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Get Rid of the Gray: Make Accessibility More Black and White!

Erin Blauvelt

The Quality Matters Rubric ([Quality Matters, 2011](#)), a nationally recognized benchmark for the quality of the design of online courses, holds accessibility as an essential element of a high-quality online course. Creating and editing courses with accessible elements can be difficult, both in understanding and in process, as being able to interpret and administer the technical standards of Section 508 of the Rehabilitation Act of 1973 ([1998](#)) takes time and study. Customizing a definition of accessibility in online courses and creating the specific elements and best practices for an institution is essential in carrying out a plan for editing and developing accessible online courses and meeting the Quality Matters Rubric ([Quality Matters, 2011](#)). The purpose of this paper is to outline the process that Excelsior College used to establish an accessibility standards list and implementation plan to fit specifically with the course design and student population and to describe some best practices in coding and accessible design requirements to meet Standards 8.3 and 8.4 of the Quality Matters Rubric.

Keywords: accessibility, Quality Matters, online education, online course quality, best practices

Introduction

Laws, publications, and standards for web content accessibility exist for the purpose of assisting in designing accessible web pages for users with disabilities. Implementing the standards for web page design into an online course remains a “gray” topic and can be difficult to discuss and carry out in a “black and white” manner. The features of an online course, both technical and purpose, are different from those of a typical website, which most publications on web content accessibility exist for. It can be difficult to define what an accessible online course means to an institution and to move forward with a plan to be reactive and proactive toward accessibility. Excelsior College is currently completing a four-year project to make the entire library of 500+ online courses accessible as well as

meet Standard 8 of the Quality Matters Rubric ([Quality Matters, 2011](#)).

Background Information

The Americans with Disabilities Act ([1990](#)), or ADA, which has been amended multiple times since its inception in 1990, outlines regulations and guidelines for providing equal access for persons with disabilities. Section 508 of the Rehabilitation Act of 1973 ([1998](#)) outlines technology-related regulations and standards for accessible web design. When students with medically documented disabilities request an accommodation during an online course, the institution is required to provide reasonable accommodation to the student. A reasonable accommodation adapts an exam, educational aid (in this case, an online course), or degree program requirement allowing

equal access for an individual with a disability ([Excelsior College](#), 2013).

In compliance with ADA mandates, Excelsior has a system in place for students with documented disabilities to receive accommodations for their online courses. This process is reactive in that students must first request an accommodation, and then the course is outfitted to meet their needs. In 2012, the decision was made to go beyond current federal laws and become more proactive in the approach to serve both students with documented disabilities and those that would also benefit from ADA-accessible course design principles, which is the concept of universal design. Universal design is a set of guidelines for the development of educational materials that provides all individuals, including those with disabilities and those without, comparable access to those educational materials ([CAST](#), 2013). Individuals without documented disabilities can also benefit from universal design principles. For example, individuals with learning preferences (i.e., auditory or visual), environmental limitations (i.e., no access to speakers or a headset to listen to a lecture), and language barriers (i.e., English as a Second Language) reap benefits from universal design.

Excelsior College is pursuing institution-level recognition by Quality Matters and is currently in the second year of a three-year implementation plan. Accessibility is one of the eight General Standards of the Quality Matters Rubric ([Quality Matters](#), 2011); thus certain criteria must be met in order to meet Quality Matters standards.

Accessibility Project Overview

The first two years of Excelsior's accessibility project have included creating a stan-

dards list, editing cascading style sheets (CSS) and Dreamweaver templates to meet accessibility standards, implementing a process to bring online courses in accordance to the developed standards list, and editing roughly 208 courses to comply with the developed standards list. A contractor was hired to assist in all areas of the project, but mostly for the purpose of serving as a co-subject matter expert and completing the bulk of the actual course edits. After developing a standards list customized for our courses (see Table 1), we edited institutional-level online course Dreamweaver templates and CSS for compliance with the standards list. The creation and implementation of the course revision process (see Figure 1) began once the standards list, templates, and CSS files were created and edited.

Developing an Instructional Accessibility Standards List

The first step in the project was to work collaboratively with the contractor to develop a standards list based on Section 508 standards ([Rehabilitation Act](#), 1998), WCAG 1.0 Priority guidelines ([W3C](#), 1999a), the design of and elements in Excelsior's online courses, and our specific student population. WCAG 1.0 includes three Priority levels, Priority 1 containing standards that content developers "must satisfy" ([W3C](#), 1999b). Excelsior, serving mostly nontraditional adult learners, has a unique student population that would benefit from certain accessibility standards/universal design principles beyond WCAG 1.0 Priority 1 guidelines, so Priorities 2 and 3 were also considered when developing the customized standards list. For example, standards were added from Priorities 2 and 3, which address elements such as page orga-

nization and expanded detail of acronyms and tables with our high military student population (approximately 38% of our current student population) in mind. According to the American Council on Education (2011), individuals who served in Iraq and Afghanistan have up to a 40% chance of acquiring a traumatic brain injury. We can anticipate that there are more students with Post-Traumatic Stress Disorder (PTSD) and Traumatic Brain Injury (TBI) than have registered with our Office of Disability Services. PTSD and TBI sufferers typically experience difficulty with attention, concentration, and information processing (American Council on Education, 2011), so page organization can be important in their ability to absorb the content. Some Section 508 and WCAG standards do not apply to Excelsior's online courses, so the customized standards list was simpler than the Section 508 or WCAG standards lists. Upon establishing the standards list, Excelsior modified institutional course development practices to ensure that all newly developed and revised courses aligned with the standards list.

The Revision Process

This project is composed of continuously moving parts; therefore there existed challenges to arriving at a process that would account for periods of review, editing, and collection of materials – let alone sidestep the continuous tasks of preparing our online courses to run each term, implementing emergency fixes unrelated to this project, and normal course revision cycles. Excelsior College has regimented course development, course editing, and term preparation procedures and deadlines, which limit the amount of time a course may be out of commission for completion of accessibility edits. An additional challenge was

given of minimizing the time that we can ask of the academic units, who are responsible for managing the course content, as much as possible. The process outlined in Figure 1 was built toward the beginning of the project, and have had success with the tasks and order. Experimentation with the time span for each task and the number of courses in each task at one time has taken place. During the first year of the project, 101 courses were put through the process, with all of the courses moving through each task at the same time. This was found to be difficult to manage with only one staff member acting as Project Manager and long-term preparation periods when courses could not be edited. The decision was made to schedule courses in batches of ten, with a new batch starting the process every few weeks during the second year of the project, which was found to be a much more manageable solution.

As each course moves through the process, it is analyzed by the contractor using the accessibility standards list described above and submitted to the Project Manager in spreadsheet format. The spreadsheet is divided into items that the contractor can edit without any additional input, and items that need either Project Manager or academic unit input in order to be edited. The Project Manager first provides input that can be handed over without anyone else's involvement and then reaches out to the academic unit responsible for the course for input if needed. The Project Manager creates a clear list of input needing the attention of the academic unit and places a deadline for the input to be returned. Examples of input often needing the attention of the academic unit include creating alternative text for complex diagrams and tables and obtaining text-based versions of PDFs to replace scanned versions. After all input has been gathered, the course returns to

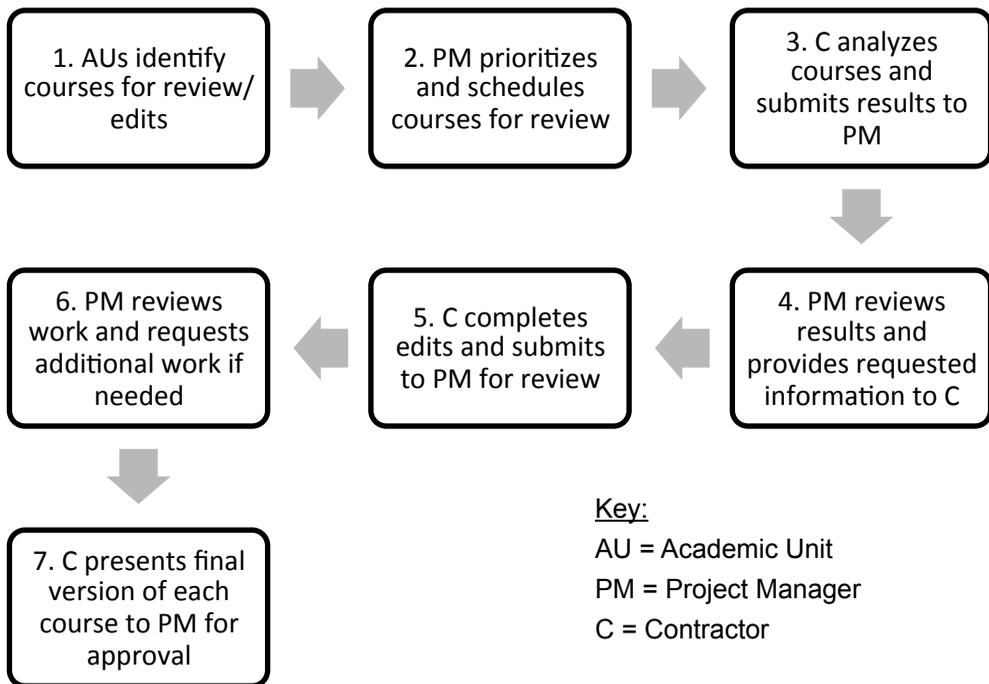


Figure 1. Course revision process.

the contractor for editing. Once editing is complete, the Project Manager reviews the course using the accessibility standards list and either approves the course or sends it back to the contractor for additional work if needed. If additional work has been requested, the Project Manager needs to review the course again for approval.

A goal for the second year of the project is to add staff members to the project to support the Project Manager, spreading out the work that needs to be completed, as well as the knowledge of online course accessibility in general. We also plan to implement the accessibility standards list into our course development process as soon as possible.

Quality Matters Standards 8.3 and 8.4

Quality Matters Standards 8.3 and 8.4 are both two-point standards, meaning that Quality Matters declares them as “Very Important” but not “Essential” ([Quality Matters](#), 2011).

Standard 8.3 requires that “course design facilitates readability and minimizes distractions,” which focuses on the visual aspects of the course. This standard most obviously affects students with physical impairments such as low vision or blindness, but it also affects those with cognitive disabilities, as their brains do not process visual elements in the same way that nondisabled students would. For example, while flashing objects can cause trouble for someone with a physical disability such as epilepsy, they may also be a barrier for processing anything else on the page for someone with Attention Deficit Hyperactivity Disorder ([WebAIM](#), 2014). This standard covers elements such as the use of color, tables, graphics, text placement, and text format-

ting ([Quality Matters](#), 2011). Table 1 provides some examples of common elements in an online course web page and some best practices to make each of these elements accessible.

While minimizing distractions does not mean that any design elements or images should be eliminated from online course pages, simplifying the design of the pages can make it easier for those with cognitive disabilities to process the page, or manipulate the page using an assistive technology program.

Quality Matters Standard 8.4 states “The course design accommodates the use of assistive technologies” ([Quality Matters](#), 2011). Assistive technology refers to equipment or software that is used to improve or correct the functions of disabled persons ([Assistive Technology Industry Association](#), n.d.). Assistive technologies can either be input devices that allow users to control and navigate computers and web pages, or output devices that interpret and/or manipulate data and elements on computers and web pages such as screen magnifiers, screen readers, and learning disabilities programs ([Microsoft](#), 2014). A vision-impaired student may use an assistive technology like the screen reader JAWS ([2014](#)) to have the elements on the screen read aloud to them. A student with a cognitive disability may be much more successful processing the information when it is read to them by a screen reader or other type of assistive technology, and they may also benefit from being able to take the content on the screen and manipulate it, adding highlighting, breaking up areas of text, turning off images, or adding notes.

Standard 8.4 covers elements such as text formatting, equations, links, tables, scanned PDFs (portable document formats), and media ([Quality Matters](#), 2011.) Table 2 provides some examples of com-

Element	Best Practices
Color	<ul style="list-style-type: none">• Do not use color for instruction• Use only high-contrast colors together• Use color sparingly to keep the look simple
Tables	<ul style="list-style-type: none">• Use tables to convey data in a simple, clean format
Graphics	<ul style="list-style-type: none">• Include alt text tag with description of image for all essential images• Do not include citation of image in alt text tag• Avoid flashing graphics• Avoid animations that do not align with content
Text Placement	<ul style="list-style-type: none">• Use <h1>, <h2>, etc. heading elements to convey headings and subheadings and order• Use bulleted and numbered lists where possible for simplicity• Break up large areas of text by chunking topics or using relevant graphics
Text formatting	<ul style="list-style-type: none">• Use consistent font types and sizes• Do not use underline tag for emphasis, only for links (use bold and italics for emphasis)

Table 1. Examples of Standard 8.3 Elements and Best Practices

Elements	Best Practices
Text formatting	<ul style="list-style-type: none"> • Use <abbr> tag for abbreviations or acronyms • Use em for size instead of px (em is resizable, px is not)
Equations	<ul style="list-style-type: none"> • Use HTML codes for symbols when possible • If not possible to use HTML codes (complex equations), add equation as image with proper alt text tag of text form of equation
Links	<ul style="list-style-type: none"> • Use destination description as link title, not the URL • If link opens to PDF, video, audio file, etc. include file type and size
Tables	<ul style="list-style-type: none"> • Only use tables for data, not design • Use <caption> tag to describe table data • Use <th> (table header) tag to signify column headings
Scanned PDFs	<ul style="list-style-type: none"> • Find text-based version of PDF or scan a copy of the PDF (or original work) using an OCR (optical character recognition) software program
Media	<ul style="list-style-type: none"> • Provide text-only copies of media

Table 2. Examples of Standard 8.4 Elements and Best Practices

mon elements in an online course web page and some best practices to make each of these elements accessible.

Conclusion

Excelsior College is committed to offering accommodations to students with disabilities and assisting all students in being successful in their online courses. The Quality Matters Rubric ([Quality Matters](#), 2011) holds accessibility as an essential element of a high-quality online course; however, creating accessible online courses and retrofitting existing courses for accessibility can be difficult. Careful consideration of specific institutional needs and online course structure, along with a structured implementation plan, can be helpful in administering the technical standards of Section 508 ([Rehabilitation Act](#), 1998) into your online course program and meeting the Quality Matters Rubric ([Quality Matters](#), 2011).

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