



NCIS215

Object Oriented Programming

ASSIGNMENT 1

DUE DATE 12 FEB 2024

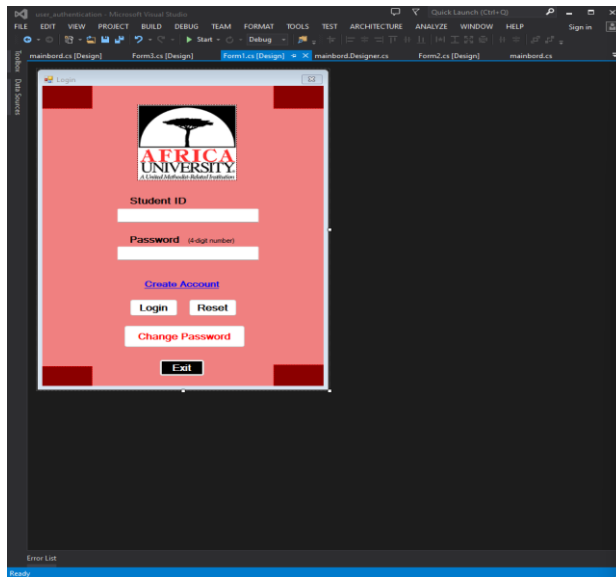
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CEAS – Computer Science

(e) Design and code the program using the windows forms application [15 marks]

LOGIN INTERFACE design and code



...

```
private void button3_Click(object sender, EventArgs e) //Go to change password interface(form2)
```

```
{  
    Form2 f2 = new Form2();  
    f2.Show();  
    Visible = false;  
}
```

```
private void button4_Click(object sender, EventArgs e) //exit button
```

```
{  
    Application.Exit();  
}
```

```
private void button2_Click(object sender, EventArgs e) //clear button
```

```
{  
    textBox1.Clear();  
    textBox2.Clear();  
}
```

```
private void textBox2_TextChanged(object sender, EventArgs e)
```

```
{
```

```

    }

    private bool Valid() //a class called "Valid"
    {
        if (textBox1.Text.TrimStart() == string.Empty)
        {
            MessageBox.Show("enter vaild Student Identification", "error"); //ERROR message
            return false;

        } else if (textBox2.Text.TrimStart() == string.Empty)
        {
            MessageBox.Show("enter vaild Password", "error"); //ERROR message
            return false;
        }
        return true;
    }

    private void button1_Click(object sender, EventArgs e) //login button
    {
        if (textBox2.Text.Length > 4) // Error message when Password is longer then 4 characters long
        {
            MessageBox.Show("Your Password should be 4 characters long, password: " + textBox2.Text + " is not.");
        }

        if (!accountLocked) // Block or Unblocked account
        {
            if (Valid()) //use of class
            {
                using (System.Data.SqlClient.SqlConnection conn = new SqlConnection(@"Data
Source=(LocalDB)\v11.0;AttachDbFilename=C:\Users\markn\OneDrive\Documents\Visual Studio
2013\Projects\user_authentication\user_authentication\Database.mdf;Integrated Security=True")) //link
                database
            {

```

```

        string query = "SELECT * FROM LOGIN WHERE Student_ID = '" + textBox1.Text.Trim() + "' AND
password = '" + textBox2.Text.Trim() + "'";

        SqlDataAdapter sda = new SqlDataAdapter(query, conn);

        DataTable dta = new DataTable();

        sda.Fill(dta);

        if (dta.Rows.Count == 1) // login successful
        {
            mainbord mainbord = new mainbord();

            this.Hide();

            mainbord.Show();

            MessageBox.Show("Login successful!"); //successful message
        }
        else
        {
            attemptsCount++; // +1 on attempt count

            if (attemptsCount == MaxAttempts) //block page
            {
                MessageBox.Show("Maximum login attempts reached. Account locked."); //Blocked
message

                accountLocked = true; //blocked

                textBox1.Enabled = false;

                textBox2.Enabled = false;

                button1.Enabled = false;
            }
            else
            {
                MessageBox.Show("Login failed. You have " + (MaxAttempts - attemptsCount) + " attempts
left."); //incorrect pin
            }
        }
    }
}
}
}
}

```

```

else
{
    MessageBox.Show("Your account is locked. Please contact support."); // account locked
}
}

```

private void linkLabel1_LinkClicked(object sender, LinkLabelLinkClickedEventArgs e) //go to create account interface

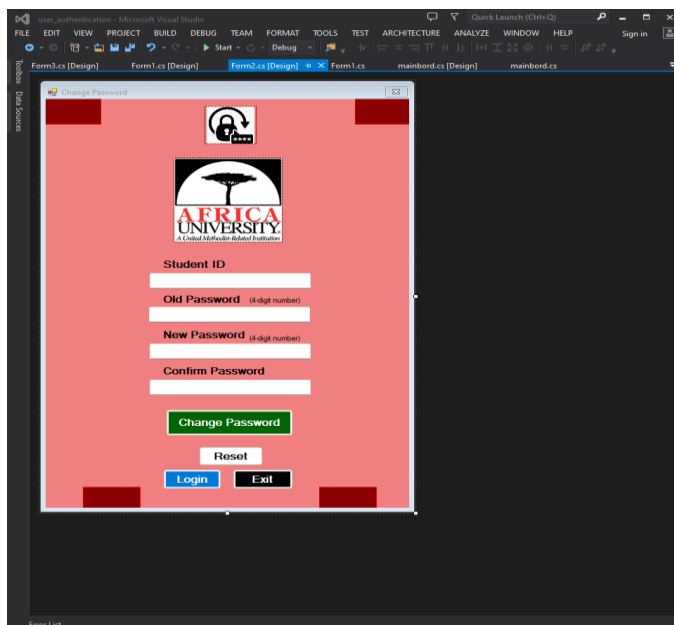
```

{
    Form3 f3 = new Form3();
    f3.Show();
    Visible = false;
}

```

...

Change Password INTERFACE design and code



...

private void button4_Click(object sender, EventArgs e) //Exit button

```

{
    Application.Exit();
}

```

private void button2_Click(object sender, EventArgs e) //clear button

```

{
    textBox1.Clear();
    textBox2.Clear();
    textBox3.Clear();
    textBox4.Clear();
}

```

```

private void button3_Click(object sender, EventArgs e) // return to login form

```

```

{
    Form1 f1 = new Form1();
    f1.Show();
    Visible = false;
}

```

```

private void UpdateUserInfo(string Student_ID, string newPassword) //change password button with error
messages

```

```

{
    using (SqlConnection connection = new SqlConnection(@"Data
Source=(LocalDB)\v11.0;AttachDbFilename=C:\Users\markn\OneDrive\Documents\Visual Studio
2013\Projects\user_authentication\user_authentication\Database.mdf;Integrated Security=True")) //link
database
    {
        try
        {
            connection.Open();
            string query = "UPDATE LOGIN SET password = @NewPassword WHERE Student_ID = @Username";
            SqlCommand command = new SqlCommand(query, connection);
            command.Parameters.AddWithValue("@Username", Student_ID);
            command.Parameters.AddWithValue("@NewPassword", newPassword);
            int rowsAffected = command.ExecuteNonQuery();
            if (rowsAffected > 0)
            {
                MessageBox.Show("User information updated successfully."); //successful
            }
        }
    }
}

```

```

        else
        {
            MessageBox.Show("User not found.");
        }
    }
    catch (Exception ex)
    {
        MessageBox.Show("Error: " + ex.Message);
    }
}
}

```

private void button1_Click(object sender, EventArgs e) // Error message when Password is longer then 4 characters long

```

{
    if (textBox2.Text.Length > 4 || textBox3.Text.Length > 4 || textBox4.Text.Length > 4)
    {
        MessageBox.Show("Your Password should be 4 characters long"); //error message
    }
    else
    {
        string Student_ID = textBox1.Text;
        string newPassword = textBox4.Text;

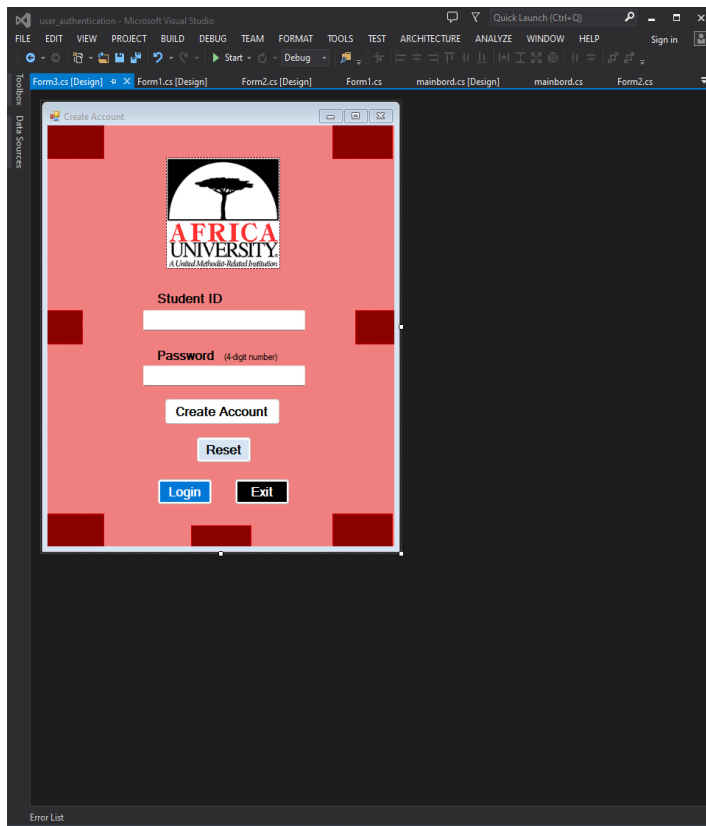
        if (!string.IsNullOrEmpty(Student_ID) && !string.IsNullOrEmpty(newPassword))
        {
            UpdateUserInfo(Student_ID, newPassword);
        }
        else
        {
            MessageBox.Show("Please enter all fields!"); //ERROR message
        }
    }
}

```

}

...

CREATE ACCOUNT INTERFACE design and code



...

```
private void button4_Click(object sender, EventArgs e) //Exit button
```

```
{  
    Application.Exit();  
}
```

```
private void button2_Click(object sender, EventArgs e) //reset button
```

```
{  
    textBox1.Clear();  
    textBox2.Clear();  
}
```

```
private void button1_Click(object sender, EventArgs e) //create an account button
```

```
{  
    if (textBox2.Text.Length > 4)
```



```

{
    MessageBox.Show("Your Password should be 4 characters long");
}

else
{
    SqlConnection con = new SqlConnection(@"Data
Source=(LocalDB)\v11.0;AttachDbFilename=C:\Users\markn\OneDrive\Documents\Visual Studio
2013\Projects\user_authentication\user_authentication\Database.mdf;Integrated Security=True");

    con.Open();

    SqlCommand cmd = con.CreateCommand();

    cmd.CommandType = CommandType.Text;

    cmd.CommandText = "INSERT INTO LOGIN (Student_ID, password) VALUES ('" + textBox1.Text + "', '"
+ textBox2.Text + "')";

    cmd.ExecuteNonQuery();

    con.Close();

    MessageBox.Show("Your Account has been created! Welcome to Afica University.");
}
}

```

```

private void button3_Click(object sender, EventArgs e) //Go back to login button

```

```

{
    Form1 f1 = new Form1();

    f1.Show();

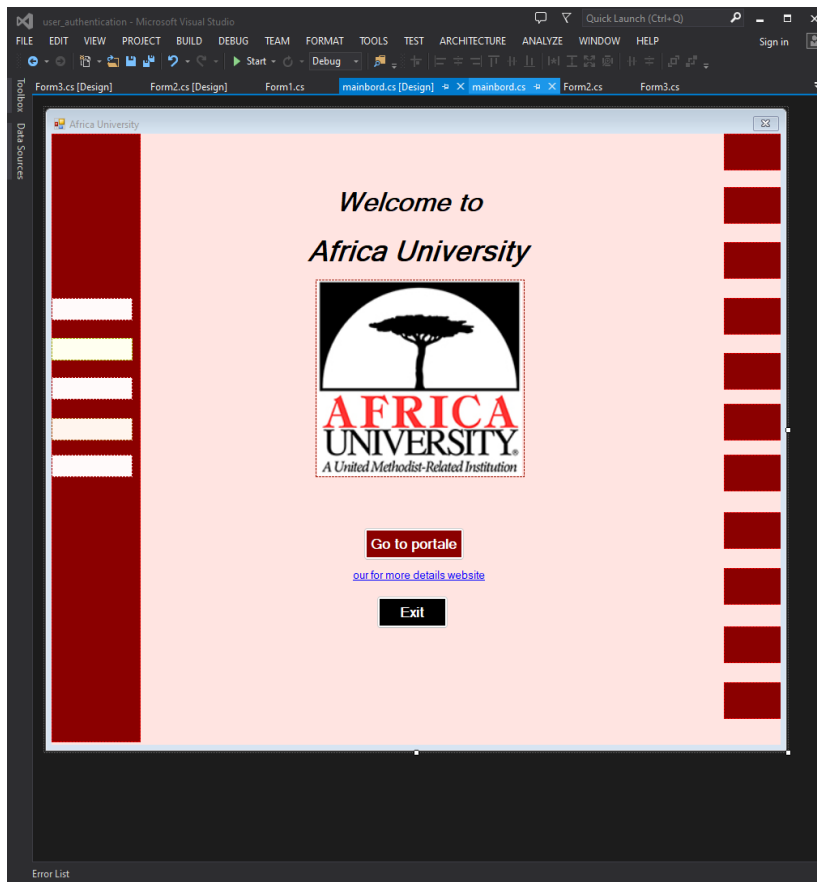
    Visible = false;
}

```

...

LOGIN SUCCESSFULL INTERFACE design and code

MAIN PAGE



...

```
private void button4_Click(object sender, EventArgs e) //Exit Button
{
    Application.Exit();
}
```

...