

ASSIGNMENT 2

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Student declaration I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice.			
		Student's signature	<i>Phúc</i>

Grading grid

P5	P6	P7	M4	M5	D2	D3

☐ Summative Feedback:

☐ Resubmission Feedback:

Grade:

Assessor Signature:

Date:

Signature & Date:

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I. INTRODUCTION

In my role as the team leader of a full-stack web development team at a prominent creative web solutions and marketing company, we've recently secured a substantial contract to build an online shopping mall. This presents a golden opportunity for us to showcase our team's expertise and deliver an outstanding online shopping experience for both our client and their users. To ensure the success of this significant project, we recognize the importance of adhering to established principles, standards, and guidelines in web design and development. By meticulously reviewing these foundations, we aim to establish a robust framework for our work, ensuring that we meet and exceed the highest quality standards in the industry. Our initial focus is on a thorough assessment of potential technical challenges that may arise during the development process. This proactive approach allows us to anticipate and address issues, paving the way for a smooth and efficient development workflow. In parallel, our team is dedicated to crafting a comprehensive design document encompassing wireframes, functional illustrations, and a detailed compilation of client and user requirements. This document serves as a blueprint, guiding our development efforts and helping us maintain a clear trajectory throughout the project. Once the design document reaches its final iteration, we transition to the implementation phase, leveraging the latest web design and development technologies, tools, and techniques at our disposal. As the team leader, my responsibility is to provide guidance and support to each team member, ensuring strict adherence to the design document. Regular cross-referencing between the evolving multipage website and the design document becomes a vital practice, enabling us to identify any deviations promptly and make necessary corrections to align with the envisioned outcome. Emphasizing quality assurance as a critical aspect of our development process, I instigate a comprehensive quality assurance plan. Each team member is tasked with following a meticulous testing process during both the design and development stages. Reviewing and analyzing test results allows us to gauge the effectiveness of our quality assurance measures and pinpoint areas for enhancement in real-time. Our goal is to deliver a high-quality multipage website for online shopping that not only meets but exceeds expectations.

II. Body

LO3 Utilise website technologies, tools and techniques with good design principles to create a multipage website.

P5 Create a design document for a branded, multipage website supported with medium fidelity wireframes and a full set of client and user requirements.

1. Use case diagram

The website is designed for online shopping of consumer goods. The system must include the following pages: homepage, Contact Page, Login page, Register page, Profile page, and My Cart Page.

Constraint: There is no interaction between the login and log-out forms. Additionally, there is no item list available to add to the shopping cart and make payments on the website. There is currently no server in place to identify users of the site, their status, and user engagement.

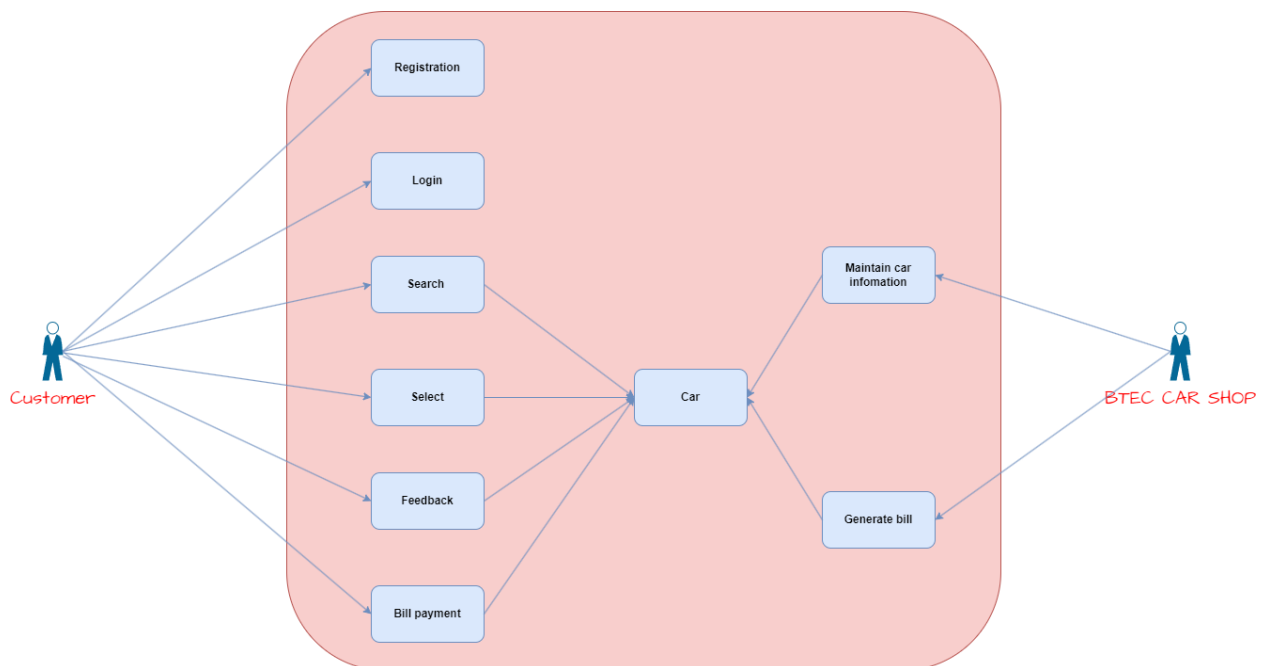


Figure 1 Use case diagram

The top-level use cases are View Items, Log in, and Client Register. The View Items use case can be used by customers as a top-level use case if they only want to find and see some products. The Client Register use case allows customers to register on the website, for example, to get some coupons or be



invited to private sales. The Log In use case is similar to the Client Register use case and allows customers to sign in on the website after signing up for an account or already having an account.

Customer: Represents the users who browse and purchase products on the website.

Seller: Represents the users who manage and sell products through the website.

Browse Products: The customer can search and navigate through different product categories.

View Product Details: The customer can view detailed information about a specific product.

Checkout: The customer can proceed to the checkout process to finalize the purchase.

Manage Products: The seller can add, edit, or delete products from their inventory.

a. Introduce

Purpose: Selling cars with the brand "BTEC CAR SHOP"

Scope: The website will consist of multiple pages and is designed to reflect the brand identity and provide a user-friendly experience.

Audience: The website's target audience includes potential customers, current customers and stakeholders.

b. User requirements

Users can easily navigate through the website and find the information they need.

Users can view product/service details and make inquiries if interested.

Websites need to have search functionality to help users find specific content.

The website should be visually appealing and reflect the style and tone of the brand.

c. Design and layout

The website will have a unified color palette and typography, consistent with the brand identity.

The homepage will have a prominent banner showcasing key products/services and a call to action.

The navigation menu will be easily accessible and intuitive, providing links to different pages.

Each page will have a hierarchy and clearly arranged content sections.

Visual elements, such as images and icons, will be used to enhance the overall design.

The website will incorporate responsive design principles to ensure optimal viewability across a variety of devices.

d. Technical requirements

The website will be built using HTML, CSS and JavaScript.

Responsive design techniques will be implemented to ensure compatibility across devices.

2. Wire frames and specific explanation

a. Homepage

The homepage serves as the main landing page for the website.

It typically includes a header with the logo, navigation menu, and search bar.

The main content area showcases featured products, promotions, and categories.

Footer section may contain additional links, contact information, and social media icons.

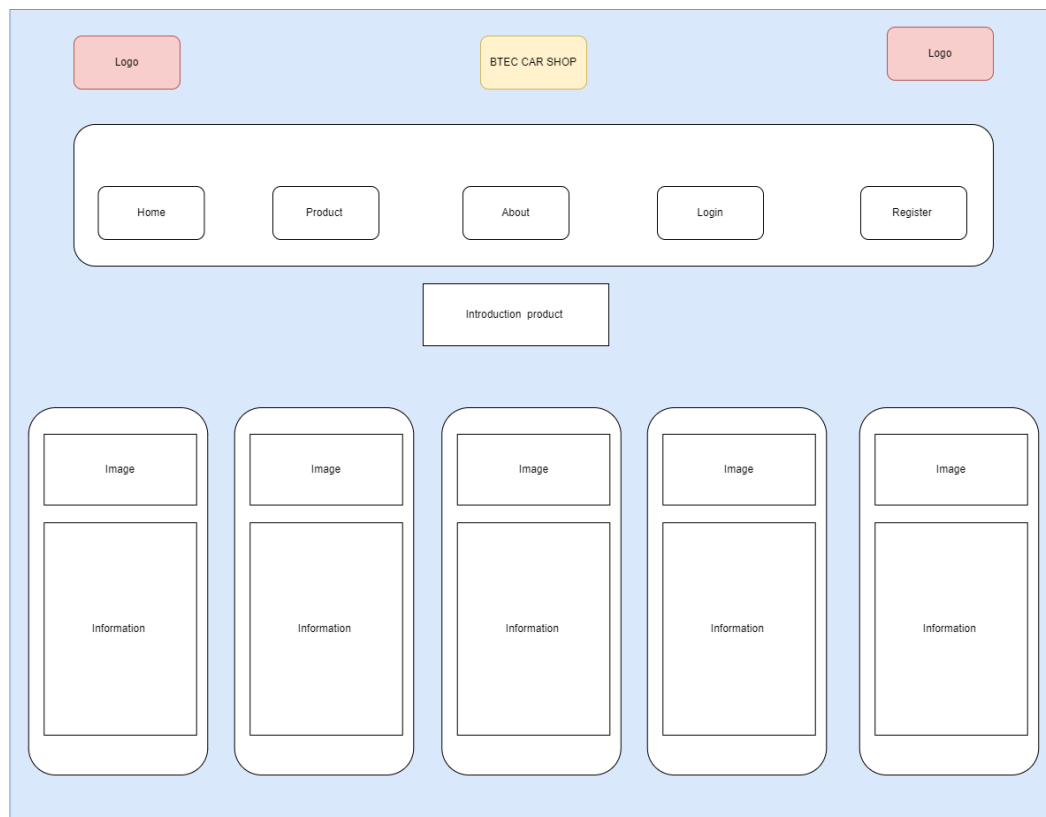


Figure 2 Home page wire frames

ID	Item	Description
1	Header	Shop name
2	Image	Logo
3	Link	Home
4	Link	Product
5	Link	About
6	Link	Login
7	Link	Register
8	Button	Add to cart
9	Input (number)	Number

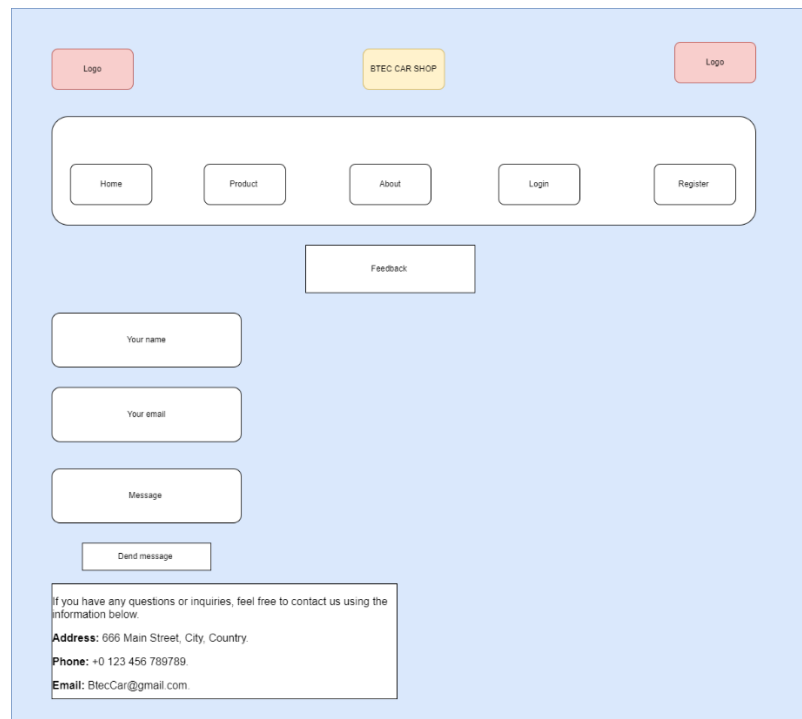
Table 1 Description about home page wireframe

b. Feedback

The contact page provides a way for users to get in touch with the website administrators or customer support.

It includes a contact form where users can enter their name, email address, subject, and message.

Additional information such as phone number, address, or FAQs may also be included.



The wireframe shows a feedback page layout. At the top, there are three red boxes labeled 'Logo'. Below them is a yellow box labeled 'BTEC CAR SHOP'. Underneath is a white rounded rectangle containing five buttons: 'Home', 'Product', 'About', 'Login', and 'Register'. Below this is a white box labeled 'Feedback'. To the left of the 'Feedback' box is a vertical stack of four white input fields labeled 'Your name', 'Your email', 'Message', and 'Send message'. At the bottom left, there is a white box containing contact information: 'If you have any questions or inquiries, feel free to contact us using the information below.', 'Address: 666 Main Street, City, Country.', 'Phone: +0 123 456 789789.', and 'Email: BtecCar@gmail.com.'

Figure 3 Feedback page wire frames

ID	Item	Description
1	Header	Shop name
2	Image	Logo
3	Link	Home
4	Link	Product
5	Link	About
6	Link	Login
7	Link	Register
8	Paragraph	Email
9	Paragraph	Password
10	Paragraph	Message
11	Button	Send messages

Table 2 Description about feedbacks page wireframe

c. Login Page

The login page allows registered users to log in to their accounts.

It typically includes input fields for username/email and password.

There may be options for "Remember Me" or "Forgot Password" functionality.

Upon successful login, users are redirected to their profile or the homepage.

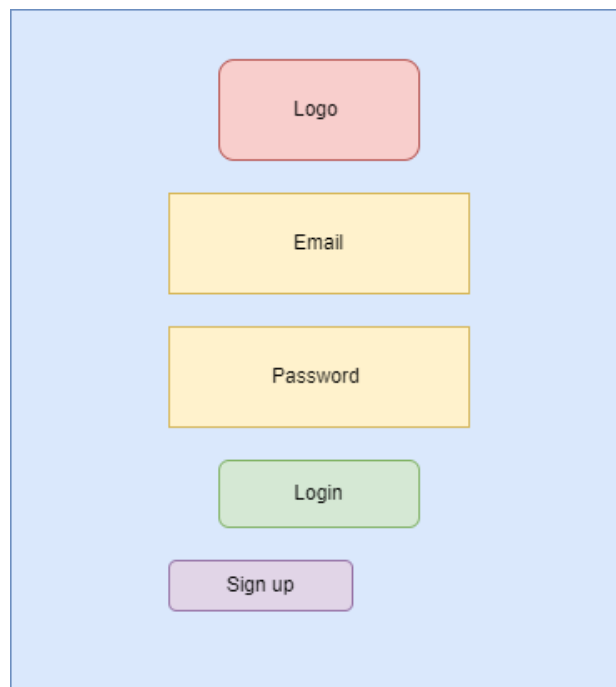


Figure 4 Login page wire frames

ID	Item	Description	Constraints
1	Box	Email	Please include an "@" in the email address
2	Box	Password	Should be 8-20 characters long, contain letters and numbers, and must not contain spaces, special characters, or emoji.

Table 3 Description about wireframe login page

d. Register Page

The register page enables new users to create an account on the website.

It includes a registration form with fields like name, email, password, and possibly additional information.

Validation checks may be implemented to ensure unique usernames/emails and strong passwords.

After successful registration, users may be redirected to the login page or logged in automatically.

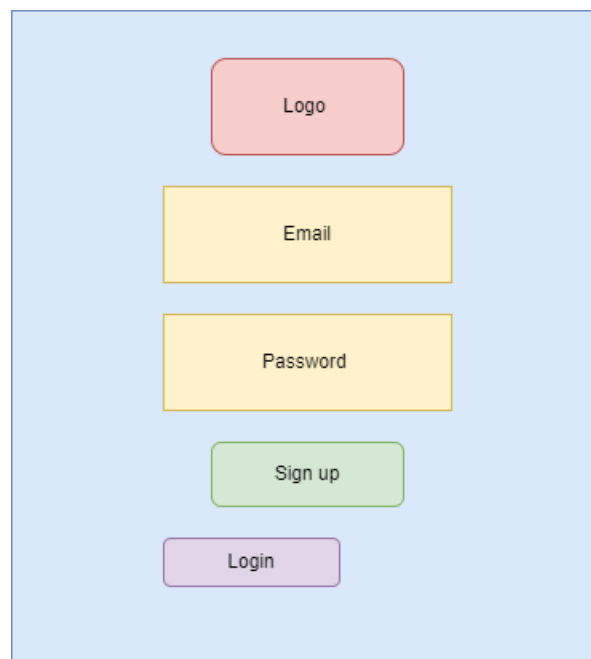


Figure 5 Sign up page wire frames

ID	Item	Description	Constraints
1	Box	Email	Please include an "@" in the email address
2	Box	Password	Should be 8-20 characters long, contain letters and numbers, and must not contain spaces, special characters, or emoji.

Table 4 Description about wireframe register page

e. My Cart Page

The My Cart page shows the items added to the user's shopping cart.

It displays a list of products, including their names, prices, quantities, and subtotal.

Users can modify quantities, remove items, or proceed to the checkout process.

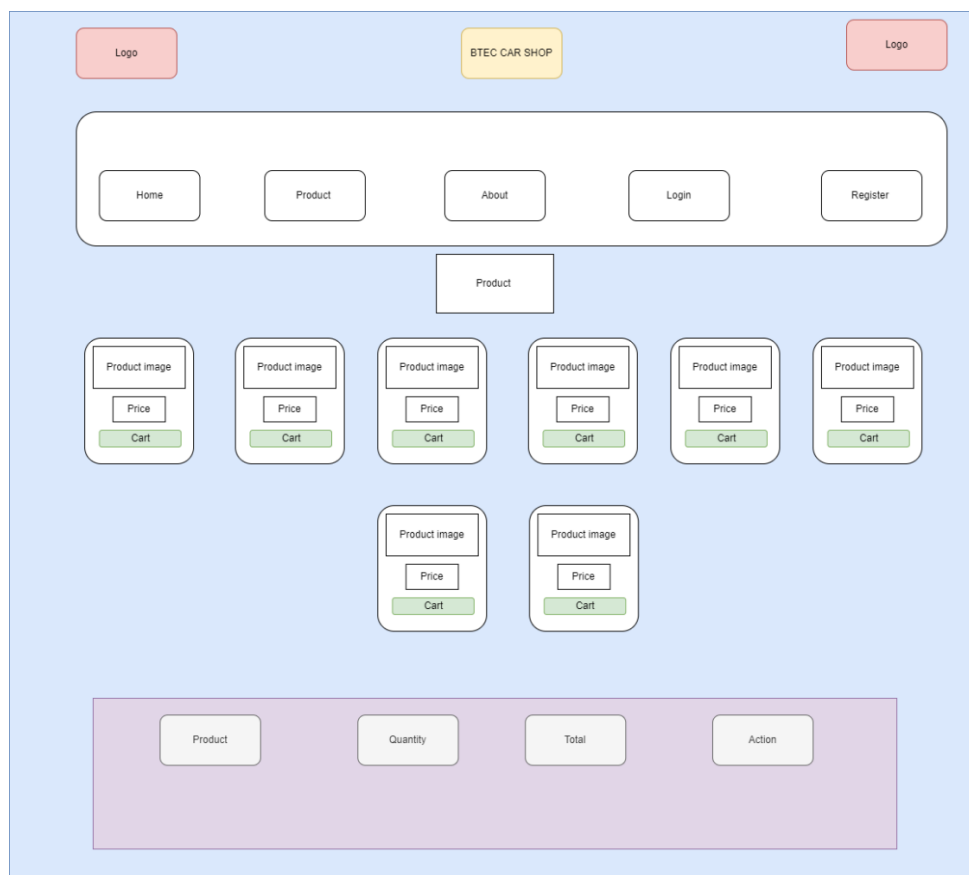


Figure 6 Cart page wife frames

3. Database Design

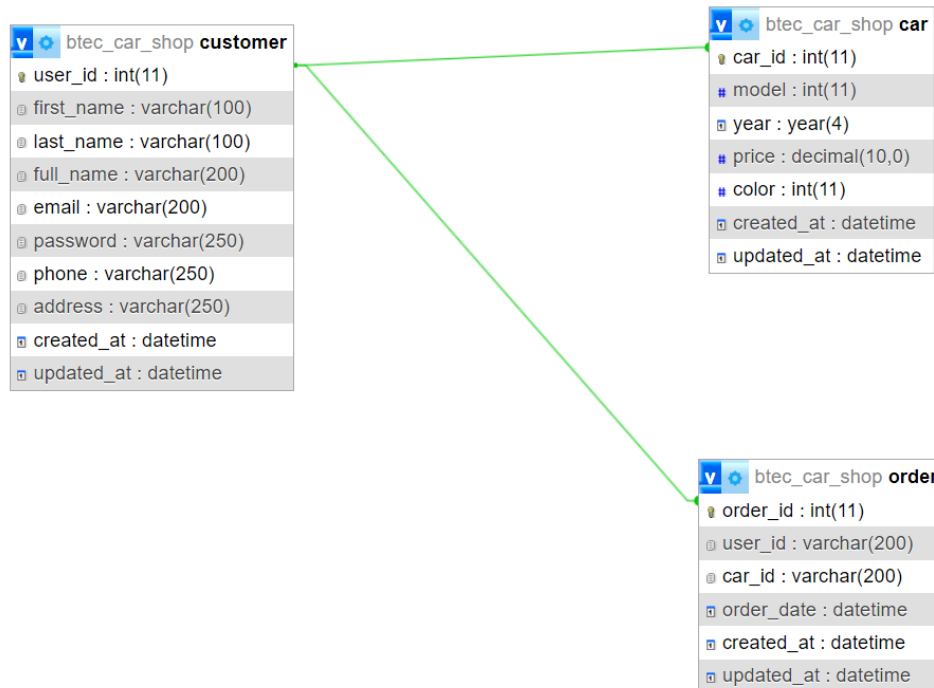


Figure 7 Database design

The database table represents data in a car sales website. It has columns for customer information (user_id, first_name, last_name, full_name, email, password, phone, address, created_time, updated_at), car details (car_id, model, year, price, color, created_time, updated_at), and order information (order_id, user_id, car_id, order_date, created_time, updated_at).

The database table for the car sales website includes the following columns:

In the "customer" column:

"user_id" is an integer primary key with a length of 11.

"first_name" is a varchar(100) field for storing the customer's first name.

"last_name" is a varchar(100) field for storing the customer's last name.

"full_name" is a varchar(100) field for storing the customer's full name.

"email" is a varchar(100) field for storing the customer's email address.

"password" is a varchar(100) field for storing the customer's password.

"phone" is a varchar(100) field for storing the customer's phone number.

"address" is a varchar(100) field for storing the customer's address.

"created_time" is a datetime field indicating the creation time of the customer's record.

"updated_at" is a datetime field indicating the last update time of the customer's record.

In the "car" column:

"car_id" is an integer primary key with a length of 11.

"model" is an integer field for storing the car's model.

"year" is a year field with a length of 4 for storing the car's manufacturing year.

"price" is a decimal field with a precision of 10 and scale of 0 for storing the car's price.

"color" is an integer field for storing the car's color.

"created_time" is a datetime field indicating the creation time of the car's record.

"updated_at" is a datetime field indicating the last update time of the car's record.

In the "order" column:

"order_id" is an integer primary key with a length of 11.

"user_id" is a varchar(200) field for storing the user ID associated with the order.

"car_id" is a varchar(200) field for storing the car ID associated with the order.

"order_date" is a datetime field indicating the date of the order.

"created_time" is a datetime field indicating the creation time of the order's record.

"updated_at" is a datetime field indicating the last update time of the order's record.

These columns represent the structure of the database table for storing data related to customers, cars, and orders in the car sales website.

P6 Use your design document with appropriate principles, standards and guidelines to produce a branded, multipage website supported with realistic content.

1. Tools and technical

Here are the tools and technologies I utilized in this program:

Integrated Development Environment (IDE): Visual Studio Code (VS Code) - A widely-used and powerful IDE that supports multiple languages and provides various utilities and plugins for web development.

Languages and Frameworks:

HTML5: The primary markup language used to build the structure and content of web pages.



Figure 8 HTML 5

CSS3: The language employed to style and layout HTML elements on a web page.



Figure 9 CSS 3

JavaScript: A client-side programming language utilized for creating interactive and dynamic features on a web page.



Figure 10 Javascript

Git and GitHub: Git is a distributed version control system that helps track and manage the source code of a project. GitHub is a web-based platform that provides hosting for Git repositories, facilitating collaboration and version control.



Figure 11 Git and GitHub

Adobe Photoshop: A graphic design tool used for creating and editing images, graphics, and user interfaces. It enables designers to enhance visual elements and optimize them for web usage.



Figure 12 Adobe Photoshop

These tools and technologies were employed to develop and enhance the program, ensuring efficient web development, version control, and visual design.

2. Website page view

i. Homepage

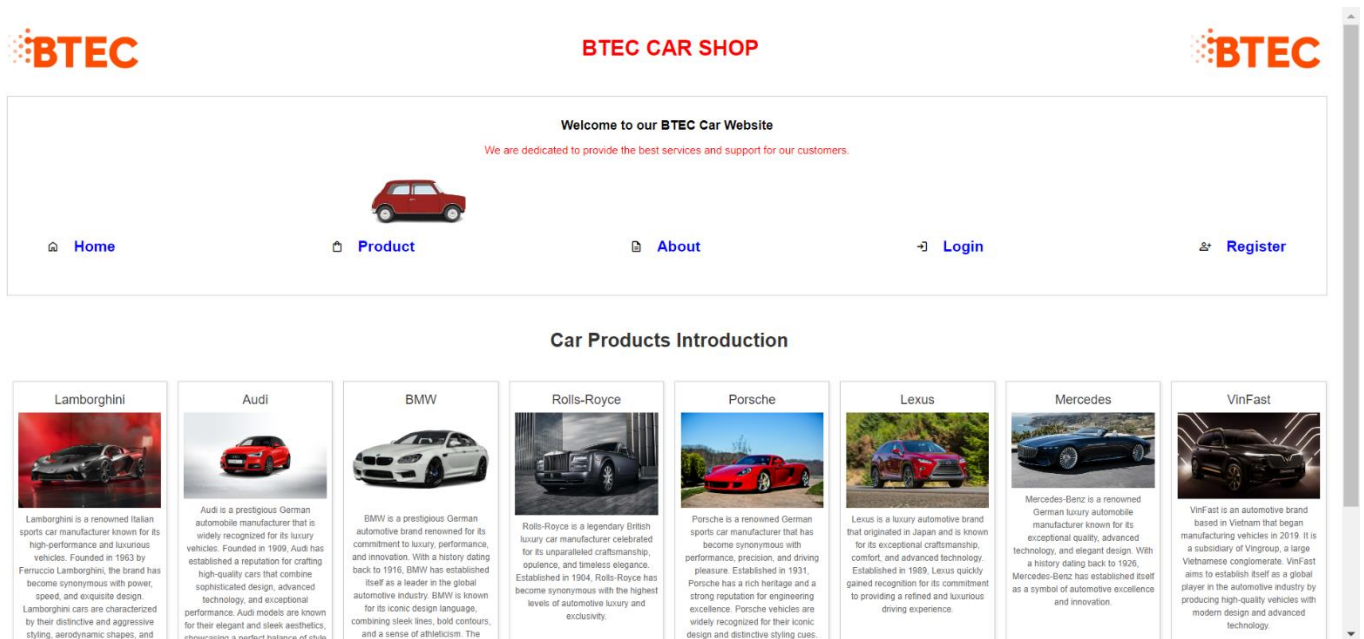


Figure 13 Home page

Code "Home page"

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Car website</title>
  <link rel="stylesheet" href="index.css">
  <link rel="stylesheet"
href="https://fonts.googleapis.com/css2?family=Material+Symbols+Outlined:opsz,wght,FILL,
GRAD@24,400,0,0" />
</head>

<body>
  <div class="tong">
    <div class="tren">
      <header>
        
        <h1 style="color:red" && class="thanhtieude">BTEC CAR SHOP</h1>
        
      </header>
    </div>
    <div class="gth">
      <div id="home">
        <h2>Welcome to our BTEC Car Website</h2>
        <p style="color:red">We are dedicated to provide the best services and
support for our customers.</p>
      </div>
      
      <nav>
        <span class="material-symbols-outlined">
          home
        </span>
        <li><a href="index.html">Home</a></li>
        <span class="material-symbols-outlined">
          shopping_bag
        </span>
        <li><a href="products.html">Product</a></li>
        <span class="material-symbols-outlined">
          description
        </span>
      </nav>
    </div>
  </div>
</body>
</html>
```

```

<li><a href="about.html">About</a></li>
<span class="material-symbols-outlined">
  login
</span>
<li><a href="login.html">Login</a></li>
<span class="material-symbols-outlined">
  person_add
</span>
<li><a href="signup.html">Register</a></li>
</nav>
</div>
<div class="gioithieusanpham">
  <h1>Car Products Introduction</h1>
  <ul>
    <li>
      <h2>Lamborghini</h2>
      
      <p>Lamborghini is a renowned Italian sports car manufacturer known
for its high-performance and
        luxurious vehicles. Founded in 1963 by Ferruccio Lamborghini,
the brand has become synonymous
        with power, speed, and exquisite design. Lamborghini cars are
characterized by their distinctive
        and aggressive styling, aerodynamic shapes, and powerful
engines, making them a symbol of
        automotive excellence.</p>
    </li>
    <li>
      <h2>Audi</h2>
      
      <p>Audi is a prestigious German automobile manufacturer that is
widely recognized for its luxury
        vehicles. Founded in 1909, Audi has established a reputation for
crafting high-quality cars that
        combine sophisticated design, advanced technology, and
exceptional performance. Audi models are
        known for their elegant and sleek aesthetics, showcasing a
perfect balance of style and
        functionality.

        With a focus on innovation, Audi has pioneered numerous
advancements in automotive engineering.
        The brand is synonymous with cutting-edge features and state-of-
the-art technology, including

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        their renowned Quattro all-wheel-drive system, virtual cockpit
displays, and driver assistance
        systems.</p>
    </li>
    <li>
        <h2>BMW</h2>
        
        <p>BMW is a prestigious German automotive brand renowned for its
commitment to luxury, performance,
            and innovation. With a history dating back to 1916, BMW has
established itself as a leader in
            the global automotive industry.

            BMW is known for its iconic design language, combining sleek
lines, bold contours, and a sense
            of athleticism. The brand's vehicles exude a sense of power and
elegance, with attention to
            detail and craftsmanship evident in every aspect. BMW's
signature kidney grille has become an
            instantly recognizable symbol of the brand's identity.</p>
    </li>
    <li>
        <h2>Rolls-Royce</h2>
        
        <p>Rolls-Royce is a legendary British luxury car manufacturer
celebrated for its unparalleled
            craftsmanship, opulence, and timeless elegance. Established in
1904, Rolls-Royce has become
            synonymous with the highest levels of automotive luxury and
exclusivity.</p>
    </li>
    <li>
        <h2>Porsche</h2>
        
        <p>Porsche is a renowned German sports car manufacturer that has
become synonymous with performance,
            precision, and driving pleasure. Established in 1931, Porsche
has a rich heritage and a strong
            reputation for engineering excellence.

            Porsche vehicles are widely recognized for their iconic design
and distinctive styling cues. The
            brand's cars feature sleek and aerodynamic silhouettes, with a
focus on balanced proportions and
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dynamic lines. The signature rear-engine layout, combined with
meticulous weight distribution,
contributes to the superb handling and agility that Porsche is
known for.</p>
</li>
<li>
  <h2>Lexus</h2>
  
  <p>Lexus is a luxury automotive brand that originated in Japan and
is known for its exceptional
craftsmanship, comfort, and advanced technology. Established in
1989, Lexus quickly gained
recognition for its commitment to providing a refined and
luxurious driving experience.</p>
</li>
<li>
  <h2>Mercedes</h2>
  
  <p>Mercedes-Benz is a renowned German luxury automobile manufacturer
known for its exceptional
quality, advanced technology, and elegant design. With a history
dating back to 1926,
Mercedes-Benz has established itself as a symbol of automotive
excellence and innovation.</p>
</li>
<li>
  <h2>VinFast</h2>
  
  <p>VinFast is an automotive brand based in Vietnam that began
manufacturing vehicles in 2019. It is
a subsidiary of Vingroup, a large Vietnamese conglomerate.
VinFast aims to establish itself as a
global player in the automotive industry by producing high-
quality vehicles with modern design
and advanced technology.</p>
</li>
</ul>
</div>

</div>
</body>

</html>
```



ii. Product page

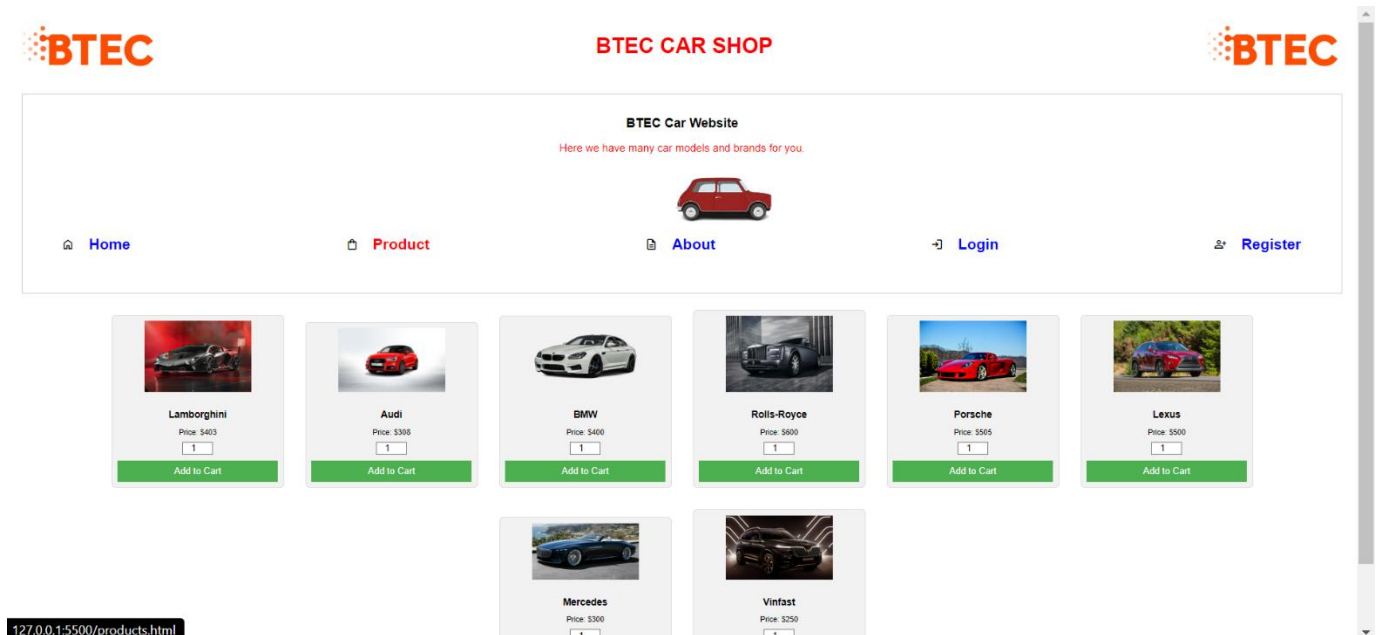


Figure 14 Product page

Code "Product page"

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Car website</title>
  <link rel="stylesheet" href="products.css">
  <link rel="stylesheet"
    href="https://fonts.googleapis.com/css2?family=Material+Symbols+Outlined:opsz,wg
ht,FILL,GRAD@24,400,0,0" />
</head>

<body>
  <div class="tong">
    <div class="tren">
      <header>
        
        <h1 style="color:red" && class="thanhtieude">BTEC CAR SHOP</h1>
```




```
        
    </header>
</div>
<div class="gth">
    <div id="home">
        <h2>BTEC Car Website</h2>
        <p style="color:red">Here we have many car models and brands for
you.</p>
    </div>
    
    <nav>
        <span class="material-symbols-outlined">
            home
        </span>
        <li><a href="index.html">Home</a></li>
        <span class="material-symbols-outlined">
            shopping_bag
        </span>
        <li><a href="products.html">Product</a></li>
        <span class="material-symbols-outlined">
            description
        </span>
        <li><a href="about.html">About</a></li>
        <span class="material-symbols-outlined">
            login
        </span>
        <li><a href="login.html">Login</a></li>
        <span class="material-symbols-outlined">
            person_add
        </span>
        <li><a href="signup.html">Register</a></li>
    </nav>
</div>
<div class="cacsanphan-list">
    <div class="cacsanpham">
        
        <h3>Lamborghini</h3>
        <p>Price: $403</p>
        <input class="number" type="number" id="Lamborghini-quantity" min="1"
value="1">
        <button onclick="addToCart('Lamborghini', 403)">Add to Cart</button>
    </div>
    <div class="cacsanpham">
```

```

        
        <h3>Audi</h3>
        <p>Price: $308</p>
        <input class="number" type="number" id="Audi-quantity" min="1"
value="1">

        <button onclick="addToCart('Audi', 308)">Add to Cart</button>
    </div>
    <div class="cacsanpham">
        
        <h3>BMW</h3>
        <p>Price: $400</p>
        <input class="number" type="number" id="BMW-quantity" min="1"
value="1">

        <button onclick="addToCart('BMW', 400)">Add to Cart</button>
    </div>
    <div class="cacsanpham">
        
        <h3>Rolls-Royce</h3>
        <p>Price: $600</p>
        <input class="number" type="number" id="Rolls-Royce-quantity"
min="1" value="1">

        <button onclick="addToCart('Rolls-Royce', 600)">Add to Cart</button>
    </div>
    <div class="cacsanpham">
        
        <h3>Porsche</h3>
        <p>Price: $505</p>
        <input class="number" type="number" id="quantity" min="1" value="1">
        <button onclick="addToCart('Porsche', 505)">Add to Cart</button>
    </div>
    <div class="cacsanpham">
        
        <h3>Lexus</h3>
        <p>Price: $500</p>
        <input class="number" type="number" id="Porsche-quantity" min="1"
value="1">

        <button onclick="addToCart('Lexus', 500)">Add to Cart</button>
    </div>
    <div class="cacsanpham">
        
        <h3>Mercedes</h3>
        <p>Price: $300</p>
        <input class="number" type="number" id="Mercedes-quantity" min="1"
value="1">

```



```
        <button onclick="addToCart('Mercedes', 300)">Add to Cart</button>
    </div>
    <div class="cacsanpham">
        
        <h3>Vinfast</h3>
        <p>Price: $250</p>
        <input class="number" type="number" id="Vinfast-quantity" min="1"
value="1">
        <button onclick="addToCart('Vinfast', 250)">Add to Cart</button>
    </div>
</div>

<div id="cart"></div>

</div>
<script src="cart.js"></script>
</body>

</html>
```

iii. About page

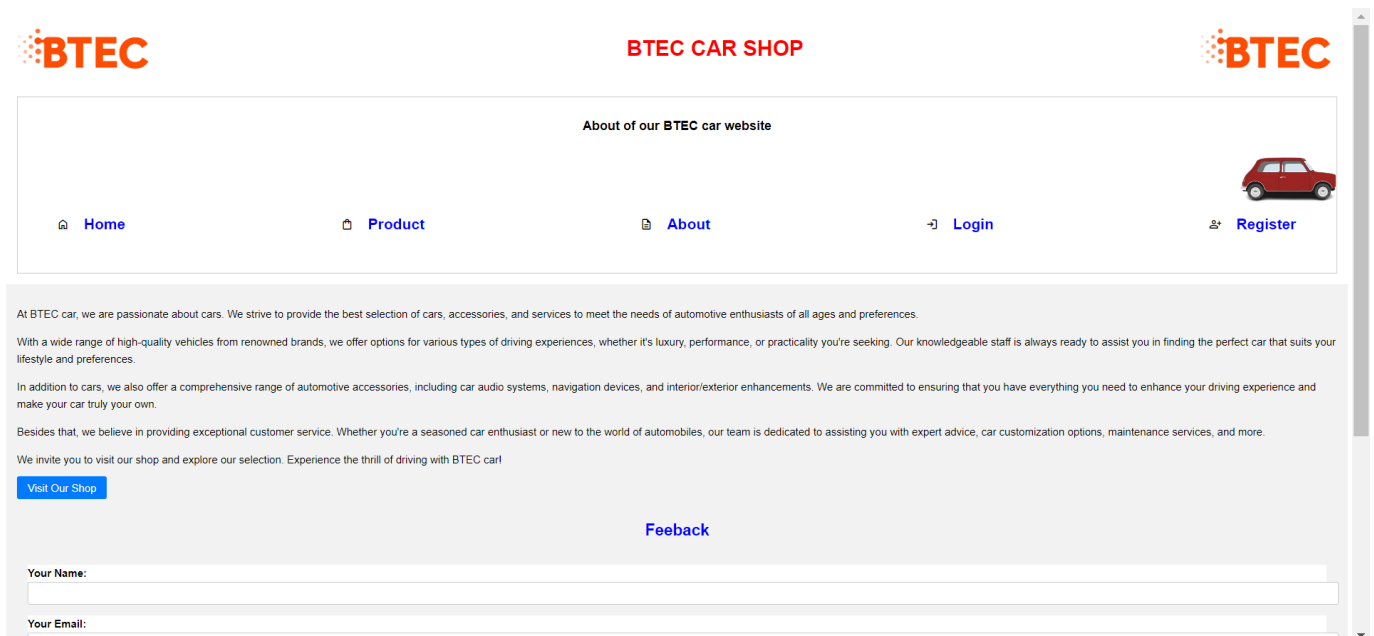


Figure 15 About page



Code "About page"

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Car website</title>
  <link rel="stylesheet" href="about.css">
  <link rel="stylesheet"
    href="https://fonts.googleapis.com/css2?family=Material+Symbols+Outlined:opsz,wg
ht,FILL,GRAD@24,400,0,0" />
</head>

<body>
  <div class="tong">
    <div class="tren">
      <header>
        
        <h1 style="color:red" && class="thanhtieude">BTEC CAR SHOP</h1>
        
      </header>
    </div>
    <div class="gth">
      <div id="home">
        <h2>About of our BTEC car website</h2>
        <p style="color:red"></p>
      </div>
      
      <nav>
        <span class="material-symbols-outlined">
          home
        </span>
        <li><a href="index.html">Home</a></li>
        <span class="material-symbols-outlined">
          shopping_bag
        </span>
        <li><a href="products.html">Product</a></li>
        <span class="material-symbols-outlined">
          description
        </span>
        <li><a href="about.html">About</a></li>
      </nav>
    </div>
  </div>
</body>
</html>
```

```
<span class="material-symbols-outlined">
  login
</span>
<li><a href="login.html">Login</a></li>
<span class="material-symbols-outlined">
  person_add
</span>
<li><a href="signup.html">Register</a></li>
</nav>
</div>
<div class="container">
  <p class="description">
    At BTEC car, we are passionate about cars. We strive to provide the best
    selection of cars, accessories, and services to meet the needs of automotive enthusiasts
    of all ages and preferences.
  </p>
  <p class="description">
    With a wide range of high-quality vehicles from renowned brands, we
    offer options for various types of driving experiences, whether it's luxury,
    performance, or practicality you're seeking. Our knowledgeable staff is always ready to
    assist you in finding the perfect car that suits your lifestyle and preferences.
  </p>
  <p class="description">
    In addition to cars, we also offer a comprehensive range of automotive
    accessories, including car audio systems, navigation devices, and interior/exterior
    enhancements. We are committed to ensuring that you have everything you need to enhance
    your driving experience and make your car truly your own.
  </p>
  <p class="description">
    Besides that, we believe in providing exceptional customer service.
    Whether you're a seasoned car enthusiast or new to the world of automobiles, our team is
    dedicated to assisting you with expert advice, car customization options, maintenance
    services, and more.
  </p>
  <p class="description">
    We invite you to visit our shop and explore our selection. Experience
    the thrill of driving with BTEC car!
  </p>

  <a href="products.html" class="button">Visit Our Shop</a>
<div class="header">
  <h1>Feedback</h1>
</div>
```

```
<div class="container">
  <form action="#" method="post">
    <div class="form-group">
      <label for="name">Your Name:</label>
      <input type="text" id="name" name="name" required>
    </div>
    <div class="form-group">
      <label for="email">Your Email:</label>
      <input type="text" id="email" name="email" required>
    </div>
    <div class="form-group">
      <label for="message">Message:</label>
      <textarea id="message" name="message" required></textarea>
    </div>
    <div class="form-group">
      <input type="submit" value="Send Message" class="button">
    </div>
  </form>
</div>
<section id="main">
  <div class="contact-info">
    <p>If you have any questions or inquiries, feel free to contact us
using the information below.</p>
    <p><strong>Address:</strong> 666 Main Street, City, Country.</p>
    <p><strong>Phone:</strong> +0 123 456 789789.</p>
    <p><strong>Email:</strong> BtecCar@gmail.com.</p>
  </div>
</section>
</div>
</div>
<script src="about.js"></script>
</body>
</html>
```

iv. Login page



Figure 16 Login page

Code "Login page"

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Document</title>
  <link rel="stylesheet" href="login.css">
</head>

<body>
  <div class="wrapper">
    <form action="" onsubmit=Login()>
      
      <div class="input-box">
        <input class="email" type="email" name="email" id="email"
placeholder="email">
      </div>
      <div class="input-box">
        <input class="password" type="password" name="password" id="password"
placeholder="password">
      </div>
    </form>
  </div>
</body>
</html>
```

```
</div>
<button type="submit" class="btn">Login</button>
<!-- <a href="login.html"></a> -->
<a class="signuplink" href="signup.html">Sign up</a>
</form>
<script src="login.js"></script>
</div>
</body>
</html>
```

v. Register page



Figure 17 Register page



Code "Register page"

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Document</title>
  <link rel="stylesheet" href="signup.css">
</head>

<body>
  <div class="wrapper">
    <form onsubmit="Signup()">
      
      <div class="input-box">
        <input class="email" type="email" name="email" id="email"
placeholder="email">
      </div>
      <div class="input-box">
        <input class="password" type="password" name="password" id="password"
placeholder="password">
      </div>
      <button type="submit" class="btn">Sign up</button>
      <a href="login.html"></a>
        <a class="signuplink" href="login.html">Login</a>
      </form>
      <script src="login.js"></script>
    </div>
  </body>

</html>
```

3. Website functions

i. Register function

Users can create your account in register page.

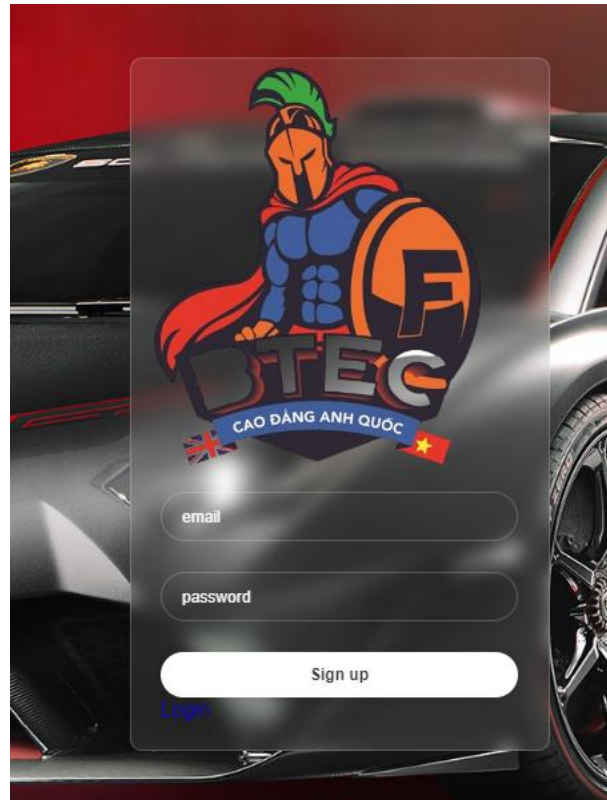


Figure 18 Register page

Code for this function

```
function Signup(e){  
  
    event.preventDefault();  
    var email = document.getElementById("email").value;  
    var password = document.getElementById("password").value;  
    var user = {  
        email:email,  
        password:password,  
    }  
    var json = JSON.stringify(user);  
    localStorage.setItem(email,json);  
    alert("Success");  
}
```

ii. Login function

After user created the account they can click to login link under “sign up” button to return to login page to login to this web.

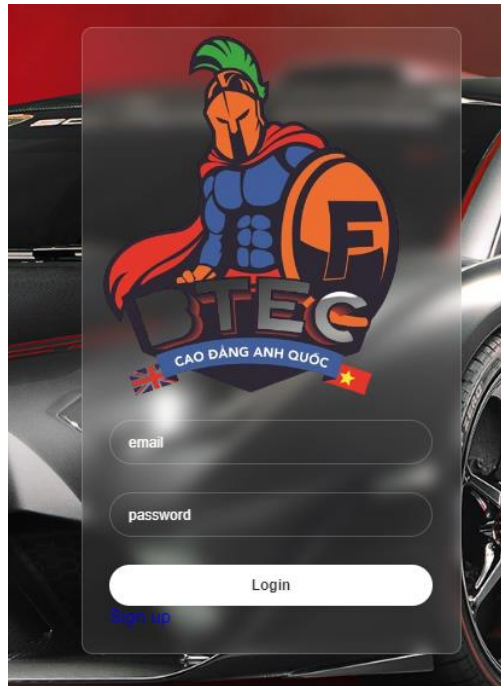


Figure 19 Login page

Code for this function

```
function Login(e){
    event.preventDefault();
    var email = document.getElementById("email").value;
    var password = document.getElementById("password").value;
    var user = localStorage.getItem(email);
    var data = JSON.parse(user);
    if(user === null){
        alert('Enter email or password');
    }else if(email==data.email && password==data.password){
        alert("Success");
        window.location.href = "index.html";
    }else{
        alert('Incorrect Email/Password');
    }
}
```

```
}
}
```

iii. Cart function

After users chose number of product and click to “add to cart” button under each product, information about the items the user has selected will appear in the cart below the product display frame and total amount of selected product. You can click to “remove” button to delete products you don’t want to buy.

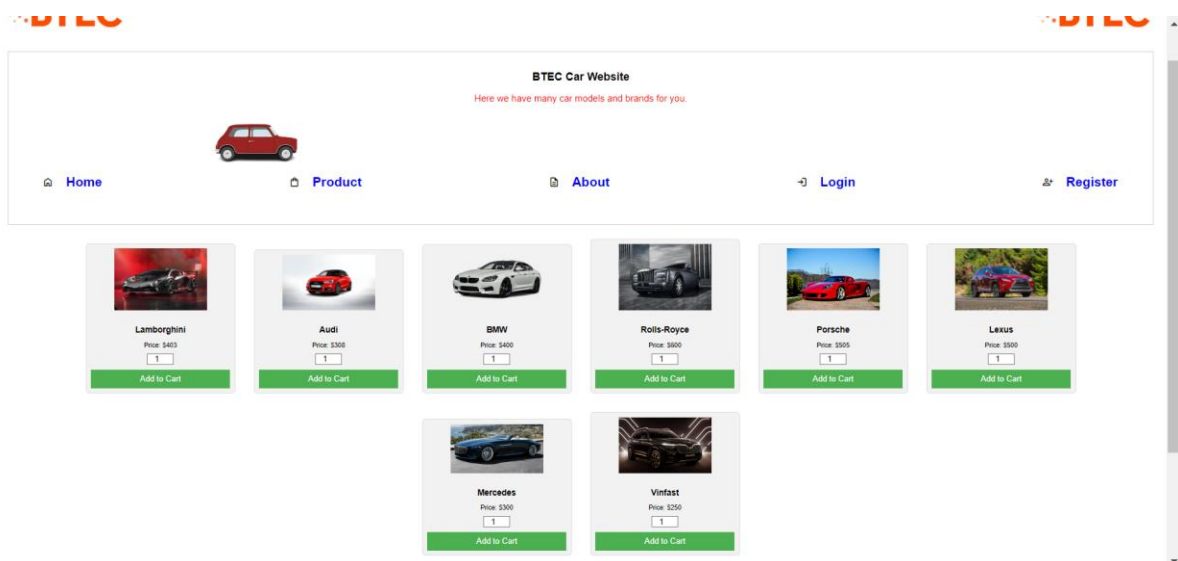


Figure 20 Cart function

Product	Quantity	Total	Action
Lamborghini	1	\$403.00	<button>Remove</button> + -
Audi	1	\$308.00	<button>Remove</button> + -
BMW	1	\$400.00	<button>Remove</button> + -
Total	\$1111.00		

Figure 21 Cart view

Code for this function

```
let cart = [];

function addToCart(name, price) {
  const quantityInput = document.getElementById(name + '-quantity');
  const quantity = parseInt(quantityInput.value);
```

```
if (quantity > 0 && quantity <= 10) {
  // Check if the product is already in the cart
  const existingItemIndex = cart.findIndex(item => item.name === name);

  if (existingItemIndex !== -1) {
    // If the product already exists, update the quantity
    cart[existingItemIndex].quantity += quantity;
  } else {
    // If the product is not in the cart, add a new item
    const item = {
      name: name,
      price: price,
      quantity: quantity
    };
    cart.push(item);
  }

  updateCart();
} else {
  alert('Quantity must be between 1 and 10');
}

function removeItem(index) {
  cart.splice(index, 1);
  updateCart();
}

function incrementQuantity(index) {
  cart[index].quantity++;
  updateCart();
}

function decrementQuantity(index) {
  if (cart[index].quantity > 1) {
    cart[index].quantity--;
    updateCart();
  }
}

function updateCart() {
  const cartContainer = document.getElementById('cart');
  cartContainer.innerHTML = '';
```

```
if (cart.length === 0) {
  cartContainer.innerHTML = '<p>Cart is empty</p>';
  return;
}

const table = document.createElement('table');
const headerRow = table.insertRow();
const headerName = headerRow.insertCell(0);
const headerQuantity = headerRow.insertCell(1);
const headerTotal = headerRow.insertCell(2);
const headerAction = headerRow.insertCell(3);

headerName.textContent = 'Product';
headerQuantity.textContent = 'Quantity';
headerTotal.textContent = 'Total';
headerAction.textContent = 'Action';

let total = 0;

cart.forEach((item, index) => {
  const row = table.insertRow();
  const cellName = row.insertCell(0);
  const cellQuantity = row.insertCell(1);
  const cellTotal = row.insertCell(2);
  const cellAction = row.insertCell(3);

  cellName.textContent = item.name;
  cellQuantity.textContent = item.quantity;
  const itemTotal = item.price * item.quantity;
  cellTotal.textContent = `$$${itemTotal.toFixed(2)}$`;

  total += itemTotal;

  const removeButton = document.createElement('button');
  removeButton.textContent = 'Remove';
  removeButton.onclick = () => removeItem(index);

  const incrementButton = document.createElement('button');
  incrementButton.textContent = '+';
  incrementButton.onclick = () => incrementQuantity(index);

  const decrementButton = document.createElement('button');
  decrementButton.textContent = '-';
```

```

decrementButton.onclick = () => decrementQuantity(index);

cellAction.appendChild(removeButton);
cellAction.appendChild(incrementButton);
cellAction.appendChild(decrementButton);
});

const totalRow = table.insertRow();
const totalLabelCell = totalRow.insertCell(0);
const totalValueCell = totalRow.insertCell(1);
const totalActionCell = totalRow.insertCell(2);

totalLabelCell.textContent = 'Total';
totalValueCell.textContent = `$$${total.toFixed(2)}`;
totalActionCell.textContent = '';

cartContainer.appendChild(table);
}

```

LO4 Create and use a Test Plan to review the performance and design of a multipage website

P7 Create a suitable Test Plan identifying key performance areas and use it to review the functionality and performance of your website. User Experience (UX) and User Interface (UI).

1. Test case

ID	Test case	Test case description	Expected results	Test results	Evaluation
1	Test register account	Add email and password to sign up form and click to "sign up" button to create.	Users can create account if they don't add email or password they can't create account.	Pass	Users can register easily.

2	Test login function	Users use email and password created to login this web.	Users can login to web if add true email and password if they don't add or lack of email or password they can't go to home page and have notice.	Pass	Users can log in easily.
3	Test link home	Click to "home" button to return home page.	Go to home page.	Pass	Working well the feeling of using a website doesn't work the same as an online website.
4	Test link contact	Click to "contact" button to return contact page.	Go to contact page.	Pass	Can click to "contact" button to go to contact page.
5	Test link about	Click to "about" button to return contact page.	Go to about page.	Pass	Can click to "about" button to go to about page.
6	Cart function	Users chose number and click to "add to cart" for each product.	Products chosen will appear in cart and total this cart's money.	Pass	Easy to use.

Table 5 Test case

2. Check the facts for each case

i. Test link contact

When clicking on the account registration section, the screen will display information for the registered user.

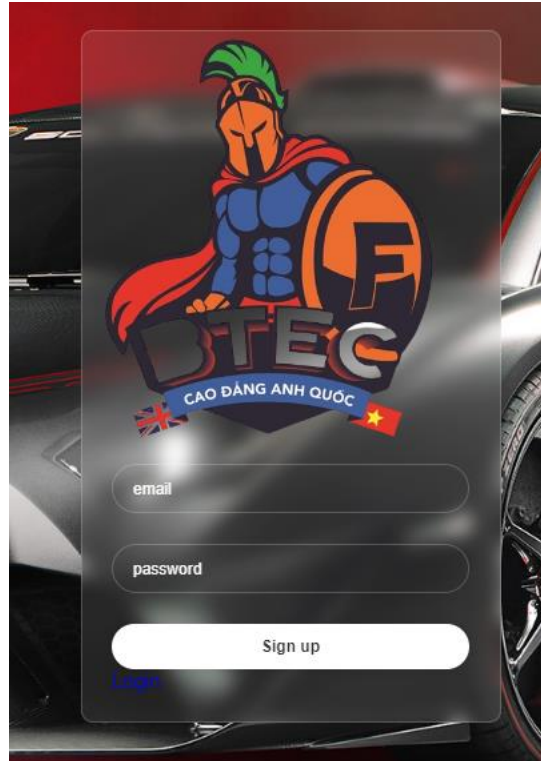


Figure 22 Test register account 1

Next, the user will enter their registration information.

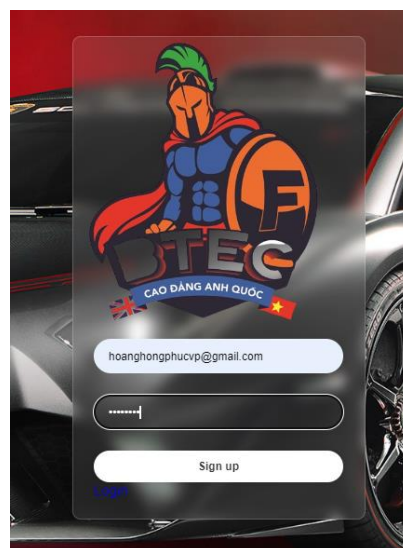


Figure 23 Test register account 2

After successful registration, the screen will display "Success" information.



Figure 24 Test register account 3

ii. Test login function

After successful registration, if the user logs in with incorrect login information "email" and "password", the screen will display "Incorrect Email/Password" information.



Figure 25 Test Login function 1

If the user does not fill in the correct email format, an error message will be displayed.

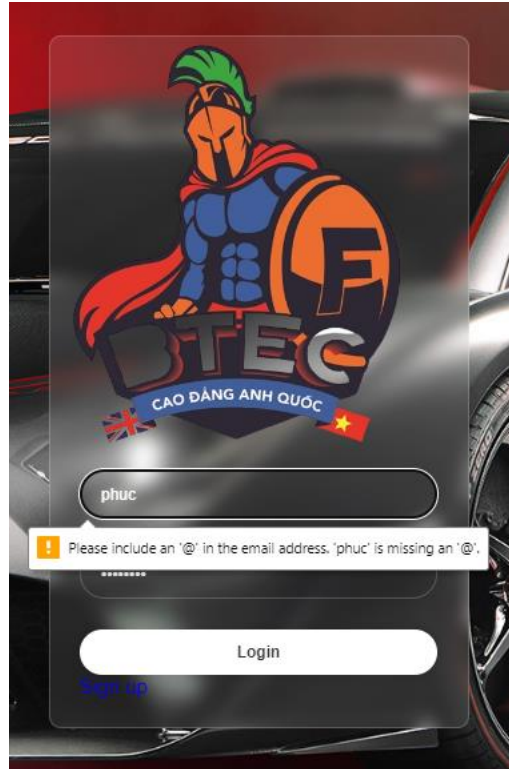


Figure 26 Test Login function 2

After successful login, the screen will display "Success", and will navigate to the "Home" screen.

iii. Test link home

User can car detailed vehicle information.

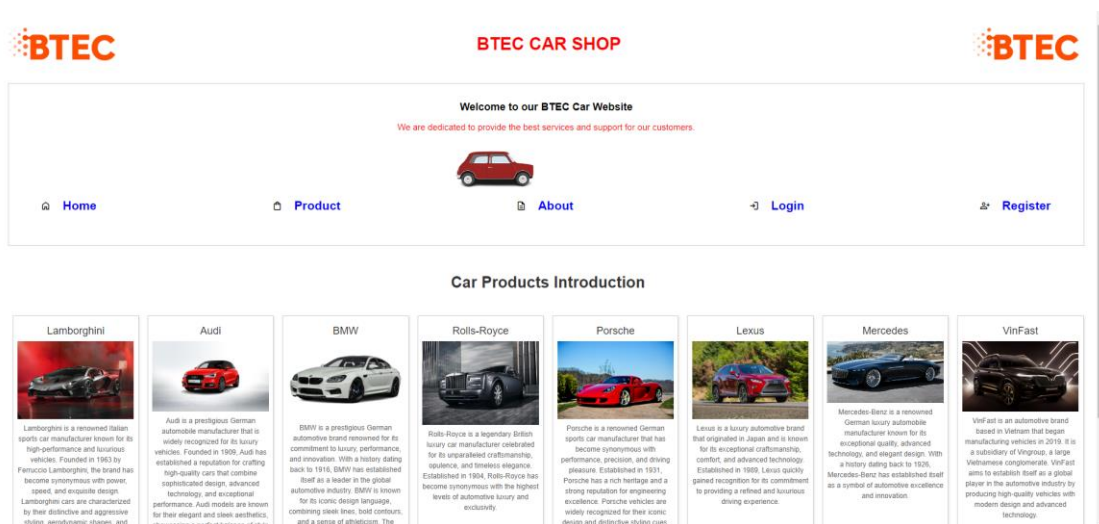


Figure 27 Test link home



iv. Test link product.

Users can view details of the shop's products.

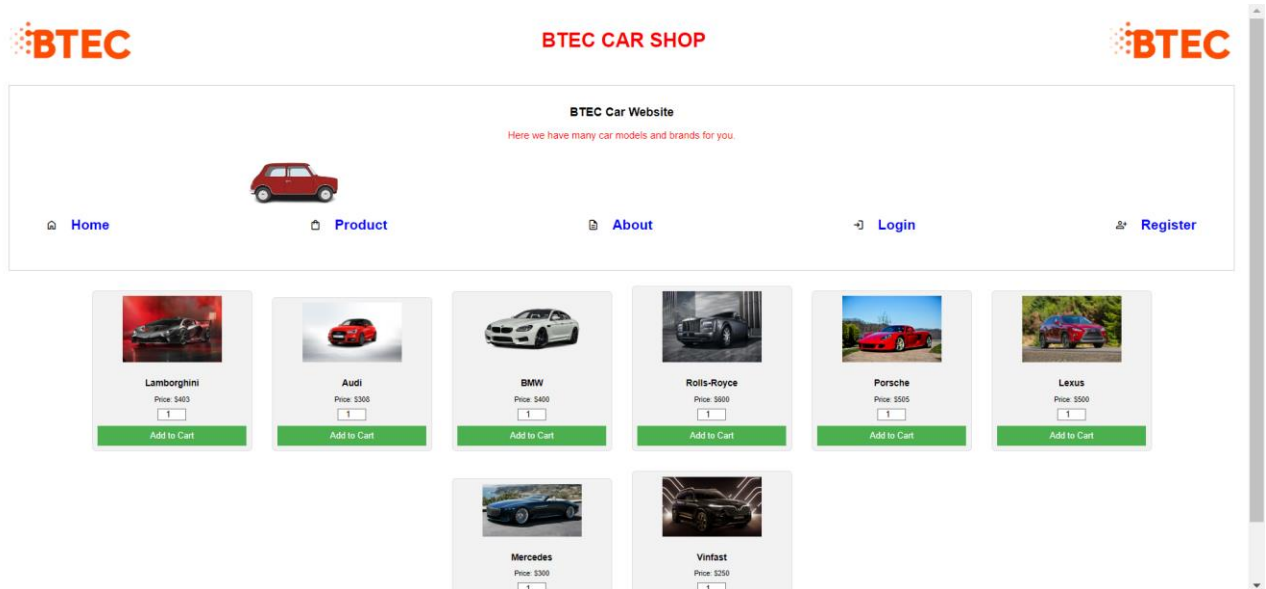


Figure 28 Test link product

v. Test link cart

Users can choose their preferred car product, in addition they can choose the number of cars.

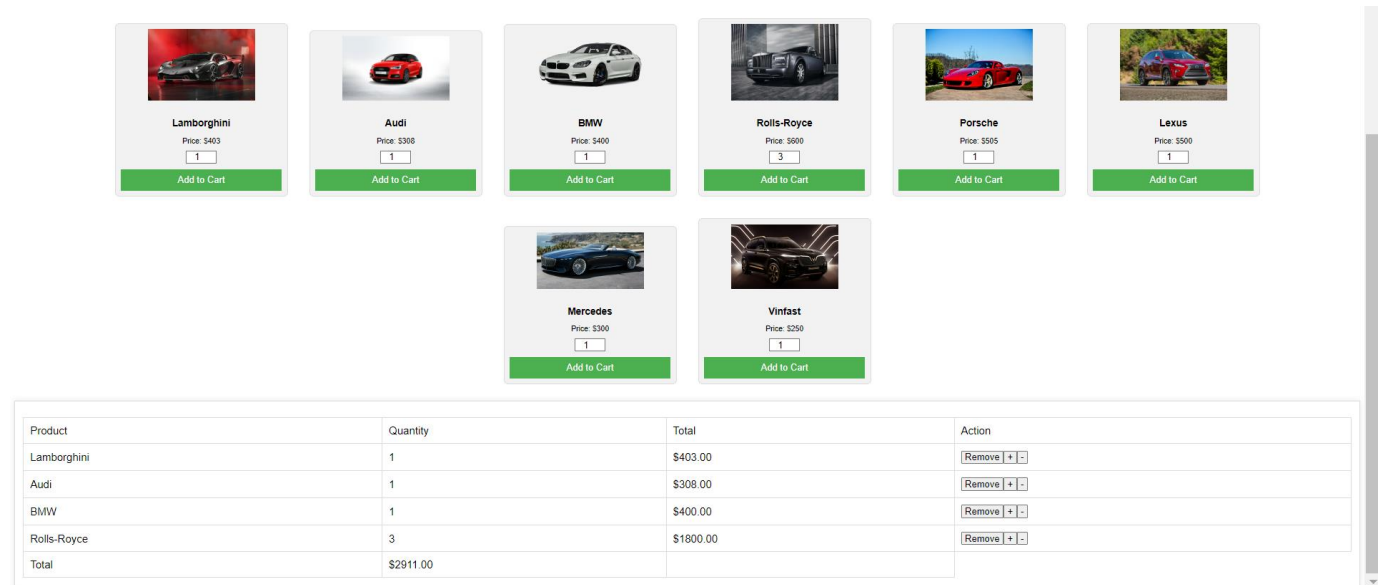


Figure 29 Test link cart



After selecting, the system will automatically calculate the payment for the customer. Information needs to be displayed such as: product name, quantity and total amount. In addition, customers can adjust the quantity of products they want, then the system will provide information back to the customer.

vi. Test link about and feedback

This screen will display information about the car dealership and customer feedback.

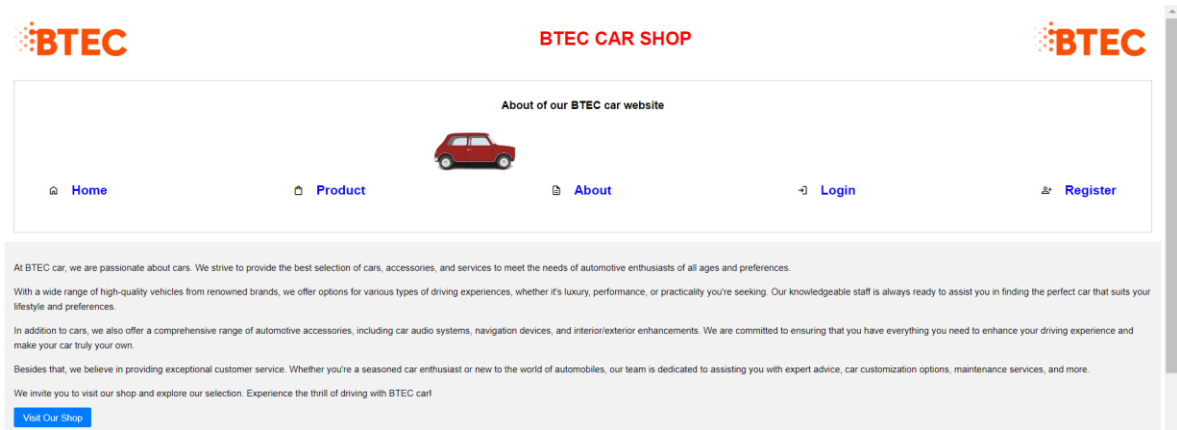


Figure 30 Test link about

When clicking the "Visit our shop" button, after 3 seconds, the screen will be redirected to display the product.

Figure 31 Test link feedback 1

In the feedback screen, customers will enter information: customer name, customer email, and enter customer evaluation.

Feedback

Your Name:

Hoang Hong Phuc

Your Email:

hoanghongphucp@gmail.com

Message:

good

Send Message

If you have any questions or inquiries, feel free to contact us using the information below.

Address: 666 Main Street, City, Country.

Phone: +0 123 456 789789.

Email: BtecCar@gmail.com

Figure 32 Test link feedback 2

If the customer enters missing information, the screen will display a notification.

Feedback

Your Name:

Hoang Hong Phuc

Your Email:

hoanghongphucp@gmail.com

Message:

Send Message

Please fill out this field.

If you have any questions or inquiries, feel free to contact us using the information below.

Address: 666 Main Street, City, Country.

Phone: +0 123 456 789789.

Email: BtecCar@gmail.com

Figure 33 Test link feedback 3

Feedback

Your Name:

Your Email:

Message:

Send Message

The message has been sent successfully!

If you have any questions or inquiries, feel free to contact us using the information below.

Address: 686 Main Street, City, Country.

Phone: +0 123 456 789789

Email: BtecCar@gmail.com

Figure 34 Test link feedback 3

After entering all information and pressing the send button, the screen will display "the message has been sent successfully" and after 3 seconds the screen will automatically return to the main screen.

III. Conclusion

I have crafted a website that takes you through the entire shopping process with ease. By incorporating HTML5, CSS, and JavaScript, I've made sure it's not just functional but interactive and user-friendly. The login and register features empower users to personalize their experience, keep tabs on orders, and safeguard their information. I've put extra effort into making these forms not just functional but also visually appealing—HTML5 provides the structure, while CSS adds the style. Once users are in, they can smoothly navigate through a variety of products. The product showcase is a mix of HTML5 for structure and CSS for style, resulting in a display that's not just organized but also attractive. Thanks to JavaScript, users can add items to their cart and watch it update in real-time. The cart is the unsung hero of the website—it lets users add, review, and purchase items seamlessly. I've used JavaScript to manage the cart items and dynamically calculate the total price. The cart's design is clean and concise, a combination of HTML5 and CSS that ensures users have a clear representation of their selected items. In a nutshell, the shopping cycle website I've built brings together essential features—login, register, and cart functionalities—using HTML5, CSS, and JavaScript. It guarantees users a smooth and enjoyable shopping experience, letting them explore products, manage their accounts, and make purchases conveniently.

IV. Reference

1. BY LETÍCIA FONSECA, *10 Use Case Diagram Examples (and How to Create Them)*, [online] Available at: <https://venngage.com/blog/use-case-diagram-example/>, [Accessed FEB 15, 2022].
2. By dbForge Team, *SQL Database Design Basics with Examples*, [online], Available at: <https://blog.devart.com/sql-database-design-basics-with-example.html>, [Accessed July 22, 2020].
3. W3schools.com. 2023, *How To Create A Product Card*, [online], Available at: https://www.w3schools.com/howto/howto_css_product_card.asp, [Accessed 2 July 2023].
W3schools.com. 2023, *HTML Tutorial*, [online], Available at: <https://www.w3schools.com/html/default.asp>, [Accessed 2 July 2023].
4. W3schools.com. 2023, *CSS Tutorial*, [online], Available at: <https://www.w3schools.com/css/default.asp> [Accessed 2 July 2023].
5. W3schools.com. 2023, *JavaScript Tutorial* [online], Available at: <https://www.w3schools.com/js/>
6. Written by Coursera Staff, *How to Write Test Cases: A Step-by-Step QA Guide*, [online], Available at: <https://www.coursera.org/articles/how-to-write-test-cases>, [Accessed Nov 30, 2023].