**B9IS124 - Web and Mobile Technologies**

A picture containing text

Description automatically generated

**A Report on Irish Fitness Factory**

**BY:**

**SHASTRI TELIKICHERLA (10606539)**

**MOHAMMED GHOUSE KHAN (10614532)**

|  |  |
| --- | --- |
| 1. **Introduction** | **4** |
| 1. **Approach**   2.1 Approach to the problem  2.2 Approach for deciding layouts | **4** |
| 1. **Implementation Details**   3.1 Technologies used  3.2 Website Structure  3.3 Wireframes | **5** |
| **4. Data Handling** | **7** |
| **5. Conclusion** | **8** |
| **6. References** | **8** |

# **ACRONYMS:**

**HTML/HTML5:** Hyper Text Markup Language

**CSS/CSS3:** Cascading Style Sheet

**JS:** JavaScript

**JSON:** JavaScript Object Notation

1. **Introduction**

*Irish Fitness Factory* is an online platform for the users to do fitness equipment shopping in Ireland. This website covers multiple products which are suitable for home workout and fitness centers and allows the customers to browse, search and reserve the products of their choice. It is a user-friendly and responsive website which can run on all devices like laptops, monitors, tablets, and mobile phones.

1. **Approach**
   1. **Approach to the problem**

Preparation of an initial wireframe for the website marked the beginning of our approach towards the problem statement. We researched various fitness and ecommerce websites and kept improvising the initial wireframe. Website branding is an essential component for any website. We designed the website logo from <https://www.freelogodesign.org/> and created a GitHub [repository](https://github.com/Shastri-T/B9IS124_Web_and_Mobile_Technologies) for storing and making frequent updates to the codebase. All the essential product related information or data are stored into a JSON variable as the usage of any local servers or database is out of the scope for this assignment. Project structure comprises of the index or home page, product details page, a CSS folder to store the CSS files, JS folder to store script files and Media folder to store the product featured image and additional images.

* 1. **Approach for deciding layouts**

Irish Fitness Factory website comprises of two pages i.e., Home and product details page. The top header design consists of logo, navigation menu, and view cart. Header section is consistent across both the pages. Navigation menu items display the unique product categories, and it is dynamically created from the JSON data during the page load. The main body of the home page below the header displays the products list in card layout using responsive flexbox and display’s various gym equipment's along with product name, price, reviews, more options and view more details button.

On clicking any product, the user gets navigated to the product details page, where they can view the different options available for the specific product such as, product name, description, price, ratings, reviews, images, and additional features. Also, there is an option to select the product quantity and add to cart for reserving the item.

User can click on the cart icon to view the cart items for checkout, here the user must provide all the card details including address, card details etc. to purchase the product. Media queries are used to render the website responsively on desktops, tablet and mobile devices.

1. **Implementation Details**:
   1. **Technologies Used**

Irish fitness factory website is designed and developed using languages such as HTML5, CSS3, JavaScript, jQuery, JSON. HTML5is used to build the webpage, for structuring and presenting content on the webpage using various tags, elements, and attributes. CSS3orCascade Styling Sheet is used for styling the webpage which controls the layout of multiple elements in the web pages. Cascading style sheet when applied to a parent element will also apply to all its child elements. In this project we have created different folder called CSS and contains two CSS files. “webstyle.css” file comprises of overall website styles and the “mobilestyle.css” file is targeted for mobile and tablet devices. These external CSS files are referred in the html page.

JavaScript/jQuerycode leverages different functionalities on both the pages of the website. “main.js” script file under JS folder is the central script file that contains reusable functions/methods, common variables and functions that should execute during the load of a page are added under ‘document.ready’ section of the script file. At the beginning of each method comments are duly added for a better understanding.

JSON files when accessed locally give CORS error on the browser, declaring them as a variable on each page duplicates the data and is not a recommended approach. With HTML5, there is an option to use web storage. With web storage, web applications can store data locally within the user's browser. Web storage is more secure, and large amounts of data can be stored locally, without affecting website performance. jQuery code used in this website leverages this feature to store and retrieve the JSON product information, product, and quantity information when user adds an item to the cart.

* 1. **Website Structure**

The Irish Fitness Website is cross browser compatible and responsive i.e., it can be used on multiple devices such as Monitor, Laptop, Tablet, and Mobile. Under the header section there is an option for the user to navigate the product by category and a search box from where the user has two options to select an item either searching with category or name of the item from the product list. The header also covers a logo for the website and the shopping cart in which all the selected items will be stored at checkout. Under the home page all the product list items are available. When user selects any item from the list it will render to the product details page where product has an additional information of that specific item from the list of items. In the product details page a user can add an item to the cart by selecting a button “Add to Cart.” Here users can check more information about products such as, price, description, image, reviews, and ratings. User can click on the reviews to view the previous user ratings and reviews in a modal dialog. User can select a quantity of each product and add to cart. User can click on the cart icon to view the selected product name, quantity, and the total amount of the selected products with a deletion option if user would like to remove the item from the selected list (deletion functionality has not been added). User can fill address, credit card details into the form to finish the checkout process and reserve their selected items.

* 1. **Wireframes**:

**Home Page**:

A screenshot of a video game

Description automatically generated

**Product Details Page**:

Graphical user interface, text, application, email

Description automatically generated

**Item Reservation Page:**

A screenshot of a computer

Description automatically generated

1. **Data Handling**:

JSON is JavaScript Object Notation. JSON is a text format for storing and transporting data. It helps to store JavaScript objects as text and JavaScript uses JSON.stringify() to convert an object to string and JSON.parse() to convert JSON strings to JavaScript objects. It is defined as key, value pair. JSON variable is used in Irish Fitness Factory website to define several attributes of fitness products such as id, name, description, price, reviews, ratings, images, and additional images etc.

1. **Conclusion:**

We were able to successfully develop the Irish Fitness Factory website for a fitness business that allows a user to view all the equipment that is available on sale, search for any product of choice, view products of different categories as listed under navigation menu. On click of any of the product card item navigates them to the individual product detail page for displaying the detailed information of the item like the user rating, the price, the details, features of the item, all media images etc. We were able to make the website design responsive which renders the website in a readable format on different types of devices. We achieved the above features without using any external CSS frameworks/libraries like font awesome, bootstrap etc. It was a very good experience working on this project and it helped us research and revise lot of JavaScript, CSS and HTML5 concepts, although we realized that there are lot of improvement areas in terms of look and feel (designing), code optimization, application of object-oriented concepts, reusability etc. which we would improvise as an offline implementation or in our upcoming projects.

1. **References:**

* Cederholm, D. and Zeldmann, J., 2010. *CSS3 for web designers* (p. 56). New York, NY: A Book Apart.
* S. Z. Naseem and F. Majeed, "Extending HTML5 local storage to save more data; efficiently and in more structured way," Eighth International Conference on Digital Information Management (ICDIM 2013), 2013, pp. 337-340, doi: 10.1109/ICDIM.2013.6693990.
* Bryant, J. and Jones, M., 2012. Responsive web design. In *Pro HTML5 Performance* (pp. 37-49). Apress, Berkeley, CA.
* Design Ideas:

<https://www.amazon.com/>

<https://www.fitnessequipmentireland.ie/>

<https://www.aliexpress.com/>

<https://www.irishsportswarehouse.ie/>

* Flexbox:

<https://www.w3schools.com/css/css3_flexbox_responsive.asp>

* Image Credits

<https://www.fitnessequipmentireland.ie/>

<https://www.pexels.com/>

<https://pixabay.com/>