Criterion E – Product Development

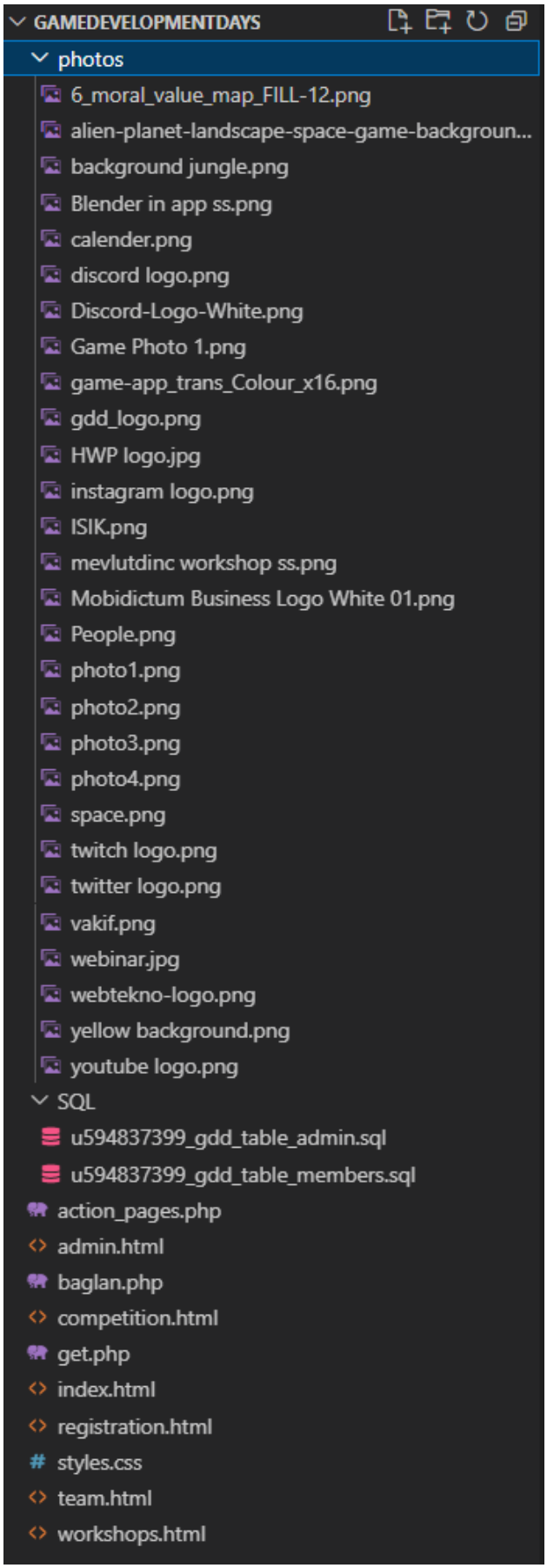
Using complex techniques to meet the client's expectations:

- Use of Cascading Style Sheets to create the look of web pages, such as their color scheme, layout, and font.
- Using HTML to create the website and customize it.
- Using JavaScript for on click element and other functions.
- Using PHP to create the relationship between the database and connect it with the website.

Additional techniques utilized:

- Establishing the database

Files of the Website:



File Name	Contents
action_page.php	It includes the action for processing and submitting user data and delivering user feedback.
admin.html	This is the HTML code for the login form that admins use to log in "admin panel"
baglan.php	This code creates a connection between the form and the database using PHP.
competition.html	Code of the webpage named ‘competition’
get.php	This code sets up a session, connects to the database.
index.hmtl	Code of the home page.
registration.html	Code of the webpage named ‘registration
styles.css	This CSS file sets styles such for the website.
photos	This folder includes the photos.
team.html	Code of the webpage named ‘team’
workshops.html	Code of the webpage named ‘workshops’
SQL	This folder includes the backup of the database tables.

For ease of access, the contents have been organized into folders with appropriate titles; for example, the folder photos contain all the photos shown on the website.

Use of Techniques:

1. CSS

In the development of the website Visual Studio Code and Adobe Dreamweaver was used. CSS is a language that is used to specify the look and format of an HTML document. CSS allows you to change the design of a website by modifying only one CSS file rather than changing the code for each page. To use CSS, it is required to use tags of stylesheets between <HEAD> and </HEAD> in the HTML files.

Use of stylesheets that will be contained by each page are displayed below:

```
<link rel="stylesheet" href="styles.css">
<link rel="stylesheet" href="https://fonts.googleapis.com/css?family=Raleway">
<link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
```

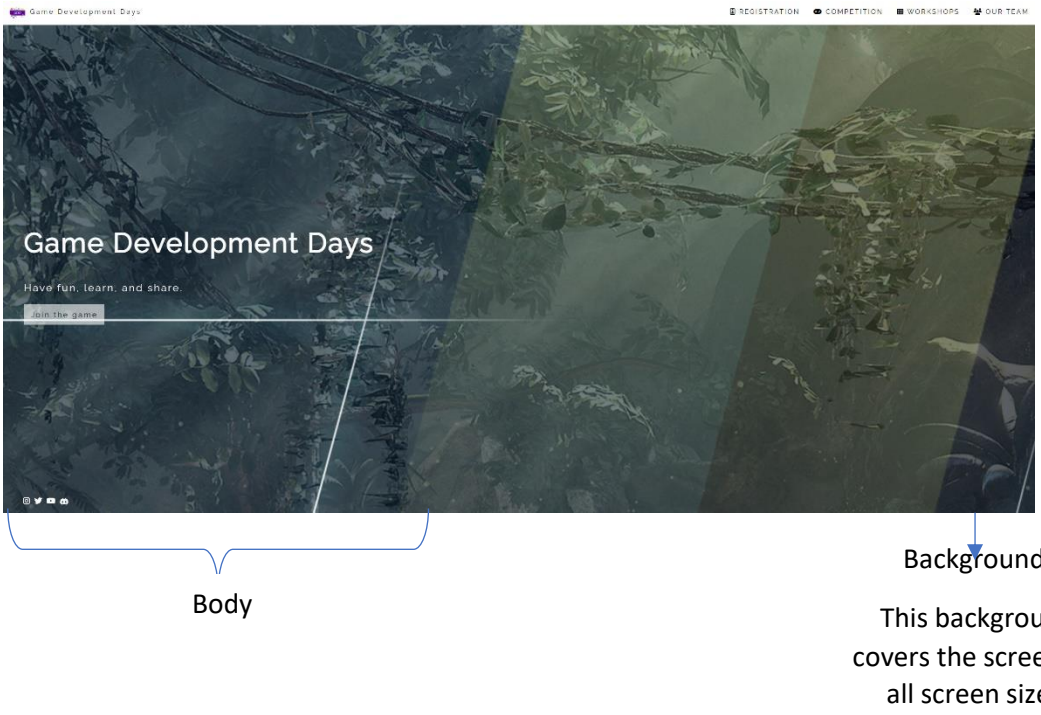
To link a CSS file to an HTML file, these codes are used.

The 'rel' element in this code indicates the relationship between the HTML file and the CSS file, while the 'href' attribute gives the location of the CSS file.

The following code block is screenshotted from the index.html file and is responsible for placing the photo and its properties like size, position, and height.

```
.bgimg-1 {
  background-position: center;
  background-size: cover;
  background-image: url("/photos/yellow background.png");
  min-height: 30%;
}
```

The effect of the CSS code block, can be observed in the home page of the website:



2. HTML

HTML is a standard language for developing web pages. HTML's primary objective is to provide a web page's structure and information in a way that makes it simple for people to view using web browsers. Tags define the structure, content, and layout of a web page.

HTML Tag	Explanation
<a href =" ">	This element enables users to navigate to another website or a particular location.
…	The headers of a webpage are defined by the tags.
	It defines a paragraph of text with a line break.
	It defines the divisions of contents in the web page
<html> </html>	All other HTML components are contained within the tag.
<title></title>	It is used to define a webpage's title which appears in the title bar of the browser.

`<head></head>`	The tag is used to define information about an HTML content that the user cannot see explicitly and contains metadata.
`<body></body>`	This tag is a container element that defines an HTML document's primary content.
`<form>`	The tag is used to create a user input form.
`<button>`	The tag is used for creating a clickable button
`<input>`	It provides a field where the user can enter information.
`action`	The tag provides a field where the user can enter information.
`method= "post"`	The form data may be delivered as an HTTP post request using the POST method.
`id`	It is used to identify an HTML element on a web page.
`<nav>`	This tag identifies a part of the content with navigation links.

To assist my customer in collecting information from people, I wrote the form code below:

```
<!DOCTYPE html>
<html>
  <head>
    <title>GAME Development Days</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
    <link rel="stylesheet" href="https://fonts.googleapis.com/css?family=Raleway">
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css">
    <link rel="stylesheet" href="styles.css">
    <style>
    body,h1,h2,h3,h4,h5,h6 {font-family: "Raleway", sans-serif}

    body, html {
      height: 100%;
      line-height: 1.8;
    }



    .w3-bar .w3-button {
      padding: 16px;
    }
    </style>
  </head>
<body>

    <form action="/action_page.php" target="_blank">
      <p><input class="w3-input w3-border" type="text" placeholder="Name" required name="Name"></p>
      <p><input class="w3-input w3-border" type="text" placeholder="Email" required name="Email"></p>
      <p><input class="w3-input w3-border" type="text" placeholder="Subject" required name="Subject"></p>
      <p><input class="w3-input w3-border" type="text" placeholder="Message" required name="Message"></p>
      <p>
        <button class="w3-button w3-black" type="submit">
          <i class="fa fa-paper-plane"></i> SEND MESSAGE
        </button>
      </p>
    </form>

<script>
// Modal Image Gallery
function onClick(element) {
  document.getElementById("img01").src = element.src;
  document.getElementById("modal01").style.display = "block";
  var captionText = document.getElementById("caption");
  captionText.innerHTML = element.alt;
}


// Toggle between showing and hiding the sidebar when clicking the menu icon
var mySidebar = document.getElementById("mySidebar");

function w3_open() {
  if (mySidebar.style.display === 'block') {
    mySidebar.style.display = 'none';
  } else {
    mySidebar.style.display = 'block';
  }
}

// Close the sidebar with the close button
function w3_close() {
    mySidebar.style.display = "none";
}
</script>

</body>
</html>
```

Effect of the HTML coding on the webpage can be seen below:

2. JavaScript

Changing colors of elements, click on dropdown menus, dynamically updating animations, and navbars are some contents of JavaScript provides.

JavaScript Statements	Explanation
`getElementById("ID")`	The method returns the element that is written between the quotes.
`var`	The statement is used for defining variables which stores data

The example below runs a function that's purpose is to display an image in a window when the element is clicked by the user.

```
function onClick(element) {
  document.getElementById("img01").src = element.src;
  document.getElementById("modal01").style.display = "block";
  var captionText = document.getElementById("caption");
  captionText.innerHTML = element.alt;
}
```

3. PHP

PHP is a scripting language that runs on the server for the client's browser to display with HTML. This interaction with the server makes PHP an efficient tool for database interaction.

PHP Statements	Explanation
`<?php ?>`	Between these tags PHP codes are used.
`$`	This is used to indicate that a value is a variable.
`echo`	It is used to display the data on the screen.
`if`	It is utilized to carry out tasks depending on certain circumstance.

`while`	It is a control structure that allows you to repeat a block of code until a specific condition is met.
`function`	It defines a function that performs a specified operation.
`$_SESSION`	It is a super global variable that is used to store data across multiple pages on a website.
`$_POST` / `$_GET`	It's a global variable used to collect information from an HTML form after it's been submitted.

The PHP code in the following example is used to connect to a database:

```php
<?php
$servername = "localhost";
$username = "***";
$password = "***";
$dbname = "***";

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
  die("Connection failed: " . $conn->connect_error);
}
?>
```

The server's name, username, password, and database name are sent as inputs to the code, which uses the MySQL class to make a new connection. The information is then entered using a SQL query into the database's members table. User information appears if the query is successful; otherwise, an error message is displayed. The code can be found below:

```php
<?php
include("baglan.php");

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
  die("Connection failed: " . $conn->connect_error);
}

@$team_name=$_POST["team_name"];
@$coach=$_POST["coach"];
@$mail=$_POST["mail"];
@$telefon=$_POST["telefon"];
@$ogr_bir=$_POST["ogrenci_bir"];
@$ogr_mail=$_POST["ogr_mail"];
@$ogr_iki=$_POST["ogrenci_iki"];
@$ogr_mail2=$_POST["ogr_mail2"];
@$ogr_uc=$_POST["ogrenci_uc"];
@$ogr_mail3=$_POST["ogr_mail3"];


@$sql = "INSERT INTO members (teamname,coach,d_eposta,d_phone,std_name,std_mail,std_name2,std_mail2,std_name3,std_mail3) VALUES ('$team_name','$coach','$mail','$telefon','$ogr_bir','$ogr_mail','$ogr_iki','$ogr_mail2','$ogr_uc','$ogr_mail3')";

if ($conn->query($sql) == TRUE) {
  echo "New record created successfully";
} else {
  echo "Error: " . $sql . "<br>" . $conn->error;
}

$conn->close();
header("Refresh:10; url=index.html");

?>
```

4. Establishing the database

The database contains two tables:

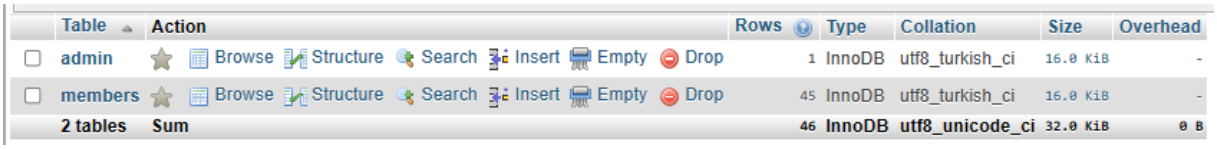


	Table	Action	Rows	Type	Collation	Size	Overhead
☐	admin	Browse Structure Search Insert Empty Drop	1	InnoDB	utf8_turkish_ci	16.0 KiB	-
☐	members	Browse Structure Search Insert Empty Drop	45	InnoDB	utf8_turkish_ci	16.0 KiB	-
	2 tables	Sum	46	InnoDB	utf8_unicode_ci	32.0 KiB	0 B

First table is called ‘admin’ and it is for the admin login page. Second one is named ‘members’ and it is responsible for holding participants’ details.

The administration table below has three values. Since each admin may have a unique name and password, the variable "admin id" includes an automatic increment feature.

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐	1	admin_id	int(11)			No	None			Change Drop More
☐	2	name	varchar(50)	utf8_turkish_ci		No	None			Change Drop More
☐	3	password	varchar(50)	utf8_turkish_ci		No	None			Change Drop More

The second table has 11 values and "memberid" has automatic increment. Names may be problematic since each organization member may use a unique name. Auto increment assigns unique ids to each item to prevent this.

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐	1	memberid	int(11)			No	None		AUTO_INCREMENT	Change Drop More
☐	2	teamname	varchar(50)	utf8_turkish_ci		No	None			Change Drop More
☐	3	coach	varchar(50)	utf8_turkish_ci		No	None			Change Drop More
☐	4	d_eposta	varchar(50)	utf8_turkish_ci		No	None			Change Drop More
☐	5	d_phone	varchar(50)	utf8_turkish_ci		No	None			Change Drop More
☐	6	std_name	varchar(50)	utf8_turkish_ci		No	None			Change Drop More
☐	7	std_mail	varchar(50)	utf8_turkish_ci		No	None			Change Drop More
☐	8	std_name2	varchar(50)	utf8_turkish_ci		No	None			Change Drop More
☐	9	std_mail2	varchar(50)	utf8_turkish_ci		No	None			Change Drop More
☐	10	std_name3	varchar(50)	utf8_turkish_ci		No	None			Change Drop More
☐	11	std_mail3	varchar(50)	utf8_turkish_ci		No	None			Change Drop More