Project created on 09.09.2016 00:08.

Report for project Senior Design

Task created on 30.09.2016 01:37.

No due date

App Design Research

Conduct research into app creation, such as coding, hosting and formats

Task tags: *No tags*

❋ WCAG: Web content accessibility guidelines
Created by Carlie Abraham on 14.10.2016 04:18.

The WCAG guidelines are a list of suggested features that make websites on mobile devices more user-friendly towards people disabilities. because our program is supposed to be available on a multitude of devices (which can include mobile devices), these guidelines are important in our research. Some of the guidelines are as follows:

-provide a mobile version of a website that is less detailed so that it is easy to read on a small screen

-Allow the ability to zoom or resize text

-make the content have high contrast so that it is easy to read in a multitude of environments (for example, at night in the dark, or in the bright sunlight)

-provide keyboard accessibility (allow the device to be controlled by an external keyboard)

-Make any touch targets be at least 9mm x 9mm, and make any targets that are of minimum size have a boarder of white space

-Make all buttons easy to access (for example, make buttons easily accessible as if you were holding the device in one hand)

-Allow screen to change orientation

-Have a consistent layout (for example, make all buttons the same color, and have all titles the same size and font)

-Position important page elements at the top of the page so that no scrolling is necessary

--Provide a clear indication that actions (such as buttons) are actionable

Source: http://www.w3.org/TR/mobile-accessibility-mapping/

❋ UAAG: User Agent Accessibility Guidelines

Created by Carlie Abraham on 14.10.2016 04:02.

The UAAG is a reference for people creating web applications or sites in order to make them more accessible to disabilities. It contains many best practices that we should adhere to in order to make our application more accessible to people with disabilities. Some of the guidelines are as follows:

-Provide other content (for example, provide both text and sign language options, or allow the user to hide pictures that are aggravating to them)

-Provide text configuration (allow the user to choose the text color, size, font etc.)

-Provide audio configurations (allow the user to change speaker volume)

-Provide synthesized speech configurations (allow the user to change the pace of the synthesized speech)

-Make sure all functionality can be accessible with a keyboard - no mouse navigation required

-Provide text search

-Include an outline or table of contents of the website's content

-Avoid the use of flashing lights that could cause seizures

-Make the user interface easy to understand, and prevent the user from being able to input wrong data or information

-Document the user accessibility functions of the website

Many of the above requirements will be useful when creating a website. However, some of the requirements will not be necessary, depending on the program we choose to complete.

Source :http://www.w3.org/TR/2015/NOTE-UAAG20-20151215/#gl-missing-alt

❋ App Design/Layout Created by Carlie Abraham on 30.09.2016 02:18.

There are a few requirements an app needs to have to be special needs accessible. For one, the buttons have to be of a certain size. And the colors of the app need to have high contrast to make it easy to navigate.

The application will need to adhere to AAC (augmentative and alternative communication) guidelines, so that special needs kids are able to use it. There are a few important aspects to consider: the display, the selection technique and output. The display needs to have all concepts represented by simple symbols and buttons, for all these buttons to be grouped schematically (as it is easier for children to understand schematic groupings vs taxonomical groupings), and for the displays to be presented simply, so that it can be easily operated with a switch if necessary.

source: http://aac.psu.edu/wp-content/uploads/2016/06/2016*PSHA*AAC_BeginningCommunicators.pdf

❋ Web application hosting Created by Carlie Abraham on 30.09.2016 02:09.

The application we design will require hosting services. This can be provided by Amazon Web Services, which provides similar services to other sites such as airbnb,

Expedia, and Netflix. The benefits of this service is that it is cheap, allows for use of different programming languages, and is scalable as the app is developed and expanded.

Source: https://aws.amazon.com/web-mobile-social/

Task created on 07.10.2016 04:43.

No due date

Existing Solutions Research

No description

Task tags: *No tags*

Completed by Tong Yu on 14.10.2016 02:22.

Step 4: Research more on hearing/speech accessibility

We conducted more research on existing text-to-speech function and accessibility for those with reading challenges and hearing challenges. We looked into resources available for Dyslexic children and adults. We also looked into software for speech-to-text to better understand both communication inputs and outputs.

✱ More Research on hearing/speech acceptability

Created by Tong Yu on 14.10.2016 02:52.

In addition to having the words read aloud in the app, it's very helpful to have the words highlighted as they are voiced. For those with Dyslexia, this helps the user focus better, so a function like this could potentially be helpful for those with attention problems in addition to learning challenges. In addition, there are different voice options we should consider, such as having a paid speaker versus using an automatic computer pronunciation system. There are more existing solutions that are of interest to us. Snap and Read is a tool developed by Inclusive Technology that helps read inaccessible texts such as those found in images. Penfriend XP and XL are word prediction apps. There are also Talking Cameras apps, such as CaptureTalk, that lets the user take an image with their phone and then have it automatically read aloud.

Source: "Text to Speech." BDA Technology. Web. 13 Ocotber 2016. https://bdatech.org/what-technology/text-to-speech/.

For speech-to-text functions, there is an existing software called "Dragon Professional" by Nuance company. The program can adapt to noisy environments and accents for more correct and accurate translation. Source: "Dragon Professional Individual for Mac." Nuance. 13 October 2016. http://www.nuance.com/for-individuals/by-product/dragon-for-mac/software/index.htm

Dragon is used by lawyers who need their fast speech transcribed for legal papers. Furthermore, having noise-reduction microphone headset is helpful. A training period is also needed for similar devices to Dragon, like ViaVoice, to recognize the user's voice.

source: "Speech Recognition Technology." American Bar Association. Web. 13

October 2016.
http://www.americanbar.org/content/newsletter/publications/gp_solo_magazine_home/gp