

Design changes

The design of my website did slightly change. The homepage has been simplified. I originally planned to put a slideshow of images, but I did not have time. The contact us page also changed in the desktop design. I found that the page looks better this way, with the form having more space horizontally. My original design for the accessibility page is pretty blank as I was not sure what to put on it at that time. I originally planned to have my accessibility page generated by the WC3 website, but I actually wrote it myself after taking inspiration from the WC3 website, the UK government website and our university website. Writing it myself helped me better understand and implement accessibility in my website. One more thing I added are the facebook, Instagram and Twitter logos at the footer. If this was a real company, clicking on them would have taken the user to the company's social media accounts.

Organization

I organised the file structure after looking at multiple websites and noticing the typical structure followed by websites nowadays. The accessibility and contact us pages were often linked in the footer, with the rest of the pages linked in the navigation, so that is what I have done. I ordered the pages from left to right in the order I think is most to least interesting to a user. There are actually three game pages. One is linked in the navigation bar, and it explains the rules of the game and has a play button. Once the user clicks on the play button, they are sent to the actual game page which has the canvas. I found this easier to code. There is one game page for mobile users and another for desktop users.

Optimisation

The most optimisation I have done is on the game page. I have used small images that can be easily loaded. I have made sure the game starts only after images have been loaded up. There is not much optimization on the other pages. They are quite simple with very few images and will not take much time to load.

Security

Security is not the tightest on my website. There is no validation to deal with issues like injection. A User could potentially retrieve the email the form is sent to. A possible solution would be to escape user input and make sure it is interpreted as a string primitive, not a control character. If I had time, I would implement this into my website. The same issue occurs on the game page where the user has to enter their name. On the other hand, when submitting the form, the method used is the more secure POST method, so user data does not appear in the url, and is sent in the body of the HTTP request instead.

Debugging

When it comes to debugging, I have used W3C's html and css validators. While the css stylesheets did not have any issues, the html validator seemed to have an issue with the repeated ids in the navigation bar, as well as any repeated id. I am not sure why this is a problem, so I did not fix it. Below figure 1.0 shows the website's errors.

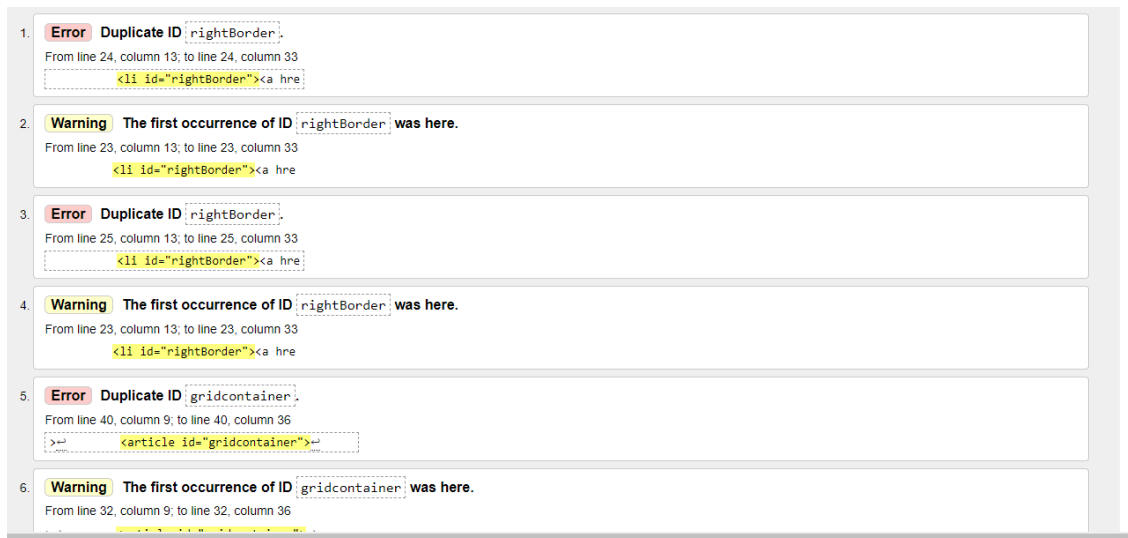


Figure 1.0 : WC3 Html validation errors

Another error it showed was having the tags `<a>` and `<p>` inside buttons. While I understand why it may be a problem, I had designed these elements using css and built up lots of code using them, and there was no time left to change this. Figure 1.1 below shows these errors.

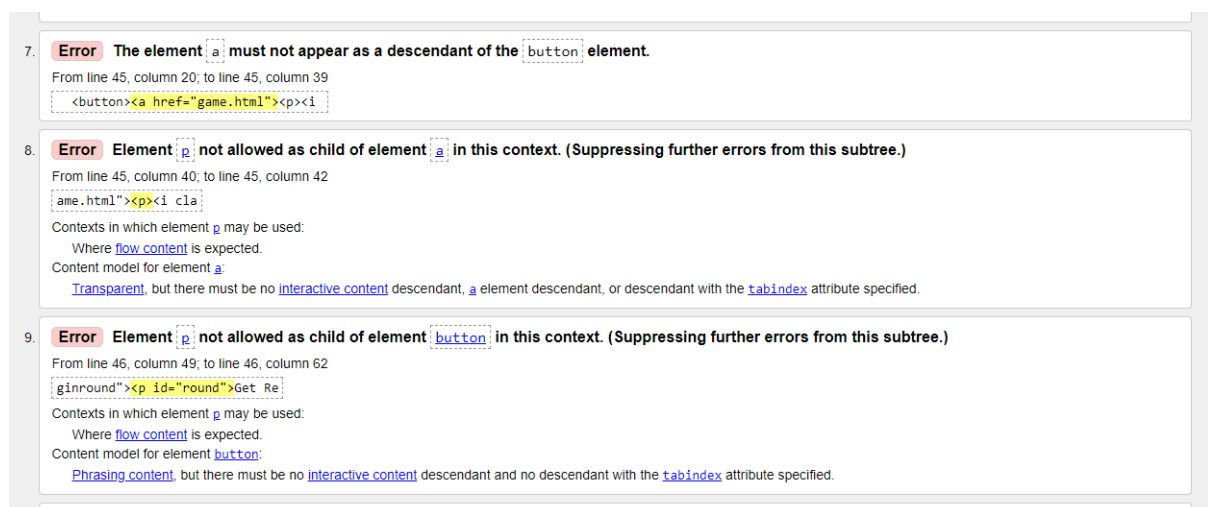


Figure 1.1 : html validation button errors

Testing

The website is mobile first responsive and works at all widths up to a desktop computer. Below figures 2.0 to 2.10 show some of the pages at different dimensions. Unfortunately, my game page is not responsive because the canvas does not resize. Setting the canvas to a width in percentage in the css stylesheet makes it so that the coordinates of the clicks on the canvas are not calculated correctly. The width has to be set in pixels in the html file for the calculations to work. The solution I came up with is to have two separate game pages for each user. The button for desktop disappears below 768px and the button for desktop appears instead. Figures 2.7 to 2.10 show how this works. One more thing about the canvas game is that the last round needs the user to click on the next round button 2 or 3 times to start. I'm not sure why, but it works perfectly well in all other aspects.



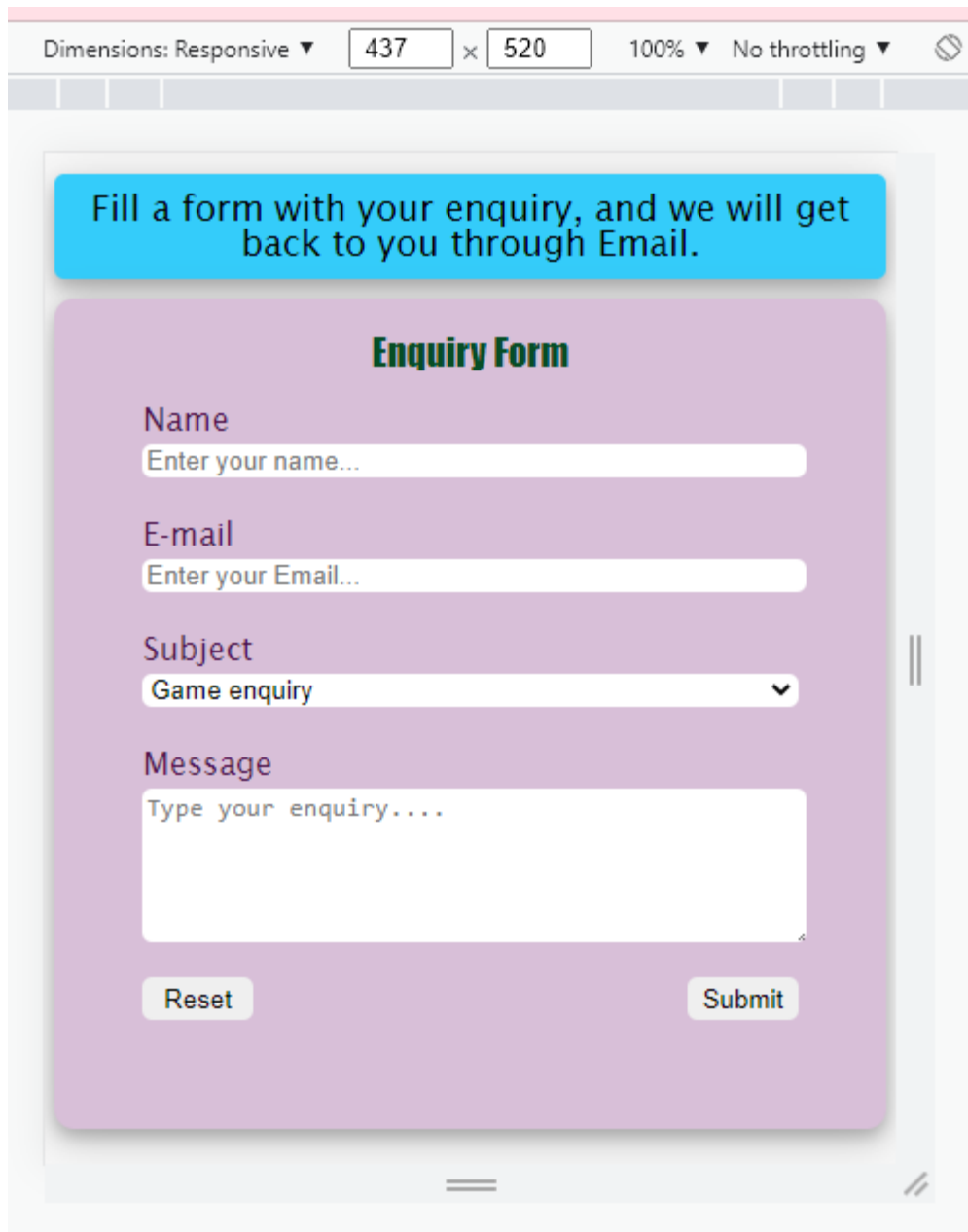
Figure 2.0 : homepage for desktop



Figure 2.1 : Homepage for mobile



Figure 2.2 : Contact us page on mobile



The image shows a browser window with a mobile view. The address bar at the top indicates 'Dimensions: Responsive' with width '437' and height '520', and '100%' zoom. The page content features a blue banner with the text 'Fill a form with your enquiry, and we will get back to you through Email.' Below this is a purple rounded rectangle titled 'Enquiry Form'. The form contains four fields: 'Name' (text input), 'E-mail' (text input), 'Subject' (dropdown menu with 'Game enquiry' selected), and 'Message' (text area). At the bottom of the form are 'Reset' and 'Submit' buttons. The browser interface includes a scrollbar on the right and a mobile navigation bar at the bottom.

Dimensions: Responsive ▾ 437 × 520 100% ▾ No throttling ▾

Fill a form with your enquiry, and we will get back to you through Email.

Enquiry Form

Name
Enter your name...

E-mail
Enter your Email...

Subject
Game enquiry ▾

Message
Type your enquiry....

Reset Submit

Figure 2.3 : Rest of contact page on mobile



Figure 2.4 : contact us page on desktop

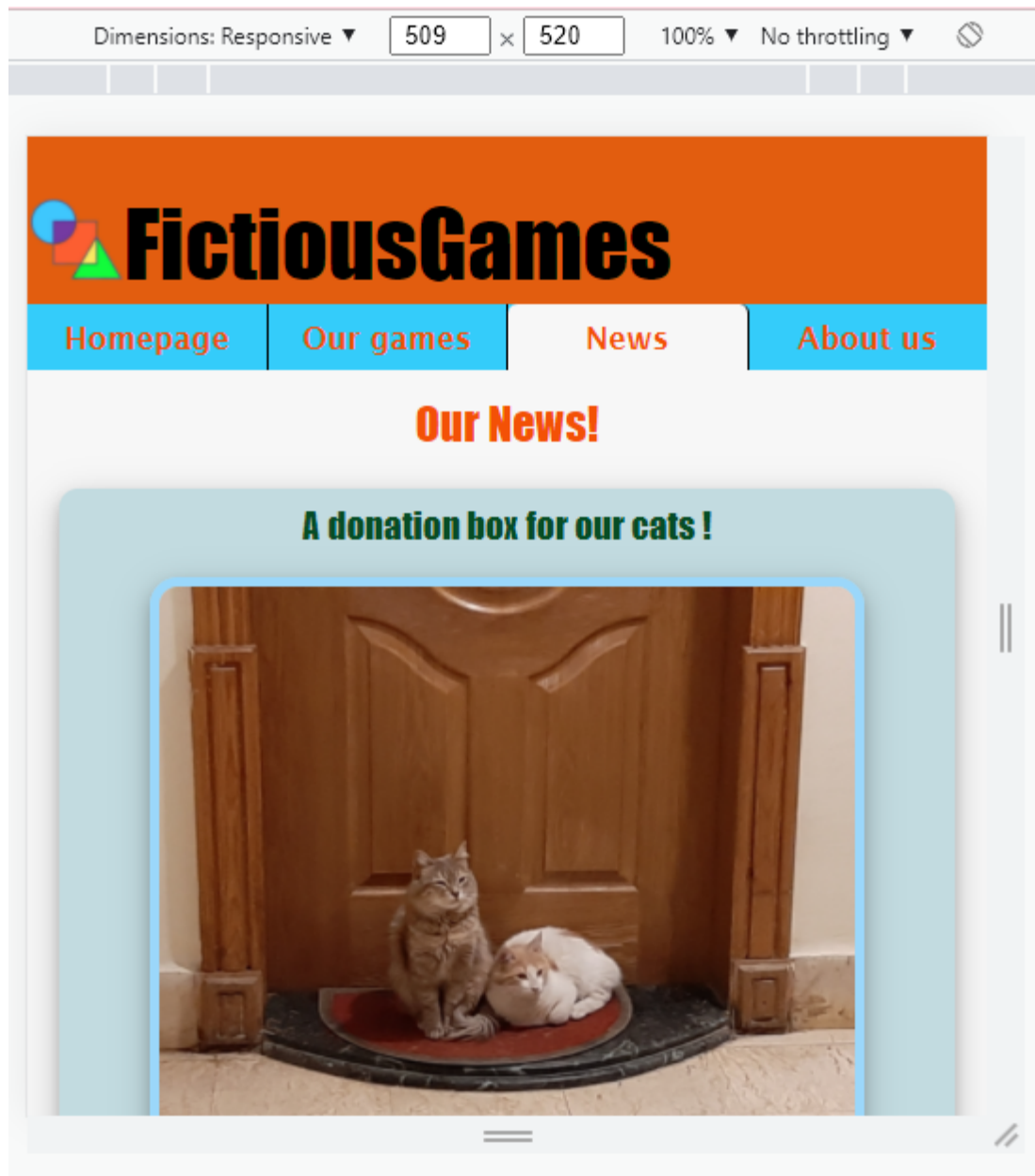


Figure 2.5 : news page on mobile



Figure 2.6 : news page on desktop

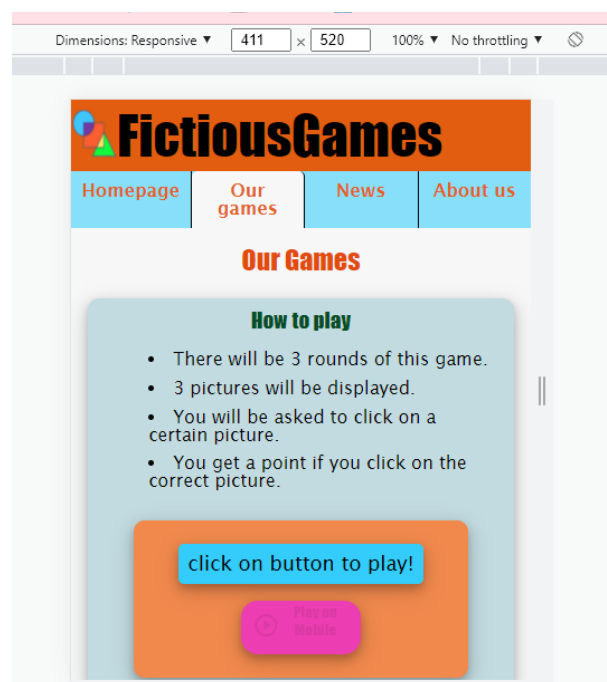


Figure 2.7 : Game page on mobile

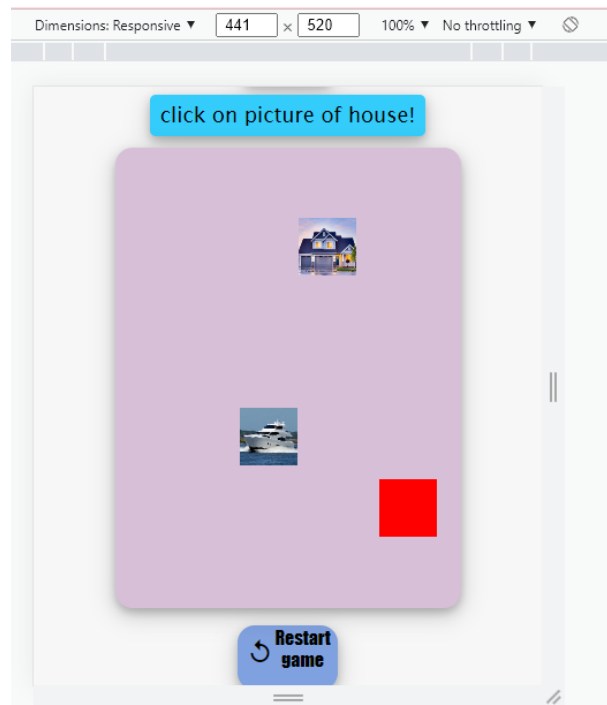


Figure 2.8 : Second game page on mobile



2.9 : Game page on desktop

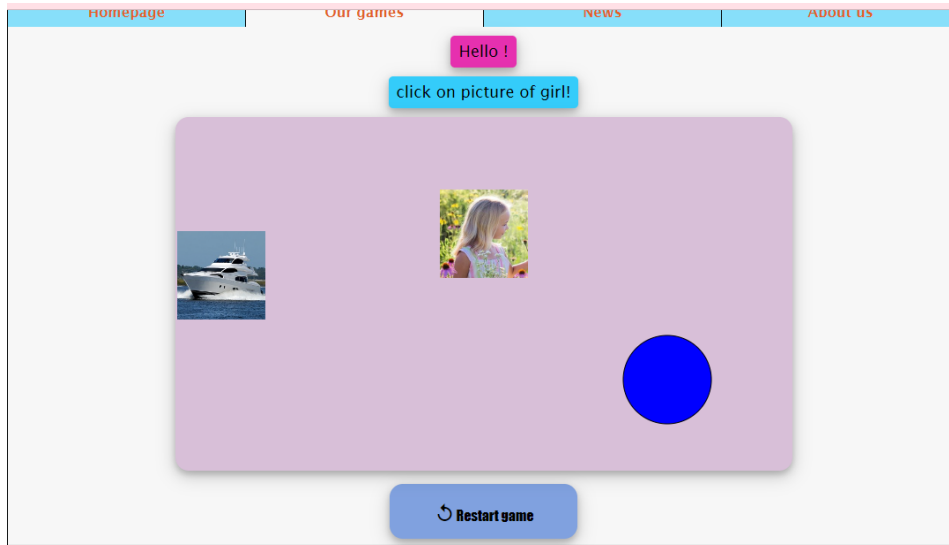


Figure 2.10 : Second game page on desktop.

The website works on up to date browsers. All screenshots above are from google chrome. It also works on Microsoft Edge, Firefox and Opera. Below Figures 3.0 to 3.4 shows how the website looks on the other browsers.

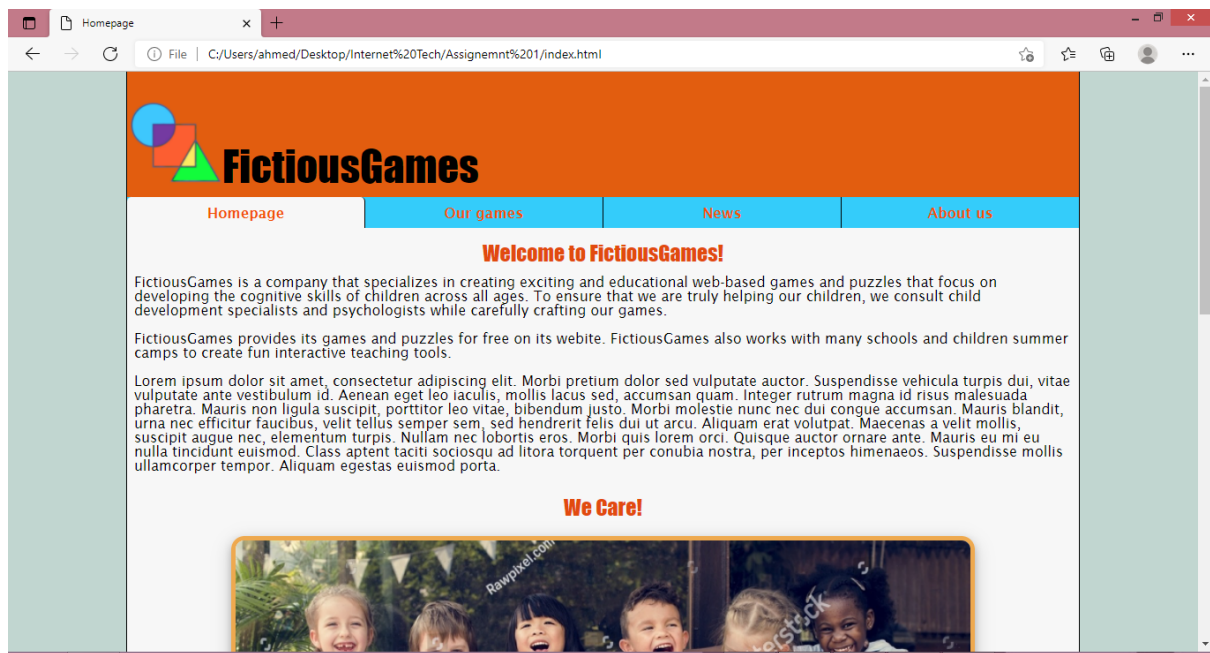


Figure 3.0 : Homepage on MS Edge

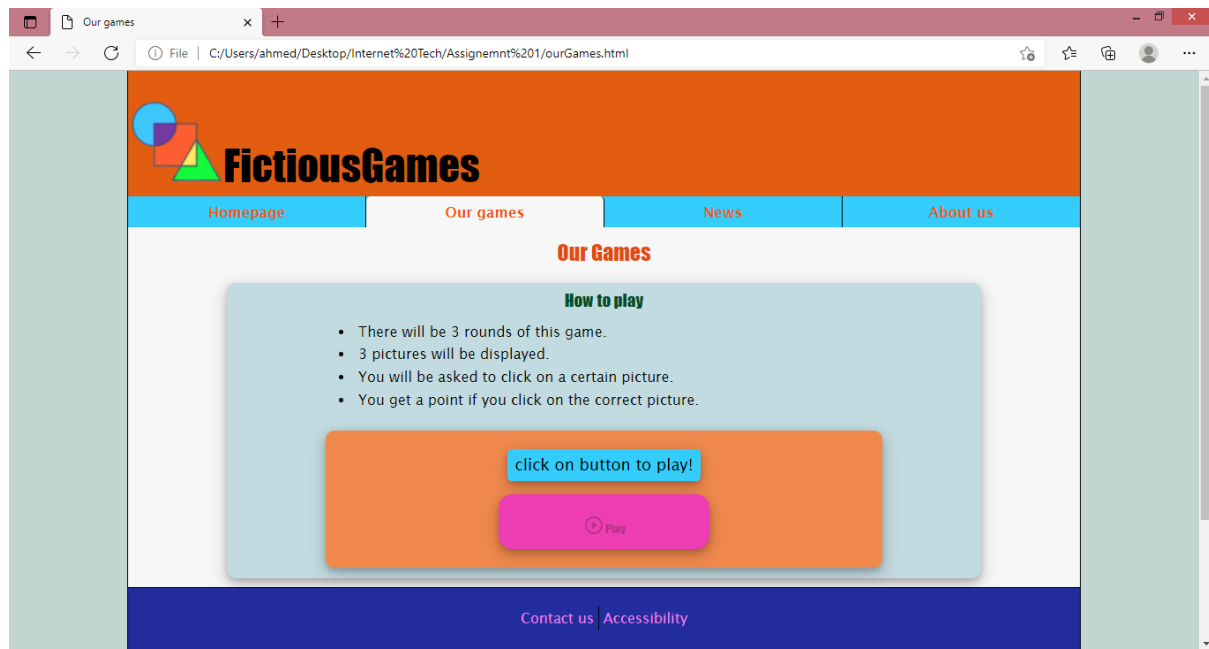


Figure 3.1 : Game page on MS Edge

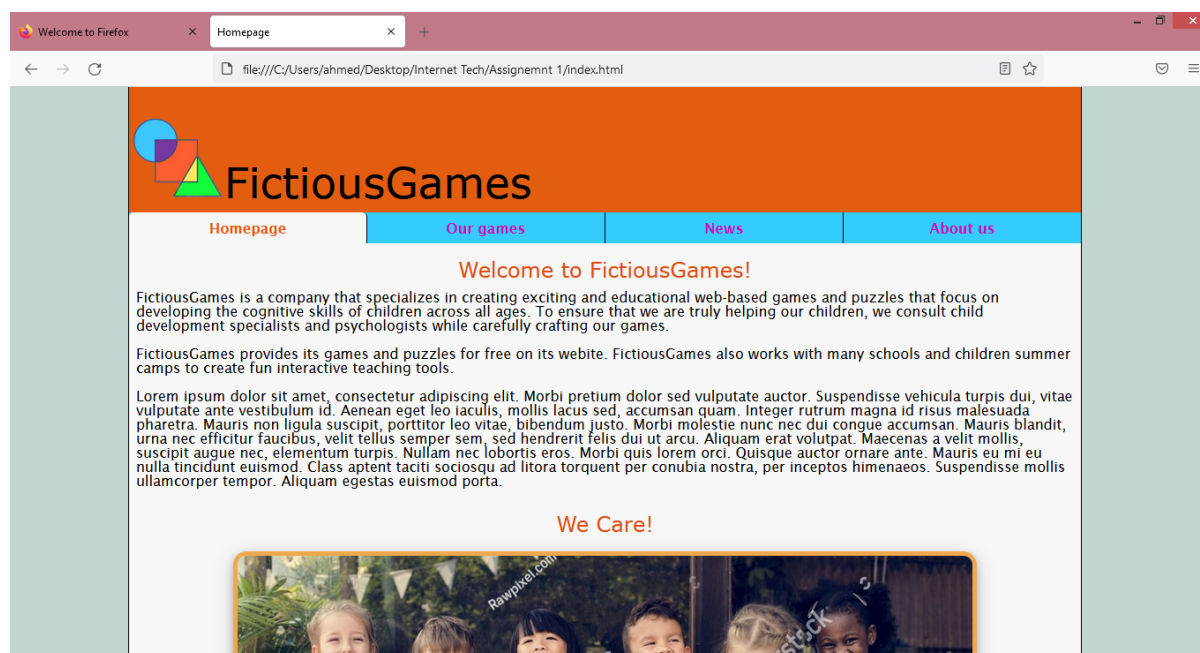


Figure 3.2 : Homepage on Firefox

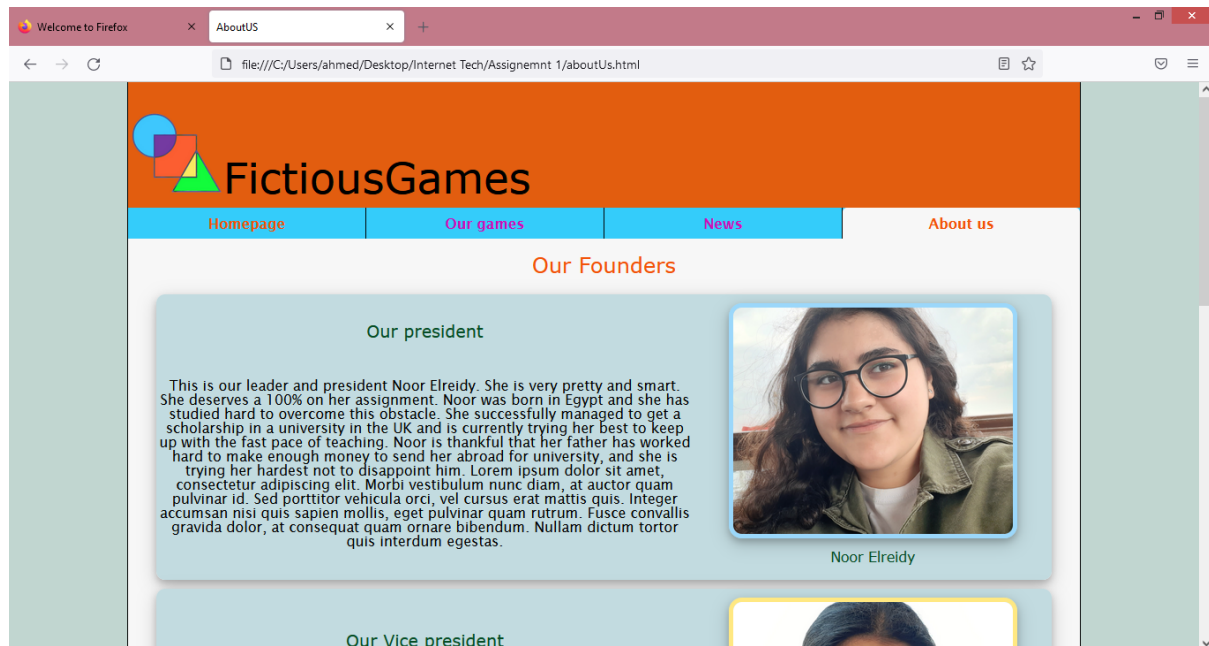


Figure 3.3 : About us page on Firefox

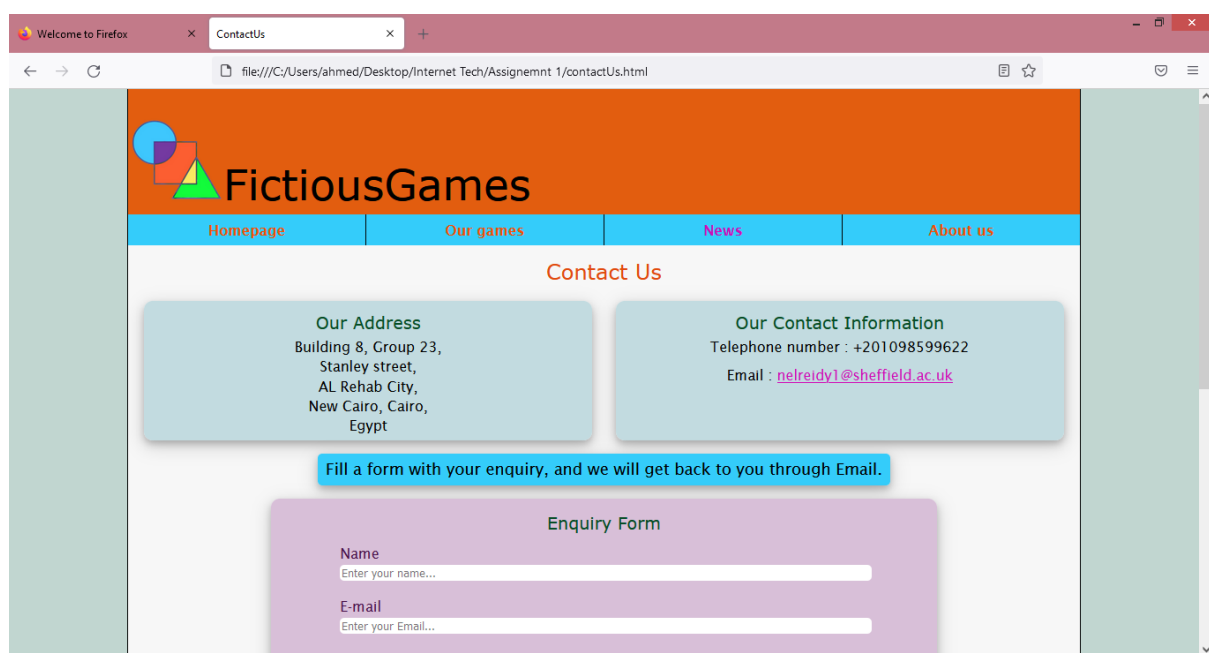


Figure 3.4 : Contact us page

Accessibility testing

I have tested accessibility using the WAVE evaluation tool. There were low contrast issues which I have resolved. Another issue is redundant links in the accessibility page and the about us page. I have decided to leave the redundant links since I want users to be able to use them to navigate around the website. The final issue is the access keys. There are 6 access keys, one for each page. Since access keys are quite useful for people with motor skills, and they can facilitate navigation for screen readers (nomensa, 2020), I will not

remove them. The game page does not have a label for the field where the user enters name. This is not accessible, but the entire game is not anyways, and it would look strange to have a label in this page. Figures 4.0 to 4.5 show the accessibility tests for all pages.

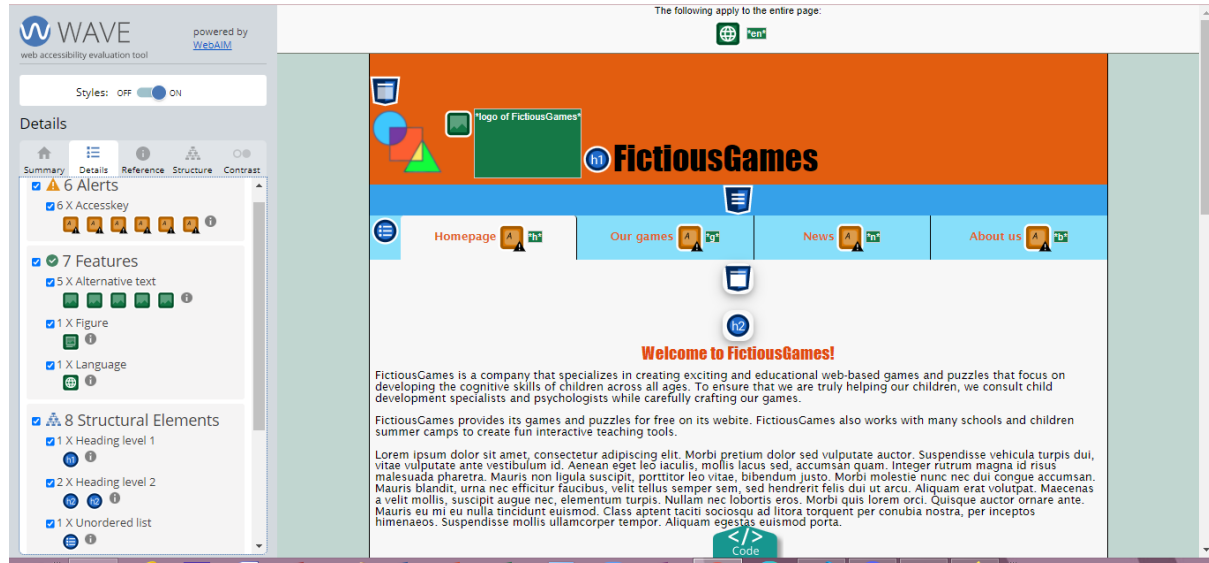


Figure 4.0 : Homepage accessibility testing

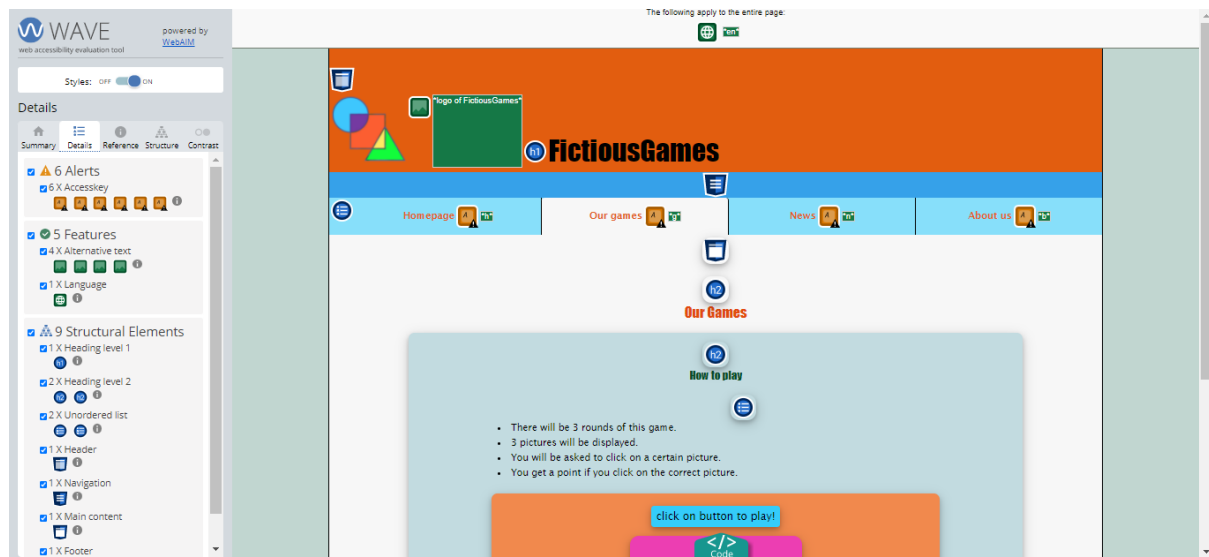


Figure 4.1 : Games page accessibility testing

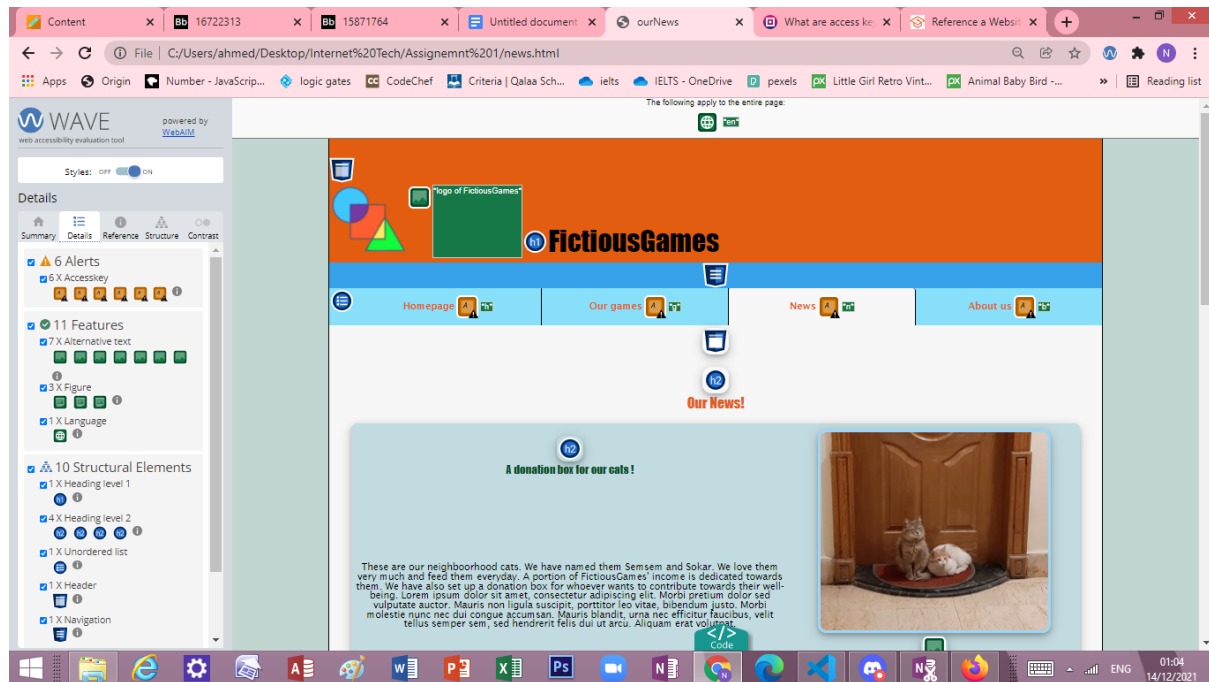


Figure 4.2 : News page accessibility testing

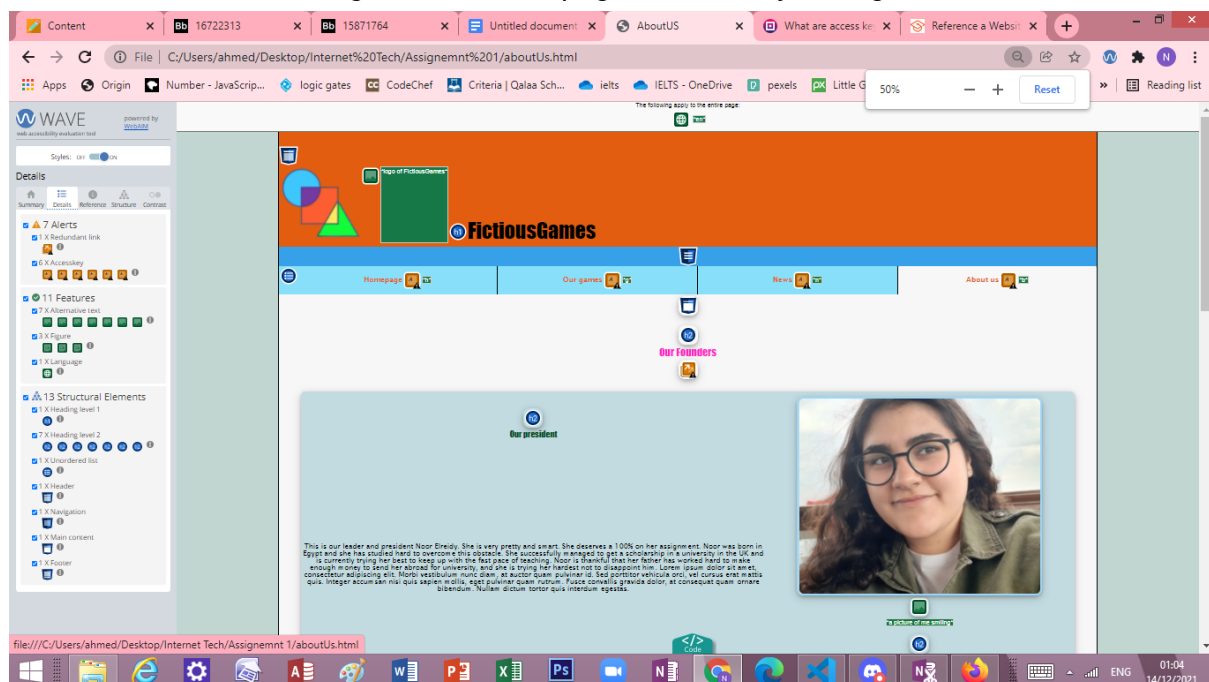


Figure 4.3 : About us page accessibility testing



Figure 4.4 : Contact us page accessibility testing



Figure 4.5 : Accessibility page accessibility testing

REFERENCES

W3C, *Css Validation Service* . Available at: <https://jigsaw.w3.org/css-validator/> . (Accessed : 12/12/2021) .

W3C, *Markup Validation Service* . Available at: <https://validator.w3.org/> . (Accessed : 13/12/2021) .

Campbell, A. *What are Access keys ?* Available at : <https://www.nomensa.com/blog/what-are-access-keys>. (Accessed: 10/12/2021) .

WebAIM.org. *Wave Evaluation tool*, Available at: <https://chrome.google.com/webstore/detail/wave-evaluation-tool/jbbplnpkjmmeebjpjfedlgcdilocofoh> . (Accessed : 13/12/2021)