VPAT Accessibility Conformance Report

(Based on ITI VPAT©)

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| **Name of Product** | **SimChart** |
| **Date Last Updated** | **July 7, 2023** |
| Completed by | Jay Nemchik (Digital Accessibility Team) |
| **Applicable Standards/Guidelines** | This document rates SimChart according to the W3C WCAG 2.1 A and AA requirements.  |
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| **Testing Tools and Methods** | **Hands-on keyboard operationFirebug/Code inspectionFirefox Web Developer Toolbar (removing style sheets)JAWS 18 on Mozilla Firefox 63 and MS IE 11 on Windows 10NVDA screen reader v2019.2.1Wave Extension****Color Contrast AnalyzerW3C WAI Pages**Elsevier Accessibility Checklist: <http://romeo.elsevier.com/accessibility_checklist/> |
| **Document Sections** | The review document below includes all WCAG 2.1 A and AA checkpoints and is organized into 6 logical sections: * Visuals
* Keyboard
* Headings and Structure
* Labeling
* Multimedia
* Usability
 |
| **Pages Covered** | Add SimChart Item, Choose Content, Configure Case Study, Configure EHR, Assignment Grading, Individual Student Grading, Case Study Information, Charting Summary, Pharmacy Orders, Case Study Quiz, Clinical Setup.  |
| **Terms** | * **Supports: The functionality of the product has at least one method that meets the criteria without known defects or meets with equivalent facilitation.**
* **Partially supports: Some functionality of the product does not meet the criteria.**
* **Does not support: Majority of functionality of the product does not meet the criteria.**
* **Supports (N/A): According to W3C on conformance, "If there is no content to which a success criterion applies, the success criterion is satisfied."**
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| **Notes/Terminology** | **“AT” stands for Assistive Technology such as screen readers, voice input, etc.** |

| **WCAG 2.1 Success Criterion**  | **Level** | **Evaluation** |
| --- | --- | --- |
| 1.1.1 Non-text Content | A | Partially supports |
| 1.2.1 Audio-only and Video-only (Prerecorded) | A | Supports (N/A) |
| 1.2.2 Captions (Prerecorded) | A | Supports (N/A) |
| 1.2.3 Audio Description or Full Text Alternative | A | Supports (N/A) |
| 1.2.4 Captions (Live) | AA | Supports (N/A) |
| 1.2.5 Audio Description | AA | Supports (N/A) |
| 1.3.1 Info and Relationships | A | Partially supports |
| 1.3.2 Meaningful Sequence | A | Partially supports |
| 1.3.3 Sensory Characteristics | A | Supports |
| 1.3.4 Orientation (2.1) | AA | Supports |
| 1.3.5 Identify Input Purpose (2.1) | AA | Supports (N/A) |
| 1.4.1 Use of Color | A | Supports |
| 1.4.2 Audio Control | A | Supports (N/A) |
| 1.4.3 Contrast (Minimum) | AA | Partially supports |
| 1.4.4 Resize text | AA | Supports |
| 1.4.5 Images of Text | AA | Supports |
| 1.4.10 Reflow (2.1) | AA | Supports |
| 1.4.11 Non-Text Contrast (2.1) | AA | Partially supports |
| 1.4.12 Text Spacing (2.1) | AA | Supports |
| 1.4.13 Content on Hover or Focus (2.1) | AA | Partially supports |
| 2.1.1 Keyboard | A | Partially supports |
| 2.1.2 No Keyboard Trap | A | Supports |
| 2.1.4 Character Key Shortcuts (2.1) | A | Supports (N/A) |
| 2.2.1 Timing Adjustable | A | Supports |
| 2.2.2 Pause, Stop, Hide | A | Supports (N/A) |
| 2.3.1 Three Flashes or Below Threshold | A | Supports (N/A) |
| 2.4.1 Bypass Blocks | A | Supports |
| 2.4.2 Page Titled | A | Supports |
| 2.4.3 Focus Order | A | Partially supports |
| 2.4.4 Link Purpose (In Context) | A | Partially supports |
| 2.4.5 Multiple Ways | AA | Supports |
| 2.4.6 Headings and Labels | AA | Supports |
| 2.4.7 Focus Visible | AA | Supports |
| 2.5.1 Pointer Gestures (2.1) | A | Supports (N/A) |
| 2.5.2 Pointer Cancellation (2.1) | A | Supports |
| 2.5.3 Label in Name (2.1) | A | Partially supports |
| 2.5.4 Motion Actuation (2.1) | A | Supports (N/A) |
| 3.1.1 Language of Page | A | Supports |
| 3.1.2 Language of Parts | AA | Supports (N/A) |
| 3.2.1 On Focus | A | Supports |
| 3.2.2 On Input | A | Supports |
| 3.2.3 Consistent Navigation | AA | Supports |
| 3.2.4 Consistent Identification | AA | Supports |
| 3.3.1 Error Identification | A | Supports (N/A) |
| 3.3.2 Labels or Instructions | A | Partially supports |
| 3.3.3 Error Suggestion | AA | Supports (N/A) |
| 3.3.4 Error Prevention (Legal, Financial, Data) | AA | Supports (N/A) |
| 4.1.1 Parsing | A | Partially supports |
| 4.1.2 Name, Role, Value | A | Partially supports |
| 4.1.3 Status Messages (2.1) | AA | Supports |

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| **Visuals** |
| **WCAG 2.1****Checkpoint** | **Supporting Features** | **Remarks** |
| [1.1.1: Non-Text Content](http://www.w3.org/TR/WCAG20/#text-equiv-all) (A)Provide text alternatives for non-text content (e.g., images) | Partially supports | Almost all images, icons, and graphs include text equivalents. **Exceptions:**Add Simchart Item: The checkmark that appears for a completed step needs alternative text.Assignment Grading: The checkmark used to denote that feedback has been provided does not have alternative text.Clinical Setup: The information icons do not have alternative text. The 'X' close buttons for popup errors do not have alternative text. The error symbols do not have alternative text. |
| [1.3.3: Sensory Characteristics](http://www.w3.org/TR/WCAG20/#content-structure-separation-understanding) (A)Do not rely on sensory characteristics of components such as shape, size, visual location, orientation, or sound | Supports | Content does not rely on sensory characteristics. |
| [1.4.1: Use of Color](http://www.w3.org/TR/WCAG20/#visual-audio-contrast-without-color) (A)Color is not used as the only visual means of conveying info | Supports | Color is not used as the only means of conveying information. |
| [1.4.3: Color Contrast (Minimum)](http://www.w3.org/TR/WCAG20/#visual-audio-contrast-contrast) (AA)Text has enough contrast with the background (4.5:1 for small text and 3:1 for large text) | Partially supports | Most text has enough contrast with its corresponding background. **Exceptions:**Case Study Information: The not current phases on the left do not have enough contrast at 2.13:1.Charting Summary: The "No Data Entered" text does not have enough contrast at 4.35:1.  |
| [1.4.4: Resize Text](http://www.w3.org/TR/WCAG20/#visual-audio-contrast-scale) (AA)Text can be enlarged up to 200% without loss of functionality. | Supports | Users can resize browser text to 200% without loss of functionality. |
| [1.4.5: Images of Text](http://www.w3.org/TR/WCAG20/#visual-audio-contrast-text-presentation) (AA)Text is used rather than images of text, except where the presentation of text is essential, such as logos | Supports | No images of text are used other than for Logos or essential presentation. |
| [1.4.10 Reflow](https://www.w3.org/TR/WCAG21/#reflow) (AA) (2.1)Content can be presented without loss of information or functionality, and without requiring scrolling in two dimensions for:Vertical scrolling content at a width equivalent to 320 CSS pixels;Horizontal scrolling content at a height equivalent to 256 CSS pixels. | Supports | At small screen sizes, all content is displayed in one scrolling direction. |
| [1.4.11 Non-Text Contrast](https://www.w3.org/TR/WCAG21/#non-text-contrast) (AA)(2.1)User interact components and graphical objects have a contrast ratio of at least 3:1 against adjacent color(s). | Partially supports | Nearly all UI components and graphical objects pass the minimum contrast ratio of 3:1.**Exceptions:**Assignment Grading: The green checkmark does not have enough contrast at 2.52:1.Clinical Setup: The 'X' close buttons for the error popups do not have enough contrast at 1.57:1. |
| [1.4.12 Text Spacing](https://www.w3.org/TR/WCAG21/#text-spacing) (AA)(2.1)In content implemented using markup languages that support the following text style properties, no loss of content or functionality occurs by setting all the following and by changing no other style property:Line height (line spacing) to at least 1.5 times the font size;Spacing following paragraphs to at least 2 times the font size;Letter spacing (tracking) to at least 0.12 times the font size;Word spacing to at least 0.16 times the font size. | Supports | All content can be adjusted to the minimum text spacing requirements without loss of readability or functionality. |
| [1.4.13 Content on Hover or Focus](https://www.w3.org/TR/WCAG21/#content-on-hover-or-focus) (AA)(2.1)Where receiving and then removing pointer hover or keyboard focus triggers additional content to become visible and then hidden, the following are true:* Dismissable
* Hoverable
* Persistent
 | Partially supports | There are not many instances of content that appears on hover or focus. Some of them are hoverable and dismissable, such as the Date Pickers.**Exceptions:**Individual Student Grading: The time spent tooltip is not hoverable or dismissable.Assignment Grading: The time spent tooltip is not hoverable or dismissable. |
| [2.3.1: Three Flashes or Below Threshold](http://www.w3.org/TR/WCAG20/#seizure-does-not-violate) (A)No more than three flashes in a 1-second period, or the flashes are below the defined thresholds | Supports (N/A) | No flashing content exists. |
| **Keyboard** |
| **WCAG 2.1****Checkpoint** | **Supporting Features** | **Remarks** |
| [1.3.2: Meaningful Sequence](http://www.w3.org/TR/WCAG20/#content-structure-separation-sequence) (A)The correct reading sequence can be programmatically determined | Partially supports | The correct reading sequence is logical with the DOM order matching the visual order in most places.**Exceptions:**Case Study Information: The Overview and Phase numbers should not be hidden with aria-hidden. |
| [2.1.1: Keyboard](http://www.w3.org/TR/WCAG20/#keyboard-operation-keyboard-operable) (A)All functionality is available from a keyboard, except for tasks such as drawing | Partially supports | Most parts of the site have proper keyboard operability.**Exceptions**:Choose Content: Users should be able to move between radio buttons with the arrow keys.Case Study Quiz: Moving between radio buttons with the arrow keys does not cause the selected radio to change.Clinical Setup: The close buttons for the error tooltips cannot be reached by keyboard. The error symbols cannot be reached by keyboard. |
| [2.1.2: No Keyboard Trap](http://www.w3.org/TR/WCAG20/#keyboard-operation-trapping) (A)The user can use the keyboard to move through page elements and is not trapped on a particular element | Supports | No keyboard traps exist on any page.  |
| [2.1.4 Character Key Shortcuts](https://www.w3.org/TR/WCAG21/#character-key-shortcuts) (A)(2.1)If a keyboard shortcut is implemented in content using only letter (including upper- and lower-case letters), punctuation, number, or symbol characters, then at least one of the following is true:* Turn off
* Remap
* Active only on focus
 | Supports (N/A) | No keyboard shortcuts are implemented on the site. |
| [2.4.3: Focus Order](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-focus-order) (A)Users can tab through the elements of a page in a logical order | Partially supports | Tab order is logical on the site in most areas. Focus management works properly for some modal windows.**Exceptions:**Choose Content: The Products filter button has a duplicate tab stop. The Quick View panel should manage focus like a modal dialog. The quick view tabs should be one tab stop that allows for arrow key focus movement.Configure Case Study: The Date Picker widget should manage focus like a modal dialog.Configure EHR: The Date Picker widget should manage focus like a modal dialog.Case Study Information: The tabs should only have one tab stop.Charting Summary: The flyout panels should manage focus like a modal dialog. Attempting to tab past the Search Charts input when the dropdown is open causes focus to jump to the bottom of the page. When activating the back button for the navigation menu, focus should not reset to the top of the page.Pharmacy Orders: The Date Picker widget should manage focus like a modal dialog.Case Study Quiz: Focus should be placed in the quiz region after submitting an answer, instead of being set at the top of the page.Individual Student Grading: The multiple tabs on the page should only have one tab stop.Clinical Setup: The Date Picker widget should manage focus like a modal dialog. When submitting with errors, focus should be moved to the error summary. When activating an error summary link, focus should be moved to the appropriate input. |
| [2.4.7: Focus Visible](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-focus-visible) (AA)The page element with the current keyboard focus has a visible focus indicator | Supports | Most elements use a custom-styled visible focus.  |
| [3.2.1: On Focus](http://www.w3.org/TR/WCAG20/#consistent-behavior-receive-focus) (A)When a UI component receives focus, this does not trigger unexpected actions. | Supports | Focusable elements do not cause unexpected actions when receiving focus. |
| **Headers and Structure** |
| **WCAG 2.1****Checkpoint** | **Supporting Features** | **Remarks** |
| [1.3.1: Information and Relationships](http://www.w3.org/TR/WCAG20/#content-structure-separation-programmatic) (A)Info, structure, and relationships can be programmatically determined | Partially supports | Headings are used on most pages. Lists are typically used to group related content. Landmarks are used in several places. Several pages are missing h1s.**Exceptions:**Add SimChart Item: The steps should be in an ordered list.Choose Content: The steps should be in an ordered list.Configure EHR: The steps should be in an ordered list.Charting Summary: Two h1s are used on the page.Individual Student Grading: There are no headings on the page. |
| [2.4.1: Bypass Blocks](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-skip) (A)Users can bypass repeated blocks of content. | Supports | Headings and landmarks exist, allowing screen reader users to skip repetitive content. A skip link exists in areas where there is repetitive navigation. |
| [2.4.6: Headings and Labels](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-descriptive) (AA) Headings and labels are clear and consistent. | Supports | Headings and labels used are clear and descriptive. |
| [3.1.1: Language of Page](http://www.w3.org/TR/WCAG20/#meaning-doc-lang-id) (A)The language of the page is specified | Supports | The language is defined as lang="en" on most pages. |
| [3.1.2: Language of Parts](http://www.w3.org/TR/WCAG20/#meaning-other-lang-id) (AA)Specify the language of text passages that are in a different language than the default language of the page. | Supports (N/A) | There are not instances of text that are in a different language than the page default. |
| [4.1.1: Parsing](http://www.w3.org/TR/WCAG20/#ensure-compat-parses) (A)Use valid, error-free HTML | Partially supports | HTML and CSS passes concerning these 4 specific criteria: (i) elements have complete start and end tags,(ii) elements are nested according to their specifications(iii) elements do not contain duplicate attributes(iv) any IDs are unique, except where the specifications allow these features.**Exceptions:**Individual Student Grading: The View EHR Charts button and the time spent tooltip button have the same ID. |
| **Labeling** |
| **WCAG 2.1****Checkpoint** | **Supporting Features** | **Remarks** |
| 1.3.5 Identify Input Purpose (AA) (2.1)The purpose of each input field collecting information about the user can be programmatically determined when:The input field serves a purpose identified in the Input Purposes for User Interface Components section; and the content is implemented using technologies with support for identifying the expected meaning for form input data. | Supports (N/A) | There are no fields for which the autocomplete attribute applies. |
| [2.4.2: Page Titled](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-title) (A)The page has a title describing its topic or purpose | Supports | The title changes accordingly for most pages and is typically descriptive. |
| [2.4.4: Link Purpose (In Context)](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-refs) (A)The purpose of each link can be determined from the link text or surrounding context. | Partially supports | Most links used have an identifiable purpose from the link text or surrounding context. **Exceptions:**Pharmacy Orders: External links do not indicate that they open in new windows/tabs. |
| [2.5.3 Label in Name](https://www.w3.org/TR/WCAG21/#label-in-name) (A)(2.1)For user interface components with labels that include text or images of text, the name contains the text that is presented visually. | Partially supports | All user interface components have the visible label as the first part of the programmatic label.**Exceptions:**Choose Content: The aria-label for the product filter search should be "search products" to match the visible text.Charting Summary: The aria-label for the chart search input should be "Search Charts" to match the visible text.Clinical Setup: Both date picker inputs' labels do not match the visible text. |
| [3.2.4: Consistent Identification](http://www.w3.org/TR/WCAG20/#consistent-behavior-consistent-functionality) (AA)UI components used across the web site are identified consistently on every page. | Supports | UI components are consistent across the site in terms of HTML implementation and labelling. |
| [3.3.1: Error Identification](http://www.w3.org/TR/WCAG20/#minimize-error-identified) (A)Input errors are clearly marked and described to the user. | Supports | Input errors are displayed well visually and programmatically. |
| [3.3.2: Labels and Instructions](http://www.w3.org/TR/WCAG20/#minimize-error-cues) (A)Items requiring user input are clearly labeled or have clear instructions. | Partially supports | Most input areas have clear labels which are programmatically assigned. **Exceptions:** Choose Content: The radio buttons for choosing content do not have labels. The aria-label for the product filter search should be "search products". When creating an EHR, the objectives textareas do not have labels.Configure Case Study: The Scheduling headings should be group labels for the following input elements. The Grading heading should also be a group label for its radio buttons. Search Students does not have a label. All Students checkbox does not have a label.Configure EHR: The Scheduling headings should be group labels for the following input elements. The Grading heading should also be a group label for its radio buttons. Search Students does not have a label. All Students checkbox does not have a label.Charting Summary: The chart search input's label should be "Search Charts".Pharmacy Orders: All required fields, including select inputs, should have aria-required="true".Individual Student Grading: The student Select does not have a label. The Overall Comments textarea does not have a label.Assignment Grading: The Search name input does not have a label. The Statuses select does not have a label. |
| [3.3.3: Error Suggestion](http://www.w3.org/TR/WCAG20/#minimize-error-suggestions) (AA)When the user makes an input error, give suggestions for valid input. | Supports (N/A) | There are no forms on the site that would give error suggestions. |
| [4.1.2: Name, Role, Value](http://www.w3.org/TR/WCAG20/#ensure-compat-rsv) (A)For all UI components, the name, value, and role can be programmatically determined. | Partially supports | Most UI components properly communicate their state programmatically. A few custom components are missing proper ARIA attributes or roles.**Exceptions:**All Modal Dialogs: The wrong ARIA is used to try and label modals.Add SimChart Item: The current step text should have aria-current="step".Choose Content: The remove filter buttons are missing accessible names. The tabpanels for the Quick View tabs should have role="tabpanel". When creating an EHR, the tooltip buttons do not have an accessible name. Configure Case Study: The Date Picker widget should be in a modal dialog with proper roles/ARIA. Number of Students selected button needs aria-expanded. Configure EHR: The Date Picker widget should be in a modal dialog with proper roles/ARIA. Number of Students selected button needs aria-expanded.Case Study Information: The current phase on the left should have aria-current="step". The flyout panels should be marked up like modal dialogs with role="dialog" and aria-modal="true". Charting Summary: The navigation links that drill down into the navigation menu should be buttons. The various "add" elements should indicate what is being added within the button text.Clinical Setup: The information icons, error symbols, and 'X' close buttons for the error tooltips do not have accessible names. The tooltip buttons need aria-expanded. |
| [4.1.3 Status Messages](https://www.w3.org/TR/WCAG21/#status-messages) (AA)(2.1)In content implemented using markup languages, status messages can be programmatically determined through role or properties such that they can be presented to the user by assistive technologies without receiving focus. | Supports | There are no status messages of the type described by this criterion. |
| **Multimedia** |
| **WCAG 2.1****Checkpoint** | **Supporting Features** | **Remarks** |
| [1.2.1: Audio-only or Video-only (Prerecorded)](http://www.w3.org/TR/WCAG20/#media-equiv-av-only-alt) (A)Provide alternatives for pre-recorded audio-only or video-only content. | Supports (N/A) | No pre-recorded audio-only or video-only content was reviewed. |
| [1.2.2: Captions (Prerecorded)](http://www.w3.org/TR/WCAG20/#media-equiv-captions) (A)Provide captions for pre-recorded audio | Supports (N/A) | There is no pre-recorded audio on the site. |
| [1.2.3: Audio Description or Media Alternative (Prerecorded)](http://www.w3.org/TR/WCAG20/#media-equiv-audio-desc) (A)Provide alternatives for pre-recorded synchronized audio/video | Supports (N/A) | There is no pre-recorded synchronized audio/video on the site. |
| [1.2.4: Captions (Live)](http://www.w3.org/TR/WCAG20/#media-equiv-real-time-captions) (AA)Provide captions for live audio in synchronized audio/video. | Supports (N/A) | There is no live audio in synchronized audio/video. |
| [1.2.5: Audio Description (Prerecorded)](http://www.w3.org/TR/WCAG20/#media-equiv-audio-desc-only) (AA)Provide an audio description of pre-recorded video. | Supports (N/A) | There is no pre-recorded video on the site.  |
| [1.4.2: Audio Control](http://www.w3.org/TR/WCAG20/#visual-audio-contrast-dis-audio) (A)Audio can be paused and stopped, or the audio volume can be changed. | Supports (N/A) | There is no audio content on the site.  |
| [2.2.2: Pause, Stop, Hide](http://www.w3.org/TR/WCAG20/#time-limits-pause) (A)Users can stop, pause, or hide moving, blinking, scrolling, or auto-updating information. | Supports (N/A) | There is no moving, blinking, or scrolling content. |
| **Usability** |
| **WCAG 2.1****Checkpoint** | **Supporting Features** | **Remarks** |
| [2.2.1: Timing Adjustable](http://www.w3.org/TR/WCAG20/#time-limits-required-behaviors) (A)Users are warned of time limits shorter than 20 hours and time limits can be turned off or extended | Supports | SimChart has a time limit, but users are made aware and given the option to extend. |
| [2.4.5: Multiple Ways](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-mult-loc) (AA)More than one way is available to navigate to other web pages. | Supports | Nearly all pages are part of a process that exempts them from this criterion. The few pages that are static have multiple ways. |
| [3.2.2: On Input](http://www.w3.org/TR/WCAG20/#consistent-behavior-unpredictable-change) (A) Changing the setting of a checkbox, radio button, or other UI component does not trigger unexpected changes in context. | Supports | User inputs do not cause unexpected actions. |
| [3.2.3: Consistent Navigation](http://www.w3.org/TR/WCAG20/#consistent-behavior-consistent-locations) (AA)Navigation menus are in the same location and order on every web page. | Supports | Navigation menus are consistently in the same place and in same order on most pages. |
| [3.3.4: Error Prevention (Legal, Financial, Data)](http://www.w3.org/TR/WCAG20/#minimize-error-reversible) (AA)For web pages with legal or financial commitments, input can be reviewed and corrected before final submission, and submissions can be reverted. | Supports (N/A) | No data submissions on the site require legal or financial commitments.No data submissions allow for a users’ profile to be deleted.  |
| **Mobile User Experience** |
| **WCAG 2.1****Checkpoint** | **Supporting Features** | **Remarks** |
| [1.3.4 Orientation](https://www.w3.org/TR/WCAG21/#orientation)(AA) (2.1)Content does not restrict its view and operation to a single display orientation, such as portrait or landscape, unless a specific display orientation is essential. | Supports | Content is not restricted to a single display orientation. |
| [2.5.1 Pointer Gestures](https://www.w3.org/TR/WCAG21/#pointer-gestures) (A) (2.1)All functionality that uses multipoint or path-based gestures for operation can be operated with a single pointer without a path-based gesture, unless a multipoint or path-based gesture is essential. | Supports (N/A) | There is no content on the site that requires multipoint or path-based gestures. |
| 2.5.2 Pointer Cancellation (A) (2.1)For functionality that can be operated using a single pointer, at least one of the following is true:* No Down-Event
* Abort or Undo
* Up Reversal
* Essential
 | Supports | All content that can be operated with a single pointer can be undone or is performed on the up-event. |
| [2.5.4 Motion Actuation](https://www.w3.org/TR/WCAG21/#motion-actuation) (A)(2.1) Functionality that can be operated by device motion or user motion can also be operated by user interface components and responding to the motion can be disabled to prevent accidental actuation, except when:* Supported Interface
* Essential
 | Supports (N/A) | There is no content on the site that is activated by motion or actuation. |