

EDUC 625 Final Project Rationale

The project I chose to undergo was quite an arduous task. As I usually do, I pushed myself into new directions in the area of technology to achieve a product that I am quite proud of. The following sections will list the modifications and technologies used to create an online training experience that is accessible to the broadest range of users possible, given my skill at this time.

The Website

The website, in my opinion, is the most flexible medium in which can be employed to “host” content. In creating its layout, I chose a small, simple layout with soothing colors and intuitive navigation. Based on the UDL Principle, “Flexibility in use,” I wanted to go with a small layout to allow all users to take advantage of a little known Internet Explorer command [**Ctrl +/-**] that allows the end user to customize the viewable size of the webpage. On reading the article posted to blackboard as a part of the Week 3 lecture notes, I began reading about Instructional Barriers and marked elements. This struck a chord with me because of my background in html and web design. It was fascinating to learn how that screen readers use html code and style sheets to accomplish what they do. Because of this I included a link to a web-based screen reader, system to go, which integrates nicely with my training website.

Because of my past experience with web design, I was familiar with the “Bobby approved” software. I immediately sought out to try and get this distinction for my training website. However, I found out that CAST sold the rights to this software a few years back and it has now been acquired by IBM (that was really exciting!) The bad news is that it is no longer a free package. This led me to research other such web-based verifications, leading me to w3.org. One of the many services they offer is free stylesheet and xml verification services. This is important to web designers and end users alike for many different reasons, but in the case of this website, it was important to verify for the purposes of screen reader usage. The following urls will generate a report on my website stylesheet and xml respectively (you can also click the verification buttons at the bottom of my homepage):

- [CSS Verification](#)
- [XML Verification](#)

PowerPoint Presentation

As the task for this project was to modify an existing training I do based on UDL guidelines, I began with a good and faithful PowerPoint presentation. Reading your syllabus at the beginning of this class got me thinking about it, but this project gave me the opportunity to research “best practices” in PowerPoint presentation design. The areas I focused my research for improvement were:

1. Design: color/contrast
2. Design: content
3. Audible component

These elements allowed me to design for the UDL Principle of Perceptible Information.

Design: color/contrast

While I realize that everyone likes a "pretty" or "cool" thing to look at, the best piece of advice I uncovered in my research is to remember what is the most important aspect of the presentation; the content. The use of color, contrast, and pictures should in no way distract from the content being taught. In fact, after researching and processing, I would even go as far as to say that if there is any question as to whether a certain graphic complements or distracts, throw it out! Other important tips had to do with color contrast combinations and how those combinations look on a presentation screen as opposed to your personal computer.

Design: content

As stated above, the content is the most important part of the presentation. It can be enhanced by the color and other elements, but content is priority. One of the best tips I found here to incorporate into all of my presentations is the 6x7 rule. This rule states that now more than 6 lines with no more than 7 words per line go on each slide.

Audible component

Until I began researching this topic, I always saw the PowerPoint presentation as a one-dimensional object. Sure, the presentation includes someone giving the presentation, but I just never really considered how the two pieces fit together. With today's increasing access to video capable streaming and other cross-platform software it only makes sense to design PowerPoint presentations with an audio component. Putting these two aspects together, when designed correctly, allows the presentation to stand alone making it accessible to anyone anywhere when put on the web.

Ultimately, the limitations the PowerPoint presentation presents are all across the board. They can be too distracting, too detailed, too general, too long, too short, etc. However, with the above modifications this presentation aide becomes the presentation and thus if placed on the web correctly, it allows students with differing abilities the opportunity to review the content at his/her pace as often or as little as they like. Note: The original PowerPoint presentation has been uploaded to my "group" page on blackboard.

Flash Video

My research of the most compatible and available technologies on the web led me to utilize Flash video to deliver my entire presentation. When it comes to the UDL Principles of Equitable Use, Simple and Intuitive Use, Tolerance for Error, and Low Physical Effort, Flash video is the only way to go. Unlike other video types that require large user specific players, flash is another creative product from Adobe offered as a small file, free download from anywhere. Regardless of the end user's settings, the embedded flash video will call for and automatically prompt the correct file and version to download (equitable use and tolerance for error). The embedded flash player has simple and easy visual controls that make flash video a breeze to use (simple and intuitive use). By clicking one link and pressing the play button, the world is at your fingertips (low physical effort). Also, flash video (flv) files require only about 3% of the file to begin streaming (other formats require anywhere from 10 – 50%). This makes the entire experience quicker and seamless!

To create the flash video file, I exported the PowerPoint slides to .jpg files. I then created a movie with these files in windows movie maker. The using the flash video encoder in the Adobe CS3 Creative Design suite, I was able to convert from the .wmv format to .flv. Now that I was seemingly done, I just felt like there had to be a little more I could do. I began research the net concerning flash video and assistive technologies. I found a tutorial (<http://www.tomontheweb2.ca/CaptionVideo/index.cfm>) talking about closed captioning. I had to try it! After several attempts and hours later, it finally worked! The core of this addition was a file called captions.xml. The following is a snippet of code from that file:

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<captions>
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<caption start="1">I'd like to welcome everyone to the online session of "Teaching Mathematics with Applied and Contextual Strategies. This session is sponsored by the Kentucky Department of Education and is the product of the collaboration between the Division of Curriculum Development and the Division of Career & Technical Education.</caption>
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<caption start="16">Today's session content is intended for participants of the Summer 2007 "Teaching Mathematics with Applied and Contextual Strategies" Workshop and will serve as a follow-up classroom support.</caption>
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Conclusion

As I stated before, this project was very enjoyable and satisfying; especially when the video and closed captioning worked! The lasting piece I will takeaway from this class and ultimately this project is the newly gained perspective on web design. Considering the UDL guidelines, I can now see how that many design elements on websites make content inaccessible to users. I am proud of the fact that although this particular website and workshop content will not be highly used, I now have the knowledge and skill to create something that is highly valuable and ACCESSIBLE to a much broader range of users than before.

Project References

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Rose, D.H., & Meyer, A. (2002). Teaching every student in the digital age: Universal design for learning. Alexandria, VA: Association for Supervision and Curriculum Development. [Online <http://www.cast.org/teachingeverystudent/ideas/tes/>]

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