Website Re-Design Proposal

Objectives: to re-design the Florida Energy Systems Consortium (FESC) website for optimized responsiveness, updated design, improved user interactivity and improved overall performance and quality user experience. To bring awareness to the public what the Florida Energy Systems Consortium is aiming to achieve through creation and utilization of a modern and user friendly website.

Expected users: students at the 12 Florida colleges, educators, scientists, researchers, energy industry professionals and experts, business professionals, Florida Legislature and government.

Goal of Website: To create awareness of this consortium and all the people, industries, agencies, professionals and educators that are collaborating to help bring energy solutions to Florida. This website gives the public a resource to research how all of these groups are coming together to address Florida's growing energy needs.

State of the current website:

- Last updated in 2015
- Website is NOT responsive
- Website is NOT secure
- Website is very large with a multitude of various pages
- Website is functional
- Website is not optimized for various viewport sizes
- Slow to upload
- Design is outdated, could use a modern touch up
- No application available for download
- Too much navigation. Website can be designed to be more streamlined and efficient

Accessibility audit (via Lighthouse):

- Scored a modest 86 out of 100
- Image elements do not have 'alt' attributes
- Links do not have a discernible name
- <frame> elements do not have a title
- Form elements do not have associated labels
- Background and foreground colors do not have a sufficient contrast ratio

Lighthouse also discovered that this website scored very low (9) as a progressive web application, as specified by the baseline PWA checklist. It failed 10 audits which included:

- Does not register a service worker
- Does not respond with a 200 when offline
- Does not use HTTPS: 47 insecure requests found
- Does not redirect HTTP traffic to HTTPS
- Page load is not fast enough on 3G
- User isn't prompted to install the web application
- Is not configured for a custom splash screen
- Address bar doesn't match brand colors
- No viewport meta tag found
- Content is not sized correctly for the viewport

Performance scored a 63. Load times were generally slow for most parts of the website. Suggested improvements to increase load speed times included:

- Serve images as WebP, which has a higher compression rate
- Reduce render-blocking scripts, place important scripts inline and defer non-critical scripts
- Reduce render-blocking stylesheets, consider inline linking and deferring non-critical stylesheets
- Keep server response times low
- Optimize and properly size images
- Load time is very slow; 4 + seconds (webpagetest.org)
- Fully loaded at 4.5 seconds
- Images need to be compressed more to optimize loading
- First byte time is extremely slow

A best practices test returned 8 failed audits:

- Does not use HTTPS: 47 insecure requests found
- Does not use HTTP/2 for all of its resources: 45 requests were not handled over HTTP/2
- Uses document.write()
- Does not open external anchors using rel="no opener"
- Includes front-end JavaScript libraries with known security vulnerabilities: 1 was detected
- Manifest's short_name will be truncated when displayed on homescreen
- Browser errors were logged to the console: 1
- Does not use images with appropriate aspect ratio

Mobile friendly test (google mobile test) returned the following problems:

- Page is not mobile friendly
- viewport is not set
- clickable elements too close together
- text too small to read
- content is wider than the screen
- Not all page resources could be loaded: 4 stylesheets, an image, two scripts and an XHR

Device support would include older versions of browsers including Internet Explorer. Media queries and designing the website for responsiveness accordingly is very important.

Core Deliverables:
An initial design/project brief outlining the entirety of the project, goals, expectations and design ideas.
Development/wireframes outlined so we know the scope and size of the new website.
Content/mock ups shared with clickable pages so client can see how the final project will look.
Launch new website once client confirms all final changes.

We recommend that we do a major overhaul on the entire website. Many features need updating, the most important being the security of the site even though important personal information is not being transferred. Maybe implementation of a different CMS like Wordpress or hosting the website with a different company would help. We need to make the website responsive and build the new website with a ‘mobile-first’ mindset in place. Create a new navigation with fewer links so the user doesn’t feel lost while navigating the website. Updated logo and images with new photos would be good to have as well. Perhaps a new color scheme for the website so it’s easier to read. Updated media content and perhaps implementation of a blog to keep visitors up to date on the latest news. We need to make the website extremely fast to load so all new media needs to be compressed accordingly. SEO should be optimized and we should enable analytics to collect data on visitor’s information.