



Programming Project Report for

Online Game Store

By Saeed badghaish

Spring 2019

Contents

Section	Heading			Page Number
Project Proposal			"Introduce your project, stakeholders, and each stakeholder requirements"	3
Project Framework Activities	Communication		"Explain the process you did to collect your project's requirements"	
	Planning		"Explain the processes you did to make the project". "You should include a task list for each team member, if any".	
	Modeling	Analysis	Use Case Diagram	5
			Use Case Scenario	6
			Entity-Relational Diagram	8
			Class Diagram	9
			Object Diagram	
			Sequence Diagram	10
			Collaboration Diagram	
			State-chart Diagram	
			Activity Diagram	13
		Design	Component-level Design	16
			Interface Design	17
			Architectural Design	
	Construction	Coding		19
		Testing	Test Cases	30
	Deployment			

Purpose, Scope and Objectives

The purpose of the project is to build an online game store which allows customers to buy and download games on any computer they want, it also allows game developers to publish their games and earn money from customers (the store takes a %20 cut of each sale).

The intended user group is PC players.

The system stakeholders are:

- 1- Admins
- 2- Customers
- 3- Developers

Project description

The online game store allows customers to buy, download, play, and add games to their wishlists.

It also allows developers to publish their games and earn money from them.

Customers can pay for their purchases with either credit cards or prepaid cards that have keys that they can redeem to add money to their account.

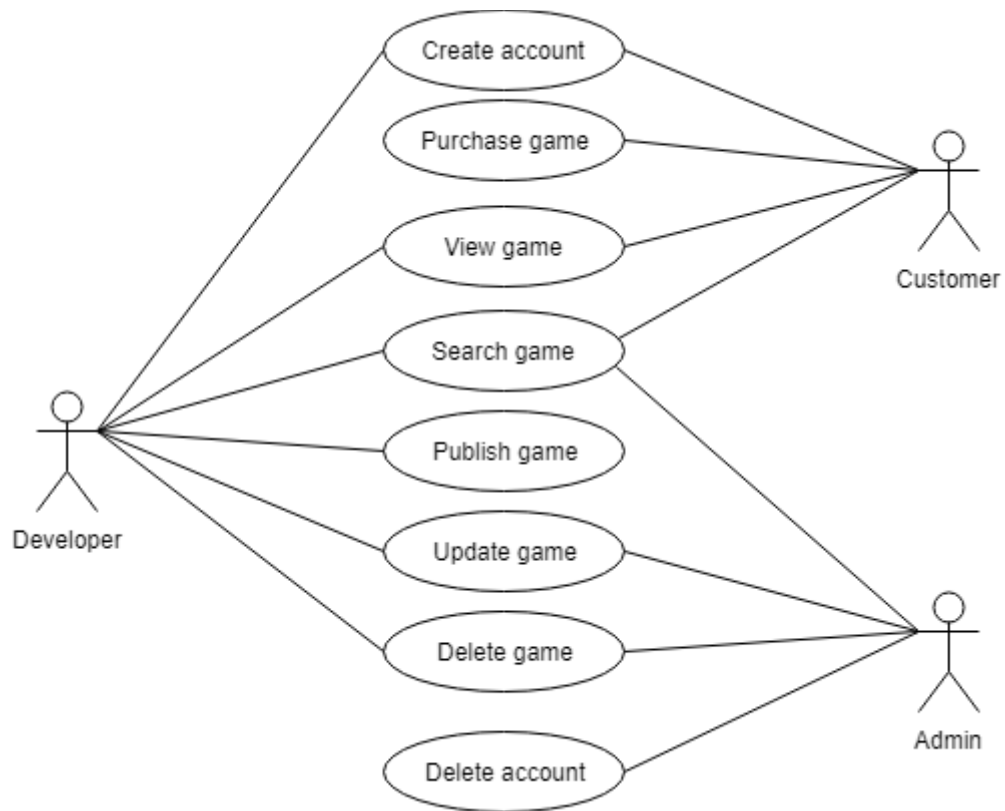
Customers can search for games based on the genre, price, and name.

They can also refund games if they don't like them, as long as they return the game within the first 4 weeks of their purchase.

Developers will have to pay a fee of 100\$ for each game they want to release, they will then earn a 80% cut of each sale their games make.

Admins can administrate the system as a whole, for example they may ban certain developers who are known for their shady behaviors, such as increasing prices if their games are successful. Or generally bad developers who knowingly publish badly made games.

Use Case Diagram



Use Case Scenario for Create Account

Step	Actor	Action Description
1	System	Show button for register
2	User	Click register button
3	System	Display register page and request user information
4	User	Enter account information
5	System	Store information in database and automatically sign in user then redirect to home page

Use Case Scenario for Publish Game

Step	Actor	Action Description
1	System	Show button for publish game
2	Developer	Click publish game button
3	System	Display publish game page and request game title, price and image
4	Developer	Enter game information
5	System	Store game in database and redirect to my published games page

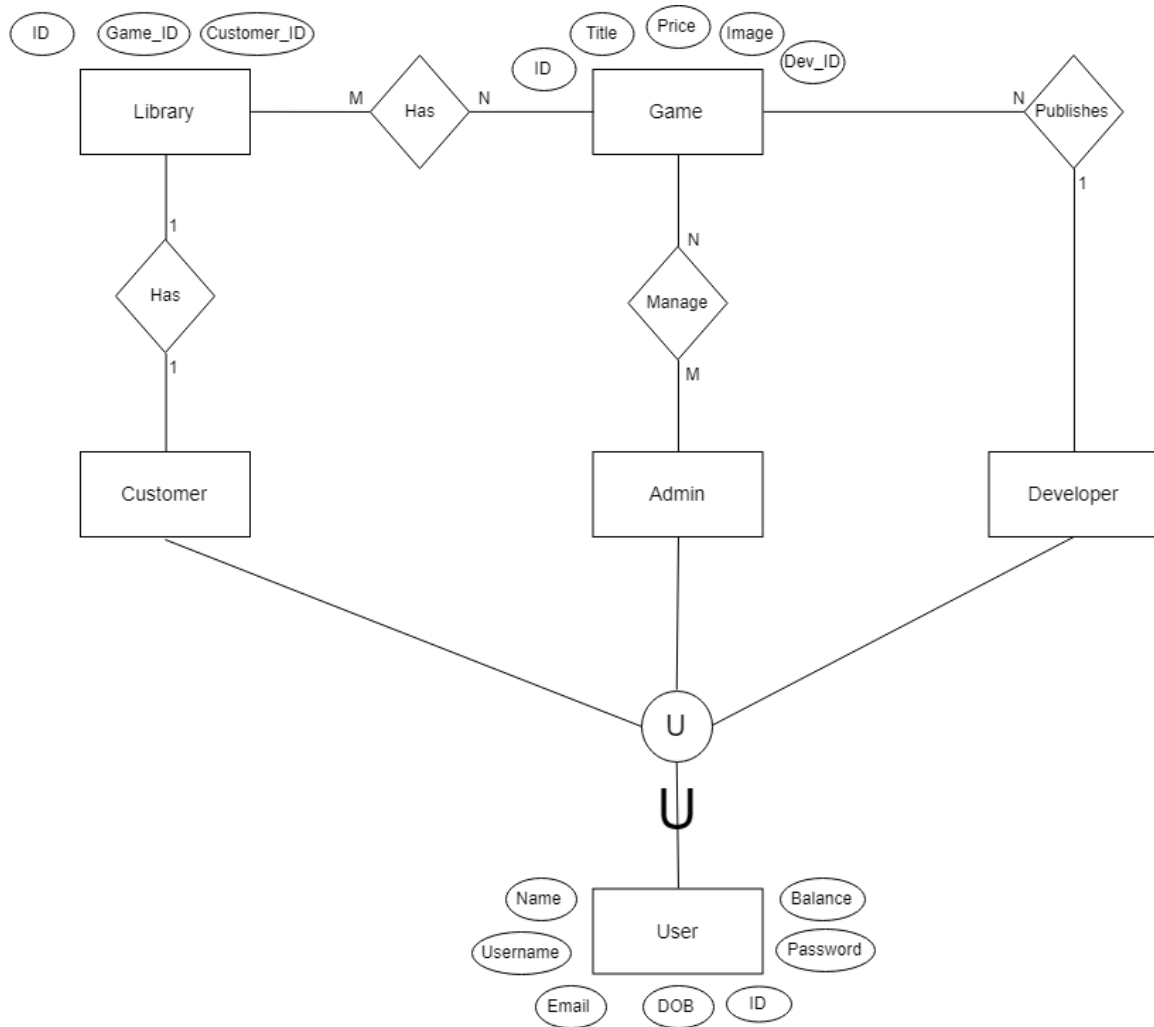
Use Case Scenario for Purchase Game

Step	Actor	Action Description
1	System	Display home page with games available for purchase
2	Customer	Click buy button
3	System	Show game information to customer and ask if they want to proceed with their purchase
4	Customer	Click yes
5	System	Add game to customer library

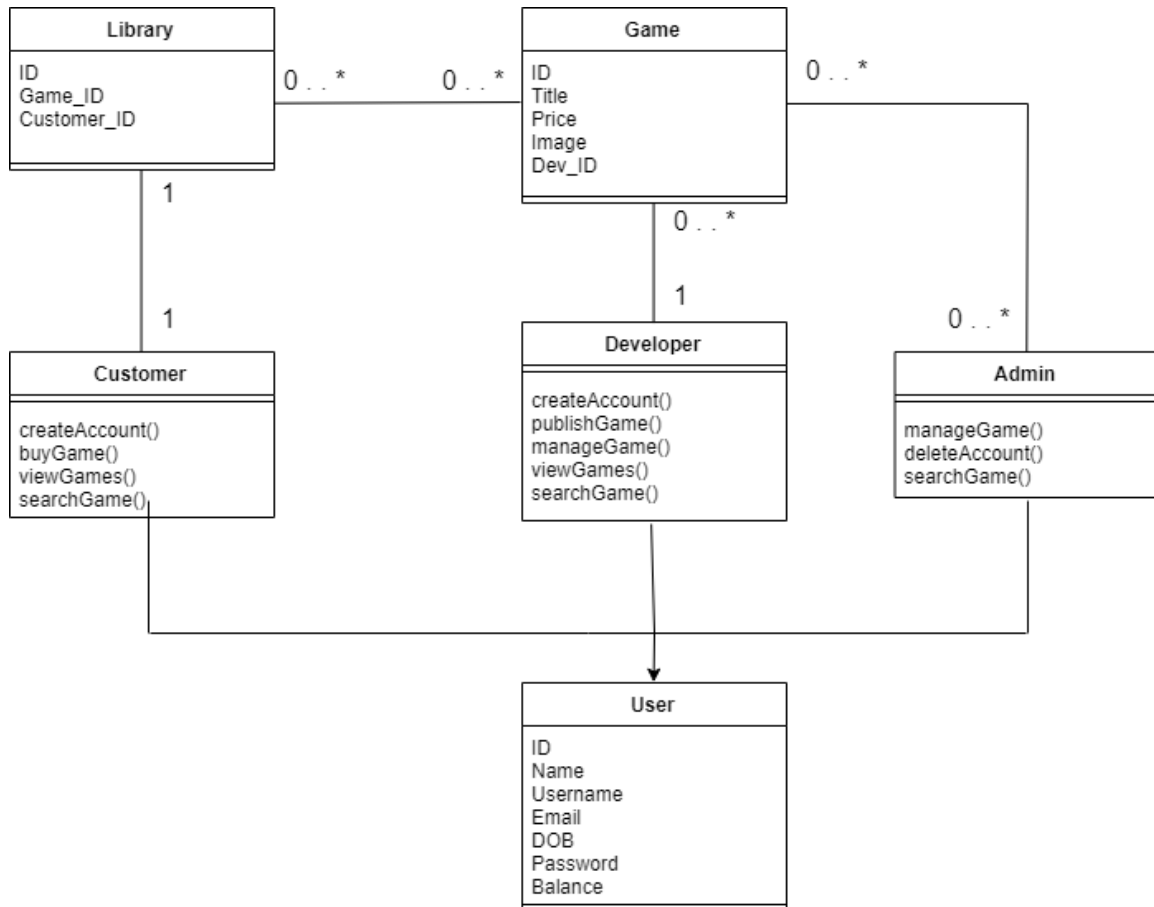
Exceptions

Step	Condition	Action Description
4	Customer clicks no	Redirect back to home page

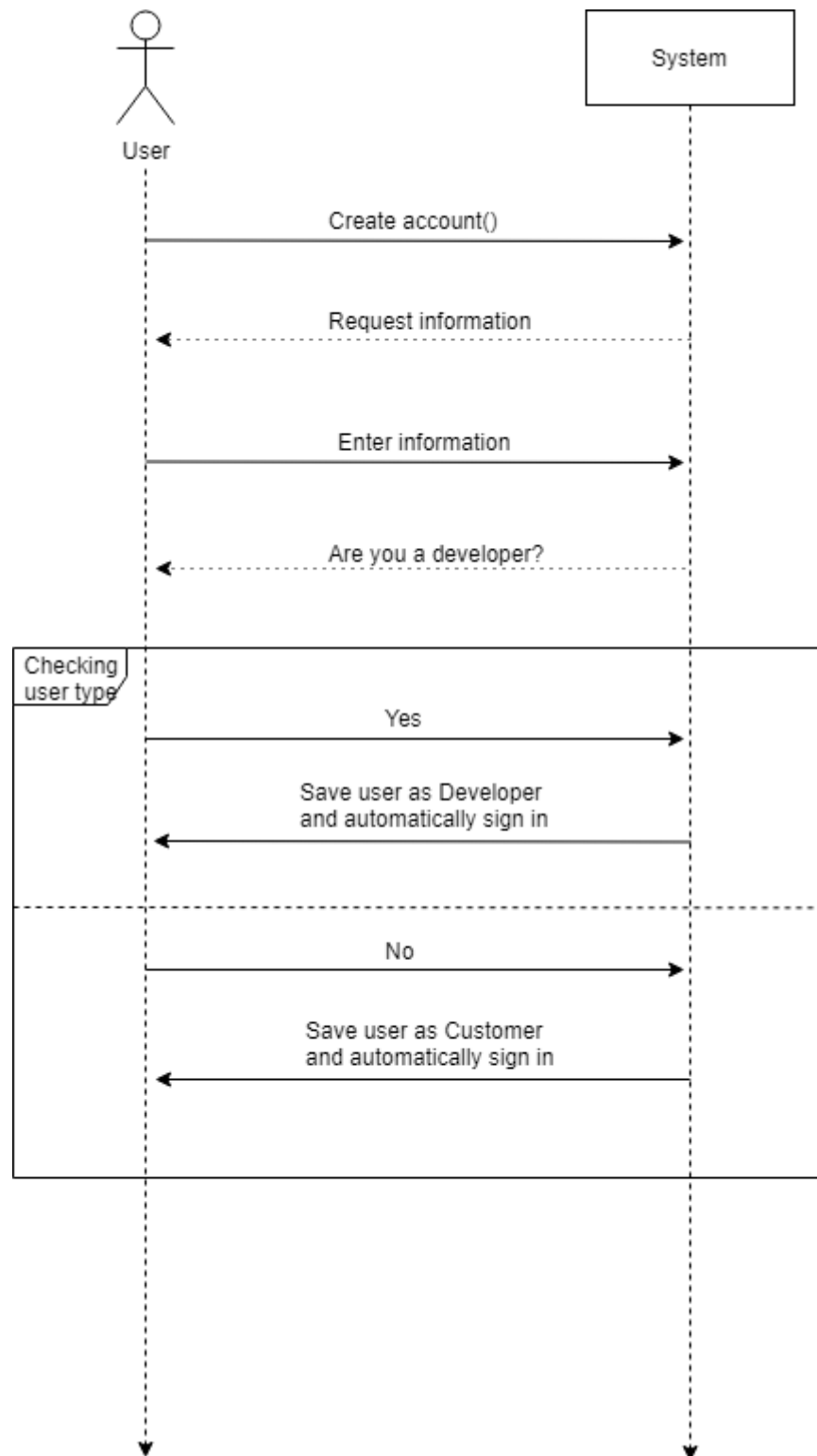
Entity-Relational Diagram



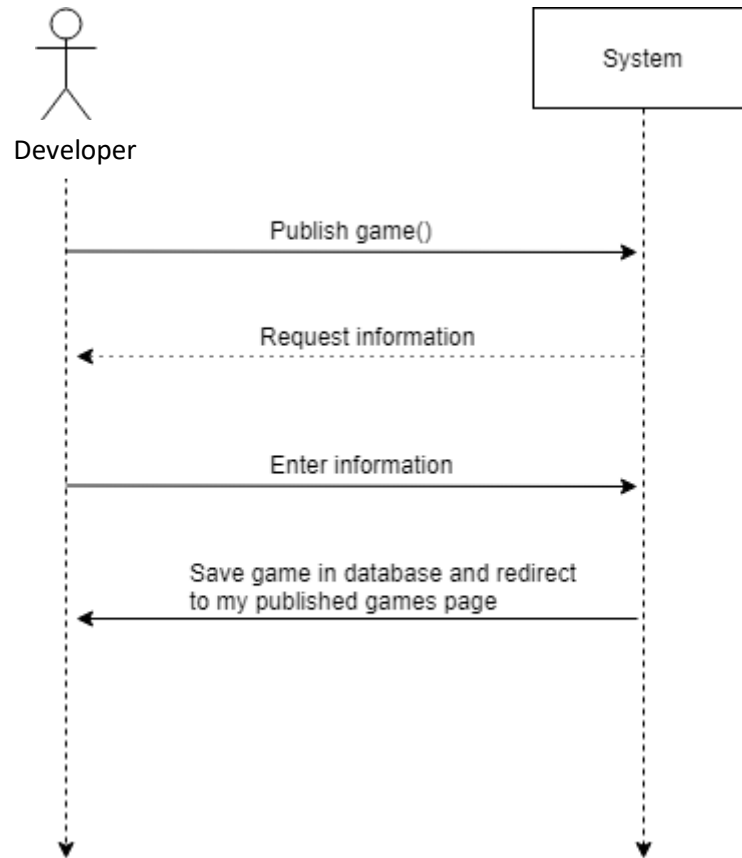
Class Diagram



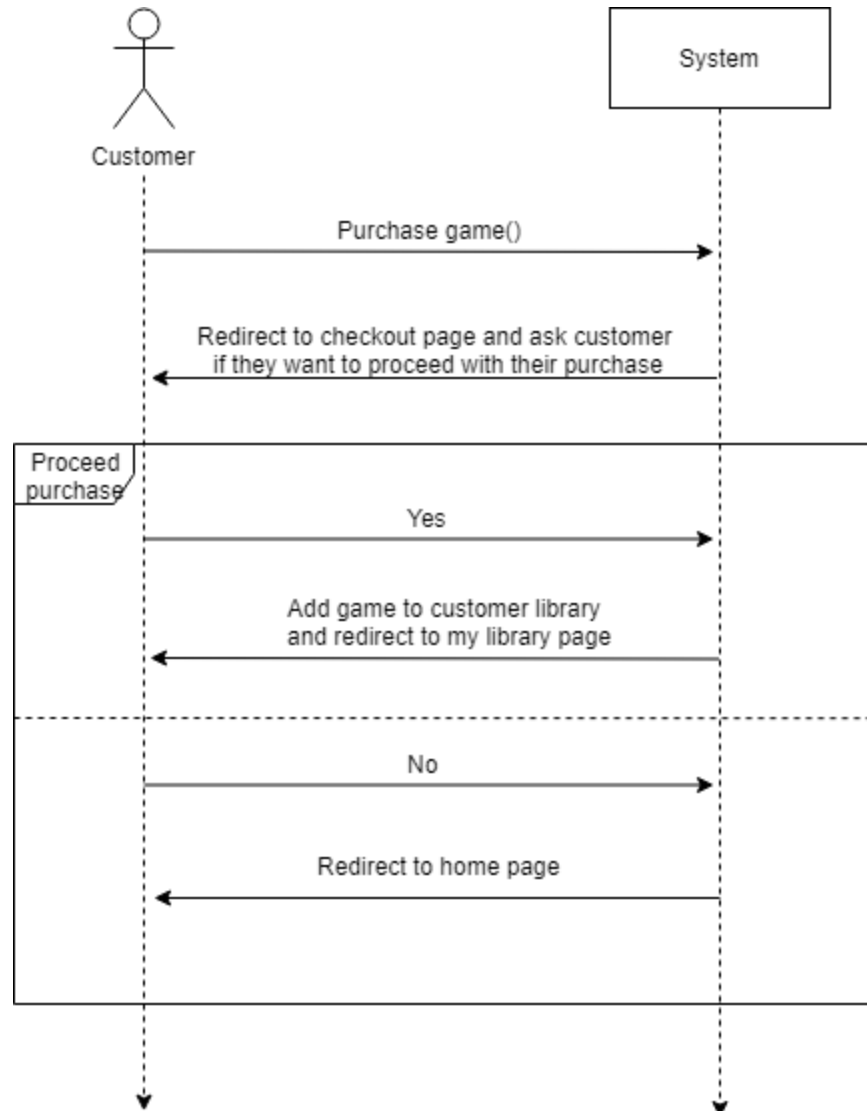
Sequence Diagram for Create Account



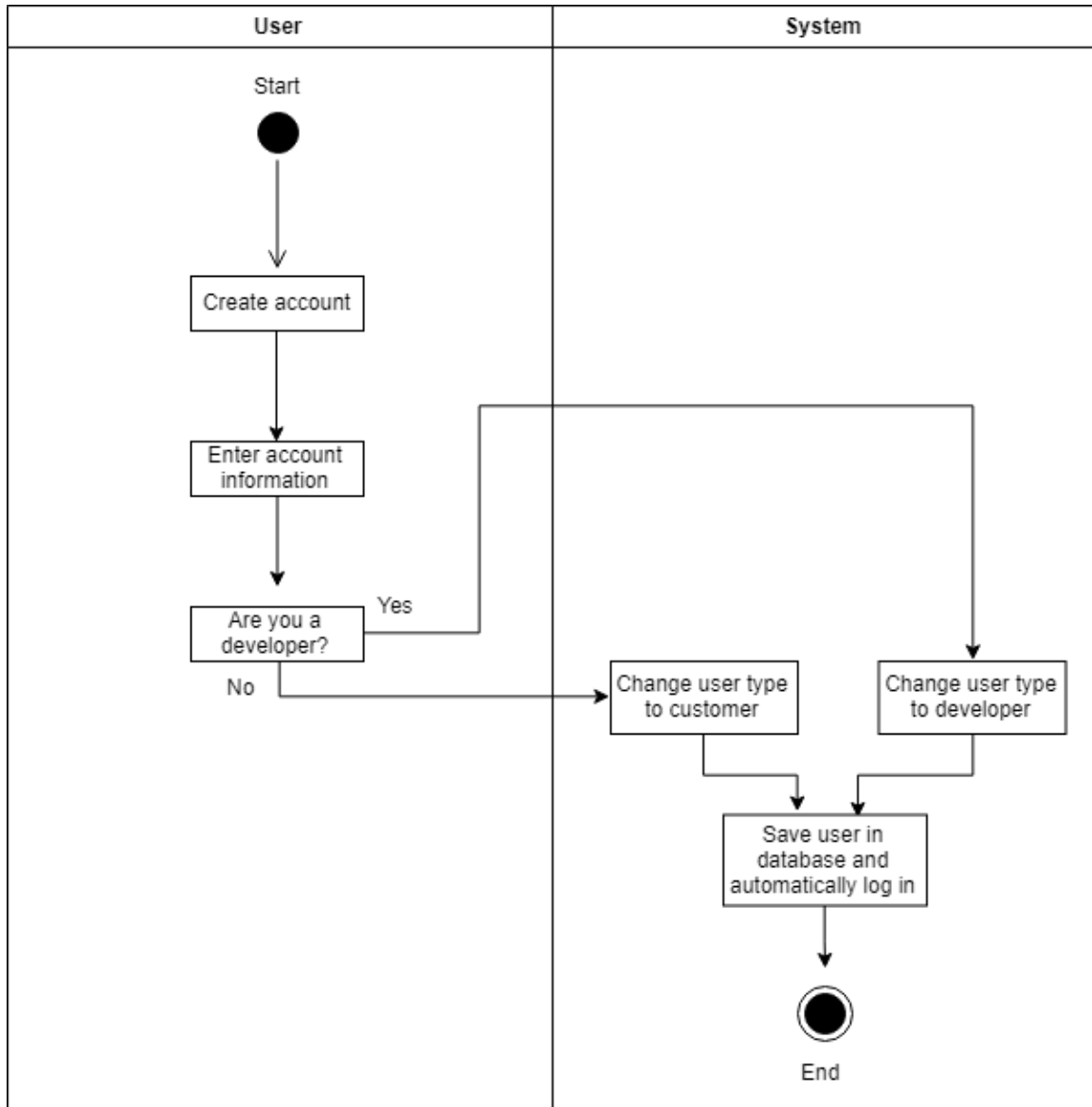
Sequence Diagram for Publish Game



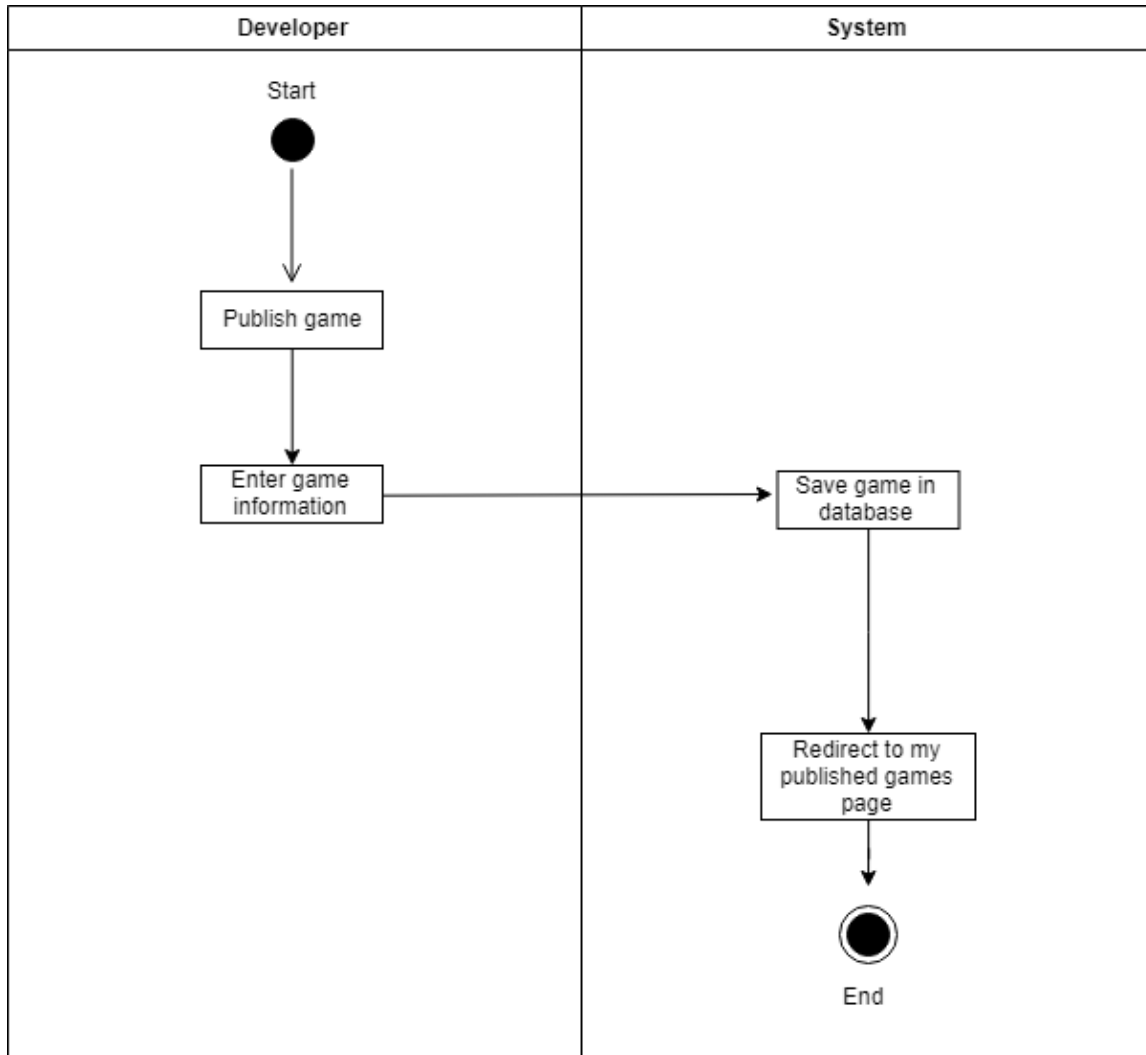
Sequence Diagram for Purchase Game



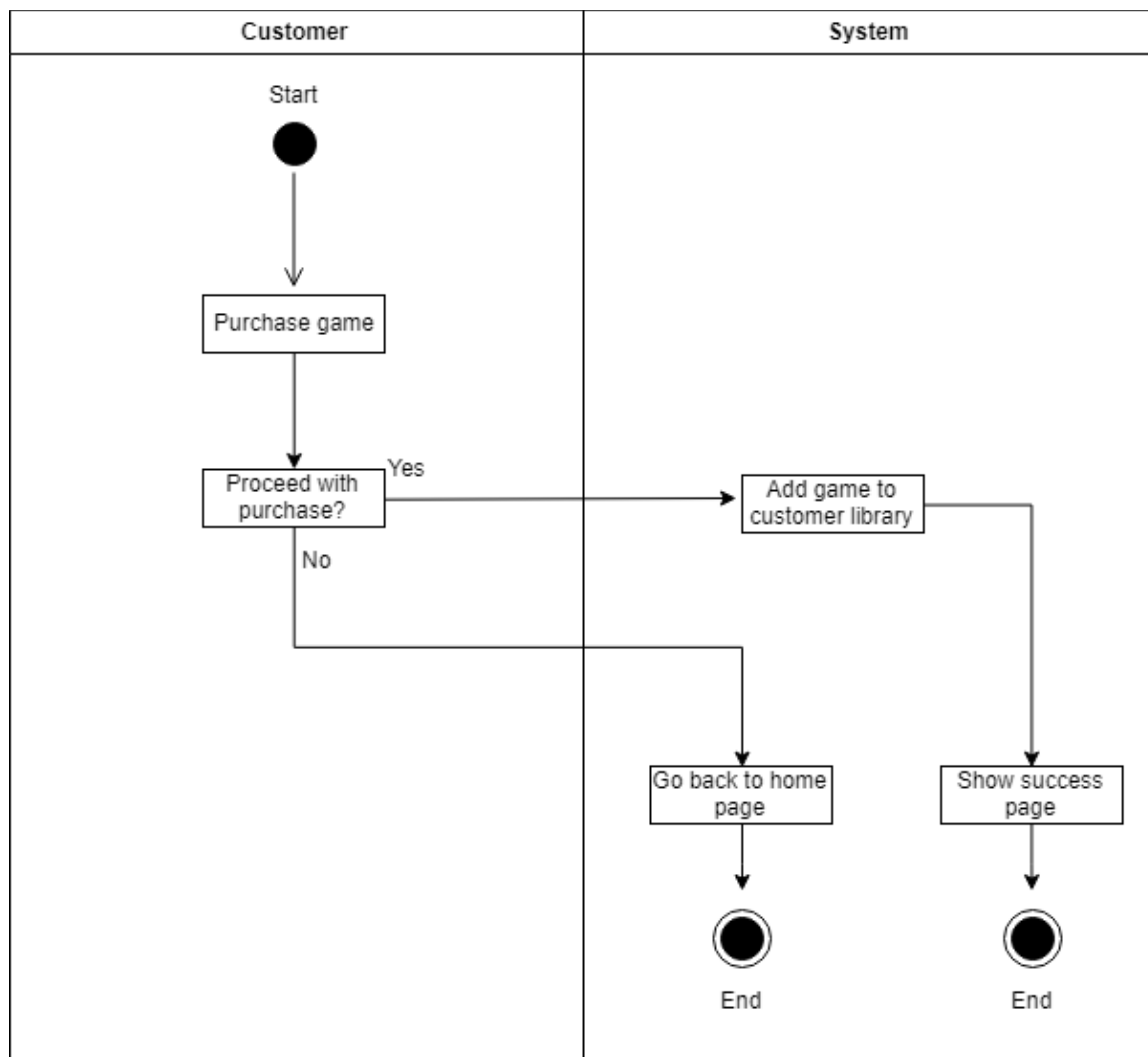
Activity Diagram for Create Account



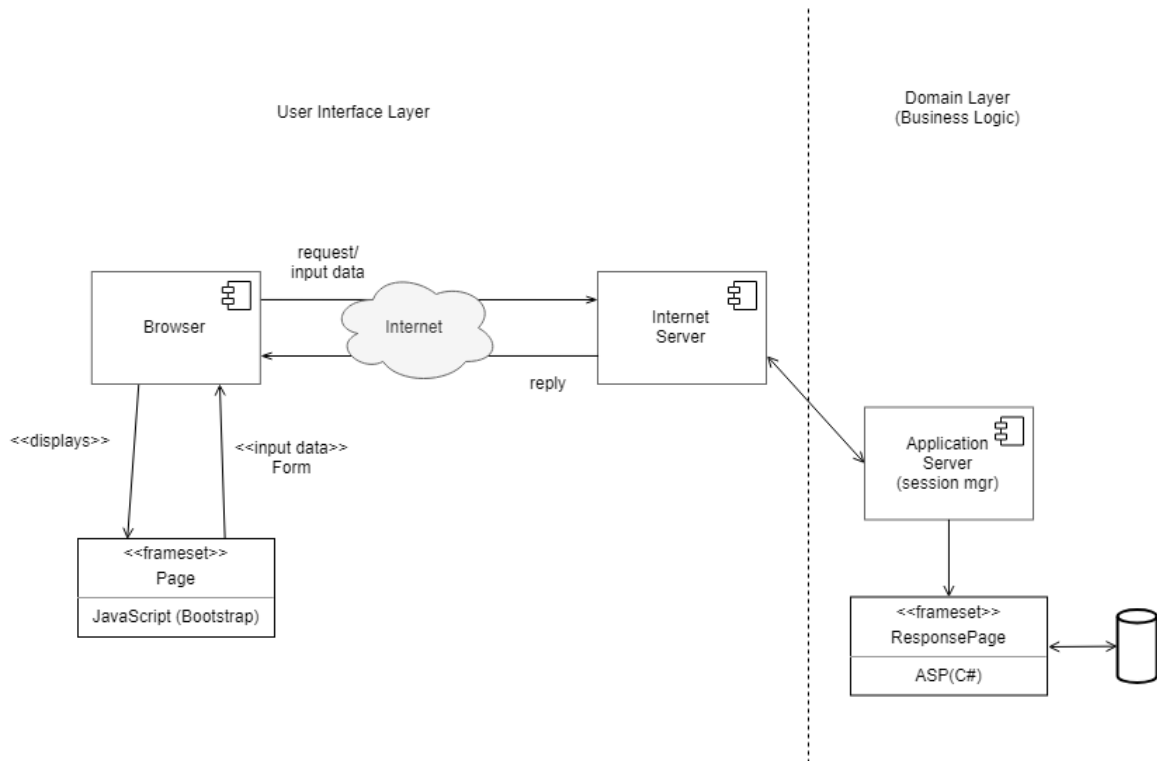
Activity Diagram for Publish Game



Activity Diagram for Purchase Game

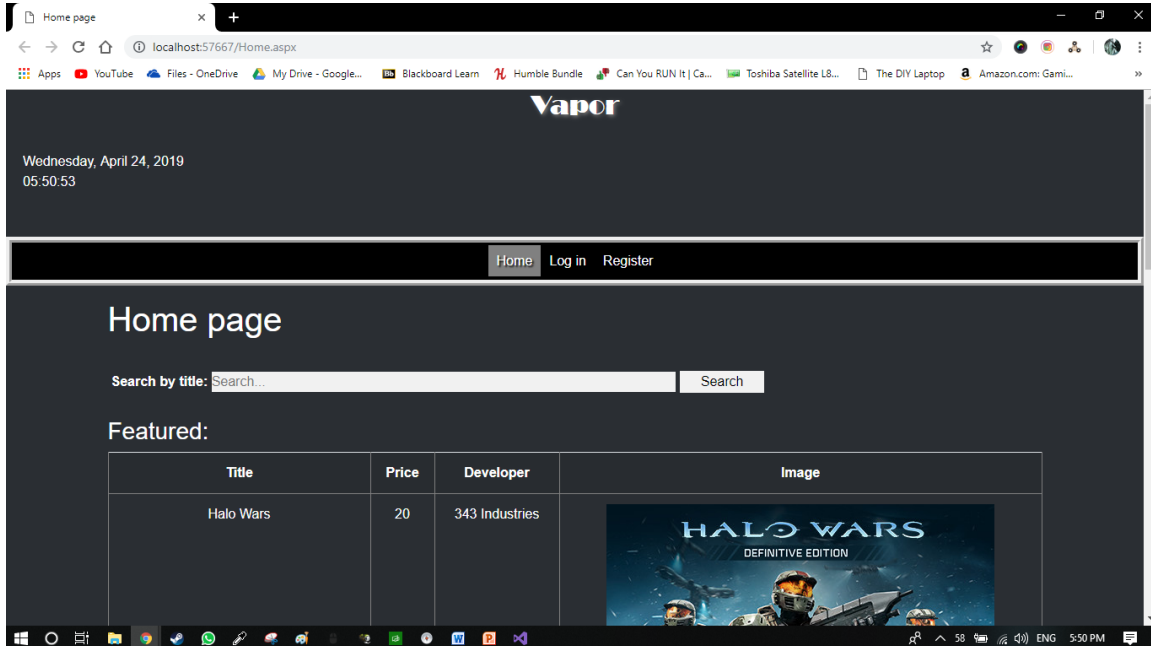


Component-Level Design

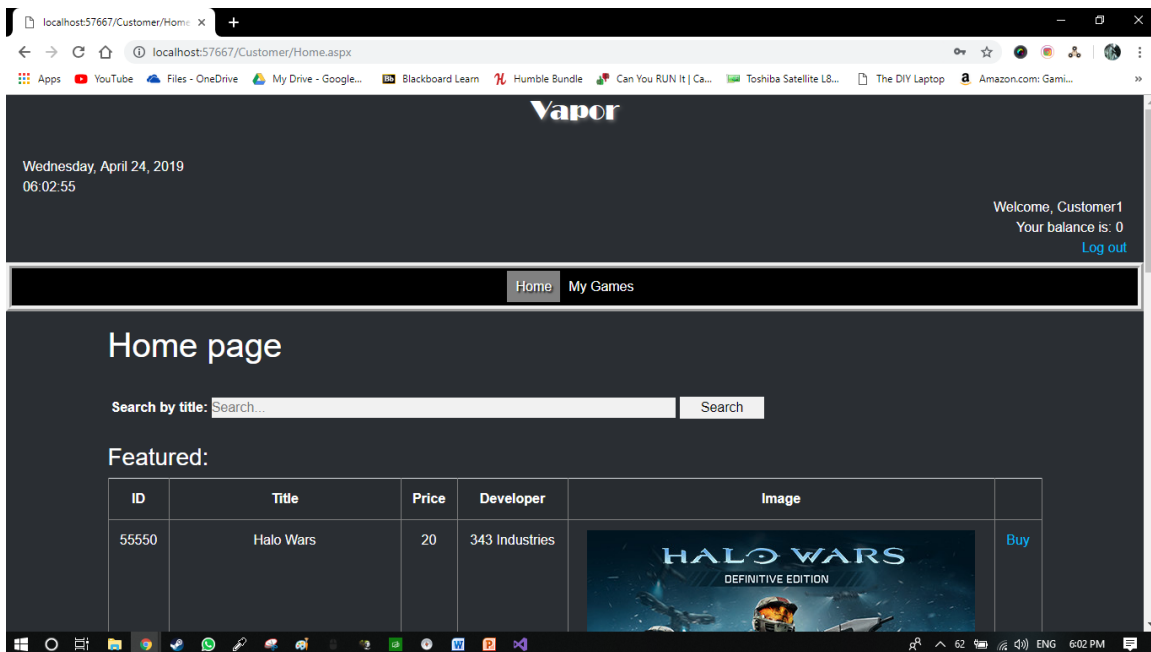


Interface Design

Home page for guests




Home page for customers



Home page for developers


The screenshot shows a web browser window with the URL `localhost:57667/Developer/Home.aspx`. The page has a dark theme. At the top, the "Vapor" logo is centered. Below it, the date and time "Wednesday, April 24, 2019 06:04:07" are displayed on the left, and a welcome message "Welcome, Developer1" with "Your balance is: 0" and a "Log out" link are on the right. A navigation bar contains links for "Home", "My Published Games", and "Publish A Game". The main content area is titled "Home page" and features a search bar with the placeholder "Search by title: Search...". Below the search bar, a section labeled "Featured:" contains a table with the following data:

Title	Price	Developer	Image
Halo Wars	20	343 Industries	

The Windows taskbar at the bottom shows the time as 6:04 PM.

Home page for admins

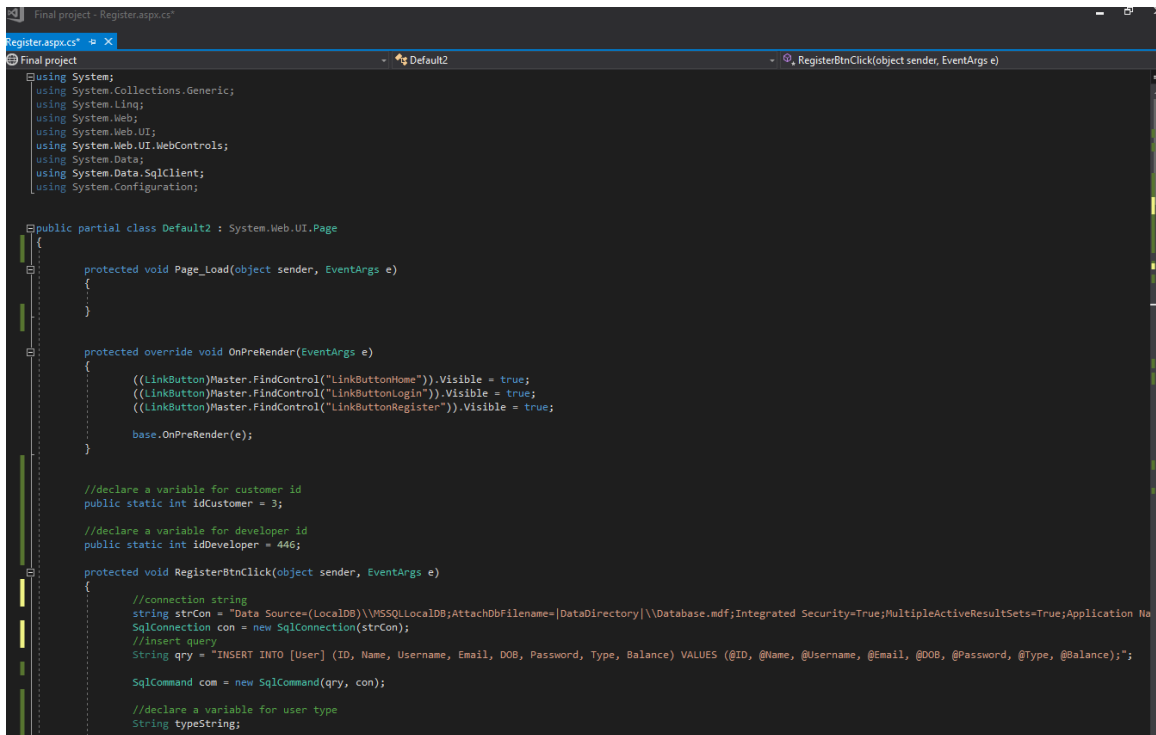
The screenshot shows a web browser window with the URL `localhost:57667/Admin/Home.aspx`. The page layout is similar to the developer version. The "Vapor" logo is at the top. The date and time "Wednesday, April 24, 2019 06:05:48" are on the left, and the welcome message "Welcome, Saeedo1998" with "Your balance is: 100000" and a "Log out" link are on the right. The navigation bar includes links for "Home", "Admins", "Customers", "Developers", and "Games". The main content area is titled "Home page" and features a search bar with the placeholder "Search by title: Search...". Below the search bar, a section labeled "Featured:" contains a table with the following data:

Title	Price	Developer	Image
Halo Wars	20	343 Industries	

The Windows taskbar at the bottom shows the time as 6:05 PM.

Coding

Register page code



The screenshot shows a Visual Studio IDE window with the file 'Register.aspx.cs' open. The code is for a partial class 'Default2' which inherits from 'System.Web.UI.Page'. It includes several using statements for System, System.Collections.Generic, System.Linq, System.Web, System.Web.UI, System.Web.UI.WebControls, System.Data, System.Data.SqlClient, and System.Configuration. The class contains three methods: 'Page_Load', 'OnPreRender', and 'RegisterBtnClick'. 'Page_Load' is empty. 'OnPreRender' sets the visibility of three link buttons to true. 'RegisterBtnClick' contains a connection string, a SQL connection, an insert query, and a SQL command.

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

public partial class Default2 : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
    }

    protected override void OnPreRender(EventArgs e)
    {
        ((LinkButton)Master.FindControl("LinkButtonHome")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonLogin")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonRegister")).Visible = true;

        base.OnPreRender(e);
    }

    //declare a variable for customer id
    public static int idCustomer = 3;

    //declare a variable for developer id
    public static int idDeveloper = 446;

    protected void RegisterBtnClick(object sender, EventArgs e)
    {
        //connection string
        string strCon = "Data Source=(LocalDB)\\MSSQLLocalDB;AttachDbFilename=[DataDirectory]\\Database.mdf;Integrated Security=True;MultipleActiveResultSets=True;Application Name=RegisterWeb";
        SqlConnection con = new SqlConnection(strCon);
        //insert query
        String qry = "INSERT INTO [User] (ID, Name, Username, Email, DOB, Password, Type, Balance) VALUES (@ID, @Name, @Username, @Email, @DOB, @Password, @Type, @Balance);";
        SqlCommand com = new SqlCommand(qry, con);

        //declare a variable for user type
        String typeString;
```

```

//declare a starting balance variable and assign a value to it
int startingBalance = 0;

//if statement to determine if user has checked "Are you a developer?" checkbox or not
if (DevCheckBox.Checked == true)
{
    //change value of user type variable to "Developer" if user has checked the checkbox
    typeString = "Developer";
}
else
{
    //change value of user type variable to "Customer" if user has not checked the checkbox
    typeString = "Customer";
}

//if user type is "Customer" save user in database as a Customer and redirect to Customer home page
if (typeString.Equals("Customer"))
{
    SqlParameter ID = new SqlParameter("@ID", idCustomer);
    SqlParameter Name = new SqlParameter("@Name", TextBoxName.Text);
    SqlParameter Username = new SqlParameter("@Username", TextBoxUsername.Text);
    SqlParameter Email = new SqlParameter("@Email", TextBoxEmail.Text);
    SqlParameter DOB = new SqlParameter("@DOB", TextBoxDOB.Text);
    SqlParameter Password = new SqlParameter("@Password", TextBoxPassword.Text);
    SqlParameter Type = new SqlParameter("@Type", typeString);
    SqlParameter Balance = new SqlParameter("@Balance", startingBalance);

    con.Parameters.Add(ID);
    con.Parameters.Add(Name);
    con.Parameters.Add(Username);
    con.Parameters.Add(Email);
    con.Parameters.Add(DOB);
    con.Parameters.Add>Password);
    con.Parameters.Add(Type);
    con.Parameters.Add(Balance);

    con.Open();
    con.ExecuteNonQuery();
    con.Close();

    Session.Clear();

    Session["id"] = idCustomer;
    Session["username"] = TextBoxUsername.Text;
    Session["balance"] = startingBalance;

    //increment customer id variable
    idCustomer++;
    Response.Redirect("Customer/Home.aspx");
}

//if user type is "Developer" save user in database as a Developer and redirect to Developer home page
else if (typeString.Equals("Developer"))
{
    SqlParameter ID = new SqlParameter("@ID", idDeveloper);
    SqlParameter Name = new SqlParameter("@Name", TextBoxName.Text);
    SqlParameter Username = new SqlParameter("@Username", TextBoxUsername.Text);
    SqlParameter Email = new SqlParameter("@Email", TextBoxEmail.Text);
    SqlParameter DOB = new SqlParameter("@DOB", TextBoxDOB.Text);
    SqlParameter Password = new SqlParameter("@Password", TextBoxPassword.Text);
    SqlParameter Type = new SqlParameter("@Type", typeString);
    SqlParameter Balance = new SqlParameter("@Balance", startingBalance);

    con.Parameters.Add(ID);
    con.Parameters.Add(Name);
    con.Parameters.Add(Username);
    con.Parameters.Add(Email);
    con.Parameters.Add(DOB);
    con.Parameters.Add>Password);
    con.Parameters.Add(Type);
    con.Parameters.Add(Balance);

    con.Open();
    con.ExecuteNonQuery();
    con.Close();

    Session.Clear();

    Session["id"] = idDeveloper;
    Session["username"] = TextBoxUsername.Text;
    Session["balance"] = startingBalance;

    //increment developer id variable
    idDeveloper++;
    Response.Redirect("Developer/Home.aspx");
}
}

```

Login page code

```
Final project
Login.aspx.cs
Final project
Default2
TextBoxUsername

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

public partial class Default2 : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
    }

    protected override void OnPreRender(EventArgs e)
    {
        ((LinkButton)Master.FindControl("LinkButtonHome")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonLogin")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonRegister")).Visible = true;
        base.OnPreRender(e);
    }

    //method to check user type
    public int CheckUserType(String UserType)
    {
        if (UserType.Equals("Admin"))
        {
            return 1;
        }
        else if (UserType.Equals("Developer"))
        {
            return 2;
        }
        else if (UserType.Equals("Customer"))
        {
            return 3;
        }
        else
        {
            return 0;
        }
    }

    protected void LoginButton_Click(object sender, EventArgs e)
    {
        string strCon = "Data Source=(LocalDB)\\MSSQLLocalDB;AttachDbFilename=|DataDirectory|\\Database.mdf;Integrated Security=True;MultipleActiveResultSets=True;Application Name=LoginProject";
        SqlConnection con = new SqlConnection(strCon);
        string username = TextBoxUsername.Text;
        string password = TextBoxPassword.Text;
        try
        {
            con.Open();
            string qry = "select * from [User] where Username='" + username + "' and Password='" + password + "'";
        }
    }
}
```

```
SqlCommand cmd = new SqlCommand(qry, con);

SqlDataReader dr = cmd.ExecuteReader();

//if user has entered correct log in credentials
if (dr.Read())
{
    //switch statement to determine user type and redirect to respective page
    switch (CheckUserType(dr["Type"].ToString()))
    {
        //if user type is other than Admin,
        //Customer or Developer (mainly used for finding errors)
        case 0:
            LabelError.Text = "An error has ocured, please try again later";
            break;

        //if user type is Admin
        case 1:
            Session["username"] = username;
            Session["balance"] = dr["balance"].ToString();
            Session["id"] = dr["id"].ToString();
            Response.Redirect("Admin/Home.aspx");
            break;

        //if user type is Developer
        case 2:
            Session["username"] = username;
            Session["balance"] = dr["balance"].ToString();
            Session["id"] = dr["id"].ToString();
            Response.Redirect("Developer/Home.aspx");
            break;

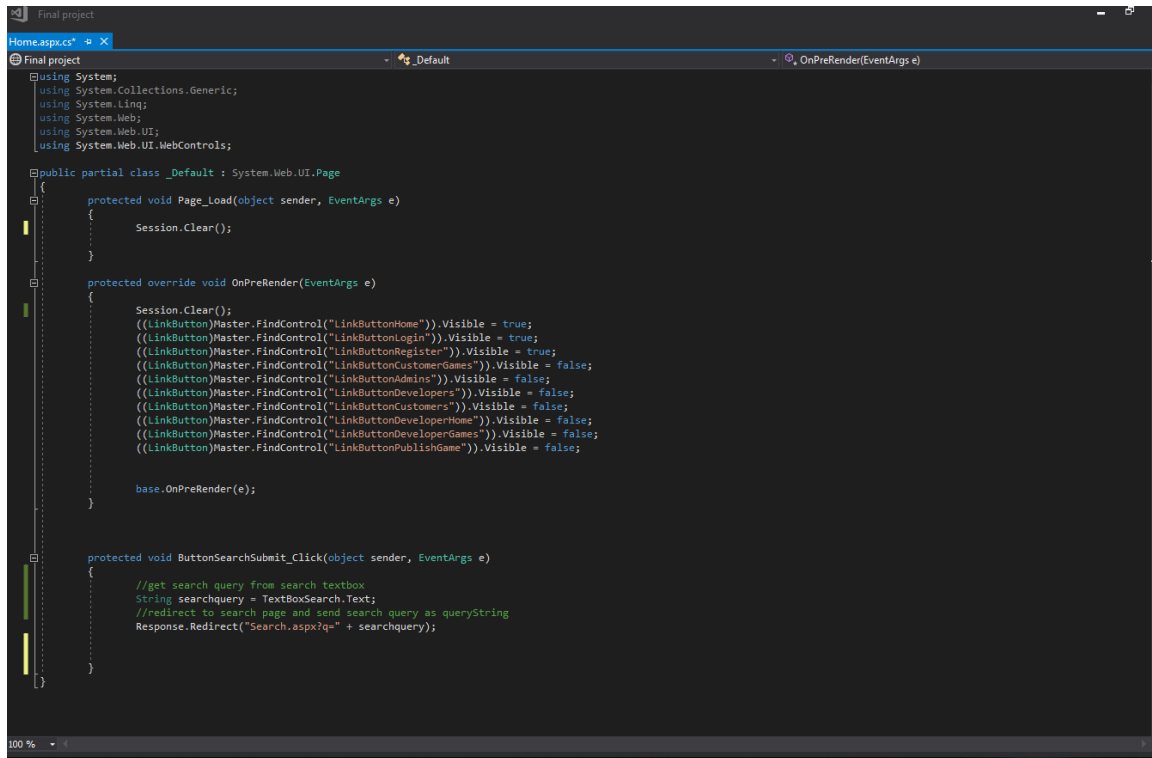
        //if user type is Customer
        case 3:
            Session["username"] = username;
            Session["balance"] = dr["balance"].ToString();
            Session["id"] = dr["id"].ToString();
            Response.Redirect("Customer/Home.aspx");
            break;
    }
    con.Close();
}

//if user has entered incorrect log in credentials
else
{
    LabelError.Text = "Username or password incorrect";
}

//catch for displaying error message
catch (Exception e2)
{
    LabelError.Text = "An error has ocured, please try again later. " + e2.Message;
}

con.Close();
}
```

Home page code



```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

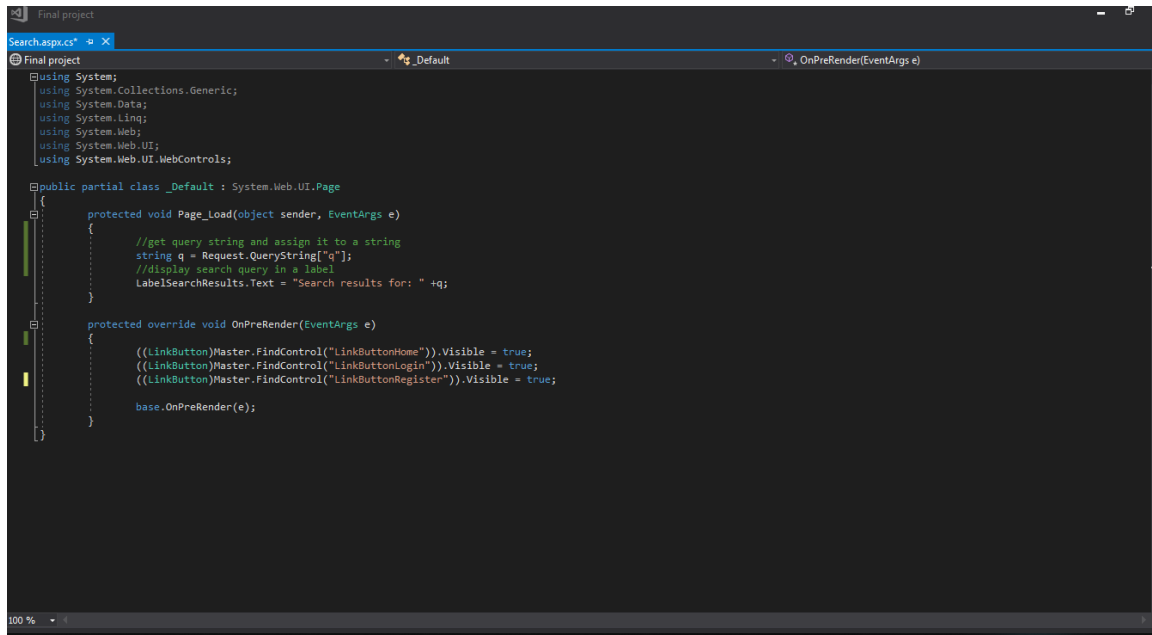
public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        Session.Clear();
    }

    protected override void OnPreRender(EventArgs e)
    {
        Session.Clear();
        ((LinkButton)Master.FindControl("LinkButtonHome")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonLogin")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonRegister")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonCustomerGames")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonAdmins")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonDevelopers")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonCustomers")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonDeveloperHome")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonDeveloperGames")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonPublishGame")).Visible = false;

        base.OnPreRender(e);
    }

    protected void ButtonSearchSubmit_Click(object sender, EventArgs e)
    {
        //get search query from search textbox
        String searchquery = TextBoxSearch.Text;
        //redirect to search page and send search query as queryString
        Response.Redirect("Search.aspx?q=" + searchquery);
    }
}
```

Search page code



```
Final project
Search.aspx.cs
Final project
_Default
OnPreRender(EventArgs e)

using System;
using System.Collections.Generic;
using System.Data;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        //get query string and assign it to a string
        string q = Request.QueryString["q"];
        //display search query in a label
        LabelSearchResults.Text = "Search results for: " + q;
    }

    protected override void OnPreRender(EventArgs e)
    {
        ((LinkButton)Master.FindControl("LinkButtonHome")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonLogin")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonRegister")).Visible = true;

        base.OnPreRender(e);
    }
}
```


Masterpage code

```
Final project
MasterPageMaster.cs
Final project
MasterPage
Page_Load(object sender, EventArgs e)

using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class MasterPage : System.Web.UI.MasterPage
{
    protected void Page_Load(object sender, EventArgs e)
    {
        //display time and date
        lblDateToday.Text = DateTime.Now.ToLongDateString();
        lblTime.Text = DateTime.Now.ToString("hh:mm:ss");

        //if session username has a value (a user is logged in)
        if (Session["username"] != null)
        {
            //display username and balance
            lblUsername.Text = "Welcome, " + Session["username"].ToString();
            lblBalance.Text = "Your balance is: " + Session["balance"].ToString();

            //show log out button so user can log out
            LinkButtonLogout.Visible = true;
        }

        //if session username is empty (no user is logged in)
        else
        {
            //hide log out button
            LinkButtonLogout.Visible = false;
        }

        if (!IsPostBack)
        {
            LinkButtonAdmins.Visible = false;
            LinkButtonCustomerGames.Visible = false;
            LinkButtonCustomers.Visible = false;
            LinkButtonDeveloperGames.Visible = false;
            LinkButtonDevelopers.Visible = false;
            LinkButtonGames.Visible = false;
            LinkButtonHome.Visible = false;
            LinkButtonLogin.Visible = false;
            LinkButtonRegister.Visible = false;
            LinkButtonAdminHome.Visible = false;
            LinkButtonDeveloperHome.Visible = false;
            LinkButtonCustomerHome.Visible = false;
            LinkButtonPublishGame.Visible = false;
        }
    }

    protected void TimerTime_Tick(object sender, EventArgs e)
    {
        lblTime.Text = DateTime.Now.ToString("hh:mm:ss");
    }

    protected void LinkButtonLogout_Click(object sender, EventArgs e)
    {
        Session.Clear();
        Response.Redirect("../Home.aspx");
    }
}
```

Publish game page code

```
Final project
PublishGame.aspx.cs
Final project
Default
ButtonPublishGame_Click(object sender, EventArgs e)

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

public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
    }

    protected override void OnPreRender(EventArgs e)
    {
        ((LinkButton)Master.FindControl("LinkButtonHome")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonLogin")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonRegister")).Visible = false;

        ((LinkButton)Master.FindControl("LinkButtonDeveloperHome")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonDeveloperGames")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonPublishGame")).Visible = true;

        base.OnPreRender(e);
    }

    //declare a game id variable
    public static int id = 55556;

    protected void ButtonPublishGame_Click(object sender, EventArgs e)
    {
        //connection string
        string strCon = "Data Source=(LocalDB)\\MSSQLLocalDB;AttachDbFilename=[DataDirectory]\\Database.mdf;Integrated Security=True;MultipleActiveResultSets=True;Application Na
        SqlConnection con = new SqlConnection(strCon);
        //insert query
        String qry = "INSERT INTO Game(ID, Title, Price, Image, Dev_ID) VALUES(@ID,@Title,@Price,@Image,@Dev_ID)";

        //declare a string and assign value of image url path
        String imageString = "~/Images/" + FileUpload1.FileName;
        SqlCommand com = new SqlCommand(qry, con);

        //if developer has uploaded an image
        if (FileUpload1.HasFile)
        {
            FileUpload1.SaveAs(Server.MapPath("../Images/" + FileUpload1.FileName));

            SqlParameter ID = new SqlParameter("@ID", id);
            SqlParameter Dev_ID = new SqlParameter("@Dev_ID", Session["id"]);
            SqlParameter Title = new SqlParameter("@Title", TextBoxTitle.Text);
            SqlParameter Price = new SqlParameter("@Price", TextBoxPrice.Text);
            SqlParameter Image = new SqlParameter("@Image", imageString);

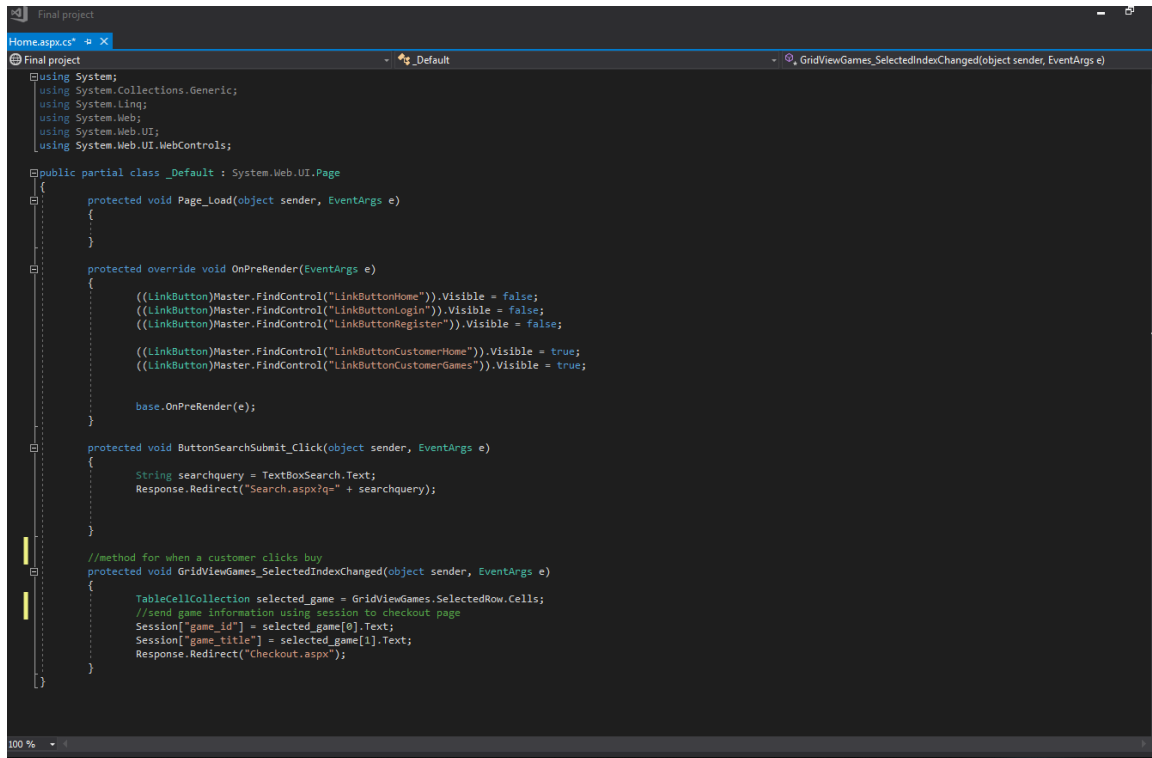
            com.Parameters.Add(ID);
            com.Parameters.Add(Dev_ID);
            com.Parameters.Add(Title);
            com.Parameters.Add(Price);
            com.Parameters.Add(Image);

            con.Open();
            con.ExecuteNonQuery();
            con.Close();

            //increment game id variable
            id++;
            Response.Redirect("My Published Games.aspx");
        }

        //if developer has not uploaded an image
        else
        {
            //show an error message
            Label1.Text = "Please upload an image";
            Label1.ForeColor = System.Drawing.Color.Red;
        }
    }
}
```

Customer home page code



```
Final project
Home.aspx.cs
Final project
Default
GridViewGames_SelectedIndexChanged(object sender, EventArgs e)

using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
    }

    protected override void OnPreRender(EventArgs e)
    {
        ((LinkButton)Master.FindControl("LinkButtonHome")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonLogin")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonRegister")).Visible = false;

        ((LinkButton)Master.FindControl("LinkButtonCustomerHome")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonCustomerGames")).Visible = true;

        base.OnPreRender(e);
    }

    protected void ButtonSearchSubmit_Click(object sender, EventArgs e)
    {
        String searchquery = TextBoxSearch.Text;
        Response.Redirect("Search.aspx?q=" + searchquery);
    }

    //method for when a customer clicks buy
    protected void GridViewGames_SelectedIndexChanged(object sender, EventArgs e)
    {
        TableCellCollection selected_game = GridViewGames.SelectedRow.Cells;
        //send game information using session to checkout page
        Session["game_id"] = selected_game[0].Text;
        Session["game_title"] = selected_game[1].Text;
        Response.Redirect("Checkout.aspx");
    }
}
```

Checkout page code

```
Final project
Checkout.aspx.cs
Final project
_Default
ButtonYes_Click(object sender, EventArgs e)

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

public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        Label1.Text = "You are about to buy " + Session["game_title"].ToString();
    }

    protected override void OnPreRender(EventArgs e)
    {
        ((LinkButton)Master.FindControl("LinkButtonHome")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonLogin")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonRegister")).Visible = false;

        ((LinkButton)Master.FindControl("LinkButtonCustomerHome")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonCustomerGames")).Visible = true;

        base.OnPreRender(e);
    }

    //declare a variable for library id
    public static int id = 116;

    protected void ButtonYes_Click(object sender, EventArgs e)
    {
        //connection string
        string strCon = "Data Source=(LocalDB)\\MSSQLLocalDB;AttachDbFilename=|DataDirectory|\\Database.mdf;Integrated Security=True;MultipleActiveResultSets=True;Application Name=Checkout";
        SqlConnection con = new SqlConnection(strCon);
        try
        {
            //insert query
            string qry = "INSERT INTO Library(ID, Game_ID, Customer_ID) VALUES (@ID, @Game_ID, @Customer_ID)";
            SqlCommand com = new SqlCommand(qry, con);

            SqlParameter ID = new SqlParameter("@ID", id);
            SqlParameter Game_ID = new SqlParameter("@Game_ID", Session["game_id"].ToString());
            SqlParameter Customer_ID = new SqlParameter("@Customer_ID", Session["id"].ToString());

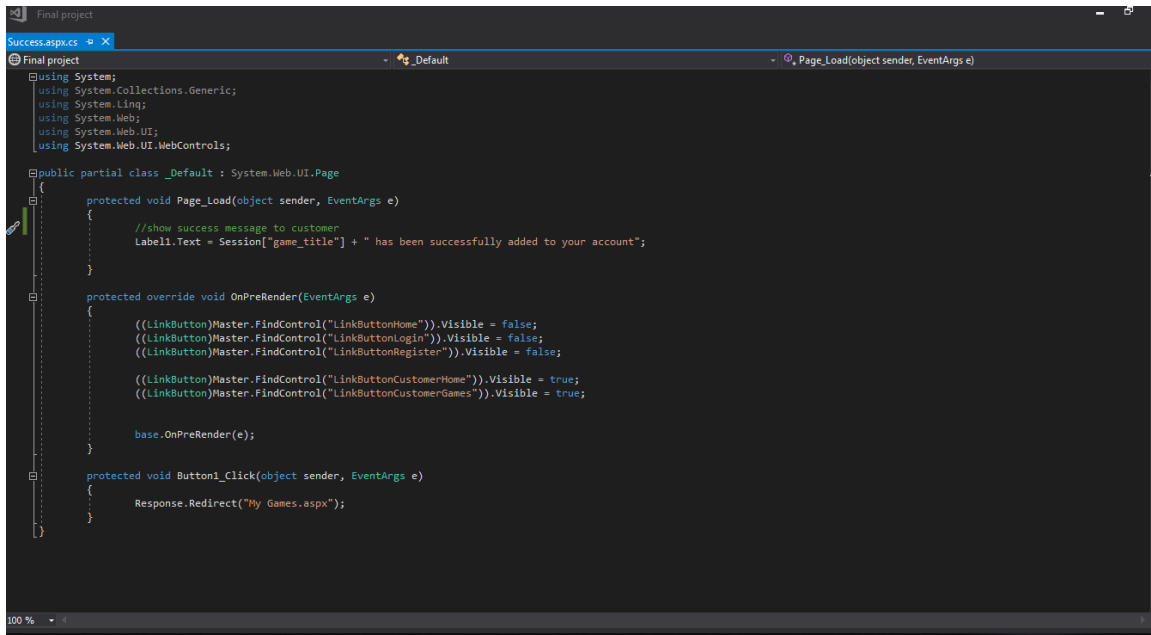
            com.Parameters.Add(ID);
            com.Parameters.Add(Game_ID);
            com.Parameters.Add(Customer_ID);

            con.Open();
            com.ExecuteNonQuery();
            con.Close();
            //increment library id variable
            id++;

            Response.Redirect("Success.aspx", false);
        }
        catch (Exception e2)
        {
            //redirect error message to error page using session
            Session["errorMessage"] = e2.Message;
            Response.Redirect("Error.aspx");
        }
    }

    protected void ButtonNo_Click(object sender, EventArgs e)
    {
        Response.Redirect("Home.aspx");
    }
}
```

Success page code



```
Final project
Success.aspx.cs
Final project
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        //show success message to customer
        Label1.Text = Session["game_title"] + " has been successfully added to your account";
    }

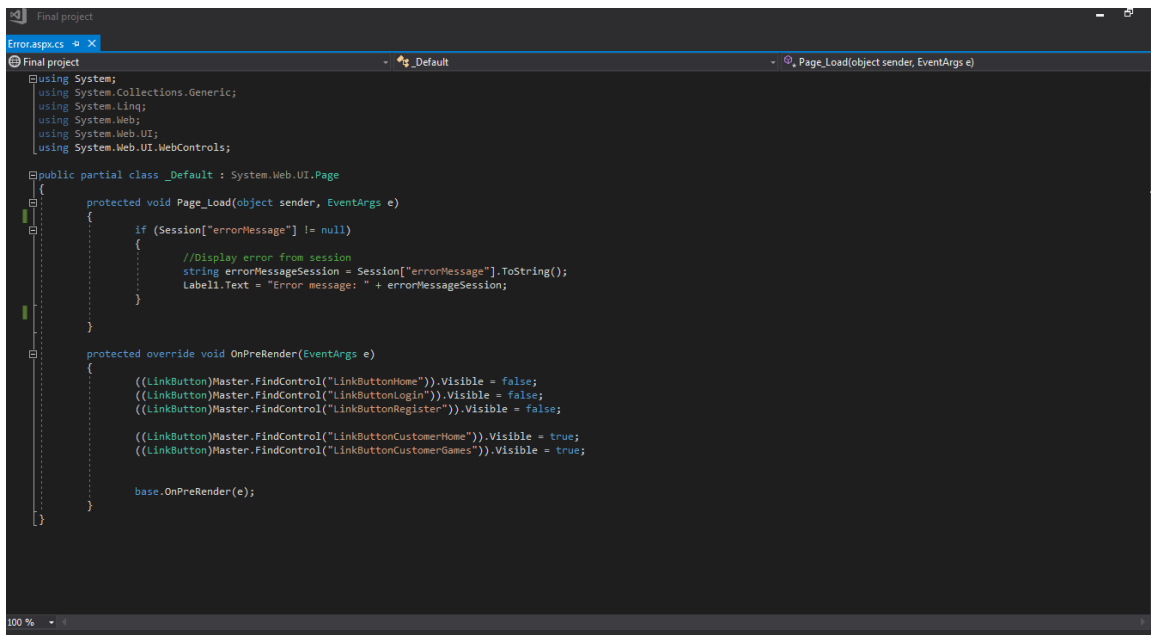
    protected override void OnPreRender(EventArgs e)
    {
        ((LinkButton)Master.FindControl("LinkButtonHome")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonLogin")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonRegister")).Visible = false;

        ((LinkButton)Master.FindControl("LinkButtonCustomerHome")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonCustomerGames")).Visible = true;

        base.OnPreRender(e);
    }

    protected void Button1_Click(object sender, EventArgs e)
    {
        Response.Redirect("My Games.aspx");
    }
}
```

Error page code



```
Final project
Error.aspx.cs
Final project
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        if (Session["errorMessage"] != null)
        {
            //Display error from session
            string errorMessageSession = Session["errorMessage"].ToString();
            Label1.Text = "Error message: " + errorMessageSession;
        }
    }

    protected override void OnPreRender(EventArgs e)
    {
        ((LinkButton)Master.FindControl("LinkButtonHome")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonLogin")).Visible = false;
        ((LinkButton)Master.FindControl("LinkButtonRegister")).Visible = false;

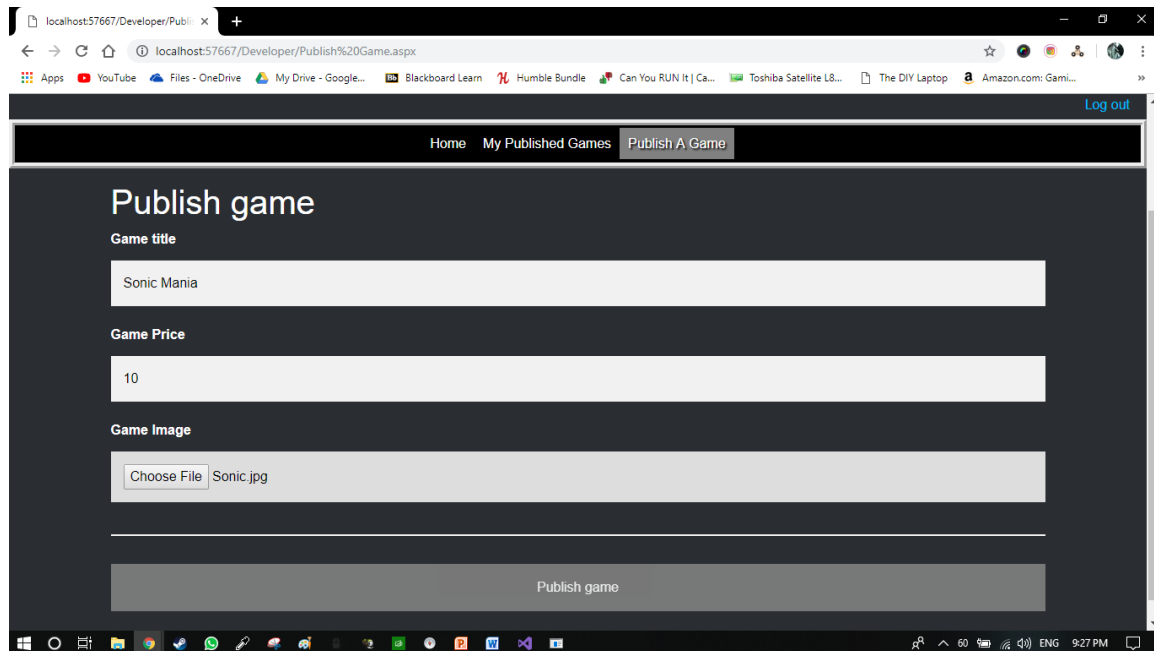
        ((LinkButton)Master.FindControl("LinkButtonCustomerHome")).Visible = true;
        ((LinkButton)Master.FindControl("LinkButtonCustomerGames")).Visible = true;

        base.OnPreRender(e);
    }
}
```

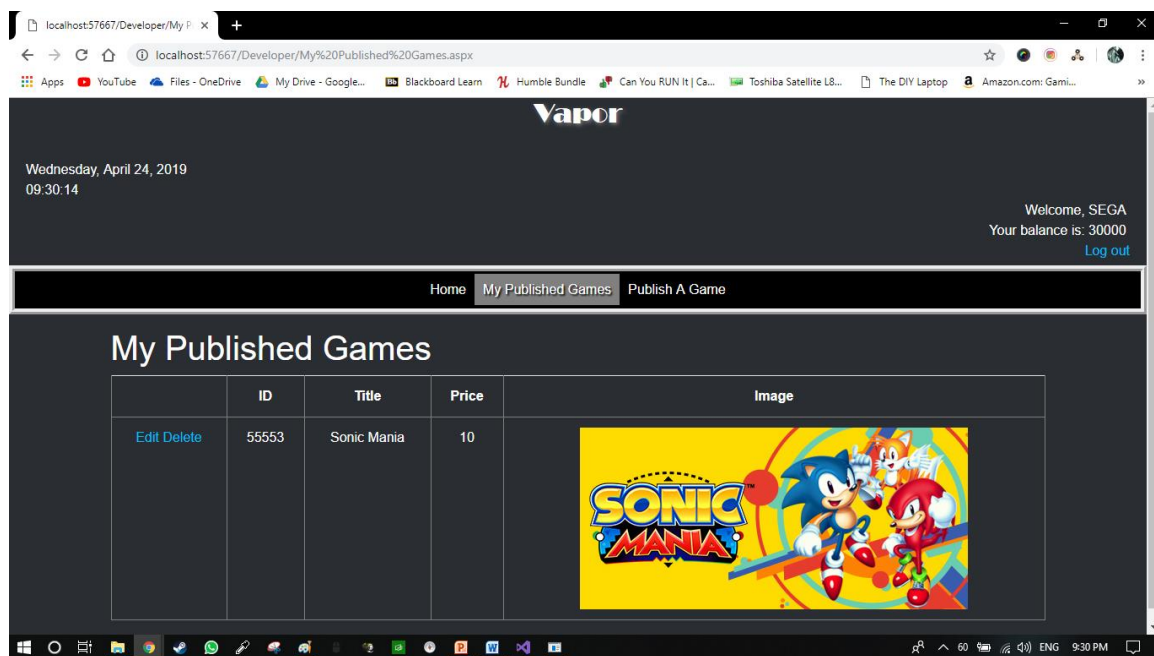
Testing

Developer:

Publishing a game

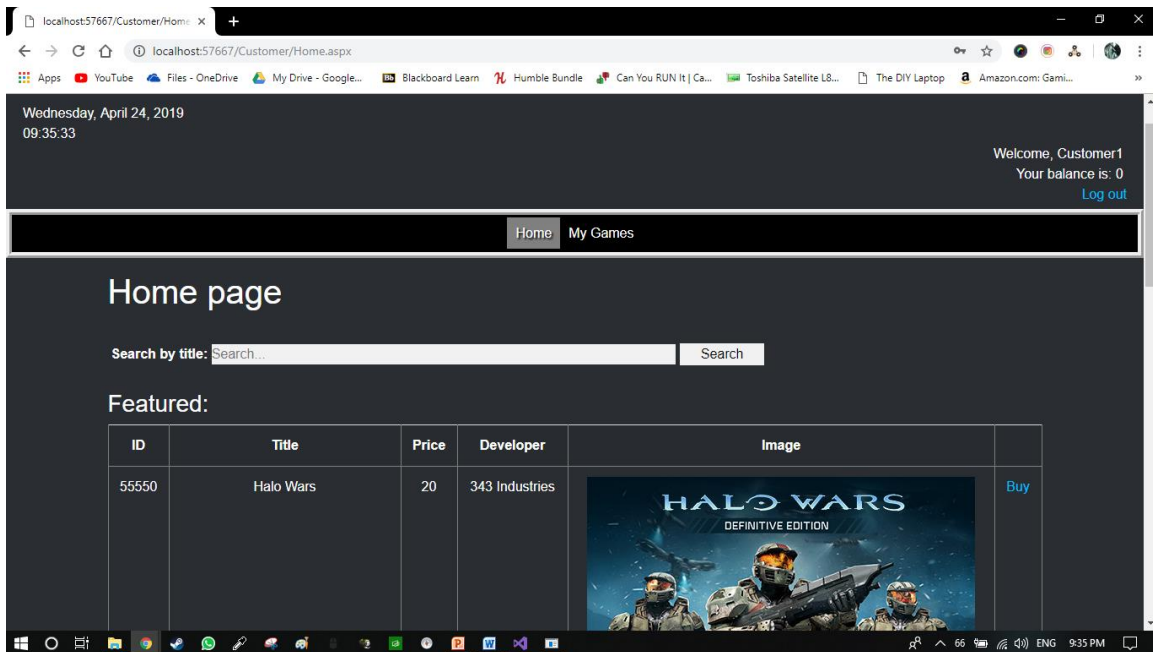


Game appears in My Published Games page

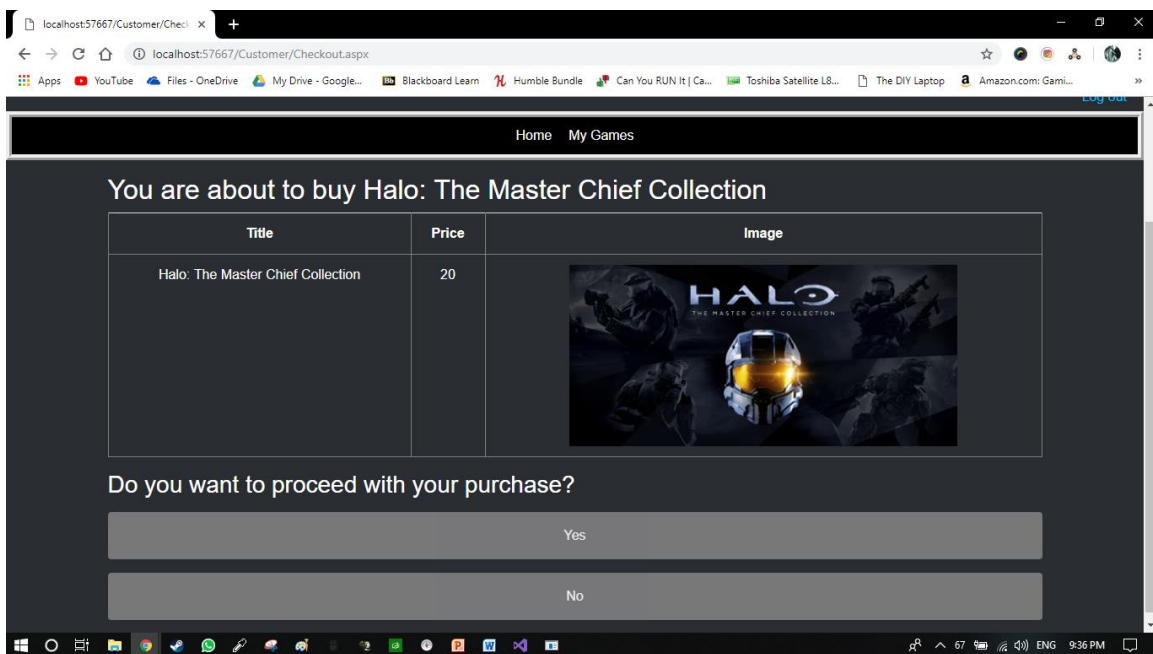


Customer:

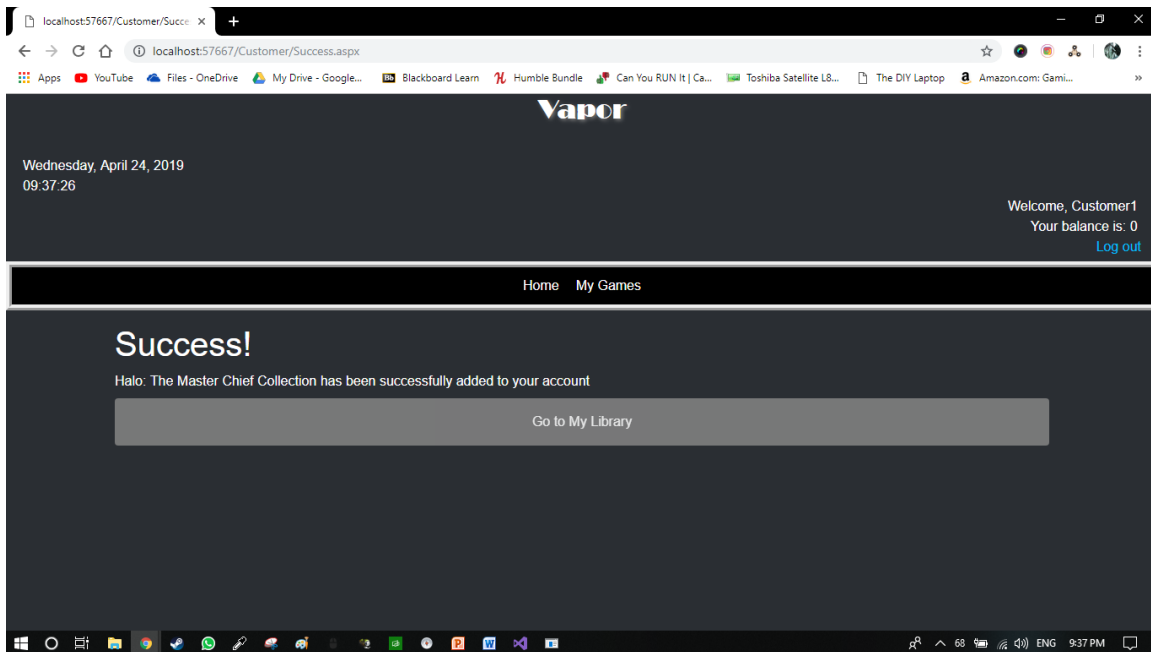
Purchasing a game



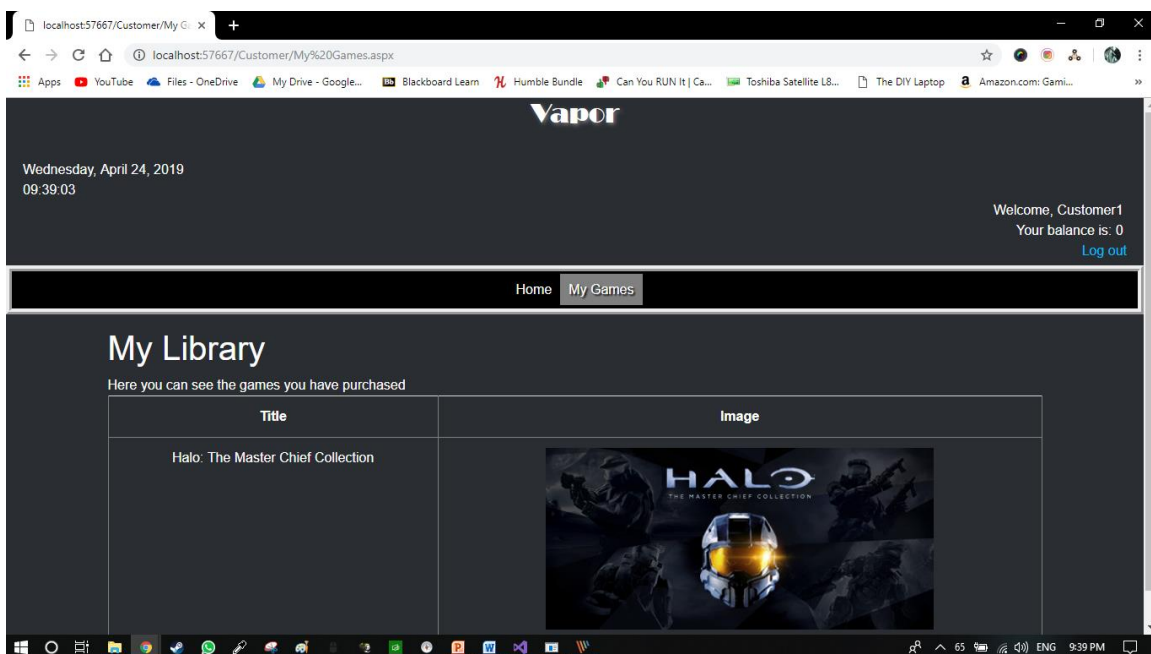
Clicking buy



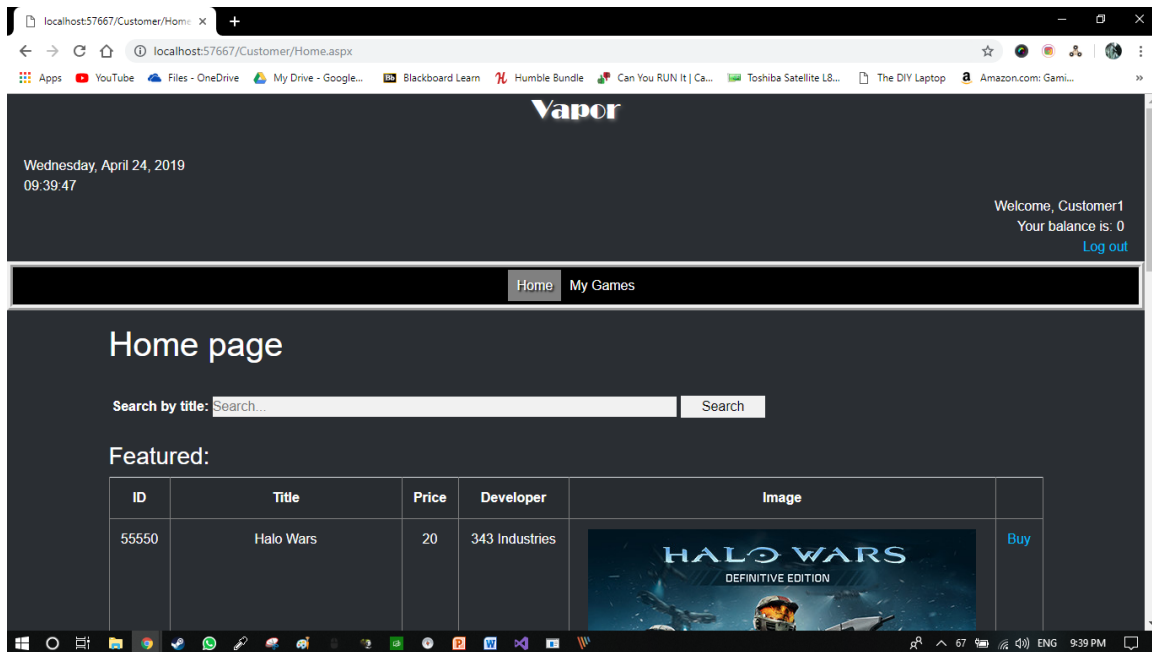
Clicking yes



Clicking go to My Library



Clicking no



Customer is redirected back to home page

Proceed to demonstration

Features to implement in the future

- Separate pages for each game showcasing detailed information, including: title, description, genre, price, media, developer information, system requirements and reviews.
- Review system that allows customers to write positive or negative reviews.
- Shopping cart system.
- Payment methods.
- Wishlist system.
- Refund system.