# MTS9207 Major assignment report

## Task 1 & Task 2

In the progress of completing the assignment, the first thing to do is to study the examples that lecture has provide us. It is a simple program that using recorded account and password combination that can be used to get access to student marks info. Based on that program we can develop our own program.

The logic here is that each user should choose either log in to his account or register as new customer before accessing the database. Thus, all page except register and log in page are redirected to log in page based on the session variables which record the log in status of the user.

The login program is :

We are going to create a signup page for new customers, the method here is to change sql command from select to insert some record to the existing database. And as for new customer the essential two keys are username and password both of these keys are stored in the customer tables. Thus, using ‘ Insert into customer (username,password)’ command and change the values of these keys. The whole command would be “Insert into customers (username,password) values(‘newusername’,’newpasswrod’)”. “newusername” and “newpassword” here is get by the users input which are transferred from the textbox to get these values use ID.text to receive values from html commpont. ID in the circumstances are the ID of these two textboxs.

However, while this command always returns an error as SQL sentence “insert into” syntax error, which has been fixed by changing the “password” key into “psw” and the error disappear and the website functions well. I have not found out why this error keeps coming as I may guess it could be cause by access conflict.

“Object reference not set to an instance of an object.”

## Task 3

The 4 features that I am using is slider, draggable, autocomplete and tooltips. Draggable can be used to drag the result that returns from the server, and for future uses, it can combine with drop to make a convenient data deleting gesture control. As for the autocomplete function, it can be used to aid customer to input record fast and correct. A list of items and words which are related to the orders are saved in availableTags array, each time while user is input the record, the computer is going to compare it with this array to find the most likely word. Tooltips, as it literal means when you point you mouse to an element in your website, the title attribute will display under your mouse, which can be used to guide user to input correct info into correct spaces.

## Task 4

a) The back-forth program is using jquery animation to move a block from left to right, then right to left it is using the callback method of animation function to fulfil this purpose. To make it up and down moving just change the position ‘left’ to ‘top’ which means the distance between the block and the top borders. And to control two boxes to make same movement just need to write another moving program in and make a new block class name is ‘block1’, while slide function was called make two boxes get same command, which makes two boxes moves the same way. And use stop() function to stop boxes moving.

b) as we can see from the source code and the page runs by the browser that there could be some delay for block to move to another side, this is caused by the element that was chosen to move was random. Thus, when an element is in the position that we need it to move to, the program will wait for Time of Interval that we set for the element to move to the destination. The way to change this is simple, we add a pending process for each time when we need the block to move. If the block is on the left half of the distance that block need to move, we make it move to right and vice versa. This can help to get rid of the delay between blocks movement and also can be achieved by one function.

## Task 5

A plugin in jquery is similar with prototype. It can use prototype`s own property and inherited property that has been used in prototype. We may consider jquery plugin is just a new method we used to extend jquery`s prototype object. Basically, plugins can be created by programmers and like the roles prototype in java. It broadens the extension of prototype.

Task 6

1. first we need to gather the info from xml the format like: {“table\_name”:[‘{“key1”:”values1”}’,’{“key2”:”values2”}’]},then we need to change the text into java object by using JSON.parse() function we can finish this process. Notice that we need to put all these data into a HTML table, thus import a new variable to generate <table> tag for us and we need </table> tag after all data was input into the table. The JSON object can be acquired by using obj.employees method to get the data. Using for loop to get all data and remember to add <tr><td> tag to make the table complete.
2. This question has been explained by above question. Using JSON.parse() to transfer text elements into JSON object and using the features of object to shows the result in a HTML table
3. Creating 400 boxes, it is easy to think of using loop to manipulate generate and control such amount of element. To make boxes overlapping by each box is 1inch above another, just alters next box`s top attribute. And the moving speed can be controlled by changing middle arguments of Jquery`s animate function. Moreover, to make boxes moving, use jquery selector to select each box and a Moving function to make it easier to be use. As there is no control requirement simple make the Moving function to callback itself all the time. One thing should be keep in mind is that a Moving function should be used in the loop where you create and manipulate these boxes to keep the consistency of the box moving. Each time a new box is generate, it should be moving right away, so that lagging between boxes can be reduced.

## Appendix

Only partial functional code has been list below due to the limit of the length of this report

### Webpage for Task 1 , Task 2 & Task 3

Default.aspx

<%@ Page Language="C#" AutoEventWireup="true" CodeFile="Default.aspx.cs" Inherits="\_Default" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">

<head runat="server">

<title></title>

<script src="https://code.jquery.com/jquery-1.12.4.js"></script>

<script src="https://code.jquery.com/ui/1.12.1/jquery-ui.js"></script>

<script>

$(function () {

$("#menu").menu();

});

</script>

<style>

.ui-menu { width: 150px; }

</style></head>

<body>

<ul id="menu">

<li><a href="Default.aspx">home</a></li>

<li><a href="register.aspx">registration</a></li>

<li><a href="editing.aspx">edit orders</a></li>

<li><a href="showOrders.aspx">show orders</a></li>

</ul>

<form id="form1" runat="server">

<div>

<asp:Label ID="lblStatus" runat="server"></asp:Label><br />

<asp:Label ID="Label2" runat="server" Text="Username:"></asp:Label>

&nbsp;<asp:TextBox ID="txtUserName" runat="server"></asp:TextBox><br />

Password:&nbsp;

<asp:TextBox ID="txtPassword" runat="server" TextMode="Password"></asp:TextBox><br />

<asp:Button ID="Button1" runat="server" OnClick="Button1\_Click" Text="Login" />

<asp:Button id="Button2" runat="server" OnClick="Button2\_Click" Text="Regist Now"/>

</div></form></body></html>

Default.aspx.cs

using System;

using System.Collections.Generic;

using System.Linq;

using System.Web;

using System.Web.UI;

using System.Web.UI.WebControls;

using System.Data.OleDb;

public partial class \_Default : System.Web.UI.Page

{

OleDbConnection conn = null;

OleDbCommand cmd = null;

OleDbDataReader reader = null;

string sqlCommand;

protected void Button1\_Click(object sender, EventArgs e)

{

try

{

conn = new OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0; Data Source="+ Server.MapPath("pcparts.accdb"));

conn.Open();

sqlCommand = "SELECT \* FROM customers WHERE username='";

sqlCommand = sqlCommand + txtUserName.Text;

sqlCommand = sqlCommand + "' AND psw='" + txtPassword.Text+"'";

//lblStatus.Text = sqlCommand;

cmd = new OleDbCommand(sqlCommand, conn);

reader = cmd.ExecuteReader();

if (reader.Read())

{

Session["loggedIn"] = "true";

Session["username"] = reader["username"];

//lblStatus.Text = "Logged in successfully! ";

Response.Redirect("showOrders.aspx");

}

else

{

Session["loggedIn"] = "false";

lblStatus.Text = "Not authorised: incorrect Username and/or Password";

}}

catch (Exception ex)

{

lblStatus.Text ="An error occured: "+ ex.Message;

}

finally

{

if (reader!=null)

reader.Close();

if (conn!=null)

conn.Close();

}}

protected void Button2\_Click(Object sender,EventArgs s)

{

Response.Redirect("register.aspx");

}}

Register.aspx

<%@ Page Language="C#" AutoEventWireup="true" CodeFile="register.aspx.cs" Inherits="register" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">

<head runat="server">

<title></title>

<script src="https://code.jquery.com/jquery-1.12.4.js"></script>

<script src="https://code.jquery.com/ui/1.12.1/jquery-ui.js"></script>

<script>

$(function () {

$("#menu").menu();

});

</script>

<style>

.ui-menu { width: 150px; }

</style>

</head>

<body>

<ul id="menu">

<li class="class="ui-state-enable"><a href="Default.aspx">home</a></li>

<li><a href="register.aspx">registration</a></li>

<li><a href="editing.aspx">edit orders</a></li>

<li><a href="showOrders.aspx">show orders</a></li>

</ul>

<form id="form1" runat="server">

<div>

username:

<asp:TextBox ID="newAccount" runat="server" Text="" OnTextChanged="newAccount\_TextChanged" >acount</asp:TextBox>

<br />

password:

<asp:TextBox ID="newPass" runat="server" Text="" TextMode="Password"></asp:TextBox>

<br />

emails:

<asp:TextBox ID="email" runat="server" ></asp:TextBox>

<asp:Button ID="Button1" runat="server" Text="Submit" OnClick="Button1\_Click" />

<hr />

<asp:Label ID="instruction" runat="server">

</asp:Label>

</div>

</form>

</body>

</html>

Register.aspx.cs

using System;

using System.Collections.Generic;

using System.Linq;

using System.Web;

using System.Web.UI;

using System.Web.UI.WebControls;

using System.Data.OleDb;

public partial class register : System.Web.UI.Page

{

protected void Button1\_Click(object sender, EventArgs e)

{

OleDbConnection conn = null;

OleDbCommand cmd = null;

OleDbDataReader reader = null;

string sqlCommand;

try

{

conn = new OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0; Data Source="

+ Server.MapPath("pcparts.accdb"));

conn.Open();

sqlCommand = "Insert into customers (username,psw) Values('"+newAccount.Text+"','"+newPass.Text+"')";

cmd = new OleDbCommand(sqlCommand, conn);

cmd.ExecuteNonQuery();

//check if the user has been exist

reader = cmd.ExecuteReader();

}

catch(Exception ex)

{

instruction.Text = "An error occured: "+ex.Message;

}

finally

{

if (reader != null)

reader.Close();

if (conn != null)

conn.Close();

Response.Redirect("Default.aspx");

}

}

}

showOrders.aspx

<%@ Page Language="C#" AutoEventWireup="true" CodeFile="showOrders.aspx.cs" Inherits="showMarks" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">

<head runat="server">

<title></title>

<script src="https://code.jquery.com/jquery-1.12.4.js"></script>

<script src="https://code.jquery.com/ui/1.12.1/jquery-ui.js"></script>

<script>

$(function () {

$("#menu").menu();

});

$(function () {

var handle = $("#custom-handle");

$("#slider").slider({

create: function () {

handle.text($(this).slider("value"));

},

slide: function (event, ui) {

handle.text(ui.value);

}

});

});

$(function () {

$("#GridView1").draggable();

$("#droppable").droppable({

drop: function (event, ui) {

$(this)

.addClass("ui-state-highlight")

.find("p")

.html("Dropped!");

}

});

});

</script>

<style>

.ui-menu { width: 150px; }

#draggable { width: 100px; height: 100px; padding: 0.5em; float: left; margin: 10px 10px 10px 0; }

#droppable { width: 150px; height: 150px; padding: 0.5em; float: left; margin: 10px; background-color:lightyellow; }

#custom-handle {

width: 3em;

height: 1.6em;

top: 50%;

margin-top: -.8em;

text-align: center;

line-height: 1.6em;

</style>

</head>

<body>

<ul id="menu">

<li><a href="Default.aspx">home</a></li>

<li><a href="register.aspx">registration</a></li>

<li><a href="editing.aspx">edit orders</a></li>

<li><a href="showOrders.aspx">show orders</a></li>

</ul>

<form id="form1" runat="server">

<div>

<asp:Label ID="user\_info" runat="server"></asp:Label>

<asp:GridView ID="GridView1" runat="server" AutoGenerateColumns="false" >

<Columns>

<asp:BoundField DataField="ID" HeaderText="OrderNo" />

<asp:BoundField DataField="customerID" HeaderText="Customer ID" />

<asp:BoundField DataField="brand" HeaderText="Brand" />

<asp:BoundField DataField="amount" HeaderText="amount" />

<asp:BoundField DataField="specs" HeaderText="Specs" />

<asp:BoundField DataField="price" HeaderText="Price" />

</Columns>

</asp:GridView>

<br />

<div id="slider">

<div id="custom-handle" class="ui-slider-handle"></div>

</div>

<asp:Button ID="advanced" runat="server" Text="Advanced Query" OnClick="Advance\_Click" />

<br />

<asp:Label ID="Label1" runat="server" Text="Label"></asp:Label>

</div>

<div id="slider"></div>

<div id="droppable" class="ui-widget-header"></div>

</form>

</body>

</html>

showOrder.aspx.cs

using System;

using System.Collections.Generic;

using System.Linq;

using System.Web;

using System.Web.UI;

using System.Web.UI.WebControls;

using System.Data.OleDb;

public partial class showMarks : System.Web.UI.Page

{

protected void Page\_Load(object sender, EventArgs e)

{

if (Session["loggedIn"] == "true")

{

OleDbConnection conn = null;

OleDbCommand cmd = null;

OleDbDataReader reader = null;

string sqlCommand;

try

{

conn = new OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0; Data Source="

+ Server.MapPath("pcparts.accdb"));

conn.Open();

sqlCommand = "SELECT \* FROM orders WHERE customerID='" + Session["username"] + "'";

//lblStatus.Text = sqlCommand;

cmd = new OleDbCommand(sqlCommand, conn);

reader = cmd.ExecuteReader();

user\_info.Text = "Welcome " + Session["username"] + ", your order conditions are listing below:";

GridView1.DataSource = reader;

GridView1.DataBind();

}

catch (Exception ex)

{

Label1.Text = "An error occured: " + ex.Message;

}

finally

{

if (reader != null)

reader.Close();

if (conn != null)

conn.Close();

}

}

else

{

Label1.Text = "You are not authorised";

Response.Redirect("Default.aspx");

}

}

protected void Advance\_Click(object sender, EventArgs e)

{

Response.Redirect("editing.aspx");

}

}

Editing.aspx

<%@ Page Language="C#" AutoEventWireup="true" CodeFile="editing.aspx.cs" Inherits="editing" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">

<script src="https://code.jquery.com/jquery-1.12.4.js"></script>

<script src="https://code.jquery.com/ui/1.12.1/jquery-ui.js"></script>

<title></title>

<script>

$(function () {

var availableTags = [

"brand",

"amount",

"specs",

"price"

];

$("#SearchID").autocomplete({

source: availableTags

});

$("#key").autocomplete({

source: availableTags

});

});

$(function () {

$(document).tooltip();

});

$(function () {

$("#menu").menu();

});

</script>

<style>

.ui-menu { width: 150px; }

</style>

</head>

<body>

<ul id="menu">

<li><a href="Default.aspx">home</a></li>

<li><a href="register.aspx">registration</a></li>

<li><a href="editing.aspx">edit orders</a></li>

<li><a href="showOrders.aspx">show orders</a></li>

</ul>

<form id="form1" runat="server">

<div class="ui-widget">

ID:

<asp:TextBox ID="SearchID" runat="server" title="The key that you want to search for" ></asp:TextBox>

Value:

<asp:TextBox ID="SearchValue" runat="server" title="The value that the key is equal to"></asp:TextBox>

<asp:Button ID="Button1" runat="server" OnClick="Button1\_Click" Text="search" />

<br />

<asp:Label ID="user\_info" runat="server"></asp:Label>

<asp:GridView ID="GridView1" runat="server" AutoGenerateColumns="true"></asp:GridView>

<br />

Inserting data:<br />

Brand:

<asp:TextBox ID="brand" runat="server"></asp:TextBox>

amount:

<asp:TextBox ID="amount" runat="server"></asp:TextBox>

specs:

<asp:TextBox ID="specs" runat="server"></asp:TextBox>

price:

<asp:TextBox ID="price" runat="server"></asp:TextBox>

<asp:Button ID="Button2" runat="server" OnClick="Button2\_Click" Text="Upload record" />

<br />

</div>

</form>

</body>

</html>

Editing.aspx.cs

using System;

using System.Collections.Generic;

using System.Linq;

using System.Web;

using System.Web.UI;

using System.Web.UI.WebControls;

using System.Data.OleDb;

public partial class editing : System.Web.UI.Page

{

OleDbConnection conn = null;

OleDbCommand cmd = null;

OleDbDataReader reader = null;

OleDbCommand cmd1 = null;

OleDbCommand cmd2 = null;

OleDbCommand cmd3 = null;

OleDbCommand cmd4 = null;

string sqlCommand1;

string sqlCommand2;

string sqlCommand3;

string sqlCommand4;

string sqlCommand;

protected void Page\_Load(object sender, EventArgs e)

{

if (Session["loggedIn"] == "true")

{

user\_info.Text = "As an eligiable users you are able to do advanced qurys";

}

else

{

user\_info.Text = "You are not authorised";

Response.Redirect("Default.aspx");

}

}

protected void Button1\_Click(object sender, EventArgs s)

{

try

{

conn = new OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0; Data Source="

+ Server.MapPath("pcparts.accdb"));

conn.Open();

sqlCommand = "SELECT \* FROM orders WHERE brand ='"+SearchID.Text+"' and cusotmerID ='"+Session["username"]+"'";

cmd = new OleDbCommand(sqlCommand, conn);

reader = cmd.ExecuteReader();

GridView1.DataSource = reader;

GridView1.DataBind();

}

catch

{

user\_info.Text = "No such record exist";

}

finally

{

if (reader != null)

reader.Close();

if (conn != null)a

conn.Close();

}

}

protected void Button2\_Click(object sender, EventArgs e)

{

try

{

conn = new OleDbConnection("Provider=Microsoft.ACE.OLEDB.12.0; Data Source="

+ Server.MapPath("pcparts.accdb"));

conn.Open();

sqlCommand1 = "insert into orders (customerID, brand, amount,specs, price) values ('" + Session["username"] + "','" + brand.Text + "','" + amount.Text + "','" + specs.Text + "','" + price.Text + "')";

cmd1 = new OleDbCommand(sqlCommand1, conn);

reader = cmd1.ExecuteReader();

sqlCommand4 = "select \* from orders where customerID= '" + Session["username"] + "'";

cmd4 = new OleDbCommand(sqlCommand4, conn);

reader = cmd4.ExecuteReader();

GridView1.DataSource = reader;

GridView1.DataBind();

}

catch(Exception ex)

{

user\_info.Text = ex.Message;

}

finally

{

if (reader != null)

reader.Close();

if (conn != null)

conn.Close();

}

}

}

### Task 4

Up-down.html

<!DOCTYPE html>

<html>

<head>

<title>X</title>

<style>

#block {

right: 200px;

background: red;

height: 100px;

position: absolute;

width: 100px;

}

#block1 {

left: 200px;

background: yellow;

height: 100px;

position: absolute;

width: 100px;

}

</style>

<script src="http://code.jquery.com/jquery-latest.min.js"></script>

<script>

var slideDir = "d";

function slideDown() {

slideDir = "d";

// slide to right

$("#block").animate({

top: "200px"

}, 2000, function() {

slideUp();

});

$("#block1").animate({

top: "200px"

}, 2000, function() {

slideUp();

});

}

function slideUp() {

slideDir = "u";

// slide to right

$("#block").animate({

top: "0px"

}, 2000, function() {

slideDown();

});

$("#block1").animate({

top: "0px"

}, 2000, function() {

slideDown();

});

}

$(document).ready(function() {

$("#start").on("click", function() {

if (slideDir == "d") {

slideDown();

} else {

slideUp();

}

});

$("#stop").on("click", function() {

$("#block").stop(true);

$("#block1").stop(true);

});

});

</script>

</head>

<body>

<button id="start">start</button>

<button id="stop">stop</button>

<div id="block"></div>

<div id="block1"></div>

</body>

</html>

Randomselection.html

<!DOCTYPE html>

<html>

<head>

<script src="1.js"></script>

<script>

var Stopped=false;

var TimeInterval=1000; //milli-second

var b=["#a", "#b", "#c", "#d" ,"#e" ,"#f"]

function forward(){

i=Math.floor(Math.random() \* 6);

var pos=$(b[i]).position().left;

if(pos<500)

{

$(b[i]).animate({

left:'1000px',

},TimeInterval,forward);

}

else {

$(b[i]).animate({

left:'0px',

},TimeInterval,forward);

}

}

$(document).ready(function(){

$("#m").click(forward);

$("#fast").click(function(){

TimeInterval=TimeInterval\*0.9

});

$("#slow").click(function(){

TimeInterval=TimeInterval/0.9

});

});

</script>

</head>

<body>

<button id="m" >Start Animation</button>

<button id="fast">Faster</button>

<button id="slow">Slower</button>

<div style="background:#ff0000;left:100px;top:100px;height:100px;width:100px;position:absolute;" id="a">

Learn

</div>

<div style="background:#00ff00;left:200px;top:100px;height:100px;width:100px;position:absolute;" id="b">

jQuery

</div>

<div style="background:#0000ff;left:300px;top:100px;height:100px;width:100px;position:absolute;" id="c">

very

</div>

<div style="background:#ffff00;left:400px;top:100px;height:100px;width:100px;position:absolute;" id="d">

effectively

</div>

<div style="background:#ff00ff;left:500px;top:100px;height:100px;width:100px;position:absolute;" id="e">

Learn

</div>

<div style="background:#00ffff;left:600px;top:100px;height:100px;width:100px;position:absolute;" id="f">

</body>

</html>

### Task 5

Blplugin.html

<!DOCTYPE html>

<html>

<head>

<title>plugin</title>

<style>

.pic {

height: 100px;

position: absolute;

width: 100px;}

#img1{

left:0px;

top:0px;

}

#img2{

left:0px;

top:150px;

}

#img3{

left:0px;

top:300px;

}

#img4{

left:0px;

top:450px;

}

#img5{

left:0px;

top:600px;

}

</style>

<script src="http://code.jquery.com/jquery-latest.min.js">

</script>

<script>

(function(){

$.fn.testPlugin=function(){

return this.each(function(){

var side=$(this);

var slideDir = "d";

function slideRight() {

slideDir = "r";

// slide to right

side.animate({

left: "1000px"

}, 1000, function() {

slideLeft();

});

};

function slideLeft() {

slideDir = "l";

// slide to right

side.animate({

left: "0px"

}, 1000, function() {

slideRight();

});

};

if (slideDir == "r") {

slideRight();

} else {

slideLeft();

};

})}

}());

$(document).ready(function() {

var laptop=["#img1","#img2","#img3","#img4","#img5"];

for(var i=0;i<laptop.length;i++){

$(laptop[i]).testPlugin();}}

);

</script>

</head>

<body>

<img id="img1" class="pic" src="macbook12.jpg">

<img id="img2" class="pic" src="xps13.jpg">

<img id="img3" class="pic" src="hpx360.jpg">

<img id="img4" class="pic" src="matebookx.jpg">

<img id="img5" class="pic" src="zenbook3.jpg">

</body>

</html>

### Task 6

Employee.html

<!DOCTYPE html>

<html>

<head>

<script src="http://code.jquery.com/jquery-latest.min.js">

</script>

</head>

<body>

<p id="p1"></p>

<script>

var text='{"employees":['+

'{"firstName":"John", "lastName":"Doe"},'+

'{"firstName":"Anna","lastName":"Smith"},'+

'{"firstName":"Peter", "lastName":"Jones"}]}';

var structure="";

var obj=JSON.parse(text);

structure+="<table border='solid'>";

for (var i=0;i<obj.employees.length;i++){

structure+="<tr><td>"+obj.employees[i].firstName+"."+obj.employees[i].lastName+"</td></tr>";

};

structure+="</table>";

document.getElementById("p1").innerHTML=structure;

</script>

</body>

</html>

400boxes.html

<html>

<head>

<script src="http://code.jquery.com/jquery-latest.min.js"></script>

<style>

.snake {position: relative; }

.snake div {position: absolute; }

</style>

<script>

$(document).ready(function(){

var divs=[];

var size=400;

var time=2000;

function randomColor(args){

r=Math.floor(Math.random()\*255);

g=Math.floor(Math.random()\*255);

b=Math.floor(Math.random()\*255);

rgb="rgb("+r+","+g+","+b+")";

args.css("background-color",rgb);

}

function Moving(i) {

var div=divs[i].element;

div.animate({left:'1000px'},time+50\*i,function() {

div.animate({left:'0px'},time+50\*i);

Moving(i);

})

};

for(var i=0;i<size;i++){

var div={

element:$('<div style="height:100px;width:100px;position:absolute;"></div>')

}

div.element.css('top',i+'px');

randomColor(div.element);

$(".snake").append(div.element);

divs.push(div);

Moving(i);

}

})

</script>

</head>

<body>

<div class="snake"></div>

</body>

</html>