Software Requirement Specification

Title:-
System Requirement Specification for Online Hospital Management System (OHMS).

Objective :-

 OHMS is a web application, its main purpose is to bridge the gap between end user (patient) and the specialized doctors. Using this application end user will be able to search for doctors and book an appointment if the doctor is available.   It provides common platform through which a hospital can maintain a record of patient and their appointment with corresponding doctor. The proposed system eliminates the manual entry of patient's appointment and maintaining record related to patient, hence providing better service. This application help peoples to get needful information related with the hospital. By just login on site they will easily get info related with hospital and doctor.

Product Scope :-

 The purpose of the OHMS is providing ease to user and hospital team also to create a convenient and easy-to-use application for hospital and user. In this application availability status of doctors and number of beds available in hospital will be managed. In this application user will be able to book his appointment. The system is based on a relational database having records of hospital team and appointment functions. We will take some hospitals information in our database server. This application indirectly saves the time and money of user.

Product Functions:

 1. Firstly, patients will get freely accessed to application for checking the availability of doctors at any time.

 2. Patients/user can register and login to the portal with their credentials from anywhere to see doctor status and bed count and able to book appointment with the available doctor.

3. Hospital staff (front desk person) will login and performs tasks like update count of available beds and update status of doctor, set appointment and cancel appointment.

4. Admin will have all privileges like registering and updating information of hospital and doctor.

Constraints:

1. User interface is only in English. No other language option is available.
2. User can log-in only with his assigned user-name, password
3.Limited to HTTP/HTTPS

Assumptions and Dependencies:

➢ Assumptions:
1.There is an active internet connection with the system.
2.The system has internet browser installed.
3.User knows the English language, as the user interface will be provided in English.

➢ Dependencies:
1. There is a need to update Doctors status.
2.There is a need of give appointments to patient/user.

Functional Requirements:-

1. Check Doctors Status
a)The system will show the list of the registered Hospitals & Doctors.
b) The system will allow Hospital staff to update the Doctor availability status.

2. Book/Cancel Appointment
a) Patient can apply for appointment that request goes to Hospital.
b) Based on Doctors Availability, Appointment option will be provided.
c) Appointment will be approve/cancelled by Hospital staff or by Patient if needed.

3. Show Bed Availability
>   a) Patient will get all the information like number of beds available in hospital and that count will be updated by hospital staff.

Non-functional Requirements :-

1. Performance Requirements
>   The system should store all the database records of user/patients, doctors and data related with hospital. This application will available for use at any time. There won't be any time limit applied to the website. User can easily select option for that we will provide features on client side.

2. Safety Requirements
>   All login ids and password of Admin, health department, hospital and doctor should be kept as private to maintain privacy and no one will have access to database except for the admin.

3**.** Security Requirements
>   For security purpose with keep credential private such as user id and password. Patient/user, doctor and hospital data is only visible to Admin. All passwords stored in database in such a way that it should be protected by any web attack.

Security: For security purpose to keep credential provided such as user id and password.

The system shall use secure sockets in all transactions that include any confidential customer information.

The system shall automatically log out all customers after a period of inactivity.

The system shall confirm all transactions with the customer's web browser.

4. Reliability**:** Application should run for prolonged duration with specified requirements with integrity.

5. Availability: System should be available for 24/7 without failure.

6. Maintainability: This Website is easy to handle multiple requests and response. Session data is stored in local storage of browser and handle with securely.

7. Portability: Web application should be supported by any Platform. And client will get support on mobile, Tab or Desktop devices.

8. Accessibility: The system shall provide multi language support.

9. Efficiency: System should not fail with huge traffic.

10. Modularity: the system should be bound the loosely coupled components like suppliers, customers and delivery agencies.

11. Scalability: System should sustain multiple requests from client without any system hang.

Operating Environment:
Hardware platform:
1.Processor – Intel core i5, with clock speed of 2.0 GHz
2. Hard Disk – Free Disk space of above 1GB.
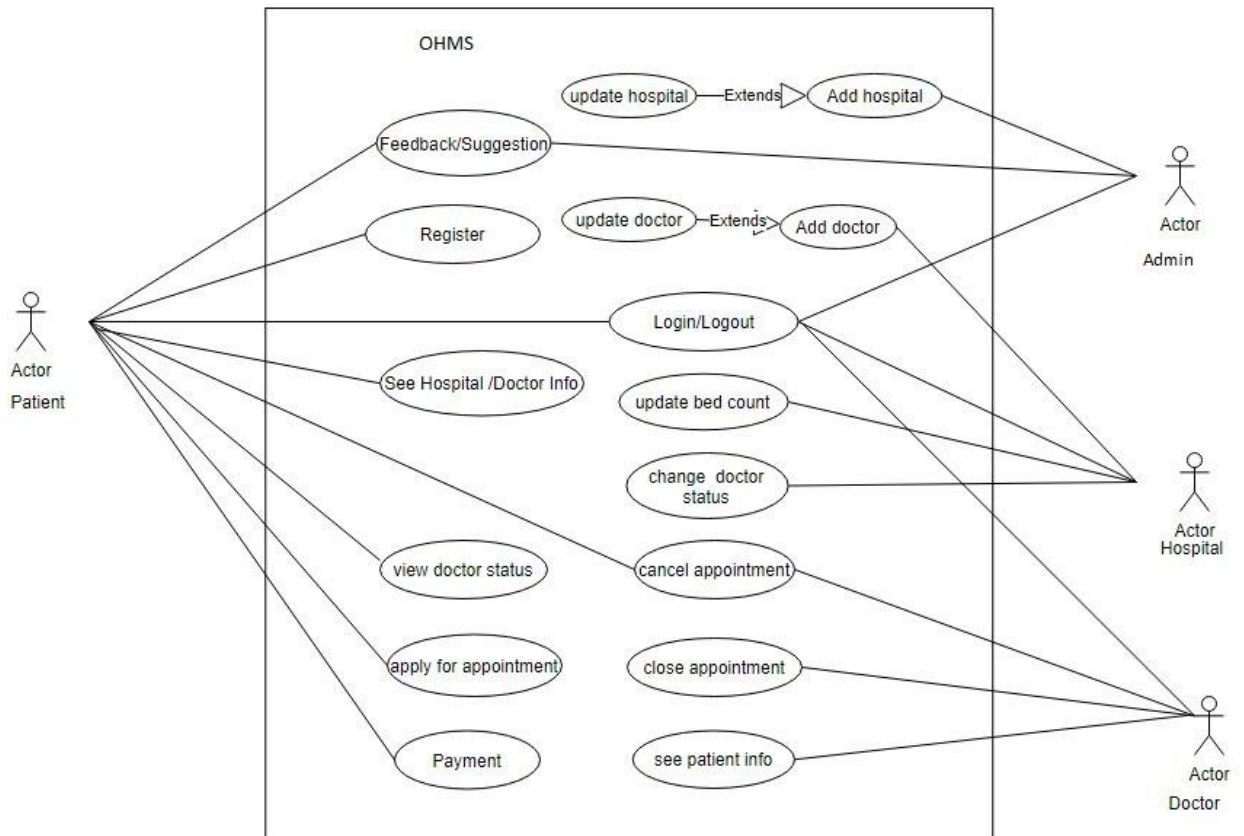3.RAM – 1 GB or above

Software platform:
1. Front-end: HTML, CSS, Bootstrap
2.Database: MySQL
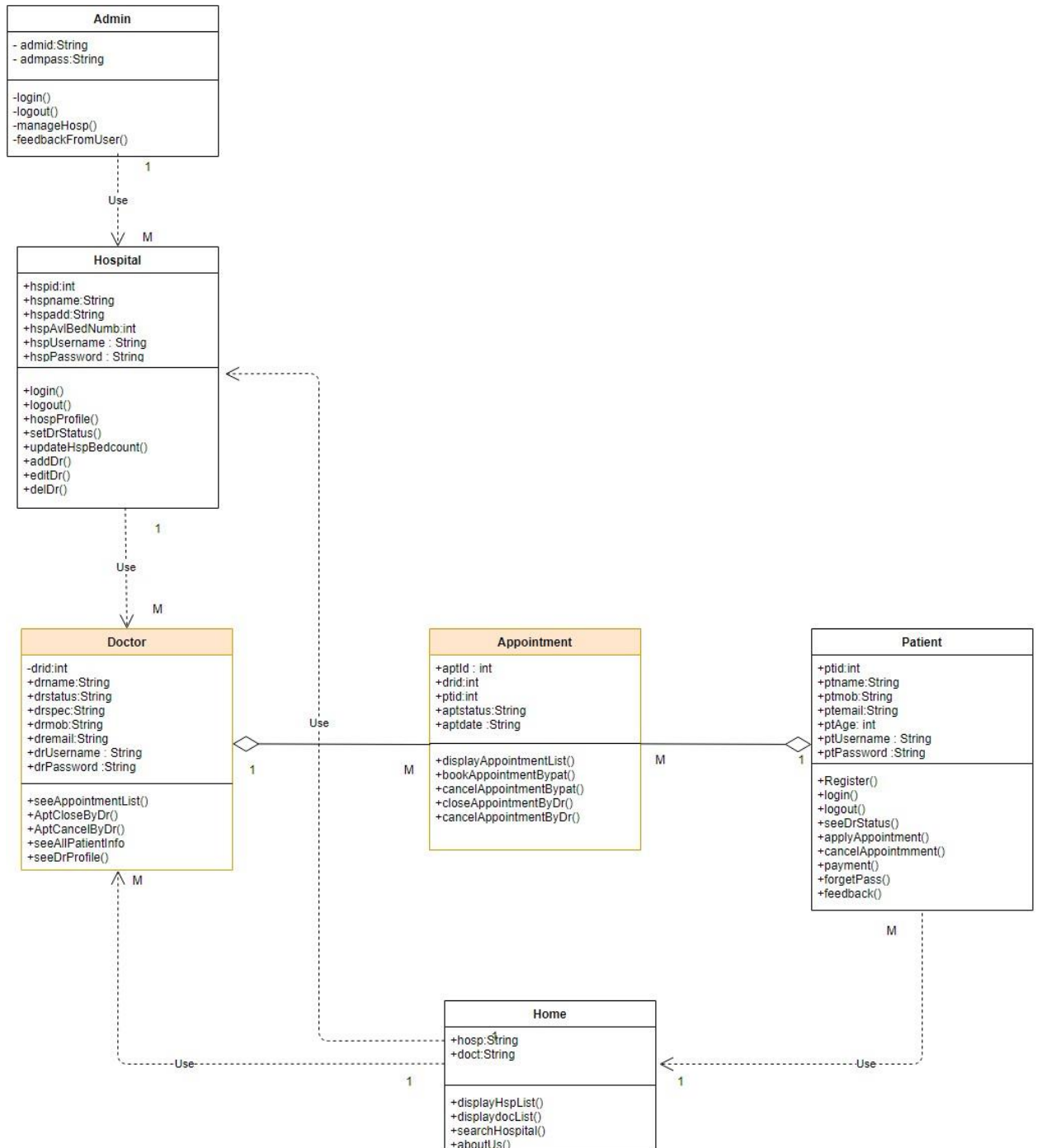3. Back-end: Java Spring boot API.

Supported tools:
1. MySQL Workbench, Spring Tool Suite
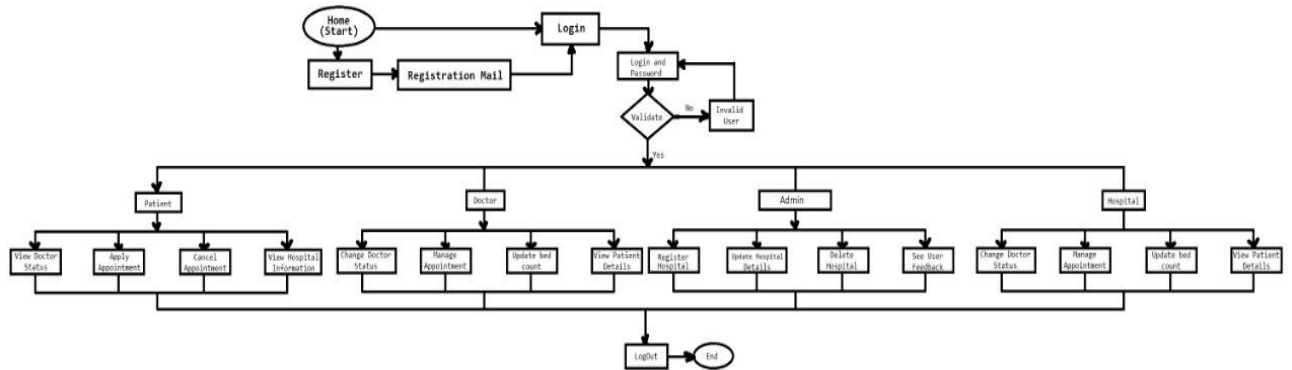
Analysis Models :-
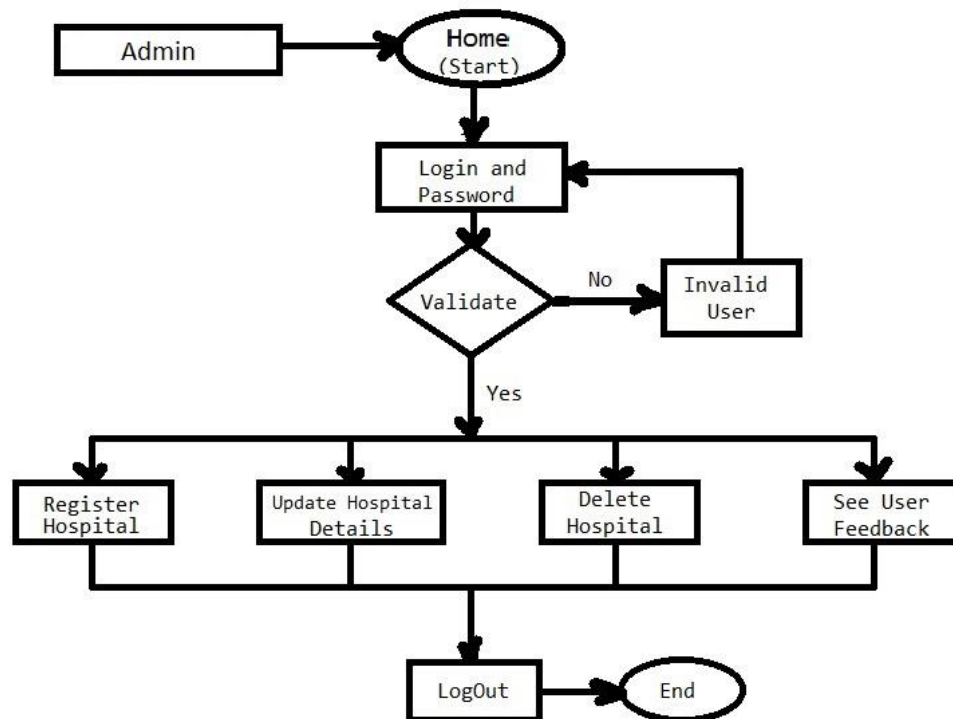
1) Use Case Diagram :-

2) Class Diagram :-

Admin
- admid:String
- admpass:String

-login()
-logout()
-manageHosp()
-feedbackFromUser()

1

Use

M

Hospital
+hspid:int
+hspname:String
+hspadd:String
+hspAvlBedNumb:int
+hspUsername : String
+hspPassword : String

+login()
+logout()
+hospProfile()
+setDrStatus()
+updateHspBedcount()
+addDr()
+editDr()
+delDr()

1

Use

M

Doctor
-drid:int
+drname:String
+drstatus:String
+drspec:String
+drmob:String
+dremail:String
+drUsername : String
+drPassword :String

+seeAppointmentList()
+AptCloseByDr()
+AptCancelByDr()
+seeAllPatientInfo
+seeDrProfile()

1

M

Appointment
+aptId : int
+drid:int
+ptid:int
+aptstatus:String
+aptdate :String

+displayAppointmentList()
+bookAppointmentBypat()
+cancelAppointmentBypat()
+closeAppointmentByDr()
+cancelAppointmentByDr()

Use

M

Patient
+ptid:int
+ptname:String
+ptmob:String
+ptemail:String
+ptAge: int
+ptUsername : String
+ptPassword :String

+Register()
+login()
+logout()
+seeDrStatus()
+applyAppointment()
+cancelAppointmment()
+payment()
+forgetPass()
+feedback()

1

M

Home
+hosp:String
+doct:String

+displayHspList()
+displaydocList()
+searchHospital()
+aboutUs()

1

1

Use

Use

3) Page navigation:

3.1) For Admin

3.2) <u>For Hospital</u>:

```
┌─────────────┐        ╭──────────────╮
│  Hospital   │───────▶│     Home     │
└─────────────┘        │   (Start)    │
                        ╰──────────────╯
                              │
                              ▼
                        ┌──────────────┐
                        │  Login and   │◀──────────┐
                        │   Password   │           │
                        └──────────────┘           │
                              │                    │
                              ▼                    │
                          ╱────────╲    No   ┌──────────┐
                         ╱ Validate ╲───────▶│ Invalid  │
                         ╲          ╱        │   User   │
                          ╲────────╱         └──────────┘
                              │
                             Yes
                              ▼
```

| Change Doctor Status | Manage Appointment | Update bed count | View Patient Details |

```
                        ┌──────────┐      ╭─────────╮
                        │  LogOut  │─────▶│   End   │
                        └──────────┘      ╰─────────╯
```

3.3) <u>For User (Patient)</u>

```
┌─────────────┐        ╭──────────────╮
│   Patient   │───────▶│     Home     │
└─────────────┘        │   (Start)    │
                        ╰──────────────╯
                              │
                              ▼
                        ┌──────────────┐
                        │  Login and   │◀──────────┐
                        │   Password   │           │
                        └──────────────┘           │
                              │                    │
                              ▼                    │
                          ╱────────╲    No   ┌──────────┐
                         ╱ Validate ╲───────▶│ Invalid  │
                         ╲          ╱        │   User   │
                          ╲────────╱         └──────────┘
                              │
                             Yes
                              ▼
```

| View Doctor Status | Apply Appointment | Cancel Appointment | View Hospital Information |

```
                        ┌──────────┐      ╭─────────╮
                        │  LogOut  │─────▶│   End   │
                        └──────────┘      ╰─────────╯
```
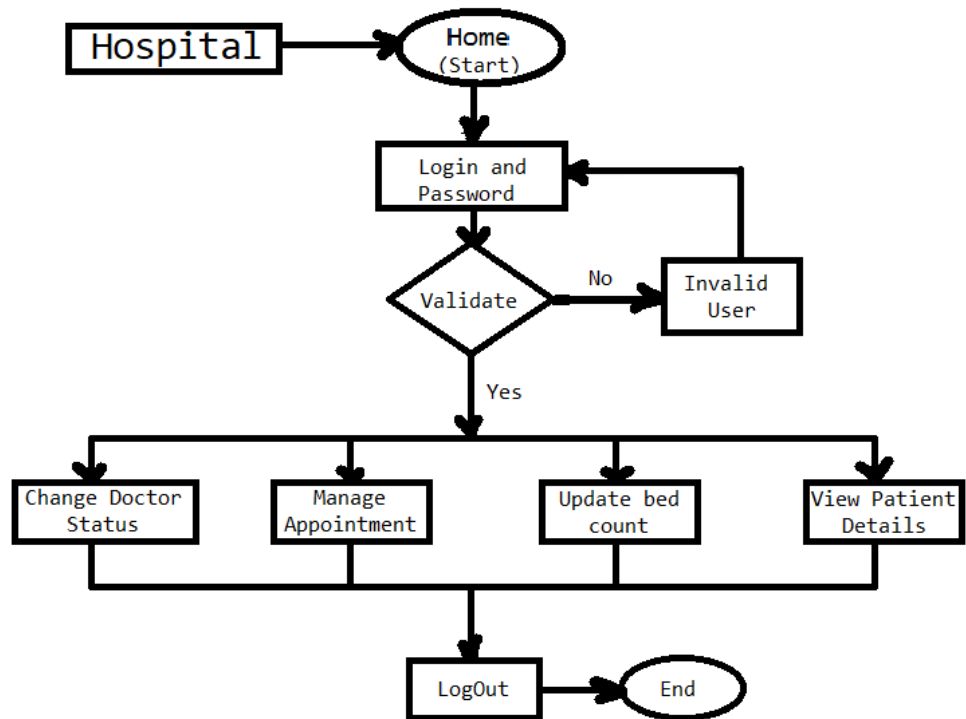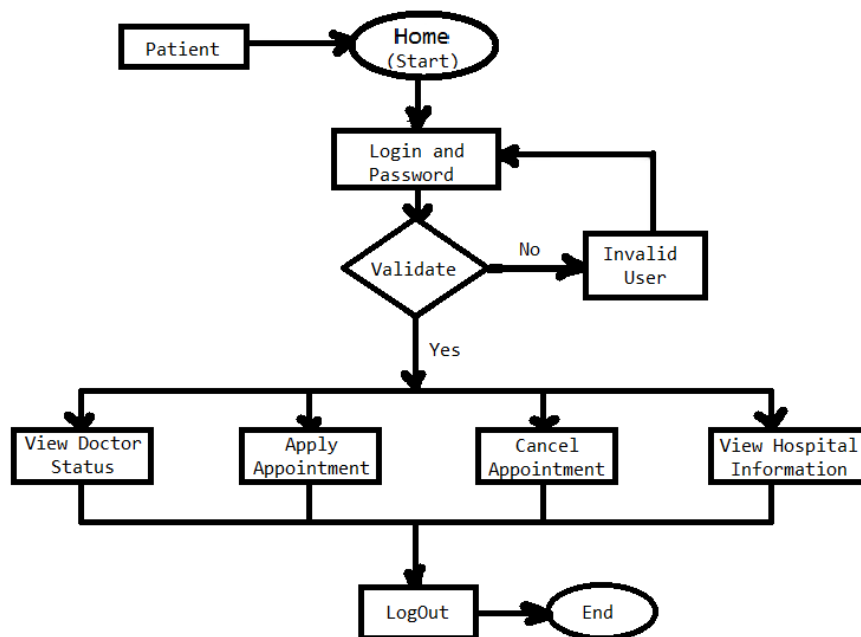
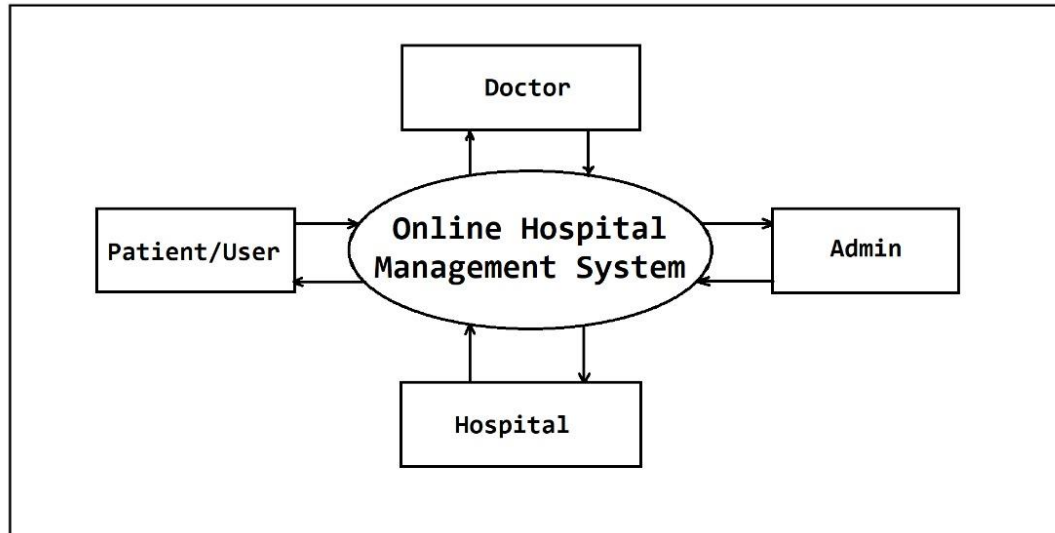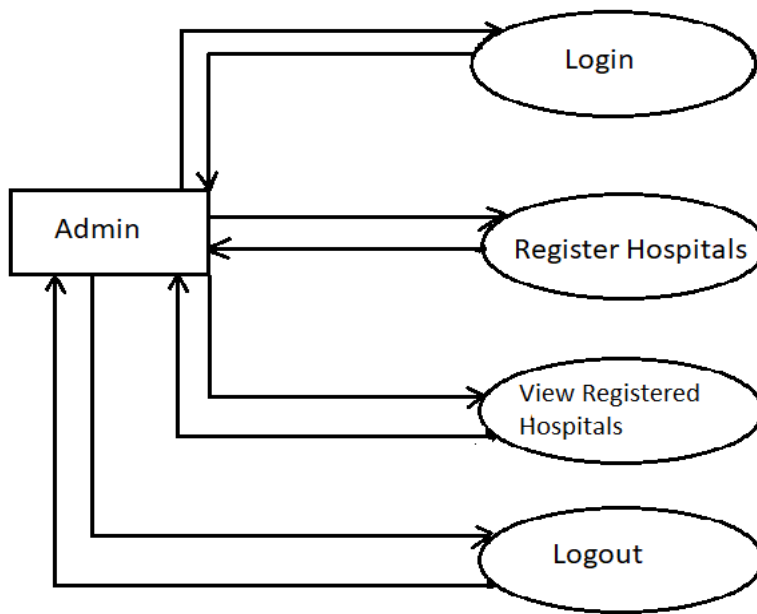## 3.4) For Doctor
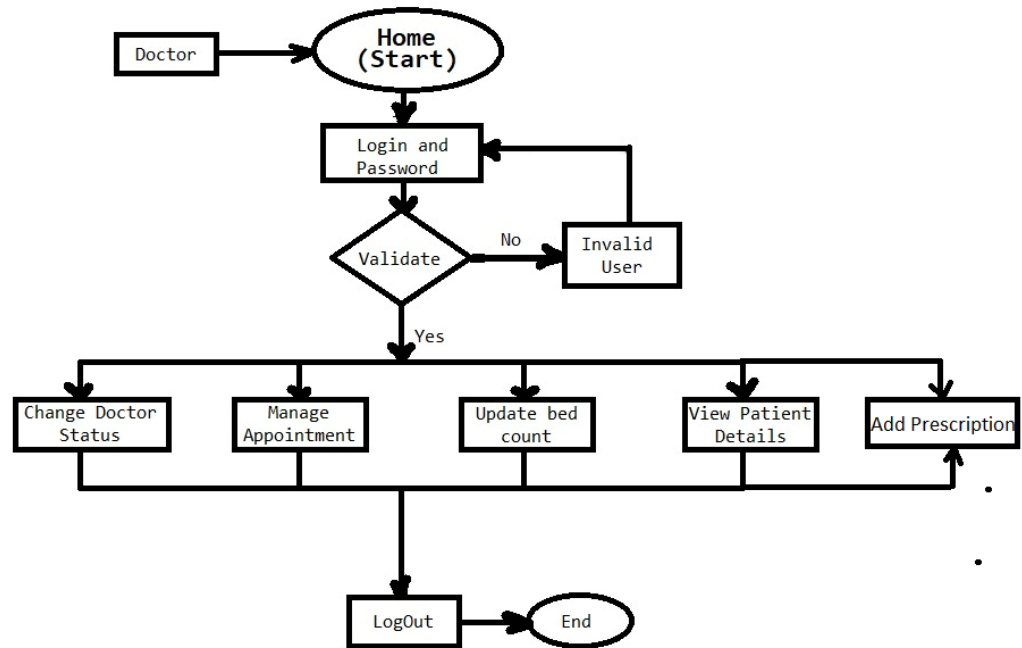
4. ER diagram
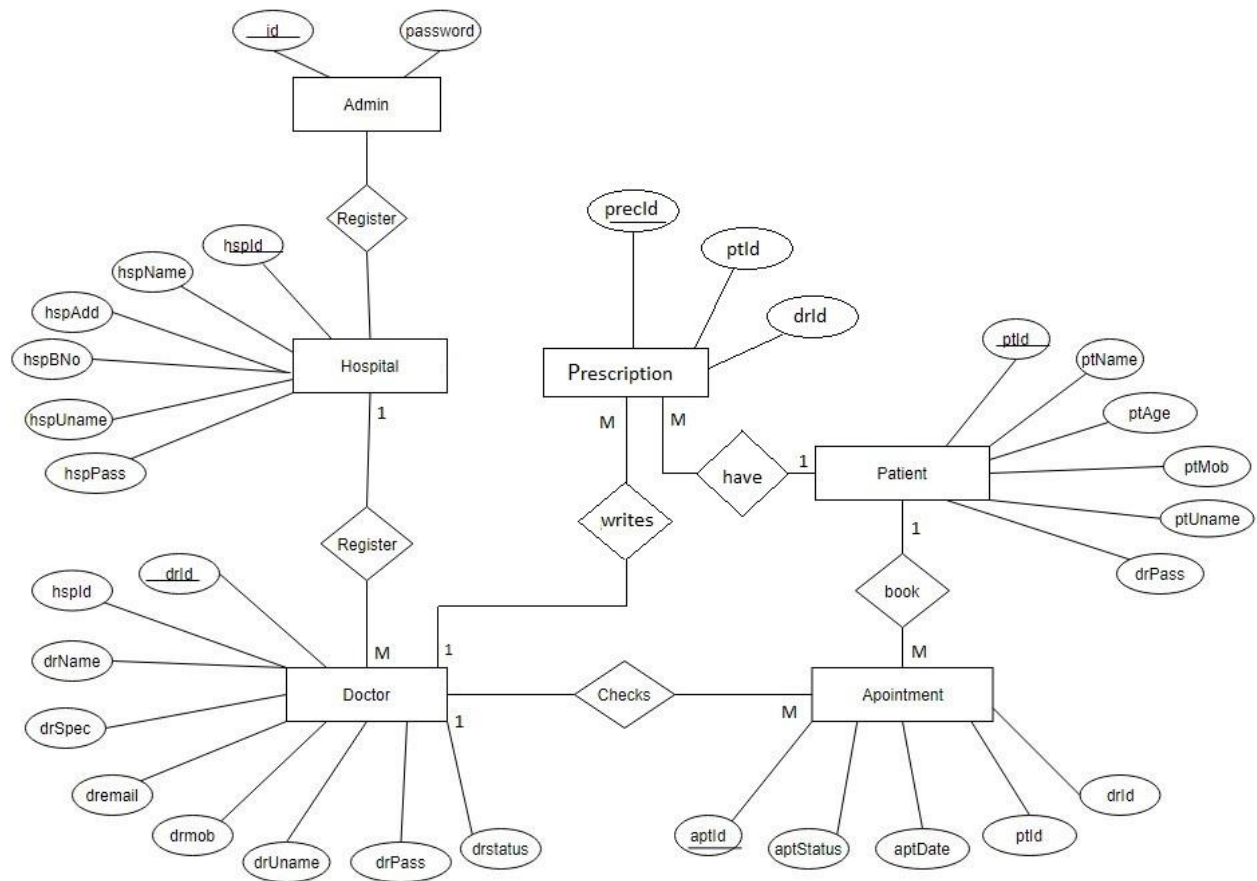
E-R Diagram

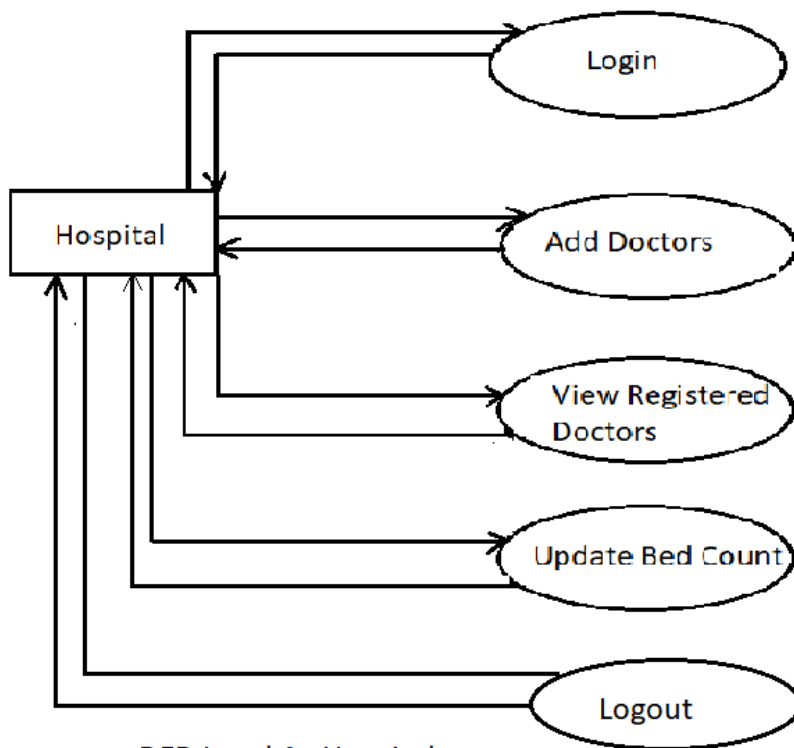## 5. Data Flow Diagrams :-

5.1) Level 0

DFD 0 Level – Online Hospital
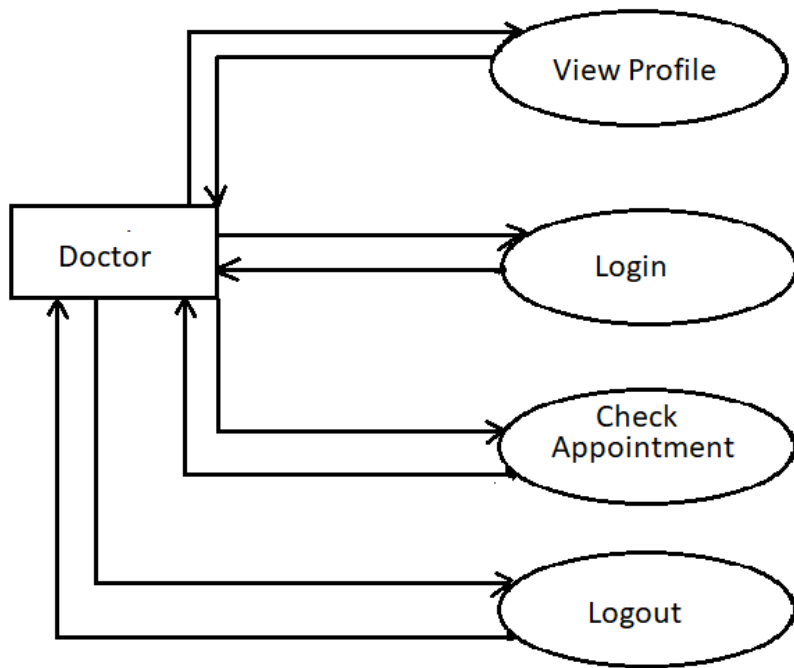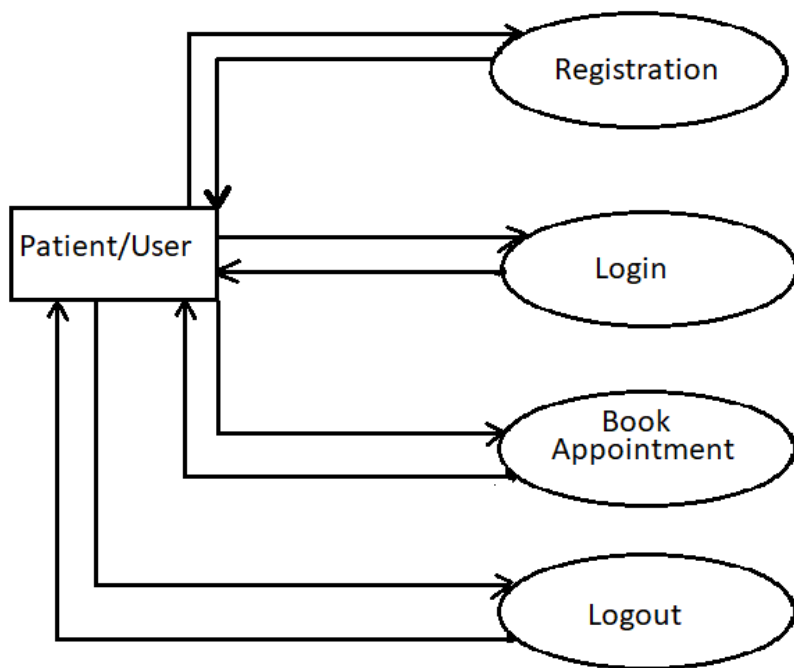Management System

5.2) Level 1

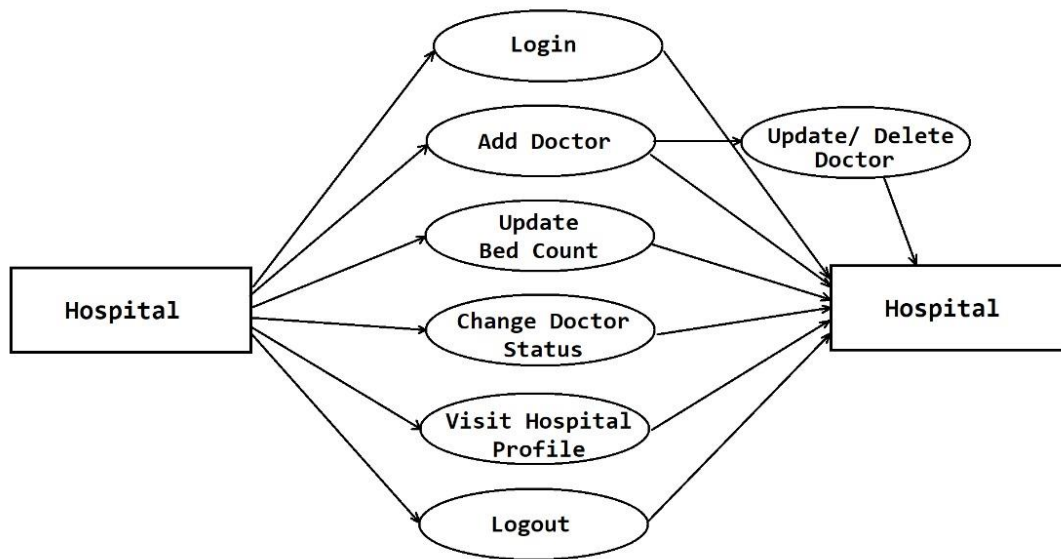

DFD Level 1 - Admin
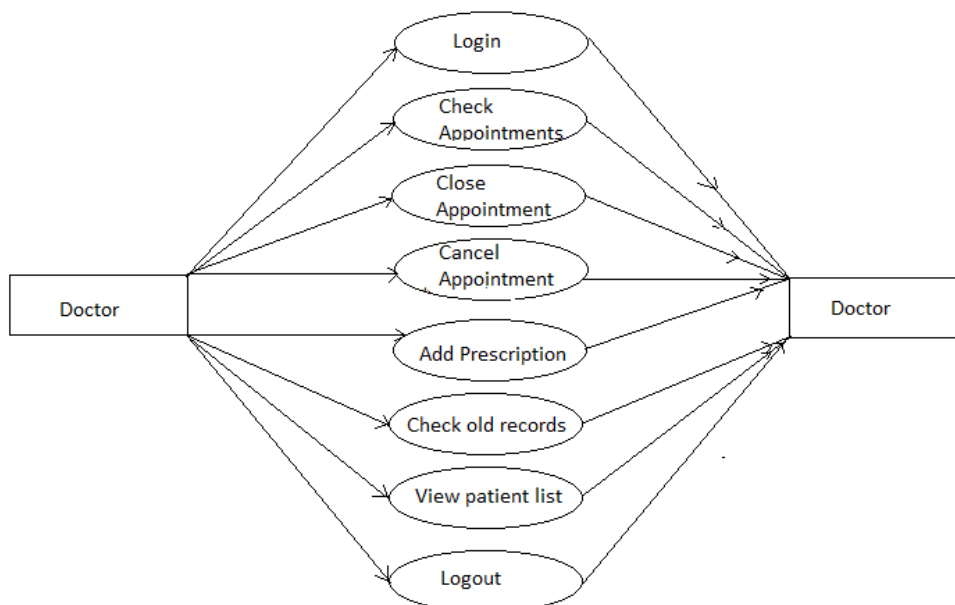

DFD Level 1 - Hospital
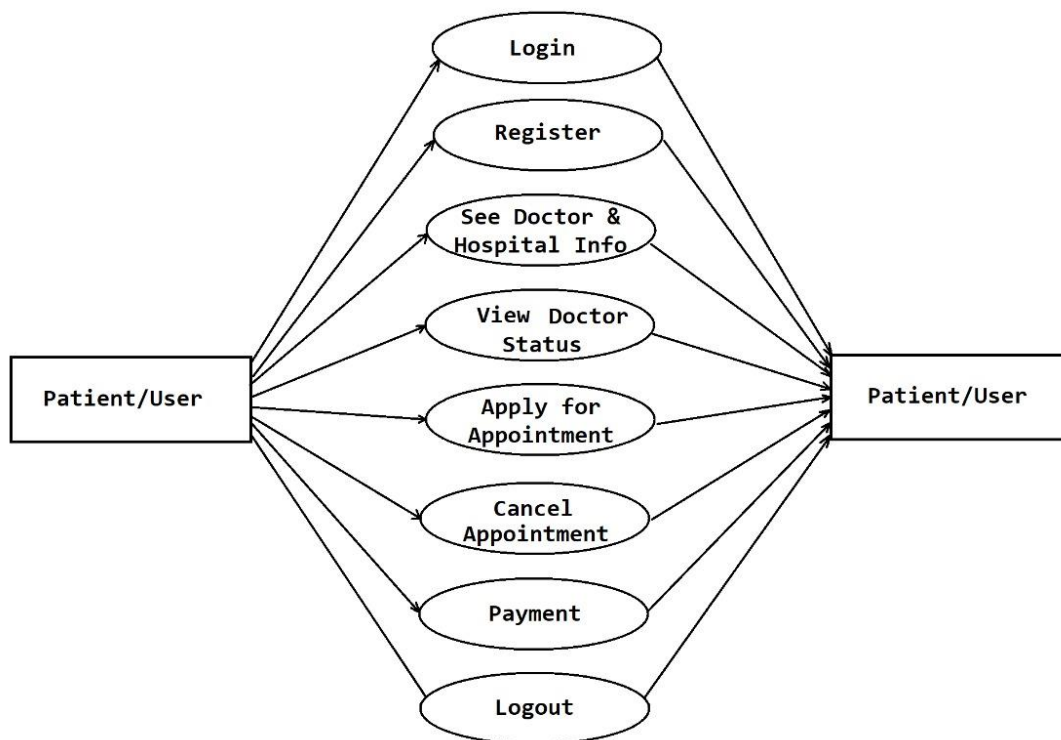
DFD Level1 - Doctor

DFD Level 1 -patient/User

5.3) Level 2

DFD Level 2 Hospital

DFD Level 2 - Doctor

Patient/User

Login

Register

See Doctor & Hospital Info

View Doctor Status

Apply for Appointment

Cancel Appointment

Payment

Logout

Patient/User

DFD Level 2 Patient