

# Website Enhancement Report

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## Ascent Physiotherapy Website Interactivity Upgrade with JavaScript

**Prepared by:** [SHAIK ASLAM]  
**Date:** April 08, 2025  
**Course:** DGL 113 (Introduction to JavaScript)  
**Prepared for:** [Course Final Project]

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### 1. Introduction

This report details the enhancements made to the Ascent Physiotherapy website, originally developed using HTML and CSS for the DGL 103 final project. The initial site was functional but static, lacking interactivity. To improve user experience and functionality, JavaScript was integrated to add a dynamic appointment booking system, a product and service filter/search feature with a price range filter, and interactive team member profiles. This document outlines the background, implemented features, technical approaches, testing outcomes, and personal insights gained during the process.

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### 2. Website Background Information

The Ascent Physiotherapy website was created as a digital platform for a fictional physiotherapy clinic in Comox, BC. Initially built with HTML5 and styled with CSS3, it included pages such as Home ([index.html](#)), Appointment Booking ([appointment.html](#)), Products & Services ([products.html](#)), Our Team ([team.html](#)),

and Contact Us ([contactus.html](#)). While the site provided essential information, it lacked dynamic features to engage users effectively. This enhancement project leverages JavaScript ([app.js](#)) to introduce interactivity, making the site more modern and user-friendly.

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## 3. Features Added and Their Enhancements

### 3.1 Dynamic Appointment Booking System

- **Description:** The [appointment.html](#) page now features a real-time form with validation, a searchable service/product dropdown with sorting, and a confirmation modal. Users can select multiple services/products, see a total price, and confirm bookings via a pop-up displaying their details (e.g., Name, Email, Date, Services). Error messages appear instantly for invalid inputs, and selected items persist in a dynamic display.
- **Enhancement:** This system simplifies booking by providing immediate feedback, reducing errors, and offering a clear confirmation step. The dropdown and multi-selection feature allow users to customize their appointments efficiently, enhancing usability and engagement.

### 3.2 Dynamic Product and Service Filter/Search Feature

- **Description:** The [products.html](#) page includes a real-time search bar, category filter (All, Services, Equipment, Products), sort options (Default, Low-to-High, High-to-Low), and a price range filter (Min/Max inputs). Services and products are displayed in tables, dynamically filtered and sorted based on user input.
- **Enhancement:** This feature improves navigation by enabling users to quickly find items by name, category, or price range. The price filter caters to budget preferences, while real-time updates enhance responsiveness, making the page more practical and user-centric.

### 3.3 Interactive Team Member Profiles

- **Description:** The [team.html](#) page now features collapsible team profiles with a "Read More" button ([collapsible](#)). Clicking a button expands the biography with a smooth animation, while collapsing other open sections (accordion-style).
  - **Enhancement:** This compact design reduces clutter, allowing users to explore team details selectively. The smooth animations improve visual appeal, and the accordion functionality enhances navigation by focusing attention on one profile at a time.
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## 4. JavaScript Techniques Used

- **Dynamic Appointment Booking System:**
  - `addEventListener('input')` and debouncing (`setTimeout`) for real-time dropdown filtering on `serviceInput`.
  - Array methods (`filter`, `sort`) to dynamically populate `serviceDropdown` based on search and `sortService` value.
  - DOM manipulation (`createElement`, `appendChild`) to display selected items in `selectedItemsDiv` and update `servicePrice`.

- Form validation with regex (e.g., email, phone) and date checks (`new Date`), showing errors via `showError`.
  - Modal display (`style.display = 'flex'`) with dynamic content updates using `textContent`.
  - **Dynamic Product and Service Filter/Search Feature:**
    - `filter()` and `sort()` on table rows (`tr`) based on `searchInput`, `categoryFilter`, `sortFilter`, and price inputs (`minPrice`, `maxPrice`).
    - Event listeners (`input`, `change`) for real-time updates without page reloads.
    - Cloning original table rows (`cloneNode`) to preserve default order and reapply filters dynamically.
    - Price parsing (`parseFloat`) and dataset attributes (`data-price`) for accurate filtering and sorting.
  - **Interactive Team Member Profiles:**
    - `classList.toggle('active')` to manage collapsible state.
    - `style.maxHeight` with `scrollHeight` for smooth expansion/collapse animations, paired with CSS transitions.
    - Loop through `collapsibles` to collapse other sections, implementing accordion behavior.
  - **Additional Techniques:**
    - Mobile navigation toggle using `classList.toggle('show-items')` and `style.width`.
    - Strict mode (`"use strict"`) for cleaner, safer code execution.
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## 5. HTML and CSS Validation and Browser Testing Results

- **HTML Validation:** Validated using the W3C Markup Validation Service. Minor warnings (e.g., duplicate Cloudflare scripts) were noted but not critical. All pages passed after ensuring proper nesting and attributes (e.g., `alt` on images).
- **CSS Validation:** Checked with the W3C CSS Validation Service. One error (unclosed media query brace) was fixed in `style.css`. Post-correction, the CSS was fully compliant with CSS3 standards.
- **Browser Testing:** Tested on Chrome, Firefox:

- **Chrome/Firefox:** All features (modal, filters, collapsibles) worked seamlessly.

Nu Html Checker

This tool is an ongoing experiment in better HTML checking, and its behavior remains subject to change

Showing results for index.html

Checker Input

Show ☐ source ☐ outline ☐ image report

Check by file upload ▾  No file chosen

Uploaded files with .xhtml or .xht extensions are parsed using the XML parser.

Use the Message Filtering button below to hide/show particular messages, and to see total counts of errors and warnings.

Message Filtering

- Info** Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 4, column 5; to line 4, column 28

```
head><?<meta charset="UTF-8" /><
```
- Info** Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 5, column 5; to line 5, column 76

```
8" /><?<meta name="viewport" content="width=device-width, initial-scale=1.0" /><
```
- Info** Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 8, column 5; to line 8, column 46

```
itle><?<link rel="stylesheet" href="style.css" /><
```
- Info** Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 9, column 5; to line 9, column 65

```
s" /><?<link rel="preconnect" href="https://fonts.googleapis.com" /><
```
- Info** Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 10, column 5; to line 10, column 74

```
m" /><?<link rel="preconnect" href="https://fonts.gstatic.com" crossorigin /><
```
- Info** Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 11, column 5; to line 14, column 6

```
in /><?<link<? href="https://fonts.googleapis.com/css2?family=Open+Sans:ital,wght@0,300..800;1,300..800&family=00;0,500;0,600;0,700;0,800;0,900;1,100;1,200;1,300;1,400;1,500;1,600;1,700;1,800;1,900&display=swap"> rel="stylesheet"><
```
- Info** Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 15, column 5; to line 15, column 74

```
/><?<link rel="preconnect" href="https://fonts.gstatic.com" crossorigin /></h
```
- Info** Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 20, column 9; to line 20, column 48

```
><?<
```
- Warning** Section lacks heading. Consider using `h2-h6` elements to [add identifying headings to all sections](#), or else use a `div` element instead for any cases where no heading is needed.

From line 37, column 5; to line 37, column 40

```
div><?<section class="navigation-desktop"><
```
- Info** Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 59, column 9; to line 59, column 66

```
><?<source src="images/physiotherapy.mp4" type="video/mp4" /><
```
- Warning** Section lacks heading. Consider using `h2-h6` elements to [add identifying headings to all sections](#), or else use a `div` element instead for any cases where no heading is needed.

From line 57, column 5; to line 57, column 34

```
</p><?<section class="videosection"><
```

Document checking completed.

Used the HTML parser.  
Total execution time 5 milliseconds

Nu Html Checker

This tool is an ongoing experiment in better HTML checking, and its behavior remains subject to change

Showing results for uploaded file appointment.html

Checker Input

Show ☐ source ☐ outline ☐ image report

Check by 

file upload

Choose File

 No file chosen

Uploaded files with .xhtml or .xht extensions are parsed using the XML parser.

Use the Message Filtering button below to hide/show particular messages, and to see total counts of errors and warnings.

Message Filtering

1.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 4, column 5; to line 4, column 28

head><div><meta charset="UTF-8" /></div><
2.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 5, column 5; to line 5, column 76

s" /><div><meta name="viewport" content="width=device-width, initial-scale=1.0" /></div><
3.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 8, column 5; to line 8, column 46

title><div><link rel="stylesheet" href="style.css" /></div><
4.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 9, column 5; to line 9, column 65

s" /><div><link rel="preconnect" href="https://fonts.googleapis.com" /></div><
5.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 10, column 5; to line 10, column 74

m" /><div><link rel="preconnect" href="https://fonts.gstatic.com" crossorigin /></div><
6.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 11, column 5; to line 14, column 6

in /><div><link href="https://fonts.googleapis.com/css2?family=Open+Sans:ital,wght@0,300..800;1,300..800&family=00;0,500;0,600;0,700;0,800;0,900;1,100;1,200;1,300;1,400;1,500;1,600;1,700;1,800;1,900&display=swap" rel="stylesheet" /></div></h
7.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 19, column 9; to line 19, column 48

><div></div><
8.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 26, column 7; to line 32, column 8

el><div><input type="text" id="name" name="name" placeholder="Enter your full name" required /></div><
9.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 36, column 7; to line 42, column 8

el><div><input type="email" id="email" name="email" placeholder="Enter your email" required /></div><
10.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 46, column 7; to line 52, column 8

el><div><input type="tel" id="phone" name="phone" placeholder="Enter your phone number" required /></div><
11.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 63, column 7; to line 68, column 8

el><div><input type="text" id="serviceInput" name="serviceInput" placeholder="Type service, product, or price" /></div><
12.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 74, column 7; to line 80, column 8

el><div><input type="text" id="servicePrice" name="servicePrice" readonly placeholder="Total will appear here" /></div><
13.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 84, column 7; to line 84, column 58

el><div><input type="date" id="date" name="date" required /></div><
14.

Info

Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 88, column 7; to line 88, column 58

el><div><input type="time" id="time" name="time" required /></div><

Document checking completed. No errors or warnings to show.

Used the HTML parser.  
Total execution time 6 milliseconds.

This tool is an ongoing experiment in better HTML checking, and its behavior remains subject to change.

Checker Input

Show ☐ source ☐ outline ☐ image report [Options...](#)

Check by file upload Choose File No file chosen

Uploaded files with .xhtml or .xht extensions are parsed using the XML parser.

Check

Use the Message Filtering button below to hide/show particular messages, and to see total counts of errors and warnings.

Message Filtering

- Document checking completed.

Used the HTML parser.

Total execution time 6 milliseconds.

This tool is an ongoing experiment in better HTML checking, and its behavior remains subject to change.

Checker Input

Checker Input

Show ☐ source ☐ outline ☐ image report

Check by   No file chosen

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From line 5, column 5; to line 5, column 76  
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in /><code><link href="https://fonts.googleapis.com/css2?family=Open+Sans:ital,wght@0,300;.800;1,300;.800&family=00;0,500;0,600;0,700;0,800;0,900;1,100;1,200;1,300;1,400;1,500;1,600;1,700;1,800;1,900&display=swap" rel="stylesheet"></code> </h
- Info** Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).  
From line 19, column 9; to line 19, column 48  
><code></code>
- Warning** Section lacks heading. Consider using `h2` - `h6` elements to [add identifying headings to all sections](#), or else use a `div` element instead for any cases where no heading is needed.  
From line 35, column 5; to line 35, column 40  
</div><code><section class="navigation-desktop"></code>

Document checking completed.

Used the HTML parser.  
Total execution time 5 milliseconds

[About this checker](#) • [Report an issue](#) • Version: 25.3.6

This tool is an ongoing experiment in better HTML checking, and its behavior remains subject to change.

Showing results for team.html

Checker Input

Show ☐ source ☐ outline ☐ image report

Check by   No file chosen

Uploaded files with .xhtml or .xht extensions are parsed using the XML parser.

Use the Message Filtering button below to hide/show particular messages, and to see total counts of errors and warnings.

## Message Filtering

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From line 4, column 5; to line 4, column 28

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head>?<? meta charset="UTF-8" />?<?<
```
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From line 5, column 5; to line 5, column 76

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From line 10, column 5; to line 10, column 74

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- Info** Trailing slash on void elements [has no effect](#) and [interacts badly with unquoted attribute values](#).

From line 11, column 5; to line 14, column 6

```
in />?<? link? href="https://fonts.googleapis.com/css2?family=Open+Sans:ital,wght@0,300;.800;1,300;.800&family=
```

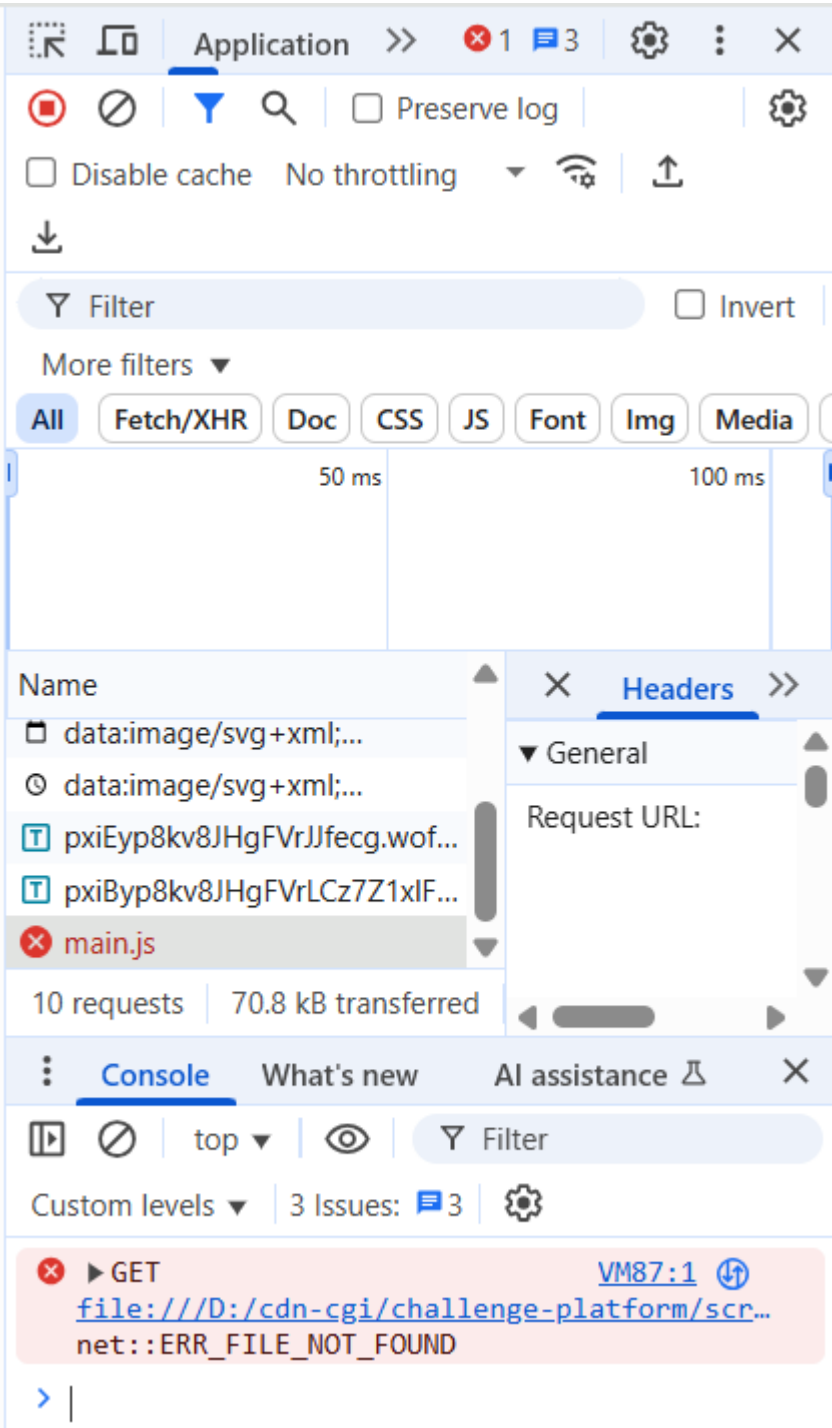
Document checking completed.

Used the HTML parser.

Total execution time 13 milliseconds.



9 / 11



## 6. Project Work Experience

### 6.1 Knowledge and Skills Acquired

- Proficiency in JavaScript event handling, DOM manipulation, and array methods.
- Experience with real-time form validation and dynamic UI updates.
- Improved CSS animation skills, integrating transitions with JavaScript.
- Understanding of responsive design principles and cross-browser compatibility.

### 6.2 Time Spent on Implementation

- Total: Approximately 28 hours over two weeks.
  - Appointment Booking System: 10 hours (dropdown, validation, modal).
  - Product/Service Filter: 12 hours (search, sort, price range logic).

- Team Profiles: 4 hours (collapsible logic, animations).
- Testing and Validation: 2 hours.

### 6.3 Challenges Encountered

- Syncing `serviceInput` dropdown with manual entry required debouncing to avoid lag.
- Price range filtering in `products.html` needed careful handling of empty or invalid inputs.
- Ensuring consistent animation timing across browsers for `team.html` collapsibles was tricky.

### 6.4 Lessons Learned

- Debouncing user input improves performance in real-time features.
- Testing early and often across browsers prevents late-stage fixes.
- Clear variable naming (e.g., `selectedItems`) enhances code readability.

### 6.5 Suggestions for Future Improvements

- Integrate `LocalStorage` to persist appointment form data, as initially planned.
- Add Google Maps API to `contactus.html` for an interactive map beyond the iframe.
- Implement backend integration (e.g., `Node.js`) for email confirmations and data storage.

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## 7. Conclusion

The Ascent Physiotherapy website now offers a significantly enhanced user experience through JavaScript-driven interactivity. The appointment booking system streamlines scheduling, the product/service filter improves navigation, and the team profiles provide a polished, user-friendly design. This project honed my web development skills and highlighted the importance of iterative testing and user-focused design. Future enhancements could further elevate functionality with persistent storage and backend features.

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#### Footer:

Prepared by [Aslam Shaik] | April 08, 2025 |