

## **345 A2: High-Fidelity Prototype Report**

Throughout the design process for making this high-fidelity prototype, the carbon footprint calculator website, the application of Gestalt principles, and Nielsen's Heuristics are commonplace. Starting from understanding the user's needs, following the set of Nielsen's Heuristics, and applying the visual design principles of Gestalt, this prototype was designed to both captivate and demand the user's attention towards the website and create pleasant to look at and easy-to-use website.

### **User Experience**

A good user experience states that it has to meet most if not all of the following, usability, usefulness, emotional impact, and meaningfulness. Since the project requirement was to make a carbon footprint calculator website, the target audience was users keen to find out their carbon footprint to either make a difference or find out more about what carbon footprint means. This would mean that it must be easy for the user to find the calculation page and the additional information about climate change and carbon footprints. Another key goal would be for the user to return to the website after making a difference in their carbon goals and recalculating their new footprint. This call for action to the user should be visible in the design by captivating the user's attention and having an emotional impact and long term meaningfulness to the user.

### **Heuristic Evaluations**

The application of Nielsen's heuristics is used to meet the requirement of the above specifications. To have a good user experience, it is important that the following set of heuristics are met.

As mentioned before, the target audience would not all be tech-savvy as anyone can look to measure their carbon footprint. It is important that the website is easy to use. This is where the visibility of the system status comes in. The user should know at all times what is going on. This is done by the responsive buttons that react to the user's controls.



*Figure 1 before mouse hover*

*Figure 2 after mouse hover*

This ease of use also matches the recognition rather than recall heuristic, as the intuitive menu buttons are simplistic and do not have a huge learning process to know how to use.

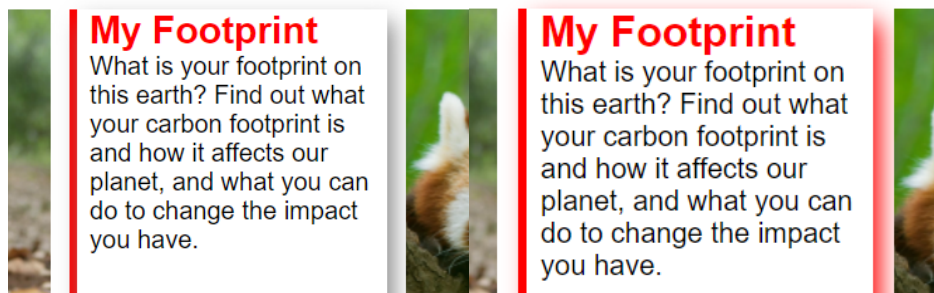


Figure 3 before and after hover

When the user hovers their cursor over a clickable element on the page, there are animations that inform the user that it is clickable and the cursor changes to a pointer. These visible animations keep the user informed as to what they are doing.

Another key usability aspect is the match between the system and the real world. The design elements on the website should match real-world conventions and vocabulary. This is done through the easy-to-understand buttons and their design. It was designed to mimic how physical buttons look like in real life, with rounded corners and key labels that capture what the button does.



Figure 4 Navigation Buttons

Another critical design aspect was that it met the usefulness expectations of the website. The two key things were that the user should be able to calculate their carbon footprint and learn more about it and climate change in general. The website has placed multiple different ways to access the information the user would look for.



Figure 5 Two buttons for each function

There are two buttons to get to the calculation page and two to get to information about climate change, as these are the most essential function of the website.

Emotional impact and meaningfulness are other key aspects of the user experience that the website needs to meet as it is important. The user should be given a reason to care about their footprint, and the best way to achieve this call to action is through emotions.

The use of key aesthetic choices and minimalist design are used to achieve this point. Since the website is about climate change, it is important to have a visual match to this theme. The selection of photos used to represent this does that. Cute animals are used to pull at the emotional heartstrings of the user.



Figure 6 Animal paw print      Figure 7 cute animal pic

Another way this is achieved is through the minimalistic design. A lot of the page clutter is removed, and the main chunk of the website is divided into these three cards that are easy to spot and read.



Figure 8 Information Cards

The white background removes noise and helps to move the user's attention to the three info cards. These cards are placed evenly distributed and raised up with a shadow effect to further lead the user's gaze to the information placed inside them. The text placed inside the cards is also important in playing a big part in the emotional impact that the website has. Use of keywords such as "Our Future", "My ... impact", and "Our children" all further push this agenda.

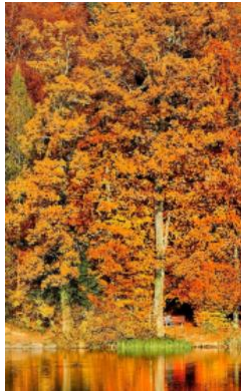
## **Gestalt's Principles**

Creating a good user interface is important for the website's usability and, more importantly, for users to want to come back and use the website more. Some of these important visual design principles are laid out by Gestalt and are followed/used on this website.

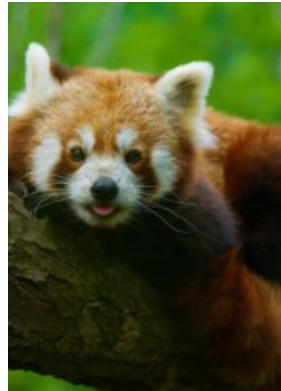
Firstly the most important thing was the Similarity principle. As a set colour theme (red) was given, it was important that the website followed and matched this colour theme and had unity in this aspect. The similarity principle states that objects should have similar visual characteristics, such as size, shape or colour, to be seen as a group. This match in colour similarity helps to bring unity to the whole website. When choosing photos for the site, this was kept in mind. Therefore, while trying to portray nature, the main centre image was chosen to be this red mesa instead of typical green forests found on climate/nature related webpages to fit the red colour theme of the website. Other photos on the site also try to reflect this principle.



*Figure 9 Red mesa photo*



*Figure 10 Red autumn trees*



*Figure 11 Red panda*

Another principle that was applied was the Area and Proximity principle. The whole site is split into three main areas: top navigation, middle image, and bottom cards. The proximity principle states that objects that are close to each other will be seen as belonging together. The sections are purposely split this way to emphasise this grouping. Each section of the page has a different purpose/function. This subdivision of the page also leads us to the area principle as it states that small areas tend to be seen as the figure, not the ground. This principle is applied throughout the page, as the middle section uses a big area to show that the image is used as the ground, to split the page into thirds, and the small images of the info cards at the bottom, are used as the figure and grab the user's attention and bring emphasis on the cards.

Finally, bringing a balanced design to the website was the application of the symmetry principle. Every element on the site is reflected around the centre, which brings symmetry and equal weight to the screen elements of the website.

## **Conclusion**

These design aspects, elements, and ideas, were heavily considered and used together to form a good user experience and user interface through the different principles applied.