PROJECT REPORT

"SCHOOL MANAGEMENT SYSTEM"

OBJECT ORIENTED PROGRAMMING LAB CSL-210



DEPARTMENT OF COMPUTER SCIENCE BAHRIA UNIVERSITY, KARACHI, PAKISTAN

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INTRODUCTION:

The school management system is a computerized application and program which helps in effective and controlled running of the operations of a school. It is an application developed in Java which is used to store all the school-related records. It helps in mining and controlling of all the activities and operations being carried out in a school. It also maintains the record of the data of the entire educational institute which can be used as and when required. The objective of developing such a system was to reduce the errors that creep in the manual system where it was very difficult to store the records. There are four types of login for this system the administrator, student, teacher and staff login. The whole system is handled by the administrator who has all the rights to edit or modify any school member information. The student can view the details by logging with their details. This system was developed to provide a secure, easy to use and a reliable system. This was created to handle all the school-related information and save it in records.

DATABASE EXPLANATION:

The database management system is one such module that provides the school administrators a complete and streamlined school managing experience. This Database Management System helps the school administrator take note of every activity of each student, teacher, and staff member.

This ensures that the data may not be leaked, modified, or damaged due to any internal or external elements. So, the school administration does not have to worry about manually maintaining student and employee records in large registers.

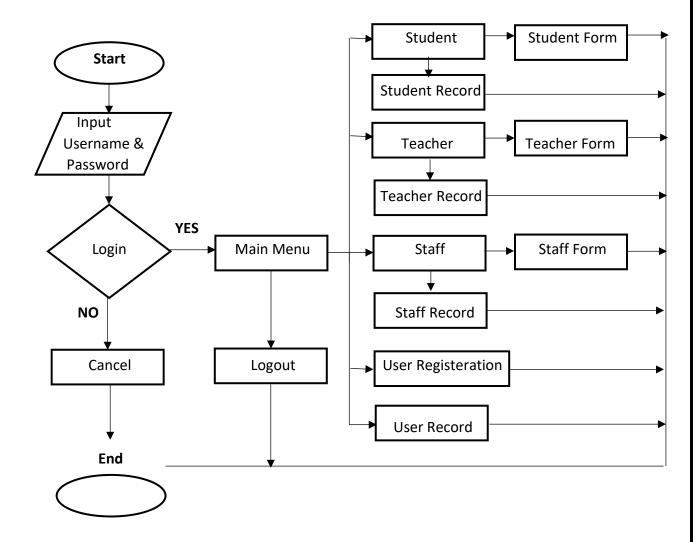
The admissions procedure is also taken care of . The platform handles the registration procedure significantly decreasing workloads.

You may easily manage schools' personal records with the help of this Database . It keeps a computerized record of student information, which reduces paperwork.

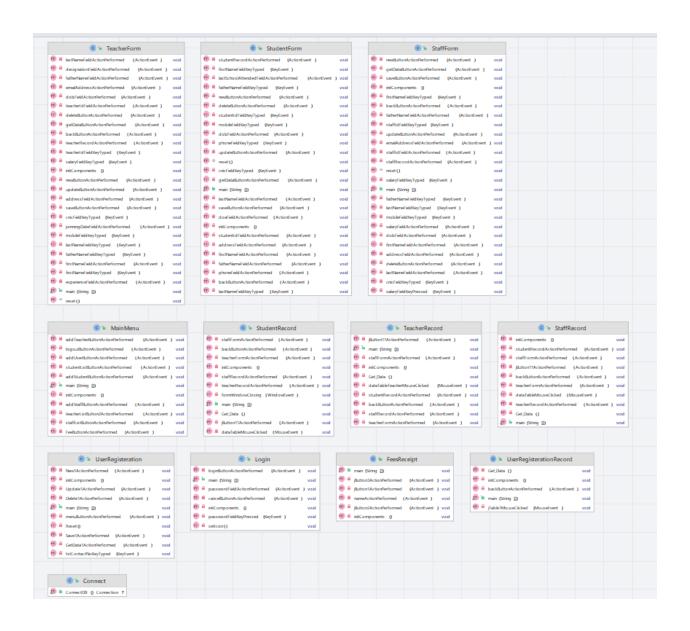
Aside from personal data, schools create and maintain a variety of documents on a regular basis, including admission forms, student records, financial assistance paperwork, and so on. Not only for future reference, but also since these documents may include sensitive information on kids, it is critical to keep them secure. Managing and safeguarding huge amounts of paper files is a difficult undertaking because you risk misplacing them or having them slip into the wrong hands. You won't have to worry about security issues or losing any physical files or confidential documents if you use a student database management system. Each document is safely stored, and the software also allows you to track the desired document in the blink of an eye.

Field Name	Data Type	
StaffID	Short Text	
FirstName	Short Text	
LastName	Short Text	
FatherName	Short Text	
EmailAddress	Short Text	
ContactNo	Short Text	
CNIC	Short Text	
Salary	Short Text	
Designation	Short Text	
AcademicQualification	Long Text	
Address	Long Text	
Gender	Short Text	
Experience	Long Text	
DateOfBirth	Short Text	
DateOfJoinning	Short Text	

FLOW CHART:

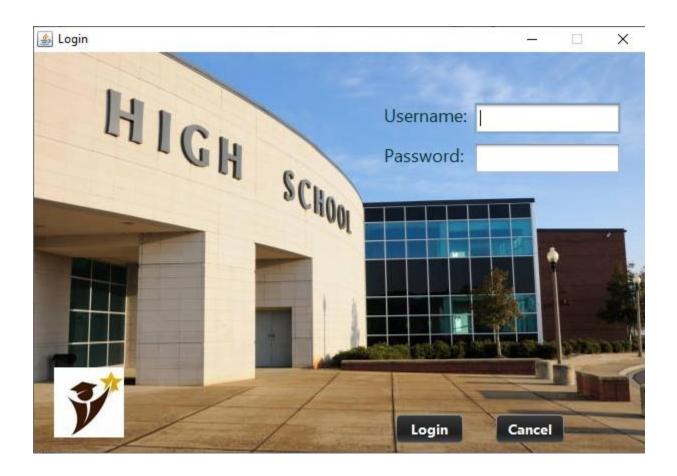


UML DIAGRAM:



SCREENSHOTS OF FORMS:

Login Form



In this Login Form, The Administrator will enter His Username And Password to Login to the School Management System and have Access to all the information of Student, Teacher, Staff.

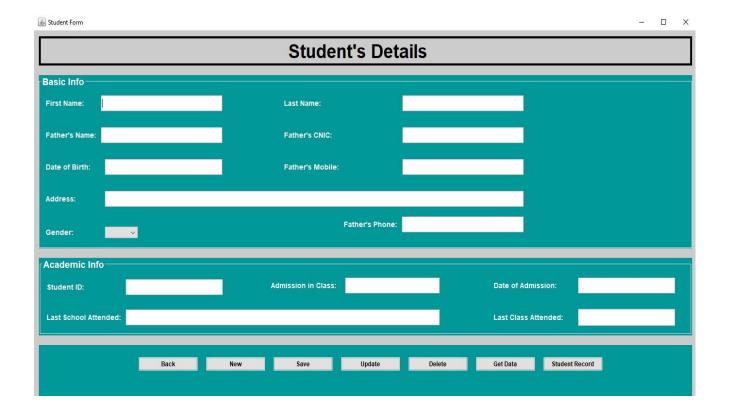
MainMenu Form



In this MainMenu Form, The Administrator can select from these labels that either he wants to access Data of Teacher, Staff or Student or he wants to open the forms to Add Student or to Add Teacher and similarly to Add any Staff Member. He can also Access the Fee Structure of the Students.

The Administrator can add Any other User or Logout from this Form.

Student Form

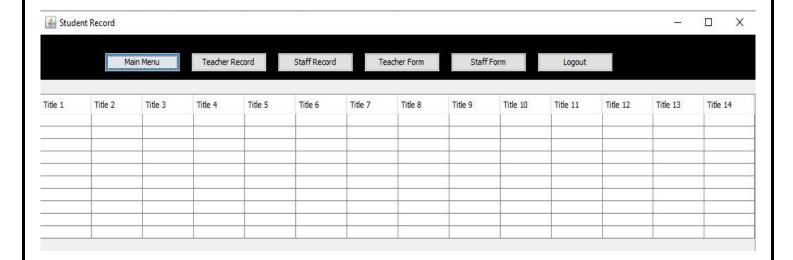


In this Student Form , The Administrator will input the Basic information & Academic Information of a Student .

The Data then can be saved , updated , deleted.

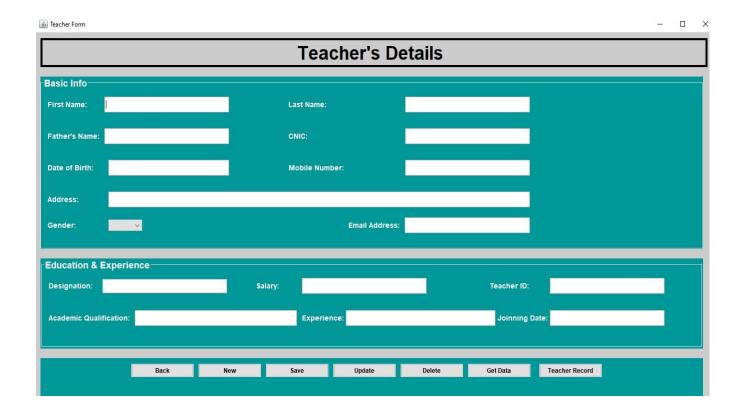
The Record can be accessed.

Student Record Form



In this Student Record Form , The Administrator will access the Information of Students saved in Database . The Admin can also shift to other Records and other Forms

Teacher Form



In this Teacher Form , The Administrator will input the Basic information & Academic Information of a Teacher .

The Data then can be saved , updated , deleted.

The Record can be accessed.

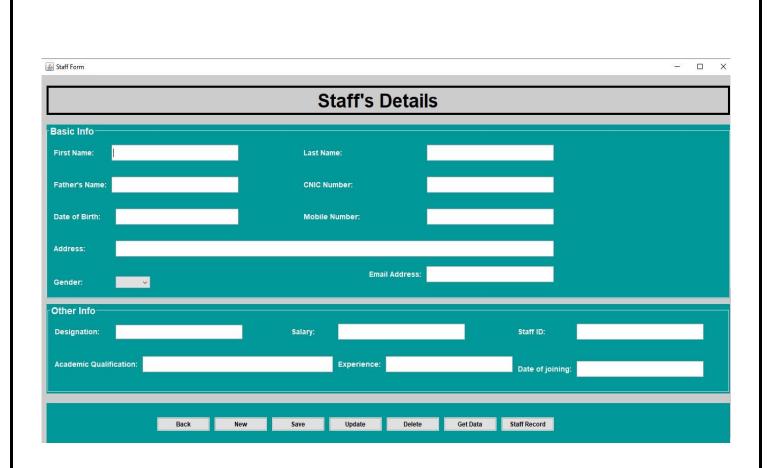
Teacher Record Form

Teacher Record

Main M	lenu Staff	Record Tea	acher Form	Staff Form	Student Record	Logout
litle 1	Title 2	Title 3	Title 4	Title 5	Title 6	Title 7
	2				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	1 22		5		=	

In this Teacher Record Form , The Administrator will access the Information of Teachers saved in Database . The Admin can also shift to other Records and other Forms

Staff Form



In this Staff Form , The Administrator will input the Basic information & Academic Information of a Staff Member

The Data then can be saved , updated , deleted.

The Record can be accessed.

Staff Record Form

Teacher Record

Main M	vlenu Staff	Record Tea	icher Form	Staff Form	Student Record	Logout
Title 1	Title 2	Title 3	Title 4	Title 5	Title 6	Title 7
	1				1	

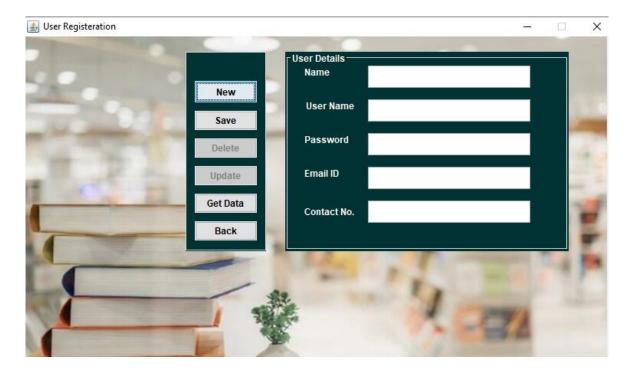
In this Staff Record Form , The Administrator will access the Information of all the Staff Members saved in Database . The Admin can also shift to other Records and other Forms

Fees Receipt Form



In this Fees Receipt Form, The Details of a Student is added like Student name, Father Name, Fees Amount, Due Date etc and Fees Receipt is then Generated by using Generate Button and the Receipt can then be printed. After Generating fees receipt of a specific person we can clear the Form and use it for the next Student.

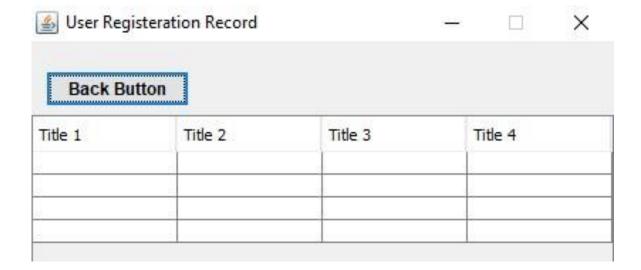
User Registeration Form



In this User Registeration Form , The Details of a New User is Added like Email , Password , Contact No.

The information can then be saved, deleted and updated .

User Record Form



In this User Record Form, The Details of Users saved in Database can be accessed.

CODE SNIPPETS:

```
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
   // TODO add your handling code here:
    area.setText("========\n");
    area.setText(area.getText()+"-----|| Fees Receipt ||-----\n");
    area.setText(area.getText()+"==========\n");
    Date obj=new Date();
    String date = obj.toString();
    area.setText(area.getText()+"\n"+date+"\n\n");
    area.setText(area.getText()+"Student Name: "+name.getText()+"\n\n");
    area.setText(area.getText()+"Father Name: "+fname.getText()+"\n\n");
    area.setText(area.getText()+"Father Mobile: "+fmobile.getText()+"\n\n");
    area.setText(area.getText()+"Batch Timing : "+timing.getText()+"\n\n");
    area.setText(area.getText()+"Fees Amount: "+fees.getText()+"\n\n");
    area.setText(area.getText()+"Due Date : "+due.getText()+"\n\n");
    area.setText(area.getText()+"\n
    area.setText(area.getText()+"\n
                                                              Signature");
 }
  private void loginButtonActionPerformed(java.awt.event.ActionEvent evt) {
    con=Connect.ConnectDB();
    String sql= "select * from Users where Username= "" + userNameField.getText() + "' and
User_Password ="" + passwordField.getText() + """;
  try
  {
     pst=con.prepareStatement(sql);
```

```
rs= pst.executeQuery();
     //(""==usernamField.getText())
     if("".equals(userNameField.getText()) && "".equals(passwordField.getText())){
       JOptionPane.showMessageDialog(null,"Please Enter Username and Password!");
    }
    else if (rs.next()){
      this.hide();
      MainMenu menu=new MainMenu();
      menu.setVisible(true);
     }
     else{
      JOptionPane.showMessageDialog(null, "Login Failed..Try again !","Access
denied",JOptionPane.ERROR_MESSAGE);
      userNameField.setText("");
      passwordField.setText("");
      userNameField.requestFocus();
     }
  }
   catch(SQLException | HeadlessException e)
    JOptionPane.showMessageDialog(null, e);
  }
  }
```

SAVE BUTTON

```
private void saveButtonActionPerformed(java.awt.event.ActionEvent evt) {
           try{
                con = Connect.ConnectDB();
                 if("".equals(staffIdField.getText())){
                      JOptionPane.showMessageDialog(null, "Please Enter Staff ID", "Error",
JOptionPane.ERROR MESSAGE);
                      return;
                 }
                 Statement st;
                 st = con.createStatement();
                 String sql1="select StaffID from StaffRecord where StaffID=""+staffIdField.getText()+"";
                 rs = st.executeQuery(sql1);
                 if(rs.next()){
                      JOptionPane.showMessageDialog(null, "Staff ID already exists", "Error",
JOptionPane.ERROR MESSAGE);
                      staffIdField.setText("");
                      staffIdField.requestDefaultFocus();
                      return;
                 }
                 String sql= "insert into
StaffRecord(StaffID, FirstName, LastName, FatherName, EmailAddress, ContactNo, CNIC, Salary, Designation,
AcademicQualification, Address, Gender, Experience, DateOfBirth, DateOfJoinning) values
(""+staffIdField.getText()+"",""+firstNameField.getText()+"",""+lastNameField.getText()+"",""+fatherNameFi
eld.getText()+"',"+emailAddressField.getText()+"',"+mobileField.getText()+"',"+cnicField.getText()+"',"
+salaryField.getText()+"',""+designationField.getText()+"',""+aqField.getText()+"',""+addressField.getText(
) + "", "" + cmbGender.getSelectedItem() + "", "" + experienceField.getText() + "", "" + dobField.getText() + "", "" + dojField.getText() + "", " + dojField.getText() + "
eld.getText()+"')";
                 pst = con.prepareStatement(sql);
```

```
pst.execute();
    JOptionPane.showMessageDialog(null, "Successfully Registered!", "Staff",
JOptionPane.INFORMATION_MESSAGE);
    saveButton.setEnabled(false);
}
catch(HeadlessException | SQLException ex){
    JOptionPane.showMessageDialog(this,ex);
}
```

Reset BUTTON

```
void reset(){
   firstNameField.setText("");
   staffIdField.setText("");
   lastNameField.setText("");
   salaryField.setText("");
   fatherNameField.setText("");
   emailAddressField.setText("");
   mobileField.setText("");
   cnicField.setText("");
   designationField.setText("");
   aqField.setText("");
   addressField.setText("");
   cmbGender.setSelectedIndex(0);
   experienceField.setText("");
   dobField.setText("");
   dojField.setText("");
   deleteButton.setEnabled(false);
```

```
updateButton.setEnabled(false);
staffIdField.requestFocus();
}
```

Update BUTTON

```
private void updateButtonActionPerformed(java.awt.event.ActionEvent evt) {
    try{
      con = Connect.ConnectDB();
      String sql = "update StaffRecord set
FirstName='"+firstNameField.getText()+"',LastName=""+lastNameField.getText()+"',FatherName=""+fath
erNameField.getText()+"',EmailAddress=""+emailAddressField.getText()+"',ContactNo=""+mobileField.ge
tText()+"',CNIC=""+cnicField.getText()+"',Salary=""+salaryField.getText()+"',Designation=""+designationFie
ld.getText()+"',AcademicQualification=""+aqField.getText()+"',Address=""+addressField.getText()+"',Gend
er=""+cmbGender.getSelectedItem()+"",Experience=""+experienceField.getText()+"",DateOfBirth=""+
dobField.getText()+"',DateOfJoinning=""+dojField.getText()+"'where StaffID=""+staffIdField.getText()+"";
      pst = con.prepareStatement(sql);
      pst.execute();
      if("".equals(staffIdField.getText())){
        JOptionPane.showMessageDialog(null, "Please Select a record to update");
        return;
      }
      JOptionPane.showMessageDialog(this, "Updated
Successfully!","Record", JOptionPane.INFORMATION_MESSAGE);
      updateButton.setEnabled(false);
    }
    catch(HeadlessException | SQLException ex){
```

```
JOptionPane.showMessageDialog(this,ex);
}
```

Delete BUTTON

```
private void deleteButtonActionPerformed(java.awt.event.ActionEvent evt) {
    try{
      if("".equals(staffIdField.getText())){
          JOptionPane.showMessageDialog(null, "Please enter Staff ID to delete record!");
          return;
        }
      int d = JOptionPane.showConfirmDialog(this, "Are sure want to delete.?", "Confirmation",
JOptionPane.YES_NO_OPTION);
      if(d==0){
        con = Connect.ConnectDB();
        String sql = "delete from StaffRecord where StaffID=""+staffIdField.getText()+"";
        pst = con.prepareStatement(sql);
        pst.execute();
        if("".equals(staffIdField.getText())){
          JOptionPane.showMessageDialog(null, "Please select a record to delete!");
          return;
        }
        JOptionPane.showMessageDialog(this,"Successfully
deleted", "Record", JOptionPane. INFORMATION MESSAGE);
        reset();
      }
```

```
}
catch(Exception ex){
    JOptionPane.showMessageDialog(this, ex);
}
```

CONCLUSION:

School Management Software offers a strong backbone to the education system. It integrates information from various areas and brings them under one roof. This reduces the hassle involved in performing the task.

The school management system offers the marvelous benefits of the school administration. With the help of the software, it becomes easy for the administration to store all the training resources, to collect helpful data of the organization like content and resources, to create progress report of each student, to maintain data of teachers and staff etc. Also, the management software offers the feature for a tailored finance solution. This helps the administrative staff to save their labor and time and also make time available to focus on another priority task.

In all the school management system is bringing a great difference in the lives of students, teachers, parents, and the admin. Good management offers better productivity and hence more progress towards development. Seeing its demands and benefits every school now operates through softwares. It helps the school to achieve the target, reduce work, increase efficiency, eliminating error, and monitoring progress.