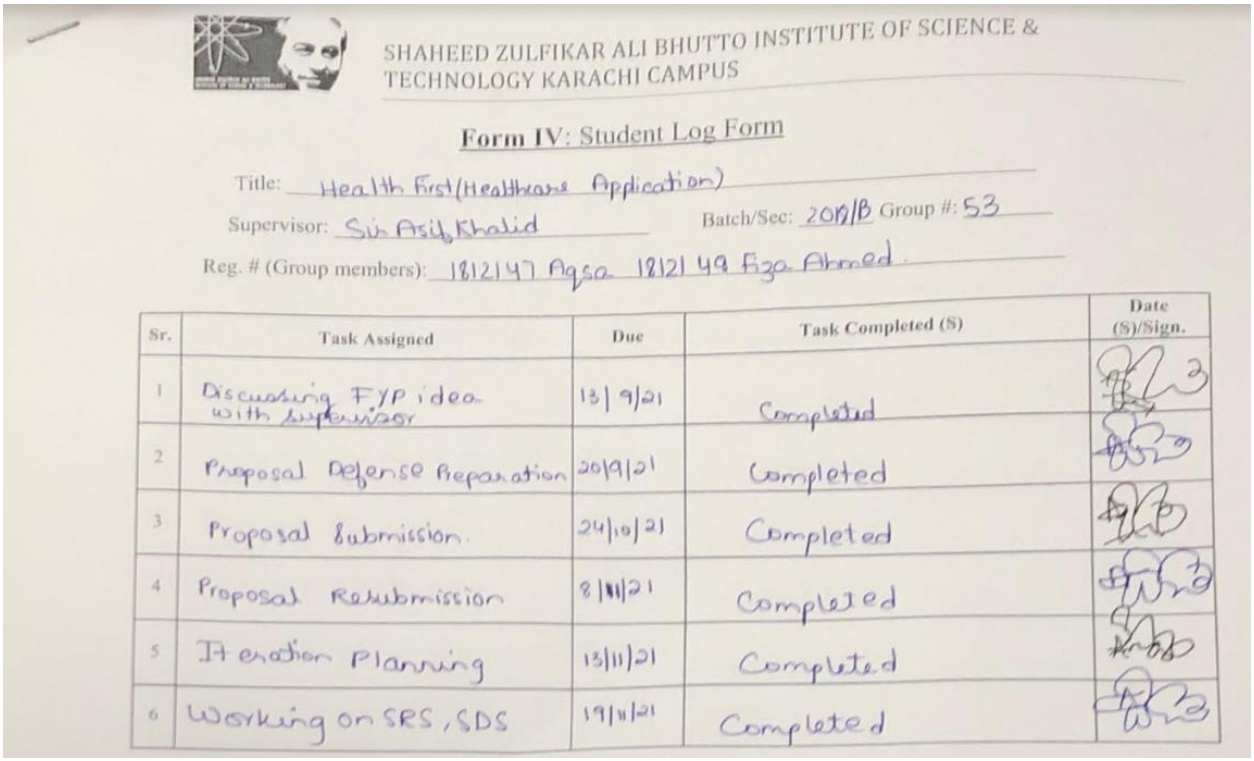
Online Consultation

Test Case ID	Test Case Name	Test Case Summary	Test Case Steps	Expected Result	Actual Result	Pass/Fail
5	Online Consultation	This test case is used to test the "Online Consultation" page functionalities	1. Click on the correct name to communicate	The chatroom will open	The chatroom opens	PASS

Online Pharmacy Store

Test Case ID	Test Case Name	Test Case Summary	Test Case Steps	Expected Result	Actual Result	Pass/Fail
6	Online Pharmacy Store	This test case is used to test the "Online Pharmacy Store" page functionalities	1. Click on the correct medicine to order	The correct medicine will be displayed	The correct medicine is displayed	PASS

Meeting Log



SHAHEED ZULFIKAR ALI BHUTTO INSTITUTE OF SCIENCE & TECHNOLOGY KARACHI CAMPUS

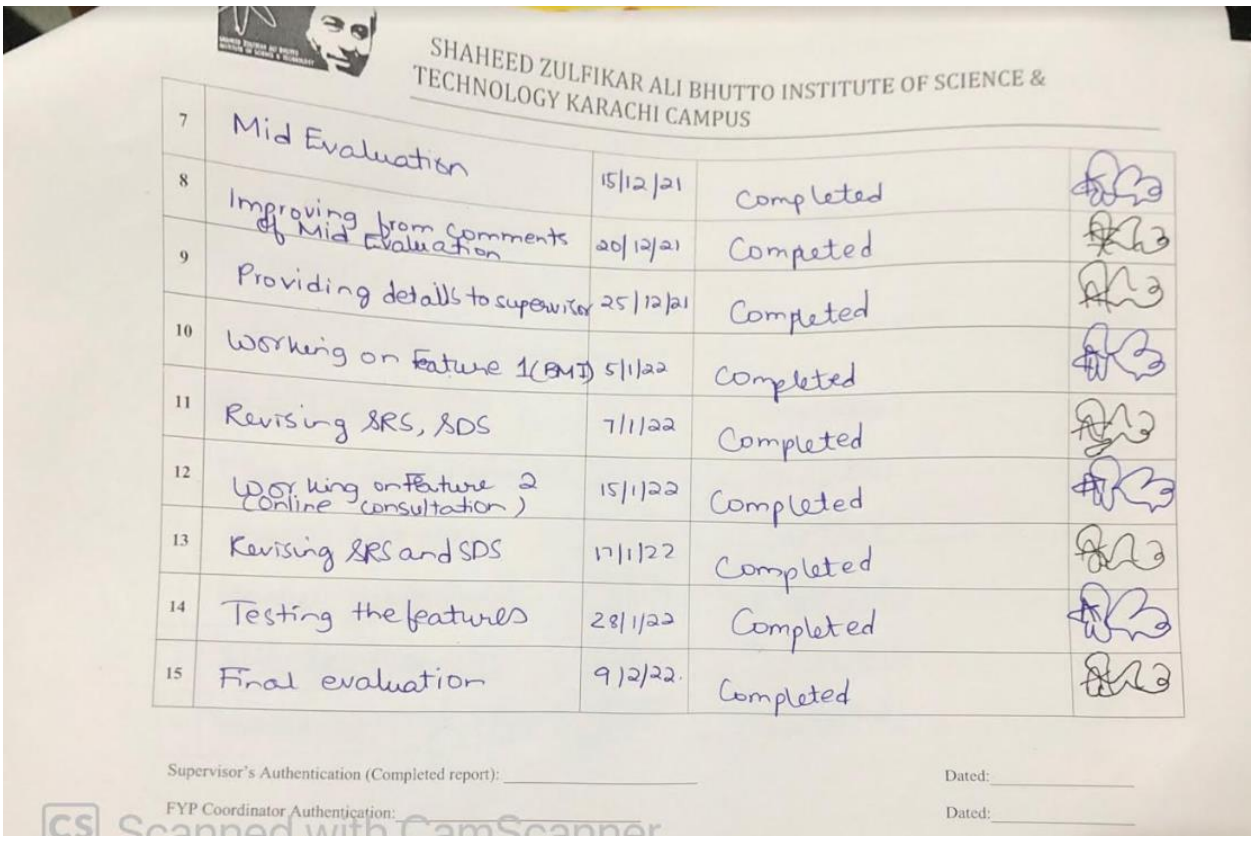
Form IV: Student Log Form

Title: Health First (Healthcare Application)

Supervisor: Sir Asif Khalid Batch/Sec: 2018/B Group #: 53

Reg. # (Group members): 18I2147 Aqsa 18I2149 Fiza Ahmed

Sr.	Task Assigned	Due	Task Completed (S)	Date (S)/Sign.
1	Discussing FYP idea with Supervisor	13|9|21	Completed	
2	Proposal Defense Preparation	20|9|21	Completed	
3	Proposal Submission	24|10|21	Completed	
4	Proposal Resubmission	8|11|21	Completed	
5	Iteration Planning	13|11|21	Completed	
6	Working on SRS, SDS	19|11|21	Completed	



SHAHEED ZULFIKAR ALI BHUTTO INSTITUTE OF SCIENCE & TECHNOLOGY KARACHI CAMPUS

7	Mid Evaluation	15|12|21	Completed	
8	Improving from comments of Mid Evaluation	20|12|21	Completed	
9	Providing details to supervisor	25|12|21	Completed	
10	Working on Feature 1(BMI)	5|1|22	Completed	
11	Revising SRS, SDS	7|1|22	Completed	
12	Working on Feature 2 (Online consultation)	15|1|22	Completed	
13	Revising SRS and SDS	17|1|22	Completed	
14	Testing the features	28|1|22	Completed	
15	Final evaluation	9|2|22	Completed	

Supervisor's Authentication (Completed report): _____ Dated: _____

FYP Coordinator Authentication: _____ Dated: _____

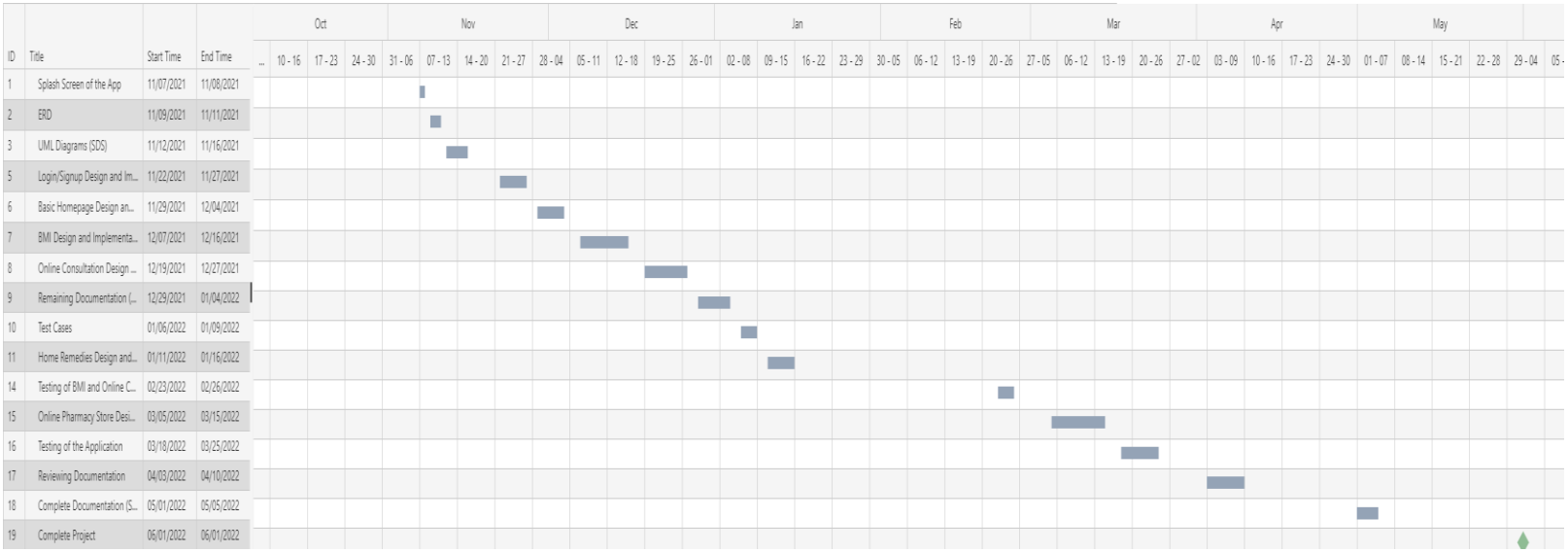
Iteration Plan

Iteration Plan					
S.No.	Features	FYP-I Iterations			
		Monthly Iteration-I	Monthly Iteration-II	Monthly Iteration-III	Monthly Iteration-IV
1	Proposal	Discussion			
		Constructing Proposal			
2	ERD/Use Cases		Making ERD(Complete)		
			Making Use Cases(Complete)		
3	SRS/SDS		Requirements(Complete)		
			Creating SRS(Complete)		
				Creating SDS(Complete)	
4	Test Cases		Requirments(Complete)		
			Designing (20%)		
5	Final Documentation				SRS Revised 100%
					SDS Revised 100%
6	Initial Implementation			Login	
				Sign up	
					BMI Design and Implementation

Iteration Plan

S.No.	Features	FYP-II Iterations			
		Monthly Iteration-I	**Monthly Iteration-II**	**Monthly Iteration-III**	**Monthly Iteration-IV**
1	BMI	Thinking about design			
			Implementing the design	Testing the design	
	Login/Signup Screen	Add Users			
			Store User Information		
3	Online Consultation with Doc	Making UI			
			Implementing functionality		
				Storing message in Firestore	
4	Online Pharmacy Store	Making UI			
			Implementation		
				Adding medicines	

Gantt Chart



ID	Title	Start Time	End Time
1	Splash Screen of the App	11/07/2021	11/08/2021
2	ERD	11/09/2021	11/11/2021
3	UML Diagrams (SDS)	11/12/2021	11/16/2021
5	Login/Signup Design and Im...	11/22/2021	11/27/2021
6	Basic Homepage Design an...	11/29/2021	12/04/2021
7	BMI Design and Implementa...	12/07/2021	12/16/2021
8	Online Consultation Design ...	12/19/2021	12/27/2021
9	Remaining Documentation (...	12/29/2021	01/04/2022
10	Test Cases	01/06/2022	01/09/2022
11	Home Remedies Design and...	01/11/2022	01/16/2022
14	Testing of BMI and Online C...	02/23/2022	02/26/2022
15	Online Pharmacy Store Desi...	03/05/2022	03/15/2022
16	Testing of the Application	03/18/2022	03/25/2022
17	Reviewing Documentation	04/03/2022	04/10/2022
18	Complete Documentation (S...	05/01/2022	05/05/2022
19	Complete Project	06/01/2022	06/01/2022