HOSPITAL MANAGEMENT SYSTEM

A MINI-PROJECT BY:

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IN

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BONAFIDE CERTIFICATE

Certified that this project **“HOSPITAL MANAGEMENT SYSTEM”** is the bonafide work of **“SHAHNAZ FATHIMA N, SHRUTHI S”** who carried out the project work under my supervision.

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ABSTRACT

The **Hospital Management System** is a mini-project designed to streamline and automate the administrative and clinical workflows of a hospital. Built using **Java** for the frontend on **IntelliJ IDEA** and integrated with an **SQL** database for backend operations, this system offers a robust and efficient solution for managing essential hospital functions.

The system facilitates patient registration, doctor assignment, appointment scheduling, and billing processes. It also enables efficient handling of inpatient and outpatient records, ensuring accurate and secure data storage. The SQL database serves as the backbone, managing the complex data relationships between patients, doctors, staff, and treatments.

This project emphasizes user-friendly interfaces and interactive functionality, allowing hospital staff to access critical data with ease and perform tasks efficiently. The application is built with a modular design, promoting scalability and adaptability for future enhancements.

By digitizing traditional manual processes, this system reduces operational overhead and improves the accuracy of record-keeping, fostering a seamless experience for hospital staff and patients alike. The **Hospital Management System** showcases a practical application of programming, database management, and software engineering principles, reflecting an efficient and accessible solution to the challenges faced by modern healthcare facilities.

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INTRODUCTION

1.1 INTRODUCTION

The Hospital Database Management System is designed to streamline hospital operations, ensuring efficient management of patient admissions, room assignments, employee information, and discharge processes. It provides a secure and user-friendly platform for handling critical hospital data. The system integrates key functionalities like patient record management, room availability tracking, and employee coordination. With its modular design, it enhances operational efficiency and minimizes errors. This project aims to improve the overall workflow and quality of patient care in a hospital setting.

1.2 SCOPE OF THE PROJECT

The Hospital Database management of patient admissions, room assignments, employee information, and discharge processes. It ensures efficient recording and updating of patient details, including medical history, during admission and throughout their stay. The system facilitates assigning rooms based on availability and patient needs while keeping track of occupancy status. Employee records, including doctors, nurses, and administrative staff, are systematically maintained for effective coordination. Additionally, the system supports a seamless discharge process by generating reports and clearing dues. Finally, secure logout options ensure data protection and system integrity.

SYSTEM SPECIFICATIONS

2.1 HARDWARE SPECIFICATIONS:

PROCESSOR : Intel i5

MEMORY SIZE : 8.00GB

HARD DISK : 500 GB of free space

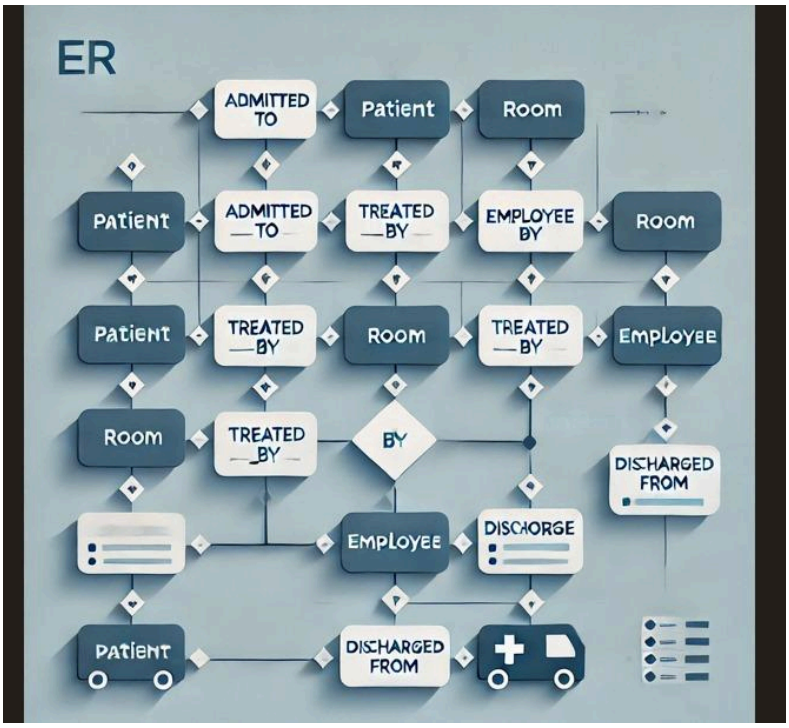
2.2 SOFTWARE SPECIFICATIONS:

PROGRAMMING LANGUAGE : Java, MySQL FRONT-END : Java Swing BACK-END: My SQL OPERATING SYSTEM : Windows 10

ENTITY RELATION MODEL

3.1 ER DIAGRAM

The ER Diagram for the Hospital Database Management System is designed to manage various operations across its key modules: **Login**, **Add New Patient**, **Room**, **All Employee Info**, **Patient Info**, **Patient Discharge**, and **Logout**. The central entities are **Patient**, **Room**, and **Employee**, interconnected to ensure smooth data flow. The **Login** entity ensures secure access, while **Patient Info** tracks personal and medical details. **Room** stores allocation details linked to patients, and **Employee** holds information about the staff involved in treatment. The **Discharge** entity finalizes a patient's exit process, and relationships define how entities interact, ensuring data consistency.



SAMPLE CODE

4.1 Login :

```
package hospital.management.system;

import hospital.management.system.conn;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;

public class login extends JFrame implements ActionListener
{
   JFrame f;

   JTextField txtfield;

   JPasswordField pwfield;

   JButton b1,b2;


   login() {
      f = new JFrame("Login");
      f.setLayout(null);
      f.setTitle("Health Desk");
      f.setLocation(300, 250);
      f.setSize(750, 300);
      f.getContentPane().setBackground(new Color(       232   ,74    ,95));


      JLabel username = new JLabel("Username: ");
      username.setBounds(40,20,100,30);
      username.setForeground(new Color(235, 240, 239));
      username.setFont(new Font("Tahoma",Font.BOLD,16));
      f.add(username);


      JLabel password = new JLabel("Password: ");
      password.setBounds(40,70,100,30);
      password.setForeground(new Color(235, 240, 239));
      password.setFont(new Font("Tahoma",Font.BOLD,16));
      f.add(password);


      txtfield=new JTextField();
      txtfield.setBounds(150,20,150,30);
      f.add(txtfield);


      pwfield=new JPasswordField();
      pwfield.setBounds(150,70,150,30);
      f.add(pwfield);


      b1=new JButton("Login");
      b1.setBounds(40,140,120,30);
      b1.setFont(new Font("serif",Font.BOLD,15));
      b1.addActionListener(this);
      b1.setBackground(new Color(42,54, 59));
      b1.setForeground(Color.WHITE);
      f.add(b1);
      f.setVisible(true);

      b2=new JButton("Cancel");
      b2.setBounds(180,140,120,30);
      b2.setFont(new Font("serif",Font.BOLD,15));
      b2.setBackground(new Color(42,54, 59));
      b2.setForeground(Color.WHITE);
      b2.addActionListener(this);
      f.add(b2);
```

```
        f.setVisible(true);
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    }



    @Override
    public void actionPerformed(ActionEvent e) {

        if(e.getSource()== b1)
        {
            try{
                conn c= new conn();
                String user= txtfield.getText();
                String pass= pwfield.getText();

                           String q="select * from login where ID = '"+user+"' and PW =
'"+pass+"'";
                ResultSet resultSet=c.statement.executeQuery(q);

                if(resultSet.next()){
                    new Reception();
                    f.setVisible(false);
                    dispose();

                }
                else {
                    JOptionPane.showMessageDialog(null,"Invalid");
                }


            } catch (Exception E) {
                E.printStackTrace();
            }
        }
        else{
            System.exit(10);
        }
    }


    public static void main(String[] arg) {

        new login();
    }


}
```

4.2 Reception Page

```
package hospital.management.system;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

//JButton bt1;

class Reception extends JFrame {
    Reception(){
        JPanel panel1= new JPanel();
        panel1.setLayout(null);
        panel1.setBounds(0,155,1525,670);
        panel1.setBackground(new Color(         42,54, 59));
        add(panel1);

        JPanel panel2= new JPanel();
        panel2.setLayout(null);
        panel2.setBounds(0,0,1525,150);
        panel2.setBackground(new Color(         232   ,74    ,95));
        add(panel2);
```

```
JButton bt1= new JButton(("Add New Patient"));
bt1.setBounds(30,25,200,30);
bt1.setBackground(new Color(255,255,255));
bt1.setForeground(Color.BLACK);
bt1.setFont(new Font("Tahoma",Font.BOLD,16));
panel1.add(bt1);
bt1.addActionListener(new ActionListener() {
   @Override
   public void actionPerformed(ActionEvent e) {
      new New_patient();
   }
});

JButton bt2 = new JButton("Room");
bt2.setBounds(30,75,200,30);
bt2.setBackground(new Color(255,255,255));
bt2.setForeground(Color.BLACK);
bt2.setFont(new Font("Tahoma",Font.BOLD,16));
panel1.add(bt2);
bt2.addActionListener(new ActionListener() {
   @Override
   public void actionPerformed(ActionEvent e) {
      new Room();
   }
});

JButton bt3 = new JButton("Employee Info");
bt3.setBounds(30,125,200,30);
bt3.setBackground(new Color(255,255,255));
bt3.setForeground(Color.BLACK);
bt3.setFont(new Font("Tahoma",Font.BOLD,16));
panel1.add(bt3);
bt3.addActionListener(new ActionListener() {
   @Override
   public void actionPerformed(ActionEvent e) {
      new Employee_info();
   }
```

```
});

JButton bt4 = new JButton("Patient Info");
bt4.setBounds(30,175,200,30);
bt4.setBackground(new Color(255,255,255));
bt4.setForeground(Color.BLACK);
bt4.setFont(new Font("Tahoma",Font.BOLD,16));
panel1.add(bt4);
bt4.addActionListener(new ActionListener() {
  @Override
  public void actionPerformed(ActionEvent e) {
    new  Patient_info();
  }
});

JButton bt5 = new JButton("Patient Discharge");
bt5.setBounds(30,225,200,30);
bt5.setBackground(new Color(255,255,255));
bt5.setForeground(Color.BLACK);
bt5.setFont(new Font("Tahoma",Font.BOLD,16));
panel1.add(bt5);
bt5.addActionListener(new ActionListener() {
  @Override
  public void actionPerformed(ActionEvent e) {
    new Patient_discharge();
  }
});

JButton bt6 = new JButton("Logout");
bt6.setBounds(30,275,200,30);
bt6.setBackground(new Color(255,255,255));
bt6.setForeground(Color.BLACK);
bt6.setFont(new Font("Tahoma",Font.BOLD,16));
panel1.add(bt6);
bt6.addActionListener(new ActionListener() {
  @Override
  public void actionPerformed(ActionEvent e) {
```

```
                //new Logout();
                setVisible(false);
                new login();
            }
        });

       // setSize(1500,750);
        setBounds(-5,0,1500,750);
        getContentPane().setBackground(new Color(225,225,225));
        setLayout(null);
        setVisible(true);
        setDefaultCloseOperation(EXIT_ON_CLOSE);
    }
    public static void main(String[] args) {
        new Reception();
    }
}
```

4.3 New Patient

```
package hospital.management.system;
import javax.swing.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;
import java.util.Date;
import java.awt.*;

public class New_patient extends JFrame implements ActionListener {

    JRadioButton r1, r2;
    JTextField textFieldNumber, textName, textFieldDisease, textFieldDeposit;
    JLabel date;
    Choice c1;
    JButton b1, b2;
    JComboBox comboBox;
    New_patient() {
        JPanel panel = new JPanel();
        panel.setBounds(5, 5, 840, 490);
        panel.setBackground(new Color(232     ,74    ,95));
        panel.setLayout(null);
        add(panel);

        JLabel labelName = new JLabel("NEW PATIENT FORM");
        labelName.setBounds(118, 11, 260, 53);
        labelName.setFont(new Font("Tahoma", Font.BOLD, 20));
        labelName.setForeground(new Color(42,54, 59));
        panel.add(labelName);

        JLabel labelID = new JLabel("ID :");
        labelID.setBounds(35, 76, 200, 14);
        labelID.setFont(new Font("Tahoma", Font.BOLD, 14));
        labelID.setForeground(Color.WHITE);
        panel.add(labelID);

            comboBox = new JComboBox(new String[]{"Aadhar Card", "VoterID",
"Driving License"});
        comboBox.setBounds(271, 73, 150, 20);
        comboBox.setBackground(new Color(42,54, 59));
        comboBox.setForeground(Color.white);
        comboBox.setFont(new Font("Tahoma", Font.BOLD, 14));
        panel.add(comboBox);

        JLabel labelNumber = new JLabel("Number :");
        labelNumber.setBounds(35, 111, 200, 14);
        labelNumber.setFont(new Font("Tahoma", Font.BOLD, 14));
        labelNumber.setForeground(Color.WHITE);
        panel.add(labelNumber);

        textFieldNumber = new JTextField();
        textFieldNumber.setBounds(271, 111, 150, 20);
        panel.add(textFieldNumber);
```

```
JLabel labelName1 = new JLabel("Name :");
labelName1.setBounds(35, 151, 200, 14);
labelName1.setFont(new Font("Tahoma", Font.BOLD, 14));
labelName1.setForeground(Color.WHITE);
panel.add(labelName1);

textName = new JTextField();
textName.setBounds(271, 151, 150, 20);
panel.add(textName);

JLabel labelGender = new JLabel("Gender :");
labelGender.setBounds(35, 191, 200, 14);
labelGender.setFont(new Font("Tahoma", Font.BOLD, 14));
labelGender.setForeground(Color.WHITE);
panel.add(labelGender);

r1 = new JRadioButton("Male");
r1.setFont(new Font("Tahoma", Font.BOLD, 14));
r1.setForeground(Color.WHITE);
r1.setBackground(new Color(42,54, 59));
r1.setBounds(271, 191, 80, 15);
panel.add(r1);

r2 = new JRadioButton("Female");
r2.setFont(new Font("Tahoma", Font.BOLD, 14));
r2.setForeground(Color.WHITE);
r2.setBackground(new Color(42,54, 59));
r2.setBounds(350, 191, 80, 15);
panel.add(r2);

JLabel labelDisease = new JLabel("Disease :");
labelDisease.setBounds(35, 231, 200, 14);
labelDisease.setFont(new Font("Tahoma", Font.BOLD, 14));
labelDisease.setForeground(Color.WHITE);
panel.add(labelDisease);

textFieldDisease = new JTextField();
```

```
textFieldDisease.setBounds(271, 231, 150, 20);
panel.add(textFieldDisease);

JLabel labelRoom = new JLabel("Room :");
labelRoom.setBounds(35, 274, 200, 14);
labelRoom.setFont(new Font("Tahoma", Font.BOLD, 14));
labelRoom.setForeground(Color.WHITE);
panel.add(labelRoom);

//Room Choice//
c1 = new Choice();
try {
   conn c = new conn();
   ResultSet resultSet = c.statement.executeQuery("Select * from Room");
   while (resultSet.next()) {
      c1.add(resultSet.getString("room_no"));
   }
} catch (Exception e) {
   e.printStackTrace();
}

c1.setBounds(271, 274, 150, 20);
c1.setFont(new Font("Tahoma", Font.BOLD, 14));
c1.setForeground(Color.WHITE);
c1.setBackground(new Color(42,54, 59));
panel.add(c1);

JLabel labelTime = new JLabel("Time :");
labelTime.setBounds(35, 316, 200, 14);
labelTime.setFont(new Font("Tahoma", Font.BOLD, 14));
labelTime.setForeground(Color.WHITE);
panel.add(labelTime);

Date date1 = new Date();

date = new JLabel("" + date1);
date.setBounds(271, 316, 250, 14);
date.setFont(new Font("Tahoma", Font.BOLD, 14));
date.setForeground(Color.WHITE);
panel.add(date);

JLabel labelDeposit = new JLabel("Deposit :");
labelDeposit.setBounds(35, 359, 200, 17);
labelDeposit.setFont(new Font("Tahoma", Font.BOLD, 14));
labelDeposit.setForeground(Color.WHITE);
panel.add(labelDeposit);

textFieldDeposit = new JTextField();
textFieldDeposit.setBounds(271, 359, 150, 20);
panel.add(textFieldDeposit);

b1 = new JButton("Add");
b1.setBounds(100, 430, 120, 30);
b1.setForeground(Color.WHITE);
b1.setBackground(new Color(42,54, 59));
b1.setFont(new Font("Tahoma", Font.BOLD, 14));
b1.addActionListener(this);
panel.add(b1);

b2 = new JButton("Back");
b2.setBounds(260, 430, 120, 30);
b2.setForeground(Color.WHITE);
b2.setBackground(new Color(42,54, 59));
b2.setFont(new Font("Tahoma", Font.BOLD, 14));
b2.addActionListener(this);
panel.add(b2);

setUndecorated(true);
setSize(850, 500);
setLayout(null);
setLocation(400, 210);
setVisible(true);
```

```
    }

    public static void main(String[] args) {
        new New_patient();


    }

    @Override
    public void actionPerformed(ActionEvent e) {

        if (e.getSource() == b1) {
            conn c = new conn();
            String radioBTN = null;
            if (r1.isSelected()) {
                radioBTN = "Male";
            } else if (r2.isSelected()) {
                radioBTN = "Female";
            }
            String s1 = (String)comboBox.getSelectedItem();
            String s2 = textName.getText();
            String s3 = textFieldNumber.getText();
            String s4 = radioBTN;
            String s5 = textFieldDisease.getText();
            String s6 = c1.getSelectedItem();
            String s7 = date.getText();
            String s8 = textFieldDeposit.getText();

            try {
                                   String q = "insert into patient_info values('"+s1 +"','"+s2
+"','"+s3+"','"+s4+"','"+s5+"','"+s6+"','"+s7+"','"+s8+"')";
                   String q1 = "update room set Availability = 'Occupied' where room_no
=" + s6;
                c.statement.executeUpdate(q);
                c.statement.executeUpdate(q1);
                JOptionPane.showMessageDialog(null, "Added Successfully");
            }
            catch (Exception E)
            {
                E.printStackTrace();
            }


        }
        else {
            setVisible(false);
        }
    }
}
```

4.4 Patient Info

```
package hospital.management.system;

import net.proteanit.sql.DbUtils;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;

public class Patient_info extends JFrame {

    Patient_info(){

        JPanel panel=new JPanel();
        panel.setBounds(5,5,990,490);
        panel.setBackground(new Color(232     ,74    ,95));
        panel.setLayout(null);
        add(panel);

        JTable table = new JTable();
        table.setBounds(10,45,980,400);
        table.setBackground(new Color(232      ,74    ,95));
        panel.add(table);

        try{
           conn c= new conn();
           String q= "select * from Patient_info";
           ResultSet resultSet= c.statement.executeQuery(q);
           table.setModel(DbUtils.resultSetToTableModel(resultSet));


        } catch (Exception e) {
           e.printStackTrace();
        }

        JLabel label1 = new JLabel("ID");
        label1.setBounds(31,11,100,14);
        label1.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label1);

        JLabel label2= new JLabel("Name");
        label2.setBounds(145,11,100,14);
        label2.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label2);

        JLabel label3 = new JLabel("Number");
        label3.setBounds(265,11,100,14);
        label3.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label3);

        JLabel label4 = new JLabel("Gender");
        label4.setBounds(380,11,100,14);
        label4.setFont(new Font("Tahoma",Font.BOLD,14));
        panel.add(label4);

        JLabel label5 = new JLabel("Disease");
        label5.setBounds(500,11,100,14);
        label5.setFont(new Font("Tahoma",Font.BOLD,14));
```

```
    panel.add(label5);

    JLabel label6 = new JLabel("Room Number");
    label6.setBounds(625,11,110,14);
    label6.setFont(new Font("Tahoma",Font.BOLD,14));
    panel.add(label6);

    JLabel label7 = new JLabel("Time");
    label7.setBounds(745,11,100,14);
    label7.setFont(new Font("Tahoma",Font.BOLD,14));
    panel.add(label7);

    JLabel label8 = new JLabel("Deposit");
    label8.setBounds(870,11,100,14);
    label8.setFont(new Font("Tahoma",Font.BOLD,14));
    panel.add(label8);

    JButton but= new JButton("Back");
    but.setBounds(450,510,120,30);
    but.setBackground(Color.BLACK);
    but.setForeground(Color.WHITE);
    panel.add(but);
    but.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent e) {
            setVisible(false);
        }
    });
    setUndecorated(true);

    setUndecorated(true);
    setLayout(null);
    setSize(1000,500);
    setLocation(350,200);
    setVisible(true);
    setDefaultCloseOperation(EXIT_ON_CLOSE);
}
```

```
    public static void main(String[] args) {
        new Patient_info();

    }
}
```

4.5 Room

```
package hospital.management.system;
import net.proteanit.sql.DbUtils;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;

public class Room extends JFrame{
    JTable table;
    Choice choice;
    Room()
    {
        JPanel panel=new JPanel();
        panel.setBounds(5,5,890,490);
        panel.setBackground(new Color(232     ,74    ,95));
        panel.setLayout(null);
        add(panel);

        JLabel status=new JLabel("Status: ");
        status.setBounds(600,60,186,31);
        status.setForeground(new Color(42,54, 59));
        status.setFont(new Font("Tahoma",Font.BOLD,15));
        panel.add(status);

        JLabel For=new JLabel("Search For Room");
        For.setBounds(250,11,250,34);
        For.setForeground(new Color(42,54, 59));
For.setFont(new Font("Tahoma",Font.BOLD,24));
panel.add(For);

choice =new Choice();
choice.setBounds(680,65,120,20);
choice.add("Available");
choice.add("Occupied");
panel.add(choice);


table=new JTable();
table.setBounds(40,100,500,330);
table.setBackground(new Color(232      ,74    ,95));
table.setForeground(Color.WHITE);
panel.add(table);

try{
   conn c=new conn();
   String q="Select * from Room";
   ResultSet rs= c.statement.executeQuery(q);
   table.setModel(DbUtils.resultSetToTableModel(rs));

}
catch (Exception e)
{
   e.printStackTrace();
}

JLabel label1=new JLabel("Room No");
label1.setBounds(42,70,80,15);
label1.setFont(new Font("Tahoma",Font.BOLD,14));
label1.setForeground(new Color(42,54, 59));
panel.add(label1);

JLabel label2=new JLabel("Availability");
label2.setBounds(170,70,80,15);
label2.setFont(new Font("Tahoma",Font.BOLD,14));
```

```
      label2.setForeground(new Color(42,54, 59));
      panel.add(label2);

      JLabel label3=new JLabel("Price");
      label3.setBounds(295,70,80,15);
      label3.setFont(new Font("Tahoma",Font.BOLD,14));
      label3.setForeground(new Color(42,54, 59));
      panel.add(label3);

      JLabel label4=new JLabel("Room Type");
      label4.setBounds(420,70,80,15);
      label4.setFont(new Font("Tahoma",Font.BOLD,14));
      label4.setForeground(new Color(42,54, 59));
      panel.add(label4);


      JButton search=new JButton("Search");
      search.setBounds(200,440,120,30);
      search.setBackground(new Color(42,54, 59));
      search.setForeground(Color.WHITE);
      panel.add(search);
      search.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent e) {
                        String q="Select * from Room where Availability
  ='"+choice.getSelectedItem()+"'";
          try{
            conn c= new conn();
            ResultSet rs=c.statement.executeQuery(q);
            table.setModel(DbUtils.resultSetToTableModel(rs));

          }catch (Exception E)
          {
            E.printStackTrace();

          }
        }
      });

      JButton back=new JButton("Back");
      back.setBounds(350,440,120,30);
      back.setBackground(new Color(42,54, 59));
      back.setForeground(Color.WHITE);
      panel.add(back);
      back.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent e) {
          setVisible(false);
        }
      });

      setUndecorated(true);
      setSize(900,500);
      setLayout(null);
      setLocation(400,200);
      setVisible(true);
  }
  public static void main(String[] arg)
  {
      new Room();

  }
  }
```

4.6 Employee Info

```
package hospital.management.system;
import net.proteanit.sql.DbUtils;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;
```

```
public class Employee_info extends JFrame {
    Employee_info() {
        JPanel panel=new JPanel();
        panel.setBounds(5,5,990,490);
        panel.setBackground(new Color(232,74        ,95));
        panel.setLayout(null);
        add(panel);

        JTable table=new JTable();
        table.setBounds(10,45,980,400);
        table.setBackground(new Color(232      ,74    ,95));
        table.setForeground(Color.WHITE);
        table.setFont(new Font("Tahoma",Font.BOLD,12));
        panel.add(table);

        try
        {
            conn c=new conn();
            String q="select * from emp_info";
            ResultSet rs= c.statement.executeQuery(q);
            table.setModel(DbUtils.resultSetToTableModel(rs));

        }
        catch (Exception e)
        {
            e.printStackTrace();
        }

        JLabel label1= new JLabel("Name");
        label1.setBounds(40,15,70,20);
        label1.setFont(new Font("Tahoma",Font.BOLD,14));
        label1.setForeground(new Color(42,54, 59));
        panel.add(label1);

        JLabel label2= new JLabel("Age");
        label2.setBounds(180,15,70,20);
        label2.setFont(new Font("Tahoma",Font.BOLD,14));
```

```
label2.setForeground(new Color(42,54, 59));
panel.add(label2);

JLabel label3= new JLabel("Phone Number");
label3.setBounds(340,15,150,20);
label3.setFont(new Font("Tahoma",Font.BOLD,14));
label3.setForeground(new Color(42,54, 59));
panel.add(label3);

JLabel label4= new JLabel("Salary");
label4.setBounds(505,15,70,20);
label4.setFont(new Font("Tahoma",Font.BOLD,14));
label4.setForeground(new Color(42,54, 59));
panel.add(label4);

JLabel label5= new JLabel("Gmail");
label5.setBounds(670,15,70,20);
label5.setFont(new Font("Tahoma",Font.BOLD,14));
label5.setForeground(new Color(42,54, 59));
panel.add(label5);

JLabel label6= new JLabel("Aadhar Number");
label6.setBounds(830,15,150,20);
label6.setFont(new Font("Tahoma",Font.BOLD,14));
label6.setForeground(new Color(42,54, 59));
panel.add(label6);

JButton back=new JButton("Back");
back.setBounds(430,440,120,30);
back.setBackground(new Color(42,54, 59));
back.setForeground(Color.WHITE);
panel.add(back);
back.addActionListener(new ActionListener() {
  @Override
  public void actionPerformed(ActionEvent e) {
    setVisible(false);
  }
```

```
        });

        setUndecorated(true);
        setSize(1000,500);
        setLocation(350,200);
        setLayout(null);
        setVisible(true);

    }
    public static void main(String[] args)
    {
        new Employee_info();
    }
}
```

4.7 Patient Discharge

```
package hospital.management.system;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.Date;

public class Patient_discharge extends JFrame {
    Patient_discharge(){

        JPanel panel = new JPanel();
        panel.setBounds(5,5,990,490);
        panel.setBackground(new Color(232     ,74     ,95));
        panel.setLayout(null);
        add(panel);

        JLabel label = new JLabel("CHECK OUT");
        label.setBounds(100,20,150,20);
        label.setFont(new Font("Tahoma",Font.BOLD,20));
        label.setForeground(Color.WHITE);
        panel.add(label);

        JLabel label2 = new JLabel("Customer Id");
        label2.setBounds(30,80,150,20);
        label2.setFont(new Font("Tahoma",Font.BOLD,14));
        label2.setForeground(Color.WHITE);
        panel.add(label2);

        Choice choice = new Choice();
        choice.setBounds(200,80,150,25);
        panel.add(choice);

        try{

          conn c= new conn();

                    ResultSet resultSet = c.statement.executeQuery("select * from
Patient_info");

          while(resultSet.next())

          {

            choice.add(resultSet.getString("number"));

          }


        } catch (Exception e) {

          e.printStackTrace();

        }


        JLabel label3 = new JLabel("Room Number");

        label3.setBounds(30,130,150,20);

        label3.setFont(new Font("Tahoma",Font.BOLD,14));
```

```
label3.setForeground(Color.WHITE);
panel.add(label3);

JLabel RNo = new JLabel();
RNo.setBounds(200,130,150,20);
RNo.setFont(new Font("Tahoma",Font.BOLD,14));
RNo.setForeground(Color.WHITE);
panel.add(RNo);

JLabel label4 = new JLabel("In Time");
label4.setBounds(30,180,150,20);
label4.setFont(new Font("Tahoma",Font.BOLD,14));
label4.setForeground(Color.WHITE);
panel.add(label4);

JLabel INTime = new JLabel();
INTime.setBounds(200,180,250,20);
INTime.setFont(new Font("Tahoma",Font.BOLD,14));
INTime.setForeground(Color.WHITE);
panel.add(INTime);

JLabel label5 = new JLabel("Out Time");
label5.setBounds(30,230,150,20);
label5.setFont(new Font("Tahoma",Font.BOLD,14));
```

```
label5.setForeground(Color.WHITE);
panel.add(label5);

Date date = new Date();

JLabel OUTTime = new JLabel(""+date);
OUTTime.setBounds(200,230,250,20);
OUTTime.setFont(new Font("Tahoma",Font.BOLD,14));
OUTTime.setForeground(Color.WHITE);
panel.add(OUTTime);

JButton discharge = new JButton("Discharge");
discharge.setBounds(30,300,120,30);
discharge.setBackground(Color.black);
discharge.setForeground(Color.white);
panel.add(discharge);
discharge.addActionListener(new ActionListener() {
    @Override
    public void actionPerformed(ActionEvent e) {
        conn c= new conn();
        try{
              // Step 1: Retrieve Room_Number associated with the selected patient Number
                 ResultSet rs = c.statement.executeQuery("SELECT Room_Number FROM Patient_info WHERE Number='" + choice.getSelectedItem() + "'");
```

```
                String roomNumber = null;
                if (rs.next()) {
                    roomNumber = rs.getString("Room_Number");
                }

// Step 2: Delete the row from Patient_info
                    c.statement.executeUpdate("DELETE FROM Patient_info WHERE
Number='" + choice.getSelectedItem() + "'");

// Step 3: Update the Room table only if Room_Number was found
                if (roomNumber != null) {
                        c.statement.executeUpdate("UPDATE Room SET Availability =
'Available' WHERE Room_No = '" + roomNumber + "'");
                }

                JOptionPane.showMessageDialog(null,"Done");
                setVisible(false);

            } catch (SQLException ex) {
                ex.printStackTrace();
            }

        }
    });
```

```
        JButton Check = new JButton("Check");
        Check.setBounds(170,300,120,30);
        Check.setBackground(Color.black);
        Check.setForeground(Color.white);
        panel.add(Check);
        /*Check.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                conn c= new conn();
                try{
                    ResultSet resultSet = c.statement.executeQuery("select * from
Patient_info where number='"+ choice.getSelectedItem()+"'");
                    while(resultSet.next()){
                        RNo.setText(resultSet.getString("Room"));
                        INTime.setText(resultSet.getString("Time"));
                    }

                } catch (Exception ex) {
                    ex.printStackTrace();
                }
            }
        });*/

        Check.addActionListener(new ActionListener() {
            @Override
```

```
          public void actionPerformed(ActionEvent e) {
            conn c = new conn();
            try {
                    ResultSet resultSet = c.statement.executeQuery("select * from
Patient_info where number='" + choice.getSelectedItem() + "'");
                if (resultSet.next()) {  // Use if since we expect a single row for the
selected number
                 RNo.setText(resultSet.getString("Room_Number"));    // Make sure
column name matches exactly in your database
                  INTime.setText(resultSet.getString("Time")); // Make sure column
name matches exactly in your database
              } else {
                     JOptionPane.showMessageDialog(null, "No record found for
selected patient number.");
              }
            } catch (SQLException ex) {
              ex.printStackTrace();
                    JOptionPane.showMessageDialog(null, "Error fetching patient
information: " + ex.getMessage());
            }
          }
        });



        JButton Back = new JButton("Back");
        Back.setBounds(300,300,120,30);
```

```
    Back.setBackground(Color.black);
    Back.setForeground(Color.white);
    panel.add(Back);
    Back.addActionListener(new ActionListener() {
        @Override
        public void actionPerformed(ActionEvent e) {
            setVisible(false);
        }
    });


    setUndecorated(true);
    setLayout(null);
    setSize(1000,500);
    setLocation(350,200);
    setVisible(true);


}


public static void main(String[] args) {
    new Patient_discharge();
}
```

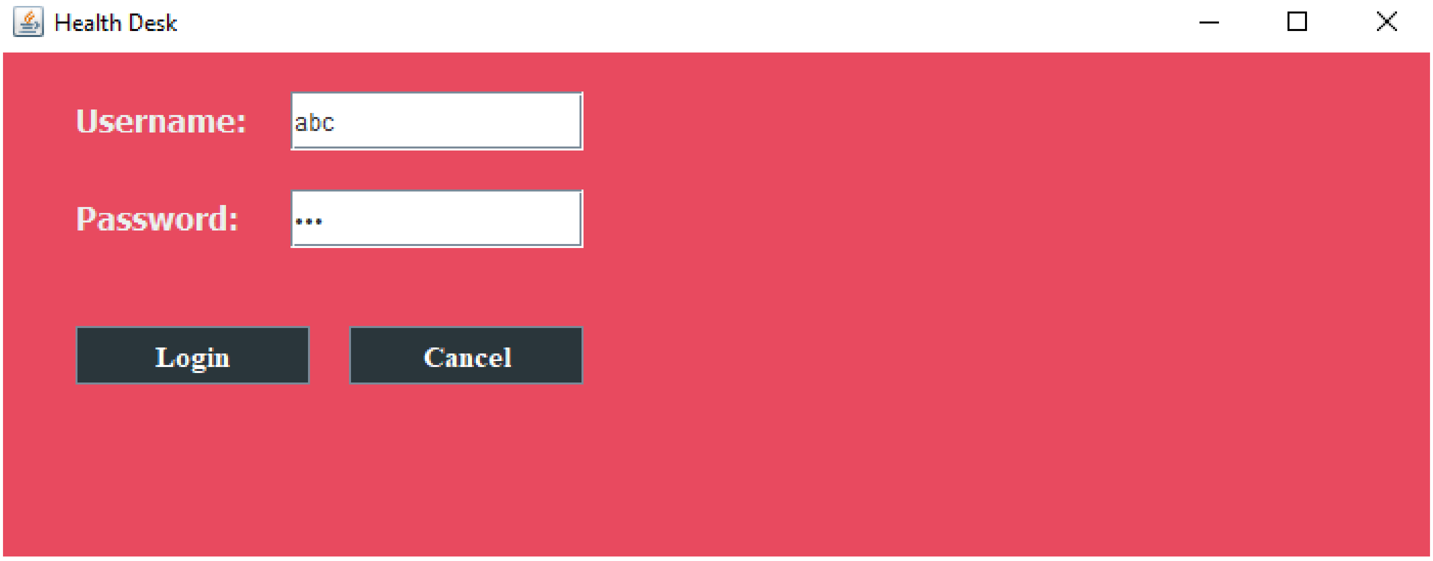
```
}
```

4.8 OVERVIEW OF THE CODE

The code for the Hospital Database Management System implements key functionalities such as secure login, patient admission, room allocation, employee information management, and patient discharge processes. It includes modules to handle data input, validation, and storage in a relational database. The Login module ensures only authorized access, while the Add New Patient module collects and stores patient details. Room Management dynamically updates room availability and assignments, and the Employee Info module maintains staff records. Patient Info allows retrieval and modification of existing data, while the Discharge module handles billing and finalization. Logout functionality ensures secure system exit. The code is modular, ensuring maintainability and scalability, with robust error-handling mechanisms to enhance reliability.

SNAPSHOTS

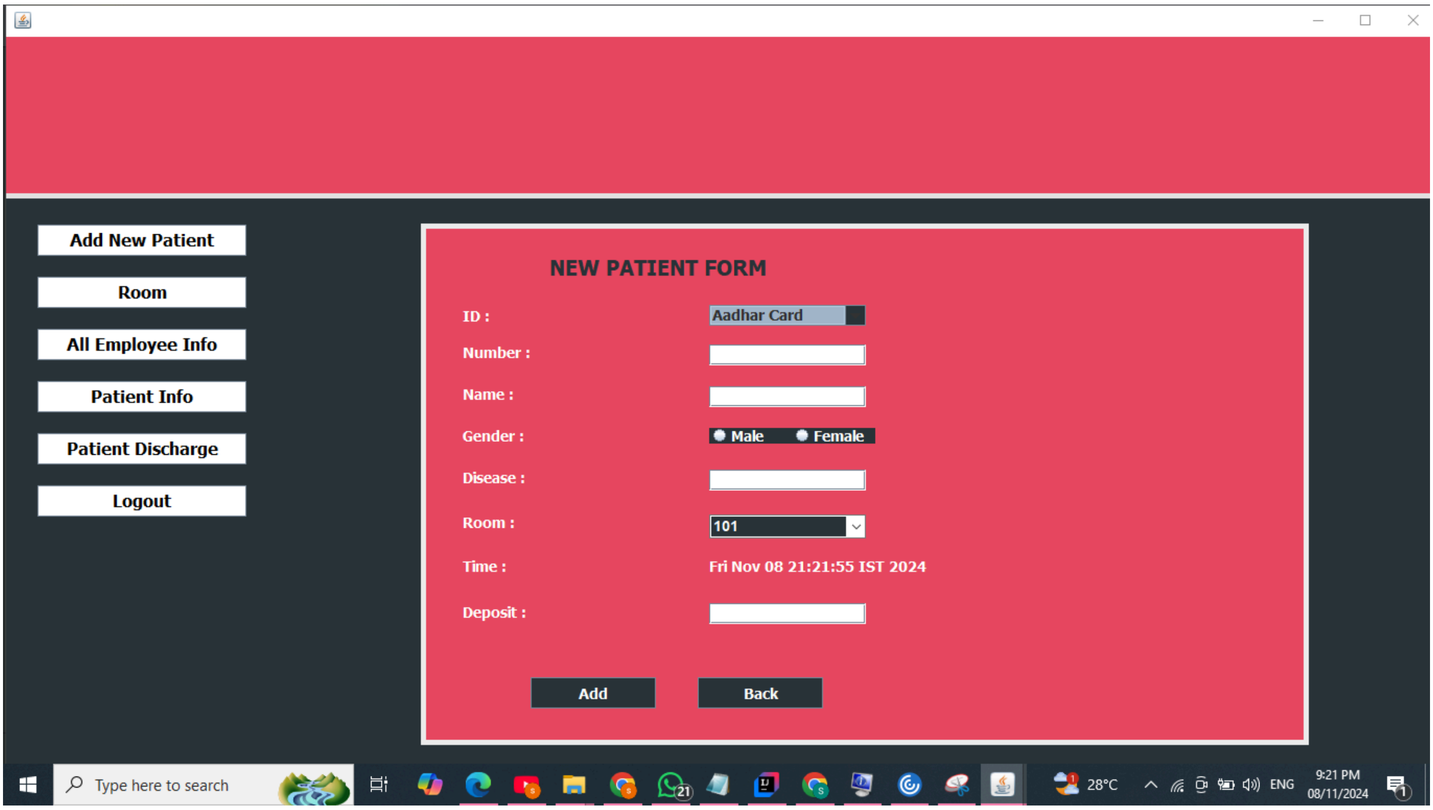
6.1.LOGIN PAGE:



Username: abc

Password: •••

6.2. ADD NEW PATIENT PAGE:



NEW PATIENT FORM

ID : Aadhar Card

Number :

Name :

Gender : ○ Male ○ Female

Disease :

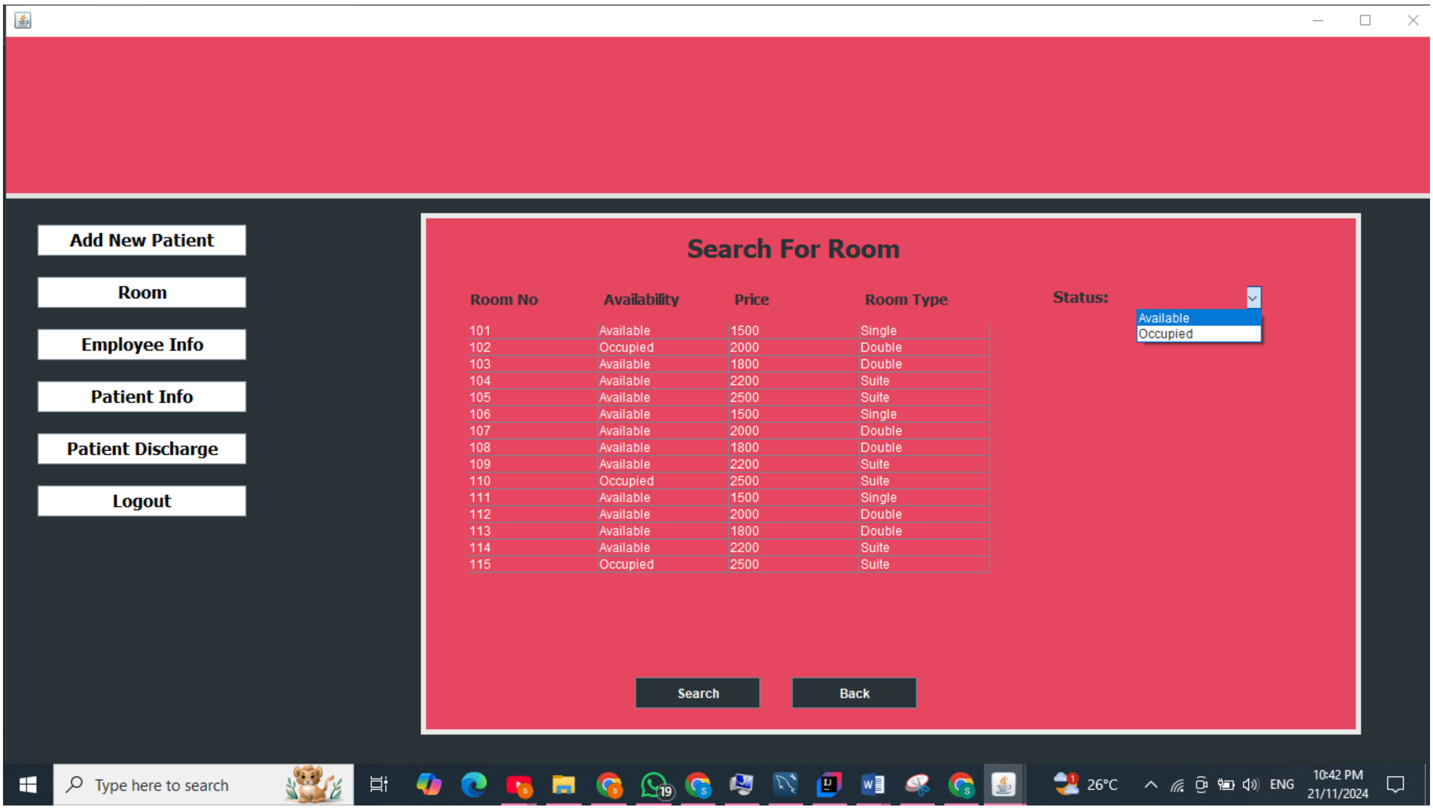
Room : 101

Time : Fri Nov 08 21:21:55 IST 2024

Deposit :

28°C ENG 9:21 PM 08/11/2024

6.3.SEARCH FOR ROOM PAGE :

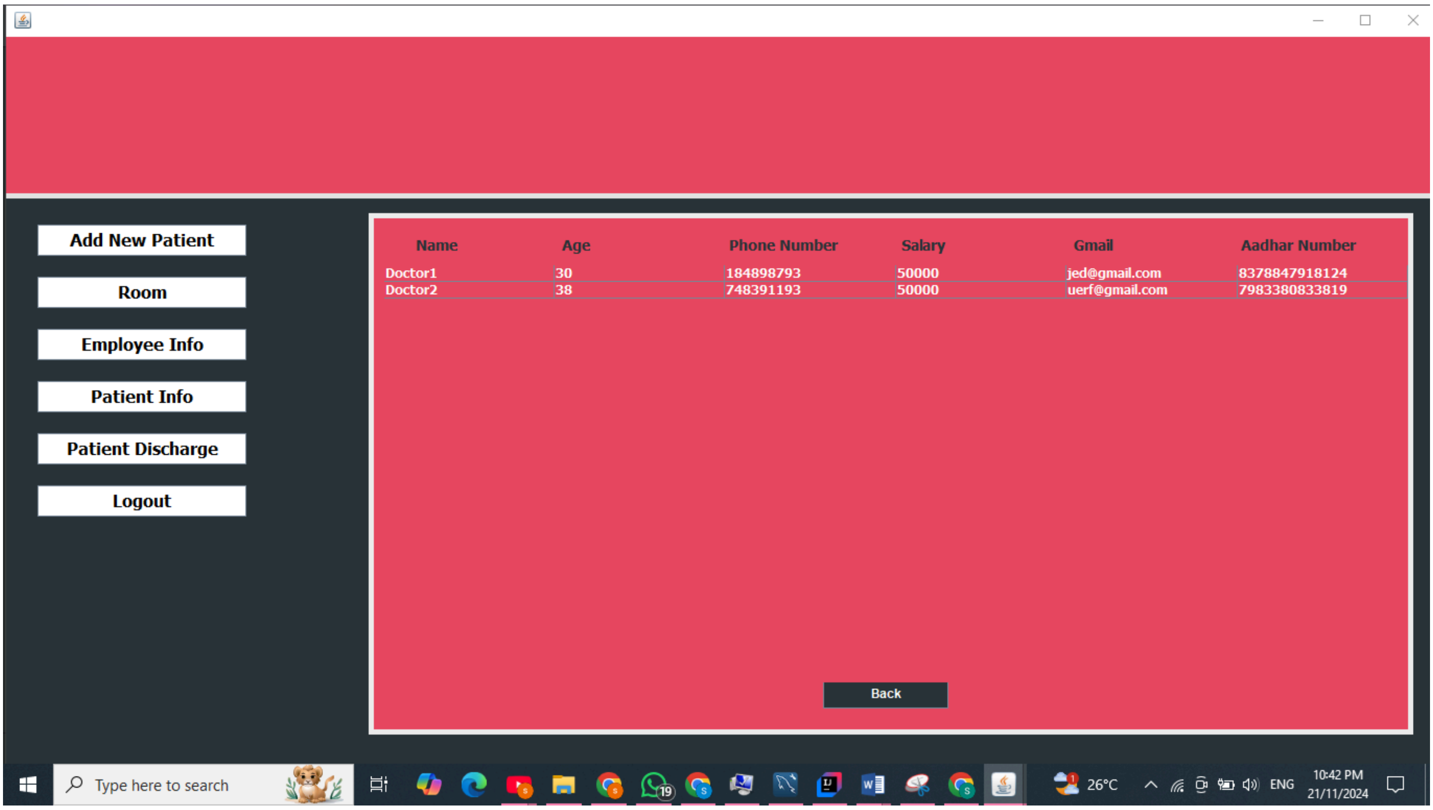


Search For Room

Status: Available / Occupied

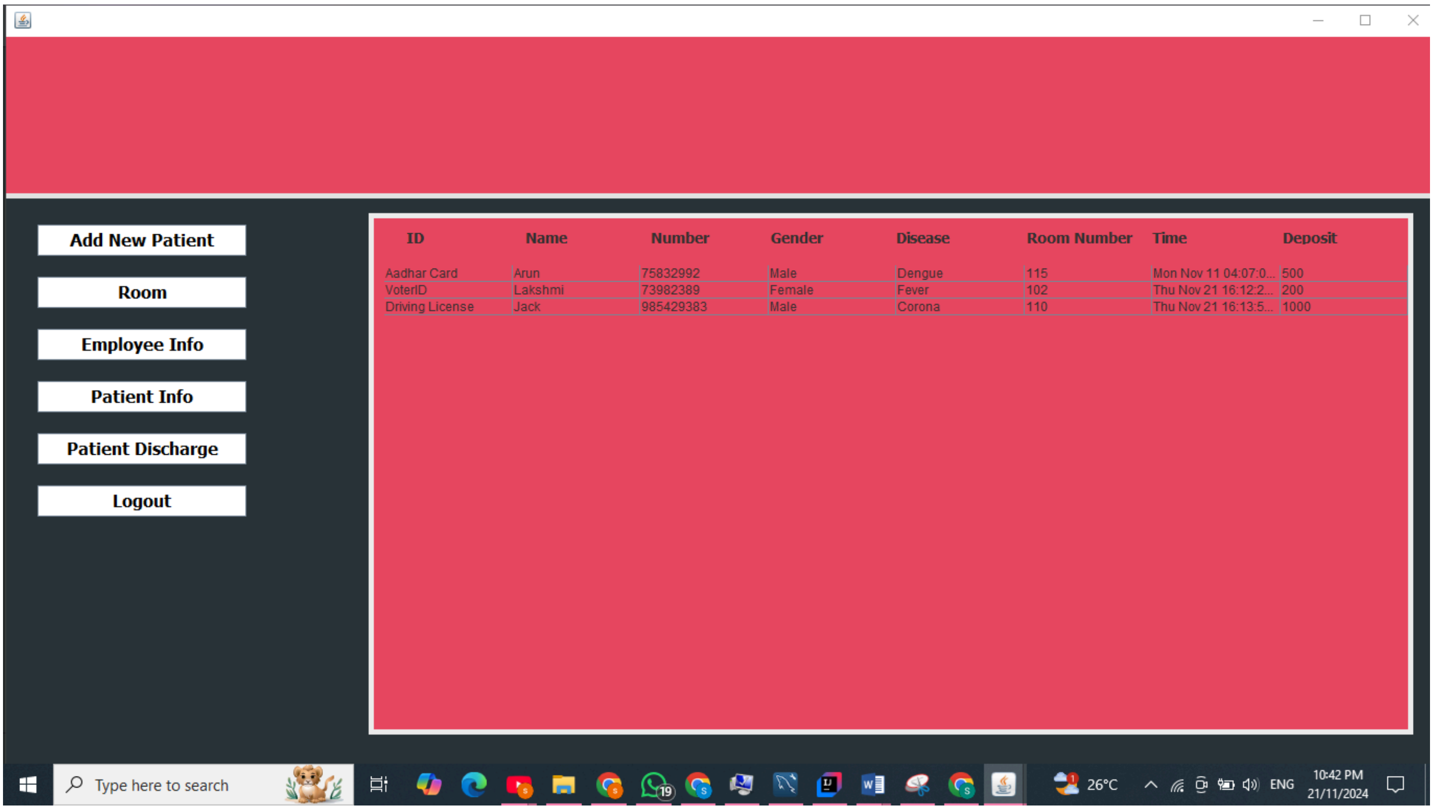
Room No	Availability	Price	Room Type
101	Available	1500	Single
102	Occupied	2000	Double
103	Available	1800	Double
104	Available	2200	Suite
105	Available	2500	Suite
106	Available	1500	Single
107	Available	2000	Double
108	Available	1800	Double
109	Available	2200	Suite
110	Occupied	2500	Suite
111	Available	1500	Single
112	Available	2000	Double
113	Available	1800	Double
114	Available	2200	Suite
115	Occupied	2500	Suite

6.4. EMPLOYEE INFO :



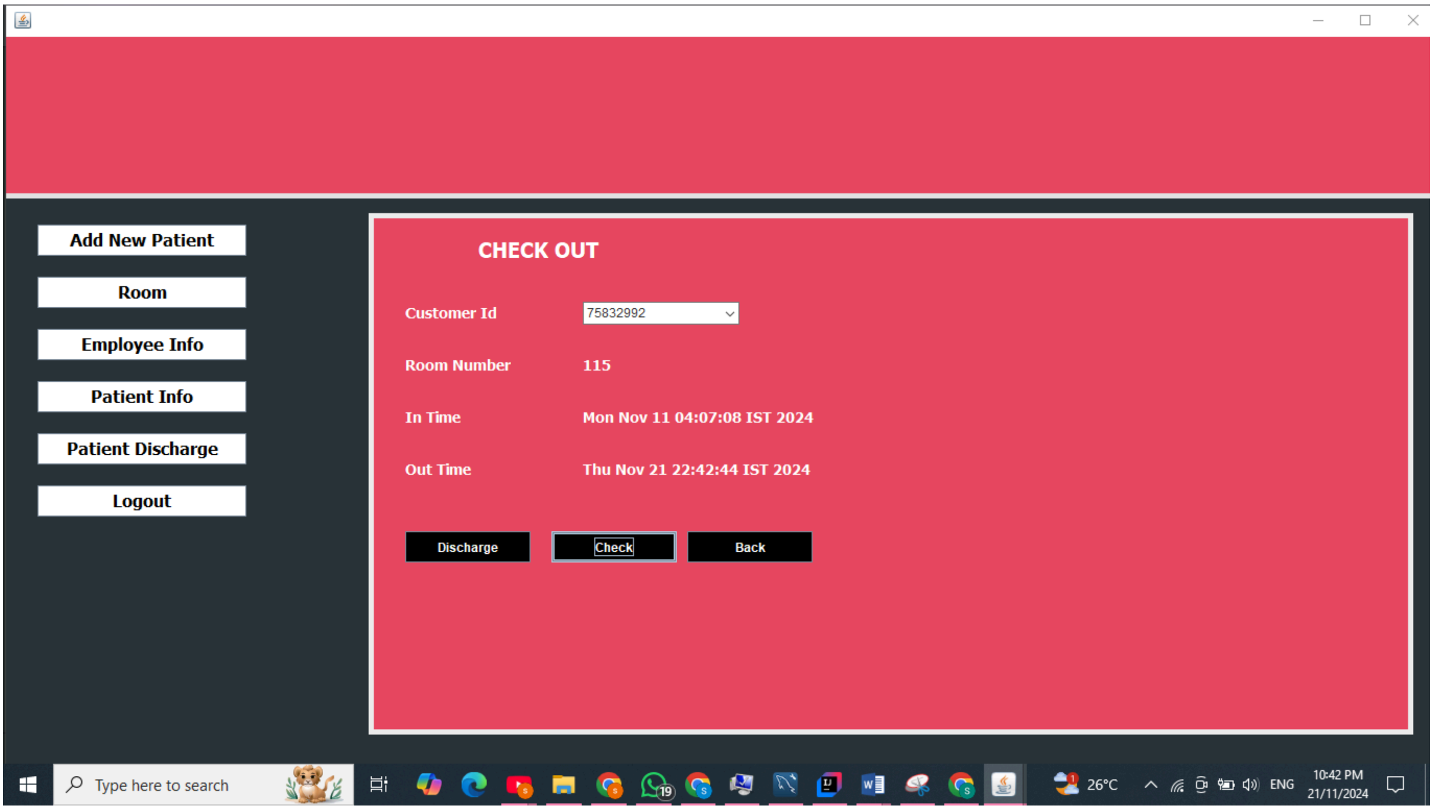
Name	Age	Phone Number	Salary	Gmail	Aadhar Number
Doctor1	30	184898793	50000	jed@gmail.com	8378847918124
Doctor2	38	748391193	50000	uerf@gmail.com	7983380833819

6.5. PATIENT INFO :



ID	Name	Number	Gender	Disease	Room Number	Time	Deposit
Aadhar Card	Arun	75832992	Male	Dengue	115	Mon Nov 11 04:07:0...	500
VoterID	Lakshmi	73982389	Female	Fever	102	Thu Nov 21 16:12:2...	200
Driving License	Jack	985429383	Male	Corona	110	Thu Nov 21 16:13:5...	1000

6.6 . PATIENT DISCHARGE PAGE:



CHECK OUT

Customer Id 75832992

Room Number 115

In Time Mon Nov 11 04:07:08 IST 2024

Out Time Thu Nov 21 22:42:44 IST 2024

KEY FEATURES

1. User Authentication: A secure login page ensures only authorized access to the system.
2. Add New Patient: Easily register new patients with detailed personal and medical information.
3. Employee Information Management: Store and manage hospital staff details efficiently.
4. Patient Information Management: Access, update, and manage patient records seamlessly.
5. Room Search Functionality: Quickly search for available rooms and assign them to patients.
6. Patient Discharge Module: Handle discharge processes with accurate billing and record updates**.**
7. Database Integration: SQL backend ensures reliable and structured data storage.
8. User-Friendly Interface: Intuitive design built in Java for smooth navigation and operation.

CONCLUSION

In conclusion, the Hospital Database Management System provides a comprehensive solution for streamlining hospital operations, from patient admission to discharge. It ensures efficient handling of critical information such as patient details, room assignments, employee data, and discharge processes. The system enhances data accuracy, reduces manual errors, and improves coordination among hospital staff. By integrating secure login and logout functionalities, it ensures data protection and privacy. The ER diagram effectively illustrates the system's structure, enabling easy database design and scalability. Overall, this system supports better patient care, optimized resource utilization, and seamless workflow management in a hospital environment.

REFERENCES

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2. https://www.wikipedia.org/

3. https://www.w3schools.com/sql/

4. SQL | Codecademy