California Open Online Library for Education & Accessibility

COOL4Ed (the California Open Online Library for Education) was created so that faculty can easily find, adopt, utilize, review and/or modify free and open etextbooks for little or no cost. The COOL4Ed accessibility open textbook evaluations can inform faculty, staff, and students how the free and open etextbooks meet 15 accessibility "checkpoints" that could impact the learning of learners with a range of disabilities.

SUMMARY OF ACCESSIBILITY EVALUATION:

Textbook: **American History: Pre-Columbian to the New Millennium**
Format of Textbook: **HTML**

Assistive Technology (AT) Evaluation Score: Overall	4.5 (Maximum score = 10)
Assistive Technologies (AT) Evaluations applies specialized tools and software in the accessibility evaluation process. These specialized assistive technologies, see list below, are typically not used or available by the general public into the accessibility evaluation process. • Accessibility features of desktop operating systems (e.g. high-contrast display themes, settings from the Keyboard and Mouse control panels) • Accessibility-related software included with desktop operating systems (e.g. VoiceOver, Microsoft Narrator) • Third-party accessibility software and hardware: • Screen readers (e.g. JAWS, Window Eyes) • Magnification software (e.g. ZoomText Magnifier/Reader, MAGIC Pro with Speech) • Reading software for users with learning disabilities (e.g. Read and Write Gold, Kurzweil 3000) • Refreshable Braille displays	
Non- Assistive Technology (NAT) Evaluation Score: Overall	**7.7 (Maximum score =10)**
Non-Assistive Technologies (NAT) Evaluations applies only native or basic tools and software such as the keyboard and Narrator in the accessibility evaluation process. These non-assistive technologies are readily available and used by the general public.	

COOL4Ed Accessibility Evaluation Methods:

The California State University Accessible Technology Initiative and MERLOT (Multimedia Educational Resources for Learning and Online Teaching) developed the rubric or "checkpoints" for the accessibility evaluation. CAST, a nationally recognized organization with expertise in accessibility and UDL, reviewed and affirmed the appropriateness and value of the accessibility evaluation rubric and contributed the references and support resources to help people learn how best to design, evaluate, and remediate the learning materials to maximize the accessibility of the learning resources for all. The "checkpoints" have been built upon the Section 508 technical standards and has been organized and tailored to the typical characteristics of digital resources used in higher education courses.

The accessibility evaluations were performed by the Center for Usability in Design and Accessibility at California State University, Long Beach; faculty and graduate students with expertise in human factors, usability, and accessibility performed the evaluations of over 150 free and open etextbooks. COOL4ed.org has published the accessibility evaluation rubric and provides a detailed description of the methodology used to evaluate the accessibility of the etextbooks in COOL4ed.

LOOKING FOR DETAILED ACCESSIBILITY REPORTS?

See Detailed Accessibility Evaluation Report using Assistive Technologies

See Detailed Accessibility Evaluation Report using Non-Assistive Technologies

DETAILED ACCESSIBILITY EVALUATION REPORT using
Assistive Technologies

Assistive Technologies (AT) Evaluations applies specialized tools and software in the accessibility evaluation process.   These specialized assistive technologies, such as Kurzweil and NVDA, are typically not used or available by the general public into the accessibility evaluation process.

1. Accessibility Documentation

A. The organization providing the online materials has a formal accessibility policy.	**Fail**
Additional Information:	**Did not find any information about ushistory.org's formal accessibility policy.**
B. The organization providing the online materials has an accessibility statement.	**Fail**
Additional Information:	**Did not find any information about ushistory.org's accessibility statement.**
C. An Accessibility Evaluation Report is available from an external organization.	**Fail**
Additional Information:	**Did not find any information about ushistory.org's accessibility evaluation report.**

2. Text Access

A. The text of the digital resource is available to assistive technology that allows the user to enable text-to-speech (TTS) functionality.	**Fail**
Additional Information:	**0/9 chapters allowed text to speech capabilities (Ch. 1, 8, 12, 28, 30, 35, 45, 58, 60). When the NVDA reader was reading through the chapters, I could not figure out what the NVDA reader was reading. It seemed like it was reading the borders around the content of the textbook but sometimes the borders did not match what was being read. When you would use the hotkeys to read further, the NVDA would read "link ushistory dot lisence dot." None of the information that the NVDA reader was reading made**

	any sense because it was not pertaining to what the textbook was about.

3. Text Adjustment

A. Text is compatible with assistive technology.	**Pass**
Additional Information:	**9/9 chapters are able to zoom in and out (Ch. 1, 8, 12, 28, 30, 35, 45, 58, 60). There was no horizontal zooming involved when zoomed in.**
B. The resource allows the user to adjust the font size and font/background color (or is rendered by an application such as a browser, media player, or reader) that offers this functionality).	**Pass**
Additional Information:	**9/9 chapters were capable of changing font colors using the Care Your Eyes application (Ch. 1, 8, 12, 28, 30, 35, 45, 58, 60).**

4. Reading Layout

A. Text of the digital resource is compatible with assistive technology that allows the user to reflow the text by specifying the margins and line spacing (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	**Pass**
Additional Information:	**30/30 webpages have proper text reflow (Ch. 1(4), 8(4), 12(4), 28(4), 30(4), 35(4), 45(4), 58(2).**
B. If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material.	**N/A**
Additional Information:	**No printed version available.**

5. Reading Order

A. The reading order for digital resource content logically corresponds to the visual layout of	**Fail**

the page when rendered by assistive technology.	
Additional Information:	**0/5 pages were properly read aloud (1a, 9d, 9g, 11, 18a). All of the content on the page was skipped because it was not read aloud. Tables were not found and the information that was read aloud did not pertain to what was on the screen.**

6. *Structural Markup/Navigation*

A. The text of the digital resource includes markup (e.g. tags or styles) that allows for navigation by key structural elements (chapters, headings, pages) using assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	**Fail**
Additional Information:	**0/9 chapters had proper navigation of text (Ch. 1, 8, 12, 28, 30, 35, 45, 58, 60). Headers, tables, and lists were not found. The NVDA reader would say "No next…"**
B. The text of the digital resource includes markup for bullets and numbered lists that is compatible with assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	**Fail**
Additional Information:	**0/10 lists were properly navigable using the NVDA hotkeys (10a, 18a, 21f, 27f, 33d, 42e, 54i, 56d, 56e, contents). Lists were not found, the NVDA reader states "No next list."**
C. If the text of the digital resource is delivered within an ebook reader application, a method is provided that allows users to bypass the reader interface and move directly to the text content that is compatible with assistive technology.	**N/A**
Additional Information:	**Not using eReader application.**

7. Tables

A. Data tables include markup (e.g. tags or styles) that identifies row and column headers in a manner that is compatible with assistive technology (or are rendered by an application such as a browser, media player, or reader that offers this functionality).	**Fail**
Additional Information:	**0/6 tables were properly navigable using the NVDA hotkeys (1a, 9d, 9g, 11, 18a, 24b). These tables were not found when using the hotkeys.**

8. Hyperlinks

A. In-book links take you to a location within the textbook. For example, the table of contents would be considered in-book links and embedded links take you to the correct location in the book.	**N/A**
Additional Information:	**All hyperlinks are live.**
B. Live hyperlinks take you to any website or webpages external to the book.	**Pass**
Additional Information:	**42/50 hyperlinks function properly (Contents (2), Ch. 1a(17), 8b(6), 28c(5), 30d(6), 35a(8)). The remaining 8 hyperlinks were links to pages that were not found (Ch. 28c(3), 30d(2), 35a(3)). 50/50 hyperlinks had proper descriptions and did not label the links as URLs (Contents (2), Ch. 1a, 8b, 28c, 30d, 35a, 45b).**
C. Live links take you to the correct webpage that is functioning properly.	**Pass**
Additional Information:	**42/50 hyperlinks function properly (Contents (2), Ch. 1a(17), 8b(6), 28c(5), 30d(6), 35a(8)). The remaining 8 hyperlinks were links to pages that were not found (Ch. 28c(3), 30d(2), 35a(3)).**
D. Live links are descriptive enough for the users to know where it should take them.	**Pass**

Additional Information:	**50/50 hyperlinks had proper descriptions and did not label the links as URLs (Contents (2), Ch. 1a, 8b, 28c, 30d, 35a, 45b).**

9. Color and Contrast

A. All information within the material that is conveyed using color is also available in a manner that is compatible with those that do not perceive color, and information conveyed by color is also conveyed in other ways.	**Pass**
Additional Information:	**9/9 chapters had consistent color redundancy (Ch. 1, 8, 12, 28, 30, 35, 45, 58, 60). The headings were consistently dark blue the normal text was consistently black, and links were blue against a white background. Vocabulary was also consistently in black and bolded.**
B. Information is conveyed from the sub-categories for contrast.	**Pass**
Additional Information:	**9/9 chapters had proper contrast (Ch. 1, 8, 12, 28, 30, 35, 45, 58, 60). Headers were dark blue and black against white background. Normal text was black against a white background.**
C. Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1).	**Pass**
Additional Information:	**Headers were dark blue and black against white background.**
D. Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1).	**Pass**
Additional Information:	**Normal text was black against a white background.**
E. Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1).	**N/A**
Additional Information:	**No simple images found.**

10.Language

A. The text of the digital resource includes markup that declares the language of the content in a manner that is compatible with assistive technology.	**Fail**
Additional Information:	**No language markup found.**
B. If the digital resource includes passages in a foreign language, these passages include markup that declares the language in a manner that is compatible with assistive technology.	**N/A**
Additional Information:	**No passage markup.**

11.Images

A. Non-decorative images have alternative text that is compatible with assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	**Fail**
Additional Information:	**0/9 chapters had proper descriptions of non-decorative images (Ch.1 8, 12, 28, 30, 35, 45, 58, 60). These images were not read aloud because the NVDA reader would not read the appropriate content.**
B. Decorative images are marked with null alternate text or contain markup that allows them to be ignored by assistive technology.	**Pass**
Additional Information:	**Decorative images were skipped.**
C. Complex images, charts, and graphs have longer text descriptions that are compatible with assistive technology (or are rendered by an application such as a browser, media player, or reader) that offers this functionality).	**Fail**
Additional Information:	**0/9 chapters had proper descriptions of complex images (Ch.1 8, 12, 28, 30, 35, 45, 58, 60). Complex**

	images were not read aloud because the NVDA reader would not read the correct information.

12.Multimedia

A. A synchronized text track (e.g. open or closed captions) is provided with all video content.	N/A
Additional Information:	No multimedia content found.
B. A transcript is provided with all audio content.	N/A
Additional Information:	No multimedia content found.
C. Audio/video content is delivered via a media player that is compatible with assistive technology. This includes support for all criteria listed in Section 15 below.	N/A
Additional Information:	No multimedia content found.

13.Flickering

A. The digital resource content does not contain anything that flashes more than three times in any one-second period.	Pass
Additional Information:	No flickering content.

14.Science, Technology, Engineering, and Math (STEM)

A. STEM figures have appropriate markup that indicates that the image is a figure.	N/A
Additional Information:	No STEM content found.
B. STEM graphs have appropriate markup that indicates that the image is a graph.	N/A
Additional Information:	No STEM content found.
C. STEM equations have appropriate markup that indicates that the image is an equation.	N/A
Additional Information:	No STEM content found.

D. STEM tables have appropriate markup that indicates the image is a table.	**N/A**
Additional Information:	**No STEM content found.**
E. STEM figures have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	**N/A**
Additional Information:	**No STEM content found.**
F. STEM graphs have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	**N/A**
Additional Information:	**No STEM content found.**
G. STEM equations have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	**N/A**
Additional Information:	**No STEM content found.**
H. Assistive technology used can access the content from the STEM tables.	**N/A**
Additional Information:	**No STEM content found.**

15. Interactive Elements

A. Each interactive element (e.g. menu, hyperlink, button) and function (e.g. annotations) allows keyboard-only operation both with and without assistive technology.	**N/A**
Additional Information:	**No interactive elements found.**
B. Each interactive element conveys information to assistive technology regarding the element's name, type, and status (e.g. "Play, button, selected").	**N/A**
Additional Information:	**No interactive elements found.**

C. All instructions, prompts, and error messages necessary to complete forms are conveyed as text to assistive technology (or are rendered by an application such as a browser, media player, or reader that offers this functionality).	**N/A**
Additional Information:	**No interactive elements found.**

DETAILED ACCESSIBILITY EVALUATION REPORT using Non-Assistive Technologies

Non-Assistive Technologies (NAT) Evaluations applies only native or basic tools and software such as the keyboard and Narrator in the accessibility evaluation process. These non-assistive technologies are readily available and used by the general public.

1. Accessibility Documentation

A. The organization providing the online materials has a formal accessibility policy.	**Fail**
Additional Information:	**Not found.**
B. The organization providing the online materials has an accessibility statement.	**Fail**
Additional Information:	**Not found.**
C. An Accessibility Evaluation Report is available from an external organization.	**Fail**
Additional Information:	**Not found.**

2. Text Access

A. The text of the digital resource is available to assistive technology that allows the user to enable text-to-speech (TTS) functionality.	**Pass**

Additional Information:	**9/9 chapters pass. The top heading of the chapter is skipped. 1, 5, 10, 20, 25, 30, 40, 50, 55 were checked.**

3. Text Adjustment

A. Text is compatible with assistive technology.	**Pass**
Additional Information:	**9/9 chapters pass. The top heading of the chapter is skipped. 1, 5, 10, 20, 25, 30, 40, 50, 55 were checked.**
B. The resource allows the user to adjust the font size and font/background color (or is rendered by an application such as a browser, media player, or reader) that offers this functionality).	**Pass**
Additional Information:	**9/9 chapters pass. The top heading of the chapter is skipped. 1, 5, 10, 20, 25, 30, 40, 50, 55 were checked.**

4. Reading Layout

A. Text of the digital resource is compatible with assistive technology that allows the user to reflow the text by specifying the margins and line spacing (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	**Fail**
Additional Information:	**0/9 chapters pass. Chapters do not reflow when making window smaller or when making text 200%. 1, 5, 10, 20, 25, 30, 40, 50, 55 were checked.**
B. If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material.	**N/A**
Additional Information:	**No printed or pdf version found.**

5. Reading Order

A. The reading order for digital resource content logically corresponds to the visual layout of	**N/A**

the page when rendered by assistive technology.	
Additional Information:	**Non-assistive technology only.**

6. *Structural Markup/Navigation*

A. The text of the digital resource includes markup (e.g. tags or styles) that allows for navigation by key structural elements (chapters, headings, pages) using assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	**N/A**
Additional Information:	**Non-assistive technology only.**
B. The text of the digital resource includes markup for bullets and numbered lists that is compatible with assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	**N/A**
Additional Information:	**Non-assistive technology only.**
C. If the text of the digital resource is delivered within an ebook reader application, a method is provided that allows users to bypass the reader interface and move directly to the text content that is compatible with assistive technology.	**N/A**
Additional Information:	**Non-assistive technology only.**

7. *Tables*

A. Data tables include markup (e.g. tags or styles) that identifies row and column headers in a manner that is compatible with assistive technology (or are rendered by an application such as a browser, media player, or reader that offers this functionality).	**N/A**

Additional Information:	**Non-assistive technology only.**

8. *Hyperlinks*

A. In-book links take you to a location within the textbook. For example, the table of contents would be considered in-book links and embedded links take you to the correct location in the book.	**N/A**
Additional Information:	**HTML documents only cotain live links, inbook links are available.**
B. Live hyperlinks take you to any website or webpages external to the book.	**Pass**
Additional Information:	**Average score.**
C. Live links take you to the correct webpage that is functioning properly.	**Pass**
Additional Information:	**20/20 links pass.**
D. Live links are descriptive enough for the users to know where it should take them.	**Pass**
Additional Information:	**20/20 links pass.**

9. *Color and Contrast*

A. All information within the material that is conveyed using color is also available in a manner that is compatible with those that do not perceive color, and information conveyed by color is also conveyed in other ways.	**Fail**
Additional Information:	**Some links have a redundant coding (they are underlined) however some links like the ones found in the table of contents do not have a redundant code.**
B. Information is conveyed from the sub-categories for contrast.	**Pass**
Additional Information:	**Average score.**

C. Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1).	**Pass**
Additional Information:	**Headers are dark blue and background is white. 1, 5, 10, 20, 25, 30, 40, 50, 55 were checked.**
D. Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1).	**Pass**
Additional Information:	**Text is black and background is white. 1, 5, 10, 20, 25, 30, 40, 50, 55 were checked.**
E. Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1).	**Pass**
Additional Information:	**10/10 simple images pass.**

10. Language

A. The text of the digital resource includes markup that declares the language of the content in a manner that is compatible with assistive technology.	**Fail**
Additional Information:	**0/9 chapters pass. These chapters do not have proper mark ups.**
B. If the digital resource includes passages in a foreign language, these passages include markup that declares the language in a manner that is compatible with assistive technology.	**N/A**
Additional Information:	**No other language found.**

11. Images

A. Non-decorative images have alternative text that is compatible with assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	**Pass**

Additional Information:	**10/10 chapters that have images pass. W3c was used to check.**
B. Decorative images are marked with null alternate text or contain markup that allows them to be ignored by assistive technology.	**Pass**
Additional Information:	**10/10 chapters that have images pass. W3c was used to check.**
C. Complex images, charts, and graphs have longer text descriptions that are compatible with assistive technology (or are rendered by an application such as a browser, media player, or reader) that offers this functionality).	**Pass**
Additional Information:	**10/10 complex images pass.**

12. Multimedia

A. A synchronized text track (e.g. open or closed captions) is provided with all video content.	**N/A**
Additional Information:	**No multimedia found.**
B. A transcript is provided with all audio content.	**N/A**
Additional Information:	**No multimdeia found.**
C. Audio/video content is delivered via a media player that is compatible with assistive technology. This includes support for all criteria listed in Section 15 below.	**N/A**
Additional Information:	**No multimedia found.**

13. Flickering

A. The digital resource content does not contain anything that flashes more than three times in any one-second period.	**Pass**
Additional Information:	**No flickering. Home page and Chapters 1-10 checked. Google Chrome.**

14. Science, Technology, Engineering, and Math (STEM)

A. STEM figures have appropriate markup that indicates that the image is a figure.	**N/A**
Additional Information:	**No STEM figures found.**
B. STEM graphs have appropriate markup that indicates that the image is a graph.	**N/A**
Additional Information:	**No STEM graphs found.**
C. STEM equations have appropriate markup that indicates that the image is an equation.	**N/A**
Additional Information:	**No STEM equations found.**
D. STEM tables have appropriate markup that indicates the image is a table.	**N/A**
Additional Information:	**No STEM tables found.**
E. STEM figures have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	**N/A**
Additional Information:	**No STEM figures found.**
F. STEM graphs have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	**N/A**
Additional Information:	**No STEM graphs found.**
G. STEM equations have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	**N/A**
Additional Information:	**No STEM equations found.**
H. Assistive technology used can access the content from the STEM tables.	**N/A**
Additional Information:	**No STEM tables found.**

15. Interactive Elements

A. Each interactive element (e.g. menu, hyperlink, button) and function (e.g. annotations) allows keyboard-only operation both with and without assistive technology.	**N/A**
Additional Information:	**Non assitive technology only.**
B. Each interactive element conveys information to assistive technology regarding the element's name, type, and status (e.g. "Play, button, selected").	**N/A**
Additional Information:	**Non assitive technology only.**
C. All instructions, prompts, and error messages necessary to complete forms are conveyed as text to assistive technology (or are rendered by an application such as a browser, media player, or reader that offers this functionality).	**N/A**
Additional Information:	**Non assitive technology only.**

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