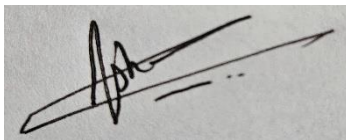


***A signed copy of this form must be submitted with every assignment.  
If the statement is missing your work may not be marked.  
For Level 7 assignments, please use the separate Level 7 Candidate  
Statement of Own Work form instead of this one.***

### **Student Declaration**

I confirm the following details:

<b>Candidate Name:</b>	Ishan Hemant Bapardekar
<b>Candidate ID Number:</b>	213062
<b>Qualification:</b>	L4DC
<b>Unit:</b>	Front end web development
<b>Centre:</b>	FUT004
<b>Word Count:</b>	1210/1250
<p>I have read and understood both NCC Education's <i>Academic Misconduct Policy</i> and the <i>Referencing and Bibliographies</i> document. To the best of my knowledge my work has been accurately referenced and all sources cited correctly.</p> <p>I confirm that I have not exceeded the stipulated word limit by more than 10%.</p> <p>I confirm that this is my own work and that I have not colluded or plagiarised any part of it.</p>	
<b>Candidate Signature:</b>	
<b>Date:</b>	28 <sup>th</sup> October 2024

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## Task3: W3C Validation (HTML & CSS)

HTML Validation: I used the W3C Validator to check the HTML code of the website. Below are the key findings:

### 1) Errors Found: about us page

- the element button appeared as a descendent of the A element
- Bad value of pic for logo of twitter

Showing results for aboutus.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

- Error** The element `button` must not appear as a descendant of the `a` element.  
From line 37, column 17; to line 37, column 57  
`<button class="social-btn instagram-btn">+</code>`
- Error** The element `button` must not appear as a descendant of the `a` element.  
From line 45, column 17; to line 45, column 56  
`<button class="social-btn facebook-btn">+</code>`
- Error** The element `button` must not appear as a descendant of the `a` element.  
From line 53, column 17; to line 53, column 55  
`<button class="social-btn twitter-btn">+</code>`
- Error** Bad value `pics/Twitter X App Icon PNG.jpg` for attribute `src` on element `img`: Illegal character in path segment: space is not allowed.  
From line 54, column 21; to line 54, column 82

Fig-3.1 about us before

### Corrections Made:

- Changed the code by replacing `<a>` with `<button>`
- Removed the space between the file name

#### Nu Html Checker

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

Showing results for aboutus.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.

Document checking completed. No errors or warnings to show.

Used the HTML parser.  
Total execution time 3 milliseconds.

[About this checker](#) • [Report an issue](#) • Version: 24.10.17

Fig-3.2 about us after

### 2) Error found : brewing page

- Bad value of file

Showing results for brewing.html

Checker Input

Show ☐ source ☐ outline ☐ image report

Check by

Uploaded files with .html 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

- Error** Bad value 'pics/Espresso shot.jfif' for attribute 'src' on element 'img': Illegal character in path segment: space is not allowed.  
From line 29, column 13; to line 29, column 84  
`+</img>`
- Error** Bad value 'coffes/French Press Coffee Recipe "Simplest And Easiest".jpg' for attribute 'src' on element 'img': Illegal character in path segment: space is not allowed.  
From line 50, column 13; to line 50, column 125  
`+</img>`
- Error** Bad value 'coffes/pour over.jpg' for attribute 'src' on element 'img': Illegal character in path segment: space is not allowed.  
From line 69, column 13; to line 69, column 82  
`+</img>`

Fig-3.3 brewing before

- **Corrections Made:**

- Removed the space between the file name

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 brewing.html

Checker Input

Show ☐ source ☐ outline ☐ image report

Check by

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

Document checking completed. No errors or warnings to show.

Used the HTML parser.  
Total execution time 4 milliseconds.

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Fig-3.4 brewing after

## Error found: home page None

---

**Nu Html Checker**

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

Showing results for **htmldemo.html**

Checker Input

Show ☐ source ☐ outline ☐ image report

Check by:   No file chosen

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

**Document checking completed. No errors or warnings to show.**

Used the HTML parser.  
Total execution time 3 milliseconds.

---

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Fig-3.5 home page

**Error found : cart page**

- The character encoding not declared
- End of file seen without a doctype first
- Element missing

**Nu Html Checker**

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

**Showing results for cart.html**

## Checker Input

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

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](#)

- Warning** Consider adding a `lang` attribute to the `html` start tag to declare the language of this document.  
For further guidance, consult [Declaring the overall language of a page](#) and [Choosing language tags](#).  
If the HTML checker has misidentified the language of this document, please [file an issue report](#) or [send e-mail to report the problem](#).
- Error** The character encoding was not declared. Proceeding using `windows-1252`.
- Error** End of file seen without seeing a doctype first. Expected `<!DOCTYPE html>`.
- Error** Element `head` is missing a required instance of child element `title`.  
Content model for element `head`:

Fig-3.6 cart page before

**• Corrections made**

- Encoding declared
- Doctype inserted
- <H2> added for parent headings

**Nu Html Checker**

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

**Showing results for cart.html**

## Checker Input

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

Check by [file upload](#)  No file chosen

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

**Document checking completed. No errors or warnings to show.**

Used the HTML parser.  
Total execution time 3 milliseconds.

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Fig-3.7 cart page after

### 3) Error found: event page

- none

---

**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 event.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.

**Document checking completed. No errors or warnings to show.**

Used the HTML parser.  
Total execution time 4 milliseconds.

---

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Fig3.8 event

### 4) Error found: offer page

- None

---

**Nu Html Checker**

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

**Showing results for offers.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.

**Document checking completed. No errors or warnings to show.**

Used the HTML parser.  
Total execution time 3 milliseconds.

---

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Fig 3.9 offer



- Stray end tag error
- Bad value of a file
- No child header

Fig- 3.10 coffee page before

- **Correction made**
  - Removed the unwanted extra header
  - Fixed the value of file by removing space
  - Added child header h2

Fig- 3.11 coffee page after

- **CSS Validation:**

The CSS passed validation with no major issues.

**Output:**

- The HTML and CSS now validate as compliant, with screenshots of the validation results saved.

---

## 2. Accessibility Testing

Accessibility testing with NVDA showed missing aria-labels for buttons like "Add to Cart" and no focusable elements that prevent navigation. Adding aria-labels, a structured heading hierarchy, and improving Tab key navigation make the site even more accessible for screen readers and keyboard-only users.

---

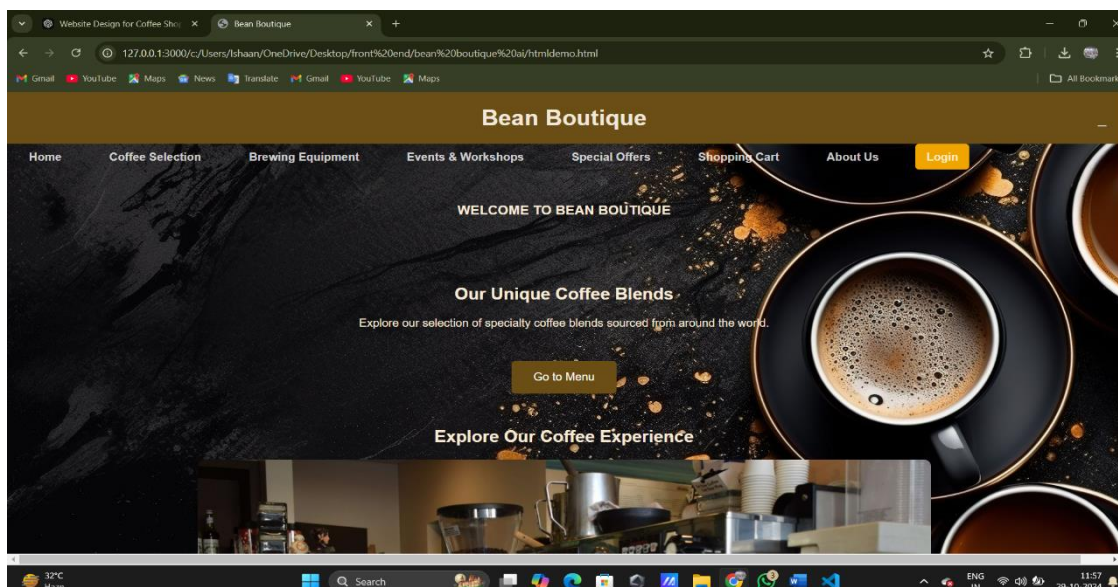
## 3. Cross-Browser Testing

Browsers Tested:

1. Google Chrome (Desktop)
2. chrome (Mobile Device – android)

Findings:

- **Google Chrome (Desktop):** The website performed well without any rendering issues.

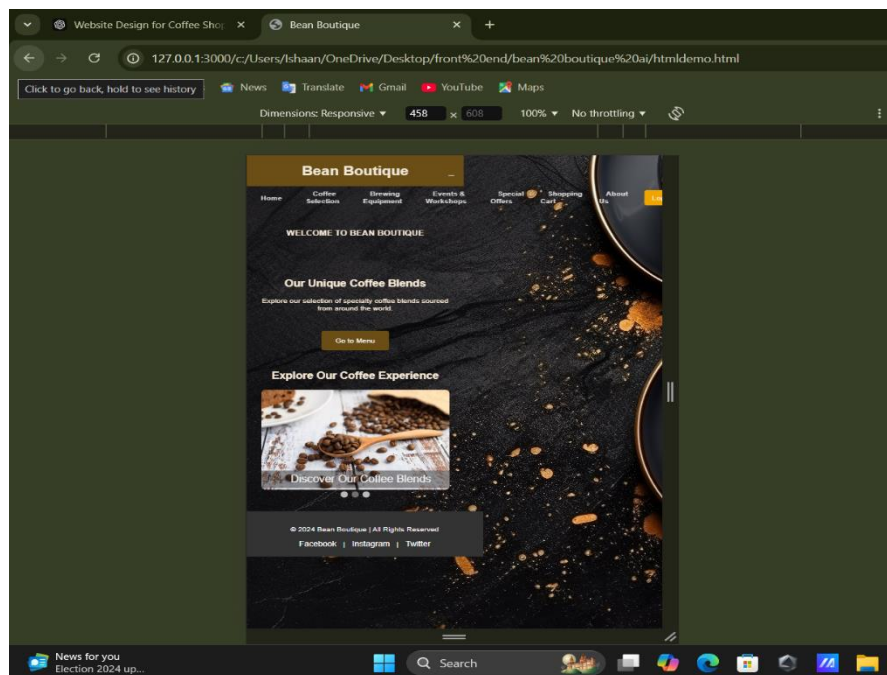


3.12- web page pc

- **Google chrome (Mobile Device):**

- The layout adjusted well for smaller screen sizes due to the media queries.
- A few minor differences in font rendering were noted. The aesthetics were impacted by androids' tendency to render fonts somewhat differently from Chrome.

- The scroll behaviour was slightly different, with smoother scrolling on android chrome compared to Chrome.



3.13- android chrome view

Discrepancies and Corrections:

- Font rendering in android was fixed by using system fonts as fallbacks.
- I ensured that all interactive elements, such as buttons, were easy to tap on smaller screens by increasing their size in the mobile version.

## 4. Summary of Findings and Amendments

- The website is now W3C compliant in both HTML and CSS, further accessibility enhanced through alt text, aria-labels, and structured headings. Works well in Chrome and Safari, with mobile adjustments in place.
- **Outstanding Issues:** No outstanding issues were found
- **Recommendations for Further Improvements:**
  - Mobile Enhancements: Consider adding a mobile-friendly hamburger menu for navigation to reduce space usage on smaller screens.

## 5. Role of the W3C

**W3C** has set web standards that improve compatibility across different devices and browsers. This also enhances performance, security, and accessibility. W3C validation is helpful for sites like Bean Boutique to improve the user experience and reduce errors.

## Task 4- Critical Evaluation of the Bean Boutique Website

### a) Back end and front end

#### back end Key components:

1. **Web Server:** Apache or Nginx to handle HTTP requests and deliver content.
2. **Database:** MySQL or PostgreSQL to store user accounts, orders, and inventory.
3. **Server-Side Language:** PHP, Node.js, or Python to manage user interactions, like adding items to a cart.
4. **Payment Gateway:** Secure integration with PayPal or Stripe for online transactions.
5. **API:** Connects the website to external services like inventory management and customer support.

#### Front-End vs Back-End Web Development:

- **Front-End Development:** it includes all of the elements that the user interacts with directly within the browser, including the HTML structure, CSS style, and JavaScript interactivity.
- **Back-End Development:** includes server-side logic, and server-side activities are all part of back-end development.

For Bean Boutique to have a completely working website, these front-end and back-end technologies must integrate seamlessly to guarantee a seamless consumer experience from product browsing to purchasing.

---

#### • The three plugins I used on the website are:

1. **Interactive Map Plugin:** I included this to provide users with real-time directions to physical locations of Bean Boutique's stores.
    - **Suitability:** This plugin is essential for a location-based business.
  2. **Social Media Feed Plugin:** This plugin integrates Bean Boutique's social media channels (e.g., Instagram, Facebook) directly onto the website.
    - **Suitability:** Social media integration keeps the website content fresh and improves user engagement, reflecting the brand's active community presence.
  3. **Security Plugin:** This plugin ensures basic security measures, such as CAPTCHA for form submissions and encrypting sensitive data like customer details.
    - **Suitability:** Given that the site will handle online transactions, security is paramount to protect user data and comply with GDPR.
- These plugins were chosen for their functional relevance to enhancing user interaction, brand engagement, and data protection.

### a) Concepts and Benefits of Version Control with GitHub

**Version control** allows multiple versions of code or documents to be tracked, ensuring that changes are recorded and reversible

- **Benefits of Version Control:**

- **Collaboration:** Multiple team members can work on the same project simultaneously.
- **History Tracking:** It's possible to review the development history, track bugs, and revert to previous versions.
- **Conflict Resolution:** Developers can manage and resolve conflicts when working on the same codebase.
- **GitHub** is a platform that integrates Git for version control. For the Bean Boutique project, GitHub could:
  - Allow me to work on different features in branches without affecting the live site.
  - Enable collaboration if the team expands in the future.
  - Offer automatic deployment pipelines to test and deploy changes seamlessly.

## b) **Front-End Development Frameworks and Bootstrap**

A **front-end development framework** provides reusable code, libraries, and design patterns that streamline web development

- **Advantages for Web Developers:**
  - **Consistency:** Frameworks enforce best practices, ensuring that design and functionality remain consistent.
  - **Efficiency:** They reduce development time by offering pre-built modules and responsive grid systems.
  - **Cross-browser compatibility:** Frameworks are often built to support multiple browsers.
- **Bootstrap** is one of the most popular front-end frameworks. For Bean Boutique, Bootstrap could:
  - **Improve Responsiveness:** Its grid system would ensure that the website looks great on all devices (mobile, tablet, desktop).
  - **Pre-built Components:** Navigation bars, buttons, and forms could be easily implemented with less custom CSS.
  - **Scalability:** Bootstrap's structure allows for easy updates and additions in the future.

### c) Reflection and Recommendations

#### Unique Selling Points:

It ensures smooth transitioning from one device to another. And features like an online slideshow and map create a good interactivity. Also, this can be clean modern without too much text.

#### Recommendations for Improvement:

- **Upgrade to a CMS (e.g., WordPress):** This will simplify content updates for non-technical users, allowing the Bean Boutique team to manage content independently.
- **Integrate AI Chatbots:** Adding AI-driven chatbots can assist users with inquiries, order support, and product recommendations, enhancing engagement.

In summary, combining effective front-end design, functional plugins, and secure back-end processes ensures an engaging, user-friendly experience. Further improvements in scalability and user interaction can provide even greater value.



## Candidate checklist

Please use the following checklist to ensure that your work is ready for submission.

- Have you read the NCC Education document *Academic Misconduct Policy* and ensured that you have acknowledged all the sources that you have used in your work? ☐
- Have you completed the *Statement and Confirmation of Own Work* form and attached it to your assignment? **You must do this.** ☐
- Have you ensured that your work has not gone over or under the recommended word count by more than 10%? ☐
- Have you ensured that your work does not contain viruses and can be run directly? ☐