

# Assignment 1: Research & Plan

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## Objective of Redesign

The main objective of the redesign of <http://floridaenergy.ufl.edu/> is to improve the overall user experience by making the website more *efficient*, *responsive*, and *user-friendly*.

## Current State

Source: <https://achecker.ca/checker/index.php>

### Accessibility Audit

#### Alt Attribute

While I looked through the website, one of the first issues that I noticed was the alt attribute was missing in every image used throughout the website. The alt attribute is important because it provides alternative information for an image if a user is unable to view the image for any reason.

#### Input Label

A couple of text input types were found without associated label elements. Label elements are important because they provide structure and meaning to the texts.

#### Color Contrast

The website uses a lot of color combinations (between background and font colors) that do not provide effective readability. It is apparent that the website used the colors strategically as a way to associate itself to Florida's major educational institutions, the combinations fail to meet the Web Content Accessibility Guidelines (WCAG) 2.0 Level AA.

### Mobile Friendliness

#### Responsiveness

The website appears to have been designed with mobile users in mind. This is apparent because the content remains static and fails to respond dynamically when changing the dimensions of the window. The pages look well organized when the window is maximized, but as soon as the window width is reduced the main content of the page (including search and navigation bars) becomes outside of the viewport, which makes it difficult for users to follow. When opening the website using my phone, it scales everything to fit the screen making it very difficult to read. As a result, I have to zoom in manually to read the content and have to scroll in all directions, which clearly is not a good user experience.

## **Performance**

I conducted a performance test using three online sources to evaluate the performance of the main homepage (<http://floridaenergy.ufl.edu/>.) The online performance test sources I used were:

1. [GTmetrix](#)
2. [Web Page Test](#)
3. [Pingdom](#)

Based on the three tests that were performed, I found two improvement opportunities that were seemed to be common among the three sources.

## **Image Optimization**

The images used in this website were not optimized, which caused the website to load slower due to the size of the page. Compressing the images could save anywhere between 98 and 130 KB. One of the websites also pointed out that only 18% of the images used Progressive JPEG images.

## **Leverage Browser Caching**

The other common recommendation is to leverage browser caching. While caching would not be beneficial for a first-time user, enabling caching would allow repeat users to experience faster load times because these files are saved and reused instead of loading every time like it is the first time visiting the page.

## **Functionality**

Overall, yes the website works. The website works in the sense that when I click links, those links do direct me to the pages on which I expect to land. The search bar at the top of the page does seem to generate results that I generally expect to see (e.g., if I search for the word “solar,” links with the keyword “solar” were displayed.)

## **Browser Compatibility**

The website was tested by using three different browsers: Chrome, Safari, and Internet Explorer. No obvious functionality differences were found between Chrome and Internet Explorer. However, when opening the homepage with Safari, the first thing I noticed was a funky rotating image style in the header.

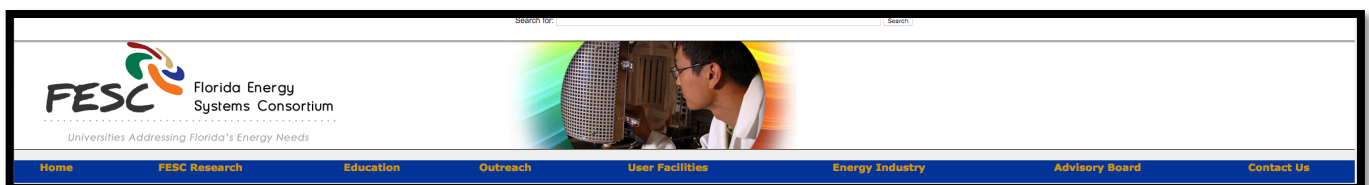


Figure 1: FESC homepage in Chrome

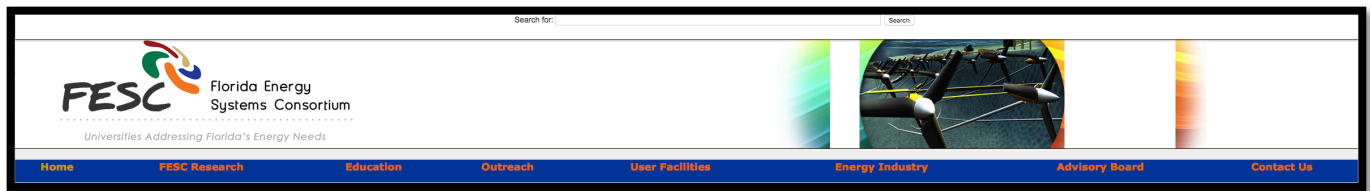


Figure 2: FESC homepage in Safari

It appears that the developer used properties that were not compatible with Safari, which resulted in Safari's header formatting to be irregular. I also noticed the color fonts were different between the two browsers.

### Navigation

The website does a poor job of allowing the user to know exactly where he or she is within the website. For instance, when I select the "FESC Research" link in the main menu, the page to which I get directed does not make it very clear that I am on the desired page. If I were to step aside and come back later, I would have to read the content of the page to find out that I am on the FESC research page. The url does little help because the menu title and the url page do not match.

### Organization

The website as a whole is extremely wordy. It seems counterproductive by cluttering the pages with excessive text and causing the user to experience an information overload. Each page also has too many menu items and has too many levels. This is a problem because instead of leading the user to their desired destination, the way this website is designed forces the user to work to get to the desired destination. I think the website tries to be informative by presenting as much information as it possibly can, but its lack of structure and organization make it hard to follow, thereby making the website uninformative.

### Ease of Use

The website has poor ease of use. As mentioned in the Functionality section, as a user I do not feel like the website does a good job of helping me navigate to my desired destination. I often find myself getting to my desired destination by trial and error, which makes navigation very inefficient. It requires a certain amount of visits and learning to be able to navigate through the website, so it is not user-friendly especially for new and inexperienced users.

Additionally, because the website is not designed responsively if I want to use the website using smaller windows or mobile devices I find it extremely difficult to use. Having to scroll up and down *and* side-to-side makes it frustrating to use and discourages the user from using the website even if it contains good content.

## Recommendation for Improvement

The good thing the website seems to have a lot information to offer and has many opportunities for improvement to make an effective website.

### Responsiveness

One of the first recommendations is to modify the responsiveness of the website. There are several ways to go about this. One way is to apply a grid system (e.g., CSS, Flexbox, Bootstrap) to organize contents in grids. Bootstrap would allow the number of columns to be defined based on screen sizes.

Another way is to use media queries to define styles based on screen sizes. My recommendation would be to use media queries because I would want to change the menu display based on the device being used.

### Call-to-Action

As mentioned in the analysis, the website currently does a poor job guiding the user through the website, making it very easy to get lost. The objective of the website appears to be educational, it needs to be designed such that the user is easily able to know what step(s) to take next. Implementing call-to-action buttons can help give the user clear directions on what to do next so he/she is not forced to “guess” their way through. I think incorporating a video in the landing page was a good idea, but it needed to be more strategically displayed that would entice the user to play the video.

### Replace Text with (Relevant) Images

One of the biggest criticisms of this website is the excessive use of texts as a way to inform. While I understand that there is a lot of information to offer, presenting a lot of information does not necessarily make it informative if it is not presented the right way. I think the phrase *a picture is worth a thousand words* is very applicable to this website. For example, instead of using tables to display data in the [Florida Energy Facts page](#) using data visualization (e.g. chart) as a way to communicate the information can make it more informative for the end user.

When using images, it is important to use images that are relevant and current. The image used in the [Education page](#) uses a photo from what appears to be from the late 90's or early 2000's. Displaying an outdated image while trying to convey a message that FESC is about innovation is contradictory and it needs to be replaced with an image that is much more current.

### Increase White Space

Increasing white space can significantly increase the website's readability. The current website is too cluttered with texts that it gives the user visual strain when reading the content. One way to achieve more white space is to be concise. Instead of writing everything in an essay format,

extracting the critical words and consolidating the message to a few words can make communication more efficient and reduce the unnecessary clutter.