

Java

RAPPORT DE PROJET

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Titre du projet : Création d'une Application de Gestion des Stagiaires

Objectif DU PROJET

Ce projet a pour objectif de développer une application de bureau permettant de gérer les informations des stagiaires et des superviseurs dans une startup. L'application a été réalisée en Java en utilisant Swing pour l'interface utilisateur et MySQL pour la gestion des données

Fonctionnalités et les Objectifs du Projet

L'application propose les fonctionnalités suivantes :

Gestion des Stagiaires :

- Ajout de nouveaux stagiaires.
- Visualisation des détails des stagiaires.
- Gestion des congés des stagiaires.
- Visualisation des détails des congés des stagiaires.
- Mise à jour des informations des stagiaires.

Gestion des Superviseurs :

- Ajout de nouveaux superviseurs.
- Visualisation des détails des superviseurs.
- Gestion des congés des superviseurs.
- Visualisation des détails des congés des superviseurs.
- Mise à jour des informations des superviseurs.

Utilitaires Intégrés :

- Consultation de la structure tarifaire.
- Accès à une calculatrice intégrée.
- Accès à un bloc-notes intégré.
- Option pour quitter l'application.

Architecture de l'Application

L'application suit une architecture basée sur trois couches principales :

Présentation (Interface Utilisateur) :

- Conçue avec Java Swing.
- Boutons clairement étiquetés pour naviguer entre les fonctionnalités.
- Interface utilisateur intuitive pour les administrateurs.

Logique Métier :

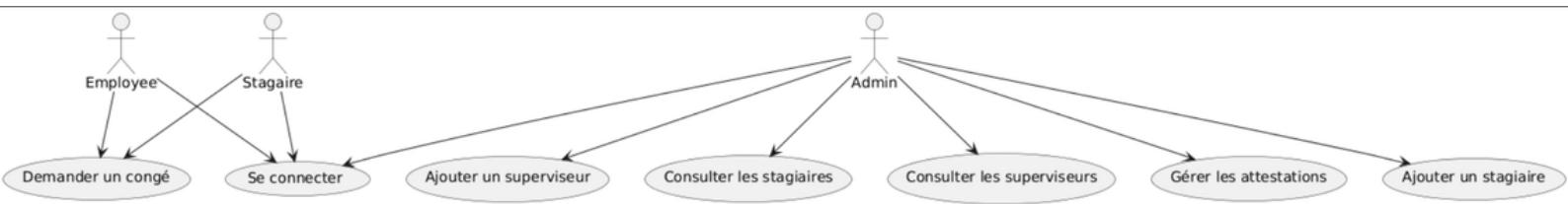
- Gestion des opérations CRUD (Create, Read, Update, Delete) pour les stagiaires et les superviseurs.
- Gestion des congés avec validation des données.

Base de Données :

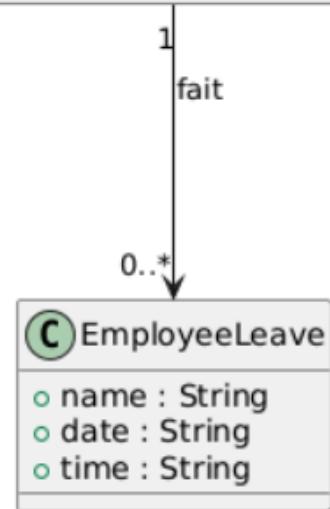
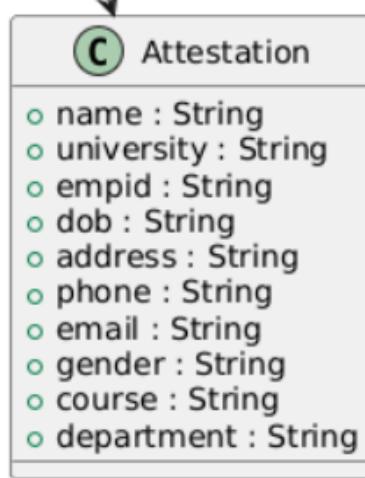
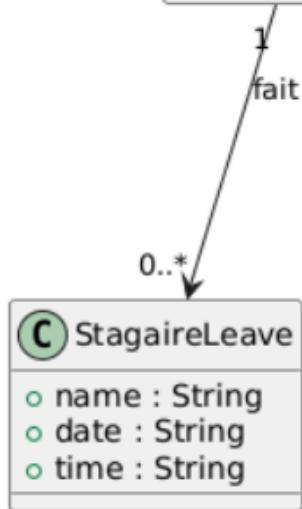
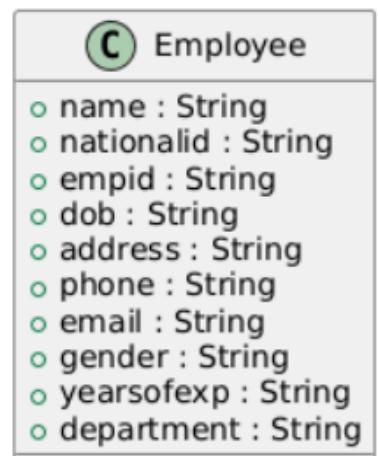
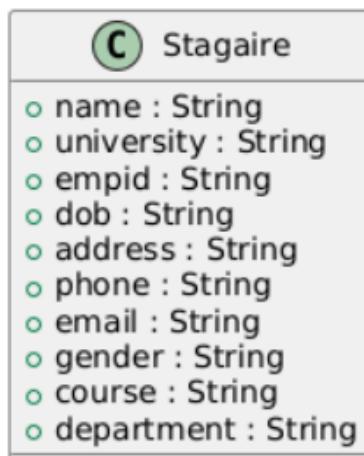
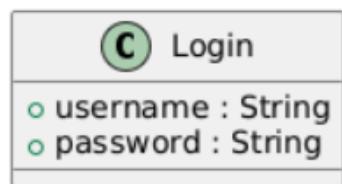
- Tables MySQL pour stocker les données des stagiaires, des superviseurs et des congés.
- Relations entre les tables pour assurer l'intégrité des données

Analyse et Conception de projet

- **Diagramme de cas d'utilisation**



- **Diagramme de classe**



Project ▾

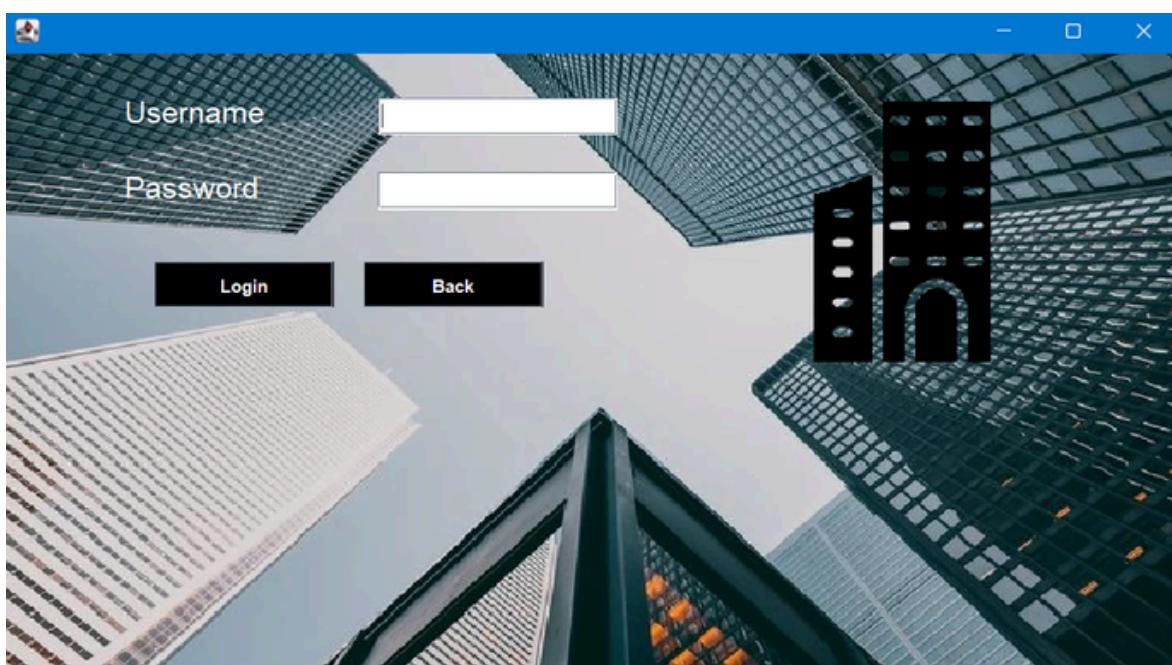
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 - AddFaculty
 - AddStudent
 - Conn
 - Login
 - main_class
 - Splash
 - StudentDetails
 - StudentFeeForm
 - StudentLeave
 - StudentLeaveDetails
 - TeacherDetails
 - TeacherLeave
 - TeacherLeaveDetails
 - UpdateStagaire
 - updateSupervisor
 - .gitignore
 - > jcalendar-tz-1.3.3-4.jar
 - > mysql-connector-java-8.0.28.jar
 - > ResultSet2xml.jar

Execution

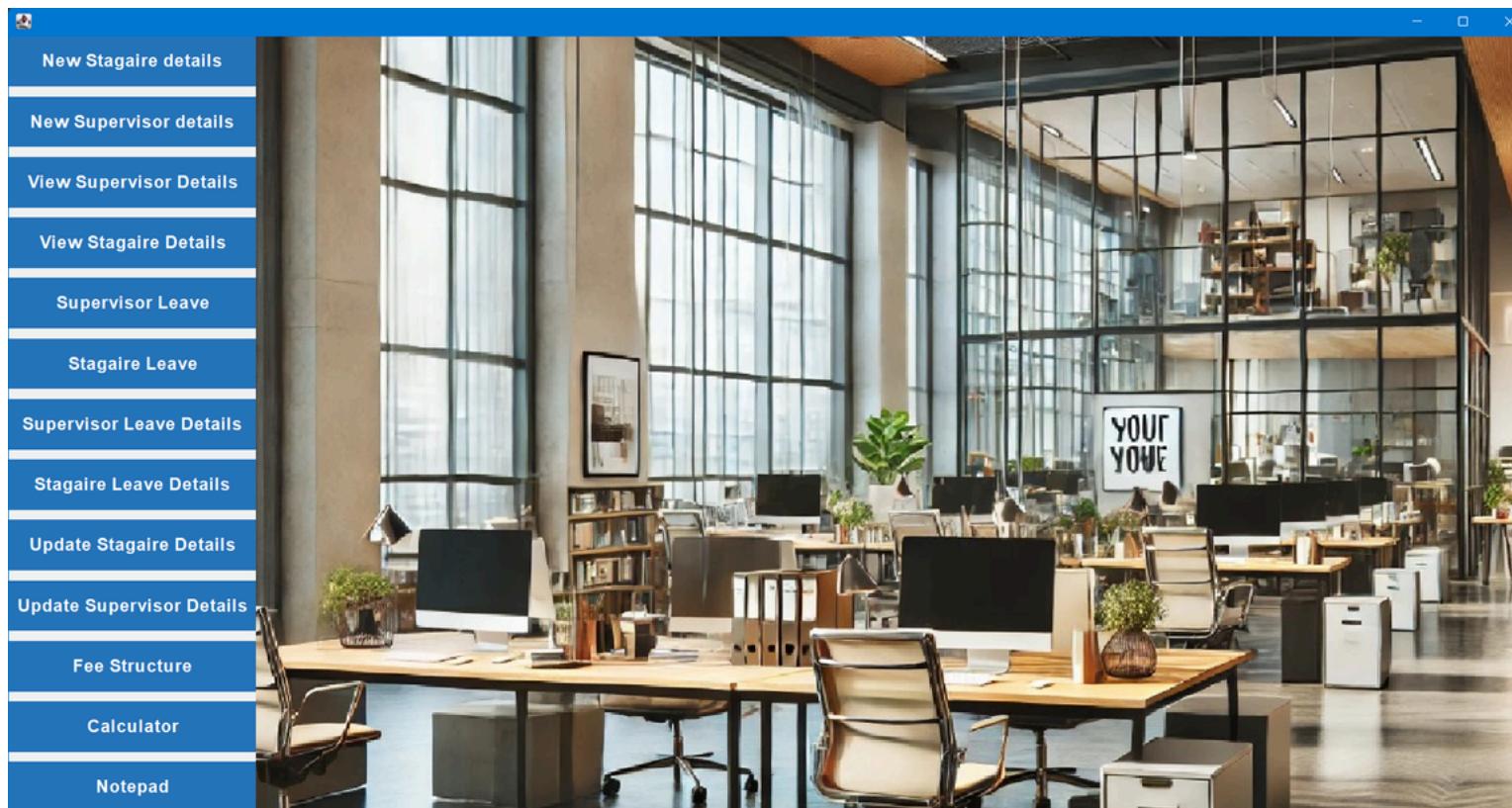
- login

```
public class Login extends JFrame implements ActionListener {  
    JTextField textFieldName; 4 usages  
    JPasswordField passwordField; 4 usages  
    JButton login, back; 7 usages  
    Login(){ 2 usages  
  
        JLabel labelName = new JLabel( text: "Username");  
        labelName.setForeground(Color.WHITE);  
        labelName.setBounds( x: 80, y: 30, width: 100, height: 20);  
        labelName.setFont(new Font( name: "Arial", Font.PLAIN, size: 20));  
        add(labelName);  
  
        textFieldName = new JTextField();  
        textFieldName.setBounds( x: 250, y: 30, width: 160, height: 25);  
        add(textFieldName);  
  
        JLabel labelpass = new JLabel( text: "Password");  
        labelpass.setForeground(Color.WHITE);  
        labelpass.setBounds( x: 80, y: 80, width: 100, height: 20);  
        labelpass.setFont(new Font( name: "Arial", Font.PLAIN, size: 20));  
        add(labelpass);  
  
        passwordField = new JPasswordField();  
        passwordField.setBounds( x: 250, y: 80, width: 160, height: 25);  
        add(passwordField);  
  
        login = new JButton( text: "Login");  
        login.setBounds( x: 100, y: 140, width: 120, height: 30);  
        login.setBackground(Color.black);  
        login.setForeground(Color.white);  
        login.addActionListener( l: this);  
        add(login);
```



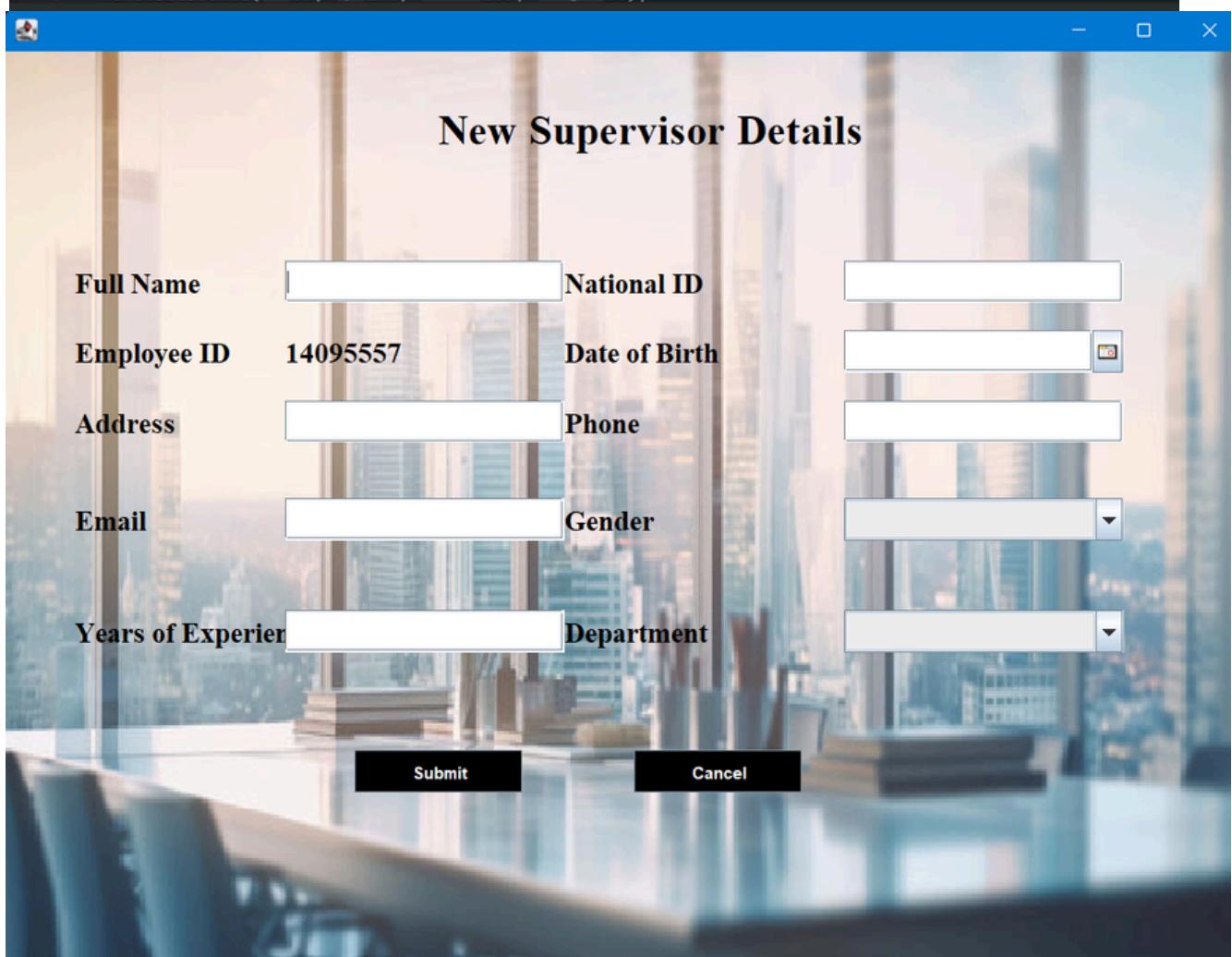
● Menu Principale

```
public class main_class extends JFrame implements ActionListener {  
    main_class() { 2 usages  
        // Set the layout of the frame to BorderLayout  
        setLayout(new BorderLayout());  
  
        // Create a JPanel for the menu on the left, taking half the screen width  
        JPanel menuPanel = new JPanel();  
        menuPanel.setLayout(new GridLayout( rows: 0, cols: 1, hgap: 10, vgap: 10)); // Layout: 1 column, multiple  
        menuPanel.setBackground(new Color(r: 242, g: 242, b: 242)); // Soft background color  
  
        // Create a button style (rounded corners, custom font, padding)  
        JButtonStyle buttonStyle = new JButtonStyle();  
  
        // Create menu items as large buttons with aesthetic properties  
        JButton facultyInfo = createButton( text: "New Stagaire details", iconName: null); // No icon here  
        JButton studentInfo = createButton( text: "New Supervisor details", iconName: null); // No icon here  
        JButton facultydetails = createButton( text: "View Supervisor Details", iconName: null); // No icon here  
        JButton studentdetails = createButton( text: "View Stagaire Details", iconName: null); // No icon here  
        JButton facultyLeave = createButton( text: "Supervisor Leave", iconName: null); // No icon here  
        JButton studentLeave = createButton( text: "Stagaire Leave", iconName: null); // No icon here  
        JButton facultyleaveDetails = createButton( text: "Supervisor Leave Details", iconName: null); // No icon here  
        JButton studentleaveDetails = createButton( text: "Stagaire Leave Details", iconName: null); // No icon here  
        JButton updatefacultyinfo = createButton( text: "Update Stagaire Details", iconName: null); // No icon here  
        JButton updatestudentinfo = createButton( text: "Update Supervisor Details", iconName: null); // No icon here  
        JButton feestructure = createButton( text: "Fee Structure", iconName: null); // No icon here  
        JButton ca = createButton( text: "Calculator", iconName: null); // No icon here  
        JButton Notepad = createButton( text: "Notepad", iconName: null); // No icon here  
        JButton exit = createButton( text: "Exit", iconName: null); // No icon here
```



• Ajout de nouveaux superviseurs.

```
public class AddStudent extends JFrame implements ActionListener {  
    JTextField textName, Textuni, textAddress, textPhone, textemail, textyearsofexp; 4 usages  
    JLabel empText; 6 usages  
    JDateChooser cdob; 4 usages  
    JComboBox<String> departmentBox, genderbox; 4 usages  
    JButton submit, cancel; 7 usages  
  
    Random ran = new Random(); 1 usage  
    long f4 = Math.abs((ran.nextLong() % 9000L) + 1000L); 1 usage  
  
    AddStudent() { 3 usages  
        // Set frame background color to a light color for clarity  
        getContentPane().setBackground(new Color(r: 100, g: 179, b: 239));  
  
        // Set background image  
        ImageIcon backgroundImage = new ImageIcon(ClassLoader.getSystemResource("icon/addsupr.jpg")); //  
        Image img = backgroundImage.getImage().getScaledInstance(width: 900, height: 700, Image.SCALE_DEFAULT);  
        JLabel background = new JLabel(new ImageIcon(img));  
        background.setBounds(x: 0, y: 0, width: 900, height: 700); // Set background size  
        add(background);  
  
        // Heading  
        JLabel heading = new JLabel(text: "New Supervisor Details");  
        heading.setBounds(x: 310, y: 30, width: 500, height: 50);  
        heading.setFont(new Font(name: "serif", Font.BOLD, size: 30));  
        heading.setForeground(Color.BLACK); // Change text color to black  
        background.add(heading);  
  
        // Full Name  
        JLabel name = new JLabel(text: "Full Name");  
        name.setBounds(x: 50, y: 150, width: 100, height: 30);
```



```

public class StudentFeeForm extends JFrame implements ActionListener, Printable {
    JTextField textName, textDOB, textAddress, textPhone, textEmail, textCompanyName, textStage, textSupervisor;
    JDateChooser startDateChooser, endDateChooser; 2 usages
    JComboBox departmentBox, genderBox, courseBox; 3 usages
    JButton submit, cancel, attestationButton, printButton, shutdownButton; 4 usages

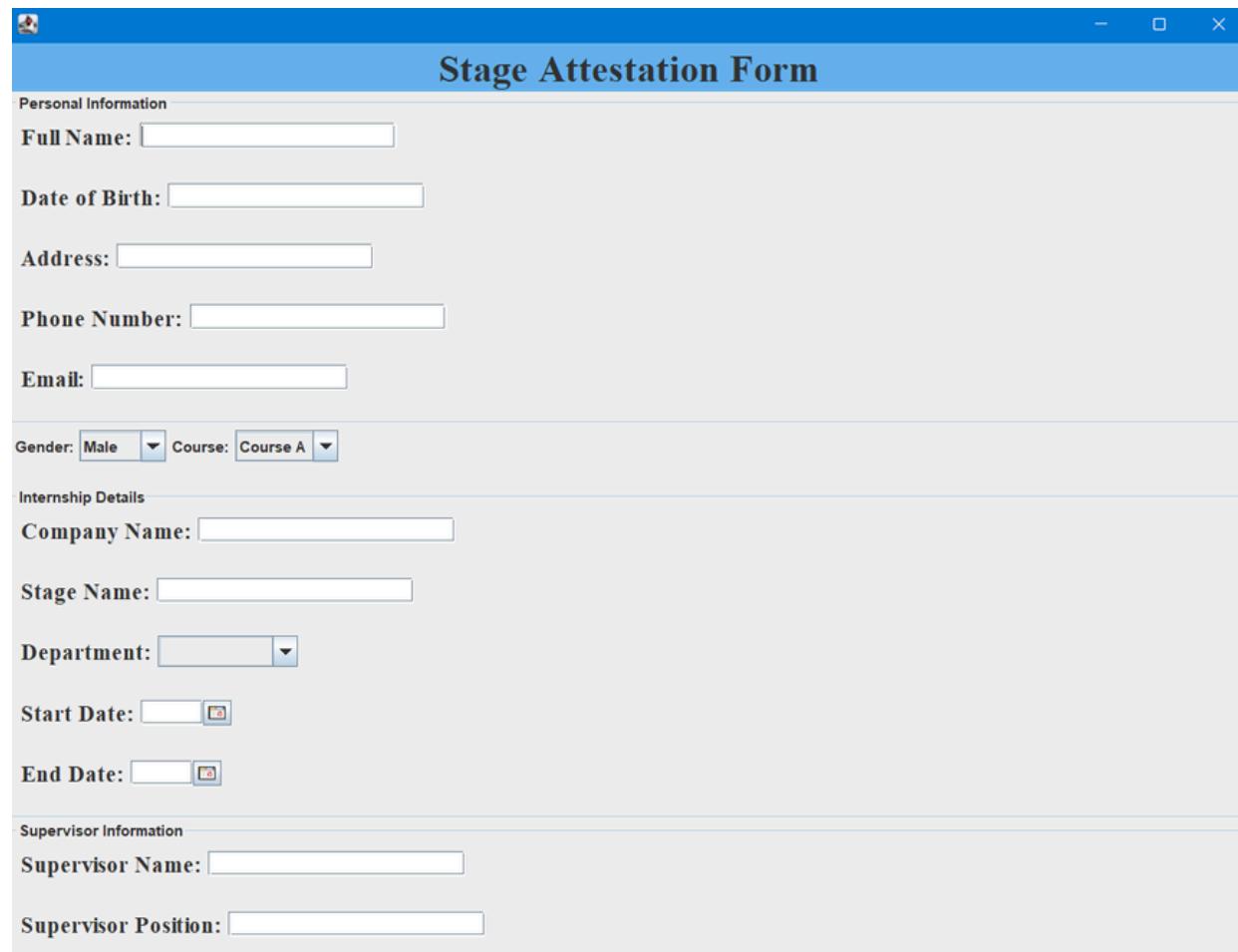
    StudentFeeForm() { 2 usages
        getContentPane().setBackground(new Color( r: 100, g: 179, b: 239));

        // Main Layout
        setLayout(new BoxLayout(getContentPane(), BoxLayout.Y_AXIS));

        // Heading
        JLabel heading = new JLabel( text: "Stage Attestation Form", SwingConstants.CENTER);
        heading.setFont(new Font( name: "serif", Font.BOLD, size: 30));
        heading.setAlignmentX(Component.CENTER_ALIGNMENT);
        add(heading);

        // Personal Information Panel
        JPanel personalInfoPanel = createSectionPanel( title: "Personal Information");
        addFormRow(personalInfoPanel, labelText: "Full Name:", textName = new JTextField( columns: 20));
        addFormRow(personalInfoPanel, labelText: "Date of Birth:", textDOB = new JTextField( columns: 20));
        addFormRow(personalInfoPanel, labelText: "Address:", textAddress = new JTextField( columns: 20));
        addFormRow(personalInfoPanel, labelText: "Phone Number:", textPhone = new JTextField( columns: 20));
        addFormRow(personalInfoPanel, labelText: "Email:", textEmail = new JTextField( columns: 20));
        add(personalInfoPanel);
    }
}

```



```

public class StudentLeave extends JFrame implements ActionListener {
    Choice choiceName, choTime; 5 usages
    JDateChooser selDate; 4 usages
    JButton submit, cancel; 7 usages

    StudentLeave() { 2 usages

        getContentPane().setBackground(new Color( r: 210, g: 232, b: 252));

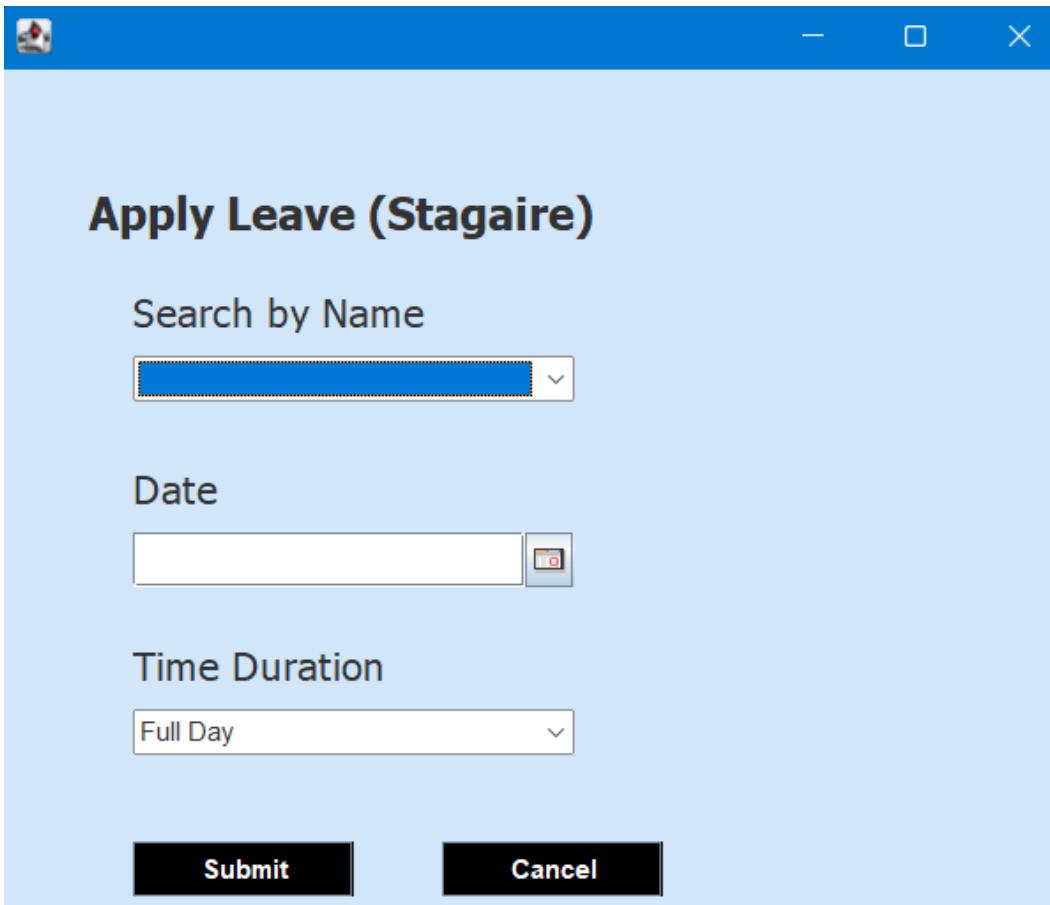
        JLabel heading = new JLabel( text: "Apply Leave (Stagaire)");
        heading.setBounds( x: 40, y: 50, width: 300, height: 30);
        heading.setFont(new Font( name: "Tahoma", Font.BOLD, size: 20));
        add(heading);

        JLabel nameLabel = new JLabel( text: "Search by Name");
        nameLabel.setBounds( x: 60, y: 100, width: 200, height: 20);
        nameLabel.setFont(new Font( name: "Tahoma", Font.PLAIN, size: 18));
        add(nameLabel);

        choiceName = new Choice();
        choiceName.setBounds( x: 60, y: 130, width: 200, height: 20);
        add(choiceName);

        // Populate choiceName dropdown with student names
        try {
            Conn c = new Conn();
            ResultSet resultSet = c.statement.executeQuery( sql: "SELECT name FROM Stagaire");
            while (resultSet.next()) {
                choiceName.add(resultSet.getString( columnLabel: "name"));
            }
        }
    }
}

```



```
public class StudentLeaveDetails extends JFrame implements ActionListener {

    Choice choiceStudentName; // Changed to search by student name 5 usages
    JTable table; 5 usages
    JButton search, cancel, print; 5 usages

    StudentLeaveDetails() { 2 usages
        getContentPane().setBackground(new Color( r: 250, g: 172, b: 206));

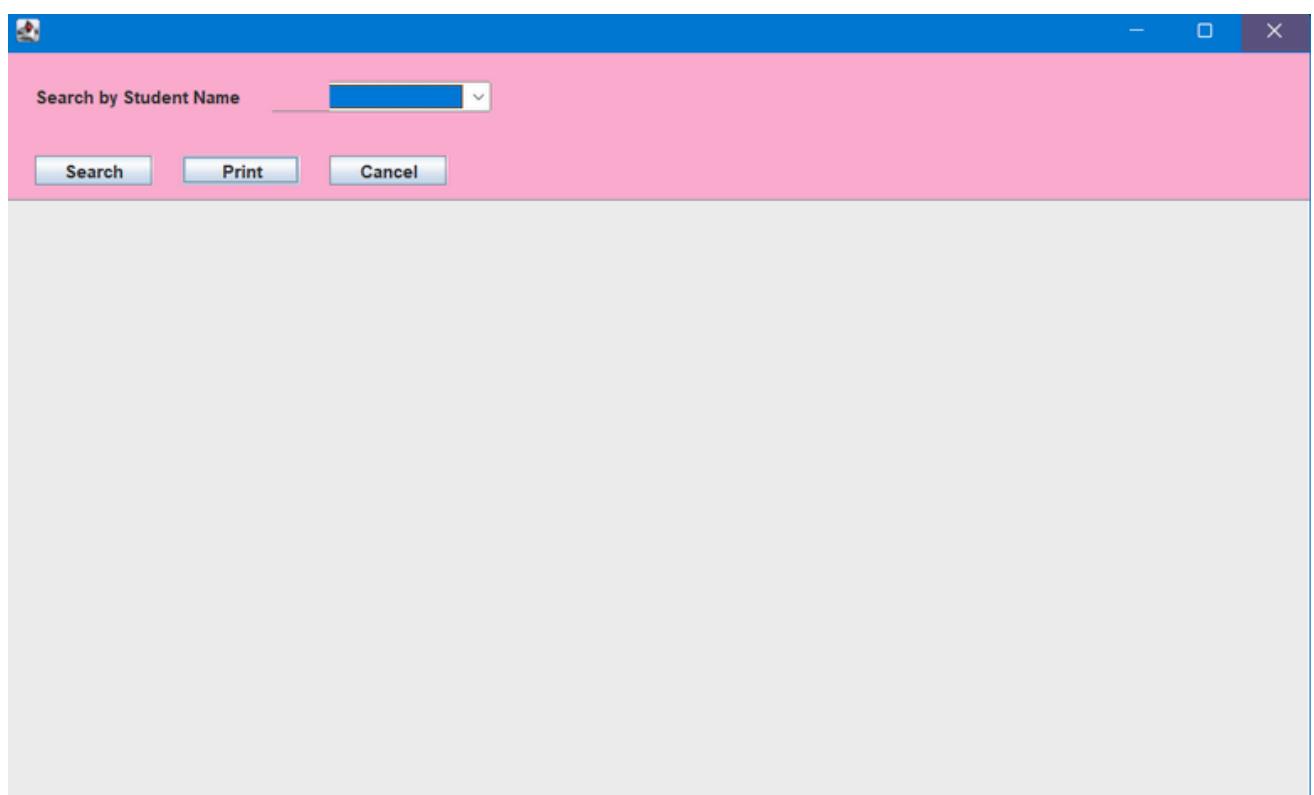
        JLabel heading = new JLabel( text: "Search by Student Name");
        heading.setBounds( x: 20, y: 20, width: 200, height: 20);
        add(heading);

        choiceStudentName = new Choice(); // Changed to student name
        choiceStudentName.setBounds( x: 180, y: 20, width: 150, height: 20);
        add(choiceStudentName);

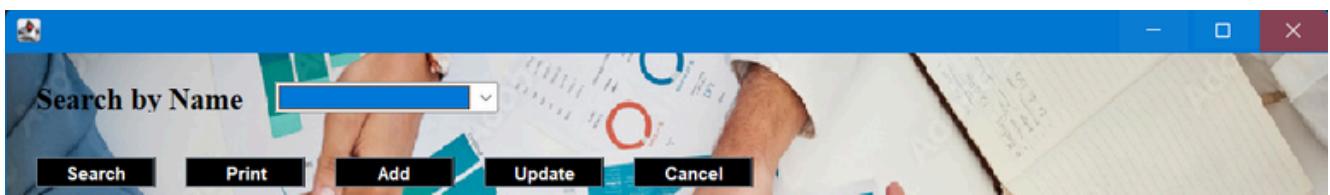
        // Populate the Choice with student names
        try {
            Conn c = new Conn();
            ResultSet resultSet = c.statement.executeQuery( sql: "SELECT name FROM Stagaire");
            while (resultSet.next()) {
                choiceStudentName.add(resultSet.getString( columnLabel: "name"));
            }
        } catch (Exception e) {
            e.printStackTrace();
        }

        // Table to display student leave details
        table = new JTable();
    }

    public void actionPerformed(ActionEvent e) {
        if (e.getSource() == search) {
            String studentName = choiceStudentName.getSelectedItem();
            // Logic to search for student leave details based on studentName
        } else if (e.getSource() == cancel) {
            dispose();
        } else if (e.getSource() == print) {
            // Logic to print student leave details
        }
    }
}
```



```
public class TeacherDetails extends JFrame implements ActionListener {  
  
    Choice choice; 5 usages  
    JTable table; 5 usages  
    JButton search, print, update, add, cancel; 7 usages  
  
    // Constructor  
    TeacherDetails() { 2 usages  
        // Set the layout manager to null to manually position the components  
        setLayout(null);  
  
        // Set background image  
        ImageIcon backgroundImage = new ImageIcon(ClassLoader.getSystemResource("icon/stagairedetails.jpg"))  
        Image img = backgroundImage.getImage().getScaledInstance( width: 900, height: 700, Image.SCALE_DEFAULT); // //  
        JLabel background = new JLabel(new ImageIcon(img));  
        background.setBounds( x: 0, y: 0, width: 900, height: 700); // Set background size  
        add(background); // Add the background image first  
  
        // Set background color for the content panel  
        getContentPane().setBackground(new Color( r: 192, g: 164, b: 252));  
  
        // Heading  
        JLabel heading = new JLabel( text: "Search by Name");  
        heading.setBounds( x: 20, y: 20, width: 150, height: 20);  
        heading.setFont(new Font( name: "serif", Font.BOLD, size: 20));  
        heading.setForeground(Color.BLACK); // Set text color to black  
        background.add(heading); // Add to the background panel  
    }  
}
```



```
public class TeacherLeave extends JFrame implements ActionListener {
    Choice choiceName, choTime; 5 usages
    JDateChooser selDate; 4 usages
    JButton submit, cancel; 7 usages

    TeacherLeave(){ 2 usages
        getContentPane().setBackground(new Color( r: 210, g: 232, b: 252));

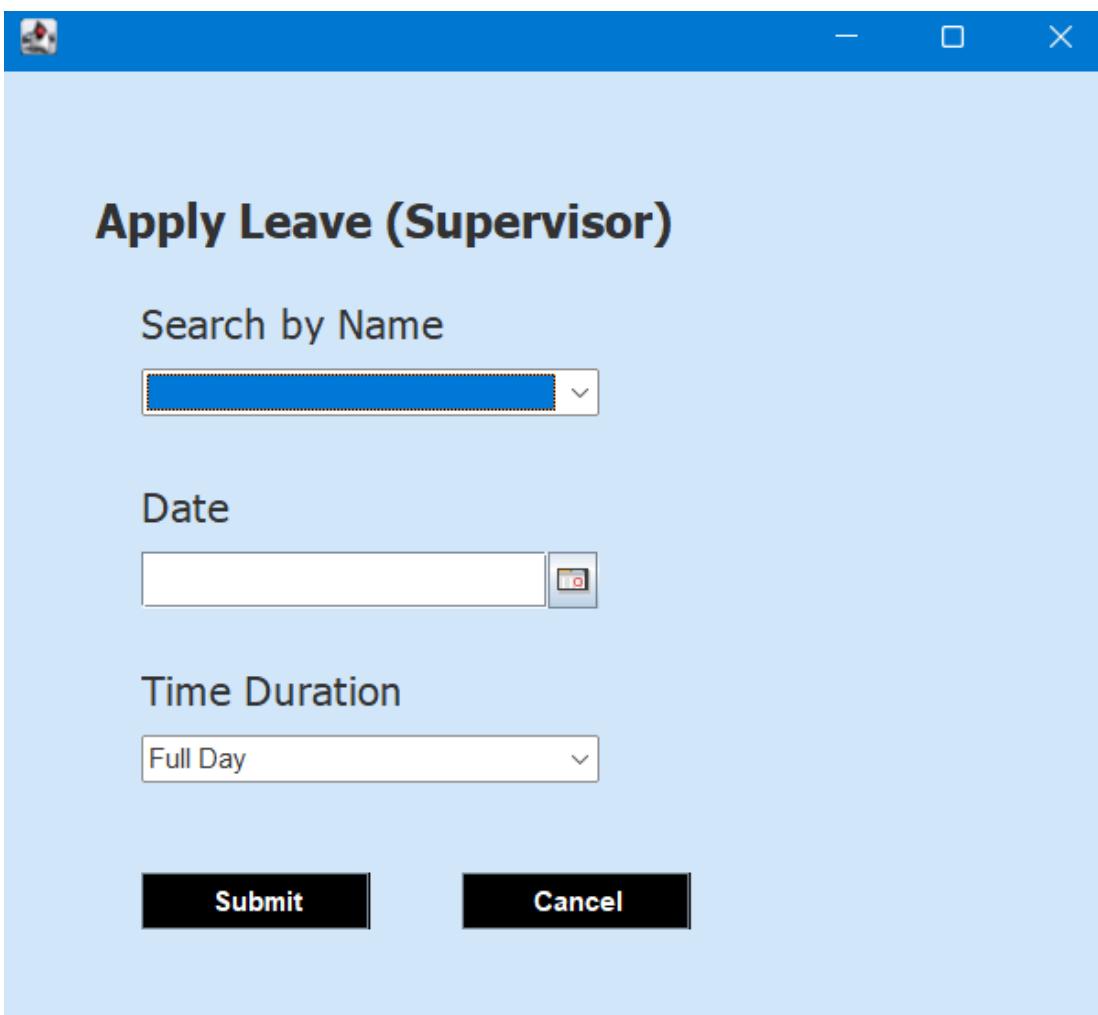
        JLabel heading = new JLabel( text: "Apply Leave (Supervisor)");
        heading.setBounds( x: 40, y: 50, width: 300, height: 30);
        heading.setFont(new Font( name: "Tahoma", Font.BOLD, size: 20));
        add(heading);

        JLabel nameLabel = new JLabel( text: "Search by Name");
        nameLabel.setBounds( x: 60, y: 100, width: 200, height: 20);
        nameLabel.setFont(new Font( name: "Tahoma", Font.PLAIN, size: 18));
        add(nameLabel);

        choiceName = new Choice();
        choiceName.setBounds( x: 60, y: 130, width: 200, height: 20);
        add(choiceName);

        // Populate choiceName dropdown with teacher names
        try {
            Conn c = new Conn();
            ResultSet resultSet = c.statement.executeQuery( sql: "SELECT name FROM employee");
            while (resultSet.next()) {

```



```
public class TeacherLeaveDetails extends JFrame implements ActionListener {
    Choice choiceEmpName; // Changed to search by employee name 5 usages
    JTable table; 5 usages
    JButton search, cancel, print; 5 usages

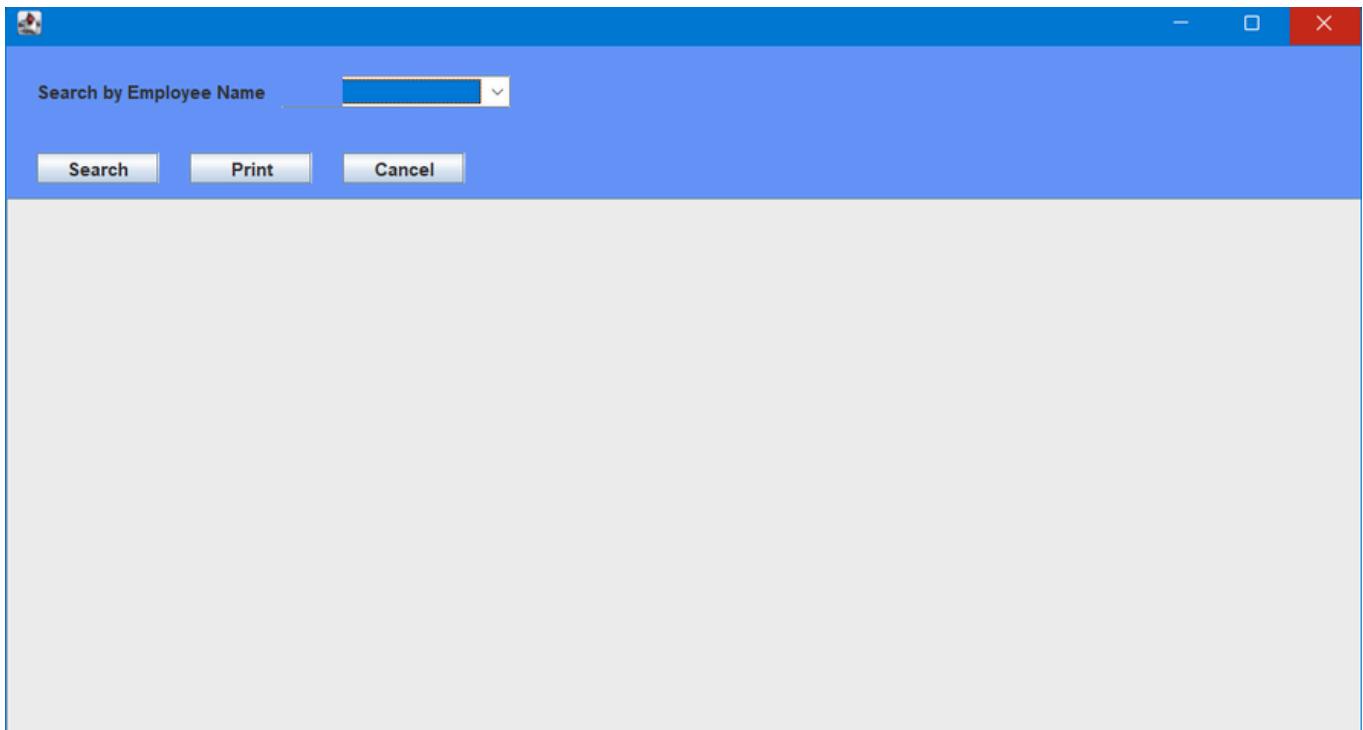
    TeacherLeaveDetails() { 2 usages
        getContentPane().setBackground(new Color( r: 101, g: 149, b: 248));

        JLabel heading = new JLabel( text: "Search by Employee Name");
        heading.setBounds( x: 20, y: 20, width: 200, height: 20);
        add(heading);

        choiceEmpName = new Choice(); // Change the choice to employee name
        choiceEmpName.setBounds( x: 180, y: 20, width: 150, height: 20);
        add(choiceEmpName);

        try {
            Conn c = new Conn();
            ResultSet resultSet = c.createStatement.executeQuery( sql: "SELECT name FROM employee");
            while (resultSet.next()) {
                choiceEmpName.add(resultSet.getString( columnLabel: "name"));
            }
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    table = new JTable();
}
```



```

public class UpdateStagaire extends JFrame implements ActionListener {
    JTextField textName, textAddress, textPhone, textemail, textAadhar, textSearchByName; 5 usages
    JLabel empText; no usages
    JDateChooser cdob; 5 usages
    JComboBox genderbox, courseBox, departmentBox; 5 usages
    JButton submit, cancel, searchByNameButton; 7 usages

    UpdateStagaire() { 2 usages

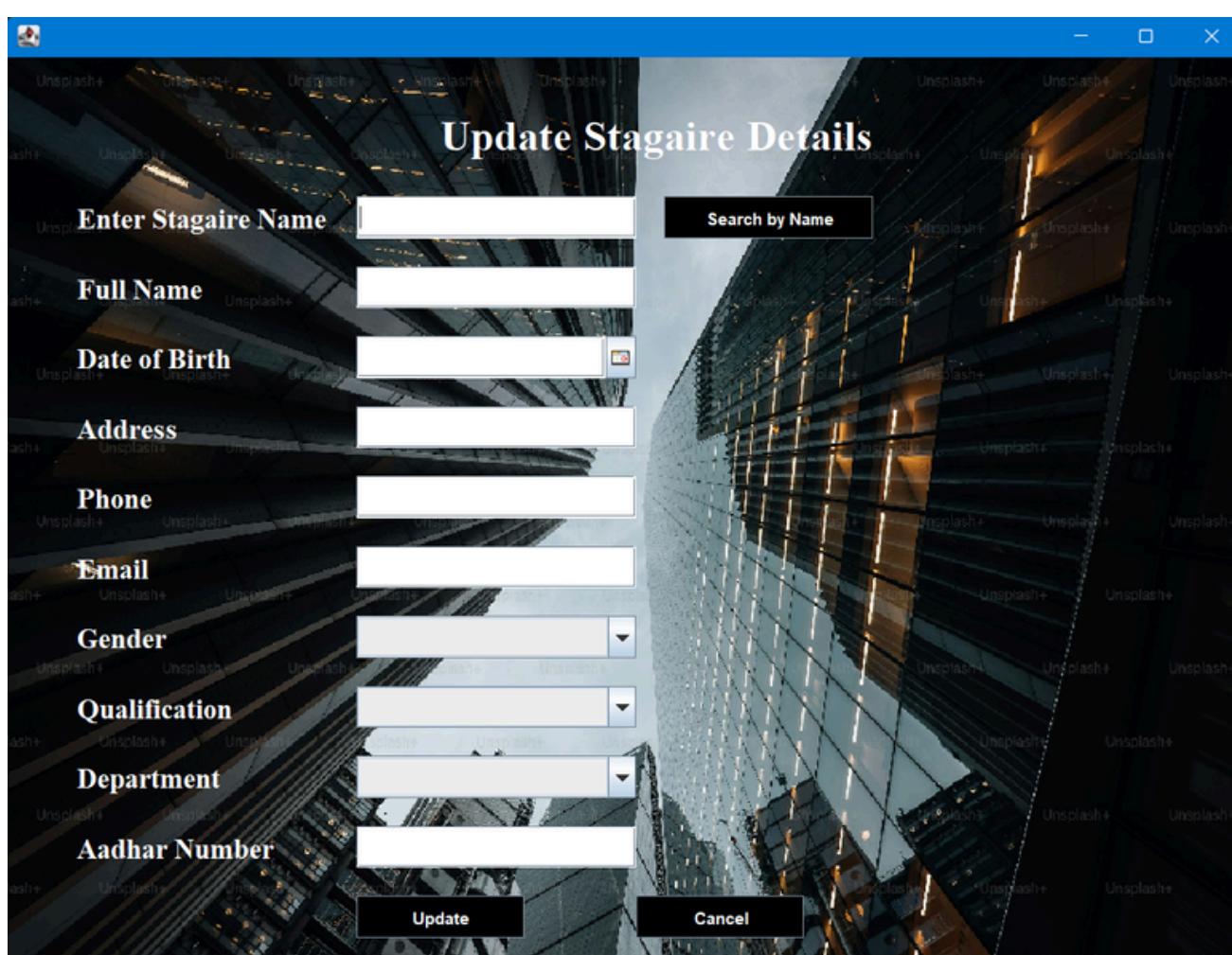
        // Set background color for the frame
        getContentPane().setBackground(new Color( r: 100, g: 179, b: 239));

        // Set background image
        ImageIcon backgroundImage = new ImageIcon(ClassLoader.getSystemResource( name: "icon/update.jpeg"));
        Image img = backgroundImage.getImage().getScaledInstance( width: 900, height: 700, Image.SCALE_DEFAULT);
        JLabel background = new JLabel(new ImageIcon(img));
        background.setBounds( x: 0, y: 0, width: 900, height: 700); // Set background size to fit the frame
        add(background);

        // Heading
        JLabel heading = new JLabel( text: "Update Stagaire Details");
        heading.setBounds( x: 310, y: 30, width: 500, height: 50);
        heading.setFont(new Font( name: "serif", Font.BOLD, size: 30));
        heading.setForeground(Color.WHITE); // Set text color to white
        background.add(heading);

        // Label and Text Field for Searching by Name
    }
}

```



```

public class UpdateSupervisor extends JFrame implements ActionListener {
    JTextField textName, textAddress, textPhone, textEmail, textYearsofExp, textNationalID, searchNameField; 5 usages
    JLabel empText; 7 usages
    JDateChooser cdob; 5 usages
    JComboBox<String> genderBox, departmentBox; 6 usages
    JButton submit, cancel; 6 usages

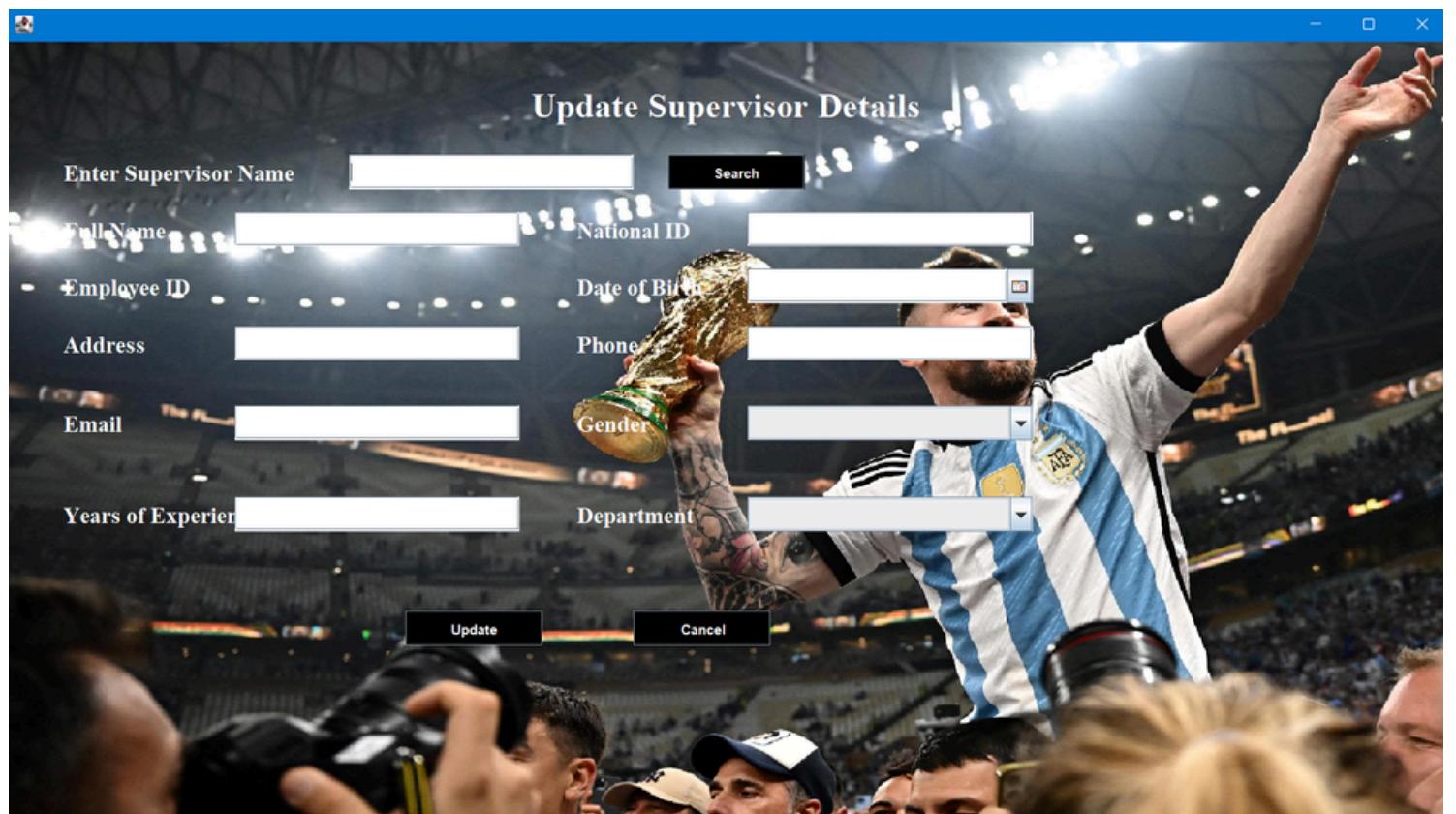
    updateSupervisor() { 2 usages
        // Set frame background color
        getContentPane().setBackground(new Color(r: 100, g: 179, b: 239));

        // Set background image
        ImageIcon backgroundImage = new ImageIcon(ClassLoader.getSystemResource(name: "icon/messi.png")); // Update
        Image img = backgroundImage.getImage().getScaledInstance(width: 1280, height: 720, Image.SCALE_DEFAULT); // Update
        JLabel background = new JLabel(new ImageIcon(img));
        background.setBounds(x: 0, y: 0, width: 1280, height: 720); // Set background size to 16:9 ratio
        add(background);

        // Heading
        JLabel heading = new JLabel(text: "Update Supervisor Details");
        heading.setBounds(x: 460, y: 30, width: 500, height: 50);
        heading.setFont(new Font(name: "serif", Font.BOLD, size: 30));
        heading.setForeground(Color.WHITE); // Change text color to white
        background.add(heading);

        // Search by Name
        JLabel searchLabel = new JLabel(text: "Enter Supervisor Name");

```



Stack Technique

- Langage de programmation : Java
- Interface graphique : Swing
- Base de données : MySQL
- Outils:
 - IDE : IntelliJ IDEA / Eclipse
 - JDBC pour la connectivité entre Java et MySQL

Conclusion

Cette application est un outil complet pour gérer efficacement les informations des stagiaires et des superviseurs dans une startup. Elle offre une interface conviviale et exploite les technologies modernes pour assurer une gestion optimale des données. Avec des améliorations supplémentaires, comme l'intégration d'un module de rapports ou d'une application mobile, elle pourrait répondre à des besoins encore plus larges.