

## Macau University of Science and Technology

Title: Online Grading System Report

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#### **INTRODUCTION**

Online Grading System Design is a web application developed by ASP.NET Web application (.NET Framework) in C# Language. In this project, I used two software to build it Visual Studio 2019 and SQL Server Management Studio 18. Besides, the test software is Google Chrome.

This online grading system is a web-based application will be developed using ASP.NET and SQL Server. The main purpose of this system is to facilitate calculation of the average marks or grades of a student through online.

This report mainly describes:

- 1. Table designed in SQL Server Management
- 2.GUI designed in ASP.NET and each website main function
- 3. Interface Operation Manual by user

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## **SQL Design**

## **Create Database and Schema**

The first work is creating a database, I create a database called whb. Secondly, we open the whb database find security -> schema -> new schema then we add four schemas Person, Student, Teacher, Homework in the whb database

## **Create Table**

#### Table 1: Person.Person

#### Description:

This table is used to create school personnel information, there has five information in this table, SchoolEntityID, PersonType, FirstName, LastName and ModifiedDate.

SchoolEntityID(Primary Key): It is used to indicate a person's ID in school.

PersonType: It is used to indicate whether a person is a teacher or a student.

FirstName: It is used to form a name and represents a person's first name.

LastName: It is used to form a name and represents a person's last name.

ModifiedDate: It is used to record the date of change.

#### Design Table: (Bold text is the primary key)

Number	Column Name	Туре	Allow Null values
1	SchoolEntityID	int	×
2	PersonType	nchar(2)	×
3	FirstName	nvarchar(50)	×
4	LastName	nvarchar(50)	×
5	ModifiedDate	datetime	V

#### Code:

```
CREATE TABLE [Person].[Person](
        [SchoolEntityID] [int] NOT NULL,
        [PersonType] [nchar](2) NOT NULL,
        [FirstName] [nvarchar](50) NOT NULL,
        [LastName] [nvarchar](50) NOT NULL,
        [ModifiedDate] [datetime] NULL,

CONSTRAINT [PK_Person] PRIMARY KEY CLUSTERED
(
        [SchoolEntityID] ASC
```

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, IGNORE\_DUP\_KEY =
OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON, OPTIMIZE\_FOR\_SEQUENTI
AL\_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]

Structure: This is the structure of Person.Person and the yellow key is PRIMARY KEY

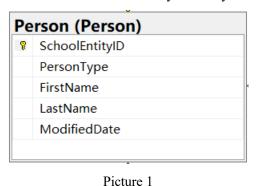


Table 2: Teacher.Teacher

#### Description:

This table is used to create teachers in school information, there has seven information in this table, SchoolEntityID, TeacherID, FirstName, LastName, Gender, BirthDate and ModifiedDate.

SchoolEntityID(Primary Key): It is used to indicate a teacher ID in school.

TeacherID(Foreign Key): It is used to indicate a teacher's ID and it is login id.

FirstName: It is used to form a name and represents a teacher's first name.

LastName: It is used to form a name and represents a teacher's last name.

Gender: It is used to indicate a teacher's sex.

BirthDate: It is used to indicate a teacher's Birthday. ModifiedDate: It is used to record the date of change.

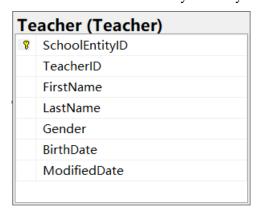
Design Table: (Bold text is the primary key)

Number	Column Name	Type	Allow Null values
1	SchoolEntityID	int	×
2	TeacherID	nvarchar(256)	×
3	FirstName	nvarchar(50)	×
4	LastName	nvarchar(50)	×
5	Gender	nchar(1)	×
6	BirthDate	date	$\sqrt{}$
7	ModifiedDate	datetime	V

Code:

```
[SchoolEntityID] [int] NOT NULL,
    [TeacherID] [nvarchar](256) NOT NULL,
    [FirstName] [nvarchar](50) NOT NULL,
    [LastName] [nvarchar](50) NOT NULL,
    [Gender] [nchar](1) NOT NULL,
    [BirthDate] [date] NULL,
    [ModifiedDate] [datetime] NULL,
 CONSTRAINT [PK_Teacher] PRIMARY KEY CLUSTERED
    [SchoolEntityID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY =
OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTI
AL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
ALTER TABLE [Teacher].[Teacher] WITH CHECK ADD CONSTRAINT [FK_Teacher
_Person] FOREIGN KEY([SchoolEntityID])
REFERENCES [Person].[Person] ([SchoolEntityID])
GO
ALTER TABLE [Teacher].[Teacher] CHECK CONSTRAINT [FK_Teacher_Person]
GO
```

Structure: This is the structure of Teacher Teacher and the yellow key is PRIMARY KEY



Picture 2

#### **Table 3: Student.Student**

#### Description:

This table is used to create students in school information, there has eight information in this table, SchoolEntityID, StudentID, FirstName, LastName, Gender, BirthDate, EmailAddress and ModifiedDate.

SchoolEntityID(Primary Key): It is used to indicate a student ID in school.

StudentID(Foreign Key): It is used to indicate a student's ID and it is login id.

FirstName: It is used to form a name and represents a student's first name.

LastName: It is used to form a name and represents a student's last name.

Gender: It is used to indicate a student's sex.

BirthDate: It is used to indicate a student's Birthday.

EmailAddress: It is used to indicate a student's Email address.

ModifiedDate: It is used to record the date of change.

#### Design Table: (Bold text is the primary key)

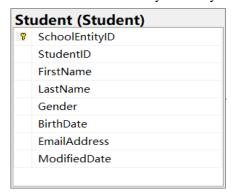
Number	Column Name	Type	Allow Null values
1	SchoolEntityID	int	×
2	TeacherID	nvarchar(256)	×
3	FirstName	nvarchar(50)	×
4	LastName	nvarchar(50)	×
5	Gender	nchar(1)	×
6	BirthDate	nvarchar(50)	$\sqrt{}$
7	EmailAddress	nvarchar(50)	V
8	ModifiedDate	datetime	$\sqrt{}$

#### Code:

```
CREATE TABLE [Student].[Student](
    [SchoolEntityID] [int] NOT NULL,
    [StudentID] [nvarchar](256) NOT NULL,
    [FirstName] [nvarchar](50) NOT NULL,
    [LastName] [nvarchar](50) NOT NULL,
    [Gender] [nchar](1) NOT NULL,
    [BirthDate] [nvarchar](50) NULL,
    [EmailAddress] [nvarchar](50) NULL,
    [ModifiedDate] [datetime] NULL,
 CONSTRAINT [PK_Student] PRIMARY KEY CLUSTERED
    [SchoolEntityID] ASC
)WITH (PAD INDEX = OFF, STATISTICS NORECOMPUTE = OFF, IGNORE DUP KEY =
OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTI
AL KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
ALTER TABLE [Student].[Student] WITH CHECK ADD CONSTRAINT [FK_Student
Person] FOREIGN KEY([SchoolEntityID])
REFERENCES [Person].[Person] ([SchoolEntityID])
GO
```

ALTER TABLE [Student].[Student] CHECK CONSTRAINT [FK\_Student\_Person]
GO

Structure: This is the structure of Student.Student and the yellow key is PRIMARY KEY



Picture3

#### Table 4: Person.Password

#### Description:

This table is used to create school personnel password information, there has five information in this table, SchoolEntityID, LoginID, Password, PersonType and ModifiedDate.

SchoolEntityID(Primary Key): It is used to indicate a person's ID in school.

LoginID: It is a person's ID, use it can login online grading system

Password: It is a person's password, use it can login online grading system

PersonType: It is used to indicate whether a person is a teacher or a student.

ModifiedDate: It is used to record the date of change.

Design Table: (Bold text is the primary key)

Number	Column Name	Type	Allow Null values
1	SchoolEntityID	int	×
2	LoginID	nvarchar(256)	×
3	Password	varchar(10)	×
4	PersonType	nchar(2)	×
5	ModifiedDate	datetime	V

#### Code:

```
[SchoolEntityID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY =
OFF, ALLOW ROW LOCKS = ON, ALLOW PAGE LOCKS = ON, OPTIMIZE FOR SEQUENTI
AL KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
ALTER TABLE [Person].[Password] WITH CHECK ADD CONSTRAINT [FK Passwor
d_Person] FOREIGN KEY([SchoolEntityID])
REFERENCES [Person].[Person] ([SchoolEntityID])
GO
ALTER TABLE [Person].[Password] CHECK CONSTRAINT [FK_Password_Person]
GO
EXEC sys.sp_addextendedproperty @name=N'MS_Description', @value=N'Rando
m value concatenated with the password string before the password is ha
shed.' , @levelOtype=N'SCHEMA',@levelOname=N'Person', @level1type=N'TAB
LE',@level1name=N'Password', @level2type=N'COLUMN',@level2name=N'Passwo
rd'
GO
```

Structure: This is the structure of Person.Password and the yellow key is PRIMARY KEY



Picture4

#### Table 5: Teacher.Course

#### Description:

This table is used to create courses by teachers, there has three information in this table, CourseID, CourseName, TeacherID.

CourseID(Primary Key): It is used to indicate a course's ID in school.

CourseName: It is used to record teacher's course.

TeacherID: It is used to indicate a teacher's ID and it is login id.

Design Table: (Bold text is the primary key)

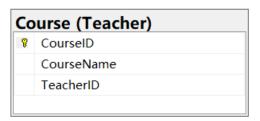
Number	Column Name	Туре	Allow Null values
1	CourseID	int	×
2	CourseName	nvarchar(50)	×
3	TeacherID	nvarchar(256)	×

#### Code:

```
CREATE TABLE [Teacher].[Course](
       [CourseID] [int] NOT NULL,
       [CourseName] [nvarchar](50) NOT NULL,
       [TeacherID] [nvarchar](256) NOT NULL,

CONSTRAINT [PK_Course] PRIMARY KEY CLUSTERED
(
       [CourseID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTI AL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
```

Structure: This is the structure of Teacher. Course and the yellow key is PRIMARY KEY



Picture 5

#### **Table 6: Student.Course**

#### Description:

This table is used to create student's courses by teachers, there has three information in this table, CourseID, Course, StudentID.

CourseID(Primary Key): It is used to indicate a course's ID in school.

Course: It is used to record student's course.

StudentID: It is used to indicate a student's ID and it is login id.

Design Table: (Bold text is the primary key)

Number	Column Name	Type	Allow Null values
1	CourseID	int	×
2	Course	nvarchar(50)	×

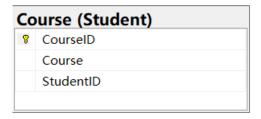
3 StudentID	nvarchar(256)	×
-------------	---------------	---

#### Code:

```
CREATE TABLE [Student].[Course](
     [CourseID] [int] NOT NULL,
     [Course] [nvarchar](50) NOT NULL,
     [StudentID] [nvarchar](256) NOT NULL,

CONSTRAINT [PK_Course] PRIMARY KEY CLUSTERED
(
     [CourseID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY =
OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTI
AL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY]
```

Structure: This is the structure of Student. Course and the yellow key is PRIMARY KEY



Picture 6

#### Table 7: Teacher. Homework

#### Description:

This table is used to create homework by teachers, there has fifteen information in this table, HomeworkID, TeacherID, Course, Title, Homework1, Homework1\_Weight, Homework2\_Weight, Homework3, Homework3\_Weight, Homework4, Homework4\_Weight, Homework5 and Homework5\_Weight

HomeworkID (Primary Key): It is used to indicate a homework's ID by teacher.

TeacherID: It is used to record which teacher left the homework.

Course: It is used to record which class left the homework.

Title: The homework title.

Homework1: The teacher left the first topic that students need to complete.

Homework1 Weight: The points of first topic.

Homework2: The teacher left the second topic that students need to complete.

Homework2\_Weight: The points of second topic.

Homework3: The teacher left the third topic that students need to complete.

Homework3\_Weight: The points of third topic.

Homework4: The teacher left the fourth that students need to complete.

Homework4 Weight: The points of fourth topic.

Homework5: The teacher left the fifth topic that students need to complete.

Homework5 Weight: The points of fifth topic.

DueDate: It is used to record the student Submission Assignment time.

Design Table: (Bold text is the primary key)

Number	Column Name	Type	Allow Null values
1	HomeworkID	int	×
2	TeacherID	nvarchar(256)	×
3	Course	nvarchar(50)	×
4	Title	nvarchar(100)	×
5	Homework1	nvarchar(MAX)	×
6	Homework1_Weight	float	×
7	Homework2	nvarchar(MAX)	$\sqrt{}$
8	Homework2_Weight	float	$\sqrt{}$
9	Homework3	nvarchar(MAX)	$\checkmark$
10	Homework3_Weight	float	$\sqrt{}$
11	Homework4	nvarchar(MAX)	$\sqrt{}$
12	Homework4_Weight	float	$\sqrt{}$
13	Homework5	nvarchar(MAX)	V
14	Homework5_Weight	float	V
15	DueDate	datetime	V

#### Code:

```
CREATE TABLE [Teacher].[Homework](
    [HomeworkID] [int] NOT NULL,
    [TeacherID] [nvarchar](256) NOT NULL,
    [Course] [nvarchar](50) NOT NULL,
    [Title] [nvarchar](100) NOT NULL,
    [Homework1] [nvarchar](max) NOT NULL,
    [Homework1_Weight] [float] NOT NULL,
    [Homework2] [nvarchar](max) NULL,
    [Homework2_Weight] [float] NULL,
    [Homework3] [nvarchar](max) NULL,
    [Homework3_Weight] [float] NULL,
    [Homework4] [nvarchar](max) NULL,
    [Homework4_Weight] [float] NULL,
    [Homework5] [nvarchar](max) NULL,
    [Homework5_Weight] [float] NULL,
    [DueDate] [datetime] NULL,
 CONSTRAINT [PK Homework] PRIMARY KEY CLUSTERED
    [HomeworkID] ASC
```

```
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY =
OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTI
AL_KEY = OFF) ON [PRIMARY]
) ON [PRIMARY] TEXTIMAGE_ON [PRIMARY]
GO
```

Structure: This is the structure of Teacher. Homework and the yellow key is PRIMARY KEY

Но	mework (Teacher)
P	HomeworkID
	TeacherID
	Course
	Title
	Homework1
	Homework1_Weight
	Homework2
	Homework2_Weight
	Homework3
	Homework3_Weight
	Homework4
	Homework4_Weight
	Homework5
	Homework5_Weight
	DueDate

Picture 7

#### **Table 8: Homework.Student**

#### Description:

This table is used to the homework and it is need answer by students, there has twenty fourth information in this table, ID, HomeworkID, StudentID, TeacherID, Course, Title, TotalScore, Answer1\_Score, Answer1\_Evaluation, Answer2\_Score, Answer2\_Evaluation, Answer3\_Score, Answer3\_Evaluation, Answer4\_Answer4\_Score, Answer4\_Evaluation, Answer5, Answer5\_Score, Answer5\_Evaluation.

ID(Primary Key): It is used to indicate homework ID each update homework students.

HomeworkID: It is used to record which teacher left the homework.

StudentID: It is used to record which student update the homework.

TeacherID: It is used to record which teacher left the homework.

Course: The class number of the homework.

Title: The title of the homework.

TotalScore: The score of the whole homework.

Answer1: The student who answer the first question

Answer1 Score: The student gets the point from the first question.

Answer1 Evaluation: The teacher evaluation the first question which is answer by student

Answer2: The student who answer the second question

Answer2 Score: The student gets the point from the second question.

Answer2 Evaluation: The teacher evaluation the second question which is answer by student

Answer3: The student who answer the third question

Answer3 Score: The student gets the point from the third question.

Answer3 Evaluation: The teacher evaluation the third question which is answer by student

Answer4: The student who answer the fourth question

Answer4\_Score: The student gets the point from the fourth question.

Answer4 Evaluation: The teacher evaluation the fourth question which is answer by student

Answer5: The student who answer the fifth question

Answer5 Score: The student gets the point from the fifth question.

Answer5 Evaluation: The teacher evaluation the fifth question which is answer by student

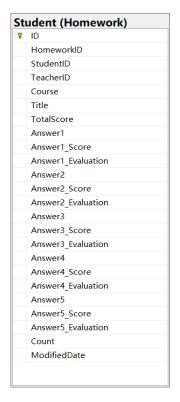
#### Design Table: (Bold text is the primary key)

Number	Column Name	Type	Allow Null values
1	ID	int	×
2	HomeworkID	int	×
3	StudentID	nvarchar(256)	×
4	TeacherID	nvarchar(256)	×
5	Course	nvarchar(50)	$\sqrt{}$
6	Title	nvarchar(100)	$\sqrt{}$
7	TotalScore	float	$\sqrt{}$
8	Answer1	nvarchar(MAX)	$\sqrt{}$
9	Answer1_Score	nvarchar(MAX)	$\sqrt{}$
10	Answer1_Evaluation	float	$\sqrt{}$
11	Answer2	nvarchar(MAX)	$\sqrt{}$
12	Answer2_Score	float	$\sqrt{}$
13	Answer2_Evaluation	nvarchar(MAX)	$\sqrt{}$
14	Answer3	nvarchar(MAX)	$\sqrt{}$
15	Answer3_Score	float	$\sqrt{}$
16	Answer3_Evaluation	nvarchar(MAX)	$\sqrt{}$
17	Answer4	nvarchar(MAX)	$\sqrt{}$
18	Answer4_Score	float	$\sqrt{}$
19	Answer4_Evaluation	nvarchar(MAX)	$\sqrt{}$
20	Answer5	nvarchar(MAX)	$\sqrt{}$
21	Answer5_Score	float	$\sqrt{}$
22	Answer5_Evaluation	nvarchar(MAX)	$\sqrt{}$
23	Count	int	V
24	ModifiedDate	datetime	V

Code:

```
CREATE TABLE [Homework].[Student](
    [ID] [int] NOT NULL,
    [HomeworkID] [int] NOT NULL,
    [StudentID] [nvarchar](256) NOT NULL,
    [TeacherID] [nvarchar](256) NOT NULL,
    [Course] [nvarchar](50) NULL,
    [Title] [nvarchar](100) NULL,
    [TotalScore] [float] NULL,
    [Answer1] [nvarchar](max) NULL,
    [Answer1_Score] [float] NULL,
    [Answer1_Evaluation] [nvarchar](max) NULL,
    [Answer2] [nvarchar](max) NULL,
    [Answer2_Score] [float] NULL,
    [Answer2 Evaluation] [nvarchar](max) NULL,
    [Answer3] [nvarchar](max) NULL,
    [Answer3 Score] [float] NULL,
    [Answer3_Evaluation] [nvarchar](max) NULL,
    [Answer4] [nvarchar](max) NULL,
    [Answer4_Score] [float] NULL,
    [Answer4_Evaluation] [nvarchar](max) NULL,
    [Answer5] [nvarchar](max) NULL,
    [Answer5_Score] [float] NULL,
    [Answer5_Evaluation] [nvarchar](max) NULL,
    [Count] [int] NULL,
    [ModifiedDate] [datetime] NULL,
 CONSTRAINT [PK_Student_1] PRIMARY KEY CLUSTERED
    [ID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY =
OFF, ALLOW ROW LOCKS = ON, ALLOW PAGE LOCKS = ON, OPTIMIZE FOR SEQUENTI
AL KEY = OFF) ON [PRIMARY]
) ON [PRIMARY] TEXTIMAGE_ON [PRIMARY]
GO
```

Structure: This is the structure of Homework.Student and the yellow key is PRIMARY KEY

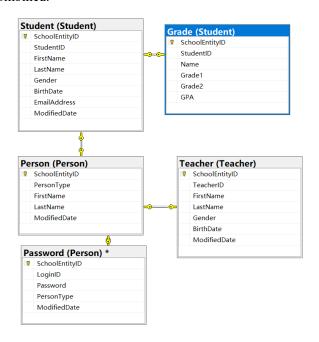


Picture 8

## **Combine Tables**

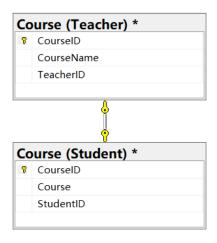
There have three tables need combined.

Combine Table1: Table Person.Person, Teacher.Teacher, Student.Student, Person.Password, Student.Grade are combined.



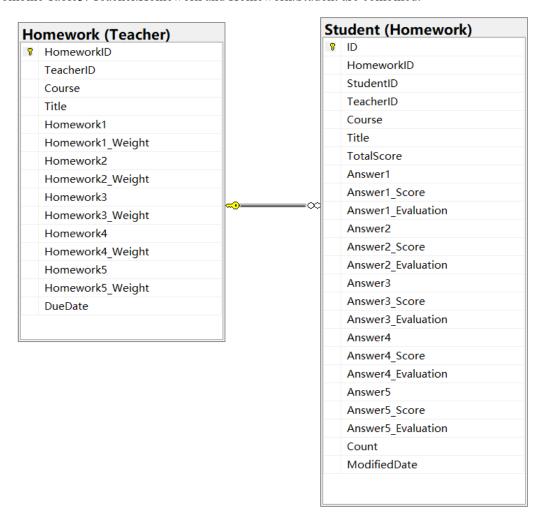
Picture 9

Combine Table 2: Table Teacher. Course and Student. Course are combined.



Picture 10

Combine Table3: Teacher. Homework and Homework. Student are combined.



Picture 11: two tables are combined they have already connet

## ASP.NET Design

## **Create ASP.NET**

Firstly, Open the Visual Studio 2019. Secondly, Create ASP.NET Web application (.NET Framework) in C# language then Select Add -> New Item -> Web form , input name and add it create a new web.

## **Create Website**

### Website name: Login.aspx

#### Description:

This page is a login page, teachers and students can use their ID(StudentID, TeacherID) and password to login Online Grading System.

#### Realized function:

1. Get username and password from Front-end.

```
string username = TextBox1.Text;
string password = TextBox2.Text;
```

2. By change the RadioButtonList to realize the different login interfaces for students and teachers.

```
radSale.Equals("0") == true
```

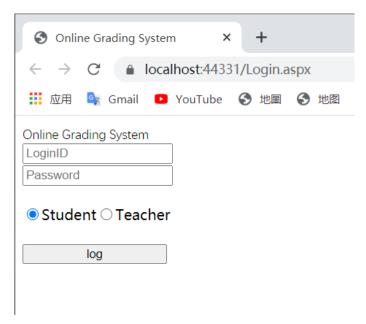
3. Data read from the database and data read from the Front-end match each other.

```
SqlConnection con = new SqlConnection(@"Server=(local);Data Source = LAP
TOP-BSO7LT4F\SQLEXPRESS;Initial Catalog=whb;Integrated Security=True");
SqlCommand cmd = new SqlCommand(sql);
cmd.Connection = con;
con.Open();
SqlDataReader data = cmd.ExecuteReader();
```

4. Page jump with username.

```
Response.Redirect("TeacherPage_Home.aspx?name="+username);
```

#### GUI design:



Picture 12: Login in interface

### Website name: TeacherPage Home.aspx

#### Description:

This page is Teacher page, teachers can Modify student information and it is also can jump to Student Account Creation Page, Management of the Assignments Page, Assignment Marking Page and Management of Student Course Page.

#### Realized function:

1. Use sqlDataSource to connect to the database and use GridView to display it.

```
<asp:GridView ID="GridView1" runat="server" AutoGenerateColumns="
False" DataKeyNames="..." DataSourceID="SqlDataSource1" CellPadding
="..." ForeColor="..." GridLines="None"></asp:GridView>

<asp:SqlDataSource ID="SqlDataSource1" runat="server" ConnectionS
tring="..." OnSelecting="..." SelectCommand="..." ConflictDetection="..."
DeleteCommand="...">
```

2. Teachers can Update student information through GridView and update to the database.

3. Teachers can Delete student information through GridView and update to the database.

```
...
</DeleteParameters>
```

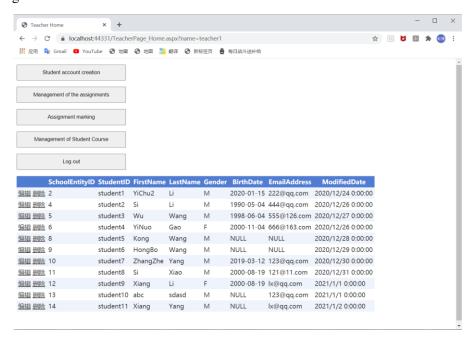
4. Page jump with username.

```
Response.Redirect(".../aspx?name="+username);
```

5. Logout button.

```
Response.Redirect("Login.aspx");
```

#### GUI design:



Picture 13: Teacher Page: Teacher Home

## Website name: TeacherPage StudentAccountCreation.aspx

#### Description:

This page is Teacher page. The teacher can create an account for each student. The teacher goes to a website and enters the student information into the database. The student information can be the student name, email address and birthday, etc. Student ID will be automatically generated, of course, if the teacher or student wants to change it can also be changed in the GridView.

#### Realized function:

1. Get user input from textbox.

```
string ... = (...).Text;
```

2. StudentID and SchoolEntityID is automatically generated.

```
//Get max SchoolEntityID
int maxid;
sql = "SELECT MAX(SchoolEntityID) AS MAXID FROM Person.Person";
SqlCommand cmd = new SqlCommand(sql);
cmd.Connection = con;
```

```
maxid = (int)cmd.ExecuteScalar() + 1;//The new student SchoolEntityID
```

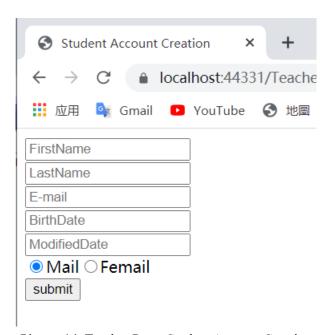
3. At the same time insert the data in Person.Person, Student.Student, Person.Password.

```
//Person.Person
sql = "INSERT INTO Person.Person(...) values('"+...+"','"+...+"')";
SqlCommand cmd_insert_pp = new SqlCommand(sql);
cmd_insert_pp.Connection = con;
cmd_insert_pp.ExecuteNonQuery();
//Student.Student
...
//Person.Password
...
```

4. If successfully inserted, there will be a success prompt.

```
Response.Write("<script>alert('success')</script>");
```

#### GUI design:



Picture 14: Teacher Page: Student Account Creation

## Website name: TeacherPage\_ManagementOfTheAssignment.aspx

#### Description:

This page is Teacher page. The teacher can create an assignment to the students. An assignment has several tasks or questions, for each question there is a weight associated with it. The teacher can go to a website and enters the questions with the title and the weight for each assignment.

#### Realized function:

1. Teacher can click the calendar to select a assignment deadline date.

```
string str = Calendar1.SelectedDate.ToString("yyyy-MM-dd");
```

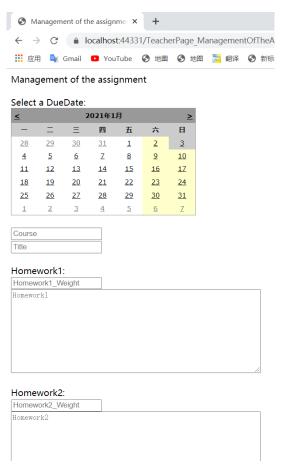
2. Get user input from textbox.

```
string ... = (...).Text;
```

3. Insert the assignment and course into SQL table Teacher. Homework and Teacher. Course.

```
string sql;
sql = "INSERT INTO Teacher.Course(...) values('" + ... + "','" + ... + "')";
SqlCommand cmd = new SqlCommand(sql);
cmd.Connection = con; cmd.ExecuteNonQuery();
```

#### GUI design:



Picture 15: Teacher Page: Management of the assignment

### Website name: TeacherPage AssignmentMarking.aspx

#### Description:

This page is Teacher page. When the students submit their assignment, the teacher can give a grade as well as comments for each question or assignment.

#### Realized function:

1. Use sqlDataSource to connect to the database and use GridView to display it.

```
<asp:GridView ID="GridView1" runat="server" AutoGenerateColumns="
False" DataKeyNames="..." DataSourceID="SqlDataSource1" CellPadding
="..." ForeColor="..." GridLines="None"></asp:GridView>
```

```
<asp:SqlDataSource ID="SqlDataSource1" runat="server" ConnectionS
tring="..." OnSelecting="..." SelectCommand="..." ConflictDetection="..."
DeleteCommand="...">
```

2. Teacher can click Details then can check student Assignment.

```
casp:ButtonField CommandName="Details" Text="Details" />
protected void btnOpenClick(object sender, GridViewCommandEventArgs e)

{
    if (e.CommandName == "Details")
    {
        int RowIndex = Convert.ToInt32(e.CommandArgument);
        string ID = GridView1.Rows[RowIndex].Cells[0].Text;
        string HomeworkID = GridView1.Rows[RowIndex].Cells[1].Text;
        string StudentID = GridView1.Rows[RowIndex].Cells[2].Text;
        string userName = Request.QueryString["name"];
        Response.Redirect("(...).aspx");
    }
}
```

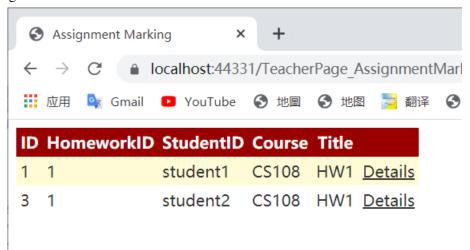
3. Teacher can only see your student Assignment.

```
<asp:QueryStringParameter Name="TeacherID" QueryStringField="name
" Type="String" />
```

4. Page jump to Homework Teacher.aspx with username, StudentID and HomeworkID.

```
Response.Redirect("Homework_Teacher.aspx?name=" + ...
+"&StudentID="+ ... + "&ID=" + ID+ "&HomeworkID="+...);
```

#### GUI design:



Picture 16: Teacher Page: Management of the assignment

## Website name: TeacherPage\_ManagementOfStudentCourse.aspx

#### Description:

This page is Teacher page. Teacher can add student who need attend class. Then Student can find

the Homework assigned by the teacher in their summary assignment Page.

#### Realized function:

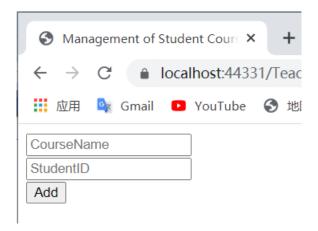
1. Get user input from textbox.

```
string ... = (...).Text;
```

2. Insert the student course into SQL table Student.Course.

```
string sql;
sql = "INSERT INTO Student.Course(...) values('" + ... +
SqlCommand cmd = new SqlCommand(sql);
cmd.Connection = con; cmd.ExecuteNonQuery();
```

#### GUI design:



Picture 17: Teacher Page: Management of Student Course

### Website name: StudentPage Home.aspx

#### Description:

This page is Student page. Students can Modify themselves information and it is also can jump to Assignment submission Page, Summary of the assignment Page and Logout Page.

#### Realized function:

1. Use sqlDataSource to connect to the database and use GridView to display it.

```
<asp:GridView ID="GridView1" runat="server" AutoGenerateColumns="</pre>
False" DataKeyNames="..." DataSourceID="SqlDataSource1" CellPadding
="..." ForeColor="..." GridLines="None"></asp:GridView>
<asp:SqlDataSource ID="SqlDataSource1" runat="server" ConnectionS</pre>
tring="..." OnSelecting="..." SelectCommand="..." ConflictDetection="..."
DeleteCommand="...">
```

2. Students can Update himself information through GridView and update in the database.

```
<UpdateParameters>
    <asp:Parameter Name="StudentID" Type="String" />
    <asp:Parameter Name="FirstName" Type="String" />
```

#### GUI design:



Picture 18: Student Page: Student Home

## Website name: StudentPage\_AssignmentSubmission.aspx

#### Description:

This page is Student page. The student can find their course in this page.

#### Realized function:

1. Use sqlDataSource to connect to the database and use GridView to display it.

```
<asp:GridView ID="GridView1" runat="server" AutoGenerateColumns="
False" DataKeyNames="..." DataSourceID="SqlDataSource1" CellPadding
="..." ForeColor="..." GridLines="None"></asp:GridView>

<asp:SqlDataSource ID="SqlDataSource1" runat="server" ConnectionS
tring="..." OnSelecting="..." SelectCommand="..." ConflictDetection="..."
DeleteCommand="...">
```

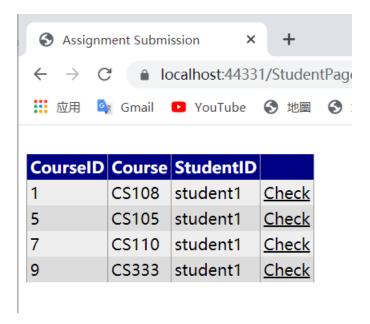
2. Students can only see themselves course information.

```
<asp:QueryStringParameter Name="StudentID" QueryStringField="name
" Type="String" />
```

3. Page jump to Homework\_Course.aspx with username and courseName.

```
Response.Redirect("(...).aspx?name=" + ... +"&courseName="+...);
```

#### GUI design:



Picture 19: Student Page: Assignment Submission

### Website name: StudentPage SummaryOfTheAssignment.aspx

#### Description:

This page is Student page. The students can see the grade and the comments of their assignments. The system will calculate the average marks and the GPA and display them to the students.

#### Realized function:

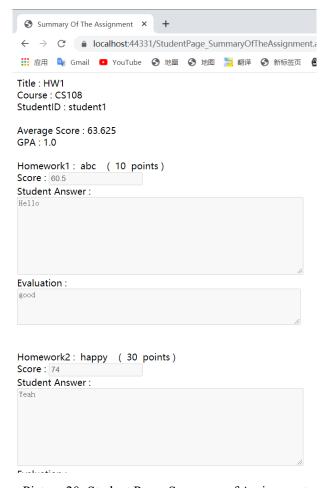
1. Student cannot change the textbox information.

### disabled="disabled"

2. Use Label to change Information

[Label]. Text 
$$=(...)$$
;

GUI design:



Picture 20: Student Page: Summary of Assignment

### Website name: StudentPage\_Check.aspx

#### Description:

This page is Student page.

This page is Student page. In this page you can get the homework grade and details button can jump to a new page which you can see details about your homework, like weight, GPA and teacher's evaluations.

#### Realized function:

1. Use sqlDataSource to connect to the database and use GridView to display it.

```
<asp:GridView ID="GridView1" runat="server" AutoGenerateColumns="
False" DataKeyNames="..." DataSourceID="SqlDataSource1" CellPadding
="..." ForeColor="..." GridLines="None"></asp:GridView>

<asp:SqlDataSource ID="SqlDataSource1" runat="server" ConnectionS
tring="..." OnSelecting="..." SelectCommand="..." ConflictDetection="..."
DeleteCommand="...">
```

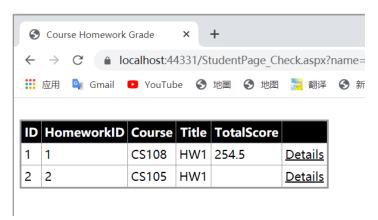
2. Students can only see themselves Homework grade information.

```
<asp:QueryStringParameter Name="StudentID" QueryStringField="name
" Type="String" />
```

3. Students can click Details then can check details about Assignment.

```
casp:ButtonField CommandName="Details" Text="Details" />
protected void btnOpenClick(object sender, GridViewCommandEventArgs e)
{
   if (e.CommandName == "Details")
   {
      int RowIndex = Convert.ToInt32(e.CommandArgument);
      string ID = GridView1.Rows[RowIndex].Cells[0].Text;
      string HomeworkID = GridView1.Rows[RowIndex].Cells[1].Text;
      string StudentID = GridView1.Rows[RowIndex].Cells[2].Text;
      string userName = Request.QueryString["name"];
      Response.Redirect("(...).aspx");
   }
}
```

#### GUI design:



Picture 21: Student Page: Course Homework Grade

## Website name: Homework\_Course.aspx

#### Description:

This page is Student page. The student can find how many homework do the teacher leave in the same class, then you can click Details to jump to a new Page which you can do your homework.

#### Realized function:

1. Use sqlDataSource to connect to the database and use GridView to display it.

```
<asp:GridView ID="GridView1" runat="server" AutoGenerateColumns="
False" DataKeyNames="..." DataSourceID="SqlDataSource1" CellPadding
="..." ForeColor="..." GridLines="None"></asp:GridView>
```

```
<asp:SqlDataSource ID="SqlDataSource1" runat="server" ConnectionS
tring="..." OnSelecting="..." SelectCommand="..." ConflictDetection="..."
DeleteCommand="...">
```

2. Students can only see themselves Homework grade information.

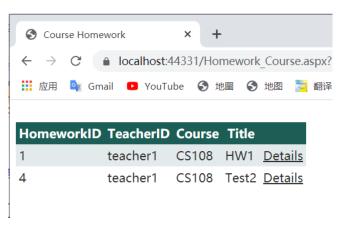
```
<asp:QueryStringParameter Name="StudentID" QueryStringField="name
" Type="String" />
```

3. Students can click Details then can check details about Assignment.

```
casp:ButtonField CommandName="Details" Text="Details" />
protected void btnOpenClick(object sender, GridViewCommandEventArgs e)

{
    if (e.CommandName == "Details")
    {
        int RowIndex = Convert.ToInt32(e.CommandArgument);
        string ID = GridView1.Rows[RowIndex].Cells[0].Text;
        string HomeworkID = GridView1.Rows[RowIndex].Cells[1].Text;
        string StudentID = GridView1.Rows[RowIndex].Cells[2].Text;
        string userName = Request.QueryString["name"];
        Response.Redirect("(...).aspx");
    }
}
```

#### GUI design:



Picture 22: Student Page: Course Homework

## Website name: Homework\_Student.aspx

#### Description:

This page is Student page. The students can answer the questions online

#### Realized function:

1. Use Label to change Information

```
[Label].Text =(...);
```

2. Get the Homework title and homework weight information from SQL table Teacher. Homework

```
protected void getHomeWork1()
{
    string sql;
    sql = "SELECT Homework(...)) FROM Teacher.Homework WHERE HomeworkID = " + ...;
    SqlCommand cmd = new SqlCommand(sql);
    cmd.Connection = con;
    homeWork1_Text = cmd.ExecuteScalar().ToString();
}
```

3. Insert the student answer into SQL Table Homework.Student

```
if (Homework1Answer != null)
{
    sql = "UPDATE [Homework].[Student] SET Answer1 ='" + Homework
1Answer + "' WHERE ID = " + _HomeworkRow + " ";
    SqlCommand cmd_HW1 = new SqlCommand(sql);
    cmd_HW1.Connection = con;
    cmd_HW1.ExecuteNonQuery();
}
```

4. Can automatically arrange the assignment ID of each student

GUI design:

<b>③</b> Course Assignment x +	
← → C • localhost:44331/Homework_Student.aspx?name=student	ent
並用 № Gmail O YouTube 3 地圖 3 地图 3 翻译 3 新标签页	ī
Title: HW1 course: CS108 StudentID: student1 Homework1: abc ( 10 points) Your Answer:	
Homework2 : happy ( 30 points ) Your Answer :	
Homework3 : A? ( 15.7 points ) Your Answer :	
Homework4: ( points )	

Picture 23: Student Page: Course Assignment

## Website name: Homework\_Teacher.aspx

#### Description:

This page is Teacher page. When the students submit their assignment, the teacher can give a grade as well as comments for each question or assignment.

#### Realized function:

1. Use Label to change Information

```
[Label].Text =(...);
```

2. Get the Homework title, homework weight and Student Answer information from SQL table Homework.Student

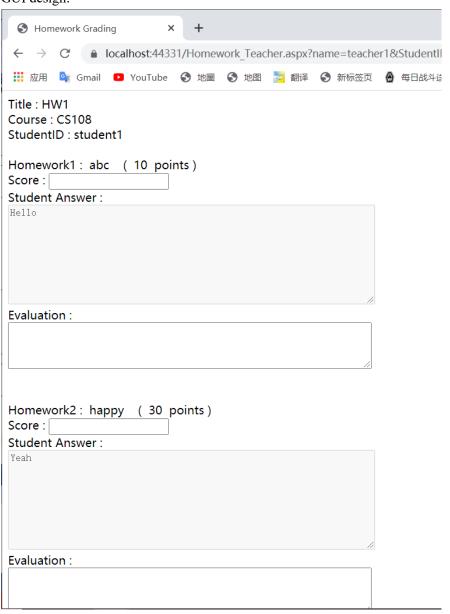
```
protected void getHomeWork1()
{
    string sql;
    sql = "SELECT Homework(...)) FROM Homework.Student WHERE HomeworkID = " + ...;
```

```
SqlCommand cmd = new SqlCommand(sql);
cmd.Connection = con;
homeWork1_Text = cmd.ExecuteScalar().ToString();
}
```

3. Insert the evaluation and point into SQL Table Homework.Student

```
sql = "UPDATE [Homework].[Student] SET Answer1_Score ='" + Sc
ore + "' WHERE ID = " + ID + " ";
    SqlCommand cmd_HW1 = new SqlCommand(sql);
    cmd_HW1.Connection = con;
    cmd_HW1.ExecuteNonQuery();
```

#### GUI design:



Picture 24: Student Page: Homework Grading

## System Interface operation method

## **Teacher operation**

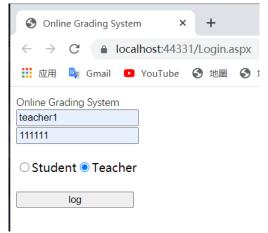
#### Introduction

In this Online Grading System, the teacher has six pages. Teacher can creation student count, management of the assignment, Assignment marking and Management of Student Course.

#### **Demonstrate**

#### First Page of Teacher:

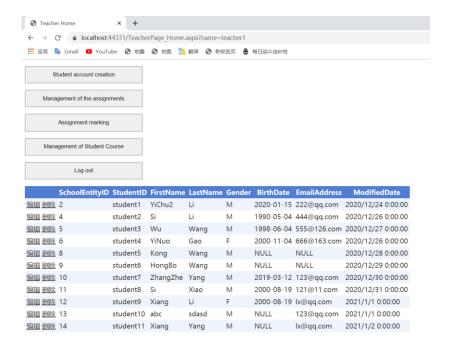
This the first page of teacher, Login interface. Teacher can input 'TeacherID' and 'Password' to login, then teacher need choose 'Teacher' button and click log button. After that teacher can get into the system.



Picture 1: Online Grading System login interface

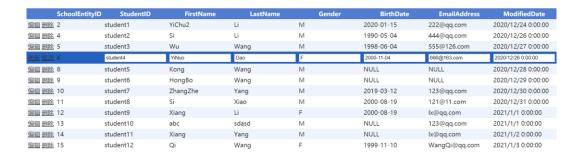
#### **Second Page of Teacher:**

After teacher success login the system, the page will be look like this. Teacher can change student information in the table. If the teacher clicks the last button [Log out], the user will be logout.



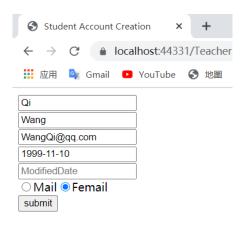
Picture2: Teacher Home Page

If the teacher clicks the last button [edit], the teacher can change student information.



#### Third Page of Teacher:

If the teacher clicks the first button [student account creation], the page will be look like this.

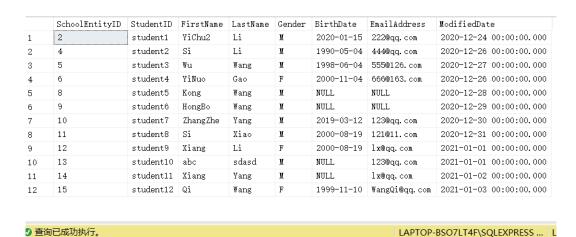


Picture3: Teacher can add student information

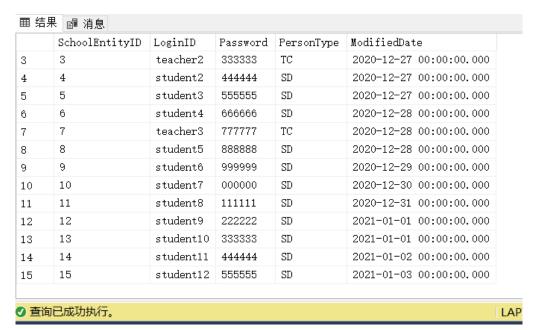
Then teacher can input the student information into the textbox, choose the mail button or female button. Finally, click the button[submit] the page will look like this and information will add into SQL Table Person. Person. Person. Password, Student. Student



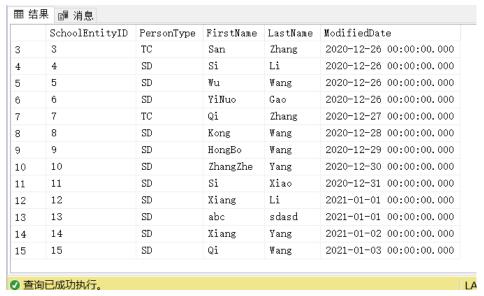
Picture4: The information is succeed adding into SQL



Picture5: The information is succeed adding into SQL Table Student.Student



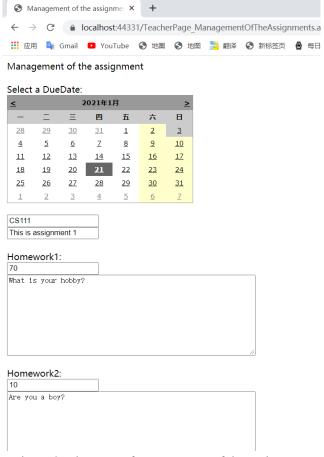
Picture6: The information is succeed adding into SQL Table Person. Password



Picture7: The information is succeed adding into SQL Table Person.Person

#### **Fourth Page of Teacher:**

If the teacher clicks the second button [Management of the assignments], the page will be look like this.



Picture8: The page of management of the assignment

Then teacher can input the assignment information into the textbox and select a due date in the calendar. Finally, click the button[create] the page will look like this and assignment information will add into SQL Table Teacher. Homework



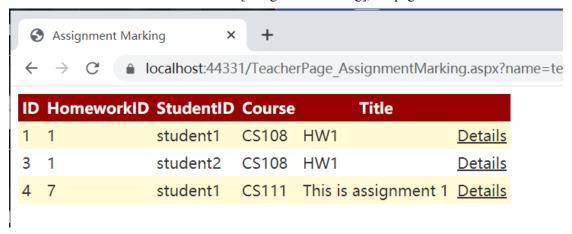
Picture9: The information is succeed adding into SQL

15. 7 40. 5
30.5
NULL
NULL
NULL
our name? 14.5
,

Picture 10: The information is succeed adding into SQL Table Teacher. Homework

#### Fifth Page of Teacher:

If the teacher clicks the third button [Assignment marking], the page will be look like this.

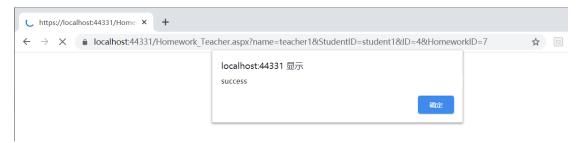


Picture8: Teacher can click Details to mark assignment

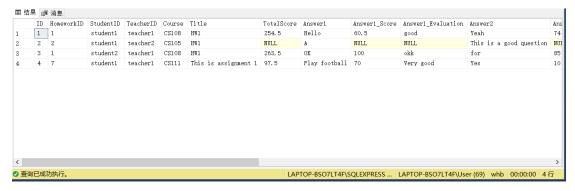
Teacher can click Details to mark assignment. Then, click the button[Upload] the grade and

♦ Homework Grading
← → C • localhost:44331/Homework_Teacher.aspx?name=teacher1&
Title : This is assignment 1 Course : CS111 StudentID : student1
Homework1: What is your hobby? (70 points) Score: 70 Student Answer:  Play footbal1
Evaluation:  Very good
Homework2: Are you a boy? ( 10 points) Score: 10 Student Answer: Yes
Evaluation :
We11

Picture9: Teacher marks assignment and evaluate to student



Picture9: Teacher upload the score and evaluation successfully



Picture 10: The information is succeed adding into SQL Table Homework. Student

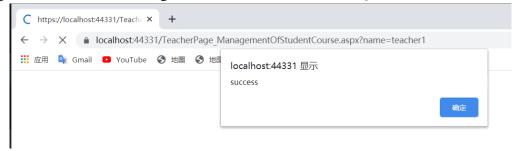
#### Sixth Page of Teacher:

If the teacher clicks the fourth button [Management of Student Course], the page will be look like this.



Picture 11: Teacher is adding student1 to CS111 course

Then teacher can input the course and student is into the textbox. Finally, click the button[add] the page will look like this and assignment information will add into SQL Table Student.Course



Picture 12: The information is succeed adding into SQL



Picture 13: The information is succeed adding into SQL Table Student. Course

## **Student operation**

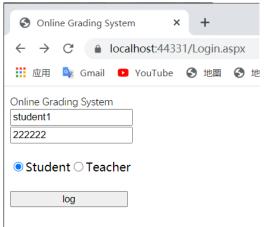
#### Introduction

In this Online Grading System, the Student has four pages. Student can assignment submission and summary of the assignment.

#### **Demonstrate**

#### First Page of Student:

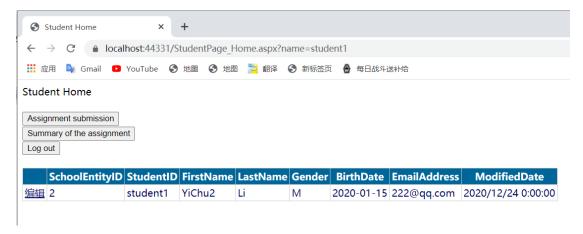
This the first page of student, Login interface. Student can input 'StudentID' and 'Password' to login, then students need choose 'Student' button and click log button. After that students can get into the system.



Picture 14: Online Grading System login interface

#### **Second Page of Student:**

After student success login the system, the page will be look like this. Student can change themselves information in the table. If the student clicks the last button [Log out], the user will be logout.



Picture 15: Student Home Page

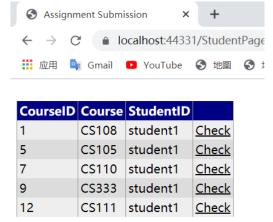
If the student clicks the last button [edit], the student can change his information.



Picture 16: Student can change themselves information

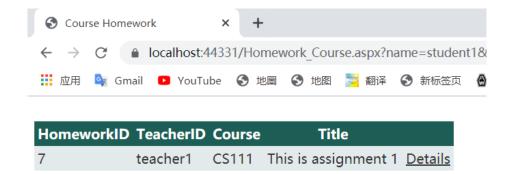
#### **Third Page of Student:**

If the student clicks the first button [Assignment submission], the page will be look like this.



Picture 17: Student can click check button to do course assignment

Then student can choose a course, then the student can select which assignment will do. Then the student can click details and he will get into course assignment page to assign submission and the answer will add into SQL Table Homework.Student



Picture 18: Student can click Details button to open assignment

Cou	rse Assignme	ent >	+				
$\leftarrow \   \rightarrow$	C ·	localhost:4433	31/Home	work_Stuc	lent.aspx?	name=studer	nt1&Hom
应用	💁 Gmail	▶ YouTube	❸ 地圏	6 地图	都译	新标签页	🖨 毎日は
course : Student	ID : stude ork1 : Wh swer :		obby?	( 70 po	ints )		
Homew Your An		e you a boy?	( 10	points )		<i>li</i>	
Homew Your An	swer:	nat is your na	ame? (	14.5 pc	oints )		
						//	
Homew		ny do? ( 1!		ts)			

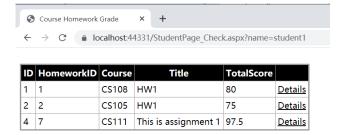
Picture 19: Student is completing homework



Picture 20: The information is succeed adding into SQL Table Homework. Student

#### **Fourth Page of Student:**

If the student clicks the second button [Summary of the assignment], the page will be look like this.



Picture21: The student can look details about them homework

Then student can choose a homework and look details about the score

← → C a localhost.44331/StudentPage_SummaryOfTheAssignment.  Title: This is assignment 1 Course: CS111 StudentID: student1  Average Score: 97.5 GPA: 4.0  Homework1: What is your hobby? ( 70 points) Score:  70 Student Answer: Play football  Evaluation: Good  Homework2: Are you a boy? ( 10 points) Score:  10 Student Answer:
Course: CS111 Student10 Student10: student10: student10: student10 Student10: student11 Average Score: 97.5 GPA: 4.0  Homework1: What is your hobby? ( 70 points ) Score: 70 Student Answer:  Play football  Evaluation:  Good  Homework2: Are you a boy? ( 10 points ) Score: 10
GPA: 4.0  Homework1: What is your hobby? (70 points)  Score:  70  Student Answer:  Play football  Evaluation:  Good  Homework2: Are you a boy? (10 points)  Score:  10
Score: 70 Student Answer: Play football  Evaluation: Good  Homework2: Are you a boy? (10 points) Score: 10
Evaluation : Good  Homework2: Are you a boy? (10 points) Score : 10
Evaluation :  Good  Homework2 : Are you a boy? (10 points)  Score : 10
Homework2: Are you a boy? ( 10 points) Score: 10
Homework2: Are you a boy? ( 10 points ) Score: 10
Score: 10
Score: 10
Student Answer :
Yes
Evaluation :
Well

Picture 22: The details about homework