

WEB DEVELOPMENT

Task 4

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Task 4 Evaluation: Testing & Validation

1. Testing the Website Based on My IPO Chart

Using the IPO (Input-Process-Output) chart created in Task 2, I listed and tested all the major features of my site. I checked that the homepage, navigation links, and content pages (About, Collection, News, and Contact) all functioned properly. I made sure that everything matched my planning and wireframes in both layout and style before beginning the coding process.

Some of the actions I tested included verifying that all navigation links worked, all images loaded correctly, hover effects and animations were smooth, and that each car card linked to its own detail page. I also made sure that the contact form looked and functioned as expected.

For each of these tested actions, I pushed updates to GitHub with clear commit messages. One key fix involved renaming my homepage from `home.html` to `index.html` and moving files out of a subfolder so that GitHub Pages could display the site correctly. Once those changes were made, the website went live successfully.

The only failed test was related to responsiveness on small screens. On mobile devices, the bottom section of the About page had overlapping text, and the title on the Collection page didn't appear properly. Although these issues weren't fixed in time due to starting the project later than planned, I understand how they could be resolved using media queries or Bootstrap utilities.

2. Code Validation

I did not use the official W3C HTML validator during the initial development process. However, I now realise that validation is essential for catching hidden issues such as missing alt tags, unclosed elements, or incorrect syntax. These small mistakes can easily go unnoticed and lead to bigger problems later on.

After finishing the project, I went back and tested my HTML using the W3C Validation Tools. I discovered that I had a lot of errors and unnecessary lines of code — many of which had no actual effect on the final website. These included slash on void elements which had no effect and a bad value being written on element which lead to space not being allowed. Fixing these would have not only improved the code quality but also made my life much easier while coding, especially when troubleshooting issues during development.

If I had used these validators earlier, I could have solved many of the problems I encountered more efficiently. Going forward, I will always validate my code regularly during development to make sure it meets web standards, improves accessibility, and is easier to maintain. I also now understand the value of semantic HTML and keeping my CSS clean and optimised, especially when combining it with frameworks like Bootstrap.

3. Responsiveness Testing

I tested my website using Chrome DevTools across desktop, tablet, and mobile views. The site worked well on most screen sizes, and all pages displayed correctly except for the two minor issues mentioned earlier. I learned how to use Bootstrap's grid system, breakpoints, and utility classes to build responsive layouts. Bootstrap helped me ensure that the site adjusted based on device size without having to write large amounts of custom media queries.

Learning how to make the site responsive was one of the most valuable parts of the project. I now understand how important mobile usability is and how users might experience design differently depending on the device they're using.

4. Current Issues and Future Improvements

At the time of submission, my website is mostly functional with a few small issues:

The bottom text on the About page overlaps on mobile

The Collection page title doesn't show on small screens

Slightly slow loading on mobile due to image file sizes

In the future, I would like to improve the site by fixing these issues and implementing the following upgrades:

Optimising all images (e.g., using WebP format) to reduce load times

Adding dark mode to improve accessibility

Enhancing the car pages with video or even 3D car models that users can interact with

Adding dynamic filters on the collection page so users can browse by brand, year, or model

Conclusion

Task 4 helped me understand the importance of testing and validation in web development. I realised that coding alone isn't enough — thorough testing, responsive design, and clean, validated code are all critical to building a professional site. Although there were some areas I could have improved, I'm proud of how much I learned about Bootstrap, responsiveness, and GitHub workflows. Going forward, I'll be more confident in applying these skills and producing higher-quality work.