

Sarvajanik Education Society

Shree Ramkrishna Institute of Computer Education and Applied Sciences

Behind P.T Science College, M.T.B. College Campus, Athwalines, Surat-395 001.

A Software Engineering Project On

E-Learning Website

as the partial fulfillment of

Semester -VI study

for the degree of

Bachelor of Science (Computer Science)
(Affiliated to Veer Narmad South Gujarat University)

during the academic year 2022-2023.

Developed By:

Guided By:

Dharmi Italiya

Jayesh Pushtiwala



Sarvajanik Education Society



Shree Ramkrishna Institute of Computer Education and Applied Sciences Behind P.T. Science College, M.T.B College Campus, Athwalines, Surat-395 001.

CERTIFICATE

DEPARTMENT OF COMPUTER SCIENCE

This is to certify that Student name Dharmi Italiya

Exam no 20163

has / have successfully completed his / her / their software engineering project work entitled

E-Learning Website

as the partial fulfillment of

Semester -VI study for the degree of

Bachelor of Science (Computer Science)

(Affiliated to Veer Narmad South Gujarat University)

| Internal Project Guide | | | HOD Dept. of Computer Science |
|------------------------|------------|-----------|----------------------------------|
| Date: 23/05/2023 | | | Place: Surat |
| University Examination | on: | | |
| Examination No.: | 20163 | | |
| Signature of External | Examiners: | G.G.Badsa | sla |

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Introduction

1. Introduction System Profile

• Project Title =====> E-Resource System

• Organization =====> Shree Ramakrishna Institut Of Education and Applied Sciences.

• Front -End tool =====> Visual Studio 2019(ASP.NET)

• Back -End tool =====> SQL Server Database

• Project Category =====> Source System

• Operating System =====> Windows 10 or above

• Project Duration =====> 10 Month

• Project Guided By =====> Jayesh Pushtiwala

• Developed By =====> Dharmi Italiya

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2. System Introduction

2.1 System Definition, Objective and scope

2.1.1 System Information: -

- Our project E-Learning system is develop for all who want learn something new. they can watch them and whenever they required, they Can Retrieve them. i.e. some useful websites links (for tutorial purpose) for both of them.
- This system is most useful for the colleges, schools or any university's students.
- At the present time, the manage video link and some important online compailer its much Complicated.
- We have two modules in this system. First is the admin and second is the uaer.
- Here admin add some important website related some courses they add this Website Link according subject.
- In this system admin have rights to add/update/delete courses,categorys,details,MCQ Questions.
- In this application student can register in system and after the login they can view the videos related selected courses. We use the SQL server database for the This application

2.1.2 PROJECT OBJECTIVE: -

- Admin can add/update /delete courses,categorys,details of video,MCQ Questin.
- User view the video of selected courses.
- User also search the videos.

2.1.3 System Scope: -

- Login function accessed by only admin.
- Admin not allow to delete any user.

3

• 2.2 Hardware & Software Requirements: -

Hardware:-

• Processor: Intel core i3 or above

• Ram: 2 GB or above

• Hard-Disk: 100 GB or above

Software:-

• Backend : SQLserver Database.

• Frontend: Visual Studio 2019.

• Operating System: Windows 8 or above.

3. REQUIREMENT ANALYSIS

3.1 Expected working of System

• Admin Module:

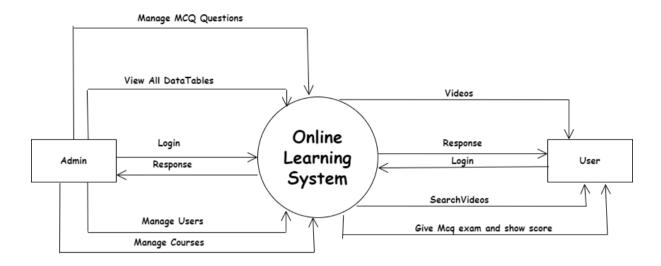
- Admin can login with userid and password which is already store in System database. Admin can view list of users .Admin also add/delete courses, category and details about videos.
- · View Users
- · Manage Course
- · Manage Category
- · Manage Course Details
- Manage MCQ Questions

•User Module:

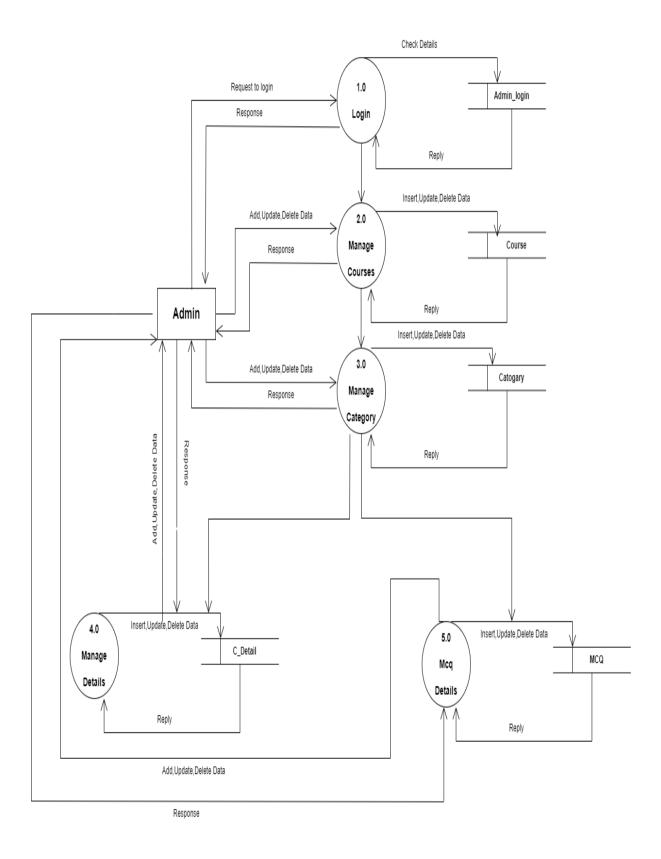
- · User can register it self with only userid and password after that user can login with same userid and password. User also view the videos related to courses which they selected.
- View Course
- View Category
- · View Course Details And Videos
- Search Videos With Help Of Category
- •Login Module: Admin and User Login in this System.

3.2 Data Flow Diagrams (DFD)

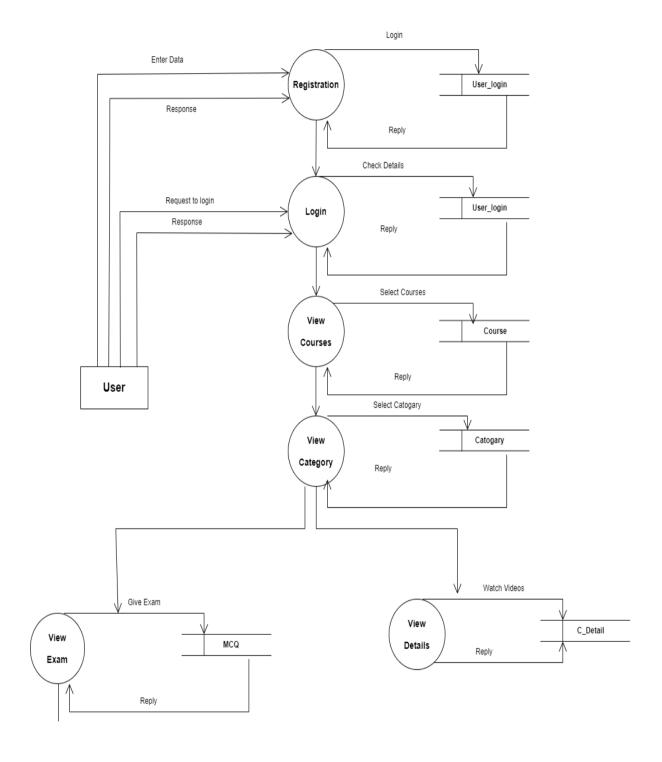
• CONTEXT LEVEL DFD:-



• 1 ST LEVEL DFD FOR ADMIN:-



• 1 ST LEVEL DFD FOR USER:-



Requirement Analysis

3.3 Process Specification

• PROCESS 1.0 FOR ADMIN:

| Name: | Login |
|--------------|---|
| Description: | This process is save all the information of the |
| | Admin like id And Password. |

• PROCESS 1.0 FOR USER:

| Name: | Registration |
|--------------|--|
| Description: | This process is save all the information of the User |
| | like Userid And Password. |

• PROCESS 2.0 FOR ADMIN:

| Name: | Manage Courses |
|--------------|---|
| Description: | Admin Can Insert, Update And Delete Courses |

• PROCESS 2.0 FOR USER:

| Name: | Login |
|--------------|---|
| Description: | This process is Use information of Registration |
| | Process For Login |

• PROCESS 3.0 FOR ADMIN:

| Name: | Manage Category |
|--------------|--|
| Description: | Admin Can Insert, Update And Delete Category |
| | Based On Courses |

Requirement Analysis

• PROCESS 3.0 FOR User:

| Name: | View Courses |
|--------------|---|
| Description: | Users Can Select The Courses Which They Want. |

• PROCESS 4.0 FOR ADMIN:

| Name: | Manage Details |
|--------------|---|
| Description: | Admin Can Insert, Update And Delete Details |
| | Based On Courses And Category |

• PROCESS 4.0 FOR User:

| Name: | View Category |
|--------------|--|
| Description: | Users Can Select The Category Which They Want. |

• PROCESS 5.0 FOR ADMIN:

| Name: | Manage MCQ |
|--------------|---|
| Description: | Admin Can Insert, Update And Delete MCQ |
| | Based On Courses And Category |

• PROCESS 5.0 FOR User:

| Name: | View Details |
|--------------|--|
| Description: | User Can Watch The Videos Related To The |
| | Selected Courses And Category |

• PROCESS 6.0 FOR User:

| Name: | View Mcq For Exam |
|--------------|---|
| Description: | User Can give exam of Related To The Selected |
| | Courses And Category |

• PROCESS 7.0 FOR User:

| Name: | View Result of Given Exam | |
|--------------|---------------------------|--|
| Description: | User can view score | |
| Bescription. | eser can view score | |

3.4 Data Dictionary:

• Admin Table:

| Name: | Admin Details |
|----------------------|---|
| Alias: | Admin_login |
| Where used/How used: | Data use for particular login For Admin |
| Content Description: | Email_id+Password |

• User Table:

| Name: | User Details |
|----------------------|---|
| Alias: | User_login |
| Where used/How used: | Data use for particular login For Uaser |
| Content Description: | Email_id+Password |

• Course Table:

| Name: | Select Course |
|----------------------|---|
| Alias: | COURSE |
| Where used/How used: | Select Course use for selection of Course |
| Content Description: | C_ID+C_NAME |

• Category Table:

| Name: | Select Category | |
|----------------------|---|--|
| Alias: | Category | |
| | | |
| Where used/How used: | Select Category use for selection of Category | |
| Content Description: | CAT_ID+CAT_NAME+C_ID | |

• Details Table:

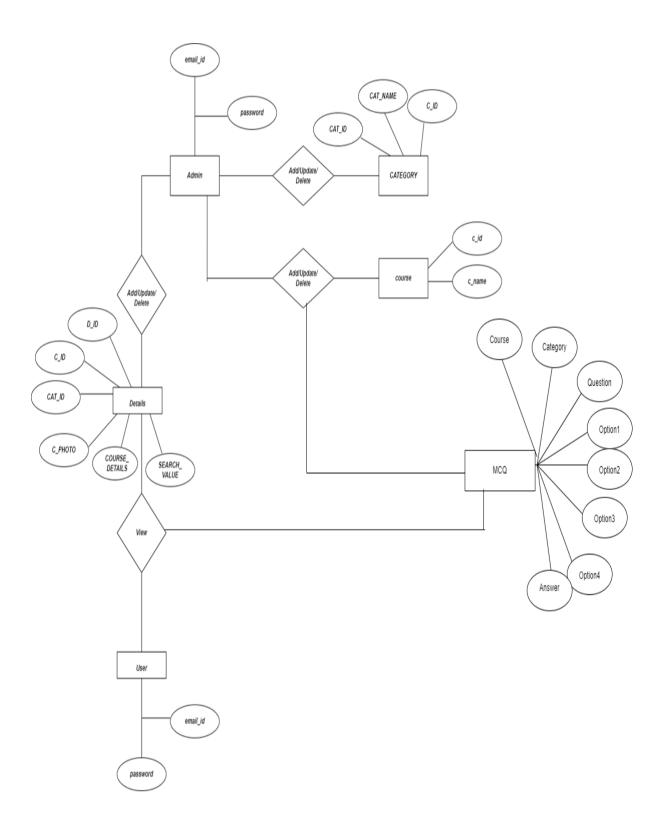
| Name: | Watch Videos | |
|----------------------|--|--|
| Alias: | Details | |
| Where used/How used: | Watch Videos use for watch videos with | |
| | selected course and category | |
| Content Description: | D_ID+C_ID+CAT_ID+C_LINK+C_PHOTO | |
| | +COURSE_DETAILS+search_value | |

• MCQ Table:

| Name: | Show Mcq | |
|----------------------|--|--|
| Alias: | MCQ | |
| Where used/How used: | Can give exam of Related To The Selected | |
| | Courses And Category | |
| Content Description: | Id + C_ID +CAT_ID+ QUESTION +O1 +O2 | |
| | +O3+O4+ANSWER | |

4. Design

4.1 ER Diagram:



4.1 Database Design

➤ Table Name: Admin_login

| Field Name | Data Type | Constraints | Field Size | Description |
|------------|-----------|-------------|------------|----------------|
| Email_id | NVARCHAR | Primary Key | 50 | Contains ID of |
| | | | | Admin |
| Password | NVARCHAR | | 50 | Contains |
| | | | | Password of |
| | | | | admin |

➤ Table Name: Course

| Field Name | Data Type | Constraints | Field Size | Description |
|------------|------------------|-------------|------------|----------------|
| C_ID | Int(Auto Number) | Primary Key | | Contains ID of |
| | | | | Course |
| C_NAME | nvarchar | | 50 | Contains name |
| | | | | of Course |

➤ Table Name: Category

| Field Name | Data Type | Constraints | Field Size | Description |
|------------|-----------|-------------|------------|----------------|
| CAT_ID | Int(Auto | Primary Key | | Contains ID of |
| | Number) | | | Category |
| CAT_NAME | nvarchar | | 50 | Contains name |
| | | | | of Category |
| C_ID | Int | Foreign Key | | Contains ID of |
| | | | | resources data |
| | | | | Course |

➤ Table Name: User_login

| Field Name | Data Type | Constraints | Field Size | Description |
|------------|-----------|-------------|------------|----------------|
| Email_id | NVARCHAR | Primary Key | 50 | Contains ID of |
| | | | | User |
| Password | NVARCHAR | | 50 | Contains |
| | | | | Password of |
| | | | | User |

Design

➤ Table Name: C_DETAILS

| Field Name | Data Type | Constraints | Field Size | Description |
|---------------|-----------|-------------|------------|--|
| D_ID | int | Primary Key | | Contains ID of DETAILS |
| C_ID | int | Foreign Key | | Contains ID of resources data Course |
| CAT_ID | int | Foreign Key | | Contains ID of resources data Category |
| C_LINK | nvarchar | | 50 | Contains link of DETAILS |
| С_РНОТО | nvarchar | | 50 | Contains photo of DETAILS |
| COUSE_DETAILS | nvarchar | | 50 | Contains description of DETAILS |

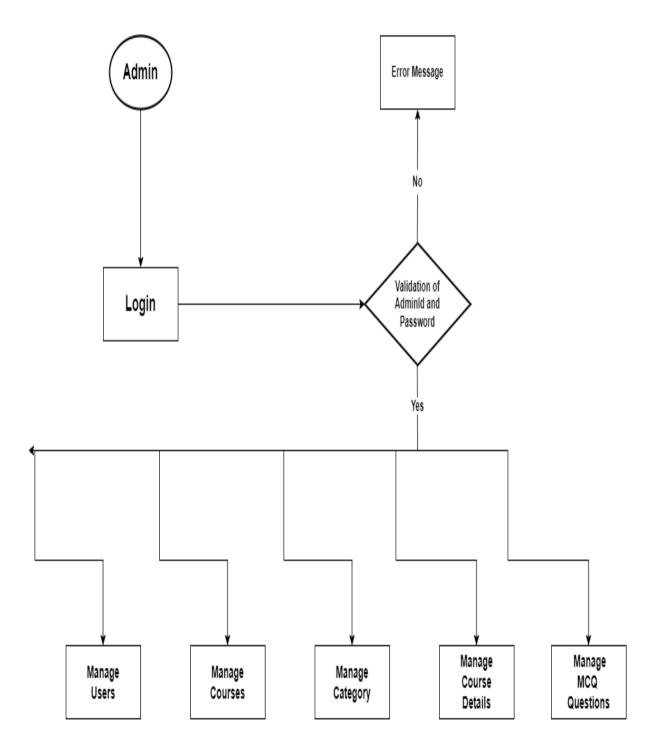
Design

➤ Table Name: MCQ

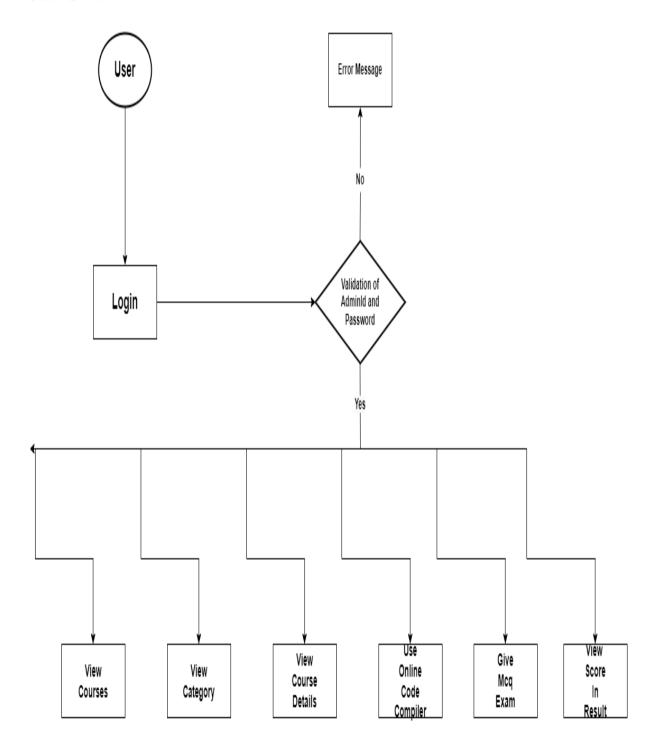
| Field Name | Data Type | Constraints | Field Size | Description |
|------------|-----------|-------------|------------|--|
| Id | int | Primary Key | | Contains ID of MCQ |
| Course | int | Foreign Key | | Contains ID of resources data Course |
| Category | int | Foreign Key | | Contains ID of resources data Category |
| Question | int | Foreign Key | | Contains Question of MCQ |
| Option1 | nvarchar | | 50 | Contains 1st Option of MCQ |
| Option2 | nvarchar | | 50 | Contains 2nd Option of MCQ |
| Option3 | nvarchar | | 50 | Contains 3rd Option of MCQ |
| Option4 | Nvarchar | | 50 | Contains 4th Option of MCQ |
| Answer | nvarchar | | 50 | Contains First Answer of MCQ |

4.3 System Flowchart

Admin Side:



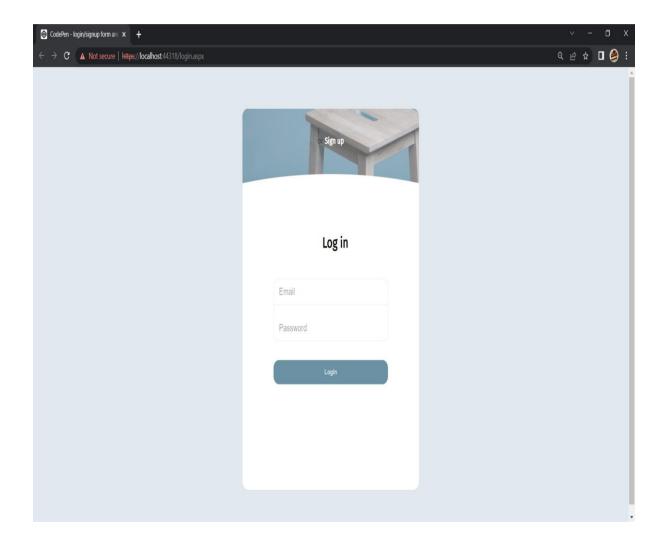
User Side:



4.4 Form & Report Designs (Screenshots) Layouts

• Login Page For User And Admin

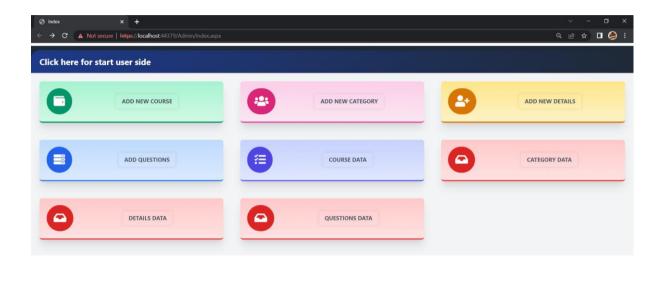
- > Login page used by admin and user to login in e-learning system.
- > Login done with email and password of admin And user.



Design

• Admin Home Page

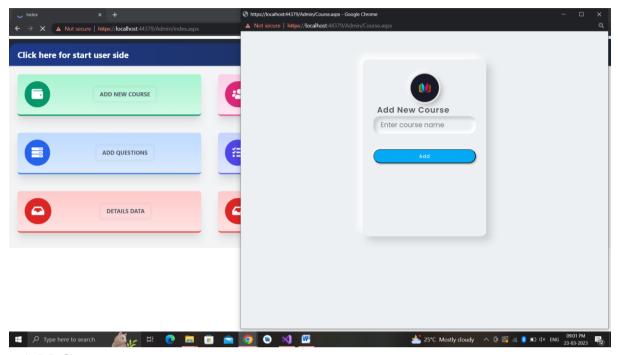
• Home page is same for both user and admin but if login peocess was done with admin data than admin can different nav-bar





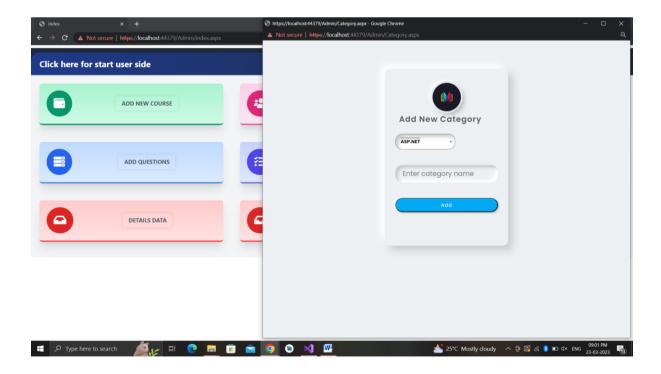
Add Courses

• Admin can add new course with this page.



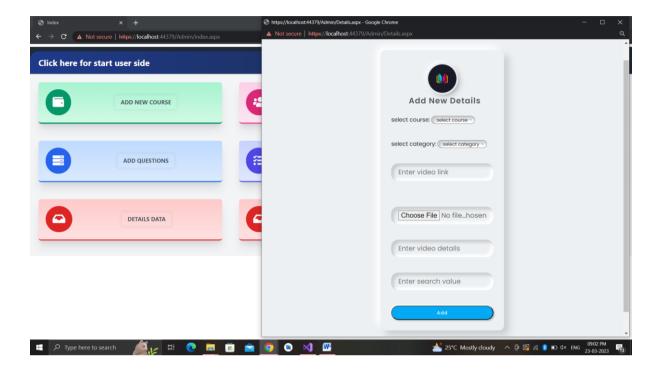
• Add Category

• Admin can add new category for different course.



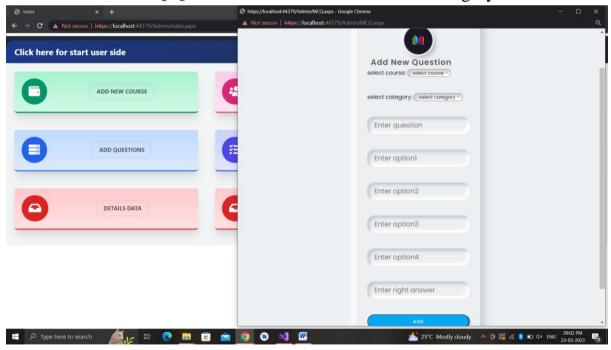
Add Details

Admin can add details with selected course and category.



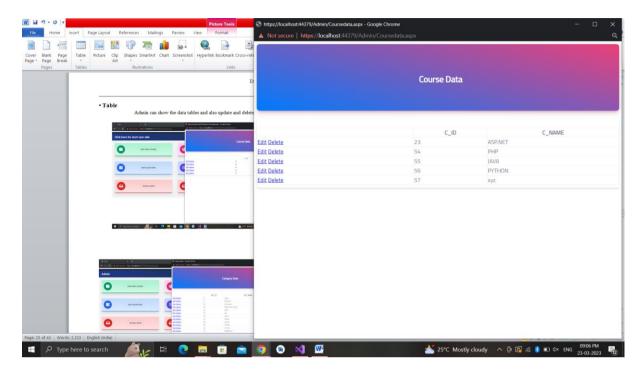
Add MCQ Question

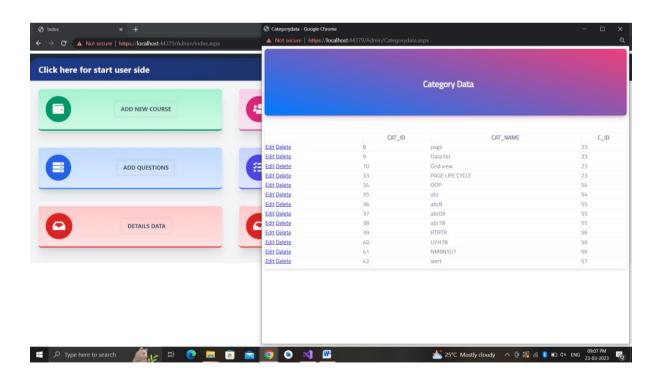
Admin can add MCQ Question with selected course and category.



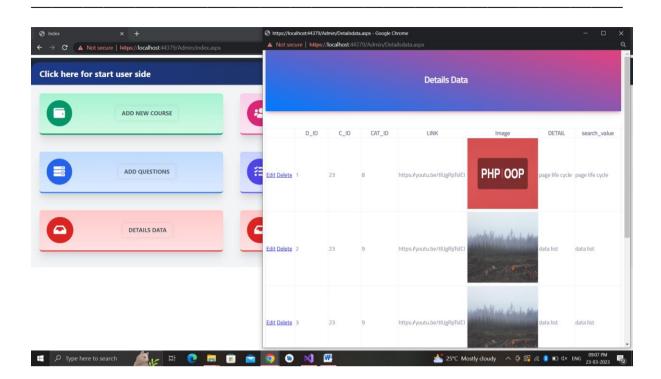
• Table

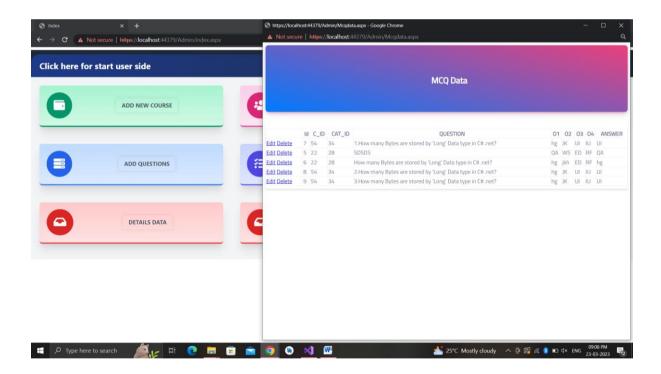
Admin can show the data tables and also update and delete data.





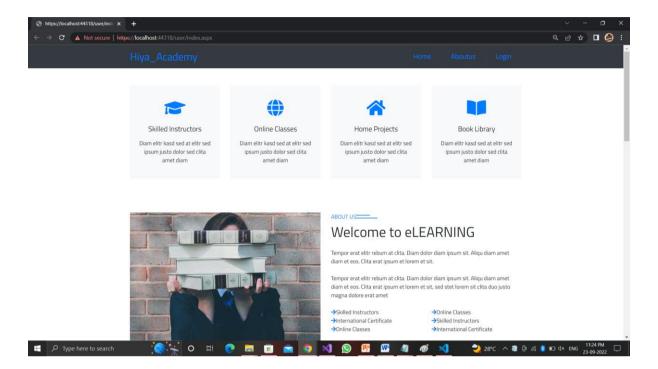
Design





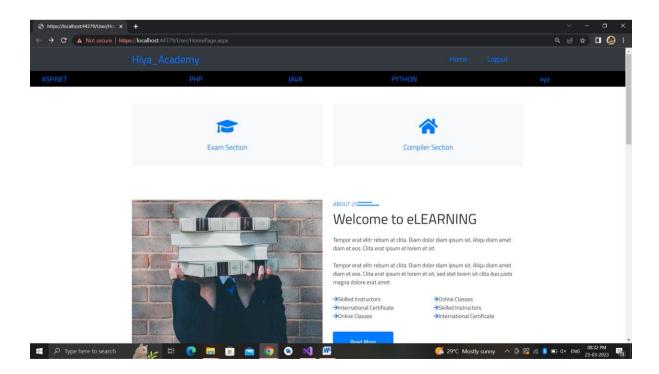
• Home page of User Without Login

• Home page of user is looks like given screen shot without login.



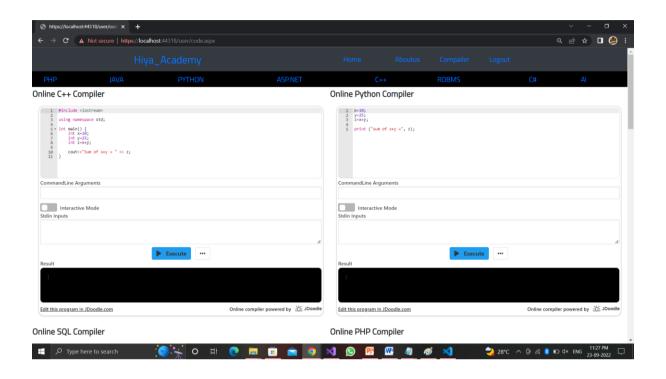
• Home page of User With Login

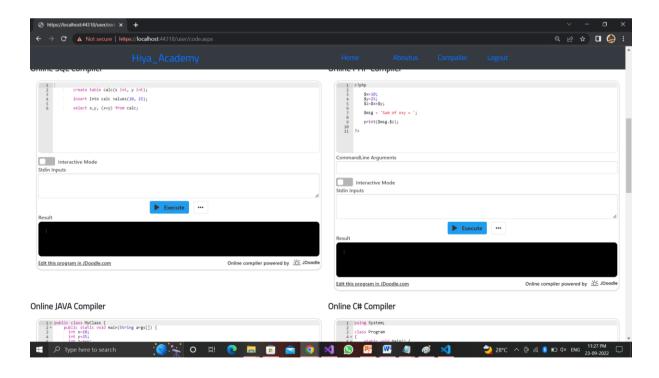
• Home page of user is looks like given screen shot with login.



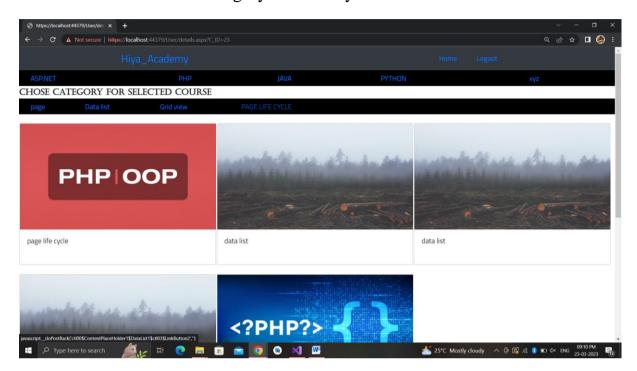
• Compiler Page

• User can use code compiler for free.

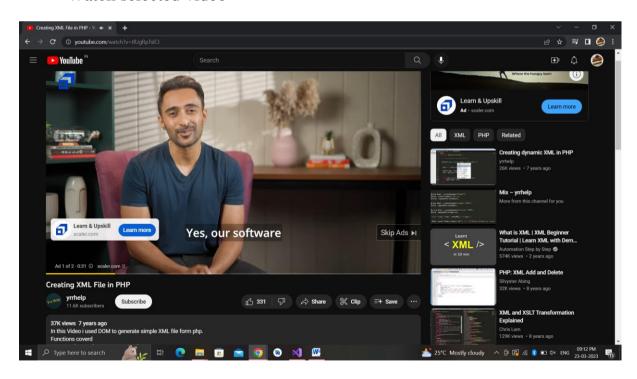




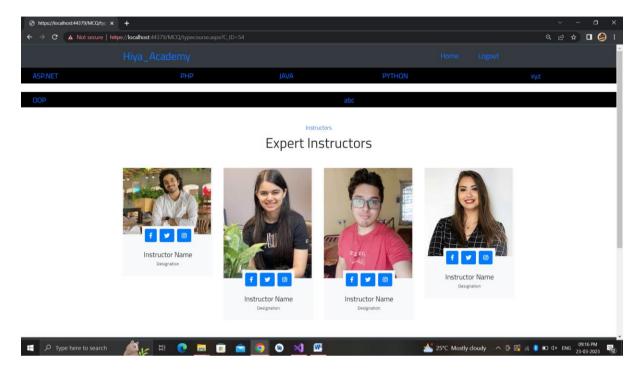
- User can select course which they want
- User can select category which they want



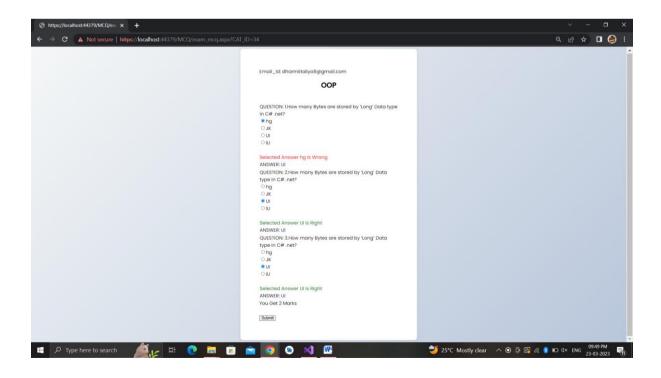
• Watch selected video



- User can select course for give exam
- User can select category for exam



• User can give exam



CODE:

```
• Login
 protected void login12_Click(object sender, EventArgs e)
       string constr =
ConfigurationManager.ConnectionStrings["ConnectionString"].ConnectionString;
       SqlConnection con = new SqlConnection(constr);
       con.Open();
       SqlCommand cmd5 = new SqlCommand("select count(*) from User_login where
login_id="" + user1.Text + "" and password="" + password.Text + "" ", con);
       SqlCommand cmd = new SqlCommand("select count(*) from Admin login where
Email_id="" + user1.Text + "" and Password="" + password.Text + "" ", con);
       int i = Convert.ToInt16(cmd5.ExecuteScalar());
       int j = Convert.ToInt16(cmd.ExecuteScalar());
       if (i == 1)
       {
         Session["role"] = "user";
         Response.Redirect("user/homepage.aspx?login_id=" + user1.Text);
       else if (i == 1)
         Session["role"] = "admin";
         Response.Redirect("admin/adcourse.aspx?Email_id=" + user1.Text);
       else if(i==0 \&\& j==0)
         string message = "Please Enter Valid Value";
         string script = "window.onload = function(){ alert("";
         script += message;
         script += "')};";
         ClientScript.RegisterStartupScript(this.GetType(), "SuccessMessage", script, true);
       else
         Session["role"] = "";
       con.Close();
```

• Signup

• Check Availability For Email Id

```
protected void check_Click(object sender, EventArgs e)
    {
        string constr =
        ConfigurationManager.ConnectionStrings["ConnectionString"].ConnectionString;
            SqlConnection con = new SqlConnection(constr);
            SqlCommand cmd = new SqlCommand("select count(*) from User_login where
login_id="" + user.Text + """, con);
            con.Open();
            cmd.ExecuteNonQuery();
            int i = Convert.ToInt16(cmd.ExecuteScalar());
            if (i == 1)
            {
                  id1.Text = "not available";
            }
             else
            {
                  id1.Text = "available";
            }
             con.Close();
        }
}
```

```
• Insert Course
```

• Insert Category

```
protected void Button1_Click(object sender, EventArgs e)
{
    string constr =
ConfigurationManager.ConnectionStrings["ConnectionString"].ConnectionString;
    SqlConnection con = new SqlConnection(constr);
    SqlCommand cmd = new SqlCommand("insert into category (CAT_NAME,C_ID)
values("" + TextBox1.Text + "',"" + cat.SelectedValue + "')", con);
    con.Open();
    cmd.ExecuteNonQuery();
    string message = "Your Record Have Been Saved Successfully.";
    string script = "window.onload = function(){ alert("";
        script += message;
        script += "')};";
    ClientScript.RegisterStartupScript(this.GetType(), "SuccessMessage", script, true);
    con.Close();
}
```

• Insert Details

```
protected void Button1 Click(object sender, EventArgs e)
      string strname1 = @"~\photos\" + Path.GetFileName(photo.FileName);
      photo.SaveAs(Server.MapPath(strname1));
      SqlConnection con = new SqlConnection(constr);
      SqlCommand cmd = new SqlCommand("insert into
C_DETAIL(CAT_ID,C_ID,C_LINK,C_PHOTO,COUSE_DETAILS,search_value)
strname1 + "'," + detail.Text + "'," + search.Text+"')", con);
      con.Open();
      cmd.ExecuteNonQuery();
      string message = "Your Record Have Been Saved Successfully.";
      string script = "window.onload = function(){ alert("";
      script += message;
      script += "')};";
      ClientScript.RegisterStartupScript(this.GetType(), "SuccessMessage", script, true);
      con.Close();
    }
```

• Insert MCQ Questions

• Count score of given exam

```
protected void Button1_Click1(object sender, EventArgs e)
     int Correct = 0;
     int NotAnser = 0;
     foreach (GridViewRow row in GridView1.Rows)
        Label A1 = row.FindControl("Label3") as Label;
        Label ANSWER1 = row.FindControl("ANSWER") as Label;
        RadioButton r1 = row.FindControl("RadioButton1") as RadioButton;
        ANSWER1. Visible = true;
        A1.Visible = true;
        if (r1.Checked == true)
          if (r1.Text.Equals(ANSWER1.Text))
            Label SA = row.FindControl("Label2") as Label;
            SA.Text = "Selected Answer" + r1.Text.ToString() + " Is Right";
            Correct += 1:
            SA.ForeColor = System.Drawing.Color.Green;
          }
          else
            Label wrongans = row.FindControl("Label2") as Label;
            wrongans.Text = "Selected Answer " + r1.Text.ToString() + " Is Wrong";
        else
          NotAnser += 1;
     foreach (GridViewRow row in GridView1.Rows)
        Label ANSWER1 = row.FindControl("ANSWER") as Label;
        RadioButton r2 = row.FindControl("RadioButton2") as RadioButton;
        ANSWER1. Visible = true;
        if (r2.Checked == true)
          if (r2.Text.Equals(ANSWER1.Text))
            Label SA = row.FindControl("Label2") as Label;
            SA.Text = "Selected Answer" + r2.Text.ToString() + " Is Right";
            Correct += 1;
            SA.ForeColor = System.Drawing.Color.Green;
```

```
}
    else
      Label wrongans = row.FindControl("Label2") as Label;
      wrongans.Text = "Selected Answer" + r2.Text.ToString() + " Is Wrong";
  }
foreach (GridViewRow row in GridView1.Rows)
  Label ANSWER1 = row.FindControl("ANSWER") as Label;
  RadioButton r3 = row.FindControl("RadioButton3") as RadioButton;
  ANSWER1.Visible = true;
  if (r3.Checked == true)
    if (r3.Text.Equals(ANSWER1.Text))
      Label SA = row.FindControl("Label2") as Label;
      SA.Text = "Selected Answer " + r3.Text.ToString() + " Is Right";
      Correct += 1;
      SA.ForeColor = System.Drawing.Color.Green;
    }
    else
      Label wrongans = row.FindControl("Label2") as Label;
      wrongans.Text = "Selected Answer " + r3.Text.ToString() + " Is Wrong";
    }
  }
foreach ( GridViewRow row in GridView1.Rows)
  Label ANSWER1 = row.FindControl("ANSWER") as Label;
  RadioButton r4 = row.FindControl("RadioButton4") as RadioButton;
  ANSWER1. Visible = true;
  if (r4.Checked==true)
    if (r4.Text.Equals(ANSWER1.Text))
      Label SA = row.FindControl("Label2") as Label;
      SA.Text = "Selected Answer " + r4.Text.ToString()+ " Is Right";
      Correct += 1;
      SA.ForeColor = System.Drawing.Color.Green;
    }
    else
```

```
Label wrongans = row.FindControl("Label2") as Label;
             wrongans.Text = "Selected Answer" + r4.Text.ToString() + " Is Wrong";
           }
         }
       }
      11.Text = "You Get " + Correct+ " Marks";
}

    View Course

protected void cat_ItemCommand(object source, DataListCommandEventArgs e)
      if (e.CommandName == "video")
         Response.Redirect("video.aspx?CAT_ID=" + e.CommandArgument.ToString());
    }
   ► Aspx code
<asp:DataList ID="DataList2" runat="server" DataKeyField="D_ID"
DataSourceID="SqlDataSource2" RepeatColumns="3" RepeatDirection="Horizontal">
    <ItemTemplate>
      <div class="card mb-3">
         <div class="row no-gutters">
           <div class="col-md-4">
             <asp:HyperLink ID="HyperLink1" runat="server" ImageUrl='<%#</pre>
Eval("C_PHOTO") %>' NavigateUrl='<%# Eval("C_LINK") %>' ImageHeight="200px"
ImageWidth="200px">HyperLink</asp:HyperLink>
           </div>
           <div class="col-md-8">
             <div class="card-body">
               <br/>>
               <asp:Label ID="Label2" runat="server" Text='<%#
Eval("COUSE_DETAILS") %>'></asp:Label>
             </div>
           </div>
         </div>
      </div>
    /ItemTemplate>
         </asp:DataList>
```

6. Testing

6.1 Testing Data Inputs (Data Validations)

& Login Page:

| NO. | Input | Expected | Actual Output | Result |
|-----|-----------------------|----------|---------------|------------|
| | | Output | | |
| 1 | Empty Email_id | Error | Error | Login Fail |
| 2 | Empty /Wrong password | Error | Error | Login Fail |

Add Course:

| NO. | Input | Expected Output | Actual Output | Result |
|-----|-----------------|--------------------|---------------|------------|
| 1 | Empty Course | Error | Error | Added Fail |

♦ Add Category:

| NO. | Input | Expected Output | Actual Output | Result |
|-----|-------------------|--------------------|---------------|------------|
| 1 | Empty Course | Error | Error | Added Fail |
| 2 | Empty Category | Error | Error | Added Fail |

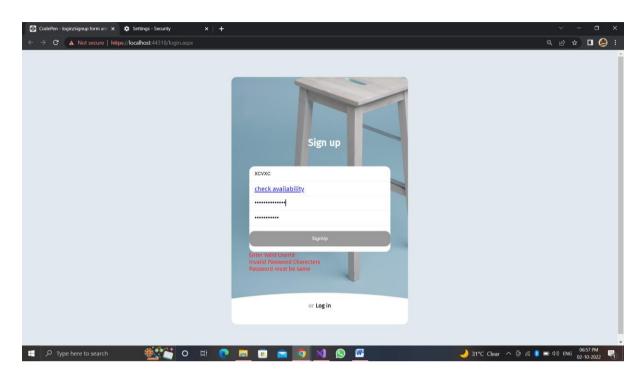
Add Details:

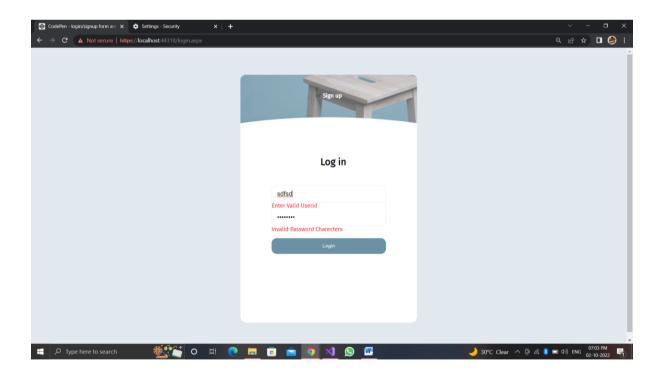
| NO. | Input | Expected Output | Actual Output | Result |
|-----|----------------------------|-----------------|---------------|------------|
| 1 | Empty Course | Error | Error | Added Fail |
| 2 | Empty Category | Error | Error | Added Fail |
| 3 | Empty Link | Error | Error | Added Fail |
| 4 | Empty Photo | Error | Error | Added Fail |
| 5 | Empty Course Details | Error | Error | Added Fail |

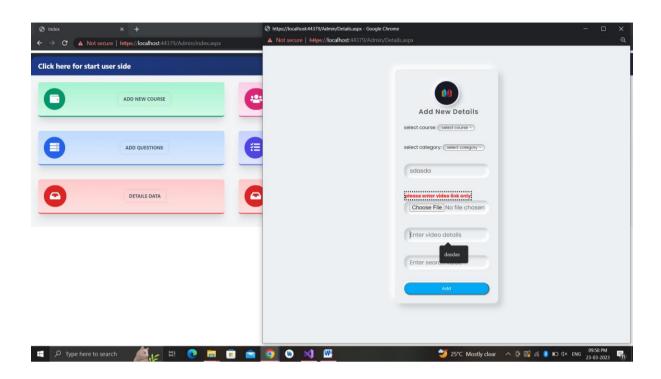
• Add MCQ Questions

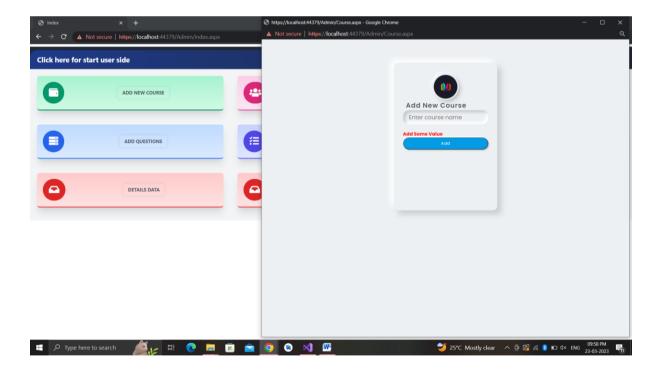
| NO. | Input | Expected Output | Actual Output | Result |
|-----|-------------------|-----------------|---------------|------------|
| 1 | Empty Course | Error | Error | Added Fail |
| 2 | Empty Category | Error | Error | Added Fail |
| 3 | Empty Question | Error | Error | Added Fail |
| 4 | Empty Option1 | Error | Error | Added Fail |
| 5 | Empty Option2 | Error | Error | Added Fail |
| 6 | Empty Option3 | Error | Error | Added Fail |
| 7 | Empty Option4 | Error | Error | Added Fail |
| 8 | Empty Answer | Error | Error | Added Fail |

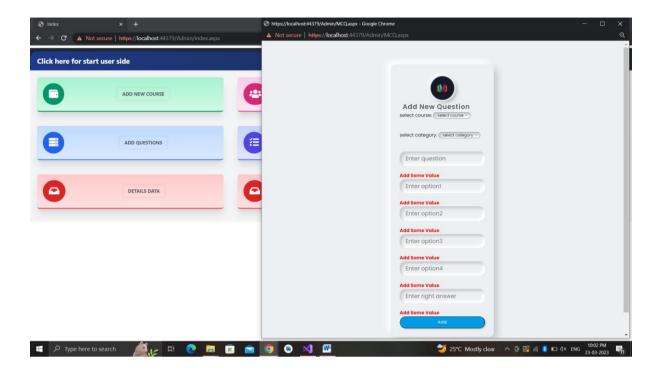
6.2 Testing Operations (Actions on each screen)











7 .New Tools/ Technologies learned/used

- Visual Studio 2019:- It is the main development environment in which we will Code.
- Some CSS for page design
- Template field for passing value
- Microsoft Access 2019: It integrates with Visual Studio 2019.
- .NET Framework 4.8 :-It has two phases for compile process.

FCL: Frame work Class Library CLR: Common Language Runtime

Future Enhancement & Opportunities

8.System Limitations

- Link will be uploaded when you are connected with internet.
- User only able to see their own Resources they do not able to see other user data.
- admin add by only developer of website.

9.Bibliography & References

Website

- www.stackoverflow.com
- www.aspsnippets.com
- www.codeproject.com
- www.geeksforgeeks.org

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