ONLINE VOTING SYSTEM

A FIELD PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE OF ENGINEERING – DATA SCIENCE

SUBMITTED BY

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CERTIFICATE

This is to certify that the **Field Project** report entitled "**ONLINE VOTING SYSTEM"** being submitted by **Mr. KALIDINDI VISHNU TANEESH KUMAR RAJU (22071A6780), Mr. KADUKUNTLA ADITHYA (22071A6781) , Mr. KAMEGAONKAR SATHVIK (22071A6782) , Mr. MITTAPALLI LAXMIPATHI BALAJI (22071A6796)** in partial fulfillment for the award of **BACHELOR OF TECHNOLOGY** in **COMPUTER SCIENCE OF ENGINEERING – DATA SCIENCE** to the Jawaharlal Nehru Technological University Hyderabad at **VALLURUPALLI NAGESWARA RAO VIGNANA JYOTHI INSTITUTE OF ENGINEERING & TECHNOLOGY, HYDERABAD**, is a record of bonafide work carried out by her under our guidance and supervision.

The results embodied in this thesis have not been submitted to any other University or Institute for the award of any degree or diploma.

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Lalitha

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DECLARATION

I hereby declare that the Field Project report entitled **"Online Voting System",** submitted for B.Tech. degree is my original work and project has not formed the basis for the award of any degree, associateship, fellowship or any similar titles.

Signature of the students:

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ABSTRACT

Student elections are a vital part of academic life, fostering democratic values and leadership skills among students. However, the traditional method of conducting these elections is often manual, time-consuming, and prone to errors. This project aims to address these challenges by developing a secure, efficient, and user-friendly online voting system tailored specifically for student elections.

The proposed system leverages the unique roll numbers assigned to each student for authentication. This ensures that each student can vote exactly once, eliminating the possibility of duplicate votes and enhancing the integrity of the election process. In case of any discrepancies, the system can easily verify votes using these unique identifiers.

The system is designed with a strong focus on usability. It offers a straightforward, intuitive voting process, making it easy even for first-time users. Students can see the candidates, make their choice, and submit their vote with just a few clicks. This not only improves the voting experience for students but also encourages greater participation in elections.

One of the key features of the system is its automated results calculation process. Once the voting period ends, the system automatically calculates the results and displays them in a clear, easy-to-understand format. This eliminates the need for manual counting, thereby reducing errors and speeding up the declaration of results.

Furthermore, the system ensures the confidentiality of each vote. It uses advanced security measures to protect the privacy of the students and the secrecy of the vote. This fosters trust in the election process and ensures that students can vote without fear of their choices being disclosed.

In conclusion, this project represents a significant step towards modernizing student elections. By making them more accessible, secure, and efficient, it enhances the overall quality of the election process and contributes to a more vibrant, democratic academic environment.

Key Words: Voter authentication, Voter anonymity, Security, Block Chain, Smart Contract.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION TO THE PROJECT:

In the dynamic world of academia, student elections play a pivotal role in shaping the leaders of tomorrow. They are a platform where students can voice their opinions and choose their representatives. However, the traditional method of conducting these elections often involves manual processes that can be time-consuming, inefficient, and prone to errors. This is where our Online Voting System (OVS) comes into play.

The OVS is a digital platform designed to revolutionize the way student elections are conducted. It aims to transform the traditional voting process into a seamless, secure, and efficient online experience. The system leverages technology to automate the voting process, making it quicker, easier, and more accurate.

One of the key features of the OVS is the use of unique student roll numbers for authentication. This ensures that each student can vote exactly once, thereby eliminating the possibility of duplicate votes. It not only enhances the integrity of the election process but also simplifies the voting process for the students.

The OVS also places a strong emphasis on user experience. It features a user-friendly interface that makes the voting process intuitive and straightforward. Students can easily view the candidates, make their choice, and submit their vote with just a few clicks.
Moreover, the OVS is equipped with an automated results calculation process. Once the voting period ends, the system automatically calculates and displays the results in a clear, easy-to-understand format. This eliminates the need for manual counting, thereby reducing errors and speeding up the declaration of results.

In terms of security, the OVS uses advanced measures to ensure the confidentiality of each vote. It fosters trust in the election process by ensuring that students can vote with confidence, knowing that their choices will remain confidential.

In conclusion, the OVS is more than just a digital platform; it's a tool for empowerment. It ensures that every vote counts, every student is heard, and every election is fair. By making student elections more accessible, secure, and efficient, the OVS contributes to a more democratic and vibrant academic environment.

1.2 BACKGROUND:

The history of voting systems dates back to ancient Greece and Rome, where citizens would cast their votes by writing on pieces of broken pottery or wax tablets. Since then, voting systems have evolved significantly, with the introduction of paper ballots, mechanical voting machines, and electronic voting machines. Online voting systems are a relatively new development in the field of voting systems. The primary motivation behind online voting systems is to increase voter turnout by making the voting process more accessible and convenient for voters. Online voting systems also offer several other benefits such as cost-effectiveness, efficiency, and accuracy.

Fig.1 a) Paper ballot voting b)Electoral voting

1.3 TOOLS, EQUIPMENTS AND TERMINOLOGY USED:

Online voting systems use a variety of tools and equipment to facilitate the voting process. Some of the commonly used tools and equipment include:

1. **Electronic voting machines (EVMs)**: These are standalone machines that allow voters to cast their votes electronically. EVMs can be used in polling stations or other locations where voting is taking place .
2. **Computers connected to the Internet**: These are used for online voting systems. Voters can cast their votes using a web browser or a mobile application .
3. **Optical scan voting systems**: These systems use paper ballots that are scanned and tabulated electronically .
4. **Voting kiosks**: These are specialized voting machines that are designed to be used in public places such as shopping malls, airports, and train stations .

Some of the terminology used in online voting systems includes:

1. **Electronic voting (e-voting)**: This refers to voting that uses electronic means to either aid or take care of casting and counting ballots .
2. **Remote e-voting**: This refers to online voting where the voter submits their vote electronically to the election authorities from any location.
3. **Direct Recording Electronic (DRE) System**: This is an electronic voting machine that allows a voter to record their vote electronically using a keyboard, touch-screen, mouse, pen, or other electronic device.

1.4 OUTLINE OF THE PROJECT REPORT:

The OVS will provide a platform for conducting student elections online. It will allow students to log in using their unique roll numbers, view the list of candidates, cast their vote, and view the results once the election is over.

The primary users of the system will be the students who are eligible to vote in the elections. Additionally, administrative users (such as election organizers or school administrators) will use the system to set up the elections, manage candidates, and oversee the voting process.

The system will implement robust security measures to ensure the integrity and confidentiality of the votes. This includes secure authentication mechanisms, encryption of votes, and measures to prevent unauthorized access or manipulation of votes.

The system will be designed with a focus on usability, ensuring that it is easy to use even for students with limited technical skills. This includes a user-friendly interface, clear instructions, and possibly multilingual support.

CHAPTER 2

LITERATURE REVIEW

2.1 OVERVIEW:

Online voting systems are a relatively new development in the field of voting systems. The primary motivation behind online voting systems is to increase voter turnout by making the voting process more accessible and convenient for voters . Online voting systems also offer several other benefits such as cost-effectiveness, efficiency, and accuracy .

An online voting system is a software platform that allows groups to securely conduct votes and elections. High-quality online voting systems balance ballot security, accessibility, and the overall requirements of an organization's voting event . Some of the commonly used tools and equipment include electronic voting machines (EVMs), computers connected to the Internet, optical scan voting systems, and voting kiosks . Some of the terminology used in online voting systems includes electronic voting (e-voting), remote e-voting, and direct recording electronic (DRE) system .

2.2 REVIEW OF THE LITERATURE:

Blockchain-Based Online Voting: A study conducted by the International Research Journal of Engineering and Technology (IRJET) discusses the use of blockchain technology in online voting systems. The paper suggests that blockchain, a secure, trusted, and decentralized architecture, can be used to create secure schemes for online voting. The study also introduces the concept of a nonce value, calculated using the SHA256 algorithm, to increase the security of the voting system.

Electronic Voting Systems: Electronic voting refers to the use of computers or computerized voting equipment to cast ballots in an election. These systems may use electronic ballots to store votes in computer memory. When electronic ballots are used, there is no risk of exhausting the supply of ballots. Additionally, these electronic ballots remove the need for printing of paper ballots, a significant cost.

Challenges with Traditional Electoral Systems: Traditional electoral systems can have issues with organizations that have full control over the database and system, as it is possible to manipulate the database. Electronic voting systems aim to address these issues by ensuring security, transparency, and integrity.

Comparative Analysis of Online Voting Systems: There are many research contributions in the field of online voting, and some papers have critically analysed and summarized significant research works and projects addressing it.

2.3 PROBLEM STATEMENT:

In the current digital age, the process of voting in many areas such as student elections, club elections, or small-scale public polls is still manual, time-consuming, and inefficient. This traditional method of voting often leads to a delay in results, potential inaccuracies due to human error, and can be resource-intensive.

The lack of a secure, user-friendly, and efficient online voting system that ensures the privacy and authenticity of each vote is a significant problem. The system should be accessible to everyone eligible to vote, and the process should be transparent and verifiable, yet anonymous.

The goal of our project is to develop an online voting system that addresses these issues. Our system will aim to streamline the voting process, improve accessibility, ensure security and privacy, and provide real-time, accurate results.

In many educational institutions, student elections are still conducted manually, making the process time-consuming, resource-intensive, and prone to errors. There is a need for a secure, efficient, and user-friendly online voting system that allows students to vote using their unique roll numbers.

Our project aims to develop an online voting system specifically tailored for student elections. The system will use student roll numbers for authentication, ensuring that each student can vote exactly once. The interface will be designed with a focus on usability, making the voting process as straightforward as possible.

By developing this system, we aim to streamline student elections, improve the voting experience for students, and ensure the integrity and confidentiality of each vote.

2.4 PROJECT OBJECTIVES:

Efficiency: To streamline the voting process by automating the manual tasks involved in traditional voting methods, such as ballot distribution, vote casting, and result calculation.

Accessibility: To make voting more accessible to all eligible students, regardless of their location, by providing an online platform that can be accessed from any device with an internet connection.

Security: To ensure the integrity and confidentiality of each vote by implementing robust security measures, including secure authentication mechanisms and encryption of votes.

Usability: To design a user-friendly interface that makes the voting process intuitive and straightforward, thereby encouraging greater participation in elections.
Transparency: To foster trust in the election process by ensuring that the system is transparent and verifiable, allowing students to have confidence in the fairness and accuracy of the election

results.

2.5 SUMMARY:

Online voting systems are a relatively new development in the field of voting systems. The primary motivation behind online voting systems is to increase voter turnout by making the voting process more accessible and convenient for voters . Online voting systems also offer several other benefits such as cost-effectiveness, efficiency, and accuracy .

An online voting system is a software platform that allows groups to securely conduct votes and elections. High-quality online voting systems balance ballot security, accessibility, and the overall requirements of an organization's voting event . Some of the commonly used tools and equipment include electronic voting machines (EVMs), computers connected to the Internet, optical scan voting systems, and voting kiosks . Some of the terminology used in online voting systems includes electronic voting (e-voting), remote e-voting, and direct recording electronic (DRE) system.

CHAPTER 3

DEVELOPMENT OF THE PROJECT

3.1 METHODOLOGY OF THE PROJECT:

1. System Architecture and Technology Stack:
Describe the chosen system architecture, emphasizing the client-server model and modularity. Clearly articulate the selection of Java for programming and MySQL for the database, explaining the reasons behind these choices.

2. Security Measures and Compliance:
Detail the security measures implemented, including encryption techniques for data transmission and storage. Highlight the steps taken to ensure legal and regulatory compliance, particularly in adherence to election laws.

3. User Authentication and Authorization:
Explain the user authentication process using Java technologies like Servlets or Spring Security. Define the authorization levels for different user roles, showcasing how security is maintained throughout the system.

4. Voting Process and User Interface:
Outline the core logic of the voting process implemented in Java, emphasizing the security measures in place. Showcase the user-friendly interface developed using Java or web technologies, with an emphasis on accessibility and responsiveness.

5. Testing, Deployment, and Evaluation:
Discuss the testing methodologies employed, including unit testing, integration testing, and load testing. Provide insights into the deployment process, detailing how the application was set up on servers and the security measures taken. Conclude with an evaluation of the project, highlighting key achievements, lessons learned, and areas for future improvement.

3.2 DEVELOPMENT OF THE PROJECT:

This project is developed by using java and mysql for a database so that it stores the user details and votes of people in that .

DAO.java

```
package myproject;

import java.sql.Connection;
import java.sql.DriverManager;
```

```
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.util.logging.Level;
import java.util.logging.Logger;

public class DAO {

    private Connection con;

    public DAO() {
        try {
            con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/ovsdata", "root",
"root");
            System.out.println("connected");
        } catch (SQLException ex) {
            Logger.getLogger(DAO.class.getName()).log(Level.SEVERE, null,
ex);
        }
    }

    static {
        try {
            Class.forName("com.mysql.cj.jdbc.Driver");
            System.out.println("loaded");
        } catch (ClassNotFoundException ex) {
            Logger.getLogger(DAO.class.getName()).log(Level.SEVERE, null,
ex);
        }
    }

    public void closeConnection() {
        try {
            if (con != null && !con.isClosed()) {
                con.close();
                System.out.println("connection closed");
            }
        } catch (SQLException ex) {
            Logger.getLogger(DAO.class.getName()).log(Level.SEVERE, null,
ex);
        }
    }

    public void insertVoter(String fname, String lname, String gender, String
pno, String prn, String password) throws VoteException {
        try {
            int id = 0;
            Statement st = con.createStatement();
            String q = "SELECT * FROM registration ORDER BY id DESC LIMIT 1";
            ResultSet rs = st.executeQuery(q);
            if (rs.next()) {
                id = rs.getInt("id");
                id++;
            }
            String query = "INSERT INTO registration VALUES(?,?,?,?,?,?,?)";
```

```
            try (PreparedStatement ps1 = con.prepareStatement(query)) {
                ps1.setInt(1, id);
                ps1.setString(2, fname);
                ps1.setString(3, lname);
                ps1.setString(4, gender);
                ps1.setString(5, pno);
                ps1.setString(6, prn);
                ps1.setString(7, password);

                ps1.executeUpdate();
            }
        } catch (SQLException ex) {
            Logger.getLogger(DAO.class.getName()).log(Level.SEVERE, null,
ex);
            throw new VoteException();
        }
    }

    public void selectUser(String prn, String password) throws VoteException
{
        try {
            String query = "SELECT * FROM registration WHERE prn=? AND
password=?";
            try (PreparedStatement ps1 = con.prepareStatement(query)) {
                ps1.setString(1, prn);
                ps1.setString(2, password);
                try (ResultSet rs = ps1.executeQuery()) {
                    if (!rs.next()) {
                        throw new VoteException();
                    }
                }
            }
        } catch (SQLException ex) {
            Logger.getLogger(DAO.class.getName()).log(Level.SEVERE, null,
ex);
            throw new VoteException();
        }
    }

    public int selectAdmin(String prn, String password) throws VoteException
{
        try {
            String query = "SELECT * FROM admin WHERE prn=? AND password=?";
            try (PreparedStatement ps1 = con.prepareStatement(query)) {
                ps1.setString(1, prn);
                ps1.setString(2, password);
                try (ResultSet rs = ps1.executeQuery()) {
                    if (!rs.next()) {
                        return 0;
                    }
                    return 1;
                }
            }
        } catch (SQLException ex) {
            Logger.getLogger(DAO.class.getName()).log(Level.SEVERE, null,
ex);
            return 0;
```

```
        }
    }

    public void insertVote(int vote) throws VoteException {
        try {
            String query = "INSERT INTO votes(vote) VALUES(?)";
            try (PreparedStatement ps1 = con.prepareStatement(query)) {
                ps1.setInt(1, vote);
                ps1.executeUpdate();
            }
        } catch (SQLException ex) {
            Logger.getLogger(DAO.class.getName()).log(Level.SEVERE, null,
ex);
            throw new VoteException();
        }
    }

    public int getVotes(int id) {
        try {
            String query = "SELECT count(*) FROM VOTES WHERE vote=? ";
            try (PreparedStatement ps1 = con.prepareStatement(query)) {
                ps1.setInt(1, id);
                try (ResultSet rs = ps1.executeQuery()) {
                    rs.next();
                    return rs.getInt(1);
                }
            }
        } catch (SQLException ex) {
            Logger.getLogger(DAO.class.getName()).log(Level.SEVERE, null,
ex);
            return 0;
        }
    }

    public String getWinner() {
        try {
            String query = "SELECT opt_name FROM options INNER JOIN (SELECT
opt_id, COUNT(*) AS vote_count FROM votes GROUP BY opt_id ORDER BY vote_count
DESC LIMIT 1) AS vote_counts ON options.opt_id = vote_counts.opt_id";
            try (Statement st = con.createStatement(); ResultSet rs =
st.executeQuery(query)) {
                if (rs.next()) {
                    return rs.getString("opt_name");
                }
                return null;
            }
        } catch (SQLException ex) {
            Logger.getLogger(DAO.class.getName()).log(Level.SEVERE, null,
ex);
            return null;
        }
    }
}
```

AminFrame.java

```
package myproject;

import javax.swing.*;

public class AminFrame extends javax.swing.JFrame {

    //Creates new form java
    public AminFrame() {
        initComponents();
    }
    private void initComponents() {

        JLabel vote_label = new JLabel();
        buttonGroup1 = new javax.swing.ButtonGroup();
        yes_button = new javax.swing.JRadioButton();
        no_button = new javax.swing.JRadioButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        vote_label.setText("---ADMIN---");

        buttonGroup1.add(yes_button);
        yes_button.setText("Cast your vote now");
        yes_button.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                yes_buttonActionPerformed(evt);
            }
        });

        buttonGroup1.add(no_button);
        no_button.setText("Check Result");
        no_button.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                no_buttonActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                            .addGap(120, 120, 120)
                            .addComponent(vote_label)

.addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addContainerGap(100, Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)
                    .addComponent(yes_button)
                    .addComponent(no_button))
                .addGap(161, 161, 161))
```

```
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                    .addGap(21, 21, 21)
                    .addComponent(vote_label)
                .addGap(96, 96, 96)
                .addComponent(yes_button)
                .addGap(34, 34, 34)
                .addComponent(no_button)
                .addContainerGap(120, Short.MAX_VALUE))
        );

        pack();
    }

    private void yes_buttonActionPerformed(java.awt.event.ActionEvent evt) {
//opening voting options for admin
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new VoteFrame().setVisible(true);
            }
            });

    }//event_yes_buttonActionPerformed

    private void no_buttonActionPerformed(java.awt.event.ActionEvent evt) {
//opeing result
       java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Result().setVisible(true);
            }
            });
    }//event_no_buttonActionPerformed


    public static void main(String args[]) {
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(AminFrame.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(AminFrame.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
```

```
java.util.logging.Logger.getLogger(AminFrame.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(AminFrame.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        }

        //Create and display the form
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new AminFrame().setVisible(true);
            }
        });
    }

    // Variables declaration
    private javax.swing.ButtonGroup buttonGroup1;
    private javax.swing.JRadioButton no_button;
    private javax.swing.JRadioButton yes_button;
}
```

MyProject.java

```
package myproject;

public class Myproject {

    public static void main(String[] args) {
        java.awt.EventQueue.invokeLater(Myproject::run);
    }
    private static void run() {
        new WelcomeFrame().setVisible(true);
    }
}
```

ExitFrame.java

```
package myproject;

public class ExitFrame extends javax.swing.JFrame {

    public ExitFrame() {

        initComponents();
    }

    private void initComponents() {

        jLabel1 = new javax.swing.JLabel();
        jButton1 = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
```

```
        jLabel1.setText("        Your vote was succesfully recorded!");

        jButton1.setText("Exit");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(86, 86, 86)
                .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 217,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addContainerGap(97, Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                .addComponent(jButton1)
                .addGap(169, 169, 169))
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(60, 60, 60)
                .addComponent(jLabel1)
                .addGap(56, 56, 56)
                .addComponent(jButton1)
                .addContainerGap(143, Short.MAX_VALUE))
        );

        pack();
    }

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new WelcomeFrame().setVisible(true);
            }
        });

    }//event_jButton1ActionPerformed

    public static void main(String args[]) {

        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
```

```
                if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(ExitFrame.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(ExitFrame.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(ExitFrame.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(ExitFrame.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        }


        //Create and display the form
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new ExitFrame().setVisible(true);
            }
        });
    }

    // Variables declaration
    private javax.swing.JButton jButton1;
    private javax.swing.JLabel jLabel1;
}
```

RegistrationFrame.java

```
package myproject;
import javax.swing.JOptionPane;

public class RegisterationFrame extends javax.swing.JFrame {

    //Creates new form java
    public RegisterationFrame() {
        initComponents();
    }

    private void initComponents() {

        jScrollPane1 = new javax.swing.JScrollPane();
        jTree1 = new javax.swing.JTree();
        jSpinner1 = new javax.swing.JSpinner();
```

```
        buttonGroup1 = new javax.swing.ButtonGroup();
        buttonGroup2 = new javax.swing.ButtonGroup();
        Fname_label = new javax.swing.JLabel();
        Fname_textfield = new javax.swing.JTextField();
        Lname_label = new javax.swing.JLabel();
        Lname_textfield = new javax.swing.JTextField();
        Gender_label = new javax.swing.JLabel();
        Male_button = new javax.swing.JRadioButton();
        Female_button = new javax.swing.JRadioButton();
        other_button = new javax.swing.JRadioButton();
        Pno_label = new javax.swing.JLabel();
        Pno_textfield = new javax.swing.JTextField();
        prn_label = new javax.swing.JLabel();
        prn_textfield = new javax.swing.JTextField();
        regsubmit_button = new javax.swing.JButton();
        username_label = new javax.swing.JLabel();
        username_textfield = new javax.swing.JTextField();
        password_label = new javax.swing.JLabel();
        cpassword_label = new javax.swing.JLabel();
        cpassword_textfield = new javax.swing.JTextField();
        password_textfield = new javax.swing.JPasswordField();

        jScrollPane1.setViewportView(jTree1);


setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

        Fname_label.setText("First Name");

        Fname_textfield.addActionListener(new java.awt.event.ActionListener()
{
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                Fname_textfieldActionPerformed(evt);
            }
        });

        Lname_label.setText("Last Name");

        Gender_label.setText("Gender");

        buttonGroup1.add(Male_button);
        Male_button.setSelected(true);
        Male_button.setText("Male");
        Male_button.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                Male_buttonActionPerformed(evt);
            }
        });

        buttonGroup1.add(Female_button);
        Female_button.setText("Female");

        buttonGroup1.add(other_button);
        other_button.setText("other");

        Pno_label.setText("Roll No");
```

```
        Pno_textfield.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                Pno_textfieldActionPerformed(evt);
            }
        });

        prn_label.setText("PRN");

        prn_textfield.addInputMethodListener(new
java.awt.event.InputMethodListener() {
            public void caretPositionChanged(java.awt.event.InputMethodEvent
evt) {
            }
            public void
inputMethodTextChanged(java.awt.event.InputMethodEvent evt) {
                prn_textfieldInputMethodTextChanged(evt);
            }
        });
        prn_textfield.addKeyListener(new java.awt.event.KeyAdapter() {
            public void keyReleased(java.awt.event.KeyEvent evt) {
                prn_textfieldKeyReleased(evt);
            }
            public void keyTyped(java.awt.event.KeyEvent evt) {
                prn_textfieldKeyTyped(evt);
            }
        });

        regsubmit_button.setText("Submit");
        regsubmit_button.addActionListener(new
java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                regsubmit_buttonActionPerformed(evt);
            }
        });

        username_label.setText("Username");

        username_textfield.setEditable(false);

        password_label.setText("Password");

        cpassword_label.setText("Confirm password");

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(40, 40, 40)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)
                    .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
```

```
G)
                            .addComponent(Lname_label)
                            .addComponent(Gender_label)
                            .addComponent(Pno_label)
                            .addComponent(prn_label)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILI
NG)
                                .addComponent(password_label)
                                .addComponent(username_label)))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G, false)
                                .addComponent(Pno_textfield,
javax.swing.GroupLayout.DEFAULT_SIZE, 165, Short.MAX_VALUE)
                                .addComponent(prn_textfield,
javax.swing.GroupLayout.DEFAULT_SIZE, 165, Short.MAX_VALUE)
                                .addComponent(username_textfield)
                                .addComponent(password_textfield))
                            .addGroup(layout.createSequentialGroup()
                                .addComponent(Male_button)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                                .addComponent(Female_button)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                                .addComponent(other_button))
                            .addComponent(Lname_textfield,
javax.swing.GroupLayout.PREFERRED_SIZE, 102,
javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addContainerGap(99, Short.MAX_VALUE))
                    .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)
                            .addGroup(layout.createSequentialGroup()
                                .addComponent(Fname_label)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                                .addComponent(Fname_textfield,
javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE))
                            .addGroup(layout.createSequentialGroup()
                                .addComponent(cpassword_label)
                                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)
                                    .addComponent(regsubmit_button)
                                    .addComponent(cpassword_textfield,
javax.swing.GroupLayout.PREFERRED_SIZE, 135,
javax.swing.GroupLayout.PREFERRED_SIZE))))
```

```
                        .addGap(0, 0, Short.MAX_VALUE))))
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(19, 19, 19)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(Fname_label)
                    .addComponent(Fname_textfield,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)
                    .addComponent(Lname_label)
                    .addComponent(Lname_textfield,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(24, 24, 24)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(Gender_label)
                    .addComponent(Male_button)
                    .addComponent(Female_button)
                    .addComponent(other_button))
                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(Pno_label,
javax.swing.GroupLayout.PREFERRED_SIZE, 16,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(Pno_textfield,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(25, 25, 25)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(prn_label)
                    .addComponent(prn_textfield,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(24, 24, 24)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(username_label)
                    .addComponent(username_textfield,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(28, 28, 28)
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(password_label)
                    .addComponent(password_textfield,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(25, 25, 25)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(cpassword_label)
                    .addComponent(cpassword_textfield,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(40, 40, 40)
                .addComponent(regsubmit_button)
                .addContainerGap(252, Short.MAX_VALUE))
        );

        pack();
    }

    private void Fname_textfieldActionPerformed(java.awt.event.ActionEvent
evt) {
    }//event_Fname_textfieldActionPerformed

    private void regsubmit_buttonActionPerformed(java.awt.event.ActionEvent
evt) {
        //event_regsubmit_buttonActionPerformed
         String fname=Fname_textfield.getText();
         String lname=Lname_textfield.getText();


         String pno= Pno_textfield.getText();
         String prn =prn_textfield.getText();


         String password =new String(password_textfield.getPassword());
         String cpassword =cpassword_textfield.getText();


         String gender="male";

         if(Female_button.isSelected())
             gender="female";
         else if(other_button.isSelected())
             gender="other";

         boolean added=new RegisterService().addVoter(fname, lname, gender,
pno, prn, password);                          //adding user inputs by addVoter

//function in RegisterService class
        if(true)
        {
            Fname_textfield.setText("");
             Lname_textfield.setText("");
```

```
            Pno_textfield.setText("");
            prn_textfield.setText("");

            username_textfield.setText("");
            password_textfield.setText("");

              if(password.equals(cpassword)==false)
//password do not match
               JOptionPane.showMessageDialog(this, "Add correct password");

              else{
            JOptionPane.showMessageDialog(this, "Added successfully!");
//successfully registered
            dispose();

              }
        }

        else{
            JOptionPane.showMessageDialog(this,"Something went wrong");
        }  //error handling

    }//event_regsubmit_buttonActionPerformed

    private void Male_buttonActionPerformed(java.awt.event.ActionEvent evt) {
    }//event_Male_buttonActionPerformed

    private void Pno_textfieldActionPerformed(java.awt.event.ActionEvent evt)
{
    }//event_Pno_textfieldActionPerformed

    private void
prn_textfieldInputMethodTextChanged(java.awt.event.InputMethodEvent evt) {
        username_textfield.setText(prn_textfield.getText());
    }//event_prn_textfieldInputMethodTextChanged

    private void prn_textfieldKeyTyped(java.awt.event.KeyEvent evt) {
    }//event_prn_textfieldKeyTyped

    private void prn_textfieldKeyReleased(java.awt.event.KeyEvent evt) {
                    username_textfield.setText(prn_textfield.getText());
    }//event_prn_textfieldKeyReleased

    public static void main(String args[]) {
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(RegisterationFrame.class.getName()).log(ja
```

```
va.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(RegisterationFrame.class.getName()).log(ja
va.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(RegisterationFrame.class.getName()).log(ja
va.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(RegisterationFrame.class.getName()).log(ja
va.util.logging.Level.SEVERE, null, ex);
        }

        //Create and display the form
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new RegisterationFrame().setVisible(true);
            }
        });
    }

    // Variables declaration
    private javax.swing.JRadioButton Female_button;
    private javax.swing.JLabel Fname_label;
    private javax.swing.JTextField Fname_textfield;
    private javax.swing.JLabel Gender_label;
    private javax.swing.JLabel Lname_label;
    private javax.swing.JTextField Lname_textfield;
    private javax.swing.JRadioButton Male_button;
    private javax.swing.JLabel Pno_label;
    private javax.swing.JTextField Pno_textfield;
    private javax.swing.ButtonGroup buttonGroup1;
    private javax.swing.ButtonGroup buttonGroup2;
    private javax.swing.JLabel cpassword_label;
    private javax.swing.JTextField cpassword_textfield;
    private javax.swing.JLabel prn_label;
    private javax.swing.JTextField prn_textfield;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JSpinner jSpinner1;
    private javax.swing.JTree jTree1;
    private javax.swing.JRadioButton other_button;
    private javax.swing.JLabel password_label;
    private javax.swing.JPasswordField password_textfield;
    private javax.swing.JButton regsubmit_button;
    private javax.swing.JLabel username_label;
    private javax.swing.JTextField username_textfield;
}
```

RegisterService.java

```
package myproject;

public class RegisterService {
```

```
    public boolean addVoter(String fname,String lname,String gender,String
pno,String prn,String password)              //RegistrationFrame
    {
        fname=fname.toLowerCase();
//getting parameters from Rframe and
        lname=lname.toLowerCase();
//using them in insertVoter function
        try{
            new DAO().insertVoter(fname, lname, gender,pno, prn, password);
// DAO called
            return true;
        }
        catch (VoteException ex) {
            return false;
        }
    }

     public boolean validateAdmin(String username, String password) {
//getting parameters from Rframe and
        try {
//using them to check whether the
            username = username.toLowerCase();
//details are correct or not
            int a=new DAO().selectAdmin(username, password);
//selectAdmin function in DAO
            if(a==1)
               return true;
            else
                return false;
        }
        catch (VoteException ex) {
                    return false;
        }
    }

    public boolean validateVoter(String username, String password) {
//user log in details are checked
        try {
            username = username.toLowerCase();
            new DAO().selectUser(username, password);
//selectUser function in DAO
            return true;
        }
        catch (VoteException ex) {
                    return false;
        }
    }
}
```

Result.java

```
package myproject;

public class Result extends javax.swing.JFrame {
```

```
    public Result() {
        initComponents();
    }
    private void initComponents() {

        jLabel1 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jLabel4 = new javax.swing.JLabel();
        jLabel5 = new javax.swing.JLabel();
        jLabel6 = new javax.swing.JLabel();
        jLabel7 = new javax.swing.JLabel();
        jLabel8 = new javax.swing.JLabel();
        jLabel9 = new javax.swing.JLabel();
        jLabel10 = new javax.swing.JLabel();
        jLabel11 = new javax.swing.JLabel();
        jButton1 = new javax.swing.JButton();
        jLabel12 = new javax.swing.JLabel();
        jLabel13 = new javax.swing.JLabel();
        jLabel14 = new javax.swing.JLabel();
        jLabel15 = new javax.swing.JLabel();
        jLabel16 = new javax.swing.JLabel();
        jLabel17 = new javax.swing.JLabel();
        jLabel18 = new javax.swing.JLabel();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jLabel1.setText("RESULT");

        jLabel2.setText("PARTY NAME");

        jLabel3.setText("NO. OF VOTES");

        jLabel4.setText("BJP");

        jLabel5.setText("CONGRESS");

        jLabel6.setText("TRS");

        jLabel7.setText("TDP");

        jLabel8.setText("ANNA DMK");

        jLabel9.setText("NOTA");

        jLabel10.setText("STATISTICS");

        jLabel11.setText("Maximum Votes: ");

        jButton1.setText("EXIT");
        jButton1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton1ActionPerformed(evt);
            }
        });
//retreiving no of votes for each
```

```
        int nov1= new ResultService().retVotes(1);
//option id using retVotes function
        int nov2= new ResultService().retVotes(2);
// in ResultService class
        int nov3= new ResultService().retVotes(3);
        int nov4= new ResultService().retVotes(4);
        int nov5= new ResultService().retVotes(5);
        int nov6= new ResultService().retVotes(6);
        String win= new ResultService().retWinner();
//getting the option with max votes

//using retWinner function
        jLabel12.setText("\t"+String.valueOf(nov1));
        jLabel13.setText("\t"+String.valueOf(nov2));
        jLabel14.setText("\t"+String.valueOf(nov3));
        jLabel15.setText("\t"+String.valueOf(nov4));
        jLabel16.setText("\t"+String.valueOf(nov5));
        jLabel17.setText("\t"+String.valueOf(nov6));
        jLabel18.setText((win));

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(26, 26, 26)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G, false)
                        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILI
NG)
                                .addGroup(layout.createSequentialGroup()
                                    .addGap(270, 270, 270)
                                    .addComponent(jLabel16,
javax.swing.GroupLayout.PREFERRED_SIZE, 57,
javax.swing.GroupLayout.PREFERRED_SIZE))
                                .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G, false)
                                            .addComponent(jLabel5,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                                            .addComponent(jLabel4,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
```

```
                                        .addComponent(jLabel7))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G, false)
                                        .addComponent(jLabel12,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                                        .addComponent(jLabel13,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                                        .addComponent(jLabel14,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                                        .addComponent(jLabel15,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                                        .addComponent(jLabel17,
javax.swing.GroupLayout.DEFAULT_SIZE, 57, Short.MAX_VALUE))))
                            .addContainerGap(76, Short.MAX_VALUE))
                        .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)
                                    .addComponent(jLabel6,
javax.swing.GroupLayout.PREFERRED_SIZE, 125,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addComponent(jLabel9,
javax.swing.GroupLayout.PREFERRED_SIZE, 79,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addGroup(layout.createSequentialGroup()
                                        .addGap(118, 118, 118)
                                        .addComponent(jLabel10))
                                    .addGroup(layout.createSequentialGroup()
                                        .addComponent(jLabel11)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)

.addGroup(layout.createSequentialGroup()
                                                .addGap(81, 81, 81)
                                                .addComponent(jButton1))

.addGroup(layout.createSequentialGroup()
                                                .addGap(131, 131, 131)
                                                .addComponent(jLabel18,
javax.swing.GroupLayout.PREFERRED_SIZE, 138,
javax.swing.GroupLayout.PREFERRED_SIZE)))))

.addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)))
                    .addComponent(jLabel8,
javax.swing.GroupLayout.PREFERRED_SIZE, 108,
```

```
javax.swing.GroupLayout.PREFERRED_SIZE)))
            .addGroup(layout.createSequentialGroup()
                .addGap(148, 148, 148)
                .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 67,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addGap(40, 40, 40)
                .addComponent(jLabel2)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jLabel3)
                .addGap(62, 62, 62))
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(21, 21, 21)
                .addComponent(jLabel1)
                .addGap(45, 45, 45)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(jLabel2)
                    .addComponent(jLabel3))
                .addGap(32, 32, 32)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(jLabel4)
                    .addComponent(jLabel12))
                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(jLabel5)
                    .addComponent(jLabel13))
                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(jLabel6)
                    .addComponent(jLabel14))
                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(jLabel7,
javax.swing.GroupLayout.PREFERRED_SIZE, 16,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel15))
                .addGap(18, 18, 18)
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(jLabel8)
                    .addComponent(jLabel16))
                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(jLabel9)
                    .addComponent(jLabel17))
                .addGap(47, 47, 47)
                .addComponent(jLabel10)
                .addGap(27, 27, 27)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(jLabel11)
                    .addComponent(jLabel18))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 37,
Short.MAX_VALUE)
                .addComponent(jButton1)
                .addGap(45, 45, 45))
        );

        pack();
    }

    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new WelcomeFrame().setVisible(true);
//exit button leading to welcomeframe
            }
// i.e. login page
        });
    }//event_jButton1ActionPerformed

    public static void main(String args[]) {
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(Result.class.getName()).log(java.util.logg
ing.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(Result.class.getName()).log(java.util.logg
ing.Level.SEVERE, null, ex);
```

```
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(Result.class.getName()).log(java.util.logg
ing.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(Result.class.getName()).log(java.util.logg
ing.Level.SEVERE, null, ex);
        }


        //Create and display the form
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Result().setVisible(true);
            }
        });
    }

    // Variables declaration
    private javax.swing.JButton jButton1;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel10;
    private javax.swing.JLabel jLabel11;
    private javax.swing.JLabel jLabel12;
    private javax.swing.JLabel jLabel13;
    private javax.swing.JLabel jLabel14;
    private javax.swing.JLabel jLabel15;
    private javax.swing.JLabel jLabel16;
    private javax.swing.JLabel jLabel17;
    private javax.swing.JLabel jLabel18;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JLabel jLabel7;
    private javax.swing.JLabel jLabel8;
    private javax.swing.JLabel jLabel9;
}
```

ResultService.java

```
package myproject;

public class ResultService {

    public int retVotes(int opt_id)
//retreiving votes
    {
        int novotes = new DAO().getVotes(opt_id);
        return novotes;
    }
    public String retWinner(){
//retreiving opt name with max votes
```

```
        String w_opt=new DAO().getWinner();
        return w_opt;
    }
}
```

VoteException.java

```
package myproject;
import java.lang.Exception;

public class VoteException extends Exception {

    public VoteException() {
   }

  public VoteException(String message)
  {
      super(message);
  }
}
```

VoteFrame.java

```
package myproject;

public class VoteFrame extends javax.swing.JFrame {

    //  Creates new form java
    public VoteFrame() {
        initComponents();
    }

    @SuppressWarnings("unchecked")
    private void initComponents() {

        buttonGroup1 = new javax.swing.ButtonGroup();
        vote_label = new javax.swing.JLabel();
        vote1_button = new javax.swing.JRadioButton();
        vote2_button = new javax.swing.JRadioButton();
        vote3_button = new javax.swing.JRadioButton();
        vote4_button = new javax.swing.JRadioButton();
        vote5_button = new javax.swing.JRadioButton();
        vote6_button = new javax.swing.JRadioButton();
        submitvote_button = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        vote_label.setText("Choose from the given Options: ");

        buttonGroup1.add(vote1_button);
        vote1_button.setText("BJP");
        vote1_button.setName("1");
        vote1_button.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                vote1_buttonActionPerformed(evt);
```

```
            }
        });

        buttonGroup1.add(vote2_button);
        vote2_button.setText("CONGRESS");
        vote2_button.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                vote2_buttonActionPerformed(evt);
            }
        });

        buttonGroup1.add(vote3_button);
        vote3_button.setText("TRS");
        vote3_button.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                vote3_buttonActionPerformed(evt);
            }
        });

        buttonGroup1.add(vote4_button);
        vote4_button.setText("TDP");
        vote4_button.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                vote4_buttonActionPerformed(evt);
            }
        });

        buttonGroup1.add(vote5_button);
        vote5_button.setText("ANNA DMK");
        vote5_button.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                vote5_buttonActionPerformed(evt);
            }
        });

        buttonGroup1.add(vote6_button);
        vote6_button.setText("NOTA");
        vote6_button.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                vote6_buttonActionPerformed(evt);
            }
        });

        submitvote_button.setText("Submit");
        submitvote_button.addActionListener(new
java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                submitvote_buttonActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
            .addGroup(layout.createSequentialGroup()
                .addGap(120, 120, 120)
                .addComponent(vote_label)
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addContainerGap(74, Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)
                    .addComponent(vote6_button,
javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(vote5_button,
javax.swing.GroupLayout.PREFERRED_SIZE, 173,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(vote4_button,
javax.swing.GroupLayout.PREFERRED_SIZE, 251,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(vote3_button,
javax.swing.GroupLayout.PREFERRED_SIZE, 119,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(vote2_button,
javax.swing.GroupLayout.PREFERRED_SIZE, 193,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)
                        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                            .addComponent(submitvote_button)
                            .addGap(147, 147, 147))
                        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                            .addComponent(vote1_button,
javax.swing.GroupLayout.PREFERRED_SIZE, 211,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addGap(48, 48, 48)))))
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(21, 21, 21)
                .addComponent(vote_label)
                .addGap(21, 21, 21)
                .addComponent(vote1_button)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(vote2_button,
javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(vote3_button,
javax.swing.GroupLayout.PREFERRED_SIZE, 29,
```

```
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(vote4_button,
javax.swing.GroupLayout.PREFERRED_SIZE, 25,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(vote5_button)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(vote6_button)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 40,
Short.MAX_VALUE)
                .addComponent(submitvote_button)
                .addContainerGap())
        );

        pack();
    }

    private void vote5_buttonActionPerformed(java.awt.event.ActionEvent evt)
{
    }//event_vote5_buttonActionPerformed

    private void vote6_buttonActionPerformed(java.awt.event.ActionEvent evt)
{
    }//event_vote6_buttonActionPerformed

    private void vote1_buttonActionPerformed(java.awt.event.ActionEvent evt)
{
    }//event_vote1_buttonActionPerformed

    private void vote2_buttonActionPerformed(java.awt.event.ActionEvent evt)
{
    }//event_vote2_buttonActionPerformed

    private void vote3_buttonActionPerformed(java.awt.event.ActionEvent evt)
{
    }//event_vote3_buttonActionPerformed

    private void vote4_buttonActionPerformed(java.awt.event.ActionEvent evt)
{
    }//event_vote4_buttonActionPerformed

    private void submitvote_buttonActionPerformed(java.awt.event.ActionEvent
evt) {

                int vote;
// to check which option has been
                if (vote1_button.isSelected()) {
//selected by the user

                    vote = 1;
                }
```

```
                else if (vote2_button.isSelected()) {

                    vote = 2;
                }
                else if(vote3_button.isSelected()){

                    vote = 3;
                }
                else if(vote4_button.isSelected()){

                    vote = 4;
                }
                else if(vote5_button.isSelected()){

                    vote = 5;
                }

                else
                {
                    vote=6;
                }

                 new VoteService().addVote(vote);
//adding the selected option id in

//in the database, votes table
                // MessageDialog to show information selected radion buttons.
                java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new ExitFrame().setVisible(true);
            }
        });

    }//event_submitvote_buttonActionPerformed

    // Variables declaration
    private javax.swing.ButtonGroup buttonGroup1;
    private javax.swing.JButton submitvote_button;
    private javax.swing.JRadioButton vote1_button;
    private javax.swing.JRadioButton vote2_button;
    private javax.swing.JRadioButton vote3_button;
    private javax.swing.JRadioButton vote4_button;
    private javax.swing.JRadioButton vote5_button;
    private javax.swing.JRadioButton vote6_button;
    private javax.swing.JLabel vote_label;
}
```

VoteService.java

```
package myproject;

import java.util.logging.Level;
import java.util.logging.Logger;

public class VoteService {
```

```
    public void addVote(int vote)
//adding votes given by user
    {
//in the database
        try {
//through DAO class using .insertVote
            new DAO().insertVote(vote);
        }
        catch (VoteException ex) {
            Logger.getLogger(VoteService.class.getName()).log(Level.SEVERE,
null, ex);
        }
    }
}
```

WelcomeFrame.java

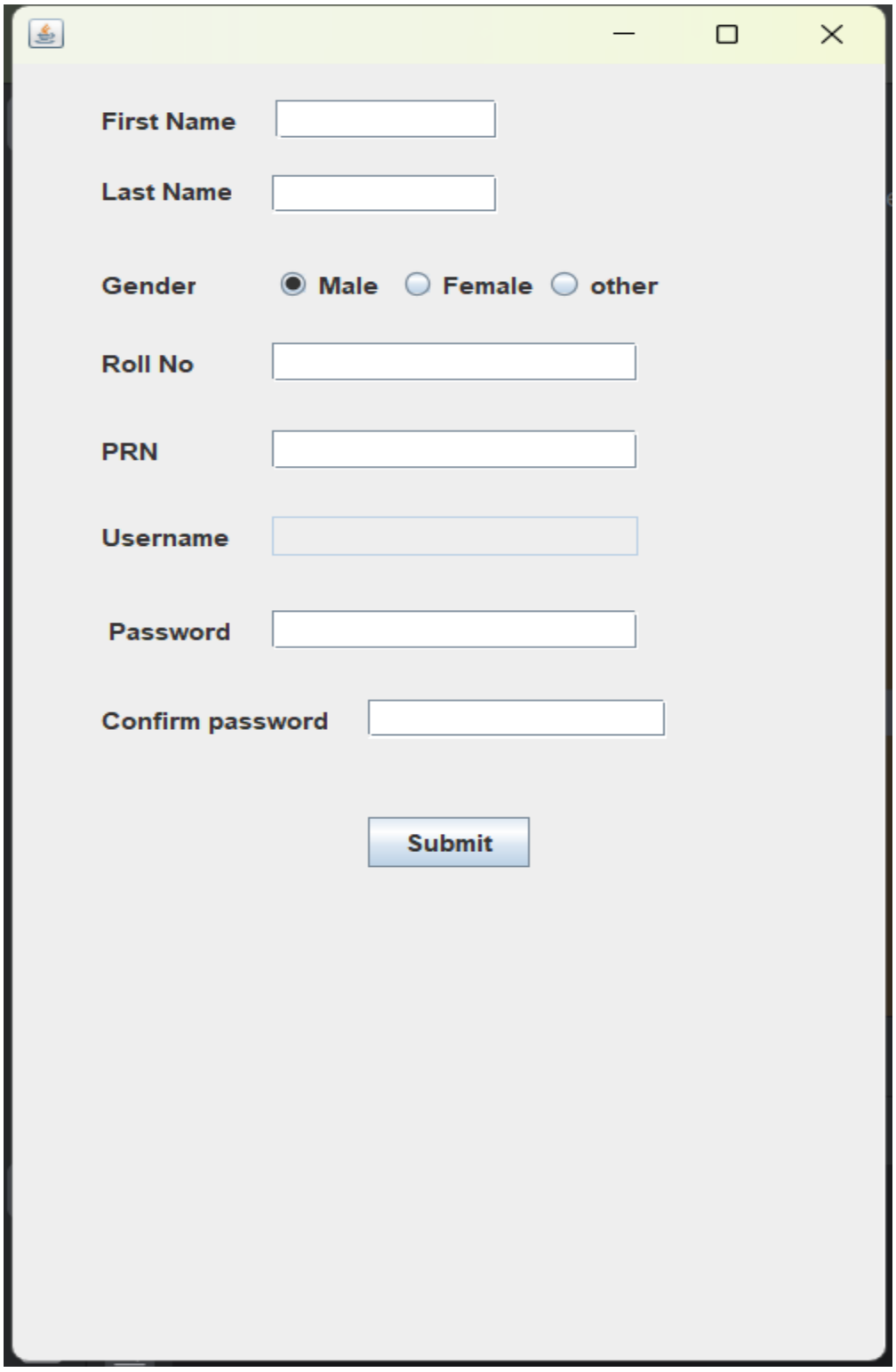
```
package myproject;

import javax.swing.JOptionPane;

public class WelcomeFrame extends javax.swing.JFrame {

     // Creates new form java
    public WelcomeFrame() {
        initComponents();
    }

    private void initComponents() {

        username_label = new javax.swing.JLabel();
        username_textfield = new javax.swing.JTextField();
        password_label = new javax.swing.JLabel();
        submit_button = new javax.swing.JButton();
        jPasswordField1 = new javax.swing.JPasswordField();
        signin_button = new javax.swing.JButton();
        signin_label = new javax.swing.JLabel();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        username_label.setText("Username");

        password_label.setText("Password");

        submit_button.setText("Submit");
        submit_button.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                submit_buttonActionPerformed(evt);
            }
        });

        signin_button.setText("Sign Up");
        signin_button.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
                signin_buttonActionPerformed(evt);
            }
        });

        signin_label.setText("New Registration");

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                .addComponent(submit_button)
                .addGap(150, 150, 150))
            .addGroup(layout.createSequentialGroup()
                .addGap(66, 66, 66)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)
                    .addComponent(username_label)
                    .addComponent(password_label))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILI
NG)
                    .addComponent(jPasswordField1,
javax.swing.GroupLayout.DEFAULT_SIZE, 123, Short.MAX_VALUE)
                    .addComponent(username_textfield))
                .addGap(141, 141, 141))
            .addGroup(layout.createSequentialGroup()
                .addGap(58, 58, 58)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADIN
G)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(10, 10, 10)
                        .addComponent(signin_button))
                    .addComponent(signin_label))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(63, 63, 63)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(username_label)
                    .addComponent(username_textfield,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
```

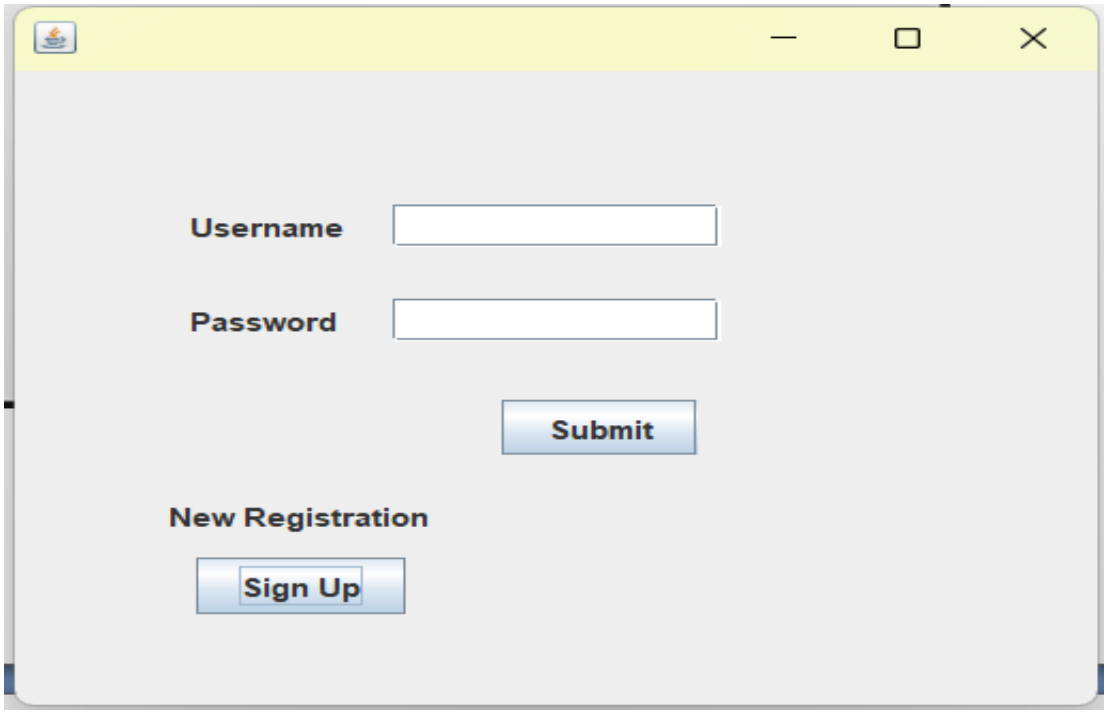
```
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(24, 24, 24)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)
                    .addComponent(password_label)
                    .addComponent(jPasswordField1,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(27, 27, 27)
                .addComponent(submit_button)
                .addGap(20, 20, 20)
                .addComponent(signin_label)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(signin_button)
                .addContainerGap(43, Short.MAX_VALUE))
        );

        pack();
    }//initComponents

    private void submit_buttonActionPerformed(java.awt.event.ActionEvent evt)
{
        //event_submit_buttonActionPerformed
        String username = username_textfield.getText();
        String password = new String(this.jPasswordField1.getPassword());
        if(new RegisterService().validateVoter(username, password))
//checking the validation of username

//and password, i.e. if it is present
            if(new RegisterService().validateAdmin(username, password))
//in out database
                new AminFrame().setVisible(true);
            else
                new VoteFrame().setVisible(true);
        else
            JOptionPane.showMessageDialog(this, "Invalid username or
password");
    }//event_submit_buttonActionPerformed

    private void signin_buttonActionPerformed(java.awt.event.ActionEvent evt)
{                                           //new registration, signup option
        //event_signin_buttonActionPerformed
        new RegisterationFrame().setVisible(true);
    }
    //event_signin_buttonActionPerformed

    private javax.swing.JPasswordField jPasswordField1;
    private javax.swing.JLabel password_label;
    private javax.swing.JButton signin_button;
    private javax.swing.JLabel signin_label;
    private javax.swing.JButton submit_button;
    private javax.swing.JLabel username_label;
    private javax.swing.JTextField username_textfield;
    // End of variables declaration
}
```

3.3 RESULTS:

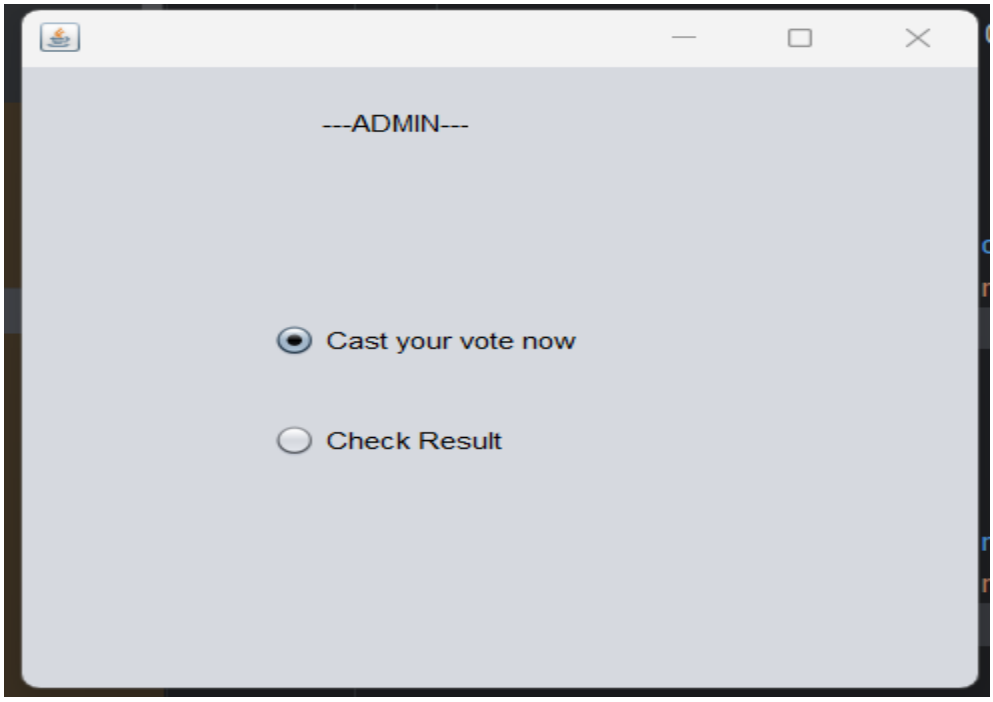
New user registration



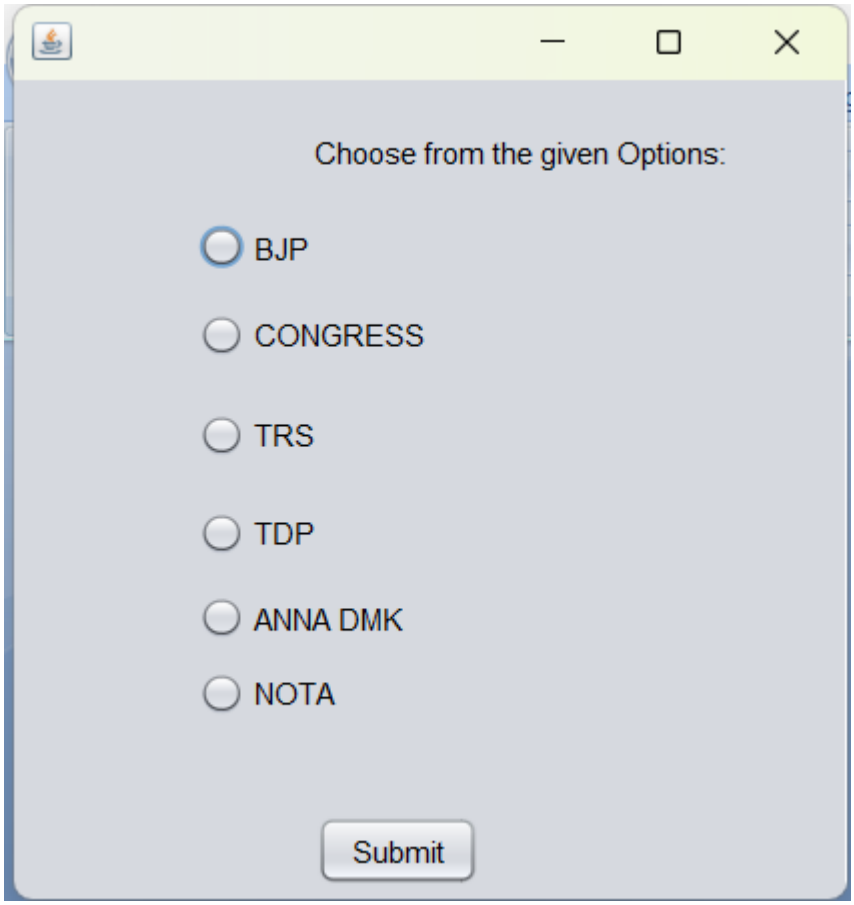
Login



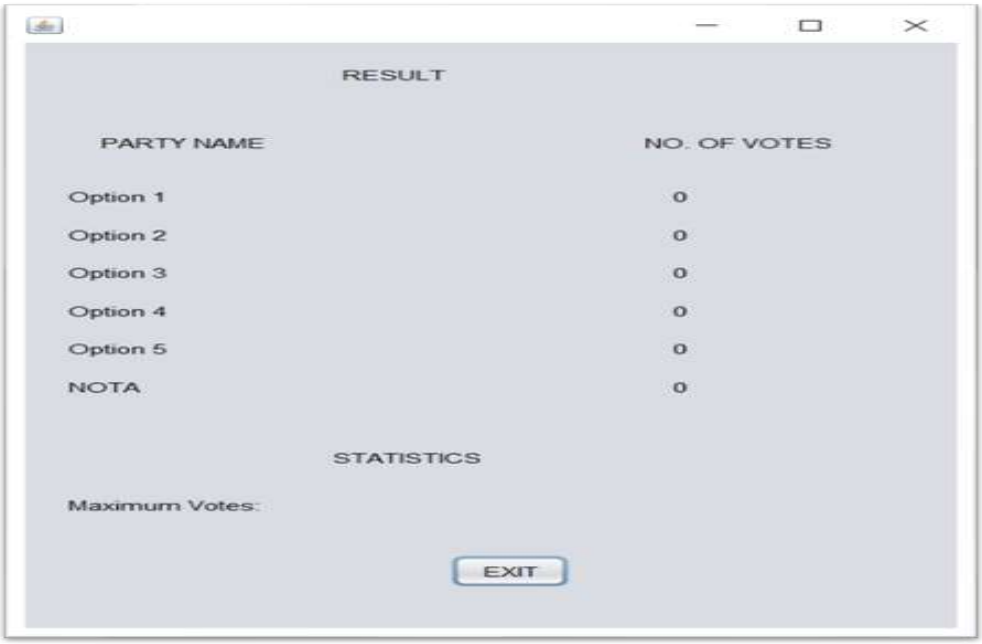
Admin Frame



Voting:



Vote Result:



CHAPTER 4

CONCLUSIONS

4.1 CONCLUSIONS:

In this java application, the users can accessthe services like casting his vote to the party he admires. Also this system ensures that one person can cast his vote only one time. This system maintains two different classes. For admin as well as for voter. The voter cannot access the admin class unless he/she Knows the credentials. The java application coded majorly in Java and java swing as the GUI which provides the best utilities classes for our framework. Hence, we can conclude that java application provides the necessary services to the voter to cast his/her vote from his device.

"Online Voting System" application satisfies all the needs of the Politician, administrator and voter. This application successfully provides accurate votes given by users without any loss of time. It provides an easy way for users to choose an option.

Future Scope: Currently, our project is a Java application which will run on a single device only, but in future it can be improved by using java servlets and thus making it a web based application.

The coding style can be improved and the code can be made more efficient. Images and other graphics could be used in GUI for a better display of outputs.

Future development focused to design a system which can be easy to use and will provide security and privacy of votes on acceptable level by proper authentication and processing section.

To conclude, Polling Systems have many advantages over the traditional voting system. Some of these advantages are less cost, faster generation results, easy accessibility, accuracy, and low risk of human and mechanical errors. It is easy to use and it is less time consuming. It is very easy to debug.

4.2 RECOMMENDATIONS:

Security First:

- Prioritize security with multi-factor authentication.
- Regularly update and patch security vulnerabilities.
- Explore blockchain integration for heightened security.

Database Resilience:

- Schedule regular MySQL database backups.

- Store backups securely offsite for data recovery.

User-Friendly Design:

- Optimize the user interface based on usability testing.
- Provide clear instructions for voters at each step.

Scalability Planning:

- Design the system to handle scalable user loads.
- Conduct load testing to optimize performance.

Continuous Monitoring:

- Implement continuous monitoring tools.
- Set up alerts for immediate issue response.

REFERENCES

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