



AMRITA
VISHWA VIDYAPEETHAM
DEEMED TO BE UNIVERSITY

School of
Engineering

CAPSTONE PROJECT REPORT

CRIMINAL MANAGEMENT SYSTEM

OBJECT ORIENTED PARADIGM & DBMS

19CSE203 & 19CSE202

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ABSTRACT

Criminal record generally contains personal information about particular person along with photograph. To identify any Criminal we need some identification regarding person. We are developing this software to make this process easier than the traditional storage systems. In the modern era when everything is computerized, a Criminal Management system is very much in need so as to store data of dangerous criminals.

INTRODUCTION

Purpose of the project

The main purpose of our project is automating the traditional way of storing criminal records. Here, we could add, update and delete criminal records. We could also add, update and delete FIR details which are being filed down manually traditionally. We store all the data into a database from where we could use it further. Thus this project provides a very user friendly interface for the officials to store and manage the criminal records.

Project Objective

This project intends to provide an effective way for storing, retrieving and managing criminal records. It also aims at providing a user friendly interface for effortless interaction with the user.

Project Scope

This project is confined to storing, retrieving and managing criminal records. In further developments of the project, we could integrate it with AI and make features such as face detections.

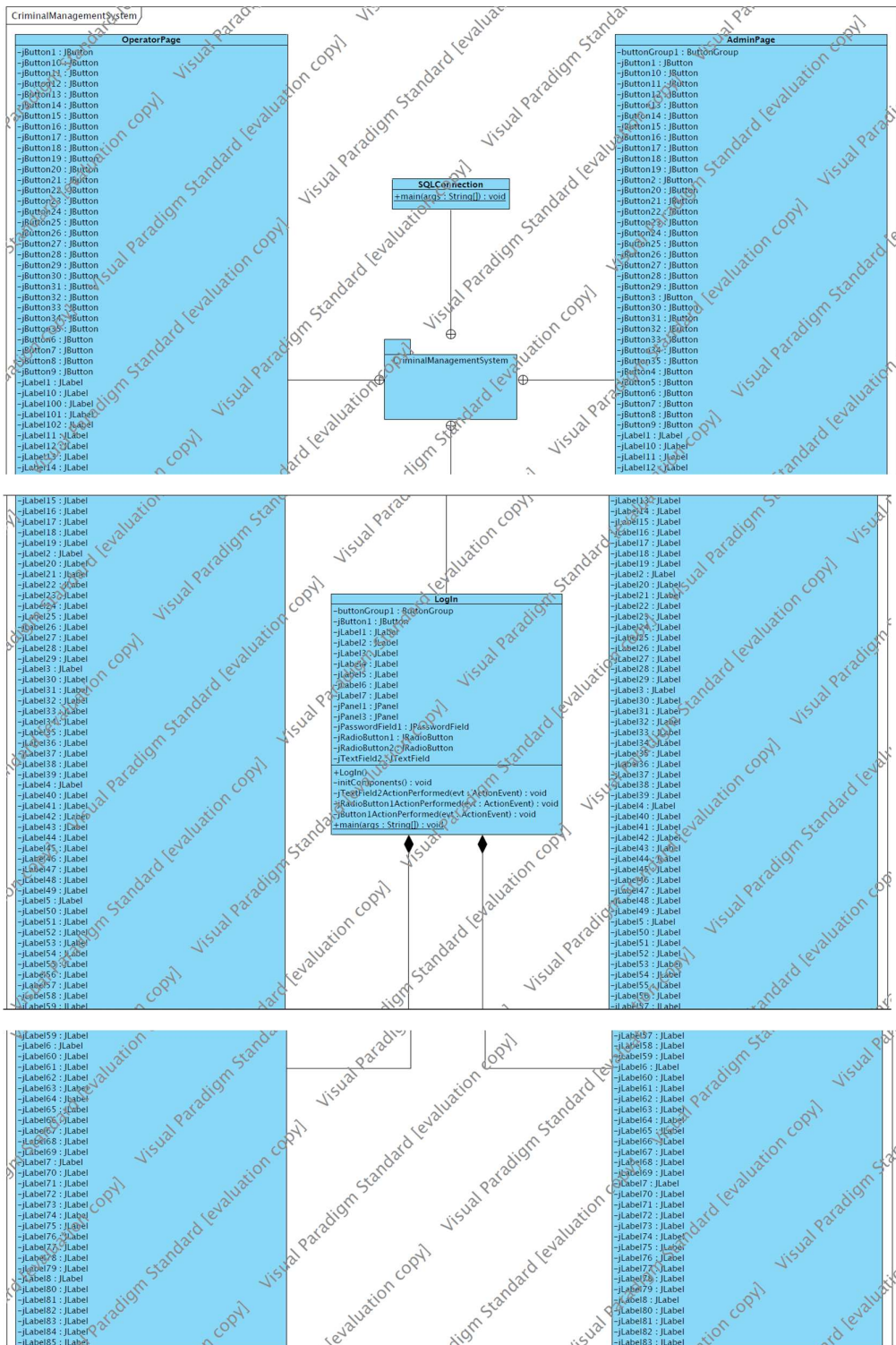
Technology used

- Front-End: Java
- Database: MySQL
- IDE: Eclipse and NetBeans
- Database Design Tool: MySQL Workbench

Modules

- **LogIn.java** – Administrator and Operator can LogIN to the application using Username and Password.
- **Admin.java** – Administrator can control Operator Data as well as FIR and Criminal Data.
- **Operator.java** – Operator can only control FIR and Criminal Data. He cannot change/view other Operator Details.

UML DIAGRAM



```

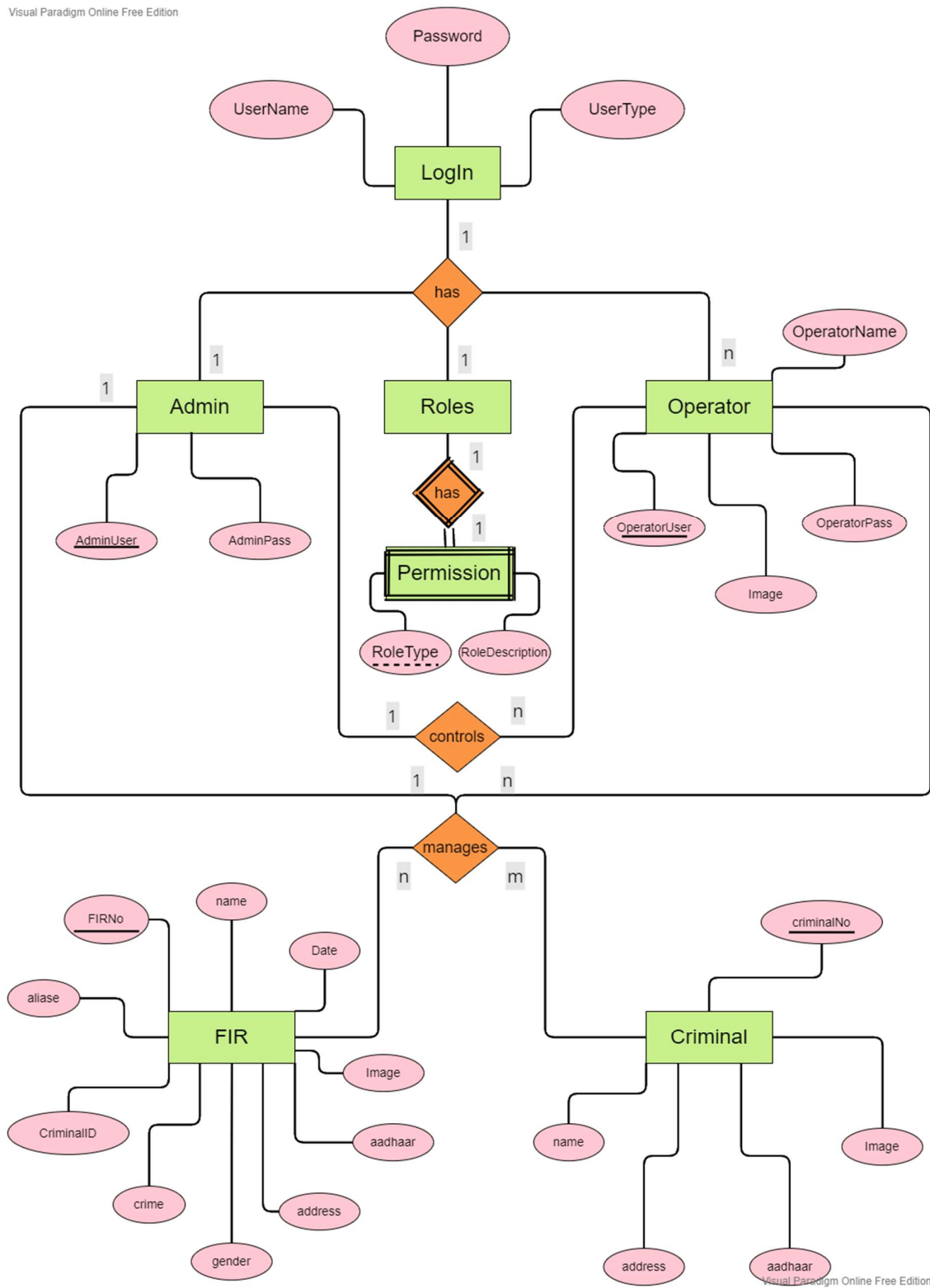
@Button13ActionPerformed: ActionEvent() : void
@Button14ActionPerformed: ActionEvent() : void
@TextField9ActionPerformed: ActionEvent() : void
@TextField10ActionPerformed: ActionEvent() : void
@TextField11ActionPerformed: ActionEvent() : void
@RadioButton1ActionPerformed: ActionEvent() : void
@RadioButton2ActionPerformed: ActionEvent() : void
@Button8ActionPerformed: ActionEvent() : void
@Button9ActionPerformed: ActionEvent() : void
@Button10ActionPerformed: ActionEvent() : void
@Button11ActionPerformed: ActionEvent() : void
@Button12ActionPerformed: ActionEvent() : void
@Button1ActionPerformed: ActionEvent() : void
@Button2ActionPerformed: ActionEvent() : void
@Button3ActionPerformed: ActionEvent() : void
@Button4ActionPerformed: ActionEvent() : void
@Button5ActionPerformed: ActionEvent() : void
@Button6ActionPerformed: ActionEvent() : void
@Button7ActionPerformed: ActionEvent() : void
@TextField34ActionPerformed: ActionEvent() : void
@TextField35ActionPerformed: ActionEvent() : void
@TextField36ActionPerformed: ActionEvent() : void
@Button23ActionPerformed: ActionEvent() : void
@Button24ActionPerformed: ActionEvent() : void
@Button25ActionPerformed: ActionEvent() : void
@Button26ActionPerformed: ActionEvent() : void
@Button27ActionPerformed: ActionEvent() : void
@Button28ActionPerformed: ActionEvent() : void
@Button29ActionPerformed: ActionEvent() : void
@Button30ActionPerformed: ActionEvent() : void
+mainArgs: String[] : void

```

```
Button28ActionPerformed : ActionEvent : void  
Button29ActionPerformed : ActionEvent : void  
Button30ActionPerformed : ActionEvent : void  
Button31ActionPerformed : ActionEvent : void  
TextField2ActionPerformed : ActionEvent : void  
Button5ActionPerformed : ActionEvent : void  
Button6ActionPerformed : ActionEvent : void  
TextField2_2ActionPerformed : ActionEvent : void  
ButtonActionPerformed : ActionEvent : void  
Button7ActionPerformed : ActionEvent : void  
RadioButtActionPerformed : ActionEvent : void  
Button8ActionPerformed : ActionEvent : void  
Button9ActionPerformed : ActionEvent : void  
Button10ActionPerformed : ActionEvent : void  
Button11ActionPerformed : ActionEvent : void  
Button12ActionPerformed : ActionEvent : void  
Button13ActionPerformed : ActionEvent : void  
TextField2_3ActionPerformed : ActionEvent : void  
Button14ActionPerformed : ActionEvent : void  
TextField2_4ActionPerformed : ActionEvent : void  
RadioButt2ActionPerformed : ActionEvent : void  
Button17ActionPerformed : ActionEvent : void  
Button18ActionPerformed : ActionEvent : void  
Button19ActionPerformed : ActionEvent : void  
Button20ActionPerformed : ActionEvent : void  
Button21ActionPerformed : ActionEvent : void  
Button22ActionPerformed : ActionEvent : void  
Button23ActionPerformed : ActionEvent : void  
Button24ActionPerformed : ActionEvent : void  
Button25ActionPerformed : ActionEvent : void  
mainFrame.setSize(1000,1000)  
mainFrame.setVisible(true)
```

ER – DIAGRAM

Visual Paradigm Online Free Edition



Visual Paradigm Online Free Edition

SAMPLE CODES

User Authetication

```
@SuppressWarnings("deprecation")
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) throws
SQLException {
    try{
        Class.forName("com.mysql.jdbc.Driver");
        Connection connection =
DriverManager.getConnection("jdbc:mysql://localhost:3306/CriminalApplication","root", "");
        System.out.println("Connection established...");

        String username = jTextField2.getText();
        System.out.println("Username: " + username);

        String password = new String(jPasswordField1.getPassword());
        System.out.println("Password: " + password);

        int access=0;
        String role = "";
        if(jRadioButton1.isSelected())
        {
            access = 0;
            role = "Admin";
            System.out.println("Administrator Selected");
            String query = "SELECT *FROM LogIn WHERE UserName='"+username+"' and
Password='"+password+"' and UserType='"+access+"'";
            Statement st = connection.createStatement();
            ResultSet rs = st.executeQuery(query);

            if(rs.next())
            {
                System.out.println("Authentication Successful");
                AdminPage ap = new AdminPage();
                ap.show();
                dispose();
            }
            else
            {
                System.out.println("Authentication Failed");
                javax.swing.JOptionPane.showMessageDialog(this,"UserName Or
Password Incorrect..");
                jTextField2.setText("");
                jPasswordField1.setText("");
            }
        }
        else if(jRadioButton2.isSelected())
        {
            access = 1;
            role = "Operator";
            System.out.println("Operator Selected");
            String query1 = "SELECT *FROM LogIn WHERE UserName='"+username+"'
and Password='"+password+"' and UserType='"+access+"'";
            Statement st1 = connection.createStatement();
            ResultSet rs1 = st1.executeQuery(query1);
            if(rs1.next())
            {
```

```

        + username + "'";
        String query2 = "SELECT UserName FROM LogIn WHERE UserName='"
        Statement st2 = connection.createStatement();
        ResultSet rs2 = st2.executeQuery(query2);

        System.out.println("Authentication Successful");
        OperatorPage op = new OperatorPage(username);
        op.show();
        dispose();
    }
    else
    {
        System.out.println("Authentication Failed");
        javax.swing.JOptionPane.showMessageDialog(this, "UserName Or
        Password Incorrect..");
        jTextField2.setText("");
        jPasswordField1.setText("");
    }
}
}
}
catch(Exception e)
{
    System.out.println(e);
}
}
}

```

Inserting FIR details into the Database

```

private void jButton7ActionPerformed(java.awt.event.ActionEvent evt) {
    try
    {
        Class.forName("com.mysql.jdbc.Driver");
        Connection connection =
        DriverManager.getConnection("jdbc:mysql://localhost:3306/CriminalApplication","root", "");
        System.out.println("Connection established....");

        String FIRNo = jTextField22.getText();
        String date = jTextField23.getText();
        String CriminalID = jTextField26.getText();
        String name = jTextField24.getText();
        String aliase = jTextField25.getText();
        String crime = jTextField8.getText();
        String address = jTextField6.getText();
        String aadhaar = jTextField5.getText();
        String Image = jTextField9.getText();

        String gender = "";
        if(jRadioButton1.isSelected())
        {
            gender = "M";
        }
        else if(jRadioButton2.isSelected())
        {
            gender = "F";
        }
    }
}

```



```

        if(!(FIRNo=="" || date=="" || CriminalID=="" || name=="" || alias==""
|| crime=="" || address=="" || aadhaar=="" || Image=="" || gender==""))
        {
            String query1 = "INSERT INTO FIR VALUES(?,?,?,?,?,?,?,?,?)";
            PreparedStatement pstmt1 = connection.prepareStatement(query1);
            pstmt1.setString(1,FIRNo);
            pstmt1.setString(2,date);
            pstmt1.setString(3,CriminalID);
            pstmt1.setString(4,name);
            pstmt1.setString(5,alias);
            pstmt1.setString(6,crime);
            pstmt1.setString(7,gender);
            pstmt1.setString(8,address);
            pstmt1.setString(9,aadhaar);
            pstmt1.setString(10,Image);
            pstmt1.execute();

            String query2 = "SELECT EXISTS(SELECT *from Criminal WHERE
criminalNo='" + CriminalID + "' )";
            Statement st = connection.createStatement();
            ResultSet rs = st.executeQuery(query2);
            while(rs.next())
            {
                int exists = rs.getInt("EXISTS(SELECT *from Criminal WHERE
criminalNo='" + CriminalID + "' )");
                if(exists!=1)
                {
                    System.out.println(">>>Inserting Record to Criminal
Table...");
                    String query3 = "INSERT INTO Criminal
VALUES(?,?,?,?,?)";
                    PreparedStatement pstmt2 =
connection.prepareStatement(query3);
                    pstmt2.setString(1, name);
                    pstmt2.setString(2, address);
                    pstmt2.setString(3, aadhaar);
                    pstmt2.setString(4, CriminalID);
                    pstmt2.setString(5, Image);
                    pstmt2.execute();
                }
            }

            System.out.println("Insertion Successful...");
            javax.swing.JOptionPane.showMessageDialog(this,"Insertion
Successful...");
            jTextField22.setText("");
            jTextField23.setText("");
            jTextField26.setText("");
            jTextField24.setText("");
            jTextField25.setText("");
            jTextField8.setText("");
            jTextField6.setText("");
            jTextField5.setText("");
            jTextField9.setText("");
        }
        else
        {
            System.out.println("One or More Field(s) Blank");
        }
    }
}

```

```

Blank");
        javax.swing.JOptionPane.showMessageDialog(this, "One or More Field(s)
jTextField22.setText("");
jTextField23.setText("");
jTextField26.setText("");
jTextField24.setText("");
jTextField25.setText("");
jTextField8.setText("");
jTextField6.setText("");
jTextField5.setText("");
jTextField9.setText("");
    }
}
catch(Exception e)
{
    System.out.println(e);
}
}
}

```

Retreiving and Printing FIR details from the Database

```

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    try
    {
        Class.forName("com.mysql.jdbc.Driver");
        Connection connection =
DriverManager.getConnection("jdbc:mysql://localhost:3306/CriminalApplication", "root", "");
        System.out.println("Connection established...");

        String FIRNo = jTextField14.getText();

        String query = "SELECT *FROM FIR WHERE FIRNo='" + FIRNo + "'";
        Statement st = connection.createStatement();
        ResultSet rs = st.executeQuery(query);

        if(rs.next() && FIRNo!="")
        {
            jTextField15.setText(rs.getString("name"));
            jLabel90.setText(rs.getString("CriminalID"));
            jTextField17.setText(rs.getString("crime"));
            jTextField18.setText(rs.getString("Date"));
            jTextField19.setText(rs.getString("address"));
            jTextField20.setText(rs.getString("aadhaar"));
            jLabel42.setIcon(new ImageIcon(rs.getString("Image")));

            System.out.println("Connection Successfull");

            String sql = "UPDATE Operator SET
name=?,CriminalID=?,crime=?,Date=?,address=?,aadhaar=? WHERE FIRNo = ?";
            PreparedStatement pstmt = connection.prepareStatement(sql);
            pstmt.setString(1, jTextField15.getText());
            pstmt.setString(2, jLabel90.getText());
            pstmt.setString(3, jTextField17.getText());
            pstmt.setString(4, jTextField18.getText());
            pstmt.setString(5, jTextField19.getText());

```

```

        pstmt.setString(6, jTextField20.getText());
        pstmt.setString(7, FIRNo);
        pstmt.executeUpdate();

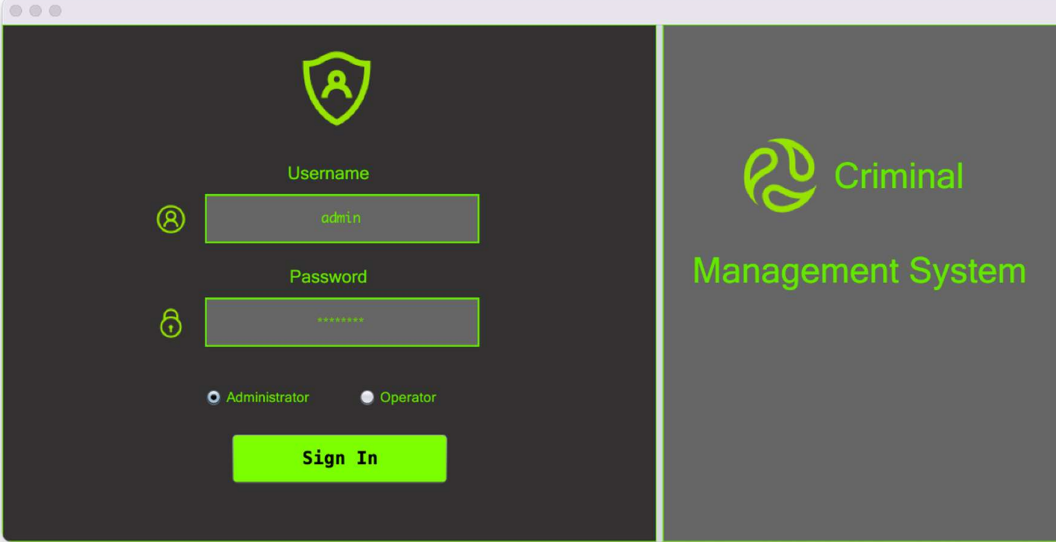
        System.out.println("Updation Successful...");
        javax.swing.JOptionPane.showMessageDialog(this, "Updation
Successful");
    }
    else if(!rs.next())
    {
        System.out.println("Invalid Search");
        javax.swing.JOptionPane.showMessageDialog(this, "Empty Record or
Record Does not exist");
    }
    else
    {
        System.out.println("Invalid Search");
        javax.swing.JOptionPane.showMessageDialog(this, "Invalid UserName
Searched");
        jTextField29.setText("");
    }
}
catch(Exception e)
{
    System.out.println(e);
}
}

```

CODE

GitHub - <https://github.com/Binary-Coders/Criminal-Management-System>

OUTPUT SCREENS



The login screen features a dark blue background. On the left, there is a login form with a shield icon at the top. Below the icon are two input fields: 'Username' with the value 'admin' and 'Password' with masked characters. Below the password field are two radio buttons for 'Administrator' (selected) and 'Operator'. A red 'Sign In' button is at the bottom. On the right, the 'Criminal Management System' logo and title are displayed in white.

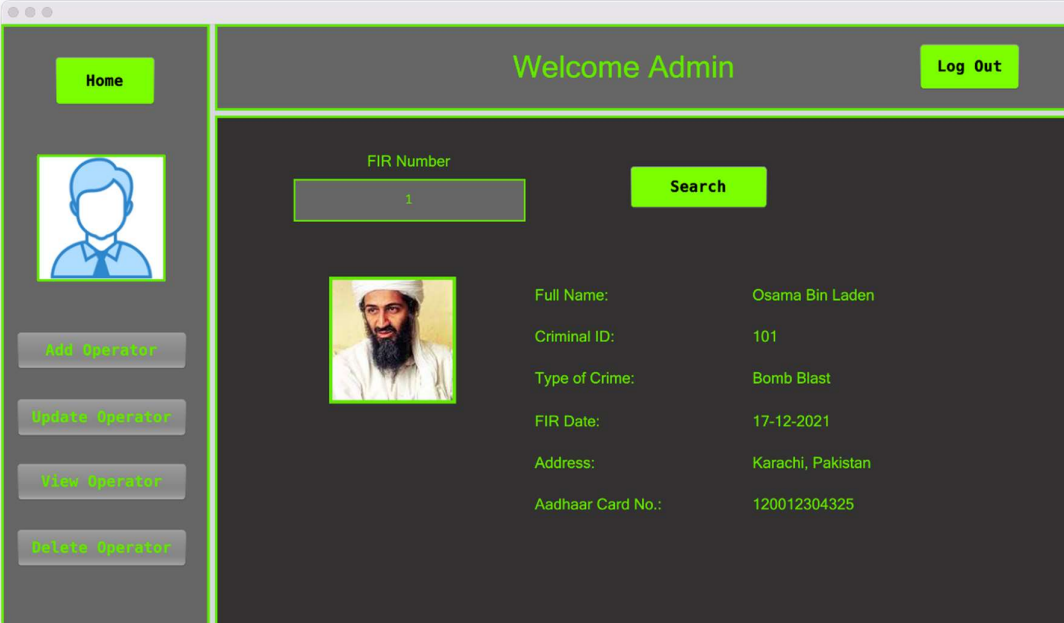
Username
admin

Password

☒ Administrator ☐ Operator

Sign In

Criminal Management System



The admin dashboard has a dark blue background. A top bar contains 'Welcome Admin' and a red 'Log Out' button. A left sidebar has a 'Home' button, a user profile icon, and four buttons: 'Add Operator', 'Update Operator', 'View Operator', and 'Delete Operator'. The main area shows a search for 'FIR Number 1' with a red 'Search' button. Below the search results is a profile card for Osama Bin Laden, including a photo and details like Full Name, Criminal ID, Type of Crime, FIR Date, Address, and Aadhaar Card No.

Welcome Admin **Log Out**

Home


Add Operator
Update Operator
View Operator
Delete Operator

FIR Number
1 **Search**

Osama Bin Laden

Full Name: Osama Bin Laden
Criminal ID: 101
Type of Crime: Bomb Blast
FIR Date: 17-12-2021
Address: Karachi, Pakistan
Aadhaar Card No.: 120012304325

Home



Add Operator

Update Operator

View Operator

Delete Operator


Welcome Admin

Log Out

FIR Number

1

Search



Full Name:

Osama Bin Laden

Criminal ID:

101

Type of Crime:

Bomb Blast

FIR Date:

17-12-2021

Address:


Karachi, Pakistan

Aadhaar Card No.:

120012304325

Update

Home



Add Operator

Update Operator

View Operator

Delete Operator


Welcome Admin

Log Out

Criminal Number

101

Search



Full Name:

Osama Bin Laden

Address:


Karachi, Pakistan

Aadhaar Card No.:

120012304325

Update

Home



Operator Name:
Anushka Nambiar

Operator ID:
Anushka


Welcome Operator

Log Out

FIR Number

1

Search



Full Name:

Osama Bin Laden

Criminal ID:

101

Type of Crime:

Bomb Blast

FIR Date:

17-12-2021


Address:

Karachi, Pakistan

Aadhaar Card No.:

120012304325

Home



Operator Name:
Anushka Nambiar

Operator ID:
Anushka


Welcome Operator

Log Out

Criminal Number

101

Search



Full Name:

Osama Bin Laden


Address:

Karachi, Pakistan

Aadhaar Card No.:

120012304325

Home



Add Operator

Update Operator

View Operator

Delete Operator


Welcome Admin

Log Out

Criminal Number

101

Search




Full Name: Osama Bin Laden

Address: Karachi, Pakistan

Aadhaar Card No.: 120012304325

Home



Add Operator

Update Operator

View Operator

Delete Operator

Welcome Admin

Log Out

FIR Number

1

Full Name

Osama Bin Laden

Alias

osama

Date of FIR

17-12-2021

Crime Involved In

Bomb Blast

Gender

☒ Male
 ☐ Female

Criminal ID

101

Address

Karachi, Pakistan

Aadhaar Card Number


123456789

Upload Picture

Browse

Submit

Home



Add Operator

Update Operator

View Operator

Delete Operator


Welcome Admin

Log Out

Operator UserName

Aniket


Search



Full Name: Aniket Gupta

Operator UserName: Aniket

Home



Add Operator

Update Operator

View Operator

Delete Operator


Welcome Admin

Log Out

Operator UserName

Aniket

Search




Full Name: Aniket Gupta

Opearator UserName: Aniket

Update

Home



Operator Name:
Anushka Nambiar

Operator ID:
Anushka

Welcome Operator

Log Out

Register FIR

Update FIR

Delete FIR

Delete Criminal Record


Update Criminal Record

Add Criminal

Retrieve FIR

Retrieve Criminal Record

Home



Add Operator

Update Operator

View Operator


Delete Operator

Welcome Admin

Log Out

Operator UserName
Kumar2002

Search



Full Name:
Kumar Laxmikant


Operator UserName:
Kumar2002

Delete

The image shows a web application interface for managing FIRs. On the left is a sidebar with a 'Home' button and five operator management buttons: 'Add Operator', 'Update Operator', 'View Operator', and 'Delete Operator'. The main content area has a dark grey background. At the top, it says 'Welcome Admin' and has a 'Log Out' button. Below this is a search section with a 'FIR Number' label, a text input containing '1', and a 'Search' button. A table displays FIR records. The first record is for Osama Bin Laden, featuring his profile picture, a 'Delete' button, and details: Full Name (Osama Bin Laden), Criminal ID (101), Type of Crime (Bomb Blast), FIR Date (17-12-2021), Address (Karachi, Pakistan), and Aadhaar Card No. (120012304325).

FIR Number	Full Name	Criminal ID	Type of Crime	FIR Date	Address	Aadhaar Card No.
1	Osama Bin Laden	101	Bomb Blast	17-12-2021	Karachi, Pakistan	120012304325

Home



Add Operator

Update Operator

View Operator

Delete Operator


Welcome Admin

Log Out

Criminal Number

101

Search



Full Name:

Osama Bin Laden

Address:


Karachi, Pakistan

Aadhaar Card No.:

120012304325

Delete

Home



Add Operator

Update Operator

View Operator

Delete Operator

Welcome Admin

Log Out

Register FIR

Update FIR

Delete FIR

Delete Criminal Record

Update Criminal Record

Add Criminal

Retrieve FIR

Retrieve Criminal Record