

Front-End Web development Project

21.11.2024

—

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Project Name: MMA Academy

Overview

This is a documentation of my Final Project that includes my experience and understanding that I have gained throughout this course. It will demonstrate my understanding of clean code structure while creating a fully responsive website using html css and javascript along with my chosen css framework library Bootstrap.

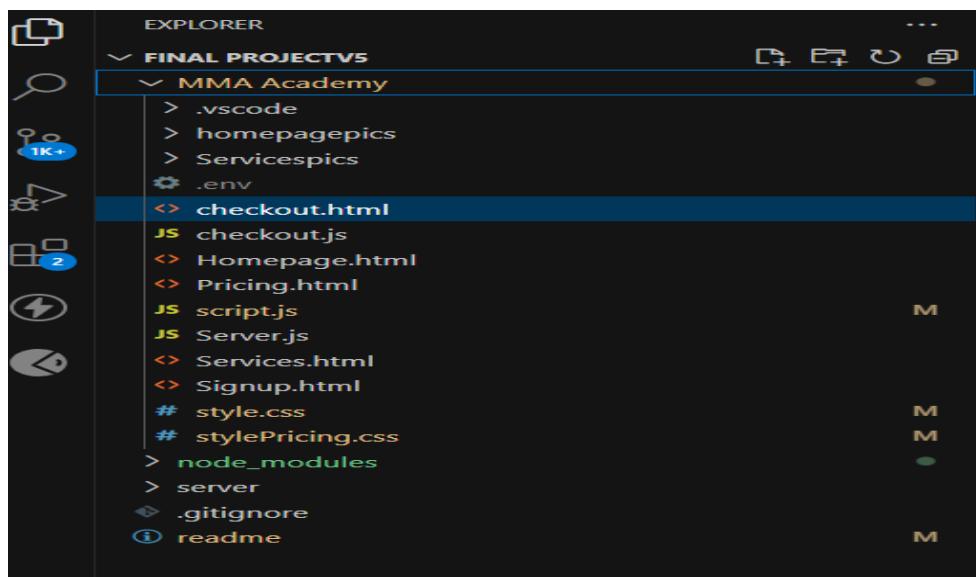
Goals

1. My goal is to create a fully responsive website using the skills and knowledge learned throughout this course.
2. To document and showcase what I have created and implemented with a clear understanding of html css javascript and use of third party APIs such as Intersection Observer and Stripe checkout.

Project Structure

For my project structure I wanted to make sure that modules and files are easy to see and find when necessary.

I have kept pictures in their own folders, node modules in their own to achieve an organized and concise work environment which would make collaboration with others more easy.



For my code I have kept to the best practices that I have learned throughout the course. All my html pages start with the doctype declaration which is needed to help browsers interpret and display the information used correctly.

I achieved this using <!DOCTYPE html> within visual studio code to generate the correct template for each page.

I have also nested a link to my css stylesheet (cascading.style.sheet) and bootstrap framework which is important for styling the pages and making them more appealing within my <head> element.

The <head> element contains information on the page like the title and other forms of metadata that won't be displayed but is important for the functionality of the code located in the body such as the stylesheet link and or javascript links.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Checkout</title>
    <link rel="stylesheet" href="style.css">
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-EVSTQN3/azprG1AnmQDgJLIM9Nao0Yz1ztcQTWFspd3yD65VohhpuuCOMLASjC" crossorigin="anonymous">
    <script src="https://js.stripe.com/v3"></script>
</head>
```

For the body I understand that relying too much on div elements for everything like sections, headers and text, ect. Can be bad practice instead of using proper element tags such as <headers>, <sections>, <h1>, <p> to help with screen readers in certain instances.

I have limited the use of divs element only using them sparingly for the functionality of the framework I am using called Bootstrap as seen below.

```
<section id="firstsection" class="sections">
    <div id="firstsect" class="firstsector"><!-- added div container so intersection api can easily read data, repeated in all sections-->
        <h1><strong>About MMA ACADEMY</strong></h1>
        <div class="container">
            <div class="row">
                <div class="col">
                    <h2><strong> This is where champions are made!</strong></h2><hr>
                    <p class="paragraph">Our MMA gym is dedicated to fostering a supportive and empowering environment for individuals of all skill levels.</p>
                    <p class="paragraph">Whether you are a seasoned fighter or just starting your martial arts journey, we have something for everyone.</p>
                    <p class="paragraph">At MMA ACADEMY, we pride ourselves on offering a comprehensive training program that includes Brazilian Jiu-Jitsu, Muay Thai, boxing, and wrestling.</p>
                    <p class="paragraph">Our experienced coaches are passionate about sharing their knowledge and helping you reach your full potential. </p>
                    <p class="paragraph">With personalized attention and tailored training plans, we focus on developing not only your fighting skills but also your confidence and discipline.</p>
                    <p class="paragraph">Our state-of-the-art facility features spacious training areas, modern equipment, and a welcoming atmosphere that encourages camaraderie and respect. </p><hr>
                </div>
            </div>
            <div class="col">
                <div class="image-wrapper float-start pe-4 ">
                    
                </div>
            </div>
        </div>
    </div>
```

I have nested an Id for every important element tag and classes for repeating tags for easy access with the ability to modify them in my css file.

For my stylesheet I will be using the BEM method (BLOCK ELEMENT MODIFIER) in naming classes, as I will be having multiple pages with a similar theme this will help me reuse certain styles without having to start all over.

```
}.card-title {
    text-align: center;
}
.card-group {
    padding-bottom: 40px;
}

.pricingLink {
    text-align: center;
    text-decoration: none;
}

.pricingLink:hover {
    text-decoration: underline;
}
```

For my Javascript I will be using the basic version with node.js extension. This will help me when it comes to integrating APIs such as Stripe when it comes to the server side of the code.

I will be using GitHub to manage and push my project code onto a repository made there.

Architecture

The architecture of my project will be relatively simple, I will be making a website based on Mixed Martial Arts.

The website will include;

Homepage

- Showcasing an About section to interest viewers to continue participating.

Service page

- To showcase the activities one might expect if they were to sign up.

Pricing page

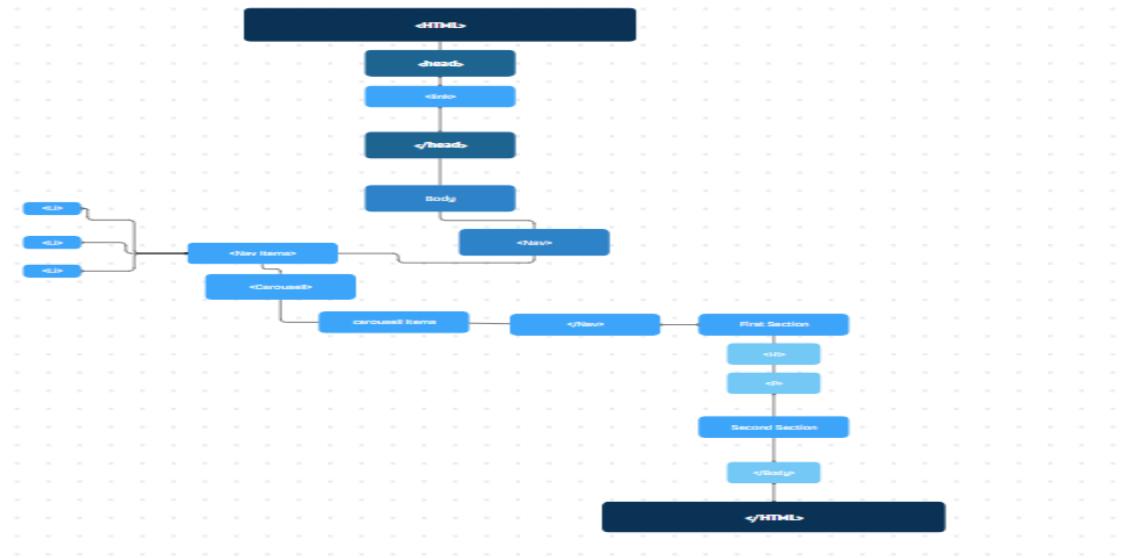
- That will showcase the times and price of each subscription which will lead to a checkout page for a complete experience.

API page

- Used to house the resting API for the checkout process.

Page architecture

Every page will follow a similar structure of the image below.



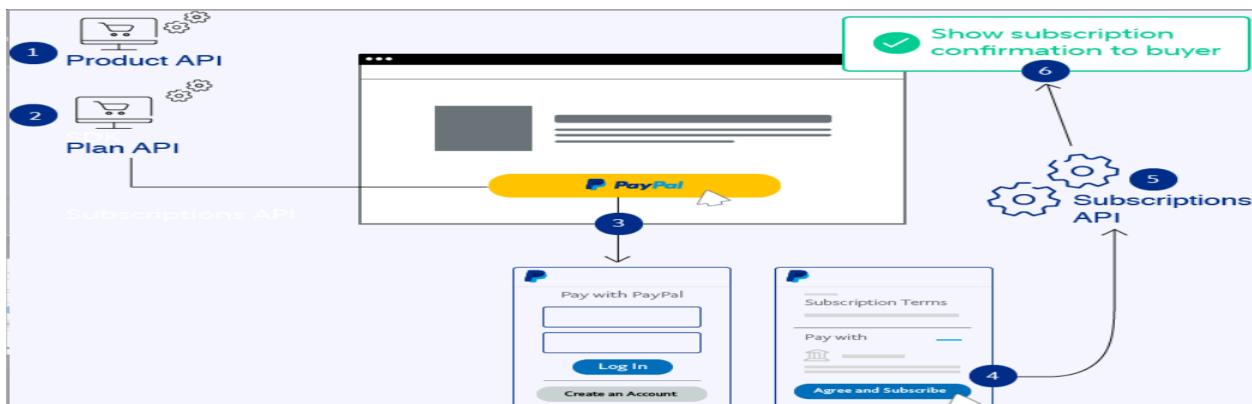
Styling

The pages will be styled using Bootstrap framework to make the reusability of the design on the pages more easy to work with.

Javascript

For the Javascript I will be integrating a rest API such as PayPal for my checkout section.

This will make it easier to create a checkout page without necessarily having to start from scratch and code the text, style of the page or add in all the functionality in the BackEnd needed for a standard checkout page as that will be handled on the PayPals end.



Another API I will be using is called Intersecting Observer. This will make elements on the page more interactive and appealing when users are scrolling with the help of Fade-in animations found in my css file.

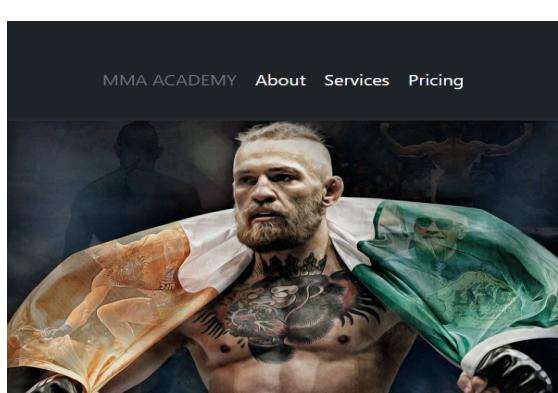
Design

When it came to designing my website, I wanted to create one that was appealing to view and easy to follow. I tried to avoid too much complexity as that could be seen as having too much clutter and hard to follow.

Keeping the website design simple helped when it came to coding and being able to reuse and update sections as I gained more knowledge.

The Design I went for was a Navigation bar, carousell, the body of content that included text beside an Image of similar size to the text which would alternate in the next section and repeat that design with as many sections I intended to have.

The images seen below are the finished design theme of my project starting from left to right excluding the footer.



MMA ACADEMY [About](#) [Services](#) [Pricing](#)

This is where champions are made!

Our MMA gym is dedicated to fostering a supportive and empowering environment for individuals of all skill levels. Whether you are a seasoned fighter or just starting your martial arts journey, we have something for everyone. At MMA ACADEMY, we pride ourselves on offering a comprehensive training program that includes Brazilian Jiu-Jitsu, Muay Thai boxing, and wrestling. Our experienced coaches are passionate about sharing their knowledge and helping you reach your full potential. With personalized attention and tailored training plans, we focus on developing not only your fighting skills but also your confidence and discipline. Our state-of-the-art facility features spacious training areas, modern equipment, and a welcoming atmosphere that encourages camaraderie and respect.

About MMA ACADEMY



WORLD MASTER
2022
IBJJF JIU-JITSU CHAMPIONSHIP

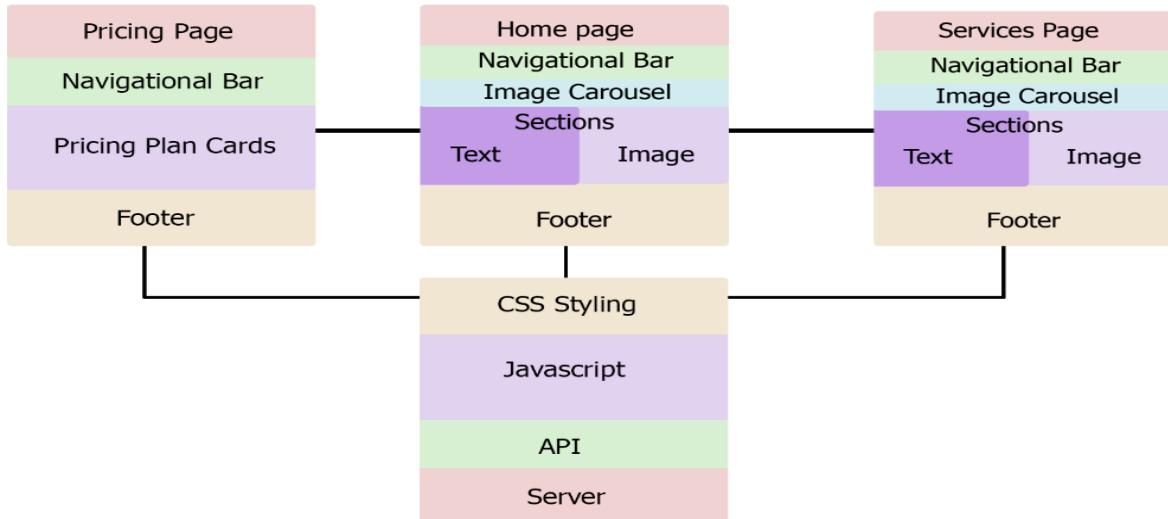
2 1 3



Our goal is to empower individuals.

We are committed to fostering an inclusive and supportive environment where every member can achieve their personal best. Whether you aim to compete at the highest level, improve your fitness, or learn self-defense, we are here to guide you every step of the way. Our focus is on building strong, confident, and disciplined fighters who excel both inside and outside the gym. We strive to create a community that embodies respect, hard work, and a passion for continuous improvement. We host regular classes, open mats, and sparring sessions, allowing members to hone their skills in a safe and controlled environment.

Class Diagram



User Stories

1. For my website I would like people to load the page with ease and quickly.
2. The page should be appealing to view, they should be met with a navigation bar and a header image to catch their attention.
3. When they scroll down they should be shown a title of the page in the center followed by a section that has text beside an image of equal size that is easy to read.
4. Functional links that lead back and forth without any problems.

Updating your code

When updating my code I made sure to create a copy of the folder used for my project.

This was done to ensure that;

- Backup was made.
- Changes could be made without the fear of loss or destruction of code or files.
- Ability to test different styles and components using both or more copied folders.
- With new knowledge I was able to plan and implement new features with more freedom.

Code Structuring

My code structure will be simple and align with the best practices that I have learned.

Html structure will follow

- Declaration of <doctype html> for the preferred html template for coding.
- Linking css in the head tag element, javascript at the bottom of the body tag element.
- Using meaningful tags instead of relying on <div> for easy readability for screen readers
- Making sure closing tags are used and lowercase markup is used for naming tag elements and attributes.
- Using alt for images in case they do not load.
- Adding Ids and class attributes to elements for easy modification and to avoid global styling in the event changes need to be made.

CSS Styling structure will follow

- Using meaningful names for ID and Classes that describe or reflect the content of the element's purpose.
- Consistency in the naming of elements to avoid confusion when it comes to making changes.

Creating responsive design with the use of media queries to change certain elements at different breakpoints such as images.

```
.Homepage-images{
    width: 100%;
    height: 500px;
    border-radius: 20px;
    display: flex;
    box-shadow: 0px 7px 5px ■rgb(173, 174, 174);
    /*previous dimensions 650 width, 500 height*/
}

/*media query to change the sizing of images to achieve a more responsive feel*/
@media (max-width:1205px){
    .Homepage-images {
        width: 600px;
        height: 500px;
        justify-content: center;
        display: flex;
        flex-direction: column;
        margin-bottom: 15px;
    }
}
```

- Adding documentation to keep track of changes and making note of features added or removed ect.

Javascript structure will follow

- Declarations of variables will be at the top, preventing the possibility of re-declarations which makes the code more clean.
- Using const to declare variables that should not be changed and let for those that can be.
- Avoiding nesting hell and using camelCase when naming variables for better readability.

Third Party API's

Third Party API's that I will be using are PayPal checkout and Intersection Observer.

The integration of Intersection Observer really helped with adding life to my project.

My intended use with the API was to make the sections of my page Fade-in when the user would scroll down.

Intersection Observer API

- I achieved the integration by linking the html pages with my javascript file within the bottom of the body tag.

```
<script src="script.js"></script>
</body>
```

- I then created a <div> element with a class, that would be the container of the sections that would be observed by the API to create the Fade-in functionality.

```
<div id="firstSect" class="firstSect">!-- added div container so intersection api can easily read data, repeated in all sections-->
```

- Then using javascript, I constructed variables for the sections using camelCase for better readability.

- I then accessed the DOM (document object module) to get the class of the <div> element so that the javascript file can interact with the html file.

```
const firstSection = document.getElementById("firstSect")
const secondSection = document.getElementById("secondSect")
const thirdSection = document.getElementById("thirdSect")
```

- I then constructed a call back function that would call the API when certain requirements are met via if statement, so that the animation to Fade-in would be activated by the API when two sections were Intersecting by using the strict equality operator.

```
function callbackFunction(entries) {
  entries.forEach(entry => {
    if (entry.isIntersecting) {
      if (entry.target.id === 'firstSect') {
        entry.target.classList.add('loaded')
      }
      if (entry.target.id === 'secondSect') {
        entry.target.classList.add('fade-in')
      }
      if (entry.target.id === 'thirdSect') {
        entry.target.classList.add('fade-in')
      }
      if (entry.target.id === 'fourthSect') {
        entry.target.classList.add('fade-in')
      }
      if (entry.target.id === 'fifthSect') {
        entry.target.classList.add('fade-in')
      }
      if (entry.target.id === 'sixthSect') {
        entry.target.classList.add('fade-in')
      }
    }
    observer.unobserve(entry.target)
  })
}
```

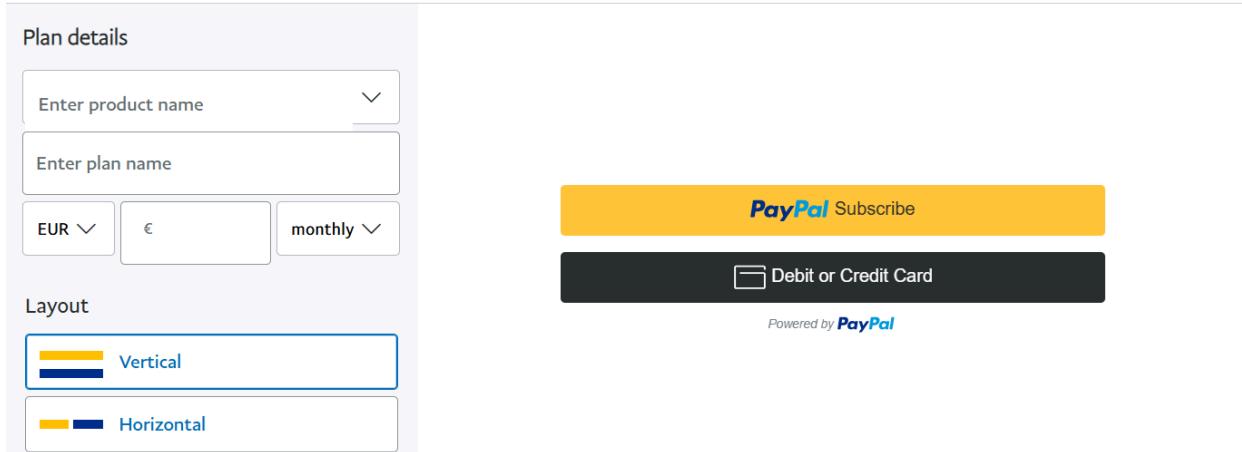
```
observer.observe(firstSection)
observer.observe(secondSection)
observer.observe(thirdSection)
```

- The animation itself is in the css folder and linked to the <div> elements class to achieve the wanted result.

```
/* Intersection observer api area for animations*/
.firstSect {
  visibility: hidden;
  opacity: 0;
  transform: translateY(100px);
  transition: transform 1s, opacity 1s
}
.firstSect.loaded {
  visibility: visible;
  opacity: 1;
  transform: translateY(0px);
}
.secondSect {
  visibility: hidden;
  opacity: 0;
  transform: translateY(100px);
  transition: transform 1s, opacity 1s
}
.secondSect.fade-in {
  visibility: visible;
  opacity: 1;
  transform: translateY(0px);
}
```

PayPal

- Profile was needed to be able to use and customize the checkout.



- Button choices with their own specific use such as donate buttons are all accessible too.
- Using the button of my choice, I received a code that can be implemented in any website that will be used to call PayPals API for use.

```
<!--PayPal API button link to the Server-->
<div id="paypal-button-container-P-1K5277518U314191DM42OSAY"></div>
<script src="https://www.paypal.com/sdk/js?client-id=AVV08AmGyhjD-7siU8F_MiHoS78eJ9qgZpucMnhfOWU1qGeet7X5wA2BShRGG-8Kt6UonYeShM6nT1&vault=true&intent=subscription" data-sdk-integration-source="button-factory"></script>
<script>
  paypal.Buttons({
    style: {
      shape: 'pill',
      color: 'gold',
      layout: 'vertical',
      label: 'subscribe'
    },
    createSubscription: function(data, actions) {
      return actions.subscription.create({
        /* Creates the subscription */
        plan_id: 'P-1K5277518U314191DM42OSAY'
      });
    },
    onApprove: function(data, actions) {
      alert(data.subscriptionID); // You can add optional success message for the subscriber here
    }
  }).render('#paypal-button-container-P-1K5277518U314191DM42OSAY'); // Renders the PayPal button
</script>
```

Integration between FrontEnd and BackEnd

Initially my project would have had integration between Front-End and Back-End through my first choice in a checkout API called Stripe before I chose PayPals API.

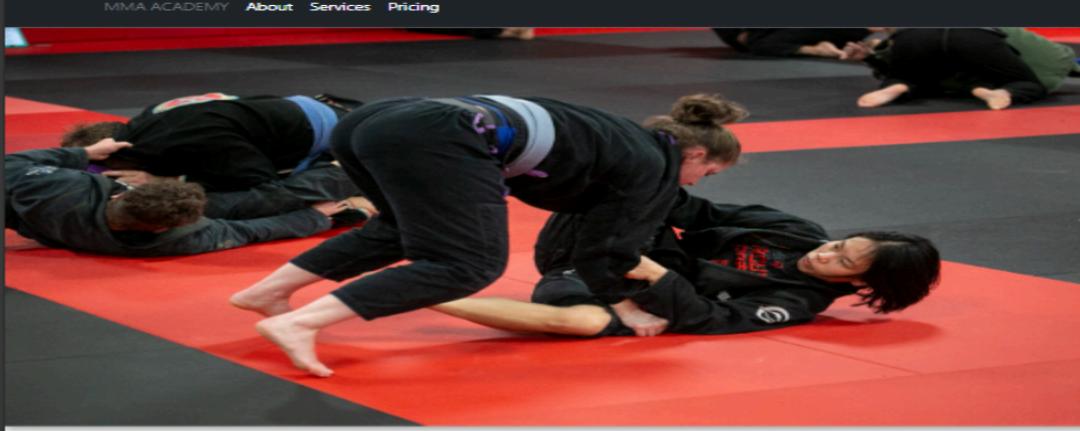
This is how I would have achieved this;

Server

- Json would be used as a means to create the server.
- Stripe account will be need to create and change the features of the checkout API before being called
- Account will also hold the API test key that will be used to make a get request via Json.
- Express and Dotenv would be used to initialize the Back-End server.
- .env file would be made to house the test keys for use and gitignore used so that they are not leaked when updating the GitHub repository.
- Test keys would be used to create a session using Stripe server and data would be called through the back-end to then be shown when clicked by a button using queryselector.getElementByld with the 'onclick' function.

Components with your Code

HomePage - top section and code used to create



About MMA ACADEMY

This is where champions are made!

Our MMA gym is dedicated to fostering a supportive and empowering environment for individuals of all skill levels.

Whether you are a seasoned fighter or just starting your martial arts journey, we have something for everyone.

At MMA ACADEMY, we pride ourselves on offering a



```

<body>
  <!-- Bootstrap Navigational Bar -->
  <header class="p-3 bg-dark text-white">
    <div class="container">
      <div class="d-flex flex-wrap align-items-center justify-content-center justify-content-lg-start">
        <a href="/" class="d-flex align-items-center mb-2 mb-lg-0 text-white text-decoration-none">
          | <svg class="bi me-2" width="40" height="32" role="img" aria-label="Bootstrap"><use xlink:href="#bootstrap"></use></svg>
        </a>
        <ul class="nav col-12 col-lg-auto me-lg-auto mb-2 justify-content-center mb-md-0">
          <li><a id="navIcon" href="#" class="nav-link px-2 text-secondary">MMA ACADEMY</a></li>
          <li><a id="aboutTab" href="Homepage.html" class="nav-link px-2 text-white">About</a></li>
          <li><a id="serviceTab" href="Services.html" class="nav-link px-2 text-white">Services</a></li>
          <li><a id="pricingTab" href="Pricing.html" class="nav-link px-2 text-white">Pricing</a></li>
        </ul>
      </div>
    </div>
  </header>

  <!-- Bootstrap Carousel Banner component -->
  <div id="carouselId" class="carouselslide" data-bs-ride="carousel">
    <div class="carousel-inner">
      <div class="carousel-item active">
        | 
      </div>
      <div class="carousel-item">
        | 
      </div>
      <div class="carousel-item">
        | 
      </div>
    </div>
  </div>

```

Service Page - bottom section with footer and Code used to create



Strength and Conditioning

Get stronger, faster, and fitter with our Strength and Conditioning program!

Whether you're looking to improve athletic performance, build muscle, or just boost your overall fitness, our high-intensity classes are perfect for all levels.

Led by expert coaches, our workouts focus on functional movements, resistance training, and cardio to increase your strength, endurance, and agility.

Each session is designed to push your limits and help you reach your goals, while keeping the workouts fun and challenging.

Join a supportive community, get fit, and feel your best—first class is free, so come train with us today!

[Clear here to see our Pricing Plan](#)

```

<section id="altsection" class="sections">
  <div id="sixthsect" class="sixthSect">
    <div class="container">
      <div class="row">
        <div class="col">
          
        </div>
        <div class="col">
          <h2><strong>Strength and Conditioning</strong></h2><hr>
          <p>Get stronger, faster, and fitter with our Strength and Conditioning program!</p>
          <p>Whether you're looking to improve athletic performance, build muscle, or just boost your overall fitness, our high-intensity classes are perfect for all levels.</p>
          <p>Led by expert coaches, our workouts focus on functional movements, resistance training, and cardio to increase your strength, endurance, and agility.</p>
          <p>Each session is designed to push your limits and help you reach your goals, while keeping the workouts fun and challenging.</p>
          <p>Join a supportive community, get fit, and feel your best—first class is free, so come train with us today!</p>
        <hr>
          <a class="pricingLink" href="Pricing.html">Clear here to see our Pricing Plan</a>
        </div>
      </div>
    </div>
  </section>

  <!-- This section is for the footer -->
<footer class="footers">
  <a href="Homepage.html" id="aboutbtn" class="footerlinks">About</a>
  <a href="Services.html" id="servicesbtn" class="footerlinks">Services</a>
  <a href="Pricing.html" id="pricingbtn" class="footerlinks">Pricing</a>
  <a href="#" id="contactbtn" class="footerlinks">Contact</a>
</footer>

```

Pricing Page and code used to create

Monthly Pricing Plans

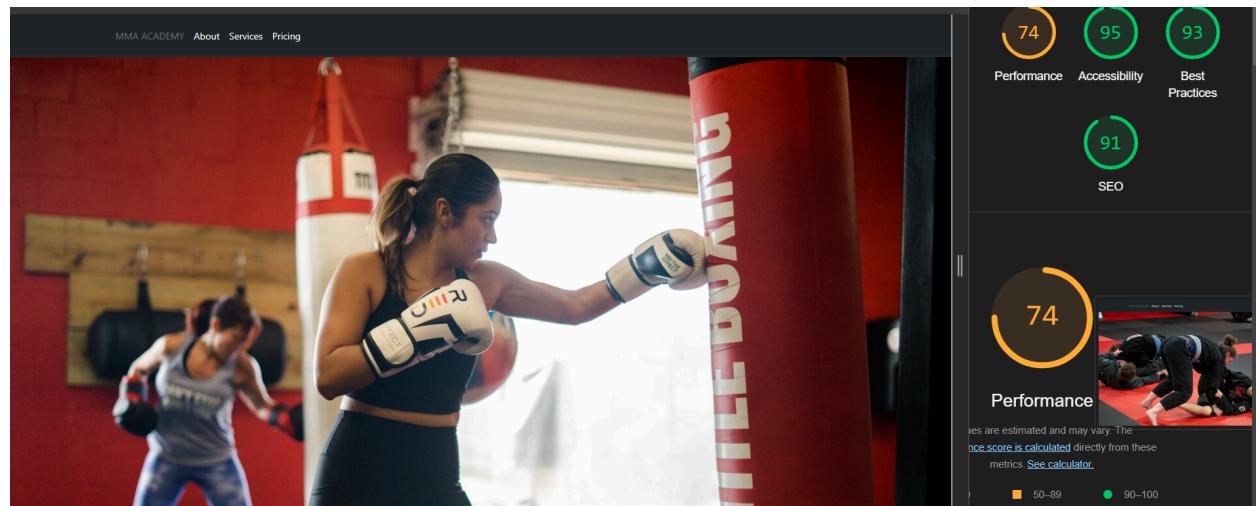
Strength and Conditioning	MMA Plan	Jiu-Jitsu Plan
Strength and Conditioning Get stronger, faster, and more agile with our Strength & Conditioning programs. €30.00 Day available: Monday & Sunday 17:00 - 18:00 Click here to Purchase Plan	MMA Plan The ultimate sport blending striking and grappling techniques. Join the thrilling world of Mixed Martial Arts. €40.00 Day available: Tuesday & Thursday 18:00 - 19:00 Click here to Purchase Plan	Jiu-Jitsu Plan Join the martial art focused on ground fighting and submission grappling. BJJ emphasizes technique and leverage. €35.00 Day available: Wednesday & Friday 19:00 - 20:00 Click here to Purchase Plan
Womens Only Plan	All Grappling Plan	All Combat Plan
Womens Only Plan Join our classes designed to equip women with practical techniques and strategies for personal safety. Enhance your confidence and self defence. €45.00 Day available: Saturday & Sunday 18:00 - 19:00 Click here to Purchase Plan	All Grappling Plan Unlock your potential with our comprehensive grappling classes, including Brazilian Jiu-Jitsu, wrestling, and submission grappling. €70.00 Day available: Tuesday - Saturday 19:00 - 20:00 Click here to Purchase Plan	All Combat Plan Unleash your inner fighter with our all-encompassing combat sports classes, including MMA, boxing and Muay Thai. €80.00 Day available: Tuesday - Saturday 18:00 - 19:00 Click here to Purchase Plan

```
<section class="sections">
  <h2><strong>Monthly Pricing Plans</strong></h2>
  <div class="card-group">
    <div class="card">
      <div class="card-body">
        <h3 class="card-title"><strong>Strength and Conditioning</strong></h3>
        <p class="card-text">Get stronger, faster, and more agile with our Strength & Conditioning programs.</p>
        <p class="Pricing">€30.00</p>
        <p class="Dates">Day available: Monday & Sunday 17:00 - 18:00</p>
        <a href="checkout.html" rel="checkoutPage" class="pricinglinks"><p>Click here to Purchase Plan</p></a>
      </div>
    </div>
    <div class="card">
      <div class="card-body">
        <h3 class="card-title"><strong>MMA Plan</strong></h3>
        <p class="card-text">The ultimate sport blending striking and grappling techniques.<br>Join the thrilling world of Mixed Martial Arts.</p>
        <p class="Pricing">€40.00</p>
        <p class="Dates">Day available: Tuesday & Thursday 18:00 - 19:00</p>
        <a href="checkout.html" rel="checkoutPage" class="pricinglinks"><p>Click here to Purchase Plan</p></a>
      </div>
    </div>
    <div class="card">
      <div class="card-body">
        <h3 class="card-title"><strong>Jiu-Jitsu Plan</strong></h3>
        <p class="card-text">Join the martial art focused on ground fighting and submission grappling. <br>BJJ emphasizes technique and leverage.</p>
        <p class="Pricing">€35.00</p>
        <p class="Dates">Day available: Wednesday & Friday 19:00 - 20:00</p>
        <a href="checkout.html" rel="checkoutPage" class="pricinglinks"><p>Click here to Purchase Plan</p></a>
      </div>
    </div>
  </div>
</section>
```

Lighthouse Report

Using the in browser extension here are the Results of Lighthouse testing:

HomePage



Service Page

MMA ACADEMY About Services Pricing

What services Do we provide?

Brazilian Jiu-Jitsu

Performance 70

Accessibility 95

Best Practices 96

SEO 91

Performance 70

These are estimated and may vary. The [price score is calculated](#) directly from these metrics. [See calculator.](#)

50–89 90–100

Pricing Page

Monthly Pricing Plans

MMA Plan	Jiu-Jitsu Plan
Join the ultimate sport blending striking and grappling techniques. €40.00 Day available: Tuesday & Thursday 18:00 - 19:00 Click here to Purchase Plan	Join the martial art focused on ground fighting and submission grappling. BJJ emphasizes technique and leverage. €35.00 Day available: Wednesday & Friday 19:00 - 20:00 Click here to Purchase Plan
All Grappling Plan	All Combat Plan
Unlock your potential with our comprehensive grappling classes, including Brazilian Jiu-Jitsu, wrestling, and submission grappling. €70.00 Day available: Tuesday - Saturday 19:00 - 20:00 Click here to Purchase Plan	Unleash your inner fighter with our all-encompassing combat sports classes, including MMA, boxing and Muay Thai. €80.00 Day available: Tuesday - Saturday 18:00 - 19:00 Click here to Purchase Plan

Performance 100

Accessibility 95

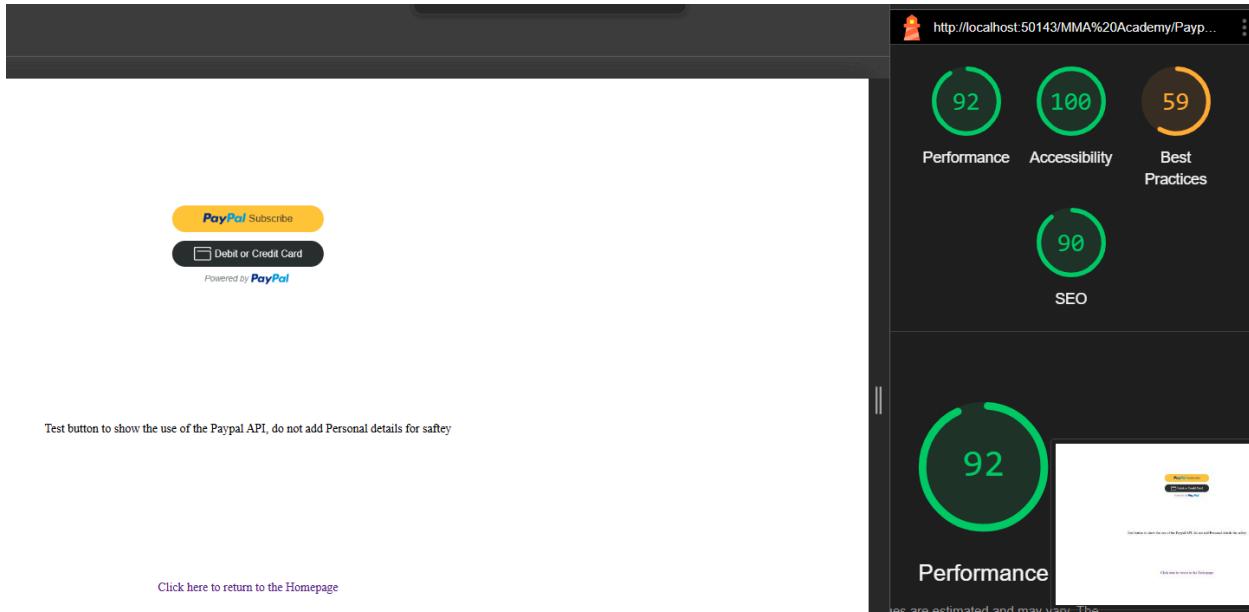
Best Practices 100

SEO 90

Performance 100

These are estimated and may vary. The [price score is calculated](#) directly from these metrics. [See calculator.](#)

API Checkout Page



Analysis

The point of the analysis is to review and examine the goals I had set out to achieve my project.

My initial goal was to create a full responsive website using Html, Css and Javascript.

The results were achieved as seen with the examples shown above.

The website is fully responsive from laptop to mobile which was achieved with Bootstraps grid and column framework alongside media query function on the images.

Javascript helped add functionality to the website and also allowed the use of APIs.

