

Unicom TIC Management System

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1. User Authentication Overview

The system requires all users to log in before accessing any functionality. There are four types of users in the system:

Admin

Staff

Student

Teacher

Each user type has a unique username and password combination to ensure secure access and role-based functionality.

2. Sample Login Credentials

Admin

Username: Admin

Password: admin007

Role: Admin

Staff

Username: Staff

Password: staff007

Role: Staff

Student & Teacher

Similar to Admin and Staff, students and teachers will also have their own unique usernames, passwords, and assigned roles.

3. Role-Based Access Functionality

Admin View

Upon logging in, admins are directed to the admin dashboard.

The admin has full access to the system.

Admins can add, update, and delete details of:

Students

Teachers

Staff

Student Form

After logging in, students can:

View their timetable

Check their marks

Access their course details

Teacher Form

When teachers log in, they can:

Access student details

View their timetable

Manage course information

View and update marks

Staff Form

Staff members, upon logging in, can access all system data except admin-specific information.

I thought these could serve as important screenshots for my project.

```
public static void CreateTable()
{
    using (var conn = Database.GetConnection())
    {
        //conn.Open(); // Ensure the connection is open


        string createTables = @"
CREATE TABLE IF NOT EXISTS Users (
    UserID INTEGER PRIMARY KEY AUTOINCREMENT,
    Username TEXT NOT NULL,
    Password TEXT NOT NULL,
    role TEXT
);

CREATE TABLE IF NOT EXISTS Courses (
    course_id INTEGER PRIMARY KEY AUTOINCREMENT,
    course_name TEXT NOT NULL,
    department TEXT
);


CREATE TABLE IF NOT EXISTS Subjects (
    subject_id INTEGER PRIMARY KEY AUTOINCREMENT,
    subject_name TEXT NOT NULL,
    course_id INTEGER,
    FOREIGN KEY(course_id) REFERENCES Courses(course_id)
);

CREATE TABLE IF NOT EXISTS Students (
    Id TEXT PRIMARY KEY,
    Name TEXT NOT NULL,
    NIC_Number TEXT NOT NULL
);

CREATE TABLE IF NOT EXISTS Staffs (
    ID TEXT PRIMARY KEY,
    Name TEXT NOT NULL,
    ...
);
```

 **Thinukshini** 3 days ago

25 lines (19 loc) · 542 Bytes

Code **Blame**  ...

```
using System;
using System.Collections.Generic;
using System.Data.SQLite;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace UnicomTICManagementSystem.Repositories
{
    public static class Database
    {
        private static string connectionString =

        public static SQLiteConnection GetConnection()
        {
            var conn = new SQLiteConnection(connectionString);
            conn.Open();
            return conn;
        }
    }
}
```

```

private void Login_Click(object sender, EventArgs e)
{
    string username = UserName.Text.Trim();
    string password = Password.Text.Trim();
    //Safely handle null SelectedItem by providing a default value
    string userType = comboBox1.SelectedItem?.ToString() ?? "Admin";

    Dictionary<string, (string user, string password)> credentials = new Dictionary<string, (string user, string password)>
    {
        { "Admin", ("Admin", "admin007") },
        { "Staff", ("Staff", "staff007") },
        { "Student", ("Student", "student007") },
        { "Teacher", ("Teacher", "teacher007") }
    };

    if (credentials.ContainsKey(userType))
    {
        var (validUsername, validPassword) = credentials[userType];

        if (username == validUsername && password == validPassword)
        {
            MessageBox.Show($"{userType} Login Successful");

            if (userType == "Admin")
            {
                Adminview adminview = new Adminview();
                adminview.Show();
            }
            else if (userType == "Staff")
            {
                Staffform staffform = new Staffform();
                staffform.Show();
            }
            else if (userType == "Student")
            {
                Studentform studentform = new Studentform();
                studentform.Show();
            }
        }
        else
        {
            MessageBox.Show("Invalid Username or Password");
        }
    }
    else
    {
        MessageBox.Show("User Type Not Found");
    }
}

```

```
private void coursecombobox_SelectedIndexChanged
{
    subjectcombobox.Items.Clear();

    switch (coursecombobox.SelectedItem.ToString())
    {
        case "Python":
            subjectcombobox.Items.AddRange(new string[] { "Mr. Kathir" });
            break;

        case "C#":
            subjectcombobox.Items.AddRange(new string[] { "Mr. Kathir" });
            break;

        case "C++":
            subjectcombobox.Items.AddRange(new string[] { "Mr. Mayooran" });
            break;

        case "Java":
            subjectcombobox.Items.AddRange(new string[] { "Dr. Neil Anth" });
            break;

        case "HTML":
            subjectcombobox.Items.AddRange(new string[] { "Ms. S. Dharsik" });
            break;
    }
}
```

```
nicNumtxt.Text = "";
```

```
...ate void DataGridView1_SelectionChanged(obj
```

```
if (DataGridView1.SelectedRows.Count > 0)
{
```

```
    var row = DataGridView1.SelectedRows[0]
    Student selectedStudent = (Student)row.
```

```
    // if (student != null)
```

```
    //if (int.TryParse(student.Id, out int
```

```
    // selectedStudentID = student.id;
```

```
    stIDtxt.Text = selectedStudent.Id.ToStr
```

```
    stnametxt.Text = selectedStudent.Name;
```

```
    nicNumtxt.Text = selectedStudent.NIC_Nu
```

```
    selectedStudentID = selectedStudent.Id;
```

```
}
```

```
else
```

```
{
```

```
    ClearInputs();
```

```
    selectedStudentID = "";
```

```
}
```

```
ivate void coursebtn_Click(object sender, Eve
```

```
    Courseform courseform = new Courseform();
```

4. Conclusion

This login system ensures secure, role-based access control for different users. Each role is granted specific permissions tailored to their responsibilities, allowing smooth and organized system management.

Thank you