

EME 6226

A2 Designing Accessible Instructional Materials

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Web Content Accessibility Guidelines Overview

The assignment follows the Web Content Accessibility Guidelines (WCAG) as outlined from the Web Accessibility Initiative to make web content available for people with disabilities: <https://www.w3.org/TR/WCAG20/>

The guidelines can be found below:

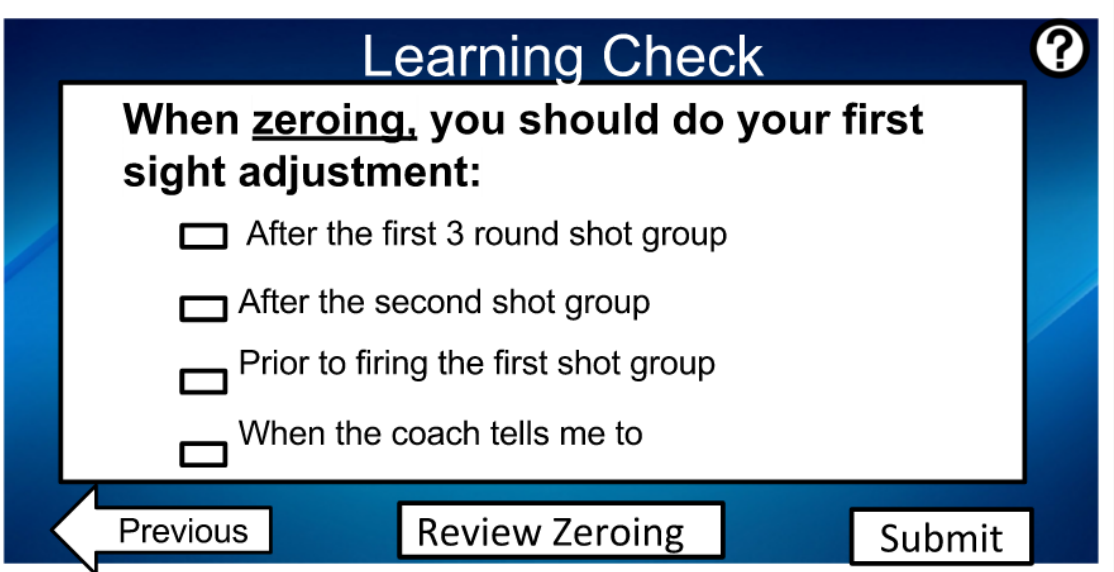
- 1.1 **Text Alternatives:** [Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.](#)
- 1.2 **Time-based Media:** [Provide alternatives for time-based media.](#)
- 1.3 **Adaptable:** [Create content that can be presented in different ways \(for example simpler layout\) without losing information or structure.](#)
- 1.4 **Distinguishable:** [Make it easier for users to see and hear content including separating foreground from background.](#)
- 2.1 **Keyboard Accessible:** [Make all functionality available from a keyboard.](#)
- 2.2 **Enough Time:** [Provide users enough time to read and use content.](#)
- 2.3 **Seizures:** [Do not design content in a way that is known to cause seizures.](#)
- 2.4 **Navigable:** [Provide ways to help users navigate, find content, and determine where they are.](#)
- 3.1 **Readable:** [Make text content readable and understandable.](#)
- 3.2 **Predictable:** [Make Web pages appear and operate in predictable ways.](#)
- 3.3 **Input Assistance:** [Help users avoid and correct mistakes.](#)
- 4.1 **Compatible:** [Maximize compatibility with current and future user agents, including assistive technologies.](#)

Storyboards and Accessibility Guidelines Tables Overview

The subsequent four storyboards and accessibility guideline tables (Figures 1-8) correlate with frames for our Instructional Unit. Each storyboard contains seven sections: Frame Identification, Screen Description, Screen Layout, Page Style information, Technical specifications, Developer's Notes, Narration, and Links. Then, the tables are organized by each WCAG guideline, whether or not changes were made, and then followed by a narrative rationale.

Learning Check Storyboard

Figure 1: The figure shows storyboard 22400 after the changes have been made.

<p>Project Title: M4 Qualification Lesson Title: Zeroing check on learning Frame Number: 22400 Page: 1 of 1 Date: 12/06/2015</p>	<p><u>Screen Layout:</u></p>	
<p>Screen Description: The purpose of this frame is to allow the soldier a check on learning prior to advancing to the next unit of instruction. This is a check-box format. The second option is the correct answer.</p>		
<p>Developers Notes: Once the page loads, the frame shows this question, the four choices, and instructions for the learner to choose the correct answer and submit</p> <p>If the soldier chooses the correct answer, A pop up appears stating: "Good Job, soldier! Close the pop-up and continue"</p> <p>If the soldier chooses the wrong answer, a pop-up appears stating: "Misfire! Review zeroing section in the FM" The selections are cleared and the soldier has the opportunity to try again. Once the correct answer is selected, the learner advances to the next question in the check on learning</p>	<p>Background: Blue Color Schemes: White and black, yellow highlighting. Text Attributes: Arial, black, 18 pt font</p>	<p>Audio: Video: Animated Gifs: Graphic Stills: Menu icon, FM icon, and Submit</p>
<p>Alternate text: Zeroing check on Learning</p>	<p><u>Links</u> Links from Screen: From end of grouping instruction (frame #21700) Links to Screen: Submit: validates answer and advance to the next unit of instruction, known distance (frame #23100) FM button brings user to FM Section (frame #20100)</p>	

Learning Check Accessibility Guidelines Table


Figure 2: This table explains the changes and rationale that were made to the storyboard frame 22400 in order to conform with the accessibility guidelines.

Guideline	Changes Made / Not Made	Rationale
1.1 Text Alternatives	Changes were not made.	Because there were not non-text elements for this screen, providing alternative text was not required.
1.2 Time-based Media:	Changes were not made.	Because there were not any time based audio, video, or captions, providing time alternatives was not required.
1.3 Adaptable:	Changes were not made.	Because the unit already provides a menu screen to return to, the unit is already adaptable.
1.4 Distinguishable:	Changes were not made.	Because use of color, contrast, and text were already created for distinguishability, no changes were made.
2.1 Keyboard Accessible:	Changes were not made.	Because the system allows for control/progression of the unit through arrow buttons on the keyboard, changes were not necessary.
2.2 Enough Time:	Changes were not made.	Because there was no time limit for this unit, changes were not made for time.
2.3 Seizures:	Changes were not made.	Because there was no instance of flashing three or more times, changes for seizures were not made.
2.4 Navigable:	Titles were added to the top of each screen to make the content more navigable.	Guideline 2.4 of Navigable content states headings and labels should provide the topic or purpose
3.1 Readable:	Changes were not made.	Because the default human language was determinable, reading level was not higher than secondary level, and unusual words were explained in instruction, changes were not made.

3.2 Predictable:	Changes were not made.	Because the content appears in predictable ways, menus are provided, consistent navigation and consistent identification was utilized, changes were not made.
3.3 Input Assistance:	A help button has been added which will provide a text-based explanation of what the user should do.	Section 3.3 states that if a form requires text input, a help link could be provided on each page.
4.1 Compatible:	N/A	Because this unit does not utilize a markup language, these changes were not applicable.

Results Storyboard

Figure 3: The figure shows storyboard frame 24000 after the changes have been made.

<p>Project Title: M4 Qualification Lesson Title: Talley Test Results Frame Number: 24000 Page: 1 of 1</p>	<p><u>Screen Layout:</u></p>	
<p>Date: 12/06/2015 The purpose of this frame is to display the soldiers scores. These results are assessed with the end of instruction check on learning tests on the subjects of grouping, zeroing, and known distance instruction. Scores are averaged and the associating badge is displayed.</p> <p>Top left box- This section displays a breakdown of the soldier's individual scores and the soldier's overall percentage.</p> <p>Bottom left box- This section displays the marksmanship badges and the parameters of the scores.</p>		
<p>Right box- The badge is displayed for the overall score.</p>	<p>Background: Blue Color Schemes: White and black Text Attributes: Arial, black, 18 pt font</p>	<p>Audio: Video: Animated Gifs: Graphic Stills: marksmanship badges and</p>
<p>Developers notes:</p> <p>Once the page loads, the results will be displayed at the same time.</p> <p>If the soldier does not achieve a 70% or above, the soldier did not quality and will not be able to print a certificate of completion at the end of the course.</p> <p>If the overall score is greater than or equal to 70%, the print certificate option is enabled.</p>	<p><u>Links</u> Links from Screen: Check on learning known distance (frame #23500) Links to Screen: Next button advances (frame #24400) Share button continues to social media (frame #24300)</p>	

Results Accessibility Guidelines Table

Figure 4: This table explains the changes and rationale that were made to the storyboard frame 24000 in order to conform with the accessibility guidelines.

Guidelines	Changes Made / Not Made	Rationale
1.1 Text Alternatives	Changes were not made.	This slide contains a non-text element (badge icon), but the name of the badge is also listed as a text alternative that serves the same purpose and presents the same information as the original non-text content.
1.2 Time-based Media:	Changes were not made.	Because there were not any time based audio, video, or captions, providing time alternatives was not required.
1.3 Adaptable:	<p>The camouflage background was changed to blue. Ranking badge icons were removed along with lines used to separate items on the page.</p> <p>The user's score was moved to the top of the page and color of the font was changed. A recommendation link was provided in a similar font and color to the score. These two adaptations act as landmarks for the user.</p> <p>A "Review Unit" button was added for navigational purposes. All other information was removed.</p> <p>Titles were added at the top of each screen to make the content more navigable</p>	<p>The changing of the background along with the removal of badge ranking icons serve to present a simpler layout without losing important information.</p> <p>Landmark roles (or "landmarks") were added because they programmatically identify sections of a page. Landmarks help assistive technology (AT) users orient themselves to a page and help them navigate easily to various sections of a page.</p> <p>The "Review Unit" button acts a form of navigation to direct the user to more information.</p>
1.4 Distinguishable:	Changes were not made	Because use of color, contrast, and text were already created for distinguishability, no changes were made
2.1 Keyboard	Changes were not made	Because the LMS system allows for control/progression of the unit through arrow buttons on the keyboard, changes were not necessary.

Accessible:		
2.2 Enough Time:	Changes were not made	Users are able to complete the tasks required by the content with their own individual response times.
2.3 Seizures:	Changes were not made	This web page does not contain anything that flashes more than three times.
2.4 Navigable:	<p>The user's score was moved to the top of the page and color of the font was changed. A recommendation link was provided in a similar font and color to the score. These two adaptations act as landmarks for the user.</p> <p>A "Review Unit" button was added for navigational purposes. . All other information was removed.</p>	These changes were discussed in the adaptable section. The use of landmarks and navigational tools allow the user to keep track of their location.
3.1 Readable:	Changes were not made	The information and operation of the user interface is considered to be understandable.
3.2 Predictable:	Changes were not made	Consistent navigation and identification are used throughout the storyboard.
3.3 Input Assistance:	Changes were not made	This is an informational slide that is the result of the previous slide. The user is not asked to input information that could result in mistakes.
4.1 Compatible:	N/A	Because this unit does not utilize a markup language, these changes were not applicable.

Share Storyboard

Figure 5: The figure shows storyboard 24300 after the changes have been made.

<p>Project Title: M4 Qualification Lesson Title: Share score on social medial Frame Number: 24300 Page: 1 of 1 Date: 12/06/2015</p>	<p><u>Screen Layout:</u></p>	
<p>allow the soldier to share his/her score on social media. If the soldier does not opt to share on social media, the soldier can select to advance to the next section.</p>		
<p>Developers Notes: This is an optional slide for the soldier to share his/her score on social media.</p>	<p>Background: Blue Color Schemes: White and black Text Attributes: Arial, black, 18 pt font</p> <p>Audio: Video: Animated Gifs: Graphic Stills: Graphic of social media (twitter,</p>	
<p>If the soldier does not opt to share on social media, the soldier can select to advance to the next section.</p>	<p><u>Links</u> Links from Screen: From share button (frame #24200)</p>	
<p>Some links will not work on all government networks. Special instructions will have to be coordinated between the developer and Signal Command for a exception to policy to ensure all links work correctly.</p>	<p>Alternate text: Twitter, Facebook, Google +, Pin</p> <p>Links to Screen: Logo/App style links to: www.twitter.com, www.facebook.com, www.plus.google.com, www.pinterest.com.</p>	

Share Accessibility Guidelines Table

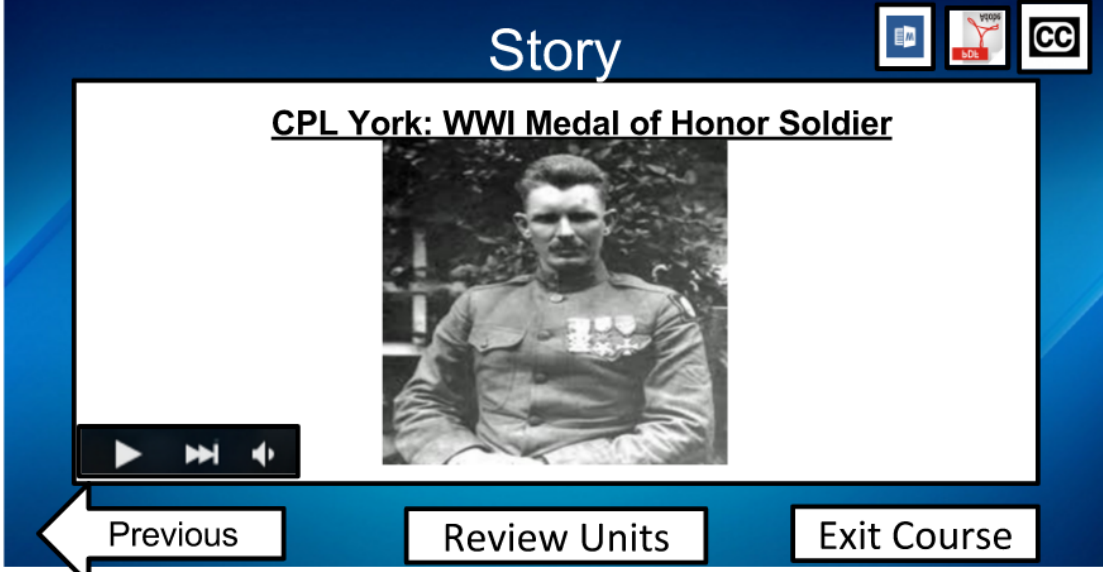
Figure 6: This table explains the changes and rationale that were made to the storyboard frame 24300 in order to conform with the accessibility guidelines.

Guidelines	Changes Made / Not Made	Rationale
1.1 Text Alternatives	Changes were not made.	Because there were no non-text elements for this screen, providing alternative text was not required.
1.2 Time-based Media:	Changes were not made.	Because there were not any time based audio, video, or captions, providing time alternatives was not required.
1.3 Adaptable:	A “previous button,” a “review unit” button and a “next” button were added.	Landmark roles (or "landmarks") were added because they programmatically identify sections of a page. Landmarks help assistive technology (AT) users orient themselves to a page and help them navigate easily to various sections of a page.
1.4 Distinguishable:	Changes were not made.	Because use of color, contrast, and text were already created for distinguishability, no changes were made.
2.1 Keyboard Accessible:	Changes were not made.	Because the LMS system allows for control/progression of the unit through arrow buttons on the keyboard, changes were not necessary.
2.2 Enough Time:	Changes were not made	Users are able to complete the tasks required by the content with their own individual response times.
2.3 Seizures:	Changes were not made.	This web page does not contain anything that flashes more than three times.
2.4 Navigable:	Titles were added to the top of each screen to make the content more navigable.	Guideline 2.4 of Navigable content states headings and labels should provide the topic or purpose.
3.1 Readable:	Changes were not made.	Because the default human language was determinable, reading level was not higher than secondary level, and unusual words were explained in instruction, changes were not made.
3.2 Predictable:	Changes were not made.	Because the content appears in predictable ways, menus are provided, consistent navigation and

		consistent identification was utilized, changes were not made.
3.3 Input Assistance:	Changes were not made.	This is an informational slide that is the result of the previous slide. The user is not asked to input information that could result in mistakes.
4.1 Compatible:	N/A	Because this unit does not utilize a markup language, these changes were not applicable.

Story Storyboard

Figure 7: The figure shows storyboard 24400 after the changes have been made

<p>Project Title: M4 Qualification Lesson Title: Corporal York Medal of Honor Frame Number: 24400 Page: 1 of 1 Date: 12/06/2015</p>	<p>Screen Layout:</p>	
<p>Screen description: The purpose of this slide to narrate the story of CPL York to inspire solders to maintain discipline with marksmanship training.</p>	 <p>The storyboard preview shows a slide with a blue background. At the top, the word 'Story' is written in white. Below it, the title 'CPL York: WWI Medal of Honor Soldier' is centered. A black and white photograph of a soldier in uniform is centered below the title. At the bottom of the slide, there are three buttons: 'Previous' (with a left arrow), 'Review Units', and 'Exit Course'. Navigation controls (play, next, previous) are visible at the bottom left of the slide area. In the top right corner of the slide area, there are icons for a document, a red 'Y' logo, and a Creative Commons license.</p>	
<p>Script (narrated): "CPL York was a hero and WWI Medal of Honor winner. His only formal training with marksmanship was basic training. His accurate fire changed the battle. As one soldier, he captured 132 soldiers. CPL York's story is a testament to how one soldier, with the proper marksmanship training, can change the outcome of a battle"</p>	<p>Background: Blue Color Schemes: White and black Text Attributes: Arial, black, 18 pt font</p> <p>Audio: Voice over of CPL York text Video: Animated Gifs: Graphic Stills: Graphic of CPL York picture,</p>	
<p><u>Developer's Notes:</u> On page loads, the image of CPL York and Title text, will appear. The voice over will start and the bullets will appear in sync with the narration. Provide closed captions.</p> <ul style="list-style-type: none"> • Only formal training was basic Army marksmanship training prior to combat • Accurate and deadly fire sapped the will to fight from the German soldiers • Corporal York single handedly killed 28 enemy soldiers and captured 132 • One man, with proper marksmanship training, can change <p>◀ ▶ ⏪ ⏩ ⏹ ⚙ Exit</p>	<p><u>Links</u> Links from Screen: Next button (frame #24200) Next button (frame #24300)</p> <p>Links to Screen: Exit button (frame 24500)</p>	

Story Accessibility Guidelines Table

Figure 8: This table explains the changes and rationale that were made to the storyboard frame 24400 in order to conform with the accessibility guidelines.

Guidelines	Changes Made / Not Made	Rationale
1.1 Text Alternatives	A transcript of this video will be provided via Pdf and Word icons above the video	To meet this guideline, it is necessary to provide the video content in text so that it can be changed into more perceivable text.
1.2 Time-based Media:	Closed captions of the video will be provided, and users will be able to turn them on and off via the “cc” button on the top right of the page.	For time-based Media, users need to be able to have an alternative for the time-based media (the video), so closed captions will be provided.
1.3 Adaptable:	Changes were not made	Landmark roles (or "landmarks") that programmatically identify sections of a page are already present. Landmarks help assistive technology (AT) users orient themselves to a page and help them navigate easily to various sections of a page.
1.4 Distinguishable:	Changes were not made	Because use of color, contrast, and text were already created for distinguishability, no changes were made.
2.1 Keyboard Accessible:	Changes were not made	Because the LMS system allows for control/progression of the unit through arrow buttons on the keyboard, changes were not necessary.
2.2 Enough Time:	Changes were not made	The video has an embedded pause button already so that users can pause and restart the video at their discretion and at any point in the video. The transcript of the video also allows users to access the content of the video
2.3 Seizures:	Changes were not made	The content does not contain any flashing or prominent use of the color red.
2.4 Navigable:	A heading stating the purpose of the frame will be added.	The guidelines state that headings and purposes should be on each page to make it more navigable. The frame also already clearly demarcates “forward,” “back”, and “review units,” so no further changes are needed.

3.1 Readable:	Changes were not made	Since this is a video, only the headings and navigation buttons are in text format, and they are at an appropriate reading level. The transcript of the video is in a conversational register and is at the appropriate reading level for soldiers in the armed forces.
3.2 Predictable:	Changes were not made	The navigation and help buttons have the consistent function and appear consistently across all frames within the unit
3.3 Input Assistance:	Changes were not made	Because the user is not asked to input information that could result in mistakes, no changes are necessary.
4.1 Compatible:	N/A	Because this unit does not utilize a markup language, these changes were not applicable.

Works Cited

Web Accessibility Initiative. (2012, October). WCAG Overview. Retrieved from <https://www.w3.org/WAI/intro/wcag>