HOSPITAL MANAGEMENT SYSTEM

UCS503 Software Engineering Project Report End-Semester Evaluation

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Group No: 3COE1

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PROJECT SELECTION PHASE

SOFTWARE BID

First Choice	**Hospital Management system using python and html** -We have all been in that situation when we have an emergency or shortage of time for visiting a hospital. Our team is making a hospital management system which makes possible to book appointment, list of medicines and total bills information under a single system only.
Second Choice	**Emotion detector for spotify song suggestions** -A emotion detector that detects human emotion and suggests the song accordingly.
Third Choice	**Online pdf to text converter and language translator python** Online pdf to text converter platform that converts converts the same using python
Fourth Choice	**Tinder for Hackathon teams** Often, we hesitate in participating in the hackathons because we don't have the team. Sometime the team members don't have the required tech stack we are looking for. So, the app will help them finding the desired team to increase their chances of winning.

PLANNING PHASE

PROJECT WRITE UP

Objective: To build a hospital management system

The project Hospital Management system includes registration of patients, storing their details into the system, storing details of doctors and also computerized billing in hospital.The software has the facility to give a unique username and password for every patient and doctors and stores the details of every patient and the doctor automatically. Patient can search for the doctors in the hospital .

The Hospital Management System can be entered using a username and password. It is accessible either by patients , admin and doctors. Only they can add the particular data into the database. The data can be retrieved easily. The interface is very user-friendly. The data are well protected for personal use and makes the data processing very fast.

The purpose of the project entitled as "HOSPITAL MANAGEMENT SYSTEM" is to computerize the Front Office Management of Hospital to develop software which is user friendly, simple, fast, and cost – effective. It deals with the collection of patient's information, diagnosis details, etc.

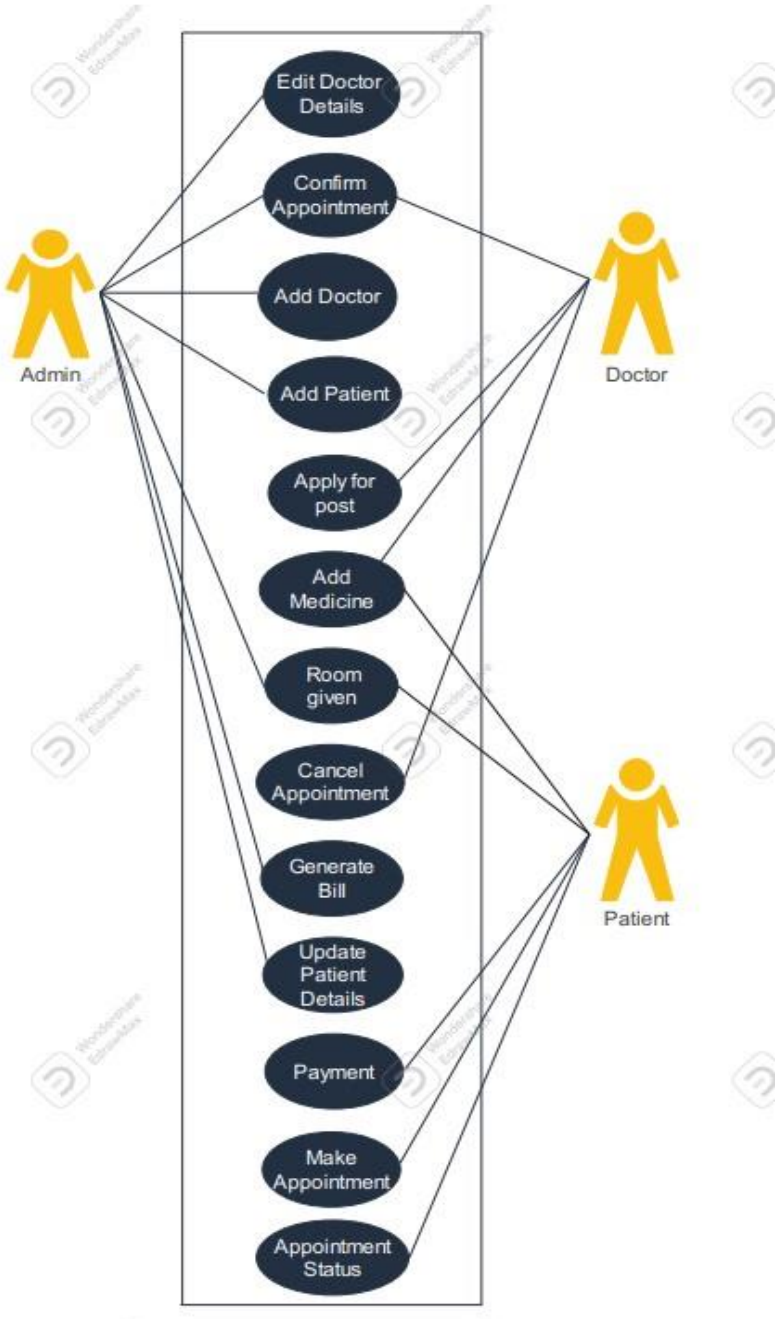
Traditionally, it was done manually. The main function of the system is to register and store patient details and doctor details and retrieve these details as and when required, and also to manipulate these details meaningfully System input contains patient details, diagnosis details; while system output is to get these details on to the CRT screen.

NEED:

Our present modern information system makes use of computers for the execution, each of them connected through an optimized network. Healthcare is the most critical aspect of our society, and many health care providers face challenges to offer practical and active services to patients.

ANALYSIS PHASE

USE CASE DIAGRAM



USE CASE SCENARIO

1.

1. Use Case Title	Edit doctor details
2. Abbreviated Title	E_dr_detail
3. Use case ID	1
4. Actors	Admin
5. Description 1. Only admit can edit the details of the doctor which are present in the database	
5.1 Pre-Conditions 1. Doctor should have Registered account.	
5.2 Task Sequence 1. Go to the page where information of doctors is saved. 2. Edit the details of the doctor. 3. Save the new information.	
5.3 Post Conditions 1. New Information of doctor will be updated.	
6. Modification History: Date 11-Sep-2022	
7. Author: Prachi Gupta Riya Neha Agarwal Kirti Kapoor Chirag	

2.

1. Use Case Title	Confirm Appointment
2. Abbreviated Title	Cm_apt
3.Use case ID	2
4.Actors	Admin, Doctor
5.Description	
5.1 Pre-Conditions 1. If doctor is available then appointment is confirmed.	
5.2Task Sequence 1. Notify the doctor about appointment. 2. Then reply to the patient according to the doctor's reply.	
5.3 Post Conditions 1. Appointment will be cancelled or confirmed.	
6. Modification History: Date 11-Sep-2022	
7. Author: Prachi Gupta Riya	

	Neha Agarwal Kirti Kapoor Chirag

3.

1. Use Case Title	Add Doctor
2.Abbreviated Title	Add_Dr
3.Use case ID	3
4.Actors	Admin
5.Description Admin have the permission to add new doctor to the hospital management system.	
5.1Pre-Conditions 1. All information of doctor should be available to the admin.	
5.2Task Sequence 1. Create new account of the doctor. 2.Add doctors' information to it.	
5.3 Post Conditions 1. Doctor is able to access his new profile.	
6. Modification History: Date 11-Sep-2022	
7. Author: Prachi Gupta Riya Neha Agarwal Kirti Kapoor Chirag	

4.

1. Use Case Title	Add patient
2.Abbreviated Title	Add_pt
3.Use case ID	4
4.Actors	Admin
5.Description 1. Patient must have proper symptoms 2. Patient must provide all the necessary details like first name, last name, mobile number etc.	
5.1Pre-Conditions 1.Vacant room should be available.	
5.2Task Sequence 1. Patient will provide the required personal information, his/her symptoms 2. Patient will be added to the database	
5.3 Post Conditions 1. patient will be added	
6. Modification History: Date 11-Sep-2022	
7. Author: Prachi Gupta Riya Neha Agarwal Kirti Kapoor Chirag	

5.

1. Use Case Title	Apply for post
2.Abbreviated Title	Ap_post
3.Use case ID	5
4.Actors	Doctor
5.Description 1.Doctor who can apply for the vacant post.	
5.1Pre-Conditions 1. Doctor should have all the qualifications required for hospital.	
5.2Task Sequence 1. Doctor should send resume to the admin. 2.Admin will further proceed according to the resume of the doctor.	
5.3 Post Conditions 1.May or may not the post of the doctor will be filled.	
6. Modification History: Date 11-Sep-2022	
7. Author: Prachi Gupta Riya Neha Agarwal Kirti Kapoor Chirag	

6.

1. Use Case Title	Add medicine
2.Abbreviated Title	Add_mdcn
3.Use case ID	6
4.Actors	Doctor
5.Description 1.Doctor gives prescription of medicine to the patient.	
5.1Pre-Conditions	
5.2Task Sequence 1.Doctor writes prescription of medicine. 2.Client purchases it.	
5.3 Post Conditions 1. Patient uses that medicine.	
6. Modification History: Date 11-Sep-2022	
7. Author: Prachi Gupta Riya Neha Agarwal Kirti Kapoor Chirag	

7.

1. Use Case Title	Give Room
2.Abbreviated Title	Gv_rm
3.Use case ID	7
4.Actors	admin
5.Description The process where the admin checks and update the room information and status.	
5.1Pre-Conditions 1. Vacant rooms should be available. 2. Complete information of rooms should be there.	
5.2Task Sequence 1. Encodes room information. 2. Allots particular room to the patient according to there needs.	
5.3 Post Conditions 1. Room is allotted to the patient.	
6. Modification History: Date 11-Sep-2022	
7. Author: Prachi Gupta Riya Neha Agarwal Kirti Kapoor Chirag	

8.

1. Use Case Title	Appointment
2.Abbreviated Title	apt
3.Use case ID	8
4.Actors	Pateint,Doctor
5.Description Patient requests an appointment from doctor.	
5.1Pre-Conditions 1.Doctor should have available time.	
5.2Task Sequence 1. Patient book for doctor's appointment. 2. Doctor confirms or cancels appointment according to its schedule.	
5.3 Post Conditions 1. Doctor either Cancel or confirm the appointment.	
6. Modification History: Date 11-Sep-2022	
7. Author: Prachi Gupta Riya Neha Agarwal Kirti Kapoor Chirag	

9.

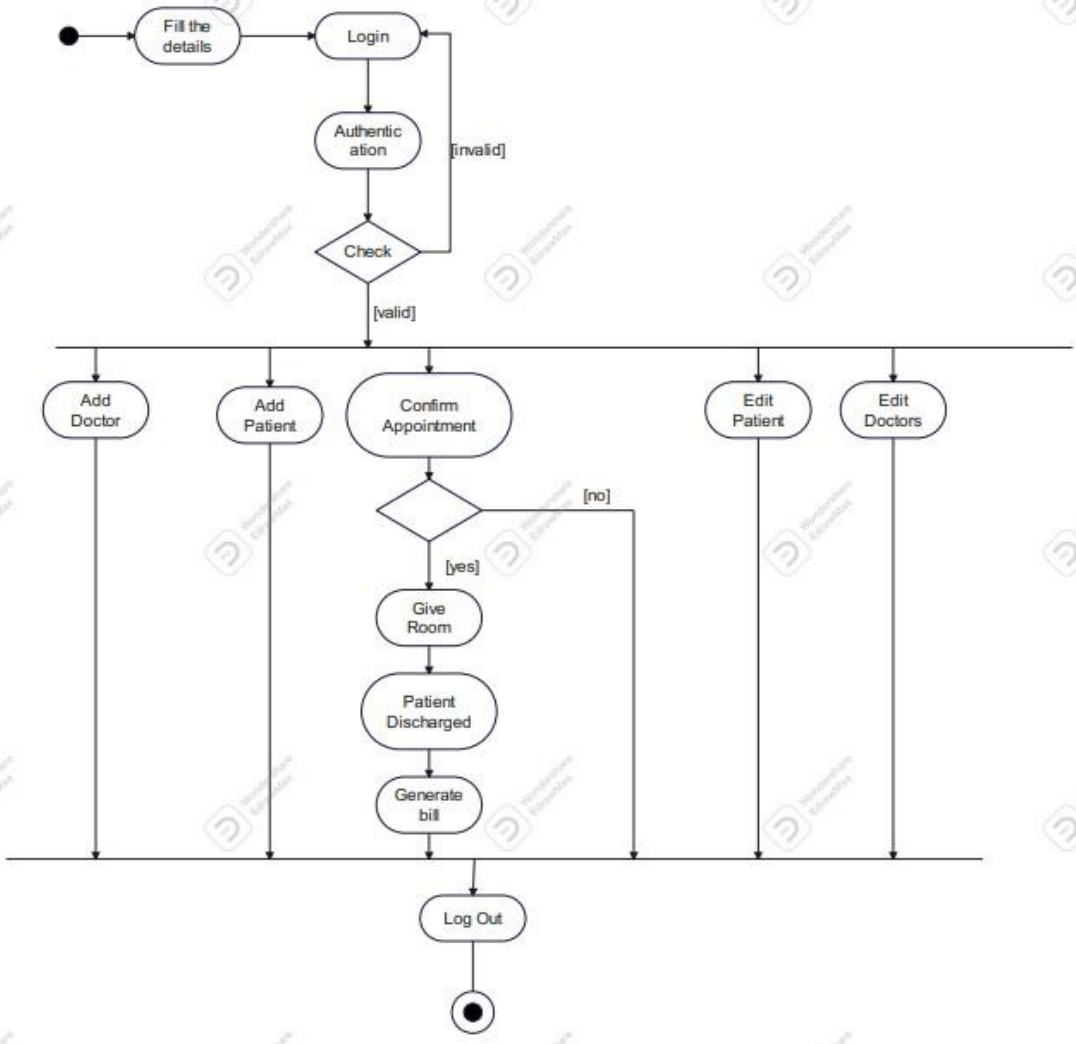
1. Use Case Title	Generate bill
2.Abbreviated Title	Gnrt_bill
3.Use case ID	9
4.Actors	Admin
5.Description 1. How the admin handles transactions made by the client.	
5.1Pre-Conditions 1. Should have medicine and lab bill record.	
5.2Task Sequence 1. Sums up all the bills together. 2.Update the bill information of the patient.	
5.3 Post Conditions 1. Receives specific amount of payment from patient.	
6. Modification History: Date 11-Sep-2022	
7. Author: Prachi Gupta Riya Neha Agarwal Kirti Kapoor Chirag	

10.

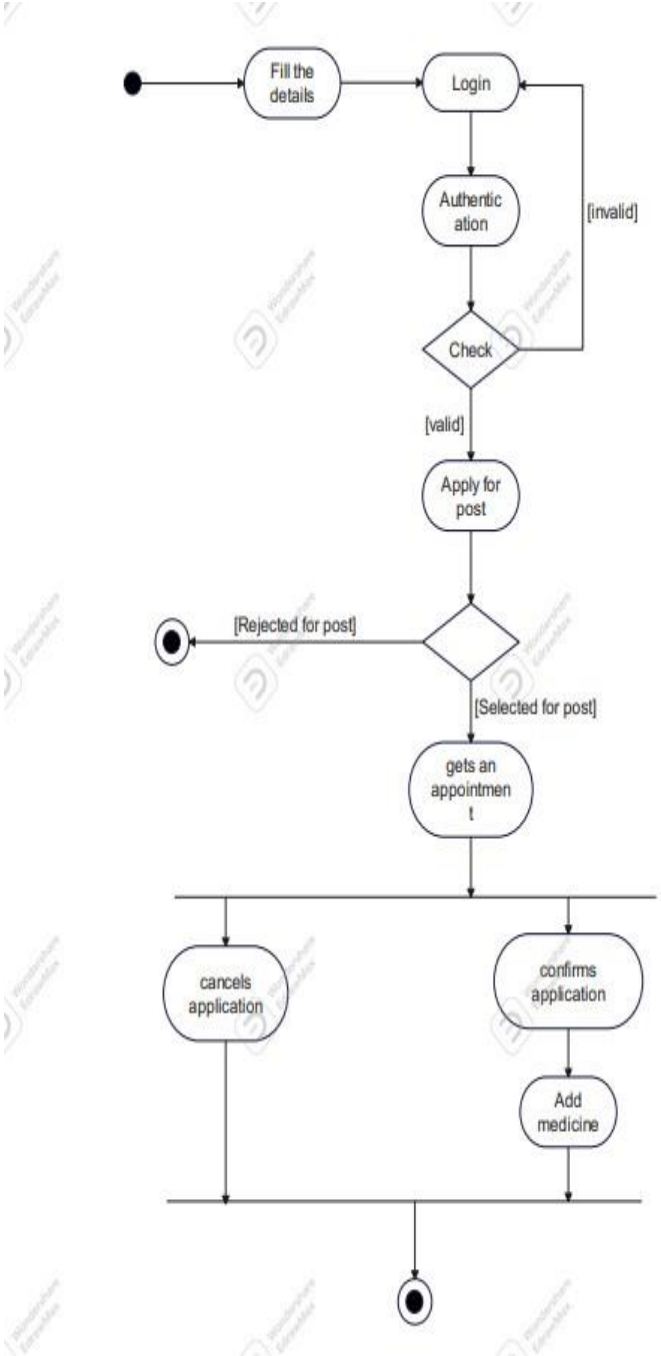
1. Use Case Title	Update patient details
2.Abbreviated Title	Upt_pt_dtls
3.Use case ID	10
4.Actors	Admin
5.Description 1. Admin has the access to update patient details.	
5.1Pre-Conditions 1. Patient should have registered account.	
5.2Task Sequence 1. Add new details of patient in the database.	
5.3 Post Conditions 1. New information of patient is available.	
6. Modification History: Date 11-Sep-2022	
7. Author: Prachi Gupta Riya Neha Agarwal Kirti Kapoor Chirag	

SWIMLANE DIAGRAM

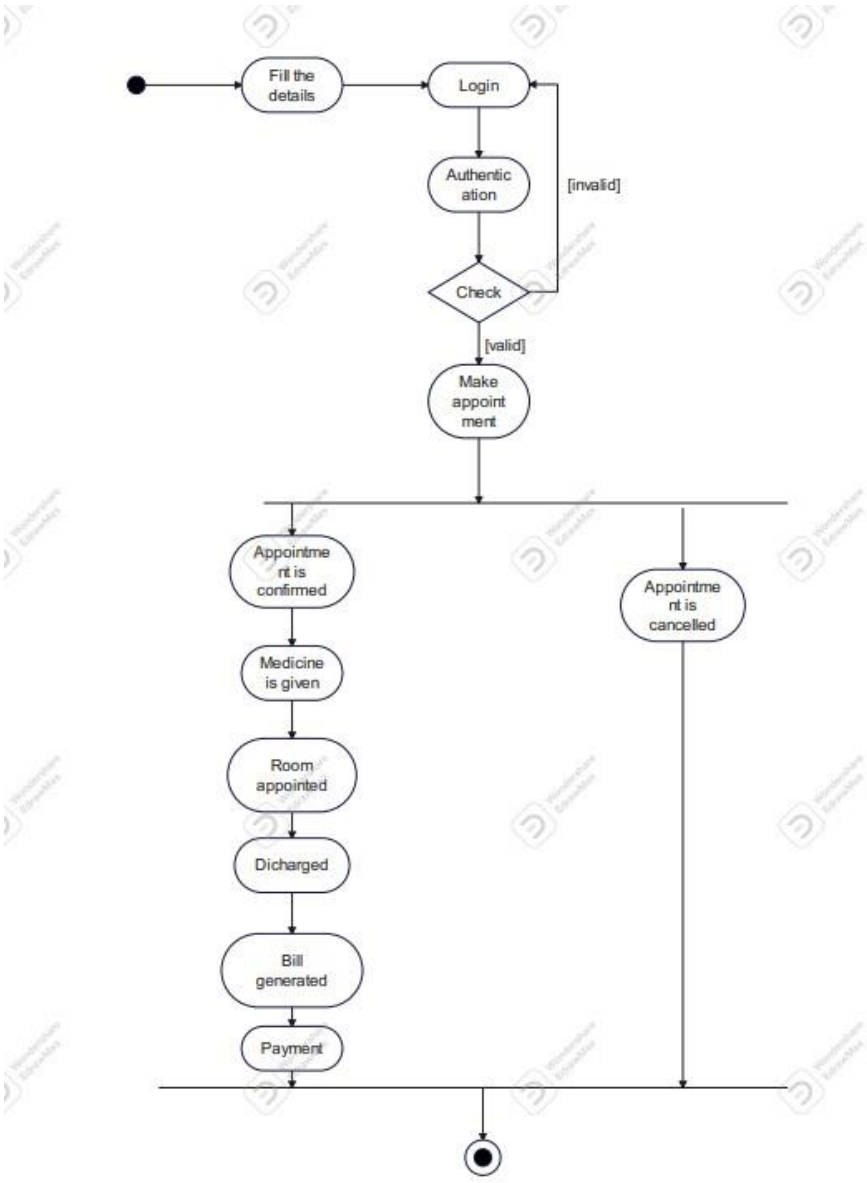
Activity diagram for admin:-



Activity diagram for Doctor:-

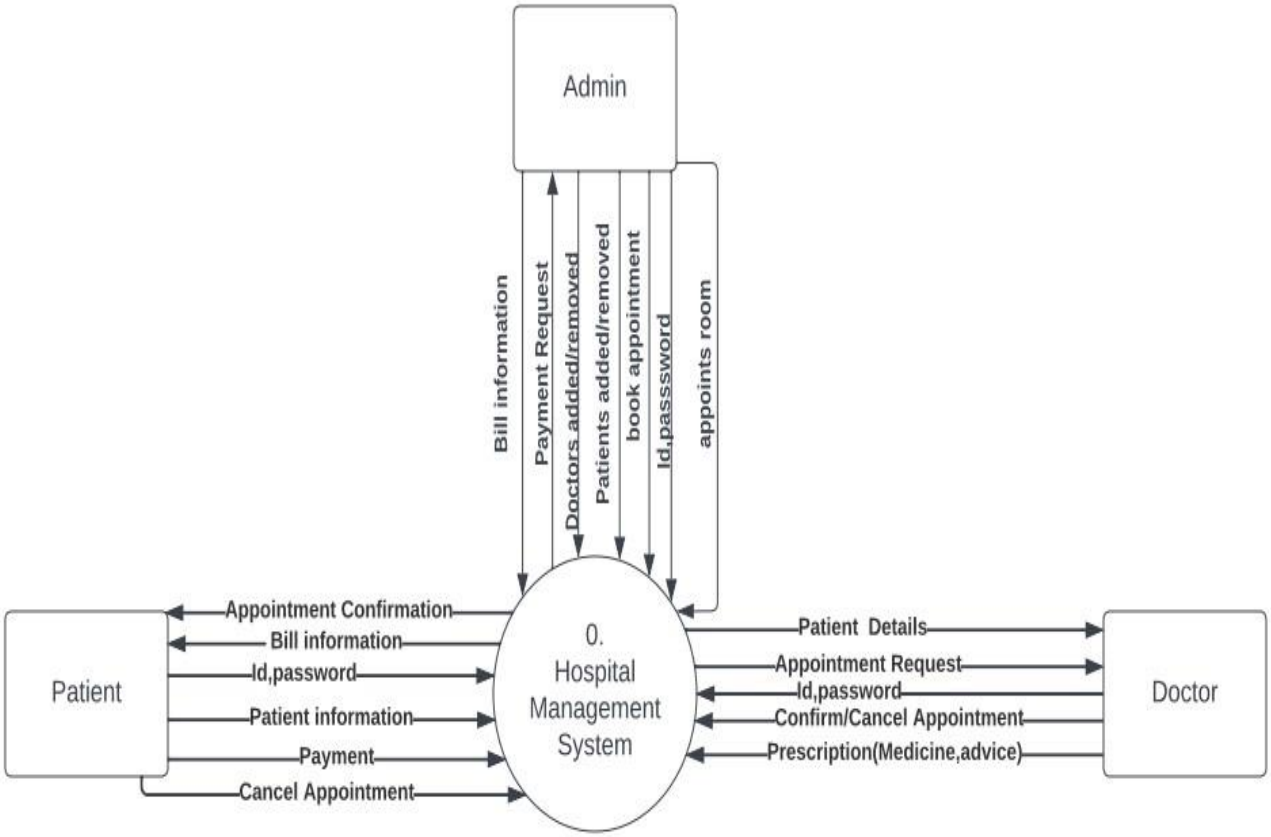


Activity diagram for patient:-

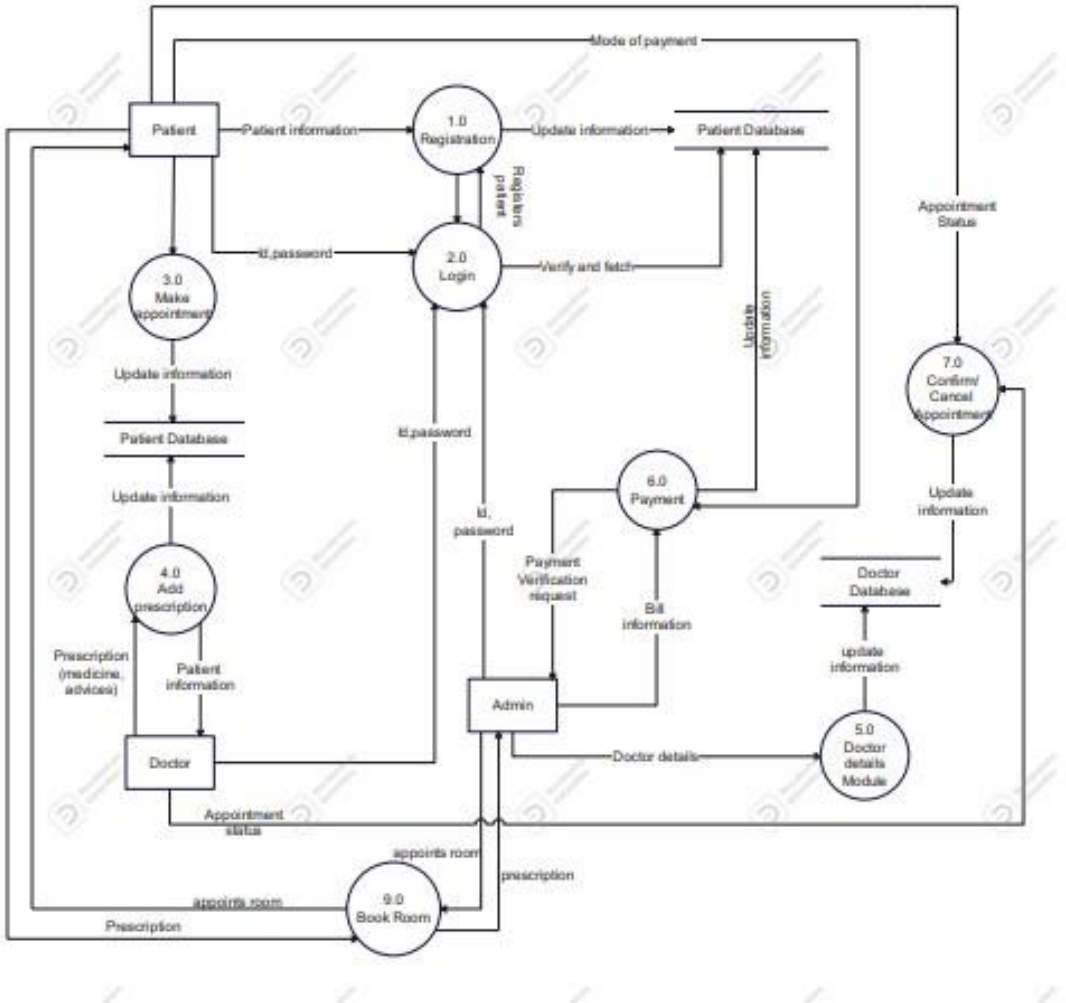


DATA FLOW DIAGRAMS

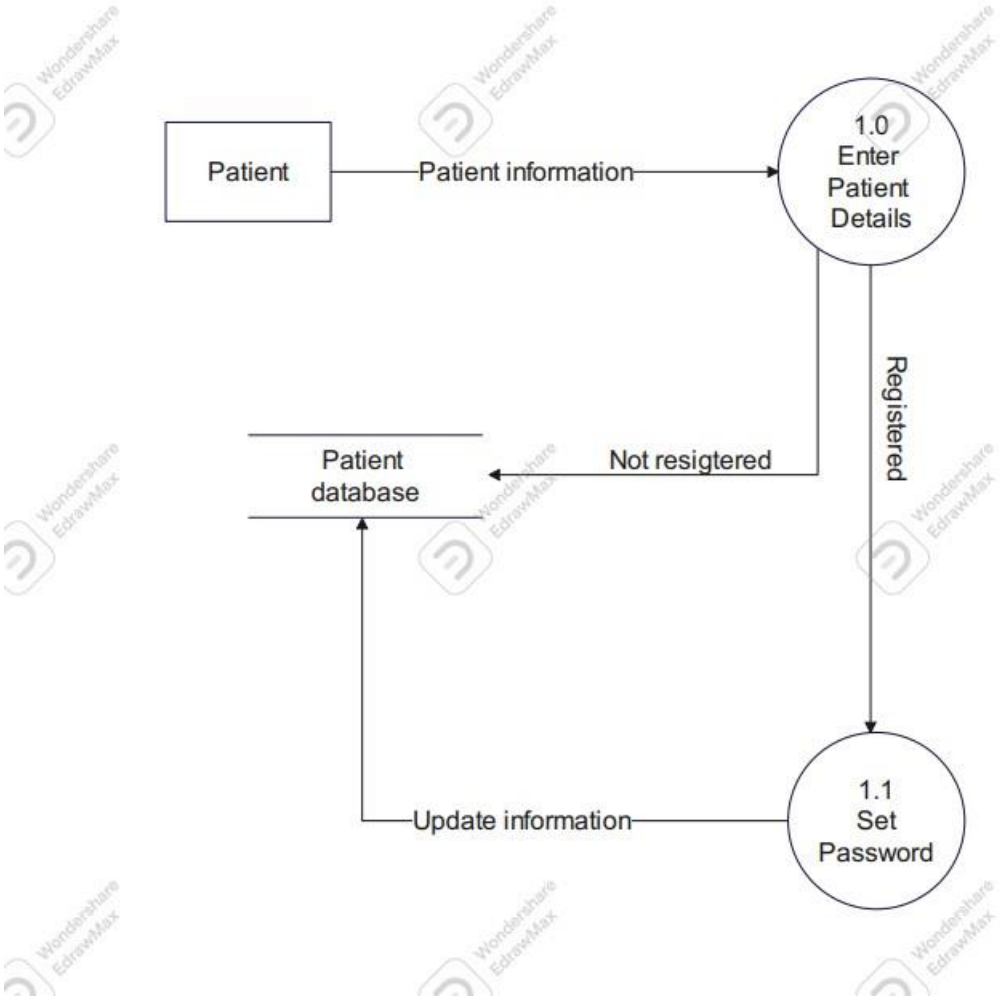
Level 0 DFD-



Level 1 DFD-


Mode of payment
Patient
Patient information
1.0 Registration
Update information
Patient Database
Registers patient
Appointment Status
Id,password
2.0 Login
Verify and fetch
3.0 Make appointment
Update information
Update information
7.0 Confirm/ Cancel Appointment
Patient Database
Id,password
Update information
6.0 Payment
Update information
Id, password
4.0 Add prescription
Payment Verification request
Bill information
Doctor Database
Prescription (medicine, advices)
Patient information
update information
Admin
Doctor
Doctor details
5.0 Doctor details Module
Appointment status
appoints room
prescription
appoints room
9.0 Book Room
Prescription

Level 2 DFD-


Patient
Patient information
1.0
Enter
Patient
Details
Registered
Patient
database
Not resigtered
1.1
Set
Password
Update information

SOFTWARE REQUIREMENT SPECIFICATION (SRS) IN IEEE FORMAT

SRS Table of Contents:

1. Introduction:

The project Hospital Management system includes registration of patients, storing their details into the system, storing details of doctors and also computerized billing in hospital. The software has the facility to give a unique username and password for every patient and doctors and stores the details of every patient and the doctor automatically. Patient can search for the doctors in the hospital.

The Hospital Management System can be used by entering respective username and password. Itis accessible either by an administrator, receptionist or the doctor. Only the respective person can add data in the database. The data can be retrieved easily. The interface is veryuser-friendly. The data are well protected and data processing is very fast, accurateand relevant.

1.1 Purpose:

A hospital portal is a software designed to manage all the areas of a hospital such as medical, financial, administrative and the corresponding processing of services which is user friendly, simple, fast, and cost – effective.

1.2 Document Conventions:

The document is prepared using Microsoft Word 2010 and has used the font type 'Times New Roman'. The fixed font size that has been used to type this document is 14pt and for headings 18pt with 1.5 linespacing. It has used the bold property to set the headings of the document. Every image and data table are numbered and referred to the in the maintext.

1.3 Intended audience:

The intended audience of this document would be the client and specific employees like Manager and Receptionist, consultants and System Operators of the intended Hospital, and project team, supervisor with the objective to refer and analyze the information. The SRS document can be used in any case regarding the requirements of the project and the solutions that have been taken. The document would finally provide a clear idea about the system that is building.

1.4 Project Scope:

Daily functions like patient registration, managing admission and overall management of various departments can be easily performed with higher accuracy after the installation of hospital software. The modules of hospital management software are user-friendly and easy to access.
Traditionally, it was done manually. The main function of the system is to register and store patient details and doctor details and retrieve these details as and when required, and also to manipulate these details meaningfully System input contains patient details, diagnosis details; while system output is to get these details on to the CRT screen.

1.5 Additional Information:

The Hospital Portal can be used by entering respective username and password. It is accessible either by an administrator or receptionist. Only the respective person can add data in the database. The data can be retrieved easily. The interface is very user-friendly. The data are well protected and data processingis very fast, accurate and relevant. A hospital management system is a software designed to manage all the areas of a hospital such as medical, financial, administrative and the corresponding processing of services.

1.6 References:

Available: **http://www.itu.dk/~slauesen/Papers/IEEEtasks.pdf**

2.Overall Description:

A portal is a software designed to manage all the areas of a hospital such as medical, administrative and the corresponding processing of services. HMS is an abbreviation of ***hospital management system.*** The hospital management system (HMS) is an integrated software that handles different directions of **clinic** workflows. It manages the smooth healthcare performance along with administrative, medical, legal, and financial control. That is a cornerstone for the successful operation of the healthcare facility.

2.1 Product Perspective:

This Hospital Portal is a self- contained system that manages activities of the hospital as bed assignment, operations scheduling, personnel management, and administrative issues. Various stakeholders are involved in the hospital system.

2.2 Product Functions:

The different functionalities of the module are listed below:

Doctor Module:

- Confirm Appointment
- Apply for post
- Add Medicine
- Cancel Appointment

Admin Module:

- Edit doctor details
- Confirm Appointment
- Add doctor
- Add patient
- Room given
- Generate Bill
- Update patient details

Patient Module:

- Add medicine
- Room given
- Payment
- Make appointment

2.3 User Classes and Characteristics:

The system will be used in the hospital. The administrators, front-desk staff will be the main users. Given the condition that not all the users are computer-literate. Some users may have to be trained on using the system.

2.4 Operating Environment:

The system is also designed to be user-friendly. The software will operate, including the hardware platform, operating system and versions, and any other software components or applications with which it must peacefully coexist.

2.5 Design and Implementation Constraints:

1. Anticipate difficulties and limitations regarding system upgrades and improvements due to the coordination required to stop clinical systems that require continuity of operation.

2.Be able to handle a significant number of transactions at any time.

3.Support a high rate of concurrent electronic transactions as different health professionals may have to enter new information or modify it.

4. Always log all transactions to be able to know what happened, allowing you to replay events, understanding bugs and ensuring the integrity of information.

5.Always ensure the integrity of the information, even in concurrent consultation.

2.6. User Documentation:

Login and make basic admin account. If you do not have user account, you simply click on register here for mage user account. User must file the all the fields in registration from after submitting valid data to registration. User can simply enter data to login form and can enter to software main menu.

Patient Registration.

In Patient Registration, user need to fill form with patient data and this form direct connects to. OPD of hospital and user need to select OPD doctor for patient.

Setup Admin user account:

To make admin account user must needs to top level admin. You can create super admin account by clicking admin account from navigation bar.

Patient information Edit and Delete:

To work with patient information, Edit and Delete user need an admin user account. By clicking Patient Information Edit and Delete form tab it shows login form again, user needs to insert admin login information. After login, it shows interface with search bar user can search user by inserting registration number, Mobile number, Emil, first name or blood group in search box.

Room Availability:

In this function user, can view available and unavailable room and user can select doctor in charge the room.

Admit Patient Information:

In this function user, can view admitted patients and user can discharge patient by clicking “Remove form room”. After clicking “Remove from Room” there is no turning back, it shows in voice forum and discharge patient form hospital.

In admitted patient invoice user need to insert Medicine Charge, Doctor Charge and Count of Days to forum. After submitting user can view and print invoice form Patient invoice function.

2.7. Assumptions and Dependencies:

In this project we assume that all the available hardware required to support the intended user load. All the up streams system including the product database and pricing inventory system provide good response with service level agreement to ensure optimal performance.

3. External Interface Requirements:

3.1 User Interfaces:

Describe the logical characteristics of each interface between the software product and the users. This may include sample screen images, any GUI standards or product family style guides that are to be followed, screen layout constraints, standard buttons and functions (e.g., help) that will appear on every screen, keyboard shortcuts, error message display standards, and so on. Define the software components for which a user interface is needed. Details of the user interface design should be documented in a separate user interface specification.

3.2 Hardware Interfaces:

Describe the logical and physical characteristics of each interface between the software product and the hardware components of the system. This may include the supported device types, the nature of the data and control interactions between the software and the hardware, and communication protocols to be used.

3.3 Software Interfaces:

Describe the connections between this product and other specific software components (name and version), including databases, operating systems, tools, libraries, and integrated commercial components. Identify the data items or messages coming into the system and going out and describe the purpose of each.

3.4. Communication Interfaces:

Describe the services needed and the nature of communications. Refer to documents that describe detailed application programming interface protocols. Identify data that will be shared across software components. If the data sharing mechanism must be implemented in a specific way (for example, use of a global data area in a multitasking operating system), specify this as an implementation constraint.

4. System Features:

The Hospital management system maintains information on patients, rooms, medicines, doctors and their bills. Of course, this project has a high priority because it is very difficult to manage such large database of patients and hospitals on daily basis.

5.Non-Functional Requirements:

5.1 Security

SRS012 Patient Identification

The system requires the patient to identify himself /herself using PHN.

SRS013 Logon ID

Any user who uses the system shall have a Logon ID and Password.

SRS014 Modification

Any modification (insert, delete, update) for the Database shall be synchronized and done only by the administrator in the ward.

SRS015 Front Desk staff Rights

Front Desk staff shall be able to view all information in HPIMS, add new patients to HPIMS but shall not be able to modify any information in it.

SRS016 Administrators' Rights

Administrators shall be able to view and modify all information in HPIMS.

5.2 Performance Requirements

SRS017 **Response Time**

The system shall give responses in 1 second after checking the patient's information.

SRS018 **Capacity**

The System must support 1000 people at a time.

SRS019 **User-interface**

The user-interface screen shall respond within 5 seconds.

SRS020 **Conformity**

The systems must conform to the Microsoft Accessibility guidelines.

5.3 Maintainability

SRS021 **Back Up**

The system shall provide the capability to back-up the Data.

SRS022 **Errors**

The system shall keep a log of all the errors.

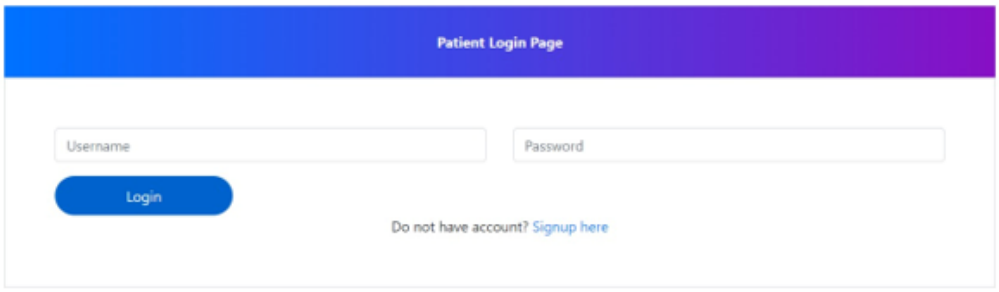
5.4 Reliability

SRS023 **Availability**

The system shall be available .

USER STORY CARDS

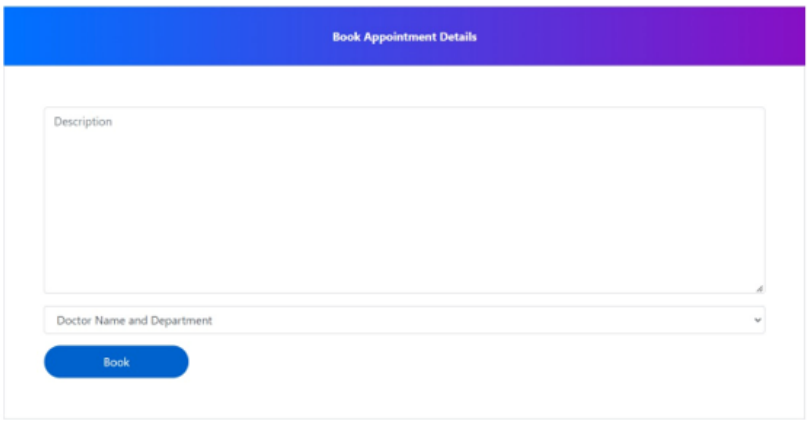
#0001	User Logs in
As a User , I want to login , so that I can access the website interface.	



Confirmation:

1. Success :- Valid user is logged in and redirected to the home page.
2. Failure :- Display message:
   A) “Incorrect Email-Id”
   B) “Incorrect password”
   C) “Error 404 (server down)”
   D) “Account not approved by the admin”

#0002	User makes appointment
As a User , I want to make an appointment, So that I can meet up with a doctor and get their advice.	



Confirmation:

1. Success :- The required doctor is available at a given time and date and appointment can be requested.
   a) 'Follow up' ticked – Report to doctor.
   b) 'Follow up' not ticked – Doctor is reported that this is first appointment.
2. Failure :- Display message:
   a) "Doctor Unavailable"
   b) "Doctor not found"

#0003	Admin admits/removes users
As an admin , I want to update or delete patient/doctor so that we can track the activities.	

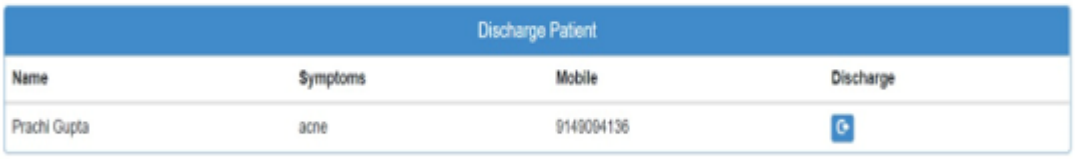
Confirmation:

1. Success :-
   - i) The desired user gets updated/deleted.
   - ii) The count of number of users in dashboard.
   - iii) Now we can view the details.

2. Failure :-
   - i) User may not present.
   - ii) Count remains the same.

#0004	Admits to generate invoice.

As an admin , I want to generate invoice so that patient is successfully discharged from the hospital.



Confirmation:

1. Success :-
   - i) Pdf of the invoice gets generated.
   - ii) Copy of the invoice gets updated at the patient's portal.
   - iii) Discharge list gets updated at the doctor's portal.

2. Failure :-
   Value error gets generated if all the fields not filled.

#0005	Doctor wants to delete the appointment.
As a doctor , I want to delete the appointment, So that his Task list gets updated	

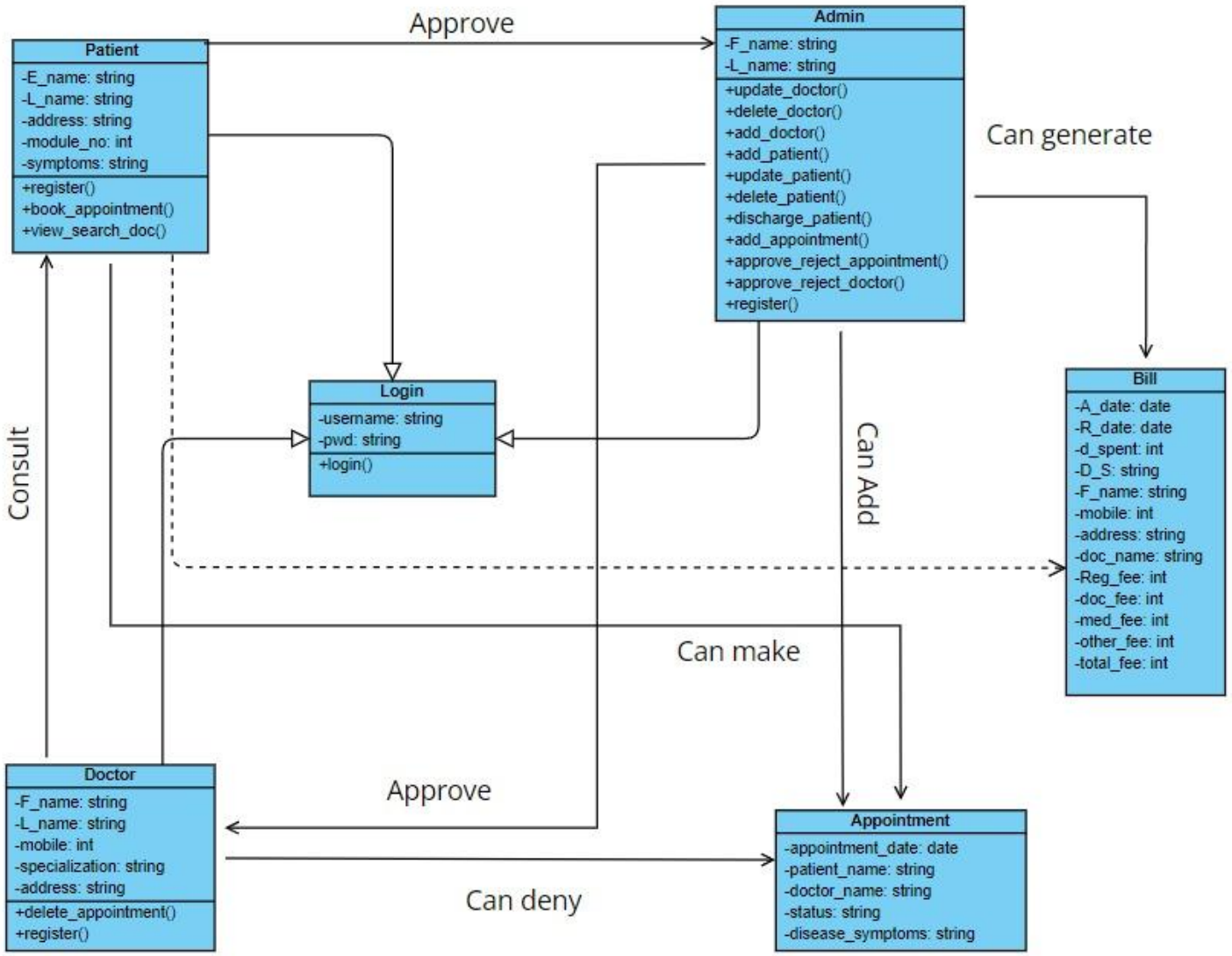
Confirmation:

1. Success :-
   - i) Appointment gets deleted successfully.
   - ii) Stack gets updated.

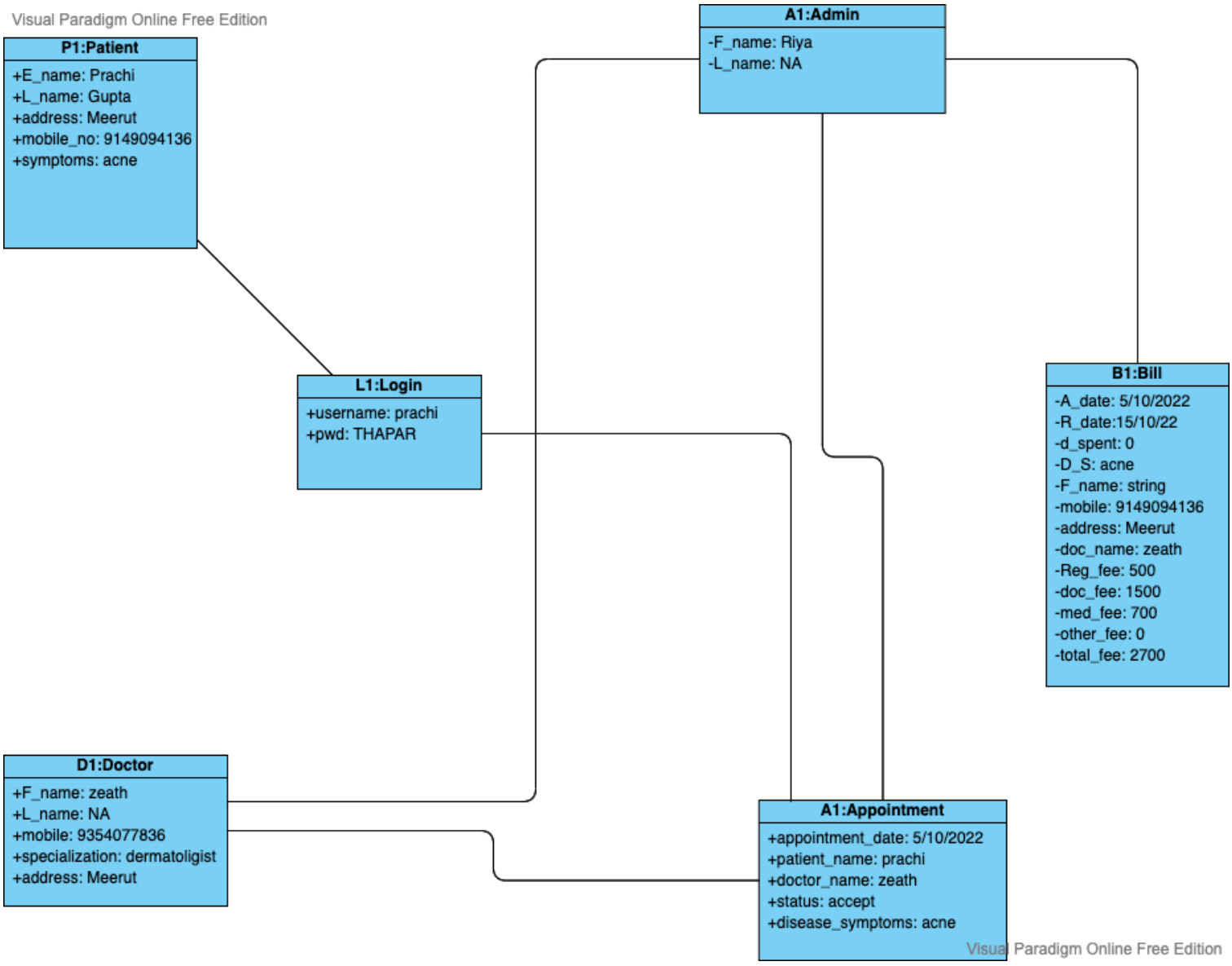
2. Failure :-
   - i) Current appointment list not updated.
   - ii) Patient discharge list not updated.

DESIGN PHASE

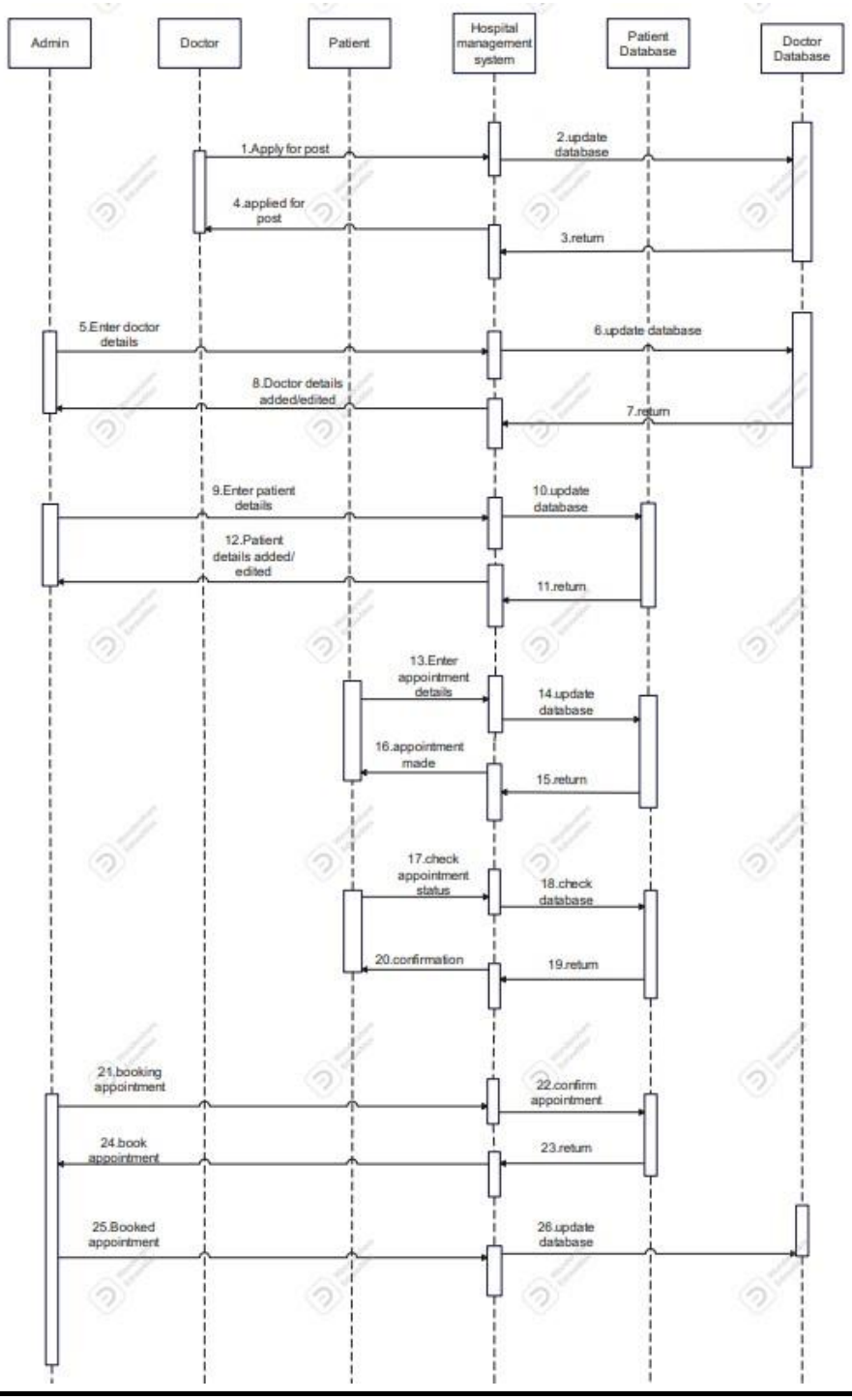
Class Diagram

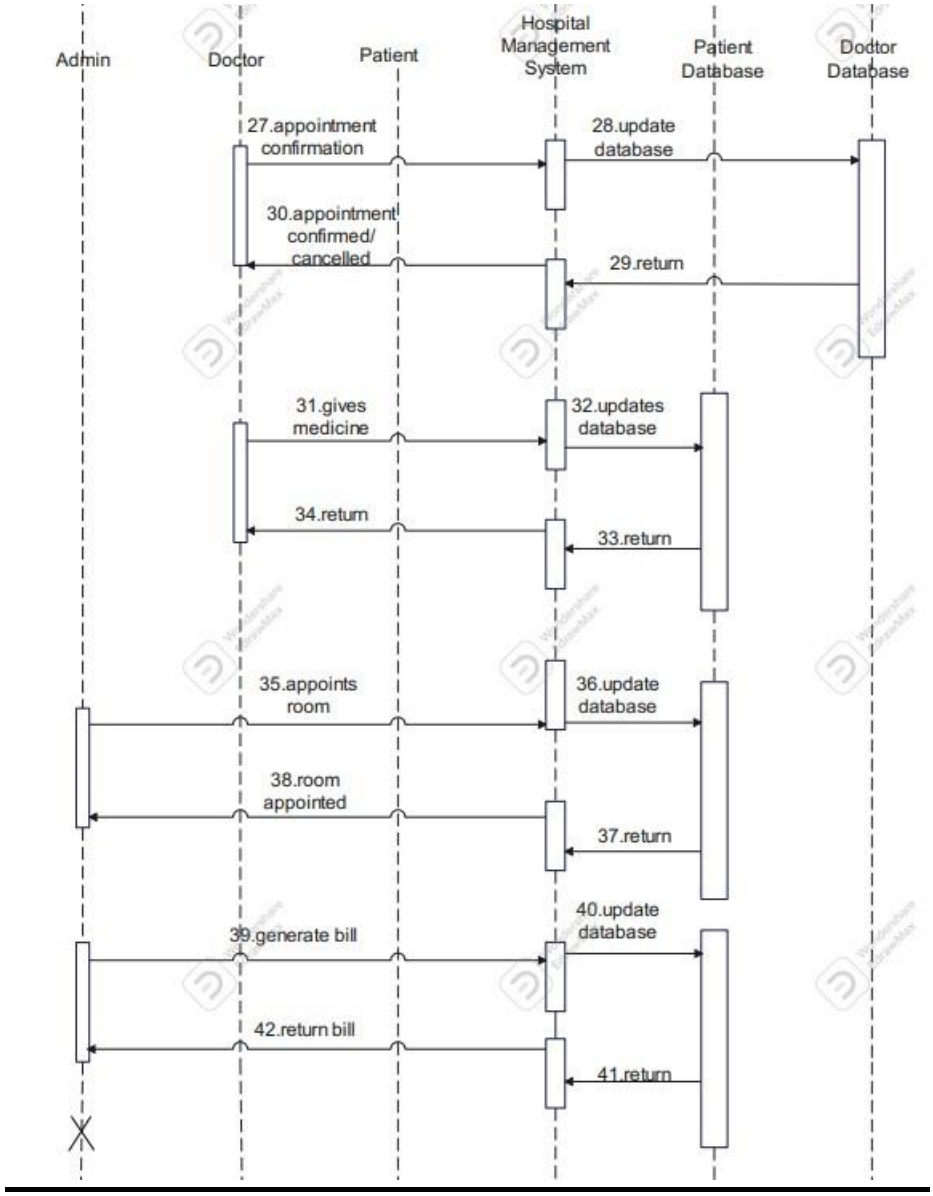


Object Diagram

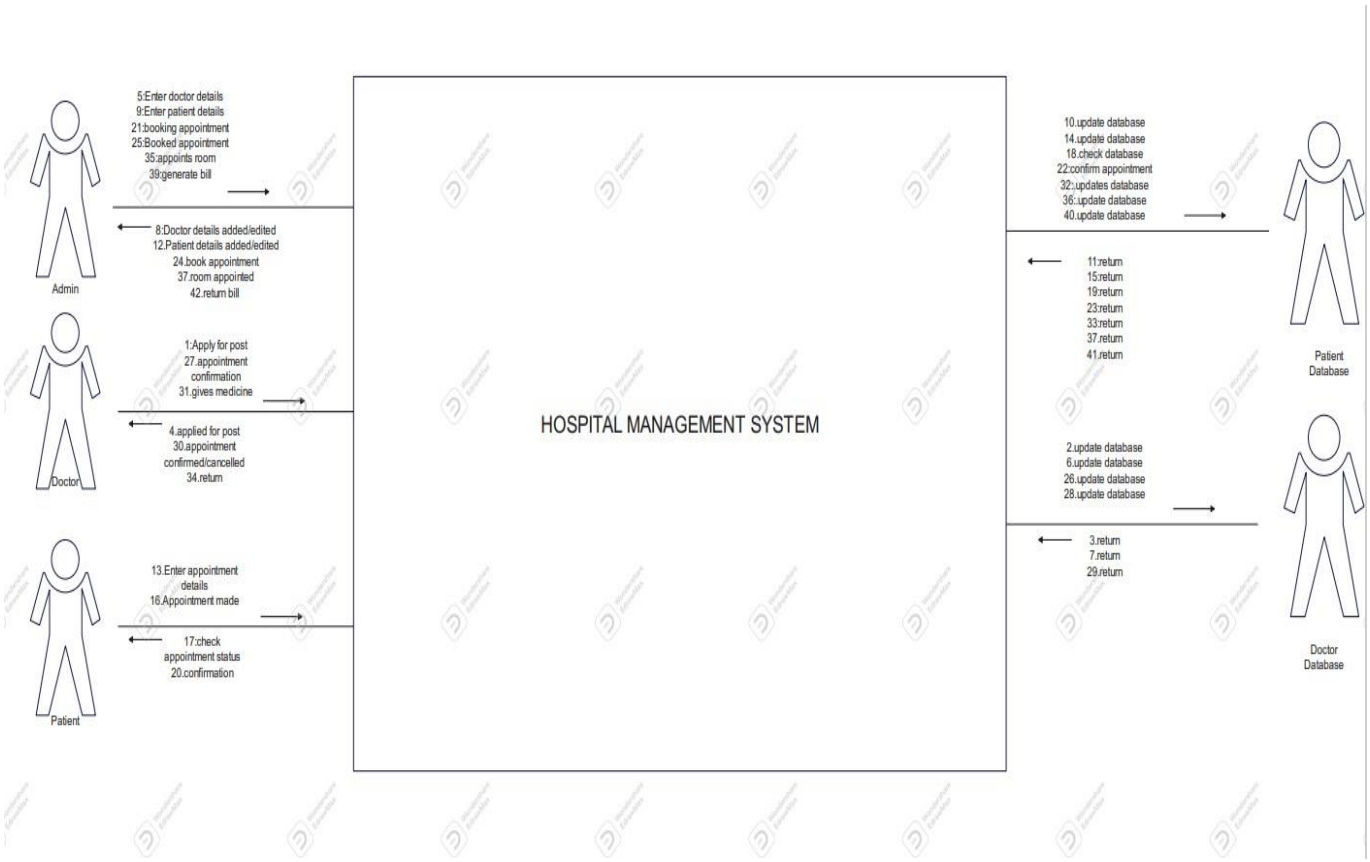


Sequence Diagram

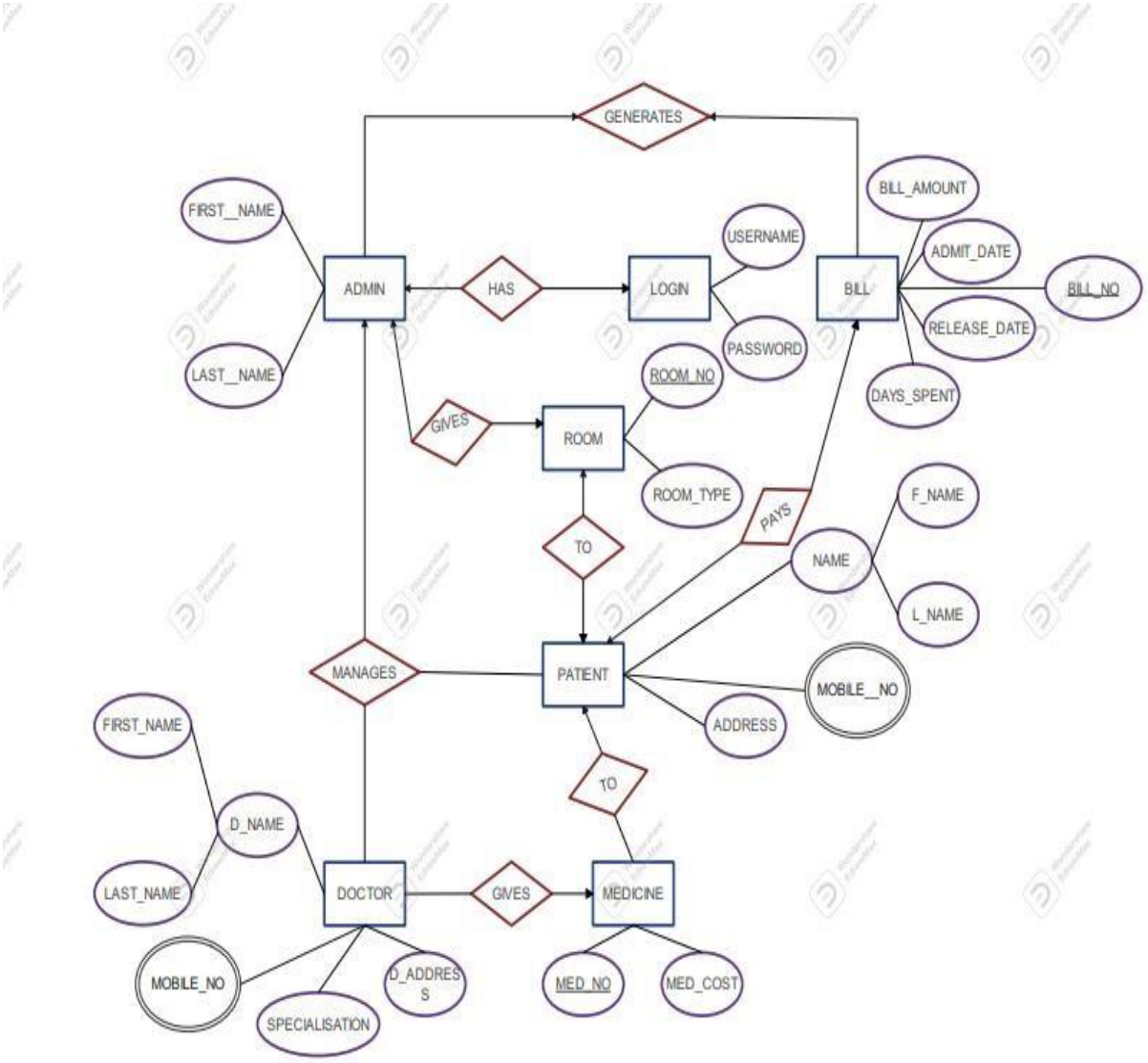



Admin
Doctor
Patient
Hospital Management System
Patient Database
Doctor Database
27.appointment confirmation
28.update database
30.appointment confirmed/ cancelled
29.return
31.gives medicine
32.updates database
34.return
33.return
35.appoints room
36.update database
38.room appointed
37.return
40.update database
39.generate bill
42.return bill
41.return

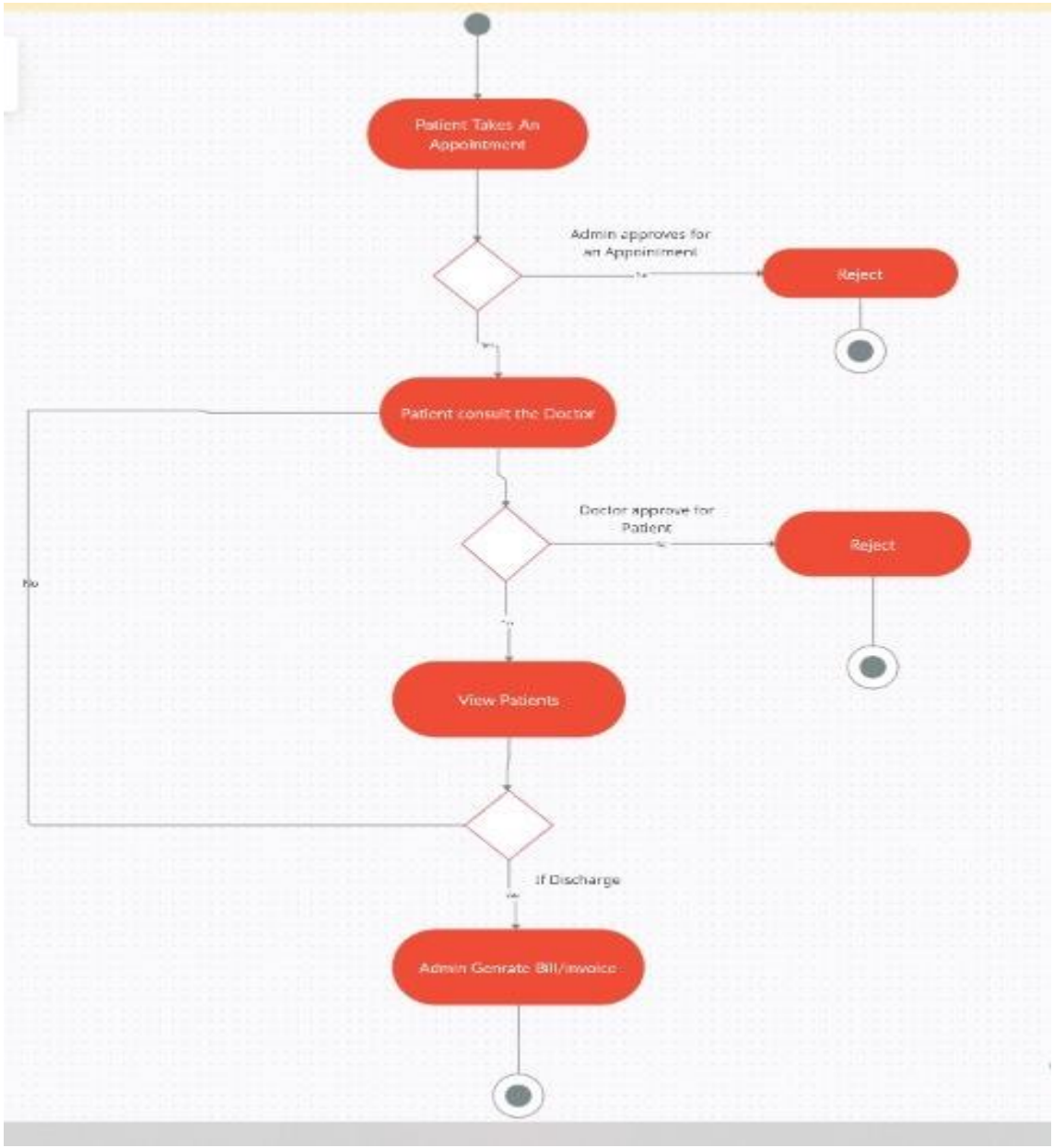
COLLABORATION DIAGRAM



ER DIAGRAM

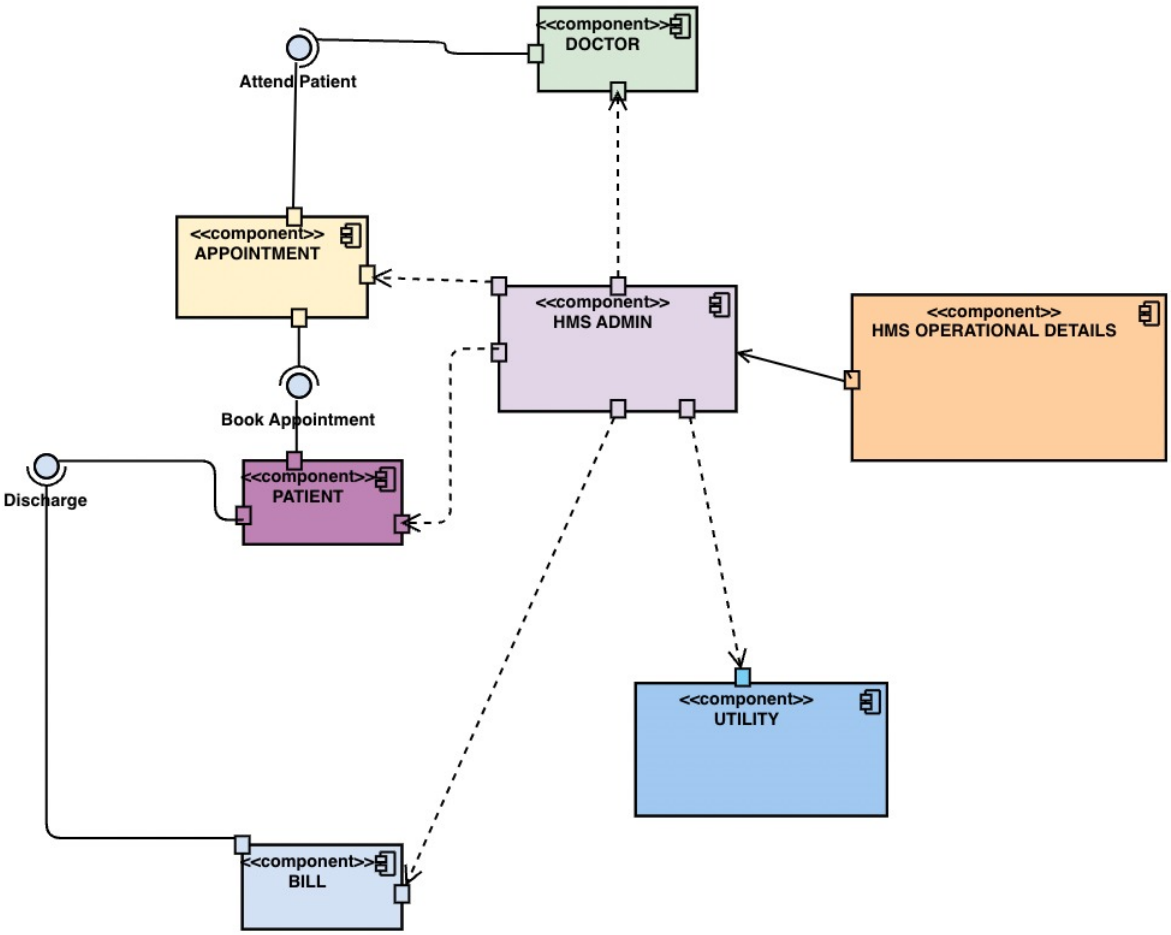

GENERATES
FIRST__NAME
LAST__NAME
ADMIN
HAS
LOGIN
USERNAME
PASSWORD
BILL
BILL_AMOUNT
ADMIT_DATE
BILL_NO
RELEASE_DATE
DAYS_SPENT
GIVES
ROOM
ROOM_NO
ROOM_TYPE
TO
PAYS
NAME
F_NAME
L_NAME
MANAGES
PATIENT
MOBILE__NO
ADDRESS
TO
FIRST_NAME
D_NAME
LAST_NAME
DOCTOR
GIVES
MEDICINE
MOBILE_NO
SPECIALISATION
D_ADDRES
S
MED_NO
MED_COST

STATE CHART DIAGRAM

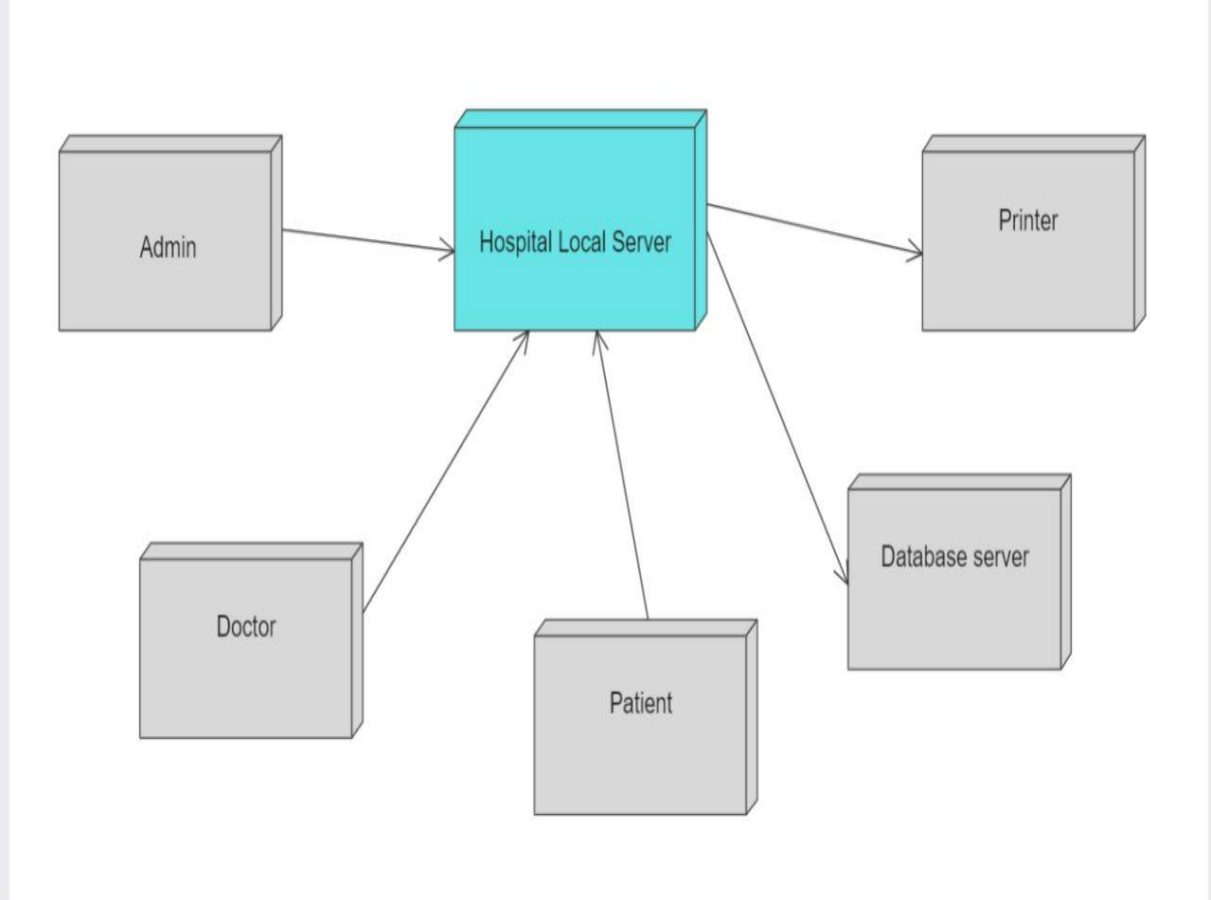


IMPLEMENTATION

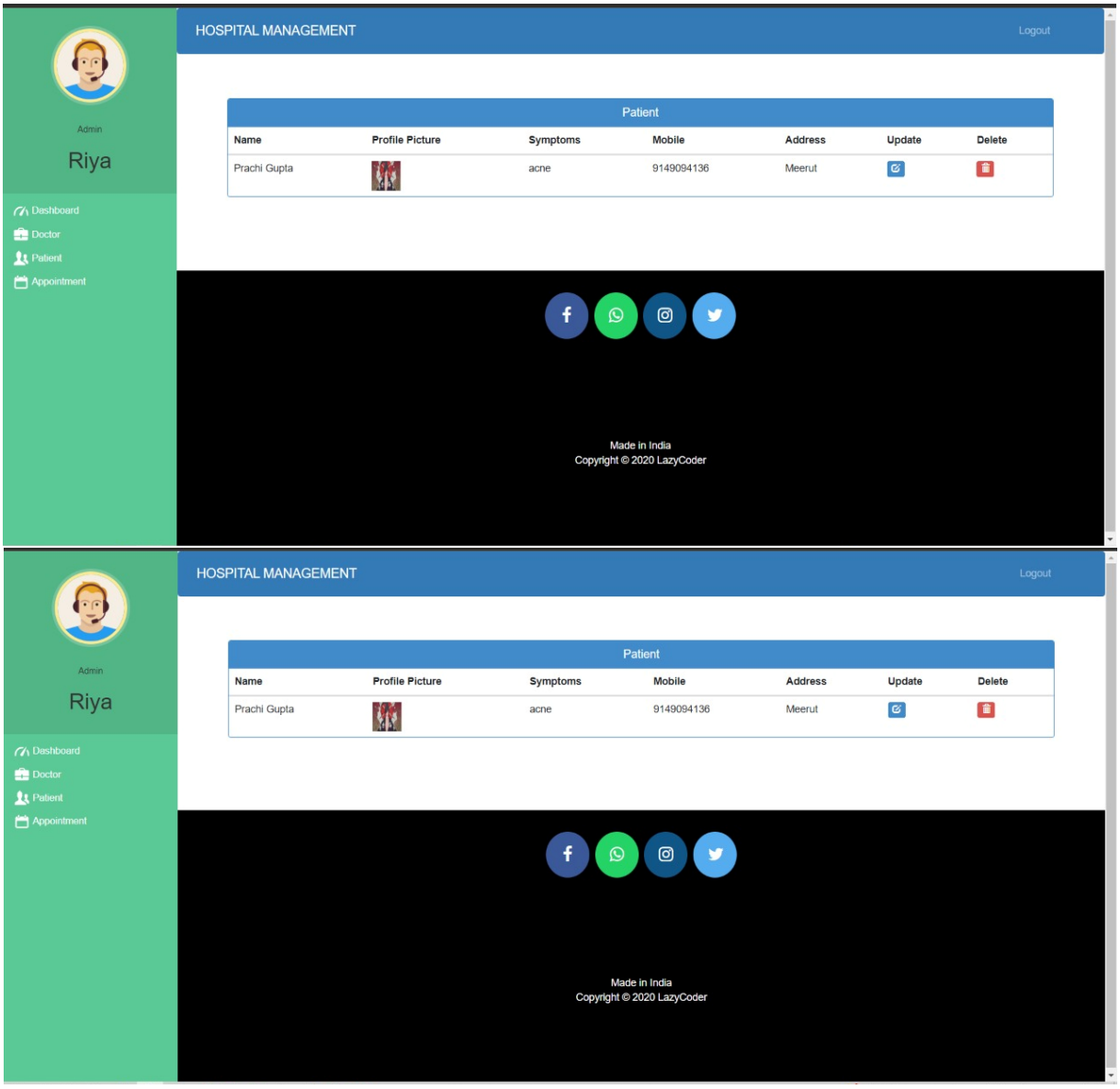
COMPONENT DIAGRAM

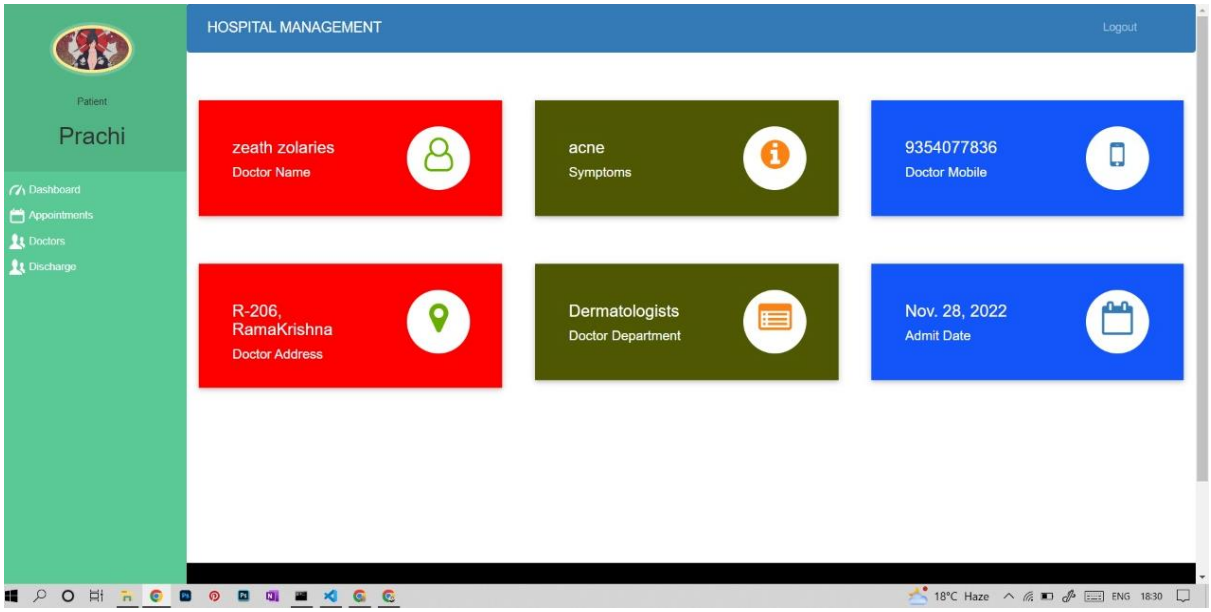


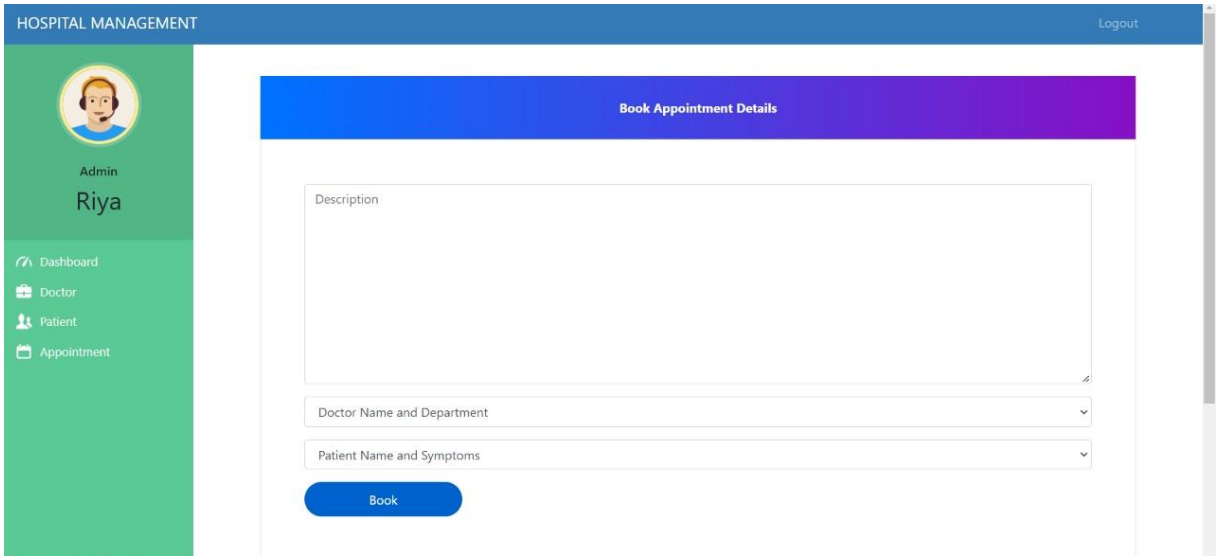
DEPLOYMENT DIAGRAM

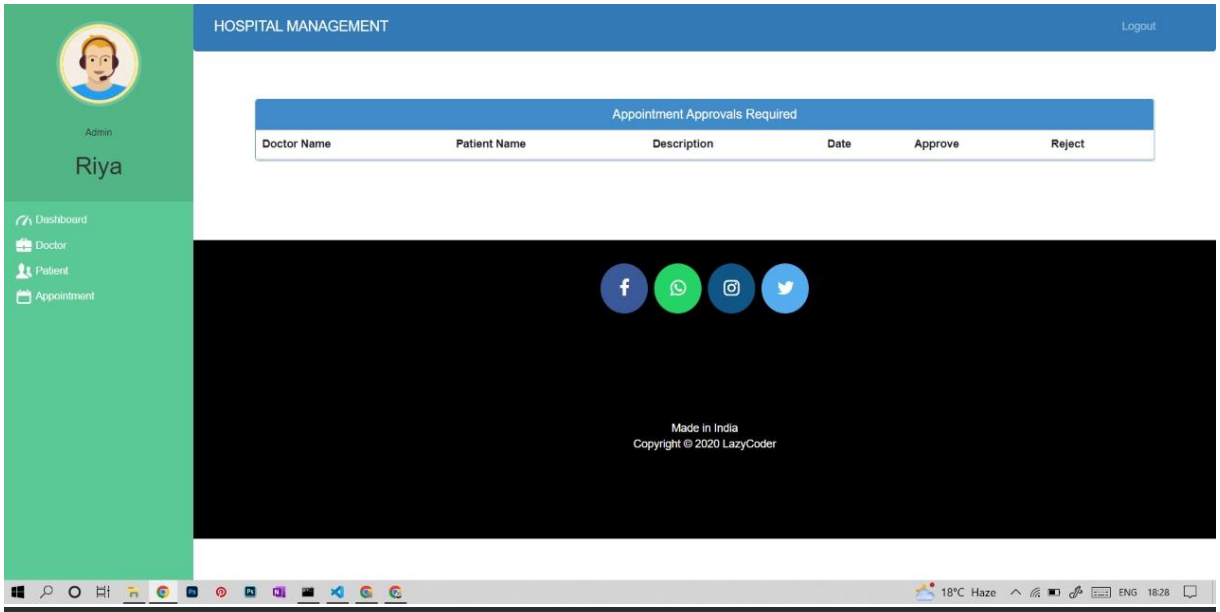


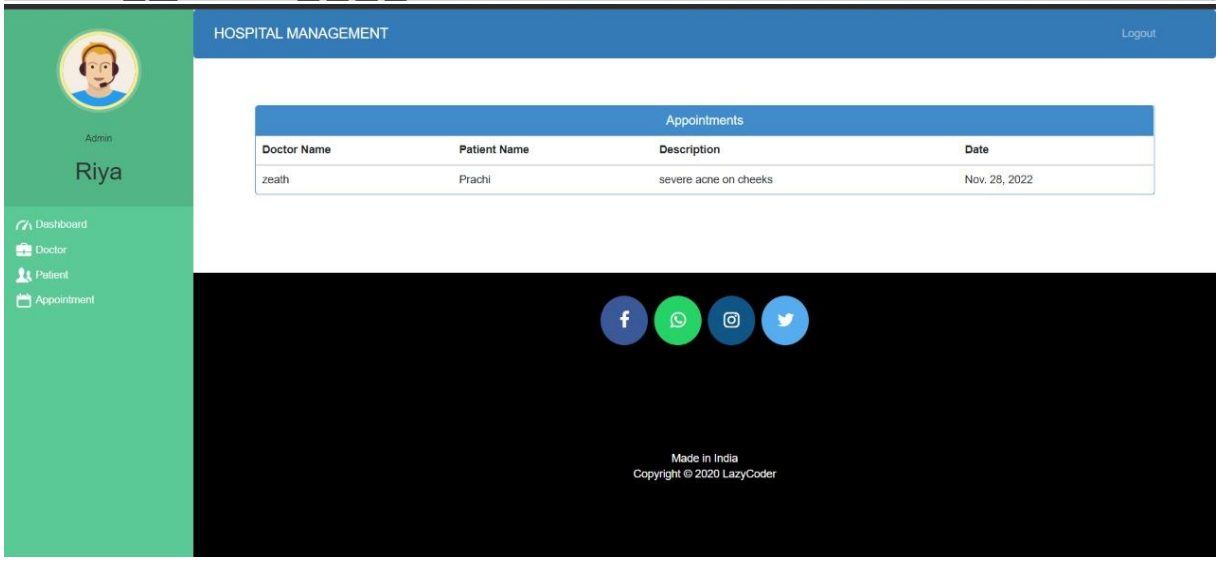
SCREENSHOTS OF WORKING PROJECT

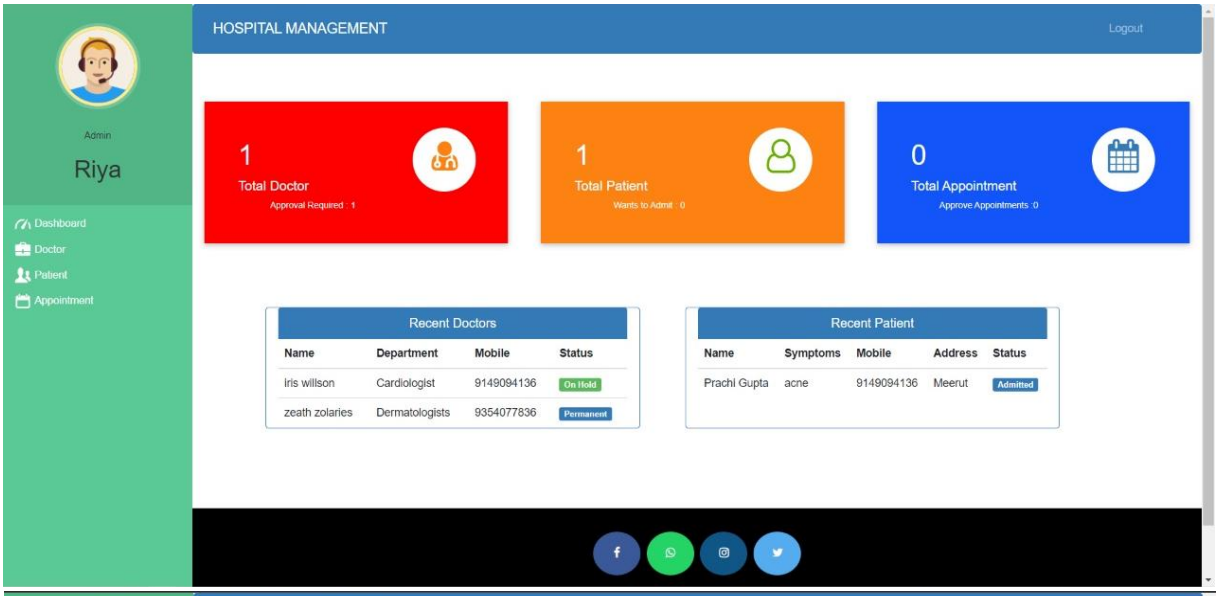


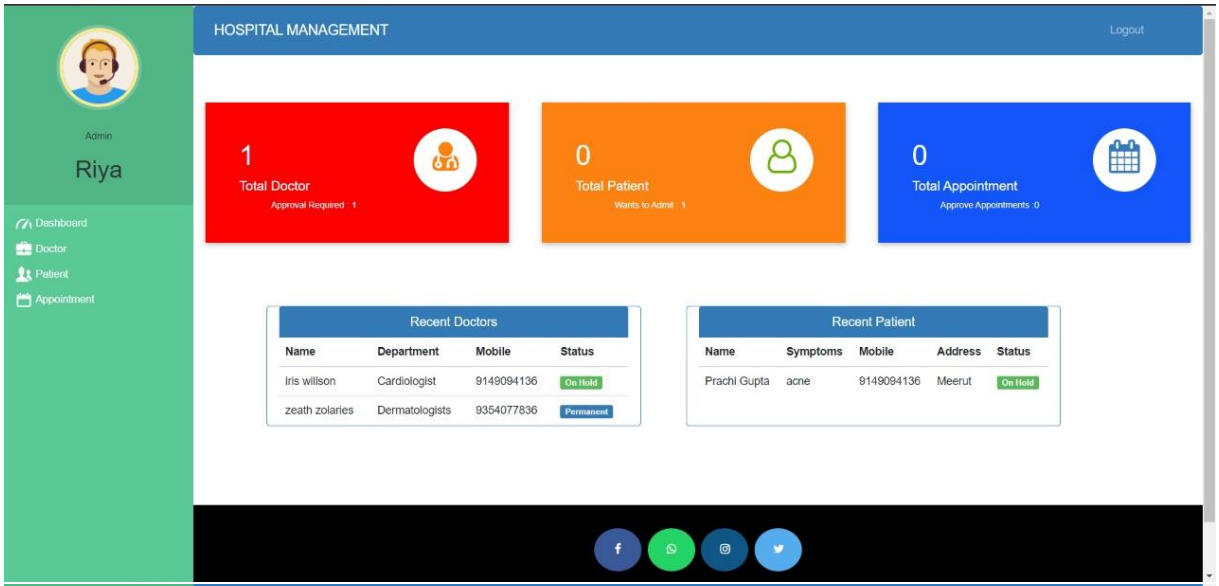

HOSPITAL MANAGEMENT
Logout
Patient
Prachi
Dashboard
Appointments
Doctors
Discharge
zeath zolaries
Doctor Name
acne
Symptoms
9354077836
Doctor Mobile
R-206, RamaKrishna
Doctor Address
Dermatologists
Doctor Department
Nov. 28, 2022
Admit Date

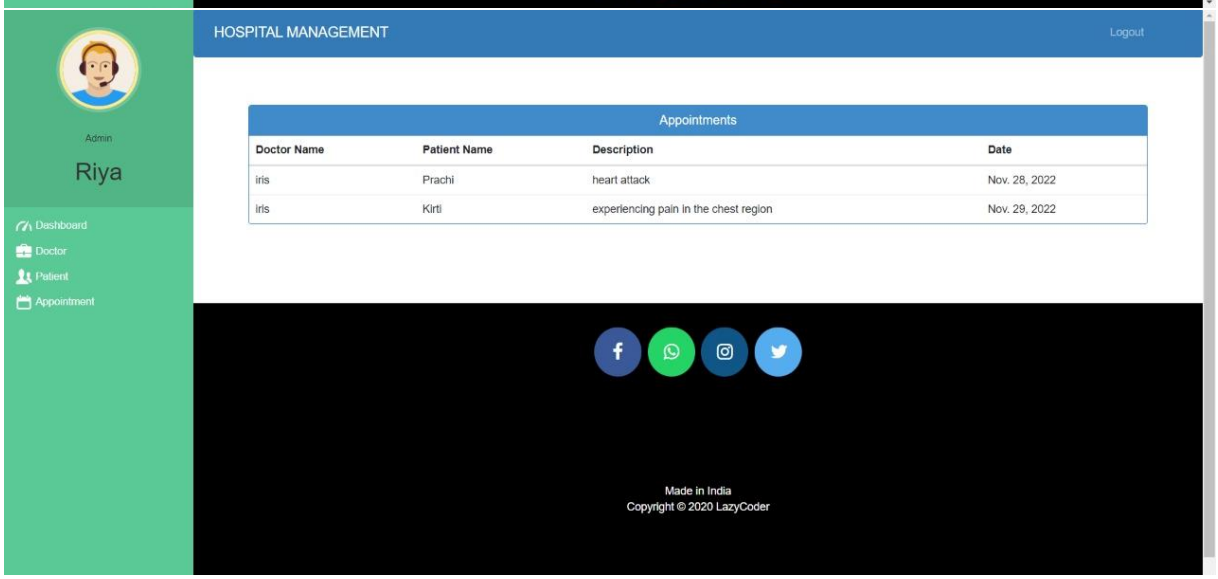

HOSPITAL MANAGEMENT
Logout
Admin
Riya
Dashboard
Doctor
Patient
Appointment
Book Appointment Details
Description
Doctor Name and Department
Patient Name and Symptoms
Book


HOSPITAL MANAGEMENT
Logout
Admin
Riya
Dashboard
Doctor
Patient
Appointment
Appointment Approvals Required
Doctor Name
Patient Name
Description
Date
Approve
Reject
Made in India
Copyright © 2020 LazyCoder
18°C Haze
ENG
18:28


HOSPITAL MANAGEMENT
Logout
Admin
Riya
Dashboard
Doctor
Patient
Appointment
Appointments
Doctor Name
Patient Name
Description
Date
zeath
Prachi
severe acne on cheeks
Nov. 28, 2022
Made in India
Copyright © 2020 LazyCoder


HOSPITAL MANAGEMENT
Logout
Admin
Riya
Dashboard
Doctor
Patient
Appointment
1
Total Doctor
Approval Required : 1
1
Total Patient
Wants to Admit : 0
0
Total Appointment
Approve Appointments : 0
Recent Doctors
Name Department Mobile Status
iris willson Cardiologist 9149094136 On Hold
zeath zolaries Dermatologists 9354077836 Permanent
Recent Patient
Name Symptoms Mobile Address Status
Prachi Gupta acne 9149094136 Meerut Admitted


HOSPITAL MANAGEMENT
Logout
Admin
Riya
Dashboard
Doctor
Patient
Appointment
1
Total Doctor
Approval Required : 1
0
Total Patient
Wants to Admit : 1
0
Total Appointment
Approve Appointments : 0
Recent Doctors
Name Department Mobile Status
iris willson Cardiologist 9149094136 On Hold
zeath zolaries Dermatologists 9354077836 Permanent
Recent Patient
Name Symptoms Mobile Address Status
Prachi Gupta acne 9149094136 Meerut On Hold


HOSPITAL MANAGEMENT
Logout
Admin
Riya
Dashboard
Doctor
Patient
Appointment
Appointments
Doctor Name Patient Name Description Date
iris Prachi heart attack Nov. 28, 2022
iris Kirti experiencing pain in the chest region Nov. 29, 2022
Made in India
Copyright © 2020 LazyCoder

TESTING

CYCLOMATIC COMPLEXITY

```
enum Status { confirm , cancel} ;

int Department, Date , Time, mode, ch;char
Dr_Name(50);

cout<< Enter The Information :
cin>> Department;
cin>>Dr_Name; cin>>
Date;
cin>> Time;
bool Appointment = cancel;                                  1

cout<<Mode;
cout<<1.Cash;
cout<<2.Debit Card/Credit Card
cout<<3.Net Banking cout<<Enter
mode of payment;cin>>mode;
if(mode==1)                                                 2
{
        Generate a Receipt and send confirmation message;   3
}
else if(mode == 2)                                          4
{
        Enter Card Details
        Make Payment                                        5
        Send confirmation message
}
else
{
        Enter Account Details                               6
          Make Payment
        Send confirmation  message
```

} //end if 7

Send appointment Request to the doctor 8

Doctor will check the Appointment Requests;
cout<<Mode;
cout<<1.Confirm
;cout<<2.Cancel; 9
cout<<Enter Your choice;
cin>>ch;

if(ch==1) 10

{

Appointment = Confirm;

Send a Confirm Message to the patient. 11

}

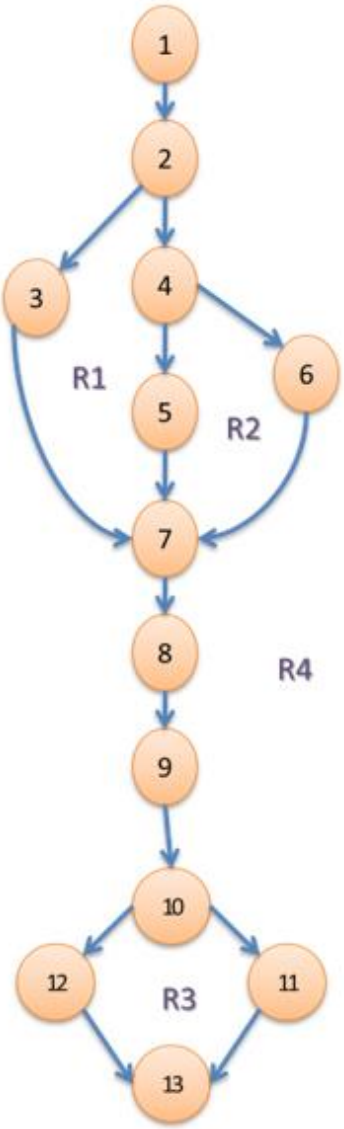
else

{

Send a Cancel Message to the patient.

}//end if 13

FLOW GRAPH NOTATION



TEST CASES AND TEST REPORT

Test Case 1.1:	**Test Case Name: Book Appointment**	**Page: 1.1**
System: Hospital Management system	**Subsystem: Appointment**	
Designed by: 5G	**Design Date: 5/10/2022**	
Executed by: 5G	**Execution Date: 15/10/22**	
Short Description: Test patient is able to book appointment		

Pre-conditions
The user has valid credentials
The desired doctor should be available
The book appointment window should be displayed

Step	Action	Expected System Response	Pass/ Fail	Comment
1	Login	Go to patient dashboard	Pass	Patient dashboard accessible
2	Check **post condition 1**			
3	Select appointment option from navigation panel.	Appointment page is usable	Pass	Can view appointment page to view and book appointments.
4	Select book Appointment	Book Appointment detail form is shown .	Pass	Now window available to enter the details.
5	Write the description in the window and select the doctor and check on book	The dashboards shows the appointment is pending to be approved by the admin.	Pass	Now the appointment will be confirmed by the admin
6.	Check **post condition 2**			

Post-conditions
1. **Login details are saved in database.**
2. **Booking details are saved in database.**

Test Case #: 2.2 **Test Case Name :** Generate invoice **Page:** 1 of 1

System: Hospital Management System **Subsystem:** Bill

Designed by: 5G **Design Date:** 18/10/2022

Executed by: 5G **Execution Date:** 25/10/22

Short Description: Invoice is generated and patient is discharged

Pre-conditions

1. **Admin has valid login credentials**
2. **Patient should have a successfully booked appointment.**
3. **System displays the admin dashboard.**

Step	Action	Expected System Response	Pass/ Fail	Comment
1	**Admin logs in**	Displays admin dashboard	Pass	Admin dashboard accessible
2	**Check post condition 1**			
3	**Select patient from navigation panel**	Patient options visible.	Pass	Can view patient page
4	**Select discharge patient option**	**Discharge patient page visible**	Pass	
5	**Discharge the appropriate patient from the list**	Invoice can be generated now	Pass	Page to generate invoice visible
6	**Fill details in invoice and generate bill**	Pdf of bill visible and can now be downloaded	Pass	
7	**Check post condition 2**			

Post-conditions

1. The admin login details are saved in database
2. The invoice details are saved in database.