Voluntary Product Accessibility Template (VPAT)

Date:	December 20$^{\text{th}}$, 2014
Product Name:	WeBWorK
Product Version Number:	2.10
Vendor Company Name:	WeBWorK is open-source software.
Vendor Contact Name:	See http://webwork.maa.org/wiki/Main_Page
Vendor Contact Telephone:	See http://webwork.maa.org/wiki/Main_Page

About WeBWorK

WeBWorK is an open-source online homework platform typically used by educational institutions. Homework questions for WeBWorK can be programmed using perl and HTML by any institution or instructor. Additionally, large libraries of questions have been programmed by WeBWorK users and donated to WeBWorK's Open Problem Library. It is worth noting that questions will only be as accessible as they were coded to be. For example, it is possible to find questions in the OPL where a graph is used without alt text or a data table is used without headers. However each question can be easily altered by an institution or instructor to become accessible. Furthermore, a system is in place to bring such modifications back to the OPL source.

This VPAT applies to WeBWorK itself—the "container". When there is a potential accessibility issue with the "content" stemming from inadequate attention to accessibility in problem authoring, a note is made. This VPAT addresses the accessibility of the student interface, which would generally be the first concern of an institution considering adopting WeBWorK. An analysis of the instructor interface has not yet been conducted.

Summary Table
Voluntary Product Accessibility Template

Criteria	Level of Support & Supporting Features	Remarks and Explanations
Section 1194.21 Software Applications and Operating Systems	Supports	
Section 1194.22 Web-based Internet Information and Applications	Supports	
Section 1194.23 Telecommunications Products	Not Applicable	WeBWorK is not a telecommunications product.
Section 1194.24 Video and Multi-media Products	Not Applicable	No videos are used in WeBWorK unless linked to by the instructor or institution.
Section 1194.25 Self-Contained, Closed Products	Not Applicable	WeBWorK is not a self-contained closed product.
Section 1194.26 Desktop and Portable Computers	Not Applicable	WeBWorK is not a computer.
Section 1194.31 Functional Performance Criteria	Supports	All equations and formulas can be rendered using MathML
Section 1194.41 Information, Documentation and Support	Partially Supports or Supports with Exceptions	WeBWorK is free open-source software. Its support lines cannot be expected to be comparable to the customer service lines of commercial software.

Section 1194.21 Software Applications and Operating Systems—Detail Voluntary Product Accessibility Template

Criteria	Level of Support & Supporting Features	Remarks and Explanations
(a) When software is designed to run on a system that has a keyboard, product functions shall be executable from a keyboard where the function itself or the result of performing a function can be discerned textually.	Supports	
(b) Applications shall not disrupt or disable activated features of other products that are identified as accessibility features, where those features are developed and documented according to industry standards. Applications also shall not disrupt or disable activated features of any operating system that are identified as accessibility features where the application programming interface for those accessibility features has been documented by the manufacturer of the operating system and is available to the product developer.	Supports	No conflicts with accessibility features of other products or operating systems have been detected. WeBWorK has been built to WCAG 2.0 standards, AA.
(c) A well-defined on-screen indication of the current focus shall be provided that moves among interactive interface elements as the input focus changes. The focus shall be programmatically exposed so that Assistive Technology can track focus and focus changes.	Supports	
(d) Sufficient information about a user interface element including the identity, operation and state of the element shall be available to Assistive Technology. When an image represents a program element, the information conveyed by the image must also be available in text.	Supports	Identity, operation and state of interface elements are conveyed to the end user and AT.
(e) When bitmap images are used to identify controls, status indicators, or other programmatic elements, the meaning assigned to those images shall be consistent throughout an application's performance.	Not Applicable	No bitmap images are used.

(f) Textual information shall be provided through operating system functions for displaying text. The minimum information that shall be made available is text content, text input caret location, and text attributes.	Supports	
(g) Applications shall not override user selected contrast and color selections and other individual display attributes.	Supports	
(h) When animation is displayed, the information shall be displayable in at least one non-animated presentation mode at the option of the user.	Not Applicable	Animation is not used.
(i) Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.	Supports	Color is not used alone.
(j) When a product permits a user to adjust color and contrast settings, a variety of color selections capable of producing a range of contrast levels shall be provided.	Supports	
(k) Software shall not use flashing or blinking text, objects, or other elements having a flash or blink frequency greater than 2 Hz and lower than 55 Hz.	Supports	No flashing or blinking text is used.
(l) When electronic forms are used, the form shall allow people using Assistive Technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.	Supports	

Section 1194.22 Web-based Intranet and Internet information and Applications—Detail Voluntary Product Accessibility Template

Criteria	Level of Support & Supporting Features	Remarks and Explanations
(a) A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).	Supports	Alt text is used on every non-text element on platform. Instructors and institutions should check that alt text is used where appropriate in problems that are authored or used from the OPL, and add alt text where it is not.
(b) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.	Not Applicable	No media present on platform. The only media that could arise would be through links added by the instructor or institution.
(c) Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.	Supports	
(d) Documents shall be organized so they are readable without requiring an associated style sheet.	Supports	
(e) Redundant text links shall be provided for each active region of a server-side image map.	Not Applicable	Image maps are not used.
(f) Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape.	Not Applicable	Image maps are not used.
(g) Row and column headers shall be identified for data tables.	Supports	Table headers are used on all data tables on platform. Instructors and institutions should check that headers are used where appropriate in problems that are authored or used from the OPL, and add headers where they are not.
(h) Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.	Not Applicable	No tables exist on platform with two or more levels of row or column headers.
(i) Frames shall be titled with text that facilitates frame identification and navigation.	Not Applicable	Frames are not used.

(j) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.	Supports	
(k) A text-only page, with equivalent information or functionality, shall be provided to make a web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes.	Not Applicable	Not necessary.
(l) When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by Assistive Technology.	Supports	Math content can be rendered using MathJax, which can be set to output in MathML.
(m) When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with 1194.21(a) through (l).	Not Applicable	
(n) When electronic forms are designed to be completed on-line, the form shall allow people using Assistive Technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.	Supports	Answer fields for problems do not have proper labels; however they do have aria labels. These labels identify each answer field as "Answer 1", or "Answer 1 Part 1", etc. These serve as functional replacements for input labels most screen readers.
(o) A method shall be provided that permits users to skip repetitive navigation links.	Supports	
(p) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.	Partially Supports or Supports with Exceptions	There is a global logout for inactivity time (with a 30-minute default value) that the instructor may change to accommodate a student who may occasionally need more time. Additionally, quizzes may be timed, in which case the instructor should set an appropriate time for a student who needs an accommodation.

Section 1194.31 Functional Performance Criteria—Detail Voluntary Product Accessibility Template

Criteria	Level of Support & Supporting Features	Remarks and Explanations
(a) At least one mode of operation and information retrieval that does not require user vision shall be provided, or support for Assistive Technology used by people who are blind or visually impaired shall be provided.	Supports when combined with Compatible AT	All math content may be rendered using MathJax, which can output MathML.
(b) At least one mode of operation and information retrieval that does not require visual acuity greater than 20/70 shall be provided in audio and enlarged print output working together or independently, or support for Assistive Technology used by people who are visually impaired shall be provided.	Supports	WeBWorK is designed as web pages, hence the size of the font is relative to magnification. Additionally MathJax can be used to render the math content, allowing for additional magnification of math content.
(c) At least one mode of operation and information retrieval that does not require user hearing shall be provided, or support for Assistive Technology used by people who are deaf or hard of hearing shall be provided	Supports	No mode of operation or information retrieval requires hearing.
(d) Where audio information is important for the use of a product, at least one mode of operation and information retrieval shall be provided in an enhanced auditory fashion, or support for assistive hearing devices shall be provided.	Supports	No audio is used.
(e) At least one mode of operation and information retrieval that does not require user speech shall be provided, or support for Assistive Technology used by people with disabilities shall be provided.	Supports	User speech is not required for operation or information retrieval.
(f) At least one mode of operation and information retrieval that does not require fine motor control or simultaneous actions and that is operable with limited reach and strength shall be provided.	Supports	Fine motor skills and simultaneous actions are not required.

Section 1194.41 Information, Documentation and Support—Detail
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Criteria	Level of Support & Supporting Features	Remarks and Explanations
(a) Product support documentation provided to end-users shall be made available in alternate formats upon request, at no additional charge.	Partially Supports or Supports with Exceptions	WeBWorK is free open-source software developed by volunteers with sporadic funding. Product documentation is freely available at http://webwork.maa.org/wiki/Main_Page, in accessible HTML format. There is no guarantee that additional documentation can be provided on demand.
(b) End-users shall have access to a description of the accessibility and compatibility features of products in alternate formats or alternate methods upon request, at no additional charge.	Supports	WeBWorK accessibility information is freely available at http://webwork.maa.org/wiki/Accessibility#.VJcqYEDwrA
(c) Support services for products shall accommodate the communication needs of end-users with disabilities.	Partially Supports or Supports with Exceptions	As WeBWorK is not a commercial product, there is no traditional "customer service" line. Students who encounter technical difficulties with WeBWorK must communicate with their instructor to resolve such issues.