**CN 4003 Web Technologies -Assessment**

Case Study

Task 1 - The Case Study: Present your case study based on the topic presented above. Present the overall requirements of such a website. (L.O.2., 400 words, 5%)

Carbon footprint lacks a clear definition but has a common baseline which is summarised by Wiedmamn; “Carbon footprint stands for a certain amount of gaseous emissions that are relevant to climate change and associated with human production or consumption activities” [1]. This definition is broad and thus incorporates many different areas of human life. Therefore, when looking at reducing your own personal carbon footprints many websites will list a huge number of ideas. One of the top google searches on reducing carbon footprint returns a website; Climatecare.org which suggests over 50 different ways of reducing your footprint all onto one page. It is important to understand that a busy and overwhelming website is ineffective in its main task. Ease of understanding, visual appeal and information fit-to-task are just a few key aspects in a good quality website.[2] In order to maintain the core dimensions required for a good quality website and not overloading any visitors with information I shall be focusing on just two of the ways to reduce carbon footprint – The use of energy saving bulbs and the importance of switching lights off. Several websites indicate the problem with leaving light bulbs on in the house or at work and the impact that this has on the environment. This is the key aspect of my website to try and inform and encourage people to get into the habit of turning lights out. Whilst I am on this topic however, I will also be comparing the benefits of using energy efficient lightbulbs as they both contribute to the same thing. With the websites that I have visited and reviewed in the next part of the project, informative websites regarding this issue are the most common. My website will need to show what skills I have developed over the past few months. It will include hyperlinks to other pages, HTML tables showing differences in lightbulbs, a HTML form that can be filled in by visitors that sends an email for any suggestions to improve the website. It will also be showing off good clear design using CSS code. It will include an interactive image map of a lightbulb to start with and once clicked it will change the website to a dark theme and this is where the information is located.

Background Research

Task 2- Background Research: Review at least ten websites promoting businesses of the similar to your case study. Reflect on the design, usability, features (functionality) accessibility, and legal requirements of these websites. Present a summary of your analysis and a summarised tabular list of the websites you visited. (L.O.1. and L.O.7, 700 words, 10%)

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| --- | --- | --- | --- | --- | --- | --- |
| **Website Title** | **Web Address** | **Design** | **Usability** | **Functionality** | **Accessibility** | **Legal Requirements** |
| How does changing the light bulbs help the environment | [https://homeguides.sfgate.com/changing-light-bulbs-environment-70834.html](about:blank) | White background with black text. Lots of ads with moving pictures. Lots of links to other related articles | Simple text, paragraphs and headings. Easy to use as it’s just reading and scrolling with some links to press. | Function is just informative with additional links to find more information related to this site. | No additional support regarding accessibility. |  |
| A guide to light bulbs: How to save money, environment | https://www.csmonitor.com/Business/Saving-Money/2014/0616/A-guide-to-light-bulbs-How-to-save-money-environment | White background with black text. One image at the beginning of the page underneath the main heading. Logo in top right side with main menu accessible from top right button and opens into large selection. Search bar top right. Ad’s and link littered everywhere with the most being at the bottom after the article. | Easy to follow as there are not any additional pages. A lot of the paragraphs are separated with sub-headings to easily find the information you are after. | Function is just informative. Some related stories links at the bottom of the article to other articles on the site. | No additional support regarding accessibility. |  |
| Are LED light bulbs better than CFLs? | https://www.thoughtco.com/led-light-bulbs-better-than-cfls-1203928 | White background with black text. One image at the beginning of the page underneath the main heading. Logo in top right side with main menu accessible from top right button and opens into large selection. Search bar top right. Ad’s and link littered everywhere with the most being at the bottom after the article. | Blog style so continuously scrolling to read through the article. Has got a menu to other parts of the website all linking to other articles. | No related links on this site. Just informative again explaining the difference between lightbulbs in a organised list form. | No additional support regarding accessibility. |  |
| How energy-efficient light bulbs compare with traditional incandescents | https://www.energy.gov/energysaver/save-electricity-and-fuel/lighting-choices-save-you-money/how-energy-efficient-light | White background and green text as the body of the page. Lots of green used for heading sections. Uses a table further down the page to compare lightbulbs. Bottom of the page shows links to other websites relating to this issue. | Easy to follow and the use of table breaks up the information nicely. | Informative site. Good amount of information and links to related articles. Table very good at breaking information up. | No additional support regarding accessibility. |  |
| Reducing your carbon footprint: small changes can make a difference | https://www.carbonsmart.co.uk/reducing-your-carbon-footprint-small-changes-we-can-make/ | White background with black font. Picture just under main heading. Uses subheadings to break paragraphs up. Few informative graphics on the main page in the form of charts. Logo in top left and main navigation bar in top right. Alternative links on the right-hand side. | Very easy to follow as all information in located on just one page. A couple of great graphics in the form of a charts to show the information in another form. | Very informative and great graphics showing the information in a simple yet effective way. | No additional support regarding accessibility. |  |
| 50 Ideas for shrinking your carbon footprint | https://climatecare.org/50-ideas-shrinking-carbon-footprint/ | Plain white background with black text. Logo in top right corner. Main navigation hidden behind menu button in top right next to search bar. Under header is image partly covered by red coloured text box with main title on it. Under that h1 style heading with. Use of orange subheadings to break page up and add some colour. One further image used of a factory near the top of the page. | Too much information on one page. Page scrolls for a long time as they try and fit 50 things onto one page with only a heading breaking up each paragraph. | Another informative website. Gives the user a lot of different ways to shrink their carbon footprint but does not go into depth about any subject. | No additional support regarding accessibility. |  |
| Energy saving tips | https://www.npower.com/help-and-support/guides/energy-saving-tips/ |  |  |  |  |  |
| The benefits of energy-saving light bulbs | https://www.hometree.co.uk/energy-advice/energy-saving/the-benefits-of-energy-saving-lightbulbs.html |  |  |  |  |  |

I have seen that most of the websites around my chosen topic seem to be mostly informative websites. Most of them are just articles on a website with not much supporting information. Nearly all the websites show a white background with black font and they break up the paragraphs using subheadings in the same font and colour but perhaps bold or underlined. The best websites showed navigational bars hidden behind a menu tab and had a strong yet simple header. I want my website to differ from the norm regarding the colour scheme. I like my idea of the website incorporating a dark theme as it correlates to the subject of turning lights off and using energy saving bulbs. I want to use a simple heading at the top and I think I want the main navigation bar visible to help fill out the page. As my website will not be hosting any ads, I worry that it might come across quite plain and bare if I decide to hide features like the navigation bar. Some of the websites have used a table style format to show differences in lightbulbs and this is something that I want to also do on my website. One it shows that I can code a HTML table but more importantly it shows the information in a clear and easy to read format.

Websites

[https://homeguides.sfgate.com/changing-light-bulbs-environment-70834.html](about:blank) - How does changing the light bulbs help the environment?

[https://www.csmonitor.com/Business/Saving-Money/2014/0616/A-guide-to-light-bulbs-How-to-save-money-environment](about:blank) - A guide to light bulbs: How to save money, environment.

[https://www.thoughtco.com/led-light-bulbs-better-than-cfls-1203928](about:blank) - Are LED light bulbs better than CFLs?

[https://archipelagolighting.com/help-the-environment-with-eco-friendly-light-bulbs/](about:blank) - How eco friendly bulbs help

[https://www.energy.gov/energysaver/save-electricity-and-fuel/lighting-choices-save-you-money/how-energy-efficient-light](about:blank)

[https://www.carbonsmart.co.uk/reducing-your-carbon-footprint-small-changes-we-can-make/](about:blank)

[https://climatecare.org/50-ideas-shrinking-carbon-footprint/](about:blank) - \*Very good website\*

[https://www.npower.com/help-and-support/guides/energy-saving-tips/](about:blank)

Scholar

1. [https://books.google.co.uk/books?hl=en&lr=&id=GCkU1p\_6HNwC&oi=fnd&pg=PA1&dq=carbon+footprint&ots=D0GWIJcnLu&sig=gsO4covKysBmPbkYztYzQOpiUmc&redir\_esc=y#v=onepage&q=carbon%20footprint&f=false](about:blank#v=onepage&q=carbon%20footprint&f=false) – What is Carbon Footprint?
2. [https://s3.amazonaws.com/academia.edu.documents/30840302/10.1.1.86.4410.pdf?response-content-disposition=inline%3B%20filename%3DWebQual\_A\_measure\_of\_website\_quality.pdf&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWOWYYGZ2Y53UL3A%2F20200210%2Fus-east-1%2Fs3%2Faws4\_request&X-Amz-Date=20200210T163652Z&X-Amz-Expires=3600&X-Amz-SignedHeaders=host&X-Amz-Signature=8d356615d5cd373d30997c0db701ca1e82e0b4d46eceaebf1ad3421f15d4edbc](about:blank) – Measuring the quality of a website.
3. [https://www.sciencedirect.com/science/article/pii/S0301421514002638](about:blank) - A bright future? Quantifying the rebound effect in energy efficient lighting.