

# **Disease Prediction System**

UCS503 Software Engineering Project Report

**Submitted by:**

**(102016016) Chiranjeev Singh**

**(102016040) Ojas Sharma**

**(102016112) Prasoon Jain**

**(102016026) Harneet Kaur**

BE Second Year, COSE

**Submitted to**

**Dr. Manisha Kaushal Assistant**

**Professor(CSED)**



**Computer Science and Engineering Department**

**TIET, Patiala**

**May 2022**

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# 1. Project Overview

## **Objective:**

To build a Disease Diagnosis System.

## **Goal:**

With this software we aim to facilitate the disease prediction system. The goal is to reduce the patient's time and get to them with approximate disease prediction as soon as possible. Online disease prediction system also reduces paperwork to a great deal. The human error reduces if correct dataset with doctor's supervision is used. It also helps the customer in terms of convenience as he may get an estimate regarding the disease prediction.

## **Need:**

In the present time there is a great rush in hospitals. The hospitals have always been of high importance for the old age and people suffering from diseases. People travel a lot, stay in hospital, go to the hospital for minor as well as major diseases. Sometimes people die because of lack of trained doctors who can study their report and tell them their disease which they are suffering from.

1. **Managing users:** There should be efficient and effective management of user's registration.
2. **Website:** Your software should help enhance your online presence. Disease Diagnosis system is only effective if your patients can reach your service. Choosing a program that offers a website user will allow you to create a clean, appealing and user-friendly website that will encourage patients to diagnose a disease from home.
3. **Ease for Users:** The system should be easy to understand both to patients as well as doctors
4. **Disease Diagnosis System:** The system must serve its purpose by showing accurate results and by providing services 24\*7. The time as well as space complexity of the system shall be reduced in upcoming iterations.

**Requirements:**

HTML, TAILWIND CSS

DJANGO

TENSORFLOW

MYSQL, SQLLITE

**Feasibility**

The making of this type of website project is technically feasible but will require information about website building and machine learning. The major challenge that might be faced will be to make effective interface and connecting website with machine learning model. The system should be easy to use, provide easy recovery of errors, should handle user information securely maintaining its integrity, and should have correct prediction model. Most of all application should be user friendly.

## **2. Project Requirements**

### **Functional Requirements:**

- Once the customer enters a hospital, he will be required to visit the website and will be given an option to register.
- Once registration is successful, the website is redirected to the home page of Disease Prediction.
- All the management reports are sent to the admin. • If the customer is an existing user and somehow forgets his id or password then it can be provided by the website admin itself .
- A customer can ask to update his previously saved details if required.
- Once a new customer registers himself with the Disease Prediction Website he will be given options regarding the various disease prediction the website is offering that he can avail.

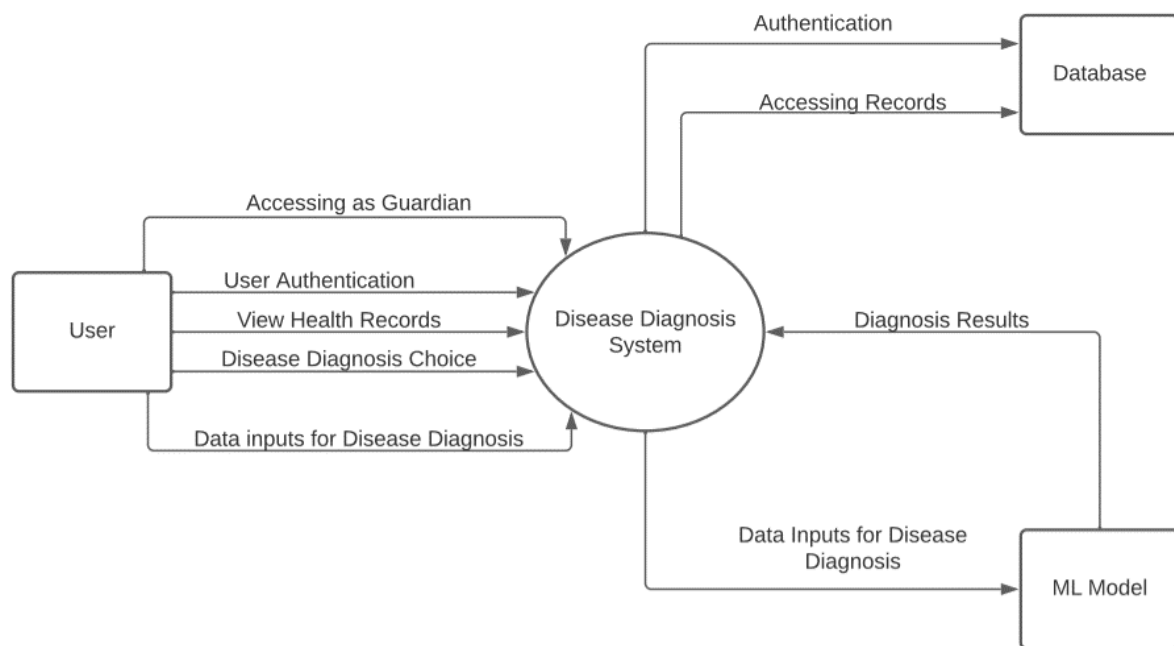
## **2. Non-Functional Requirements:**

- All fields will be mandatory to fill while registering.
- The user will be required to submit one of his phone number and email id to validate his identity.
- The account will be blocked if the user registration fails more than 10 times/submits a fake/wrong id proof.
- Database would contain all the details of the customer's test done.
- The response time of recording user input to displaying appropriate output will be very less.
- All the results are best to the knowledge of the dataset used by us.
- User can be completely assured that his information is being kept private at all costs or unless a criminal activity happens.
- Site will be accessible from anywhere in the world provided stable internet connection is available.

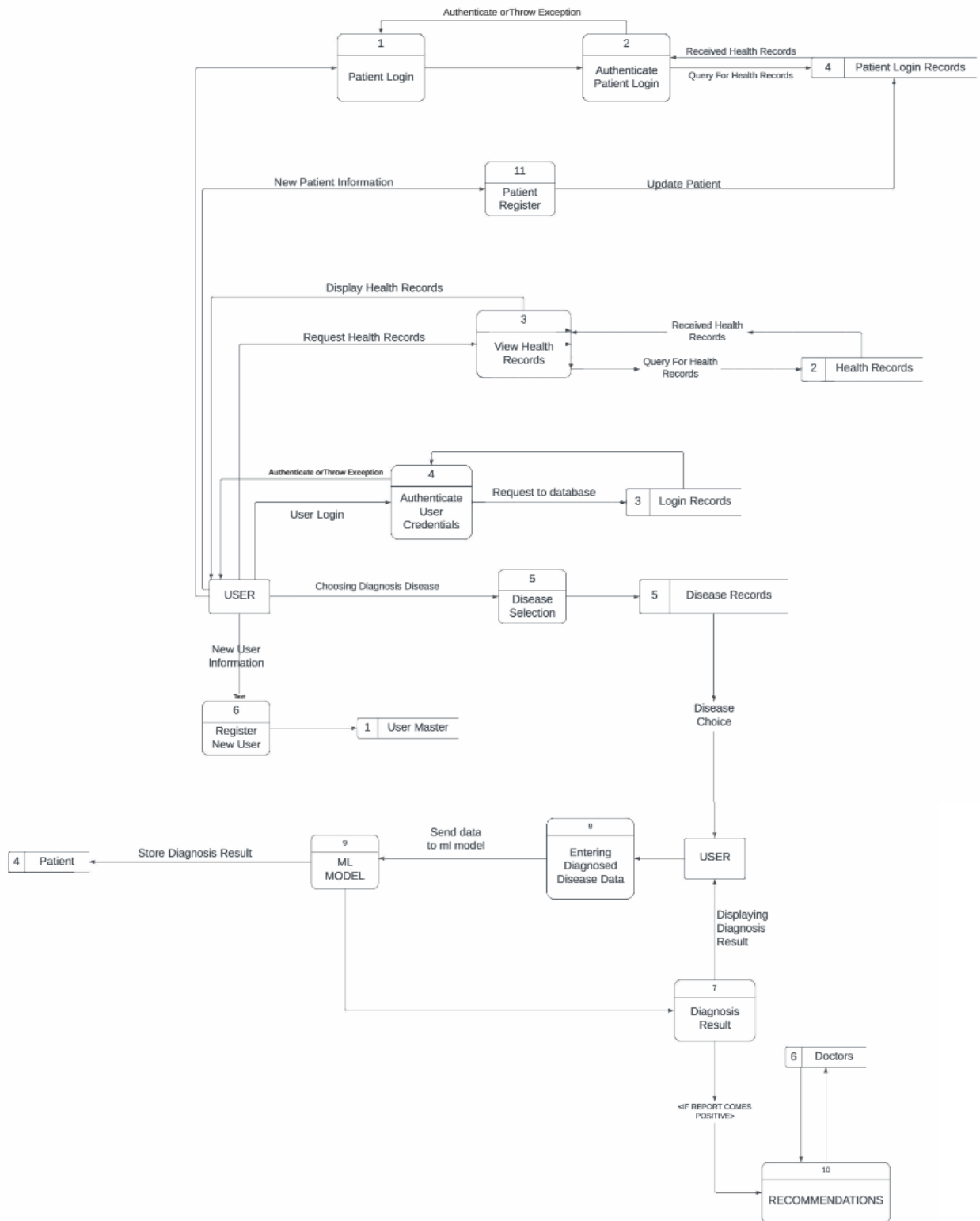
### 3. STRUCTURED ANALYSIS

#### 3.1 Data Flow Diagrams

##### 3.1.1 DFD Level 0:



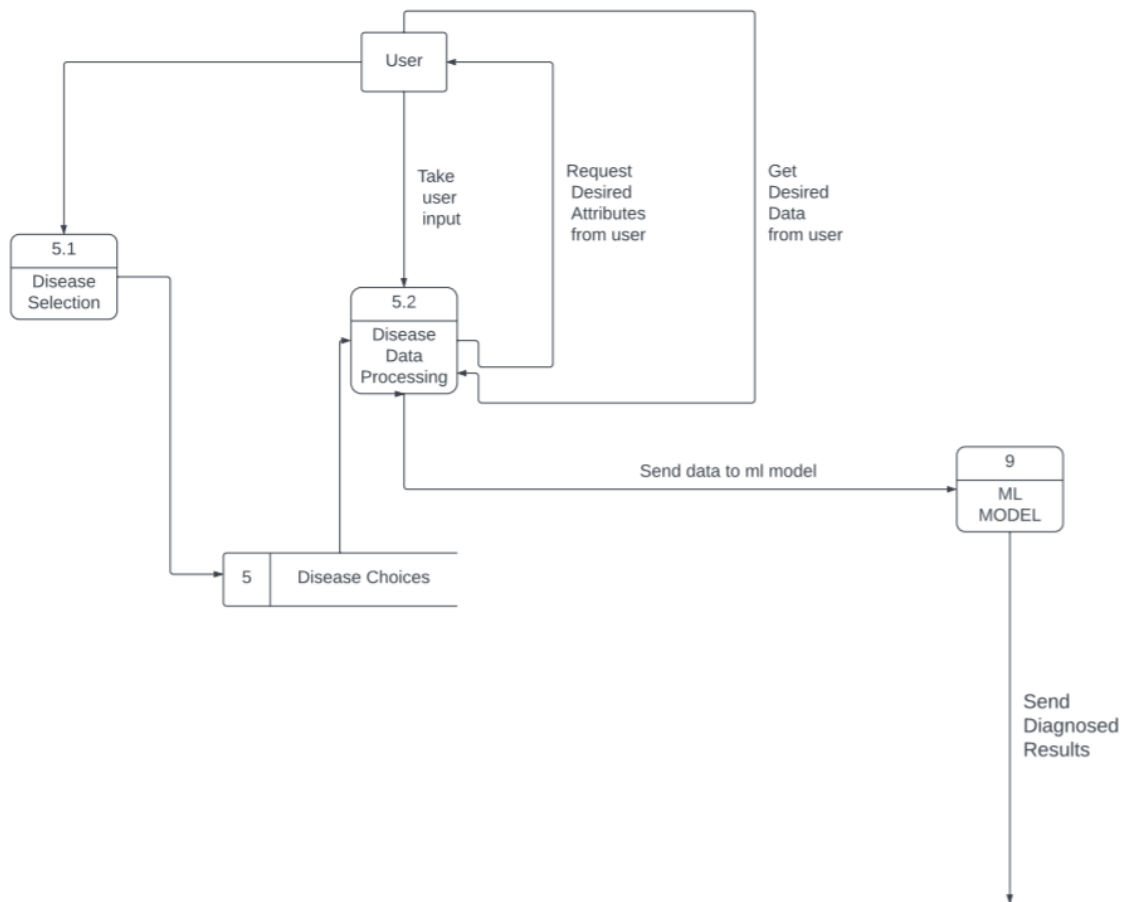
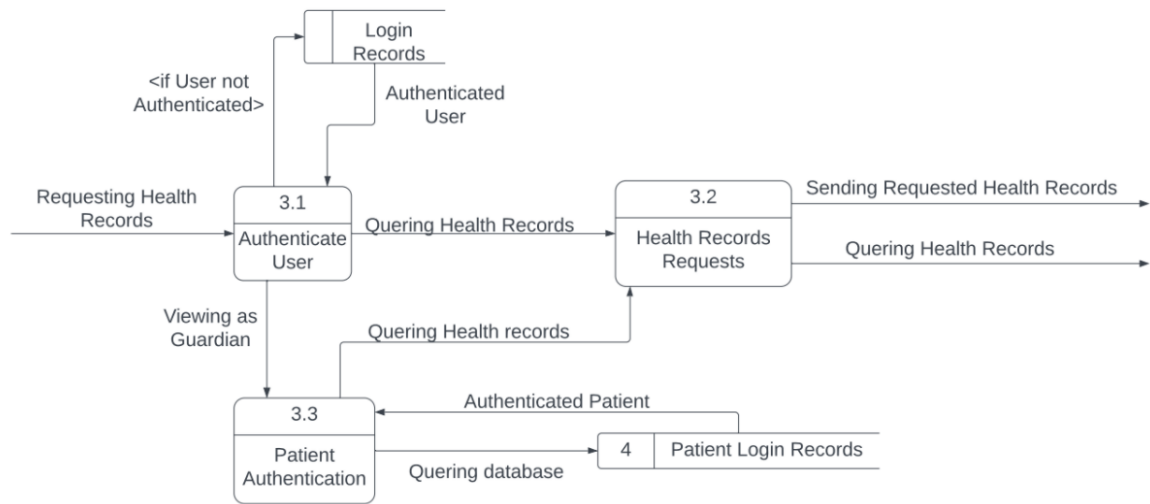
##### 3.1.2 DFD Level 1:



Level 1 Data Flow Diagram

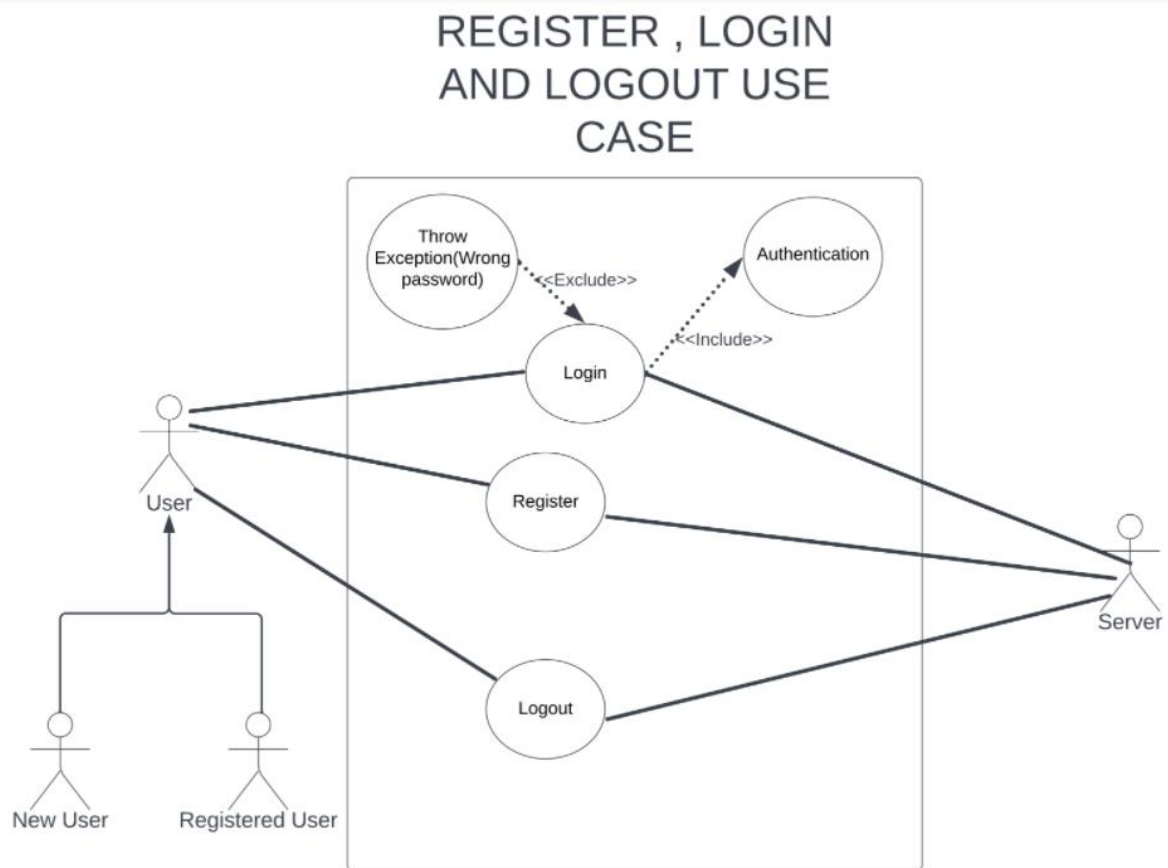


### 3.1.2 DFD Level 2:

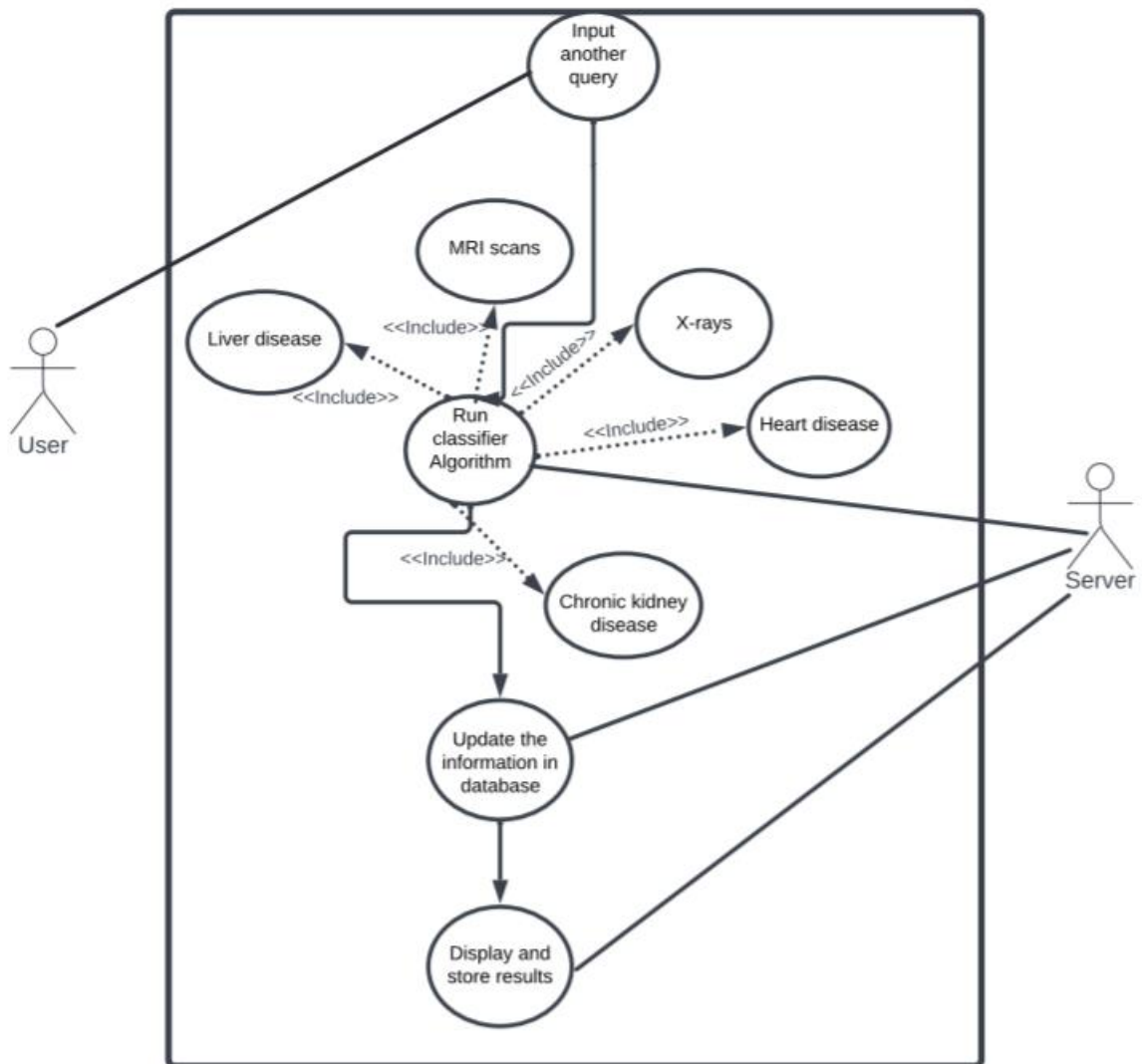


## 4. Object Oriented Analysis

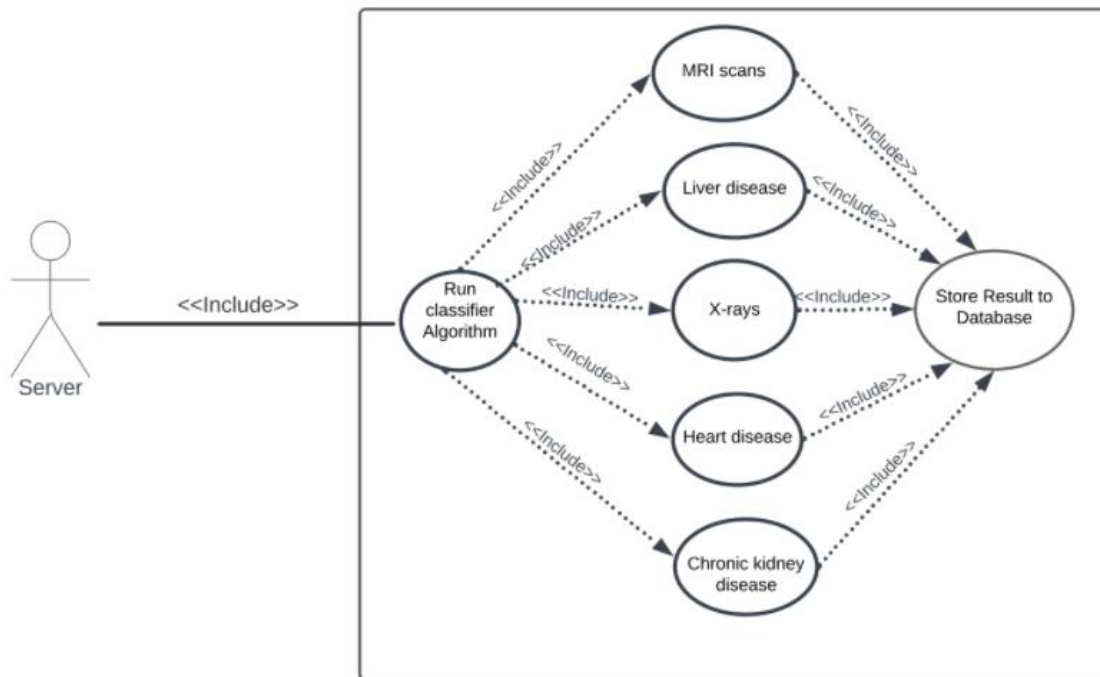
### 4.1 USE CASE DIAGRAM



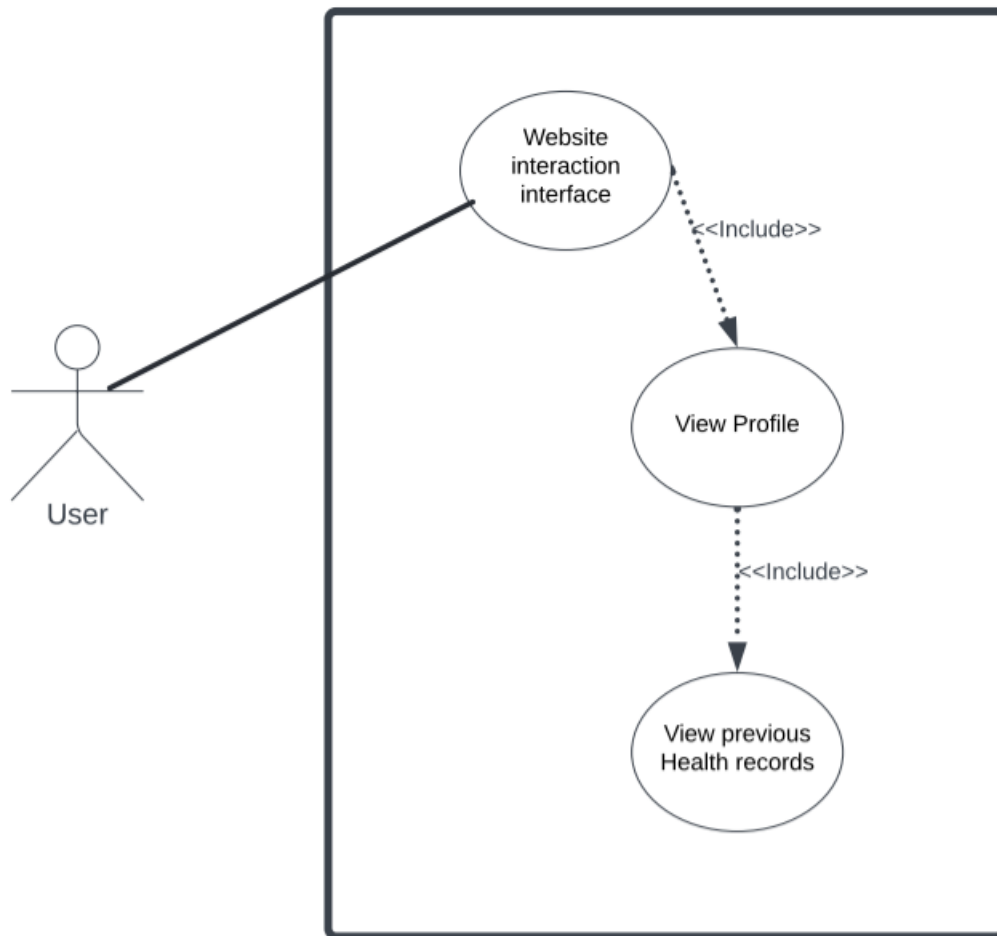
# MULTIPLE INPUT QUERIES USE CASE



# Classifier Algo Result



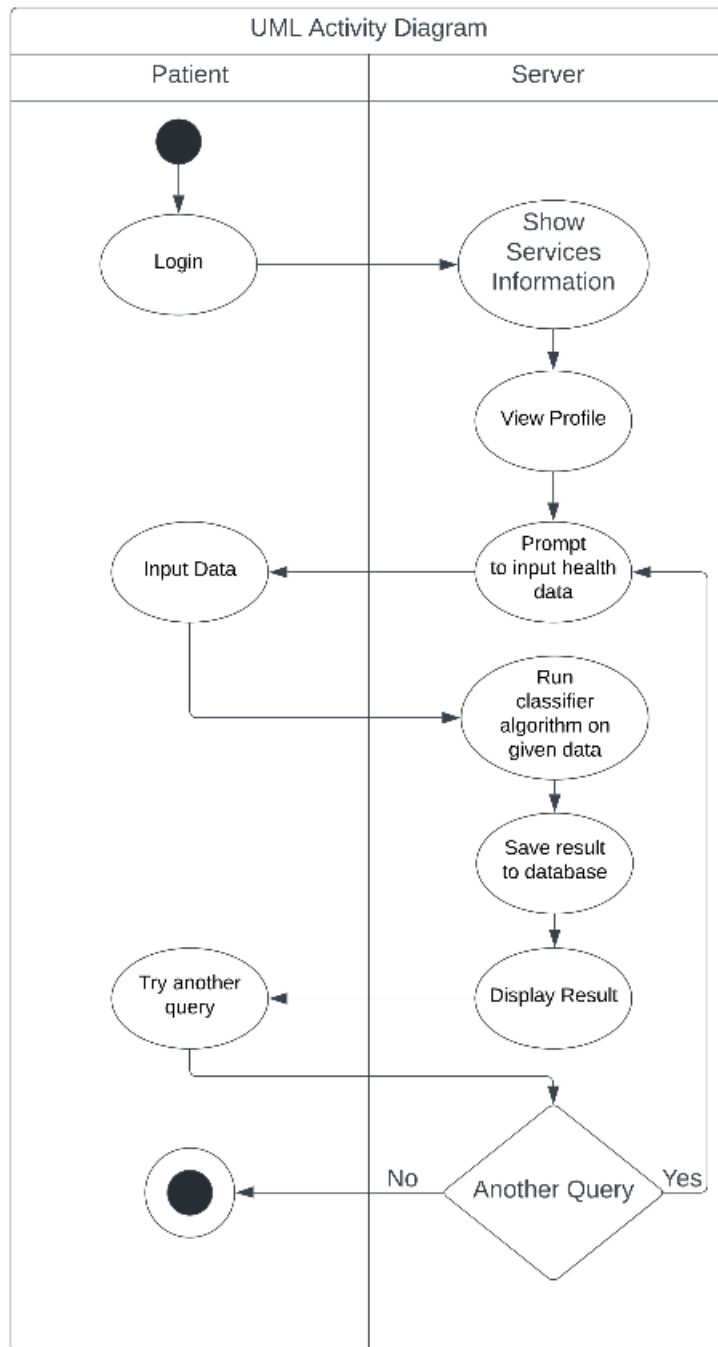
# VIEW PREVIOUS HEALTH HISTORY USE CASE



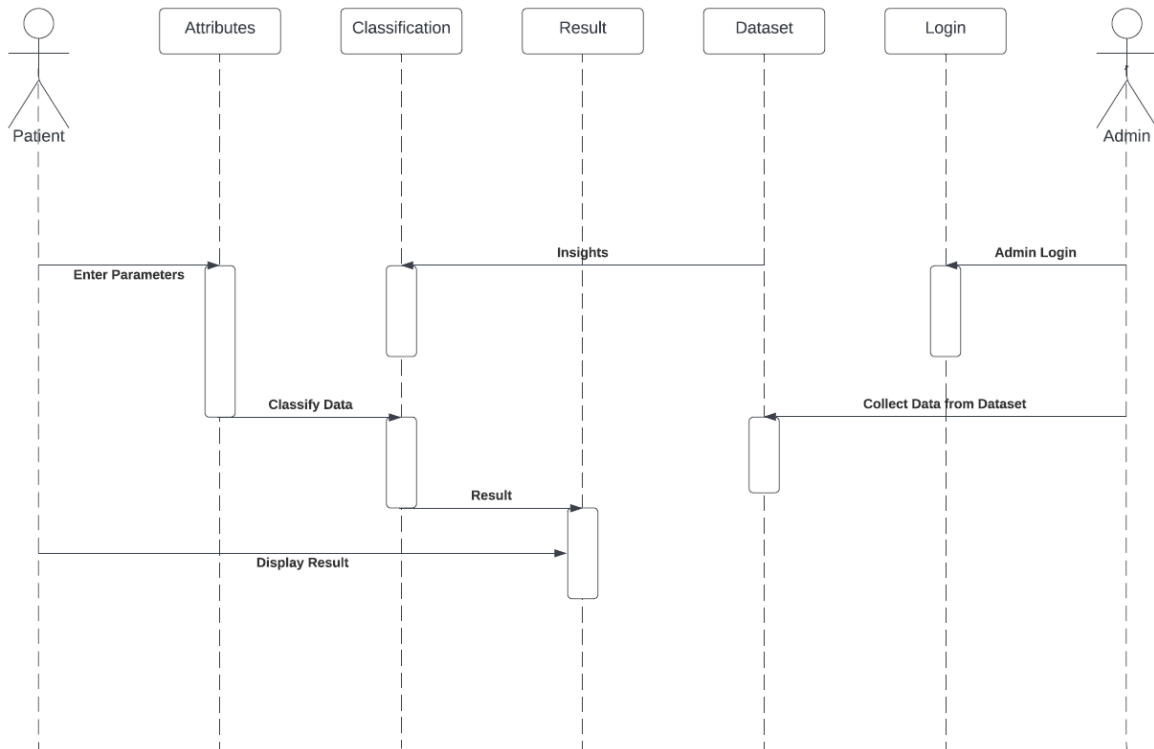
# Output



### 4.3 ACTIVITY DIAGRAM

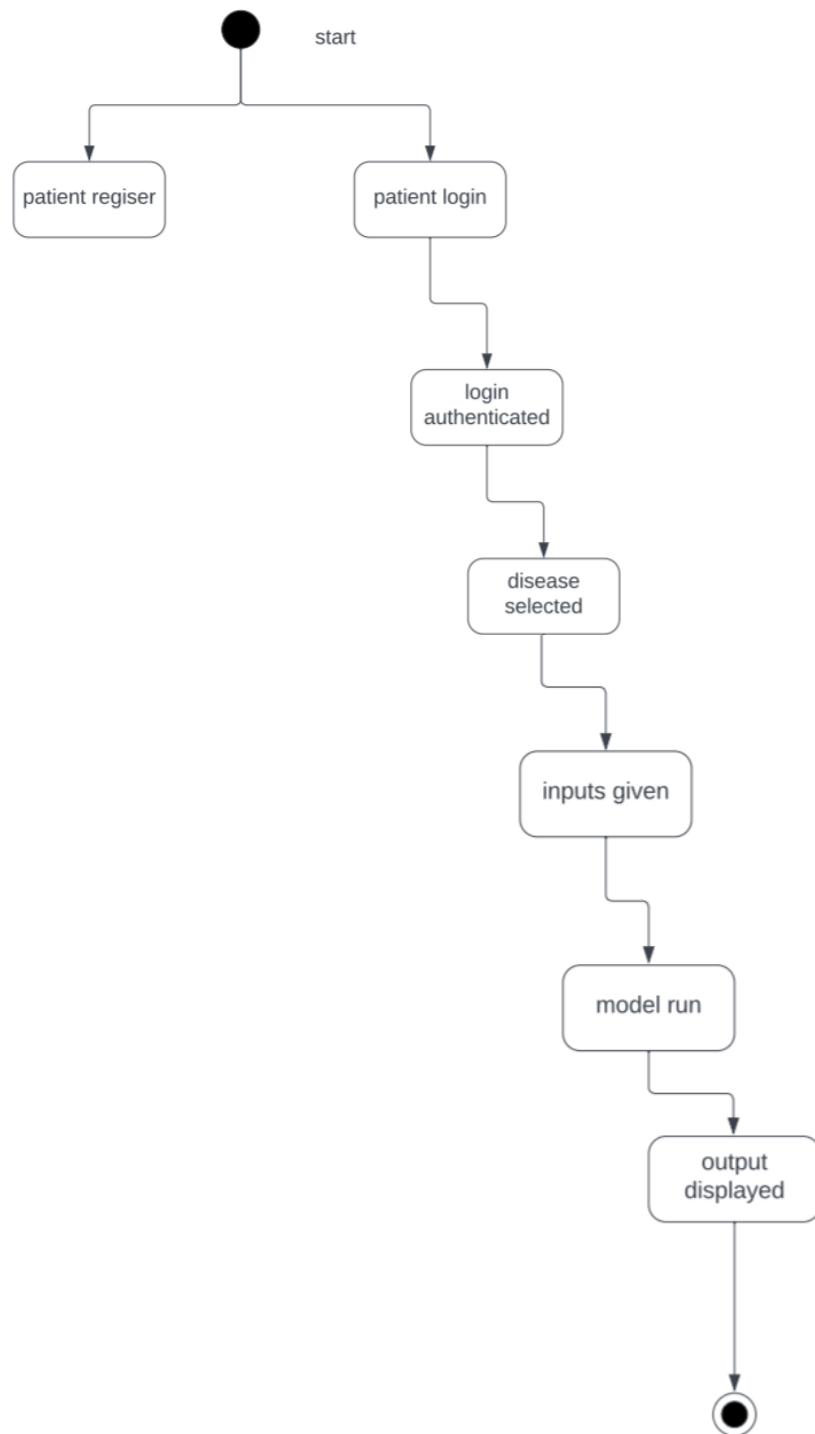


## 4.5 SEQUENCE DIAGRAM

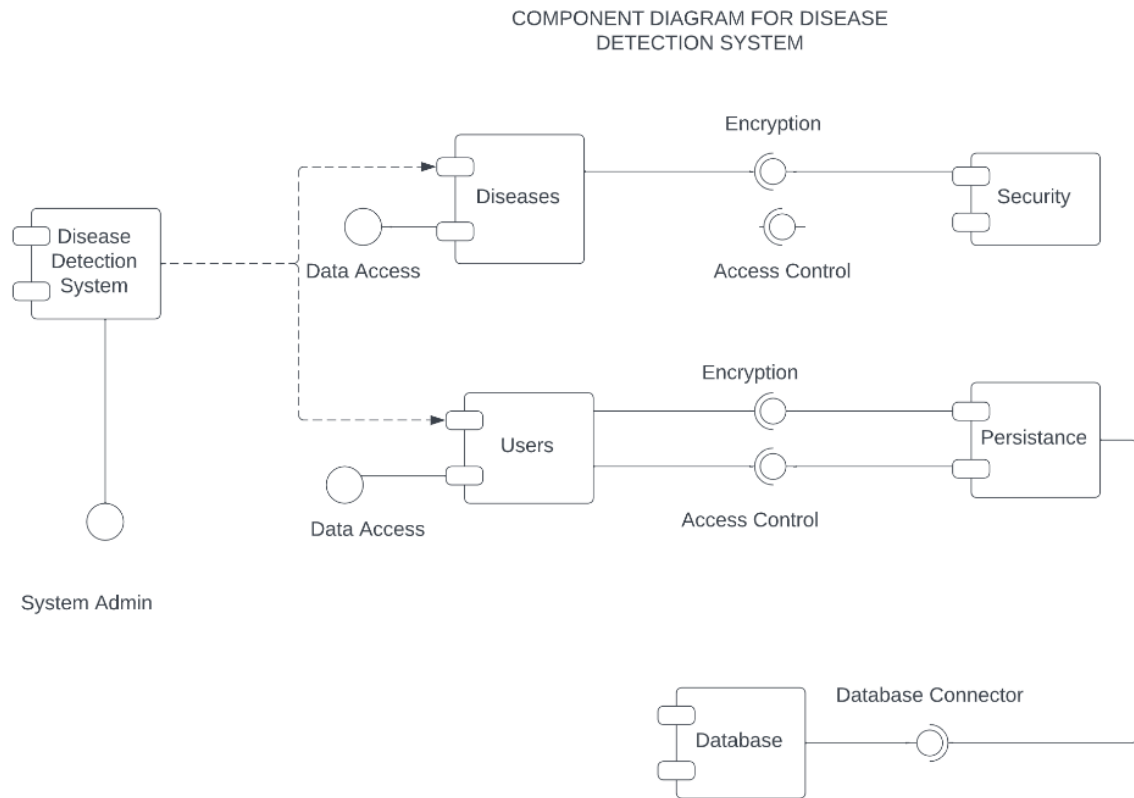




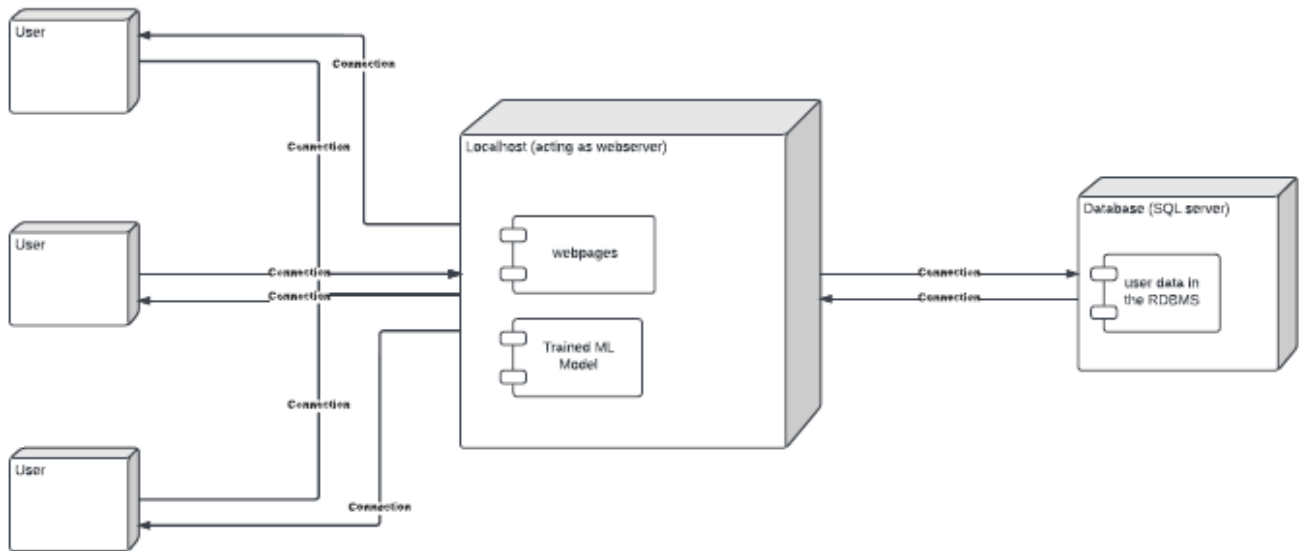
## 4.6 STATE CHART DIAGRAM



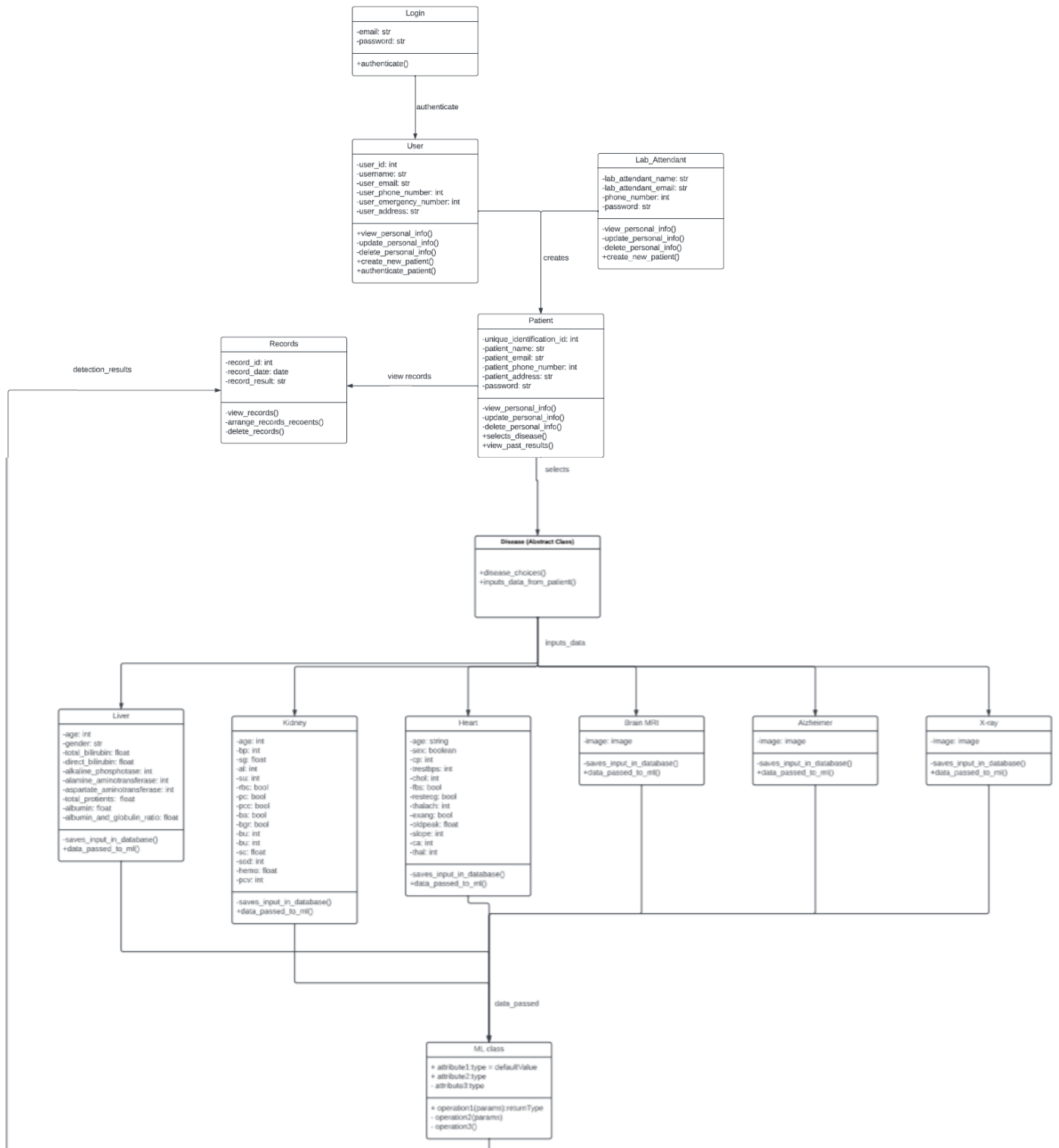
## 4.7 COMPONENT DIAGRAM



## 4.8 DEPLOYMENT DIAGRAM



## 4.9 CLASS DIAGRAM



## Test Cases

### TEST CASE EXAMPLE-1

Test Case#: <b>1.1</b>	Test Case Name: <b>Login</b>
System: <b>Disease Diagnosis System</b>	Subsystem: <b>Login.html</b>
Designed by: <b>Prasoon Jain</b>	
Executed by: <b>Prasoon Jain</b>	Design Date: <b>25-Mar-2022</b>
Execution Date: <b>29-Apr-2022</b>	
Short description: <b>Test the Validating Page</b>	

**Pre-conditions:**  
User has a username.  
User should have remembered correct Login credentials  
System displays welcome greets!

Steps	Action	Expected System Response	Pass/Fail	Comment
1.	Click on Username division.	The system displays a message asking for users Username.	Pass	Working absolutely fine.
2.	Click on the Password division.	The system displays a message to enter the password.	Pass	Working.
3.	Click enter.	The system validates the Entered Password with the database.	Pass	Working.

**Result:** User get access to its dashboard.

## Test Case Example-2

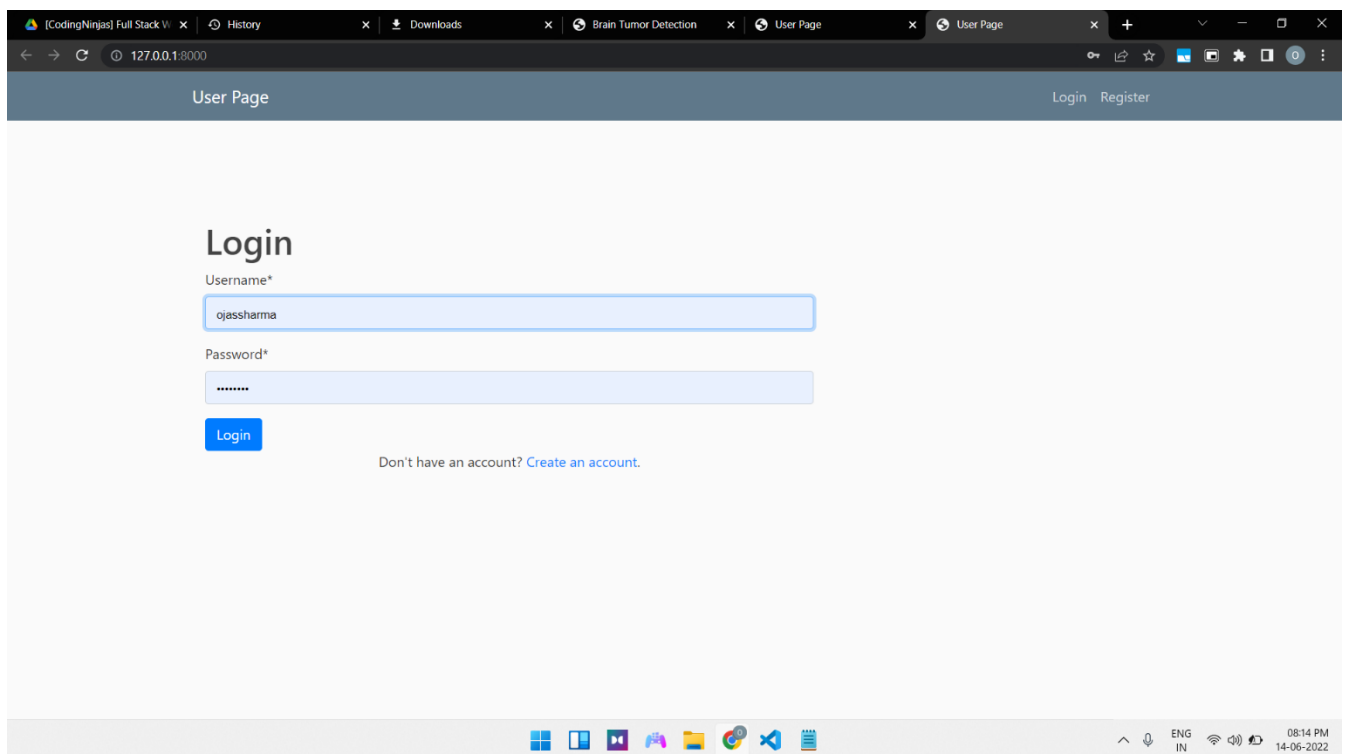
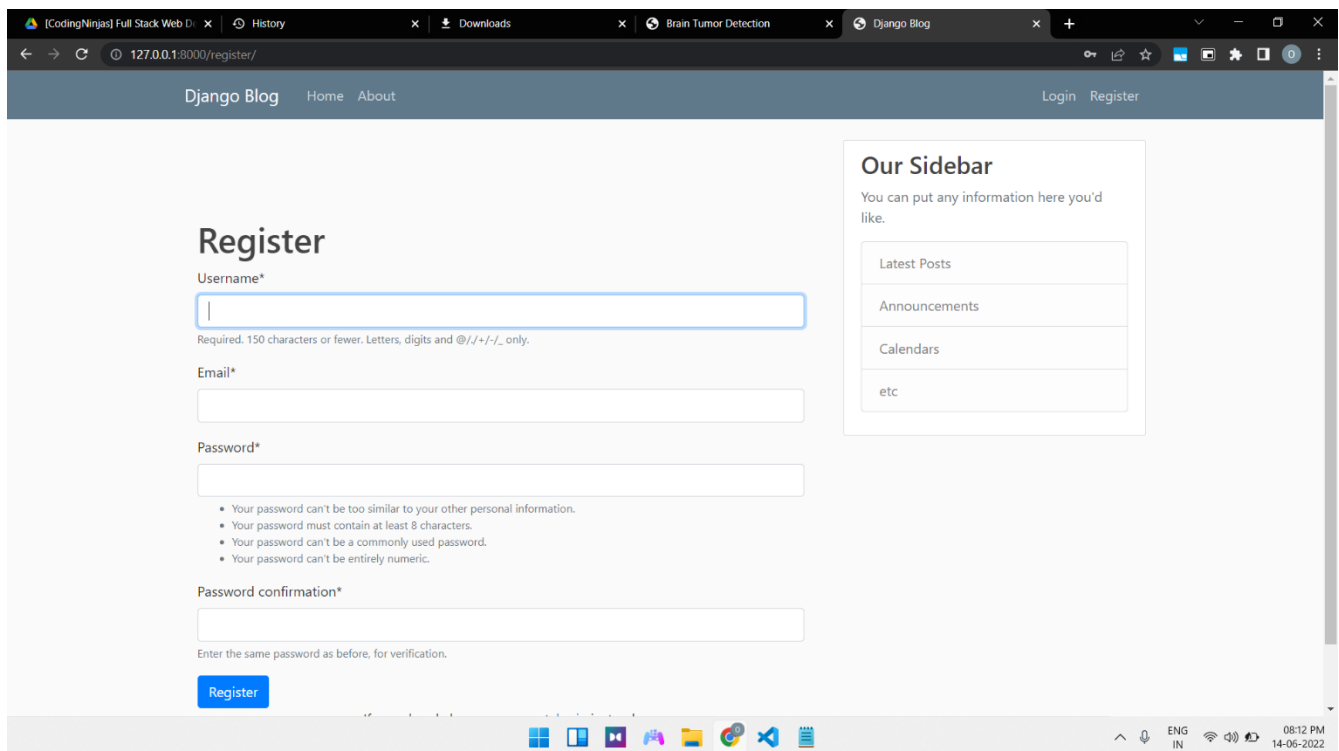
Test Case#: <b>1.2</b>	Test Case Name:
<b>Register</b>	
System: <b>Disease Diagnosis System</b>	Subsystem: <b>Register.html</b>
Designed by: <b>Ojas Sharma</b>	
Executed by: <b>Ojas Sharma</b>	Design Date: <b>02-Mar-2022</b>
Execution Date: <b>29-Apr-2022</b>	
Short description: <b>Test the Registration Page</b>	

Pre-conditions:  
 User should have a valid Username and Password.  
 System displays welcome greets!

Steps	Action	Expected System Response	Pass/Fail	Comment
1.	Click on Username division.	The system displays a message asking for users Username.	Pass	Working absolutely fine.
2.	Click on the Full Name division.	The system displays a message to enter the Full Name.	Pass	Working.
3.	Click on the Mobile Number division.	The system displays a message to enter Valid Mobile Number.	Pass	Working.
4.	Click on the Email division.	The system displays a message to enter valid Email Address.	Pass	Working
5.	Click on Password division.	The system ask for valid Password with constraints.	Pass	Working
6.	Click on Confirm Password.	The system ask user to re-enter the Password.	Pass	Working
7.	Click on Register	The system create a new account and insert the details to database.	Pass	Working

Result: User gets directed to login page.

Screenshots of working:



## Disease Detection System

Heart Disease Detection

[Check Now](#)

Kidney Disease Detection

[Check Now](#)

Liver Disease Detection

[Check Now](#)

Brain Tumor Disease Detection

[Check Now](#)

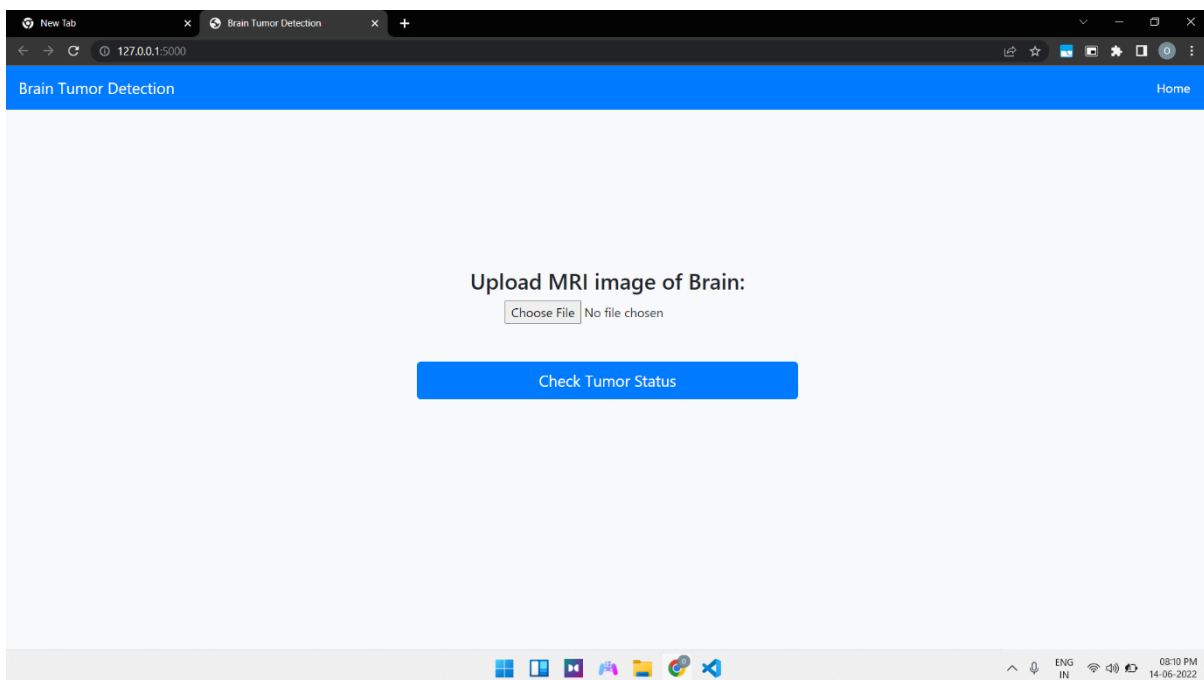
Alzheimer Disease Detection

[Check Now](#)

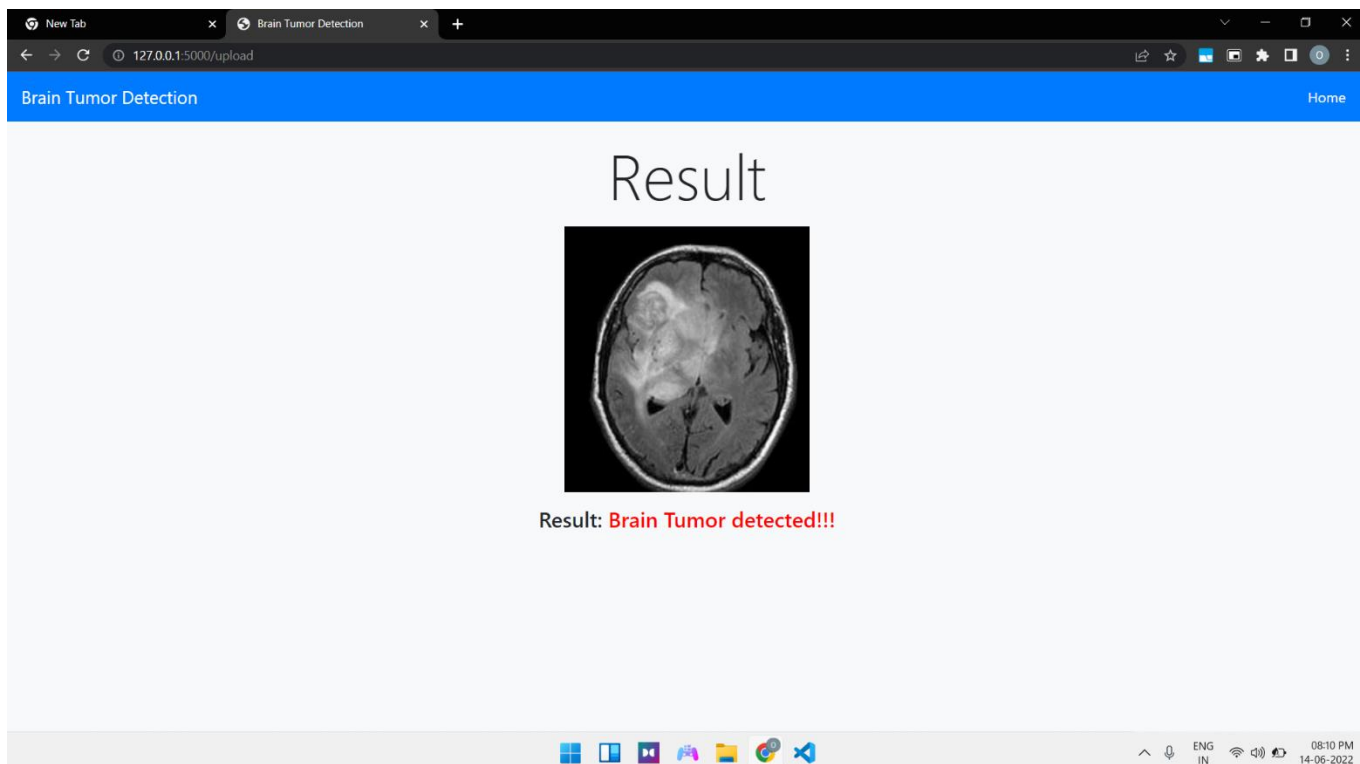
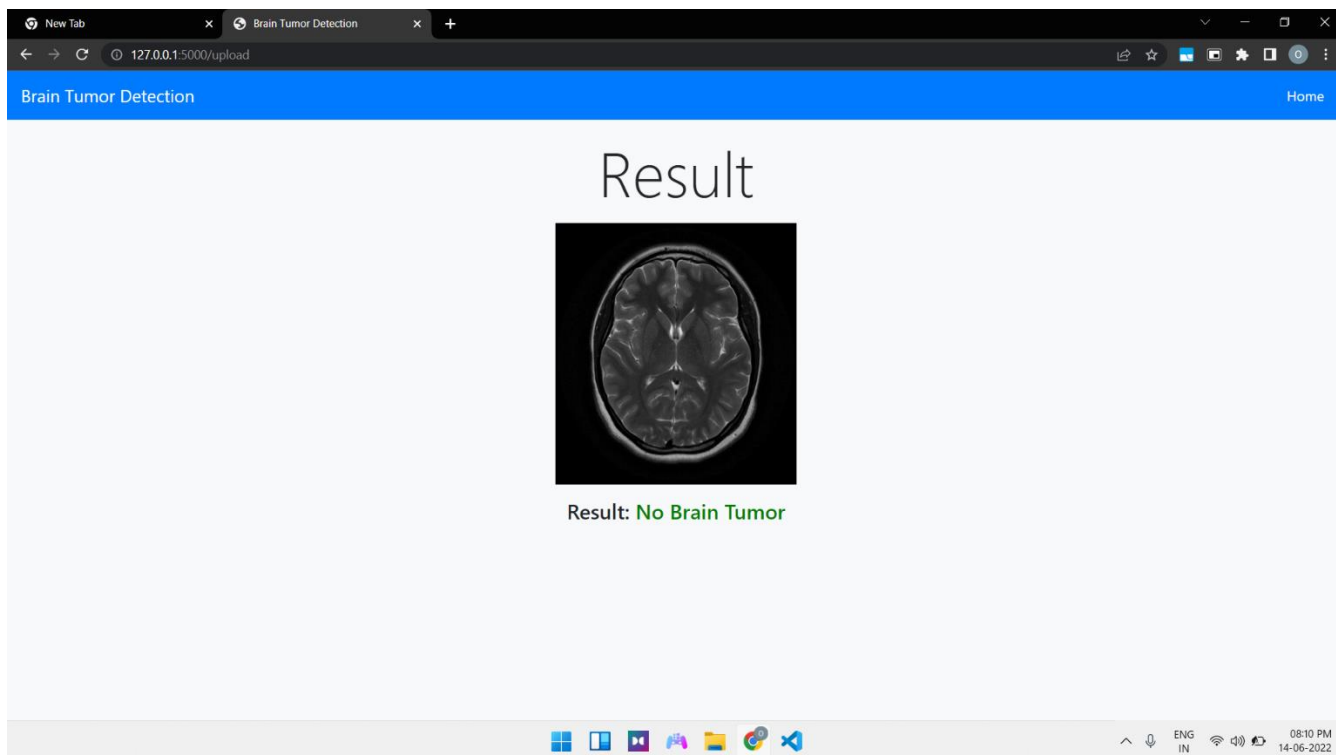
X-Ray Fracture Detection

[Check Now](#)

127.0.0.1:7000/liver







Document

Document

Heart Disease Prediction

127.0.0.1:10000/heart

Heart Disease Prediction

Disease Predictor

Heart Disease Prediction

Age:

Sex:

CP:

TRESTBPS:

CHOL:

FBS:

RESTECG:

THALACH:

EXANG: