Patient\_Health\_Monitoring\_Portal Technical Design Document

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# Introduction

## 1.1 Purpose of this document

The purpose of this high level design document is to describe the detailed design of the Patient health monitoring portal application. All the components, annotations and interfaces used for the implementation of this project are mentioned here.

## Project overview

The aim of this project is to build a website and database for the doctor and patient. Doctors can able to view the health records of the patient and provide prescription and also they can able to view their appointments. Patient can able to suggest the doctor they need for appointment. Admin will book the appointment for patients depending on the suggestions given by the patients and also on the availability of doctors. Through this application we fix the appointments and make the patients relieve from travel stress.

# Solution Summary

## 2.1 Scope

The scope of the detailed design document is to create and maintain the patient, doctor and admin details. The login id and password for the patient, doctor and admin.

## Assumptions

Once the application is built, the login details for the admin is manually given in the database through which he can login.

The patient and doctor can be able to have their appointments only when the admin books for them.

## Dependencies

The Eclipse IDE is used for developing java applications.

The maven is used to create the spring boot applications.

MySQL is used for the database operations.

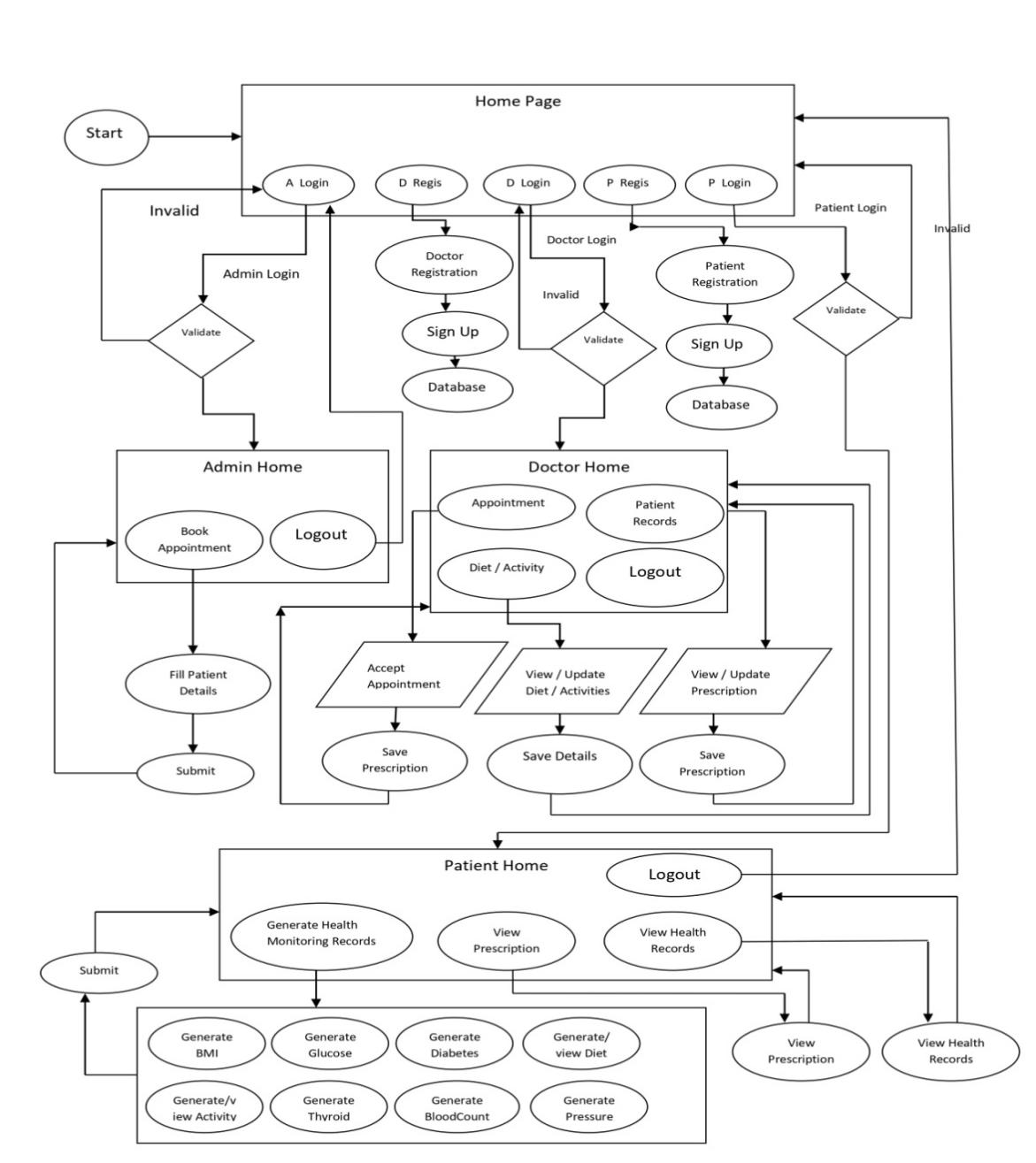
The jsp file is used to create the web page that is shown in the browser. JDK 8 is necessary for execute the applications.

## Risks

The risk may be occurred here is when multiple patient opt for the same doctor at a time, the doctor may not be available for the some patient rarely.

# 3.0 Schematic Diagram

A schematic, or schematic diagram, is a representation of the elements of a [system](https://en.wikipedia.org/wiki/System) using abstract, graphic [symbols](https://en.wikipedia.org/wiki/Symbol) rather than realistic pictures. It gives an overview of overall system



# 4.0 System Design

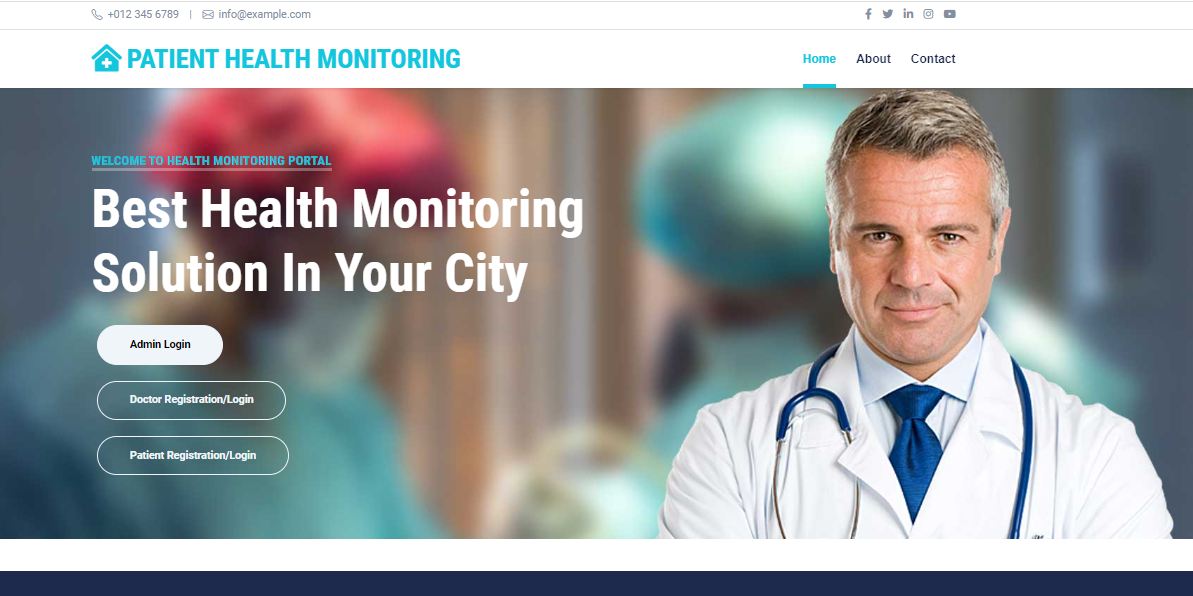
## Proposed design

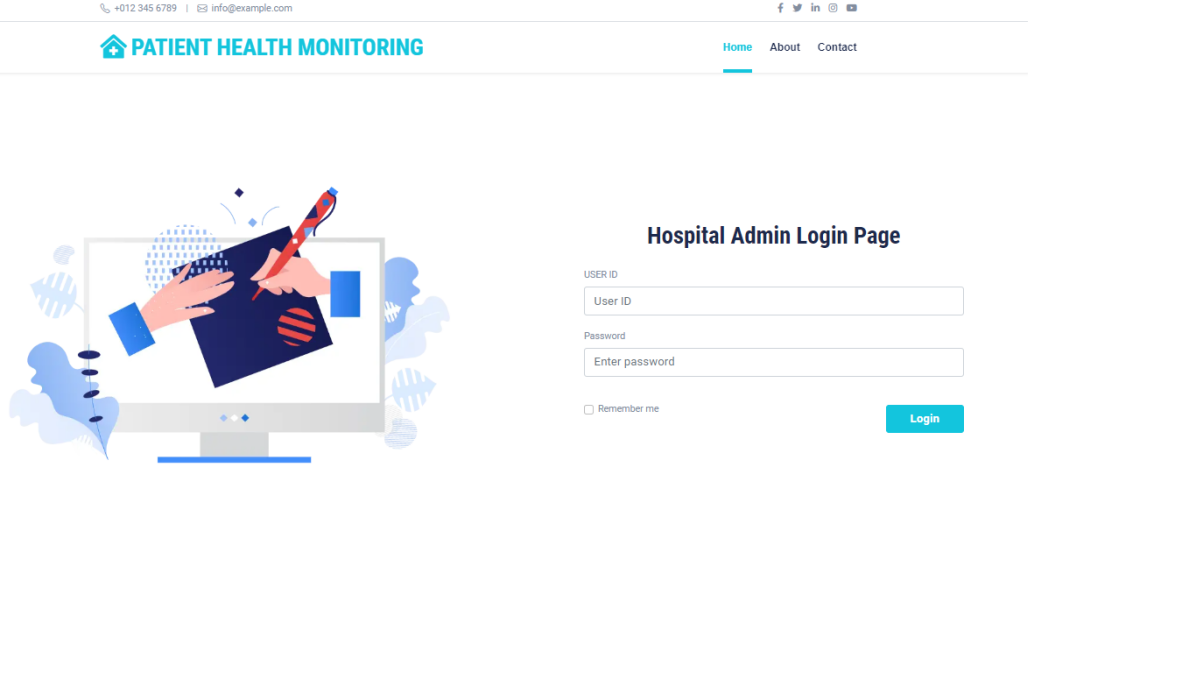
The proposed system design focuses on the detailed implementation of the feasible system. It consists of two phases namely Logical Design and Physical Design.

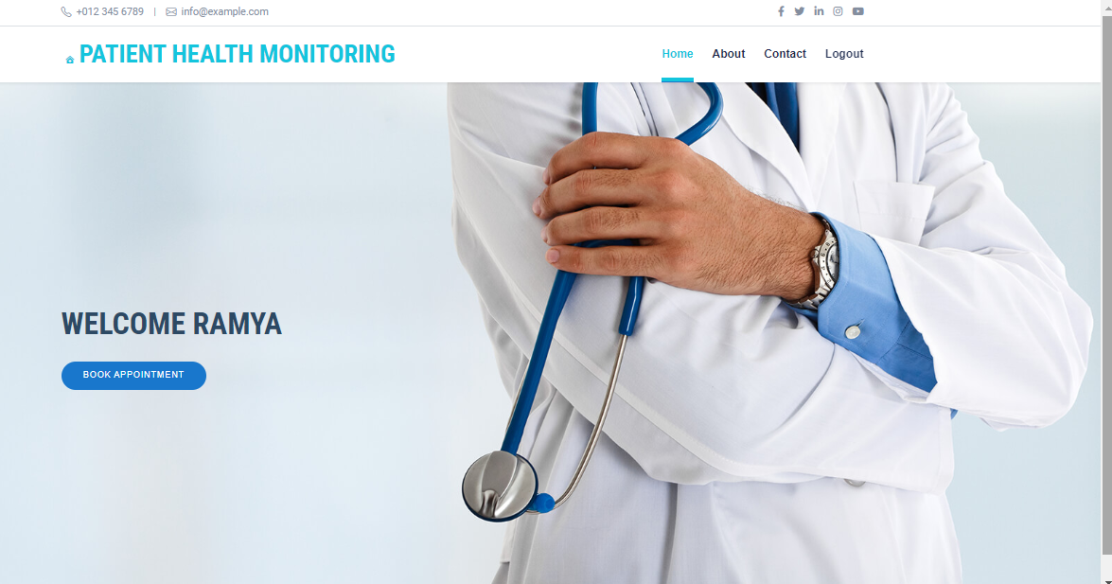
• During logical design phase the analyst describes inputs (sources), outputs(destinations), databases (data sores) and procedures (data flows) all in a format that meets the user requirements. The analyst also specifies the needs of the user at a level that virtually determines the information flow in and out of the system and the data resources. Here the logical design is done through data flow diagrams and database design.

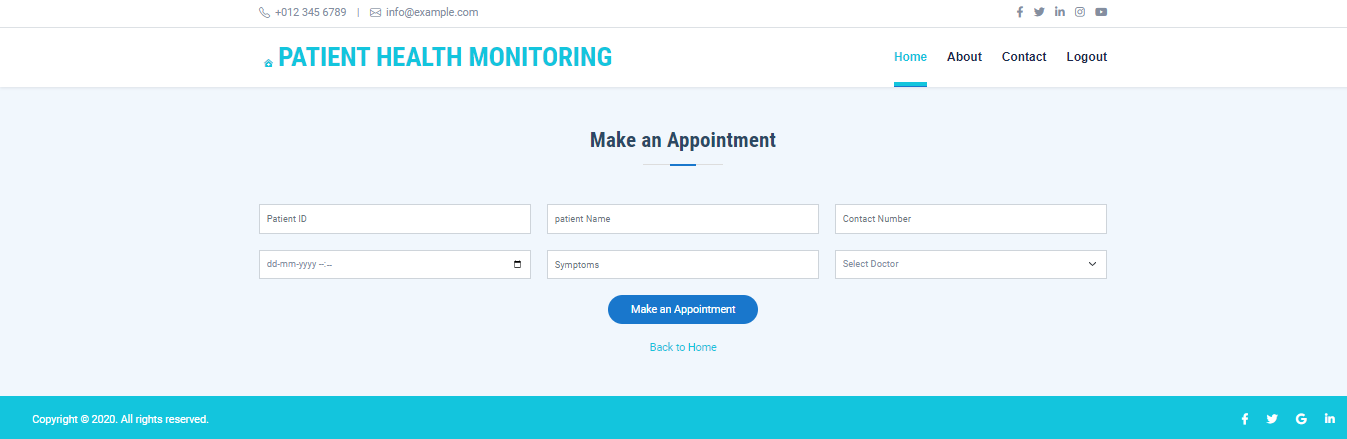
• The physical design is followed by coding. Physical design produces the working system by defining the design specifications, which specify exactly what the candidate system must do. The programmers write necessary programs that accept input from the user, perform necessary processing on accepted data and produce the required report on a hard copy or display it on the screen

* 1. Component inventory
* **Role Selection**–When a user opens the web page, the initial screen will display the options to select from the different roles "Patient", "Doctor" or "Admin" to which a user would like to login. if the user has not yet registered, he can go with the option “Register” which will guide him to the respective registration page.
* **Registration and Login** – will be used by the Patient, Doctor and Admin to register and login into the system and also to edit their respective registration details in the system.
* **Update treatment/prescription details**- Doctor on clicking Appointments, will list all the active appointments with the details Appointment id, Patient id, date and time of appointments. On clicking Patient id, will redirect to the Patient Medical record page for that appointment id. Doctor will fill in the necessary details of the treatment and prescription and submit.
* **Update patient records, Diet and activity**-Doctor on clicking the Update Records, lists all the patient records created by him and on clicking Update Diet / exercise link will redirect to the Diet recommendation page and doctor will fill in the necessary details and submit.
* **Patient Home** –Patient can check their health condition, Activities and prescription given to them by doctor.

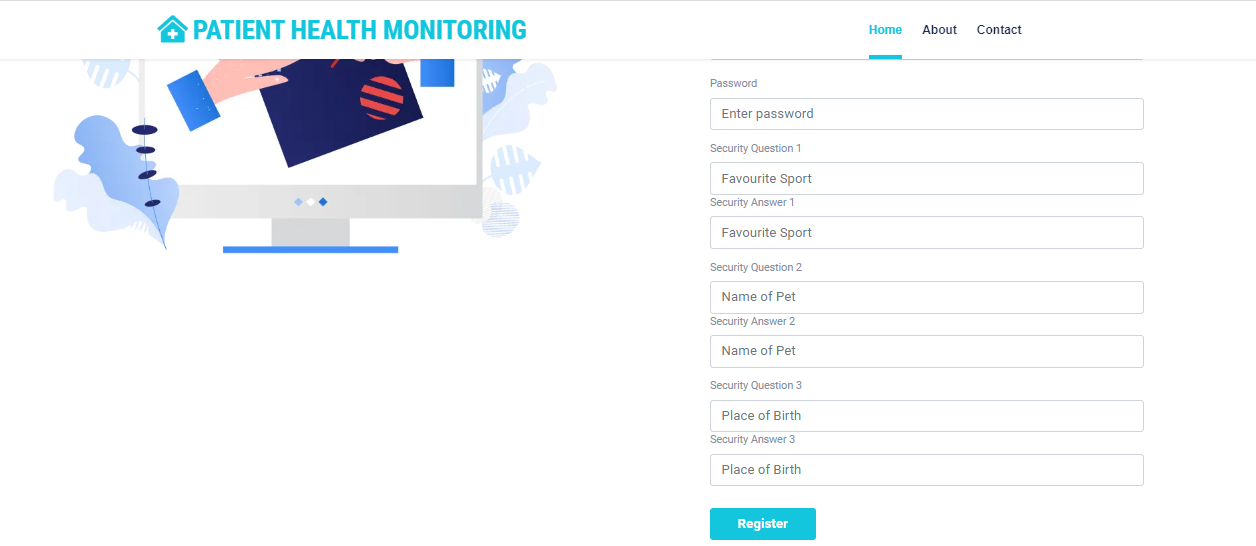
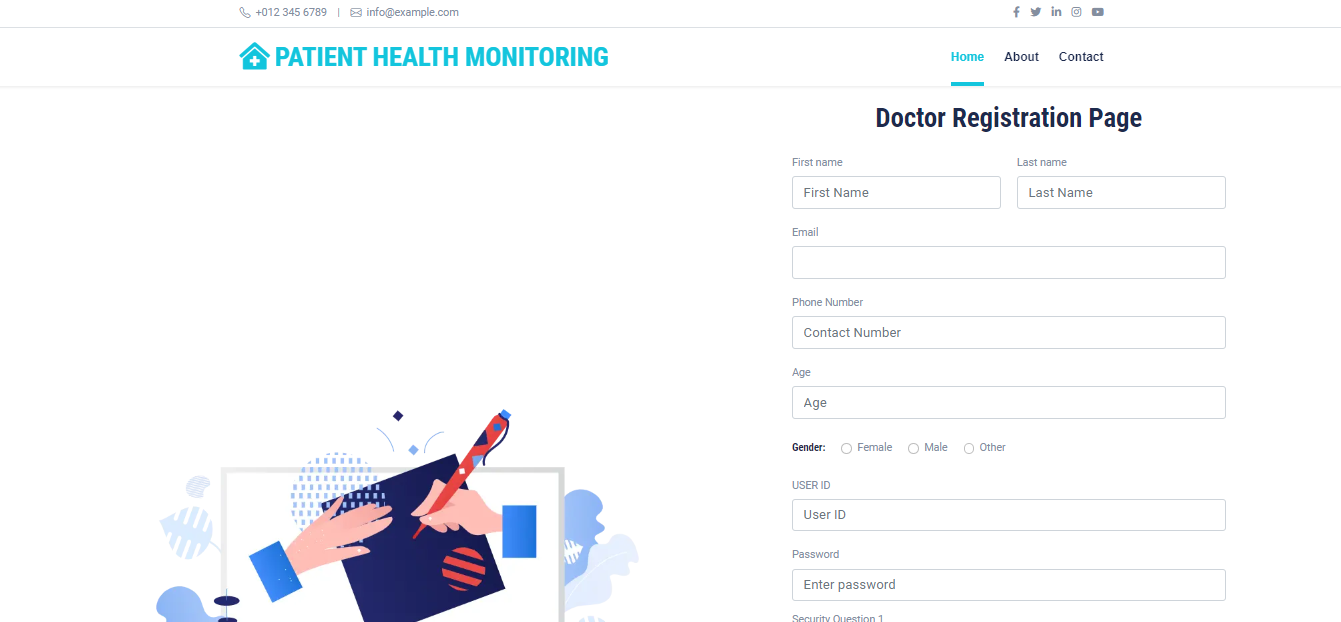


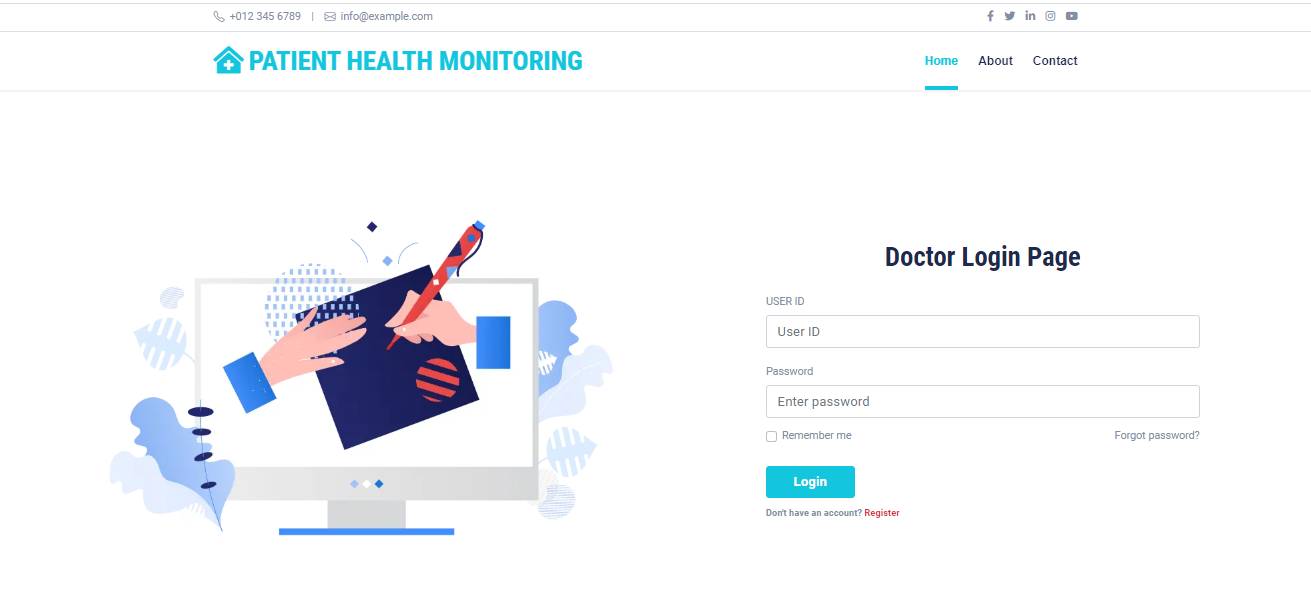


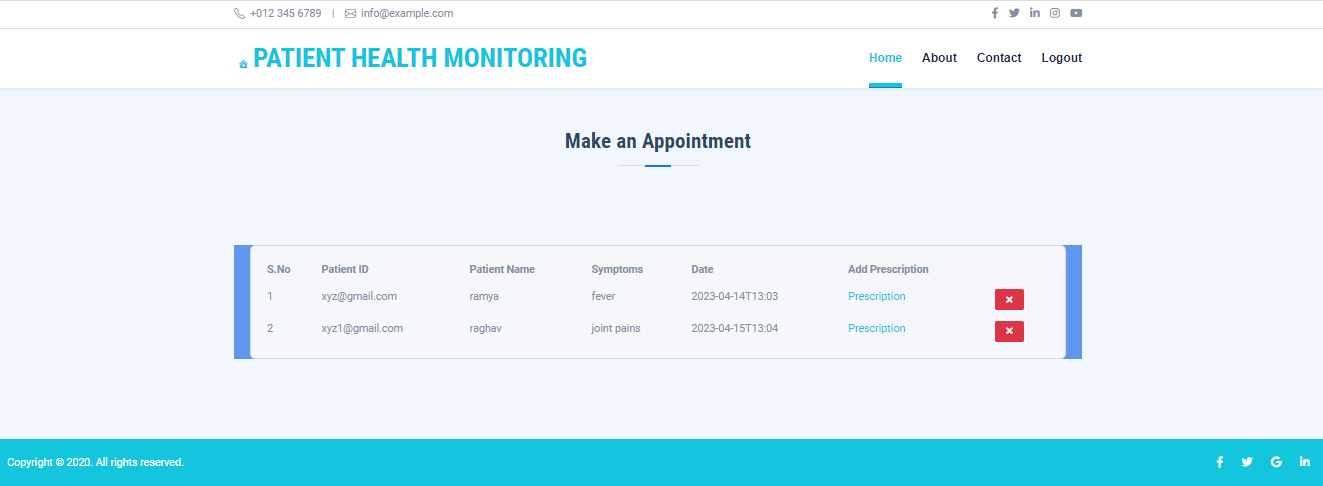
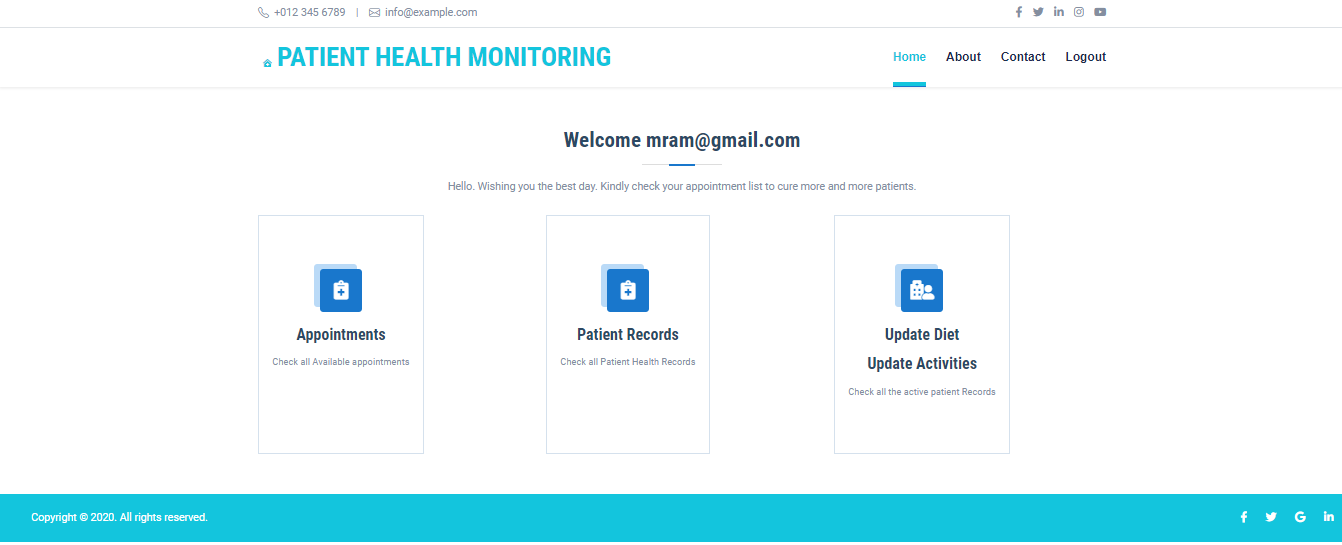


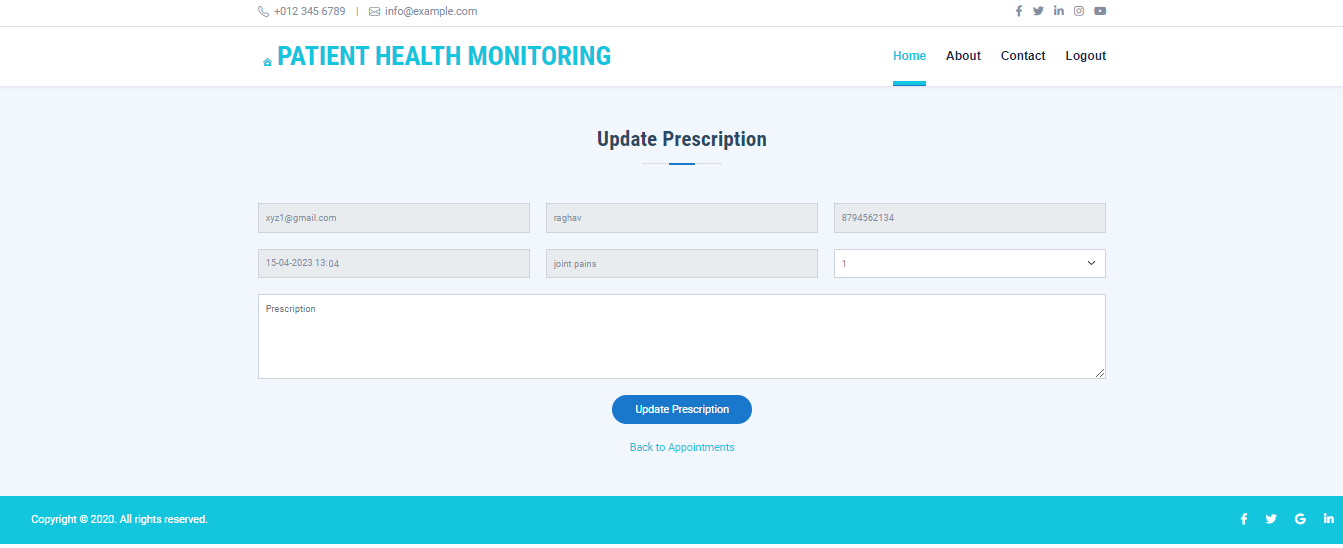


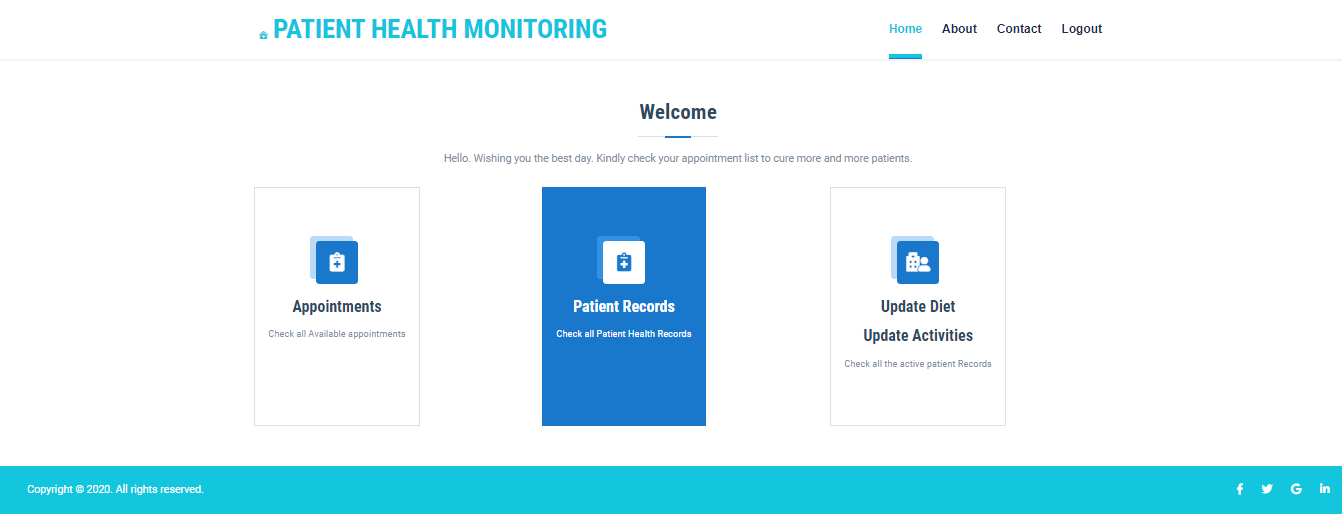


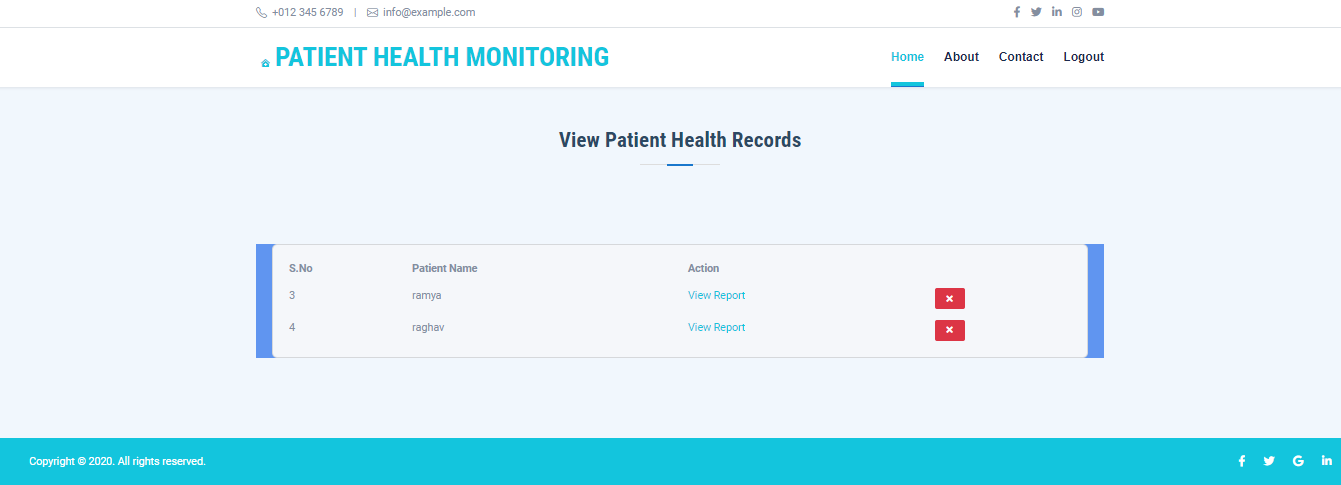


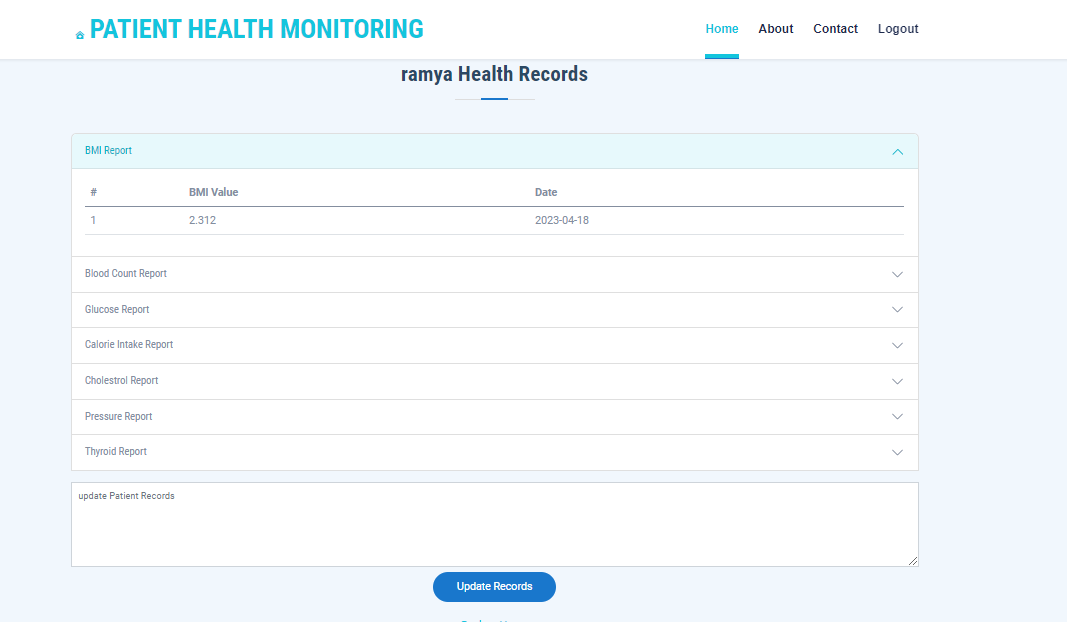


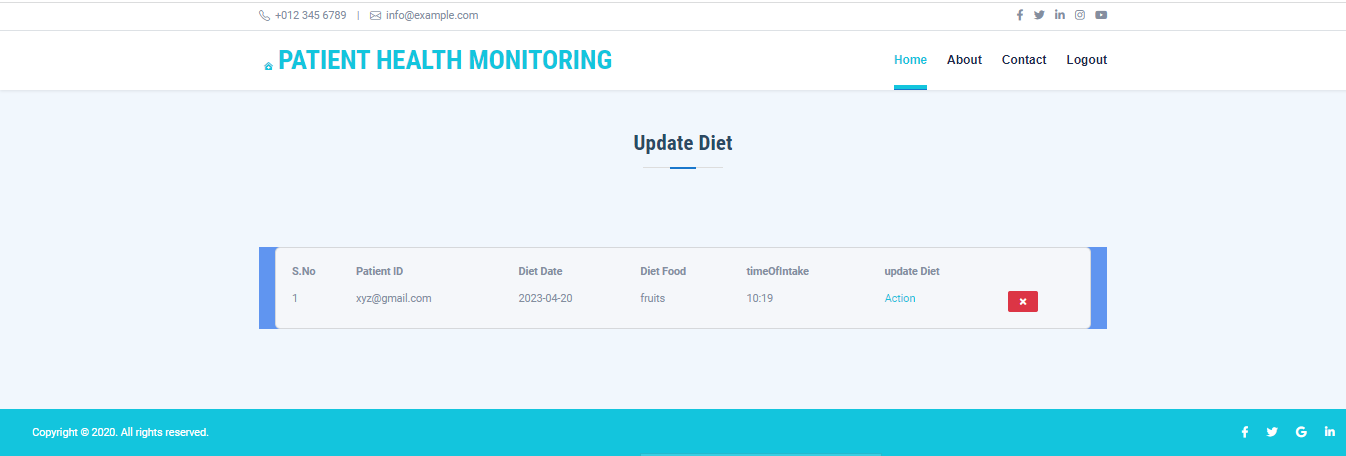


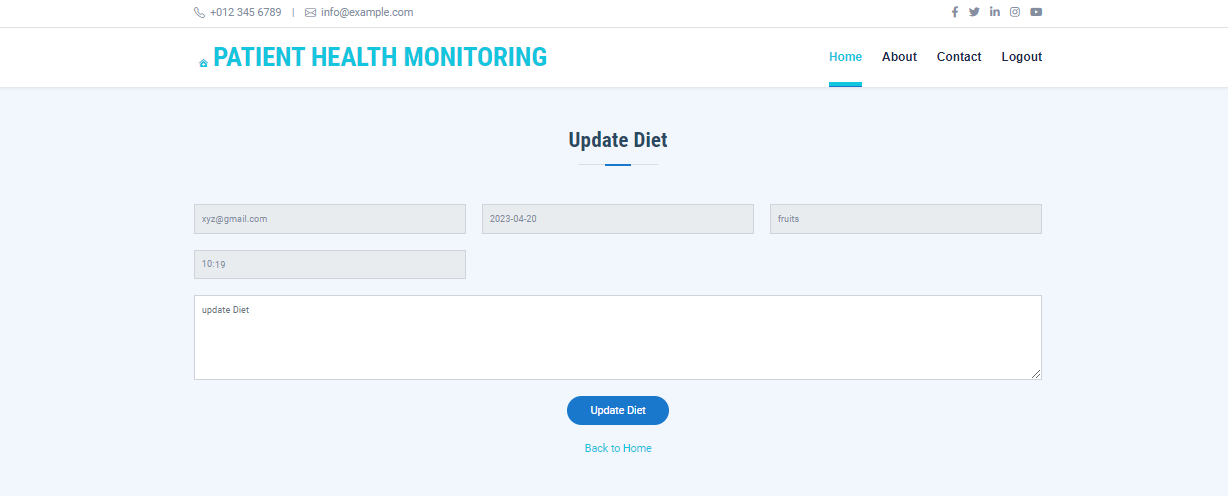


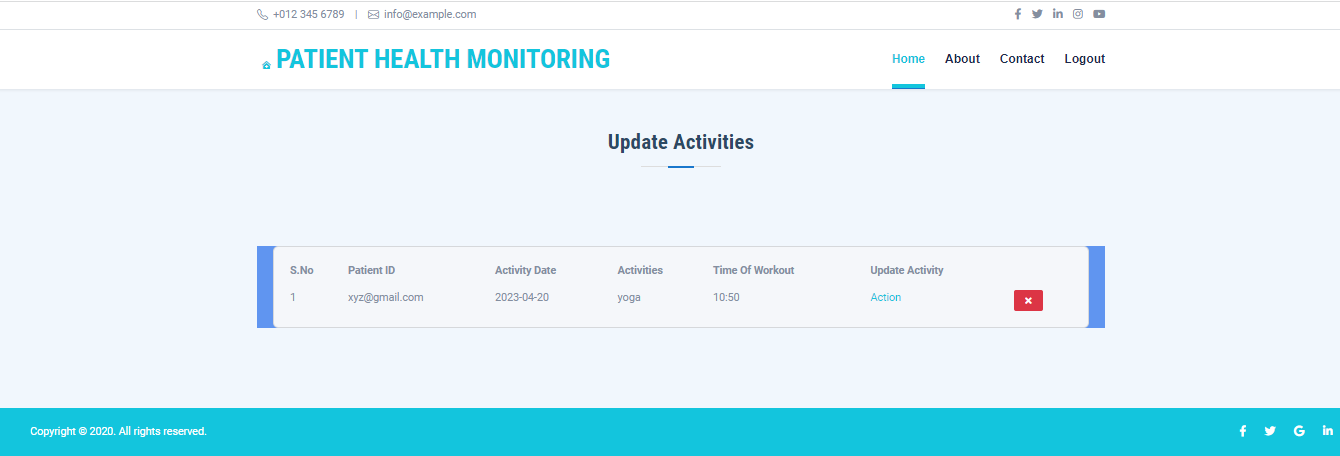


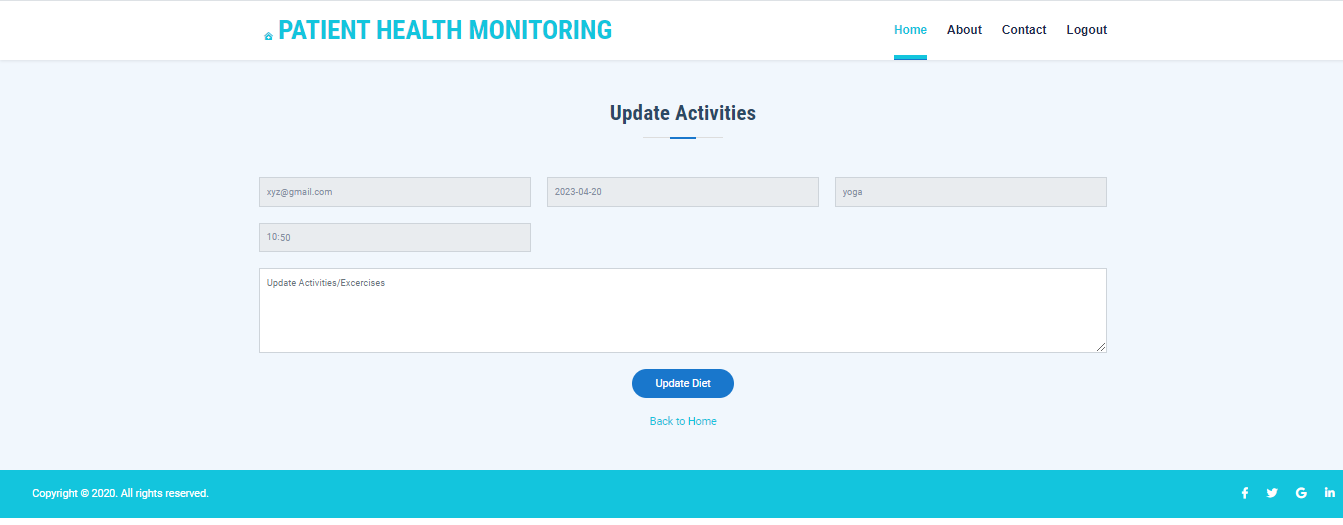


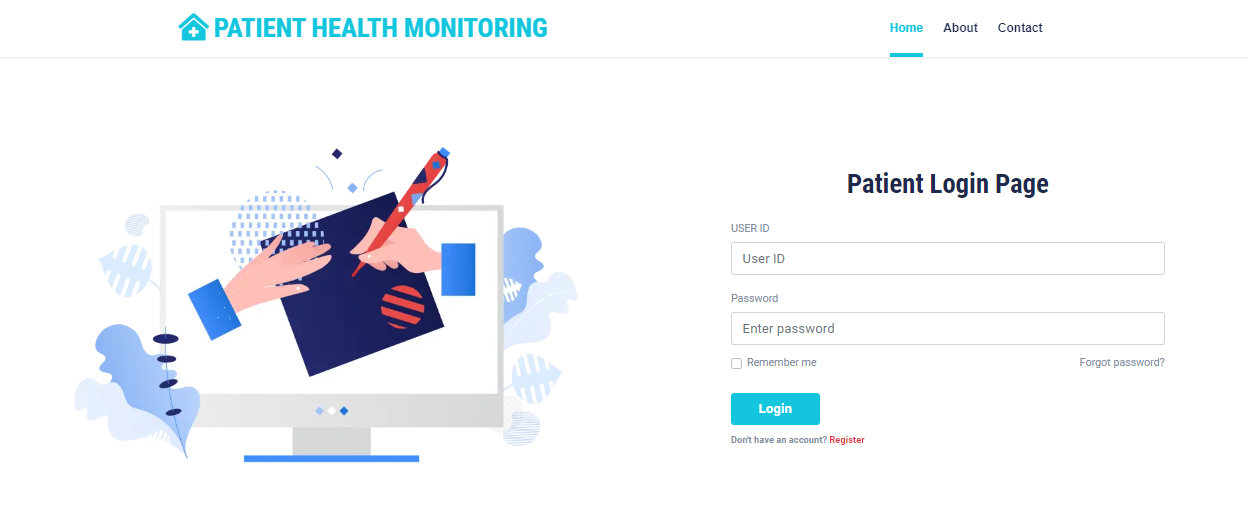


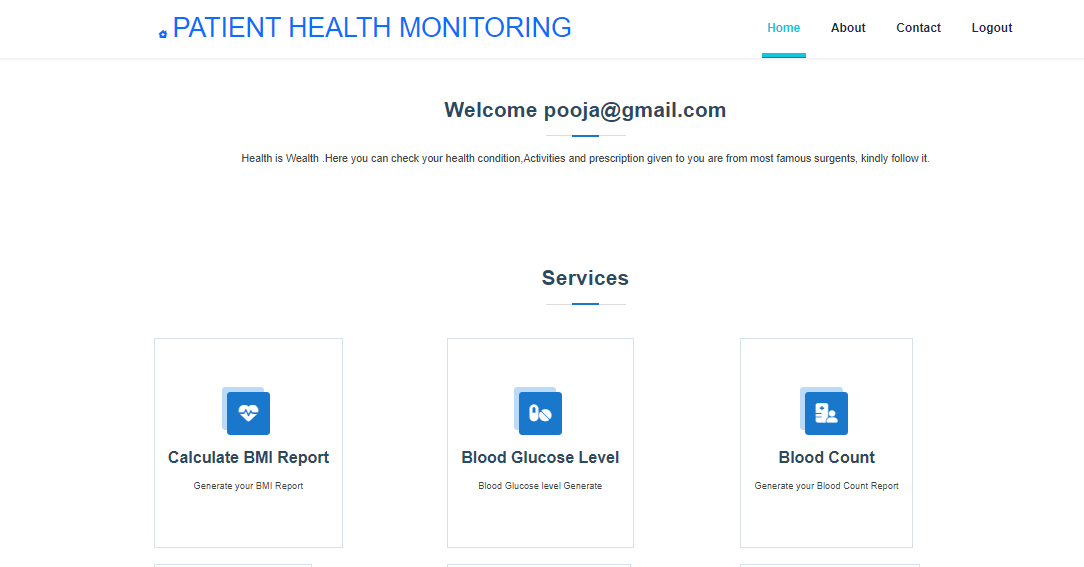


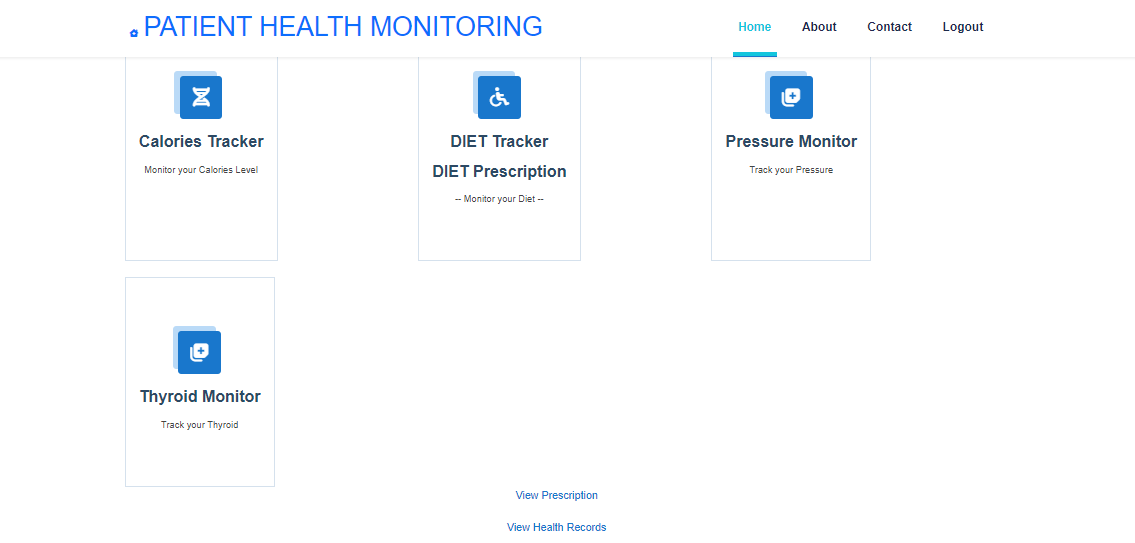
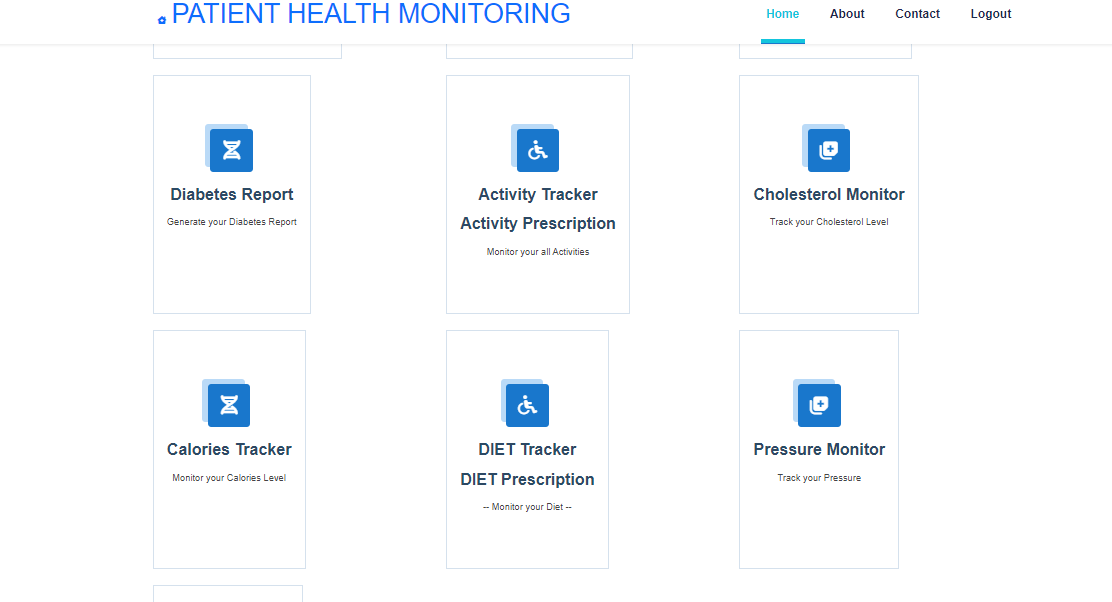


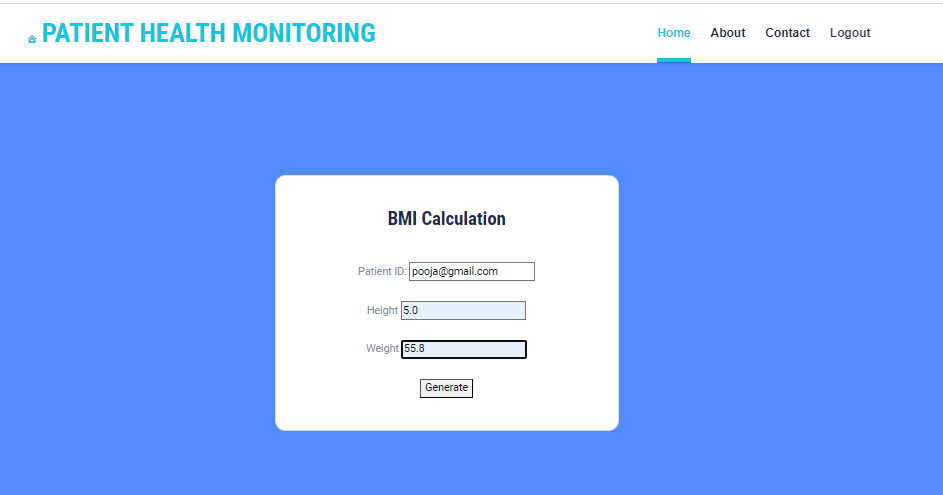


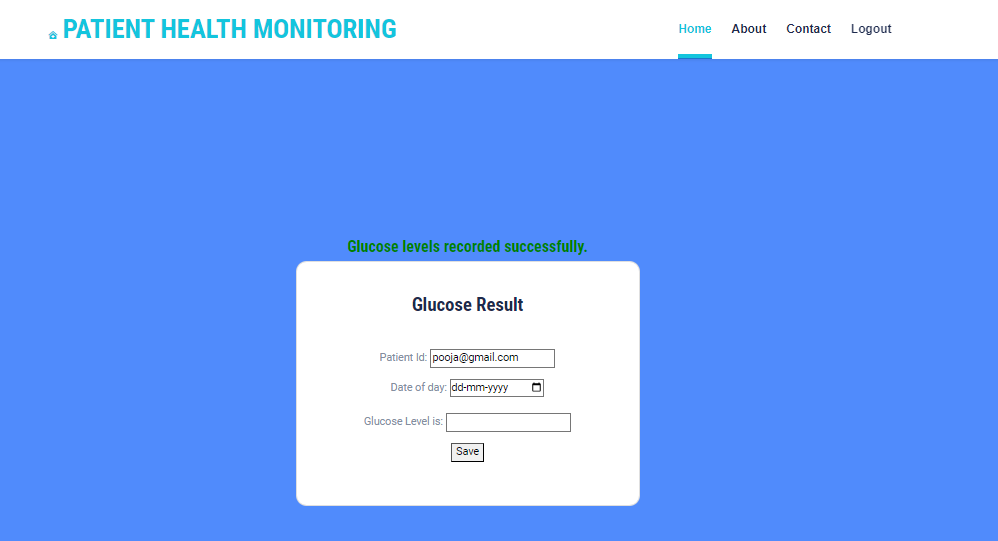
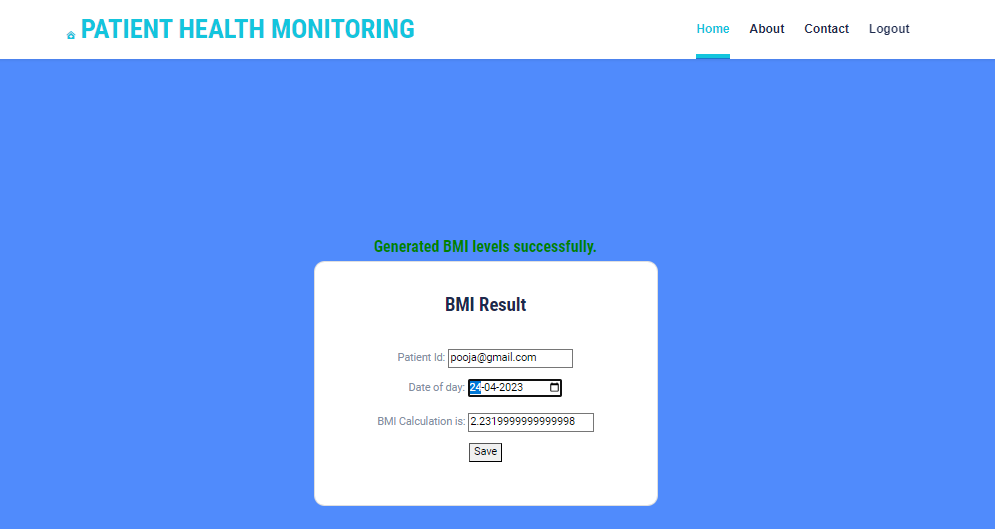


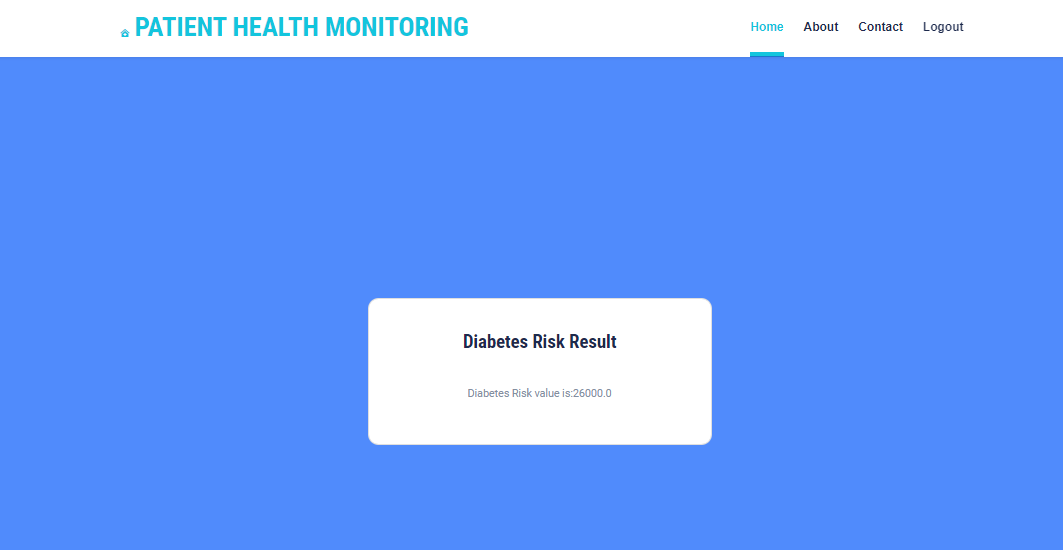
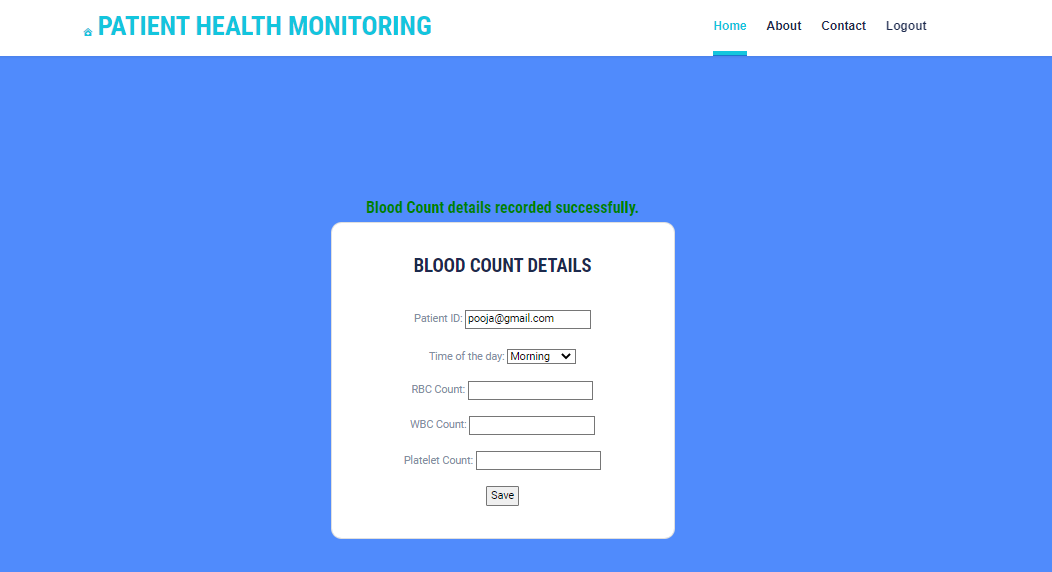


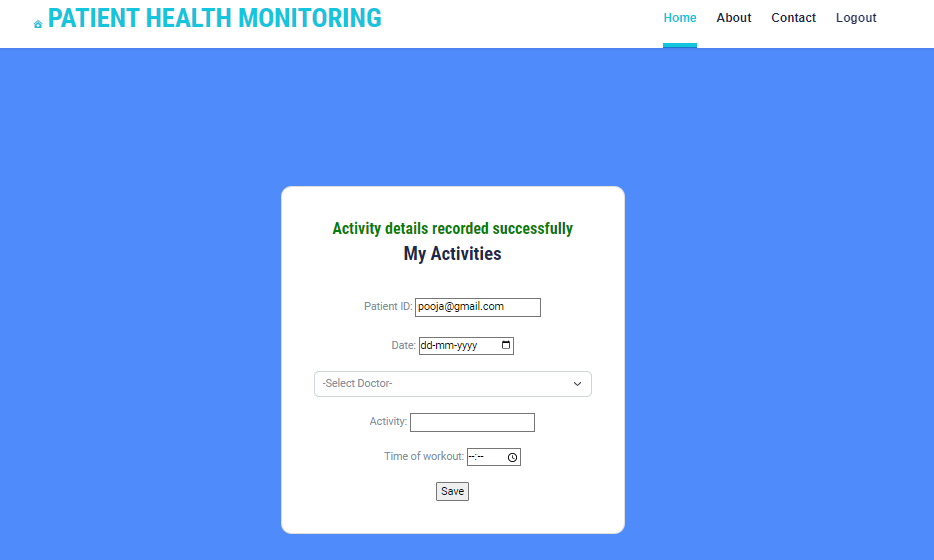


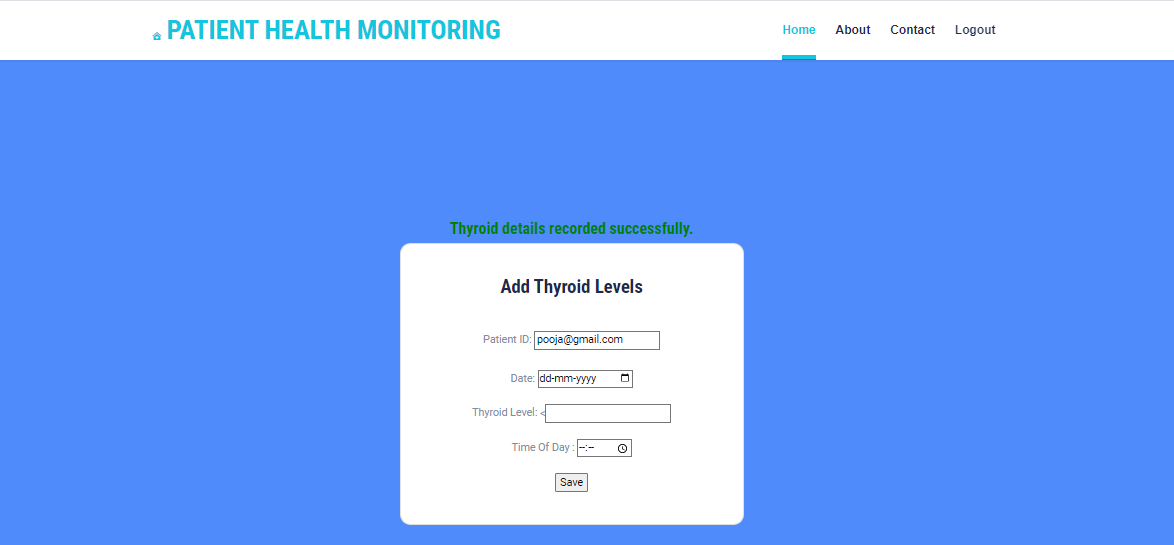
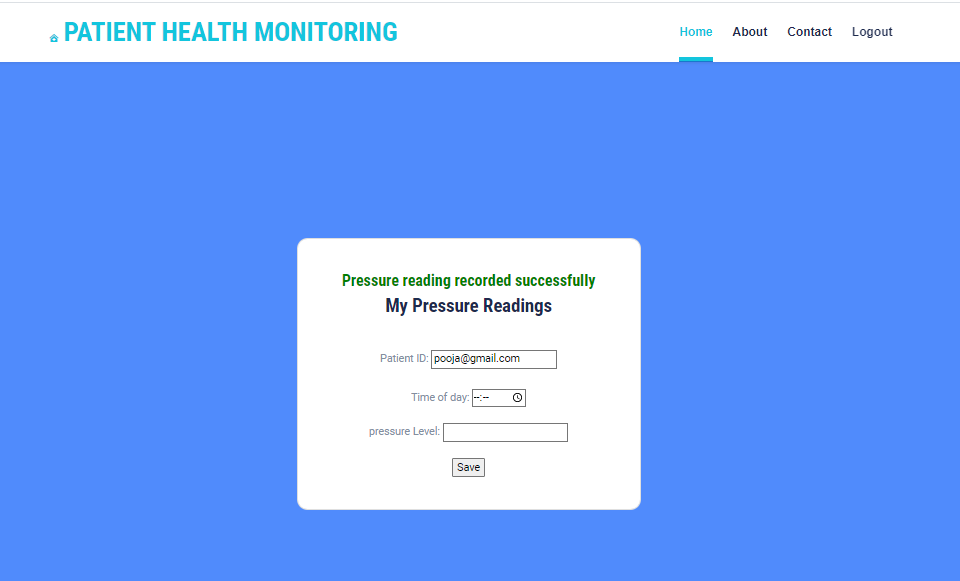
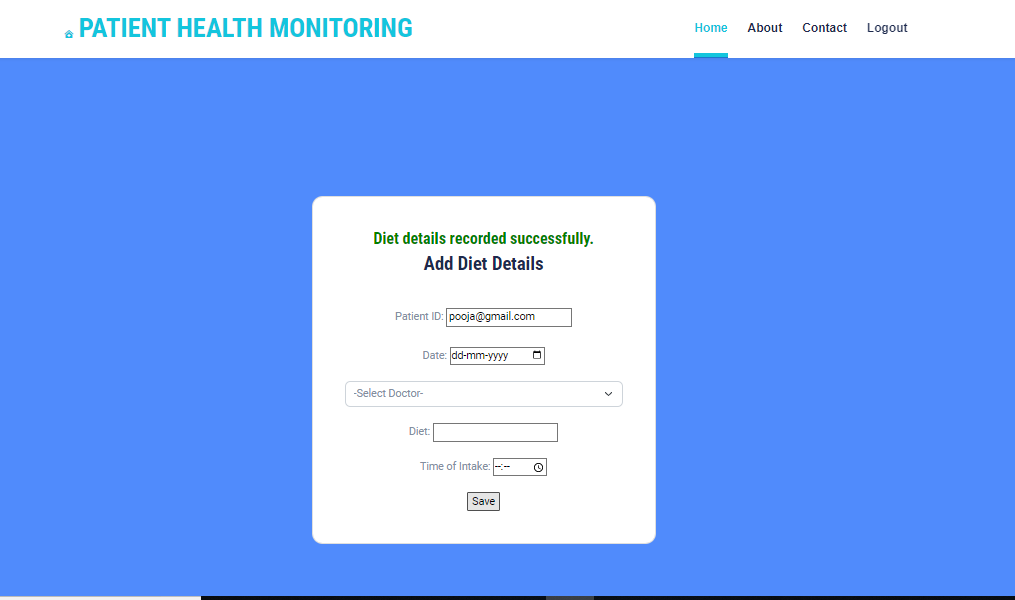
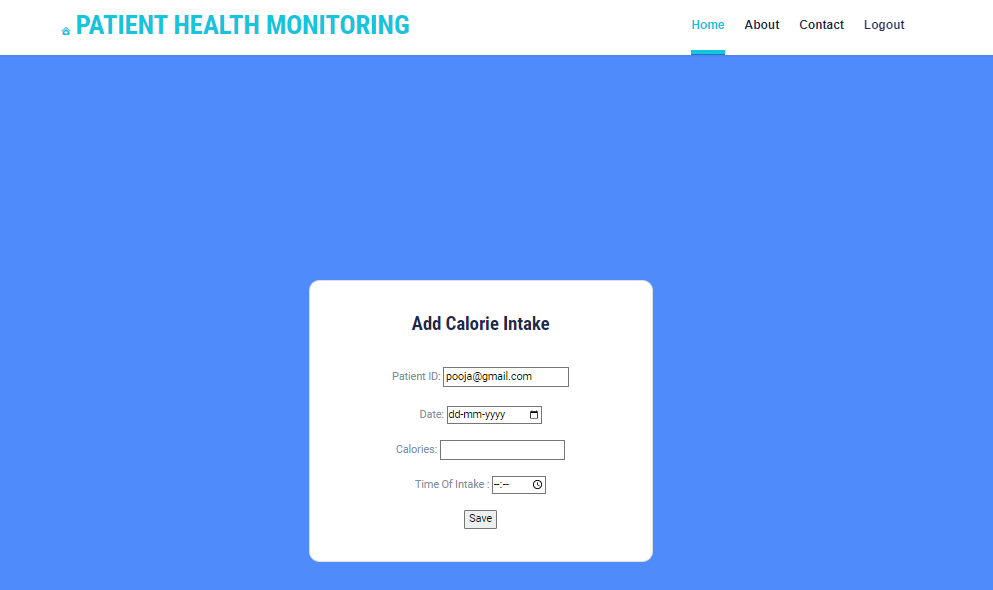
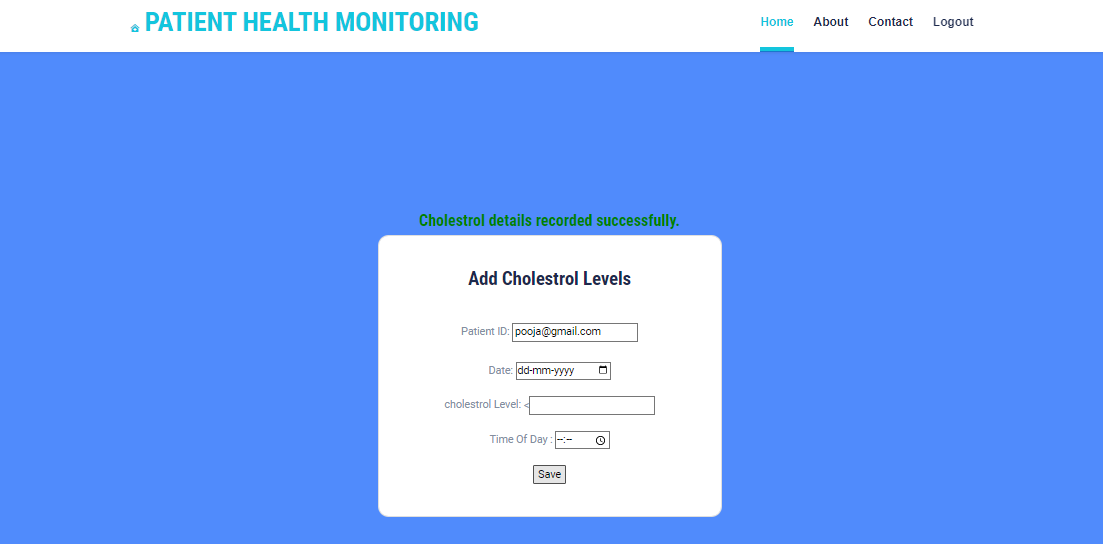




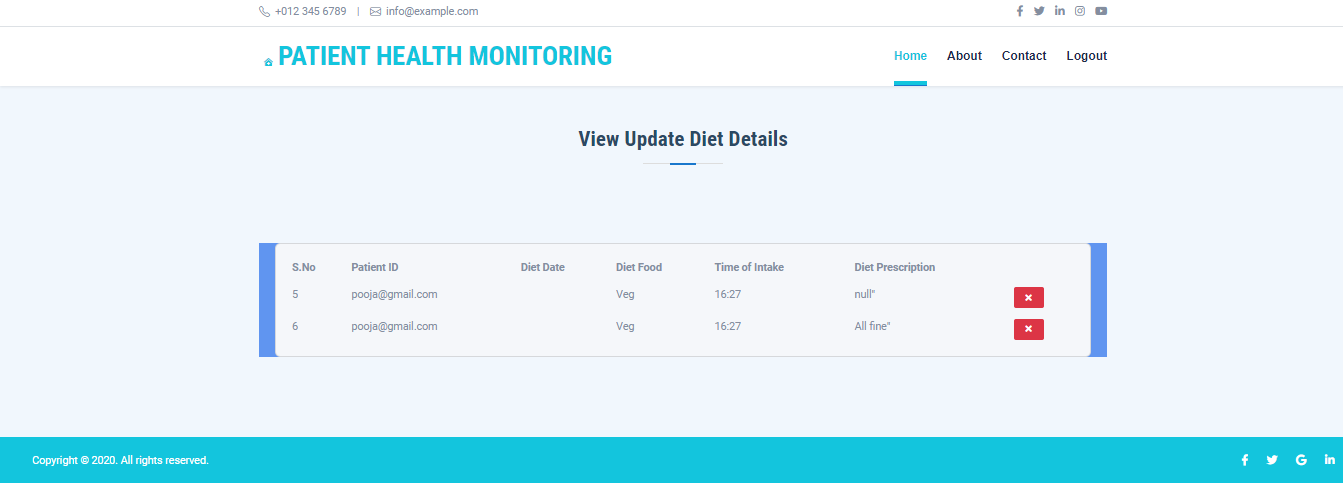
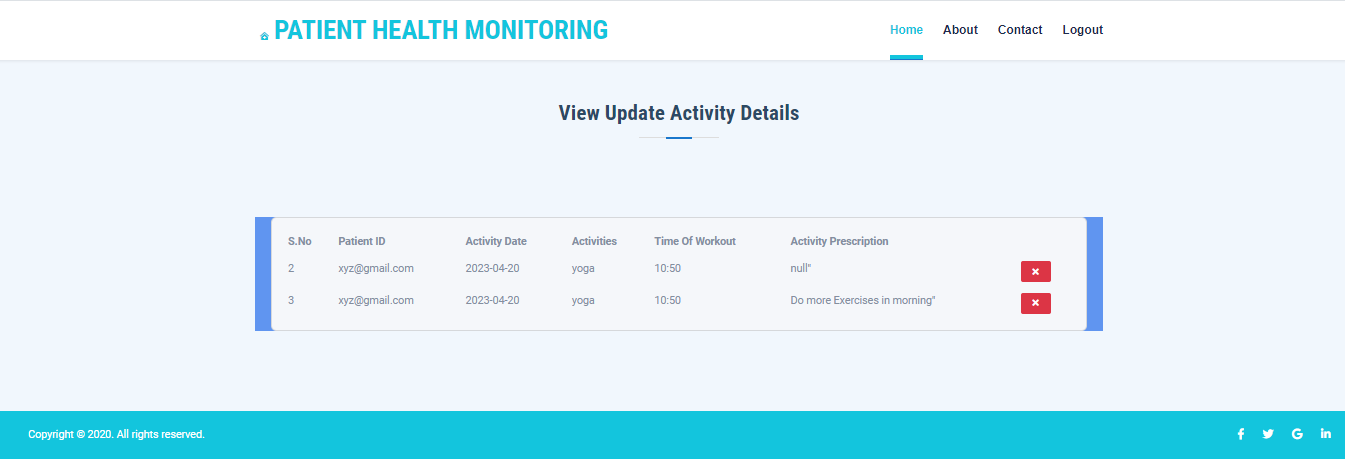


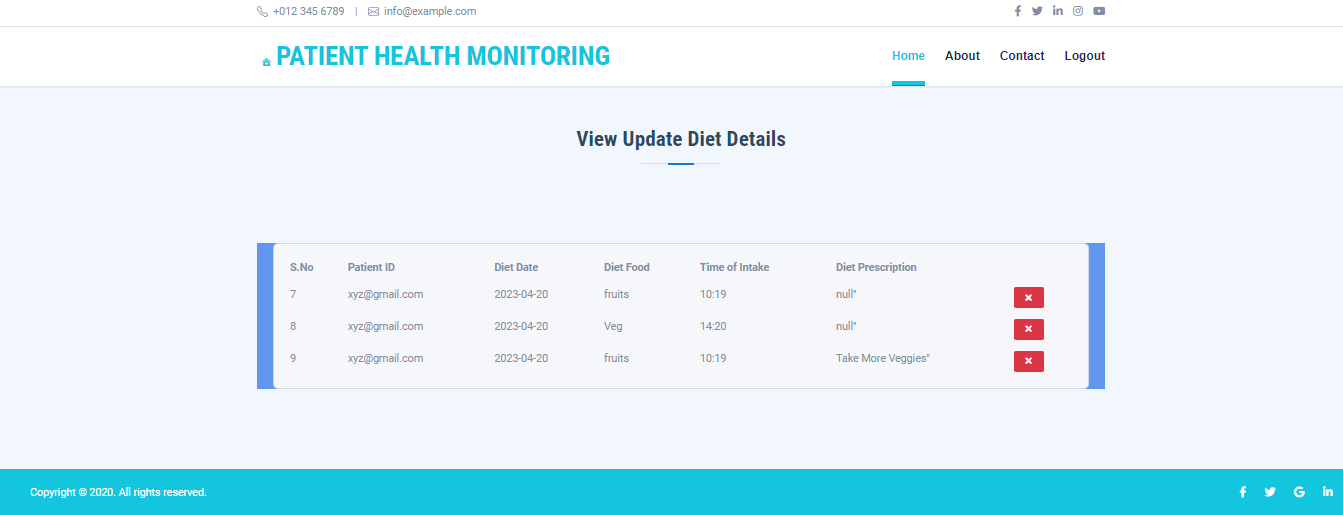


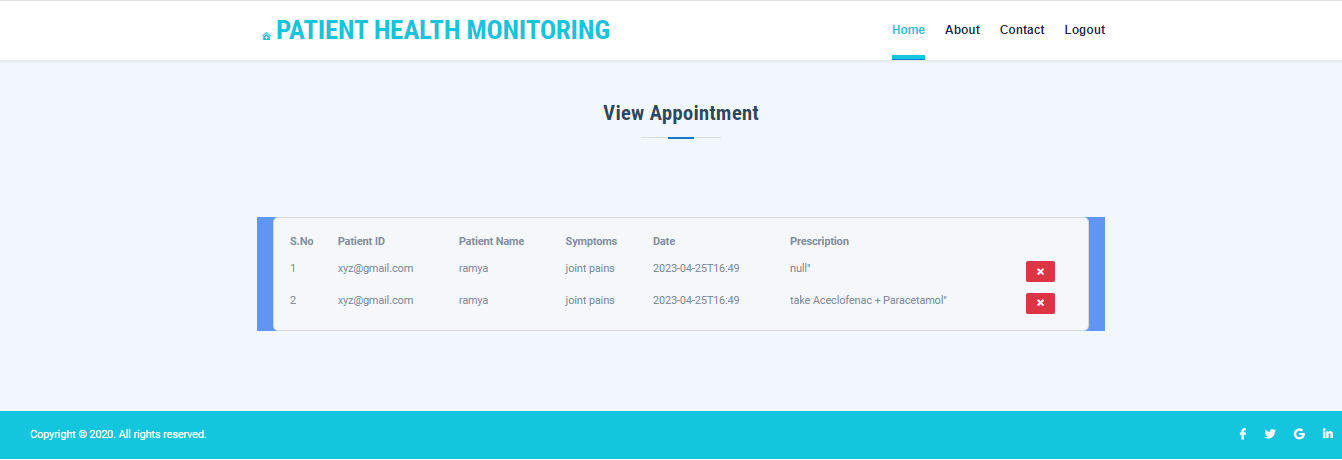






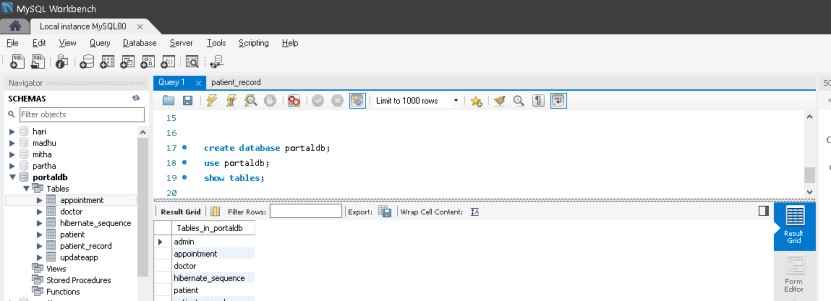


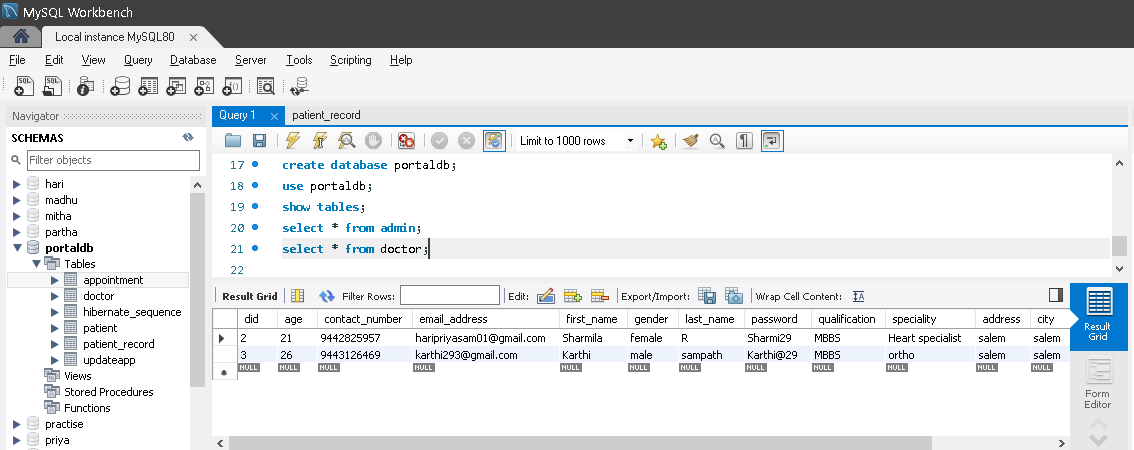


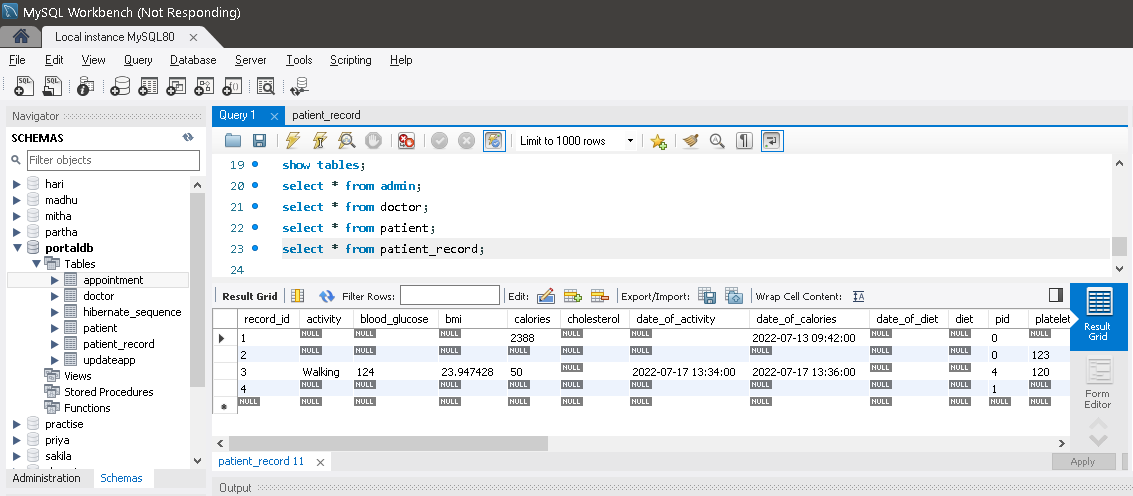
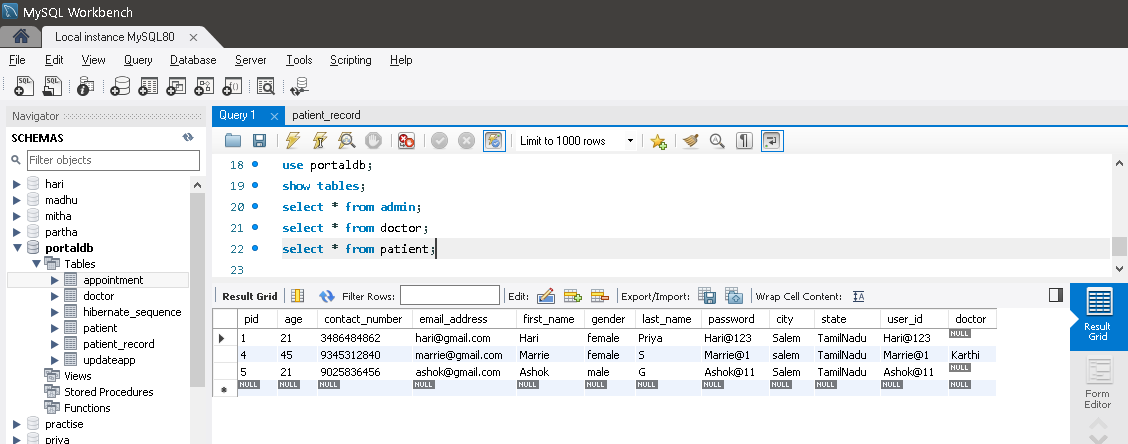


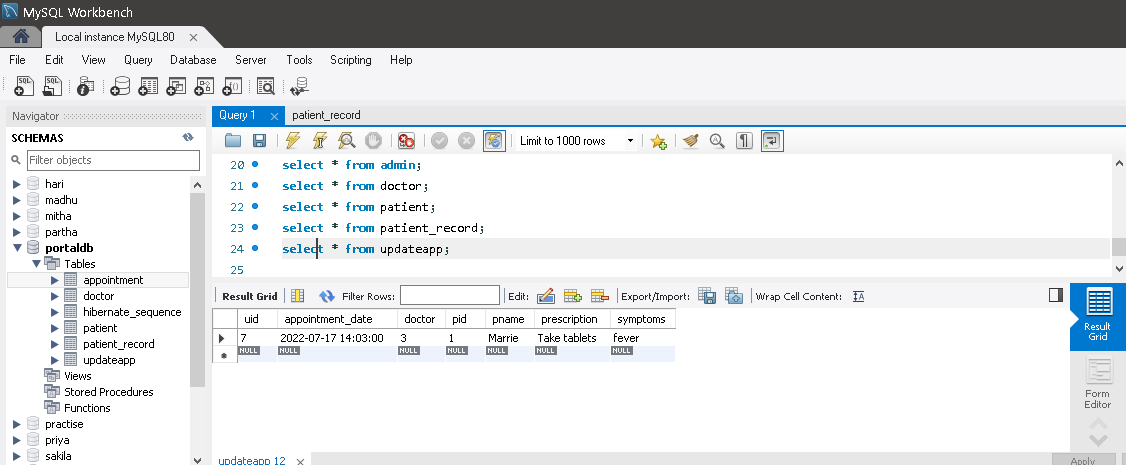
1. Database Design

5.1 Data Model









5.2 Tables Structure

1. Admin:

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| |  |  | | --- | --- | | admin\_id |  | |  |  | |  |  | | |  | | --- | | varchar(255) PK | |
| **name** | varchar(20) |
| **password** | varchar(64) |

2. Doctor

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| **doc\_id** | bigint PK |
| **doc\_age** | int |
| **doc\_email** | varchar(255) |
| **doc\_fname** | varchar(255) |
| **doc\_gender** | varchar(255) |
| **doc\_lname** | varchar(255) |
| **doc\_password** | varchar(255) |
| **doc\_ph\_no** | bigint |
| **doc\_userid** | varchar(255) |
| **doc\_sa1** | varchar(255) |
| **doc\_sa2** | varchar(255) |
| **doc\_sa3** | varchar(255) |
| **doc\_sq1** | varchar(255) |
| **doc\_sq2** | varchar(255) |
| **doc\_sq3** | varchar(255) |

3.Patient

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| **patient\_id** | bigint PK |
| **patient\_age** | int |
| **patient\_city** | varchar(255) |
| **patient\_email** | varchar(255) |
| **patient\_fname** | varchar(255) |
| **patient\_gender** | varchar(255) |
| **patient\_lname** | varchar(255) |
| **patient\_password** | varchar(255) |
| **patient\_ph\_no** | Bigint |
| **patient\_user\_id** | varchar(255) |
| **pa\_sa1** | varchar(255) |
| **pa\_sa2** | varchar(255) |
| **pa\_sa3** | varchar(255) |
| **pa\_sq1** | varchar(255) |
| **pa\_sq2** | varchar(255) |
| **pa\_sq3** | varchar(255) |

4.Appointment

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| **appointment\_id** | bigint PK |
| **date** | varchar(255) |
| **doctor** | varchar(255) |
| **patient\_id** | varchar(255) |
| **patient\_name** | varchar(255) |
| **patient\_ph\_no** | bigint |
| **symptoms** | varchar(255) |
| **prescription** | varchar(255) |

5.BMI

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| **id** | bigint PK |
| **bmi** | double |
| **date** | varchar(255) |
| **glucose\_level** | double |
| **height** | double |
| **patient\_id** | varchar(255) |
| **weight** | double |
| **idbmi** | bigint |
| **datebmi** | varchar(255) |

6.Calorie Intake

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| **id** | bigint PK |
| **calories** | int |
| **date** | date |
| **patient\_id** | bigint |
| **time\_of\_intake** | time |
| **calorie\_intake\_id** | bigint |
| **date\_calorie\_intake** | date |

7. Cholestrol Level

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| **id** | bigint AI PK |
| **cholestrol\_level** | double |
| **patient\_id** | varchar(255) |
| **time\_of\_day** | varchar(255) |
| **cholestrol\_monitor\_id** | bigint |
| **time\_of\_day\_cholestrol\_monitor** | varchar(255) |

8.Platelet Count

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| **patient\_id** | int PK |
| **platelet\_count** | int |
| **rbc\_count** | int |
| **time\_of\_day** | varchar(255) |
| **wbc\_count** | int |
| **diabetes\_id** | bigint |
| **diabetes\_risk1** | varchar(255) |

9.Diet

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| **id** | bigint AI PK |
| **diet\_food** | varchar(255) |
| **dietdate** | varchar(255) |
| **patient\_id** | varchar(255) |
| **time\_of\_intake** | time |
| **update\_diet1** | varchar(255) |
| **doctor** | varchar(255) |

10. Glucose

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| **id\_glucose** | bigint PK |
| **date\_glucose** | varchar(255) |
| **glucose\_level** | double |
| **patient\_id** | varchar(255) |

11. Patient Records

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| **patient\_rec\_id** | bigint PK |
| **doc\_id** | varchar(255) |
| **doc\_name** | varchar(255) |
| **patient\_id** | varchar(255) |
| **patient\_name** | varchar(255) |
| **update\_patient\_rec** | varchar(255) |

12.Pressure

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| **id** | bigint AI PK |
| **patient\_id** | varchar(255) |
| **pressure\_level** | int |
| **time\_of\_day** | time |
| **pressure\_id** | bigint |
| **time\_of\_day\_pressure** | time |

13.Thyroid

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| **id** | bigint AI PK |
| **patient\_id** | varchar(255) |
| **thyroid\_level** | double |
| **time\_of\_day** | varchar(255) |
| **thyroid\_id** | bigint |
| **time\_of\_day\_thyroid** | varchar(255) |

6.0 Appendices

6.1 Glossary

|  |  |
| --- | --- |
| **Acronyms** | **Definitions** |
| appid pid pname did  u\_id | Appointment\_id Patient\_id Patient name Doctor\_id  User\_id |

* 1. Other

7.0 Terms & Conditions

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# 8.0 Change Log

*Please note that this table needs to be maintained even if a Configuration Management tool is used.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version Number** | **Changes made** | | | |
| V<n.n> | *<If the change details are not explicitly documented in the table below, reference should be provided here>* | | | |
| Page no | Changed by | Effective date | Changes effected |
|  |  |  |  |
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