



This project Creates a web  
application of A university Database  
To See the Full Project go to:  
<https://drive.google.com/drive/folders/1vglcigbGYsNQK7h0P3lkbzBhnAyVYz-6?usp=sharing>

# Final Project

Using ASP.NET and SQL to  
create a Web Application

Abdulrahman Issam AbouOuf  
3<sup>rd</sup> Year CSED  
Database1 CSE3313

Supervisor: Dr. Hisham Arafat

# Table Of Contents

<b>TABLE OF CONTENTS</b>	<b>1</b>
<b>TABLE OF FIGURES</b>	<b>2</b>
<b>1 CHAPTER ONE INTRODUCTION</b>	<b>3</b>
1.1 A BRIEF INTRO	4
1.2 PROJECT PROCESS	4
<b>2 CHAPTER 2 SQL AND CREATING DATABASES</b>	<b>5</b>
2.1 WHY USING DATABASE IN THE FIRST PLACE?	6
2.2 DATABASE DESIGN AND PLANNING	6
2.3 DATABASE IMPLEMENTATION AND CONNECTION	8
2.4 DATABASE OPERATIONS	8
2.5 DATABASE TESTING	10
<b>3 CHAPTER THREE ASP.NET AND PROGRAMMING</b>	<b>11</b>
3.1 USING C# AND ASP.NET	12
3.2 ASP.NET AND SQL	12
3.3 CODING PROFILE PAGE	12
<b>4 CHAPTER FOUR DESIGN</b>	<b>15</b>
4.1 HTML CODE	16
4.2 THE PAGE FORM	18

# Table Of Figures

Figure 1-1 - Application Basic Idea.....	4
Figure 1-2 - Project Process Diagram .....	4
Figure 2-1 - Database Concepts .....	6
Figure 2-2 - Department table .....	6
Figure 2-3 - Student Table .....	7
Figure 2-4 - Instructor Table .....	7
Figure 2-5 - Registiration page an SQL.....	9
Figure 2-6 - Registration page.....	10
Figure 2-7 - Login Page.....	10
Figure 3-1 - ASP.NET applications.....	12
Figure 4-1 - Master Designer page .....	18

# 1 Chapter one Introduction

## 1.1 A brief Intro

The project is a web application that uses DB modules to save data about University staff and Students. Using CRUD module and ASP.NET to create the application.

With Registration page, Login, Instructors of departments, departments, Profile for each student with his info, etc... this web application is an integrated system of a small university.

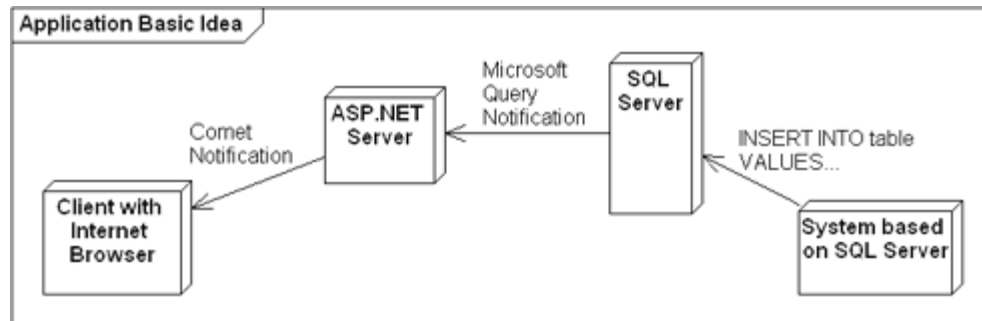


Figure 1-1 - Application Basic Idea

## 1.2 Project process

The application may be sectioned into:

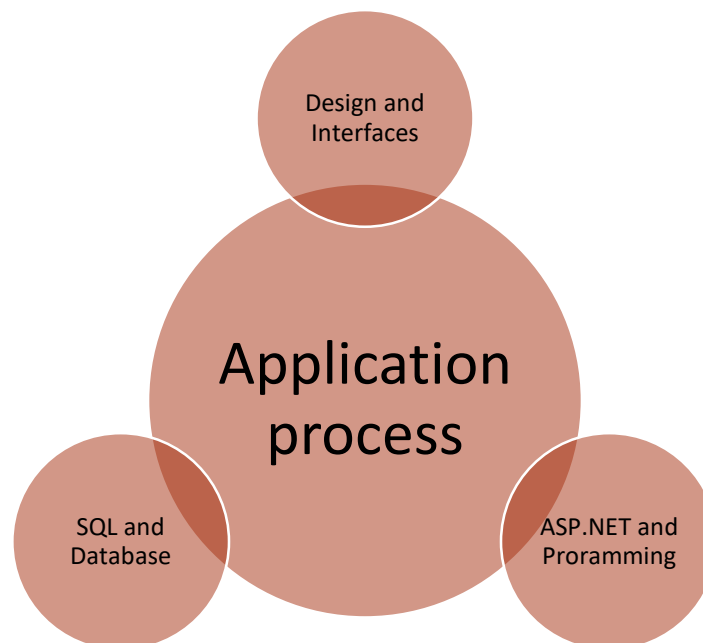


Figure 1-2 - Project Process Diagram

In the next chapter we will discuss each process section in details.

## 2 Chapter 2 SQL And Creating Databases

## 2.1 Why using Database in the first place?

As this web application's backbone is to get data from users and interact with these data, Saving, Editing, ..etc. Here comes the Database role to create a layer to save these important data in the most efficient way possible.

Using SQL is the considered to be the best interfaced with ASP.NET as Microsoft gives an easy UI for the user to deal with.

In the Shown Figure 2-1 is how to implement a database into the project. We will discuss each point in details.

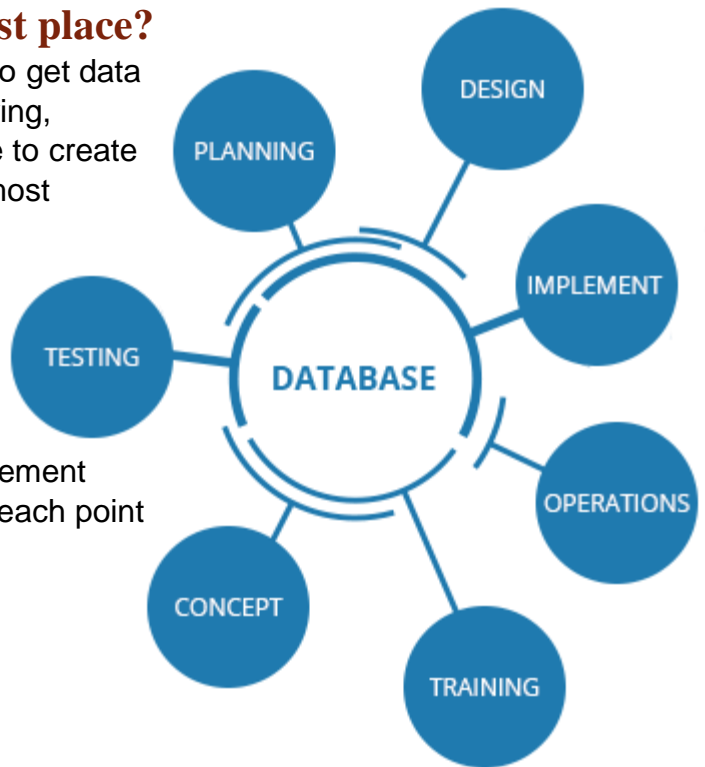


Figure 2-1 - Database Concepts

## 2.2 Database Design and Planning

Using three tables to deal with Students with subjects, Departments and Instructors connecting this database with C# and ASP.NET. the tables are shown below.

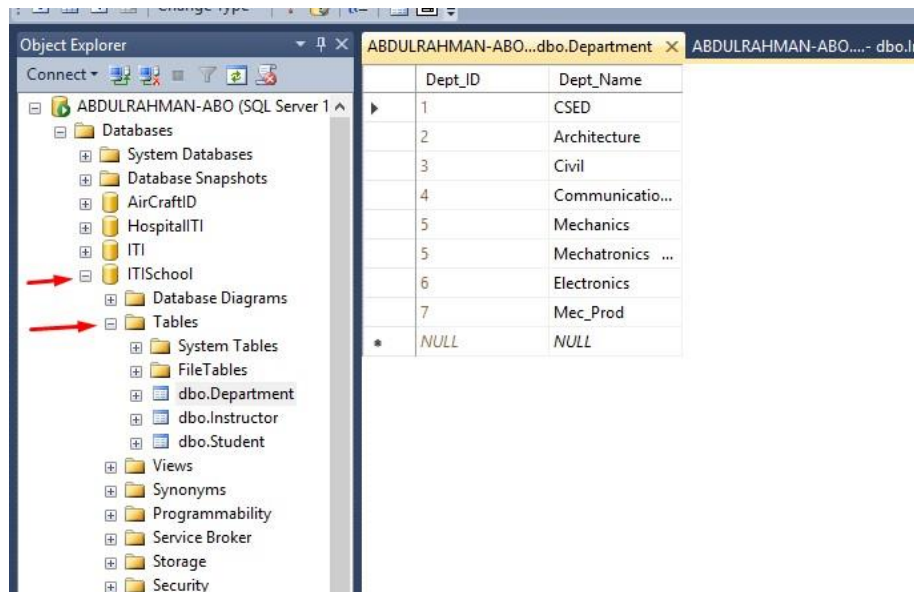
The image is a screenshot of the Microsoft SQL Server Enterprise Manager. On the left, the "Object Explorer" pane shows the database structure for "ABDULRAHMAN-ABO (SQL Server 1)". It includes folders for "Databases", "System Databases", "Database Snapshots", "AirCrafftID", "HospitalITI", "ITI", "ITISchool", "Database Diagrams", "Tables", "System Tables", "FileTables", "dbo.Department", "dbo.Instructor", "dbo.Student", "Views", "Synonyms", "Programmability", "Service Broker", "Storage", and "Security". Red arrows point to the "ITISchool" folder and the "Tables" folder. On the right, the "SQL Server Enterprise Manager" pane shows the "dbo.Department" table. The table has two columns: "Dept\_ID" and "Dept\_Name". The data rows are: (1, CSED), (2, Architecture), (3, Civil), (4, Communicatio...), (5, Mechanics), (5, Mechatronics ...), (6, Electronics), (7, Mec\_Prod), and a row with NULL values.

Figure 2-2 - Department table

Inst_ID	Inst_Name	Inst_Age	Inst_email	Inst_Gender	Inst_dept_ID
4	tafida	60	tafida@inst.co...	Female	6
6	Hamed	45	hamed@inst.co...	Male	4
8	robert	71	robert@inst.co...	Male	7
NULL	NULL	NULL	NULL	NULL	NULL

Figure 2-4 - Instructor Table

Std_ID	Std_Name	Std_Age	Std_Passwoer	Std_Email	Std_Gender	Std_dept_ID	Std_img
1	Tom_Hanks	27	123	Hanks@std.co...		1	~/Img/tom-ha...
3	langdon	29	123	lang@std.com	Male	1	~/Img/Robert L...
4	Sully	30	123	Sully@std.com	Male	5	~/Img/2D2E722...
5	zakri	24	123	zakri@std.com	Male	3	~/Img/Tom-Ha...
6	donovan	23	123	don@std.com	Male	2	~/Img/1207269...
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Figure 2-3 - Student Table

With profile pictures, Protection password... etc.



## 2.3 Database Implementation and Connection

Using DB layer to establish the connection. And manage the implementation

```
public class DbLayer
{
    public static DataTable sel(SqlCommand cmd)
    {
        SqlConnection con = new
SqlConnection(ConfigurationManager.ConnectionStrings["iticon"].ConnectionString);
        SqlCommand cmm = cmd;
        cmm.Connection = con;
        SqlDataAdapter adpt = new SqlDataAdapter(cmm);
        DataTable dt = new DataTable();
        adpt.Fill(dt);
        return dt;
    }
    public static int dml(SqlCommand cmd)
    {
        SqlConnection con = new
SqlConnection(ConfigurationManager.ConnectionStrings["iticon"].ConnectionString);
        SqlCommand cmm = cmd;
        cmm.Connection = con;
        con.Open();
        int roweffect = cmm.ExecuteNonQuery();
        con.Close();
        return roweffect;
    }
}
```

To use it Directly (connected mode) and using data tables and datasets (unconnected mode).

## 2.4 Database Operations

CRUD system is a basic system that is used in this project, with some more additions of privileges for users and so on.

Here is an example of operations in c# programming to deal with operations of saving data to a database and retrieving if you are on it.

The example shows registration page and how it deals with the database parameters.

```

public partial class Registiration : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        if (!IsPostBack)
        {
            UnobtrusiveValidationMode = UnobtrusiveValidationMode.None;
            txt_age.Text = txt_conpass.Text = txt_mail.Text = txt_name.Text =
txt_pass.Text = "";
            rbl_gender.SelectedIndex = -1;
            ddl_dept.SelectedIndex = -1;
            SqlConnection con = new
SqlConnection(ConfigurationManager.ConnectionStrings["iticon"].ConnectionString);
            SqlCommand cmd = new SqlCommand("select dept_id ,dept_name from
department", con);
            con.Open();
            SqlDataReader dr = cmd.ExecuteReader();

            ddl_dept.DataSource = dr;
            ddl_dept.DataTextField = "dept_name";
            ddl_dept.DataValueField = "dept_id";
            ddl_dept.DataBind();
            con.Close();
        }
    }

    protected void btn_save_Click(object sender, EventArgs e)
    {
        if (IsValid)
        {
            //upload image
            string path = "~/Img/" + fu_img.FileName;
            fu_img.SaveAs(Server.MapPath(path));

            SqlConnection con = new
SqlConnection(ConfigurationManager.ConnectionStrings["iticon"].ConnectionString);
            SqlCommand cmm = new SqlCommand("insert into Student
values(@name,@age,@pass,@email,@gender,@did,@img)", con);
            cmm.Parameters.AddWithValue("@name", txt_name.Text);
            cmm.Parameters.AddWithValue("@age", txt_age.Text);
            cmm.Parameters.AddWithValue("@pass", txt_conpass.Text);
            cmm.Parameters.AddWithValue("@email", txt_mail.Text);
            cmm.Parameters.AddWithValue("@gender", rbl_gender.SelectedValue);
            cmm.Parameters.AddWithValue("@did", ddl_dept.SelectedValue);
            cmm.Parameters.AddWithValue("@img", path);
            con.Open();
            cmm.ExecuteNonQuery();
            con.Close();

            Response.Redirect("~/Registiration.aspx");
            //txt_age.Text = txt_conpass.Text = txt_mail.Text = txt_name.Text =
txt_pass.Text = "";
            //rbl_gender.SelectedIndex = -1;
            //ddl_dept.SelectedIndex = -1;
        }
    }
}

```

Figure 2-5 - Registration page an SQL

## 2.5 Database Testing

Testing database is known when running the application and it is running like it is meant to be.

The registration page is as follows. With restrictions and validations,...etc. and saving it to login after registration.

The screenshot shows the 'Registration' page of the ITI School application. The page has a dark blue header with the title 'Registration' in white. Below the header is a green navigation bar with a 'Student' dropdown menu and the text 'Student : Registration'. The main content area is divided into a left sidebar and a right main section. The sidebar, titled 'Menu', contains links for 'Student', 'Registration', 'Login', 'Your Profile', 'Change Password', and 'Instructor'. Below the menu is a 'Count Of Visitors: 1' counter. The main section features a 'Welcome to ITI School!' message, a group photo of students, and a registration form. The form includes fields for Name, Age, Password, Confirm Password, and E-mail. It also has radio buttons for Gender (Male/Female) and a dropdown for Department (currently set to 'CSED'). An 'Image' field with a 'Browse...' button is also present. A 'Save' button is at the bottom of the form. At the very bottom, there is a LunarPages advertisement with the text 'Need website hosting? We recommend LunarPages' and a 'CLICK HERE!' button.

Figure 2-6 - Registration page

The screenshot shows the 'Your Profile' page of the ITI School application. The page has a dark blue header with the title 'Your Profile' in white. Below the header is a green navigation bar with a 'Student' dropdown menu and the text 'Student : Login : Your Profile'. The main content area is divided into a left sidebar and a right main section. The sidebar, titled 'Menu', contains links for 'Student', 'Registration', 'Login', 'Your Profile', 'Change Password', and 'Instructor'. Below the menu is a 'Count Of Visitors: 1' counter. The main section features a 'Welcome to ITI School!' message, a profile picture of a man in a tuxedo, and a list of profile details: Name (zakri), Age (24), E-mail (zakri@std.com), and Gender (Male). Below the details are links for 'LogOut', 'Change Password', and 'Edit'. At the bottom, there is a LunarPages advertisement with the text 'Need website hosting? We recommend LunarPages' and a 'CLICK HERE!' button.

Figure 2-7 - Login Page

### 3 Chapter Three ASP.NET and Programming

### 3.1 Using C# and ASP.net

ASP.NET is an open-source server-side web application framework designed for web development to produce dynamic web pages. It was developed by Microsoft to allow programmers to build dynamic web sites, web applications and web services. It is used as the best way to deal with SQL to interact with the database.

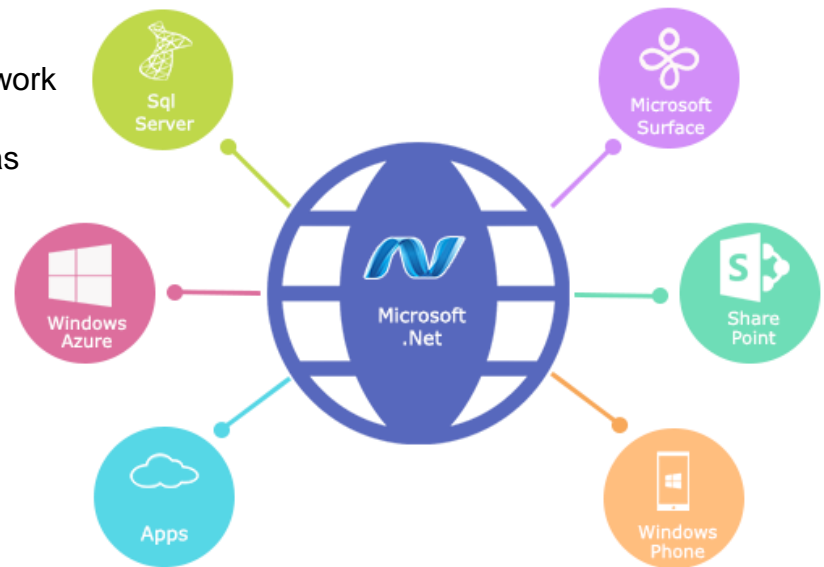


Figure 3-1 - ASP.NET applications

### 3.2 ASP.net and SQL

Imagine a typical address book. For each entry in the address book (that is, for each person) you have several pieces of information such as first name, last name, address, email address, and phone number.

A typical way to picture data like this is as a table with rows and columns. In database terms, each row is often referred to as a record. Each column (sometimes referred to as fields) contains a value for each type of data: first name, last name, and so on.

As the users won't consider using the application of SQL as it is hard to deal with. ASP.net created a framework to make it easier to deal with.

### 3.3 Coding Profile page

```
using System;
using System.Collections.Generic;
using System.Configuration;
using System.Data.SqlClient;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace aspday2
{
    public partial class Profile : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            MultiView1.ActiveViewIndex = 0;
        }
    }
}
```

```

        SqlConnection con = new
SqlConnection(ConfigurationManager.ConnectionStrings["iticon"].ConnectionString);
        SqlCommand cmd = new SqlCommand("select * from Student where Std_ID=@id",
con);

        cmd.Parameters.AddWithValue("@id", Session["id"].ToString());
        con.Open();
        SqlDataReader dr = cmd.ExecuteReader();
        dr.Read();
        lbl_name.Text = dr["Std_Name"].ToString();
        lbl_gender.Text = dr["Std_Gender"].ToString();
        lbl_email.Text = dr["Std_Email"].ToString();
        lbl_age.Text = dr["Std_Age"].ToString();
        img_profile.ImageUrl = dr["Std_img"].ToString();

    }

    protected void lb_cp_Click(object sender, EventArgs e)
    {
        Response.Redirect("~/ChangePassword.aspx");
    }

    protected void lb_logout_Click(object sender, EventArgs e)
    {
        //Session["id"] = null;
        HttpCookie co1 = new HttpCookie("local");
        co1.Expires = DateTime.Now.AddDays(-10);
        Response.Cookies.Add(co1);
        Response.Redirect("~/Login.aspx");
    }

    protected void btn_saveedits_Click(object sender, EventArgs e)
    {
        string path = "~/Img/" + fu_imgedit.FileName;

        SqlConnection con1 = new
SqlConnection(ConfigurationManager.ConnectionStrings["iticon"].ConnectionString);
        SqlCommand cmr = new SqlCommand("select* from Student where Std_ID=@id ",
con1);

        cmr.Parameters.AddWithValue("@id", Session["id"].ToString());
        con1.Open();
        SqlDataReader dr = cmr.ExecuteReader();
        dr.Read();
        if (txt_edname.Text == "") txt_edname.Text = dr["Std_Name"].ToString();
        if (txt_edage.Text == "") txt_edage.Text = dr["Std_Age"].ToString();
        if (txt_edmail.Text == "") txt_edmail.Text = dr["Std_Email"].ToString();
        if (rbl_edgender.SelectedIndex == -1) rbl_edgender.SelectedValue =
dr["Std_Gender"].ToString();
        if (!fu_imgedit.HasFile) path=dr["Std_img"].ToString();
        con1.Close();
        fu_imgedit.SaveAs(Server.MapPath(path));
        SqlConnection con = new
SqlConnection(ConfigurationManager.ConnectionStrings["iticon"].ConnectionString);
        SqlCommand cmd = new SqlCommand("update Student set Std_Name =@name,
Std_Age=@age, Std_Email=@email, Std_Gender=@gender, Std_img=@img where Std_ID=@id ",
con);

        cmd.Parameters.AddWithValue("@name", txt_edname.Text);

```

```

cmd.Parameters.AddWithValue("@age", txt_edage.Text);
cmd.Parameters.AddWithValue("@email",txt_edmail.Text );
cmd.Parameters.AddWithValue("@gender",rbl_edgender.Text );
cmd.Parameters.AddWithValue("@id", Session["id"].ToString());
cmd.Parameters.AddWithValue("@img", path);

con.Open();
cmd.ExecuteNonQuery();

SqlConnection conn = new
SqlConnection(ConfigurationManager.ConnectionStrings["iticon"].ConnectionString);
SqlCommand cmdm = new SqlCommand("select * from Student where Std_ID=@id",
con);

cmdm.Parameters.AddWithValue("@id", Session["id"].ToString());
conn.Open();
SqlDataReader dr1 = cmdm.ExecuteReader();
dr1.Read();
lbl_name.Text = dr1["Std_Name"].ToString();
lbl_gender.Text = dr1["Std_Gender"].ToString();
lbl_email.Text = dr1["Std_Email"].ToString();
lbl_age.Text = dr1["Std_Age"].ToString();
conn.Close();
con.Close();
Page_Load(null, null);
}

protected void lb_edit_Click(object sender, EventArgs e)
{
    MultiView1.ActiveViewIndex = 1;
}
}
}

```

## 4 Chapter Four Design



Designing is using a master page to control each page of the above

## 4.1 HTML Code

```
<%@ Master Language="C#" AutoEventWireup="true" CodeBehind="Site1.master.cs"
Inherits="aspday2.Site1" %>

<!DOCTYPE html>

<html>
<head runat="server">

<title>University DB</title>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<link rel="stylesheet" href="css/styles.css" type="text/css">

</head>
<body>
    <form id="form1" runat="server">
        <div>
            <body bgcolor="#ffffff" leftmargin="0" topmargin="0" marginwidth="0"
marginheight="0">
                <table width="780" cellspacing="0" cellpadding="0" border="0" align="center">
                    <tr>
                        <td style="padding-left:25px" bgcolor="#000000" class="logo" height="75">
                            &nbsp;<asp:ContentPlaceHolder ID="ContentPlaceHolder2" runat="server">
                                </asp:ContentPlaceHolder>
                        </td>
                    </tr>
                    <tr>
                        <td height="22" colspan="2" bgcolor="#5aa2ab">
                            <table width="100%" cellspacing="0" cellpadding="0" border="0">
                                <tr>
                                    <td height="22" bgcolor="#000000" class="text" align="center">
                                        <asp:Menu ID="Menu1" runat="server" BackColor="#B5C7DE"
DataSourceID="SiteMapDataSource2" DynamicHorizontalOffset="2" Font-Names="Verdana" Font-
Size="0.8em" ForeColor="#284E98" StaticSubMenuIndent="10px">
                                            <DynamicHoverStyle BackColor="#284E98" ForeColor="White"
/>
                                            <DynamicMenuItemStyle HorizontalPadding="5px"
VerticalPadding="2px" />
                                            <DynamicMenuStyle BackColor="#B5C7DE" />
                                            <DynamicSelectedStyle BackColor="#507CD1" />
                                            <StaticHoverStyle BackColor="#284E98" ForeColor="White"
/>
                                            <StaticMenuItemStyle HorizontalPadding="5px"
VerticalPadding="2px" />
                                            <StaticSelectedStyle BackColor="#507CD1" />
                                        </asp:Menu>
                                        <asp:SiteMapDataSource ID="SiteMapDataSource2" runat="server"
/>
                                        <asp:SiteMapPath ID="SiteMapPath1" runat="server" Font-
Names="Verdana" Font-Size="0.8em" PathSeparator=" : ">
                                            <CurrentNodeStyle ForeColor="#333333" />
                                            <NodeStyle Font-Bold="True" ForeColor="#990000" />
                                            <PathSeparatorStyle Font-Bold="True" ForeColor="#990000"
/>
                                    </td>
                                </tr>
                            </table>
                        </td>
                    </tr>
                </table>
            </body>
        </div>
    </form>
</body>
</html>
```

```

        <RootNodeStyle Font-Bold="True" ForeColor="#FF8000" />
    </asp:SiteMapPath>
</td>
</tr>
</table>
</td>
</tr>
</table>
<table width="780" cellspacing="0" cellpadding="0" border="0" align="center">
    <tr>
        <td bgcolor="#000000" height="250" valign="top" width="160">
            <table width="160" cellspacing="0" cellpadding="8" border="0">
                <tr>
                    <td class="text">
                        <p>
                            <b>
                                Menu<br>
                                <asp:TreeView ID="TreeView1" runat="server"
DataSourceID="SiteMapDataSource1">
                                </asp:TreeView>
                                <asp:SiteMapDataSource ID="SiteMapDataSource1"
runat="server" />
                            <br>
                        </b>
                    </p>
                </td>
            </tr>
        </table>

        <asp:Label ID="Label1" runat="server" ForeColor="Red" Text="Count Of
Visitors: "></asp:Label>
        <asp:Label ID="lbl_cnt" runat="server" ForeColor="White"></asp:Label>

    </td>
    <td bgcolor="#f21a1a" height="250" valign="top">
        <table width="610" cellspacing="10" cellpadding="0" align="center"
border="0">
            <tr>
                <td valign="top" width="200">
                    <br>
                </td>
                <td valign="top" class="text">
                    <p>
                        <br>
                        <span class="title">Welcome to Mansoura University
DB!</span>
                    </p>
                    <p>
                        <asp:ContentPlaceHolder ID="ContentPlaceholder1"
runat="server">
                    </asp:ContentPlaceHolder>
                    </p>
                    <p>
                        Need website hosting? We recommend <a
href="http://www.lunarpages.com/?id=webdotcom&campaign=tytemplates"
target="_blank"><b>LunarPages</b></a><br>

```

```

<a
href="http://www.lunarpages.com/?id=webdotcom&campaign=tytempl5" target="_blank"></a>
</p>
</td>
</tr>
</table>
<asp:ContentPlaceHolder ID="ContentPlaceHolder3" runat="server">
</asp:ContentPlaceHolder>
</td>
</tr>
</table>
<table width="780" cellpadding="0" cellspacing="0" height="40" border="0"
align="center">
<tr>
<td bgcolor="#FF9900" height="24" class="text" align="center">
Copyright &copy;
2018 Mansoura University. All rights reserved. Designed by <a
href="http://www.playtone.com" target="_blank">Playtone</a>
</td>
</tr>
</table>
</body>
</div>
</form>
</body>
</html>

```

## 4.2 The page Form

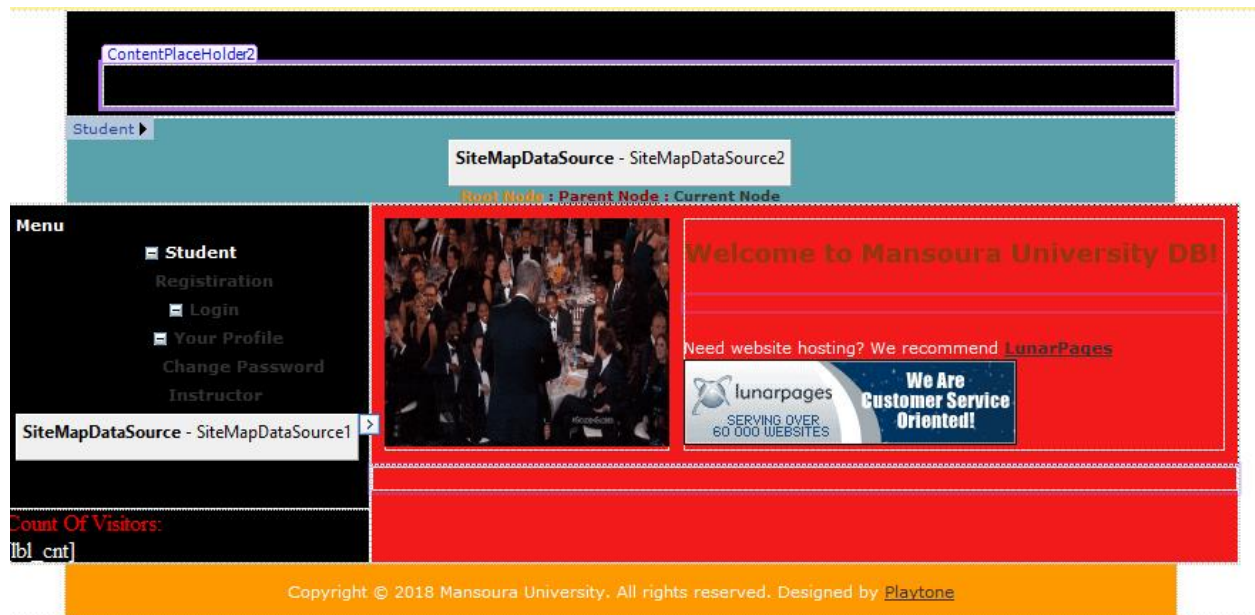


Figure 4-1 - Master Designer page