

Voluntary Product Accessibility Template (VPAT)

Name of Product	ScienceDirect
Date	August 30, 2016
Completed by	Ted Gies, Elsevier Labs
Contact for More Information	<p>Ted Gies Principal User Experience Specialist Certified DHS Section 508 Trusted Tester ted.gies@elsevier.com accessibility@elsevier.com</p>
Product Version Number	April 2016 (New Home page)
Testing Tools and Methods	<p>Hands-on keyboard operation Firefox web developer toolbar Firebug/Code inspection IE WAT Open Ajax Alliance (OAA) side bar Wave toolbar JAWS 17, NVDA on Mozilla Firefox 48 and MS IE11 on Windows 7 Dragon Naturally Speaking 13 on Windows 7 VoiceOver on Safari in MAC OSX El Capitan Customer feedback from California State University, MSU UARC Center User Testing Group including 8 universities and 2 users who are blind</p>
Guidelines Used to Complete this VPAT	<p>SSA guide to filling out a VPAT: http://www.socialsecurity.gov/accessibility/files/SSA_guide_to_completing_the_voluntary_product_accessibility_template.pdf</p> <p>Webaim.org Section 508 checklist: http://webaim.org/standards/508/checklist</p> <p>Jim Thatcher's online course on Section 508 Guidelines: http://jimthatcher.com/webcoursec.htm</p> <p>The W3C WCAG 2.0 scripting techniques used to guide the scripting section: http://www.w3.org/TR/WCAG20-SCRIPT-TECHS/client-side-script.html</p> <p>Elsevier Accessibility Checklist: http://romeo.elsevier.com/accessibility_checklist/</p>
Pages Covered	Home, Quick Search, Sign in, Search Results, Journal Article, Book Chapter, Journal Home Page, Book Home Page, Recommended Articles, Shopping Cart, Help system, Author Videos, AudioSlides.
Pages on Roadmap	Article, Book Chapter, Journal Home page, Registration

Applicable Sections

Section	Supporting Features	Remarks
Section 1194.21 Software Applications and Operating Systems	Supports: B, E, F, G, H, I, L Supports exceptions: A, C, D Not applicable: J, K	
Section 1194.22 Web-based Internet Information and Applications	Supports: C, G, K, M, N, O Does not support: H Supports with exceptions: A, B, D, I, L Not applicable: E, F, J, P	
Section 1194.23 Telecommunications Products	Not Applicable	
Section 1194.24 Video and Multi-media Products	Not Applicable	
Section 1194.25 Self-Contained, Closed Products	Not Applicable	
Section 1194.26 Desktop and Portable Computers	Not Applicable	
Section 1194.31 Functional Performance Criteria	Supports: B, C, D, F Supports with exceptions: A	
Section 1194.41 Information, Documentation and Support	Supports: A, B, C	

Legend			
Not Applicable	Supports, or Supports with assistive technology	Supports with exceptions	Does not support

Section 1194.21 Software Applications and Operating Systems

Criteria	Supporting Features	Remarks
(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	<p>Primary functionality in SD is operable using keyboard only.</p> <p>The exceptions include: NOTE: these functions are keyboard operable with a screen reader running using arrow key navigation, but are not keyboard operable otherwise.</p> <ul style="list-style-type: none"> ○ Header: Sign In link ○ Logged In Header: Name link which exposes the Change Organization and Details & Settings. ○ Article Page: Show More/Show Less (under author list) ○ Article Page: More link under Recommended article titles. ○ Article Page: full size window link to open content innovations such as Interactive Plots ○ Help System: Contents/Search accordion (this is a secondary entry point; Search and Contents buttons are fully keyboard operable). ○ Journals/Books: Filter by subject: Open and Close filters. Open/Close of the filter by subject does not work with keyboard even with a screen reader. <p>NOTES on multi-select input fields: The Subject area multi select list box on the Advanced Search Journals tab and the subject multi select box on the Books tab are keyboard operable if you users hold down the shift key and use the up and down arrow keys to select either a single or contiguous set of</p>

		<p>subjects. The accessibility gap with multi select boxes is if users wanted to select items that are not contiguous, e.g. select item 1 and 3. This is a known issue with multi-select boxes and not specific to ScienceDirect.</p>
<p>(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.</p>	<p>Supports</p>	<p>SD does not have features that would interfere with standard API features of an OS including the MSA (Microsoft Active Accessibility).</p>
<p>(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.</p>	<p>Supports with exceptions</p>	<p>SD uses CSS styling to indicate widgets (e.g., links and buttons) that are focused on when using a mouse or keyboard. For instance, text links become underlined and/or change color.</p> <p>Exceptions: Some controls do not indicate a well-defined visual focus state when in keyboard focus including:</p> <ul style="list-style-type: none"> ○ ScienceDirect logo (link to home) ○ Help link ○ Mobile view hamburger icon ○ Quick search button ○ Search within book button ○ Logged in fly out links ○ RELX Group logo ○ Feedback button in footer ○ Search form tabs ○ Checkboxes and radio buttons ○ Author email and affiliation details icons ○ Purchase button ○ Author email and corresponding author icon links ○ Get Full Text Elsewhere button ○ Figure options split button and menu items ○ Table options split button and menu items ○ Article TOC toggle icon link

		<ul style="list-style-type: none"> ○ Article TOC thumbnails ○ Audio slides player buttons <p>NOTE: controls which do not provide a CSS visible focus state will display the browser default dotted line or blue border.</p> <p>SD pages have a logical tab order overall. The system manages keyboard focus when necessary using JavaScript to set the cursor, such as when opening panes or dialogue boxes.</p> <p>Exception to logical tab order: Journals and Books should come after ScienceDirect site logo.</p>
<p>(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.</p>	<p>Supports with exceptions</p>	<p>SD uses standard HTML form elements such as checkboxes and radio buttons that offer state information to assistive technology such as JAWS.</p> <p>SD uniquely labels browser windows using the <title> attribute.</p> <p>SD uses the <label> tag to specifically attach a text meaning to form elements. SD uses alt text to assign meaningful text equivalents to graphical elements.</p> <p>Search form tabs are indicated using "selected" text.</p> <p>SD uses ARIA roles and labels for providing enhanced context and meaning to panes, dialogue boxes and controls</p> <p>Panes and menus that expand and collapse are labeled and indicate opened or closed states.</p> <p>Exceptions:</p> <p>The Flash video player on article pages and the audio slides video player have unlabeled buttons.</p>
<p>(e) When bitmap images are used to identify controls, status indicators, or other programmatic elements, the meaning assigned</p>	<p>Supports</p>	<p>SD uses minimal images for the user interface. Such images are consistently titled using alt, title, or aria-labels.</p>

to those images shall be consistent throughout an application's performance.		
(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	SD uses standard methods for displaying text such as HTML, JavaScript and PDF files. All text information is exposed to AT/screen readers.
(g) Applications shall not override user selected contrast and color selections and other individual display attributes.	Supports	SD will not interfere with any contrast settings, magnification settings or keyboard sensitivity settings. SD uses a separate CSS so that users may disable the CSS or apply their own style sheet, such as allowing for high contrast views.
(h) When animation is displayed, the information shall be displayable in at least one non-animated presentation mode at the option of the user.	Supports	SD video tutorials are available in HTML format which is not animated.
(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	Most text links are identified by an underlined state and/or color change when users tab or hover over the link. Search Form tabs that are selected include an extra cue for screen reader users "Selected" and the page title communicates the active search tab. Error messages and status messages are identified using an icon with alternative text such as "Error," "Alert" and "Important Message." Subscribed, Open Access, and Abstract-Only status is indicated with color coded images and meaningful text equivalents; for example, alt="Full text available."
(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	SD does not allow the user to change the contrast or color settings. SD allows users to disable style sheets, or users can apply their own style sheets if they need to enhance contrast or apply different color combinations.
(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.	Not applicable	SD does not have any flashing or blinking texts or objects.

<p>(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.</p>	<p>Supports</p>	<p>Each form element uses a label tag to associate the proper text with its form label. This includes Registration, Contact Us, and Search form fields.</p> <p>The Registration form and Shopping Cart include a text asterisk key to denote required fields.</p> <p>Field instructions are provided for acceptable passwords. Form error messages are contextual to each field and are marked with <H3> to allow for screen reader discoverability.</p>
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<h2 style="text-align: center;">Section 1194.22</h2> <h3 style="text-align: center;">Web-based Internet information and applications</h3>		
Criteria	Supporting Features	Remarks
<p>(a) A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).</p>	<p>Supports with exceptions</p>	<p>Each image button/image link has a meaningful text equivalent.</p> <p>Flash tutorials have HTML text versions.</p> <p>Mathematical equations in articles are available in MathML which can be read by JAWS using MathPlayer and Internet Explorer: http://www.dessci.com/en/products/mathplayer/</p> <p>Exceptions:</p> <ul style="list-style-type: none"> ○ Author-created figures such as a purely graphical bar chart do not have text equivalents other than captions and surrounding body text. ○ Advertisements which can be GIFs, animated GIFs or Flash movies do not have exact text equivalents for the text within ads, but do have a meaningful identifier indicated as "Advertisement." ○ The help system left-side navigation accordion menu does not have text equivalents. (Note this is the secondary navigation and users can still access the labelled Contents and Search buttons). ○ A minority of journal and book content

		<p>contains supplementary multimedia clips which could be an animation with audio + video, just audio or just animation These videos do not currently offer text equivalents.</p> <ul style="list-style-type: none"> o Article page: The CrossMark icon button is missing alt text.
(b) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.	Supports with Exceptions	<p>YouTube How To videos offer the auto caption feature which is synchronized with the visual scene.</p> <p>Audio slides videos and author supplementary videos with audio are not captioned. Author contact information is contained with each article to allow for communication with an author for further explanation of a multimedia clip.</p>
(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	See section 21.i for details on reliance on color.
(d) Documents shall be organized so they are readable without requiring an associated style sheet.	Supports with exceptions	<p>SD uses external style sheets instead of inline styles. SD is usable with style sheets disabled.</p> <p>Exceptions:</p> <p>The article page has information at the top that overlaps when CSS is disabled. The overlapping information includes the TOC Outline, Journal Cover, the article title, and the author list and affiliation list.</p>
(e) Redundant text links shall be provided for each active region of a server-side image map.	Not applicable	SD does not have any server-side image maps.
(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	SD does not have any client-side image maps.
(g) Row and column headers shall be identified for data tables.	Supports	<p>The Publications page and the Alerts page have tables with row and column headers that are identified through <code><th scope="col"/"row"></code> markup.</p> <p>All inline data tables may be exported as CSV</p>

		<p>format for use in Excel, etc.</p> <p>The SD Electronic Holdings Report and Search History identifies column headings through scope="col."</p> <p>Some of the content contains true data tables. Such tables are marked using <th> to identify the column headings.</p> <p>'scope' tag has been added to column headings for content data tables already. We will work on row headings as part of the article page redeploy (this year).</p> <p>Quosa document download manager selected documents table contains table headings <th>.</p>
(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.	Does not support	A minority of the full-text articles contain data tables with two or more column/row headings. These tables are not marked to associated data cells and header cells.
(i) Frames shall be titled with text that facilitates frame identification and navigation	Supports	<p>SD pages do not use frames.</p> <p>The article page uses iFrames for Audioslides. This frame is not titled but the iFrame page has a meaningful page title which is read by JAWS.</p> <p>The Visual Feedback button is an iFrame that has a meaningful title.</p> <p>NOTE: Panes and dialog windows are used in the UI and are titled with ARIA roles and labels.</p>
(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	SD does not use any images that flash, blink or flicker.
(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	Supports	SD does not have any primary functionality that warrants a separate text-only page. The exception is our video tutorials for which there are text-only/HTML alternatives.

<p>whenever the primary page changes.</p>		
<p>(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.</p>	<p>Supports with exceptions</p>	<p>The W3C WCAG 2.0 scripting techniques were used to guide this section http://www.w3.org/TR/WCAG20-SCRIPT-TECHS/client-side-script.html</p> <p>Section numbers of W3C Client-side Scripting Techniques are listed when applicable.</p> <p>The following features were specifically coded to allow for compatibility with assistive technology such as screen readers:</p> <ul style="list-style-type: none"> ○ ARIA landmark roles on all pages ○ Keyboard focus management when opening panes or dialog windows ○ Keyboard event handlers for mouse controls <p>SCR2: Using redundant keyboard and mouse event handlers.</p> <p>SCR20: Using both keyboard and other device-specific functions.</p> <p>SCR26: Inserting dynamic content into the Document Object Model immediately following its trigger element.</p> <ul style="list-style-type: none"> • Expanding/Collapsing menus such as Show Preview and accordions use this technique and meet criteria. Focus remains on the activated keyboard-accessible element, and the new content is the next item in the tab order/reading order. Another example is in the right side menu in the mobile view. <p>SCR37: Creating Custom Dialogs in a Device Independent Way.</p> <ul style="list-style-type: none"> • Recommended Articles dialogue window uses this technique and meets these criteria. • Sign in dialogue window conforms.

		<p>Exceptions:</p> <p>SCR35: Making script actions keyboard accessible.</p> <ul style="list-style-type: none"> The exceptions are noted above in the keyboard section 21(a)
<p>(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).</p>	<p>Supports</p>	<p>The main web application does not require any plugins or applications on the client system in order to use the core features.</p> <p>If the client does not have Adobe PDF Reader, many Windows operating systems will provide a link to Adobe's site to download the Adobe Reader. The help system also provides a link to Get Adobe Reader.</p> <p>The video tutorials require Flash to play. ScienceDirect provides a link to download the Flash player if it is not detected by the client. Also, the tutorials are available as HTML and text formats.</p>
<p>(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.</p>	<p>Supports</p>	<p>Form fields are covered in section 21(l) above.</p>
<p>(o) A method shall be provided that permits users to skip repetitive navigation links.</p>	<p>Supports</p>	<p>SD provides a Skip to Main Content link which is visible at the top of pages.</p> <p>The Article Page includes an article outline to allow users to skip straight to an article section.</p> <p>The application uses ARIA landmarks to allow users with the JAWS screen reader to skip between areas such as Main and Quick Search.</p> <p>SD uses headings and unordered lists to allow JAWS users to skip repetitive links and to skip from heading to heading such as when navigating search results.</p> <p>SD uses headings properly to allow JAWS users to</p>

		<p>bring up a list of headings to skip to a specific area of the web page.</p> <p>SD applies headings on search result article titles to allow quick skipping from result to result.</p> <p>Users may bookmark any page to be able to skip quickly to an article or book chapter.</p>
(p) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.	Not applicable	SD does not have any timed-response scenarios on pages.

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Section 1194.31 Functional Performance Criteria		
Criteria	Supporting Features	Remarks
(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	<p>SD is a web application that uses HTML, CSS and JavaScript. HTML and JavaScript are both supported by screen readers such as JAWS and by Braille displays.</p> <p>The UI itself uses standard HTML controls such as links, buttons and form controls which are all identifiable by screen readers.</p> <p>All content is available in HTML format including book chapters and journal articles, and is marked up with well-structured headings to allow for better compatibility and navigation with screen readers and Braille displays.</p> <p>Specific features that have been included in SD to support people who use screen readers include:</p> <ul style="list-style-type: none"> • Use of headings and landmarks to allow understanding and navigation of web pages and content. • Use of specific page titles to facilitate orientation in the system. • Use of web pages and forms that are compatible with screen readers. • Use of controls and buttons that are compatible with screen readers.

		<p>A summary of accessibility features which support users with assistive technology may be found here: https://www.elsevier.com/solutions/sciencedirect/support/web-accessibility</p> <p>The exception to the vision requirement includes a small number of items that do not have descriptive alternative text as described in 1194.22 (A).</p>
<p>(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.</p>	Supports	<p>SD uses HTML and text for its content as well as independent CSS for formatting to allow users to apply their own style sheets.</p> <p>OS features such as Windows 7 Magnifier are compatible with the SD application.</p> <p>Other browser controls such as Mozilla Firefox Zoom-In feature will work with SD.</p> <p>Zooming the browser to 200% does not break the user interface.</p> <p>NOTE: In mobile view with Screen Magnified to 200%, the help link is cutoff below the fold.</p> <p>SD is usable with screen magnification software such as ZoomText.</p>
<p>(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</p>	Supports	<p>SD does not require user hearing to operate any application or functionality. Product support is provided through email.</p>
<p>(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.</p>	Not applicable	<p>There are no circumstances where audio information is important for use of the product.</p> <p>Note there are some author supplied videos with audio, but that is covered above in the multimedia sections above 22(a) and 22(b).</p> <p>YouTube How To videos have the auto-caption feature available.</p>
<p>(e) At least one mode of</p>	Not applicable	<p>SD does not require any speech input for operation.</p>

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.		
(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	<p>Most SD controls and links are keyboard operable with exceptions outlined in 21(a) above.</p> <p>SD supports operating system tools such as StickyKeys and FilterKeys as well as other assistive technologies.</p> <p>Users may enlarge their browser with Mozilla Firefox Zoom-In to enlarge controls for easier clickability.</p> <p>Label tags have been applied to small controls such as checkboxes and radio buttons to allow for easier selection with a mouse.</p>

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Section 1194.41 Information, documentation, and support		
Criteria	Supporting Features	Remarks
(a) Product support documentation provided to end-users shall be made available in alternate formats upon request, at no additional charge.	Supports	<p>Each function on SD is supported by HTML contextual help and accompanying Flash tutorials.</p> <p>Text-only HTML versions of Flash tutorials are available.</p> <p>Users who would need an alternative version of the help files can request this from accessibility@elsevier.com for no extra charge.</p>
(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	<p>The ScienceDirect Accessibility Statement with a description of accessibility features can be found at: https://www.elsevier.com/solutions/sciencedirect/support/web-accessibility</p> <p>Alternate formats of books and journals may be requested from stl.archive@elsevier.com</p> <p>Users can contact accessibility@elsevier.com for questions regarding the accessibility of ScienceDirect.</p>
(c) Support services for	Supports	The ScienceDirect Customer Service form can be reached

<p>products shall accommodate the communication needs of end-users with disabilities.</p>		<p>from each ScienceDirect page in the footer by selecting the Contact and support link.</p> <p>General Elsevier Customer Support Email and Phone: CustomerCare@Elsevier.com Phone: 1-866-344-2088</p>
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