

Project created on 09.09.2016 00:08.

Report for project Senior Design

Task created on 03.03.2017 03:29.

Teacher Survey

No due date

To ensure that the website meets the requirements for webpage display, accessibility functions, customizability, target audience, and ease-of-use, a survey will be presented to the teachers for each of the main webpage components (such as the homepage, menu pages, and activity selection pages).

Task tags: *No tags*

* Survey Question Draft Created by Tong Yu on 03.03.2017 03:43.

Instruction: For each page, please rate these statements from 1 (strongly disagree) to 5 (strongly agree) after observing the students use CognoDojo. Under each question, please further explain your answer.

Buttons ● The button sizes are large enough to be easily and correctly pressed by students with motor limitations ● The button's placement on the page is appropriate so students can easily identify it

Fonts ● The font-size and font-choice are large and clear enough that students with visual limitations can read them easily

Colors and Images ● The color contrast between the font and the button is high enough to be easily read by students with visual limitations ● The images accompanying texts are large enough to be easily comprehensible and distinguishable ● The video screens are large enough

Layouts ● The elements within pages are spaced out appropriately and easy to see ● The general layout and color scheme of the page is clean and not distracting

General Questions ● The students are able to easily navigate between pages and find the desired activity ● Compared to the currently used leisure activity websites, the students are able to more easily navigate between pages and find the desired activity ● Please include any additional comments

Comments for result Survey Question Draft

Tong Yu on 03.03.2017 at 03:44: I created a draft of the survey with a preliminary list of questions under each design spec category. Each design specification will be tested by asking a few agree/disagree questions on a scale from 1-5, with 5 (strongly agree) being the highest. There are short answer sections after each questions where the teacher can further explain their reasoning for the rating, so we can obtain both quantitative and

qualitative feedback data.

Task created on 24.02.2017 05:46.

Verification and Validation

No due date

No description

Task tags: *No tags*

* Validation Plan: Trials with Parents Created by Yanlin Ho on 03.03.2017 07:19.

For the parents, we plan on again testing their ease of navigation in a similar manner as with the teachers. We also want to gain evidence on how well the students perform on the website as compared to other common leisure activities done by each student at home, by having parents engage with the students in both activities and monitoring their performance in each.

* Validation Plan: Teacher Trials Created by Yanlin Ho on 03.03.2017 07:18.

For the teachers, we want to test ease of navigation by timing both how many clicks it takes for teachers to get to their destinations on the page and also how long it takes for them to get there. The main need being addressed here is also attention span, as one of their current issues is that it takes too long for the teachers to switch between activities and websites, leading to students losing interest. We will also monitor the students working with the teachers, so we can gain additional feedback from the teacher about the performance of the student when using the website, and see how they compare to their normal functioning during activity times.

* Validation Plan: Student Trials Created by Yanlin Ho on 03.03.2017 07:18.

We plan on testing their attention spans and interest in content. To do so, we can use either screen capturing software or videotaping the student's screen to monitor the students' use of the website. We will ensure that the students and teachers are not included in the video in order to protect their identities. Using the video recording as well as any observations made by the teacher during the trials, we can surmise the attention span of the student, and measure how long the student can stay focused. We can also gather information on the interest of the student by observing what activities they gravitate towards. Additionally, we can use the screen recordings to provide feedback on the navigability of the website. Since each special needs student has different interests and maximum attention spans, we plan on comparing the data obtained from our website with trials on websites that they currently use, such as ABCya and EasyLearningBooks.

* Proof-of-Concept Testing: Existing websites

Created by Yanlin Ho on 03.03.2017 07:16.

Each individual category of activities on our website - music, videos, games, and stories exists elsewhere, but no website includes them all together. Currently, teachers create their own songboards, find videos on YouTube, use websites such as ABCya for games and EasyLearningBooks for stories. Our website combines all of the functions into one website.

* Verifying Accessibility to Color-Blindness

Created by Carlie Abraham on 03.03.2017 06:05.

The layouts of the website under different color filters to simulate the three main forms of color blindness (protanopia, deuteranopia, and tritanopia) will be analyzed and surveyed using the questions in Appendix B in order to make sure that the website is accessible to color-blind students. Color blindness simulators such as Wickline will be used to test this.

Wickline takes in a URL to a website, and will filter the colors to simulate having different types of color blindness. This altered view will be analyzed and surveyed to make sure all website elements are easily distinguishable.

<http://colorfilter.wickline.org/>

* Addition of Design Specifications Created by Carlie Abraham on 03.03.2017 06:00.

Based off of feedback from the client we received while going over mockups and drafts of webpages, we have modified a few design specifications. First, we have made our requirements for the display more specific by requiring the size of display elements such as buttons and images to be larger than 100 pixels(px). Font should be no smaller than 25px for student webpages, and 15px for teacher webpages. Additionally, color contrast ratios for all design elements should reach WCAG AA guidelines of at least 3:1.

Second, more specific accessibility requirements were added. The client has requested that all buttons have a text-to-speech feature to improve website navigation for non-readers. Additionally, buttons with images should be consistent with the PCS symbol system.

Third, we have changed our specific requirements for ease of use. This means that latency between web pages should be less than 1.5 seconds, flow between webpages should be intuitive, and the number of clicks to get to any point in the website should be less than 10.

* Verifying Color Contrast Created by Carlie Abraham on 03.03.2017 05:59.

Color contrast validators such as WebAIM and Snook will be used to ensure that all display elements have a color contrast ratio of 3:1 or higher, as per WCAG AA guidelines.

WebAIM takes in two colors as hex values, and will check if the colors pass the WCAG AA and AAA guidelines. This will be used for things like text and button colors to make sure they contrast well against their backgrounds.

<http://webaim.org/resources/contrastchecker/>

Snook also takes two color values as RGB values, as well as other things such as hue and saturation, and tests if the colors pass the WCAG AA and AAA requirements.

https://snook.ca/technical/colour_contrast/colour.html#fg=33FF33,bg=333333

* Verify Display, Audience, Ease of Use

Created by Carlie Abraham on 03.03.2017 05:55.

To ensure that the website meets the requirements for webpage display (size appropriateness of page elements, font and color choices, and website layout), accessibility functions (text-to-speech and symbol systems), customizability, target audience, and ease-of-use, a survey will be presented to the client and her colleagues at Southview School, which is provided in Appendix B. We will give the teachers this survey to fill out for each of the main webpage components (such as the homepage, menu pages, and activity selection pages).

The survey will provide quantitative data for how well our website provides an accessible, easy to navigate, and properly formatted website such that it meets the design specifications in Appendix A. Each design specification will be tested by asking a few agree/disagree questions on a scale from 1-5, with 5 (strongly agree) being the highest. A few more open-ended questions that apply to the website in its entirety will also be asked to receive general feedback. If the average of all scores across teachers is a 4 or higher, then the design specification is considered to be verified. If there are any outlying scores of 1 or 2, we will address those concerns.

* **Verifying Budget** Created by Carlie Abraham on 03.03.2017 05:54.

Budgets and receipts will be presented to the client to ensure that the website meets all cost requirements. The website must not cost more than \$15/month, which is the month cost of the EC2 webserver.

* **Verifying Latency < 1.5 Seconds** Created by Carlie Abraham on 03.03.2017 05:54.

For each OS and browser option, we will measure latency of webpages by recording the time it takes for all content to load, and verify that it takes less than 1.5 seconds.

* **Verifying Availability to Client** Created by Carlie Abraham on 03.03.2017 05:53.

We will test the website on a multitude of computers with different operating systems (OS) and internet browsers available to the client and her colleagues, thus ensuring that the website meets the criteria for availability to the client.

* **Proof-of-Concept Testing: Mockups** Created by Yanlin Ho on 03.03.2017 07:17.

Throughout the development of the design of the website, mockups have been shared with the client for feedback, and to ensure that our design matches their conceptual need, which the client has confirmed it does.