Voluntary Product Evaluation Template (VPAT)

Date: June 20, 2013
Name of Product: Smart Science® Explorations
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Refer to the ITIC Best Practices **for filling out the following form.**

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Section 1194.21 Software Applications and Operating Systems		
* Refer to (http://www.access-board.gov/sec508/guide/1194.21.htm) for details on the guidelines listed below.		
Criteria	**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 with Exceptions**	Keyboard functions work for buttons and pull-down lists, for example. Continuing testing to ensure that all navigation will function from the keyboard. Data collection by pointing device will not function from the keyboard as currently run. We are looking into ways to collect data using the keyboard.
(b) Applications shall not disrupt or disable	**Supports**	Tested features, such as

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.		enhanced contrast, cursor size, and invert colors, work properly. We will be doing a more thorough analysis of which accessibility features we support and ignore.
(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 with Exceptions**	Buttons show distinctive appearance when they have focus. Tree cells and tabs do not currently support this feature but are being worked on.
(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 with Exceptions**	Every Java Swing component has accessibility built in. Our system uses entirely Swing components.

Requires more testing to determine extent of current support. Expect to support this fully in the near future.

For example, all clickable elements have tooltips in the current version. |
| (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. | **Supports** | For example, navigation buttons have a different and consistent image from help buttons.

Furthermore, each button state is distinct in appearance for each other state. |
| (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 with Exceptions** | This feature is supported for purely textual functions. Data collection images and data display images containing text do not support this feature. However, the graphs are usually accompanied by a data table with entirely textual information that is accessible. |
| (g) Applications shall not override user selected contrast and color selections and | **Supports with Exceptions** | Font sizes do not support user selections in all cases. Some |

other individual display attributes.		text displays are in images and others are in limited-space regions. Working on latter to comply.
(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**	No Flash or Java animations are included in this product.
(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 with Exceptions**	The Progress Bar uses background color to indicate current state. This bar is not critical to navigation or other use of the product. Some button styles use color to distinguish, for example, between a navigation button and a help button. Experiment and vocabulary buttons are distinct from others and each other without color information. Every botton has text and/or icons pllus tooltips to indicate function. This issue does not affect usability.

Changes will be made to make these elements distinct independent of color. |
(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.	**Not Applicable**	The product contains no such adjustments.
(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**	The product does not use flashing or blinking text objects or other elements.
(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 with Exceptions**	Java Swing has full accessibilty support for all of these features. We do not use "forms" in the product. We do use text fields and text areas for answering questions and writing reports. Both quizzes and reports are submitted. Reports may also be saved and a PDF downloaded. Most of capabilities for access are available. We are inventorying the system to ensure that it is fully compliant.

Section 1194.22 Web-based Internet information and applications		
* **Refer to (** http://www.access-board.gov/sec508/guide/1194.22.htm**) for details on the guidelines listed below.**		
Criteria	**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).	**Not Applicable**	
(b) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.	**Not Applicable**	
(c) Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.	**Not Applicable**	
(d) Documents shall be organized so they are readable without requiring an associated style sheet.	**Not Applicable**	
(e) Redundant text links shall be provided for each active region of a server-side image map.	**Not Applicable**	
(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**	
(g) Row and column headers shall be identified for data tables.	**Not Applicable**	
(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**	
(i) Frames shall be titled with text that facilitates frame identification and navigation	**Not Applicable**	
(j) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.	**Not Applicable**	
(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**	
(l) When pages utilize scripting languages	**Not Applicable**	

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.		
(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 Û1194.21(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.	**Not Applicable**	
(o) A method shall be provided that permits users to skip repetitive navigation links.	**Not Applicable**	
(p) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.	**Not Applicable**	

Note to 1194.22: The Board interprets paragraphs (a) through (k) of this section as consistent with the following priority 1 Checkpoints of the Web Content Accessibility Guidelines 1.0 (WCAG 1.0) (May 5 1999) published by the Web Accessibility Initiative of the World Wide Web Consortium: Paragraph (a) - 1.1, (b) - 1.4, (c) - 2.1, (d) - 6.1, (e) - 1.2, (f) - 9.1, (g) - 5.1, (h) - 5.2, (i) - 12.1, (j) - 7.1, (k) - 11.4.

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Section 1194.23 Telecommunications Products		
* **Refer to (** http://www.access-board.gov/sec508/guide/1194.23.htm **) for details on the guidelines listed below.**		
Criteria	**Supporting Features**	**Remarks and explanations**
(a) Telecommunications products or systems which provide a function allowing voice communication and which do not themselves provide a TTY functionality shall provide a standard non-acoustic connection point for TTYs. Microphones shall be capable of being turned on and off to allow the user to intermix speech with TTY use.	**Not Applicable**	
(b) Telecommunications products which include voice communication functionality	**Not Applicable**	

shall support all commonly used cross-manufacturer non-proprietary standard TTY signal protocols.		
(c) Voice mail, auto-attendant, and interactive voice response telecommunications systems shall be usable by TTY users with their TTYs.	**Not Applicable**	
(d) Voice mail, messaging, auto-attendant, and interactive voice response telecommunications systems that require a response from a user within a time interval, shall give an alert when the time interval is about to run out, and shall provide sufficient time for the user to indicate more time is required.	**Not Applicable**	
(e) Where provided, caller identification and similar telecommunications functions shall also be available for users of TTYs, and for users who cannot see displays.	**Not Applicable**	
(f) For transmitted voice signals, telecommunications products shall provide a gain adjustable up to a minimum of 20 dB. For incremental volume control, at least one intermediate step of 12 dB of gain shall be provided.	**Not Applicable**	
(g) If the telecommunications product allows a user to adjust the receive volume, a function shall be provided to automatically reset the volume to the default level after every use.	**Not Applicable**	
(h) Where a telecommunications product delivers output by an audio transducer which is normally held up to the ear, a means for effective magnetic wireless coupling to hearing technologies shall be provided.	**Not Applicable**	
(i) Interference to hearing technologies (including hearing aids, cochlear implants, and assistive listening devices) shall be reduced to the lowest possible level that allows a user of hearing technologies to utilize the telecommunications product.	**Not Applicable**	
(j) Products that transmit or conduct information or communication, shall pass through cross-manufacturer, non-proprietary, industry-standard codes, translation protocols, formats or other information necessary to provide the information or communication in a usable format. Technologies which use encoding,	**Not Applicable**	

signal compression, format transformation, or similar techniques shall not remove information needed for access or shall restore it upon delivery.		
(k)(1) Products which have mechanically operated controls or keys shall comply with the following: Controls and Keys shall be tactilely discernible without activating the controls or keys.	**Not Applicable**	
(k)(2) Products which have mechanically operated controls or keys shall comply with the following: Controls and Keys shall be operable with one hand and shall not require tight grasping, pinching, twisting of the wrist. The force required to activate controls and keys shall be 5 lbs. (22.2N) maximum.	**Not Applicable**	
(k)(3) Products which have mechanically operated controls or keys shall comply with the following: If key repeat is supported, the delay before repeat shall be adjustable to at least 2 seconds. Key repeat rate shall be adjustable to 2 seconds per character.	**Not Applicable**	
(k)(4) Products which have mechanically operated controls or keys shall comply with the following: The status of all locking or toggle controls or keys shall be visually discernible, and discernible either through touch or sound.	**Not Applicable**	

Section 1194.24 Video and Multi-media Products		
* **Refer to (** http://www.access-board.gov/sec508/guide/1194.24.htm **) for details on the guidelines listed below.**		
Criteria	**Supporting Features**	**Remarks and explanations**
(a) All analog television displays 13 inches and larger, and computer equipment that includes analog television receiver or display circuitry, shall be equipped with caption decoder circuitry which appropriately receives, decodes, and displays closed captions from broadcast, cable, videotape, and DVD signals. As soon as practicable, but not later than July 1, 2002, widescreen digital television (DTV) displays measuring at least 7.8 inches vertically, DTV sets with conventional displays measuring at least 13 inches vertically, and stand-alone DTV tuners, whether or not they are marketed with display screens, and computer equipment that includes DTV receiver or display circuitry, shall be equipped with caption decoder circuitry which appropriately receives, decodes, and displays closed captions from broadcast, cable, videotape, and DVD signals.	**Not Applicable**	

(b) Television tuners, including tuner cards for use in computers, shall be equipped with secondary audio program playback circuitry.	**Not Applicable**	
(c) All training and informational video and multimedia productions which support the agency's mission, regardless of format, that contain speech or other audio information necessary for the comprehension of the content, shall be open or closed captioned.	**Does not Support**	This feature does not apply to the product itself. We will be reviewing training and informational videos to ensure compliance. At this time, these are a small number of YouTube videos.
(d) All training and informational video and multimedia productions which support the agency's mission, regardless of format, that contain visual information necessary for the comprehension of the content, shall be audio described.	**Does not Support**	This feature does not apply to the product itself. We will be reviewing training and informational videos to ensure compliance if possible. The narration does describe the visual material. Reviewing to make sure that this is not an issue. At this time, these are a small number of YouTube videos.
(e) Display or presentation of alternate text presentation or audio descriptions shall be user-selectable unless permanent.	**Not Applicable**	Until we are compliant with the two previous sections, this section is inapplicable.

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Section 1194.25 Self-Contained, Closed Products		
* **Refer to (** http://www.access-board.gov/sec508/guide/1194.25.htm**) for details on the guidelines listed below.**		
Criteria	**Supporting Features**	**Remarks and explanations**
(a) Self contained products shall be usable by people with disabilities without requiring an end-user to attach Assistive Technology to the product. Personal headsets for private listening are not Assistive Technology.	**Not Applicable**	

(b) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.	**Not Applicable**	
(c) Where a product utilizes touchscreens or contact-sensitive controls, an input method shall be provided that complies with Û1194.23 (k) (1) through (4).	**Not Applicable**	
(d) When biometric forms of user identification or control are used, an alternative form of identification or activation, which does not require the user to possess particular biological characteristics, shall also be provided.	**Not Applicable**	
(e) When products provide auditory output, the audio signal shall be provided at a standard signal level through an industry standard connector that will allow for private listening. The product must provide the ability to interrupt, pause, and restart the audio at anytime.	**Not Applicable**	
(f) When products deliver voice output in a public area, incremental volume control shall be provided with output amplification up to a level of at least 65 dB. Where the ambient noise level of the environment is above 45 dB, a volume gain of at least 20 dB above the ambient level shall be user selectable. A function shall be provided to automatically reset the volume to the default level after every use.	**Not Applicable**	
(g) Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.	**Not Applicable**	
(h) When a product permits a user to adjust color and contrast settings, a range of color selections capable of producing a variety of contrast levels shall be provided.	**Not Applicable**	
(i) Products shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.	**Not Applicable**	
(j) (1) Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following: The position of any operable control shall be determined with respect to a vertical plane, which is 48 inches in length, centered on the operable control, and at the maximum protrusion of the product within the 48 inch length on products which are freestanding, non-portable, and intended to be used in one location and which have operable controls.	**Not Applicable**	
(j)(2) Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following: Where any operable control is 10 inches or less behind the reference plane, the height shall be 54 inches maximum and 15 inches minimum above the floor.	**Not Applicable**	
(j)(3) Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following: Where any operable control is more than 10 inches and not more than 24 inches behind the reference plane, the height shall be 46 inches maximum and 15 inches minimum above the floor.	**Not Applicable**	
(j)(4) Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following: Operable controls shall not be more than 24 inches behind the reference plane.	**Not Applicable**	

Section 1194.26 Desktop and Portable Computers		
* **Refer to (** http://www.access-board.gov/sec508/guide/1194.26.htm**) for details on the guidelines listed below.**		
Criteria	**Supporting Features**	**Remarks and explanations**
(a) All mechanically operated controls and keys shall comply with Û1194.23 (k) (1) through (4).	**Not Applicable**	
(b) If a product utilizes touchscreens or touch-operated controls, an input method shall be provided that complies with Û1194.23 (k) (1) through (4).	**Not Applicable**	
(c) When biometric forms of user identification or control are used, an alternative form of identification or activation, which does not require the user to possess particular biological characteristics, shall also be provided.	**Not Applicable**	
(d) Where provided, at least one of each type of expansion slots, ports and connectors shall comply with publicly available industry standards	**Not Applicable**	

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Section 1194.31 Functional Performance Criteria		
Criteria	**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 with Exceptions**	Because we use Java Swing, our software is has the capability for complete accessibility support in those elements. However, data collection from experiment images continues to require some sight. The amount varies with the particular lab.
(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 with Exceptions**	Because we use Java Swing, our software is has the capability for complete accessibility support in those elements.

		However, data collection from experiment images continues to require some sight. The amount varies with the particular lab.
(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**	This product has functioned for years without any speech components. We have added some to increased access to lower grade levels, but this addition does not affect usability.
(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 with Exceptions**	One lab out of about 170, Sound Pitch, includes the actual sounds being visualized. While you can do the lab without hearing the sounds, they do add to the learning experience.
(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.	**Not Applicable**	Not a speech-driven product.
(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 with Exceptions**	One lab out of about 170, Natural Selection, requires multiple actions within six seconds. All other labs have no time limit on actions.

Data collection requires moving mouse to point at or near desired spot on image. Some errors are acceptable and |

| | | will accommodate many with fine motor problems. Those will very severe problems will require outside assistance for the present. Furthermore, experiments may be repeated indefinitely by students until satisfied with results. Innovations should remove this restriction. |

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Section 1194.41 Information, documentation, and support		
Criteria	**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.	**Supports**	All help files are in HTML format.
(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**	All help files are in HTML format. These are being updated to include accessibility features.
(c) Support services for products shall accommodate the communication needs of end-users with disabilities.	**Supports**	Support comes in two ways: toll-free telephone and email. Both are available to college students and instructors.

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