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# Titan HST - Android Non-Administrator Interface WCAG 2.0 Support Statement February 2018

## Overview

The following Support Statement provides an evaluation of accessibility support levels for the Titan HST Android application based on the W3C Web Content Accessibility Guidelines (WCAG) 2.0. The information contained within this Support Statement is the result of an accessibility audit. The report does not assert conformance as per the WCAG, rather an indication of *support levels* per checkpoint (i.e., Supports, Supports with Exceptions, or Does Not Support). The assessed levels are explained in the comments column which indicates the specific features of the system that impacted the score, where applicable.

## Executive Summary

The Titan HST Android application has an overall rating of “Supports with Exceptions” for the WCAG 2.0 requirements. It “Supports with Exceptions” the most important technical and functional accessibility needs of most disability and assistive technology types.

The problems of highest severity and frequency are: some Administrative features are not supported within the application. Features such as, send a broadcast message, initiating a lockdown, sending a status request, responding to an alert.

## Testing Methodology

A variety of manual testing methods, object inspection, keyboard-only testing, and testing with the leading screen reader were utilized to perform this audit. Accessibility specific technology used during this audit is built into the latest Android operating system settings. The accessibility settings used during the audit are listed below.

Assistive Technology
Accessibility - Huge Text
Negative Colors
Gray Scale
Voice Assistant

## Support Information for WCAG 2.0 Checkpoints

### ***Principle 1: Perceivable - Information and user interface components must be presentable to users in ways they can perceive***

*Guideline 1.1 Text Alternatives: Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, Braille, speech, symbols or simpler language*

Checkpoint	Support Level	Comments
<b>1.1.1 Non-text Content: All non text content that is presented to the user has a text alternative that serves the equivalent purpose, except for the situations listed below. (Level A)</b>	Supports with Exceptions	-
<ul style="list-style-type: none"> <li>• Controls Input: If non-text content is a control or accepts user input, then it has a name that describes its purpose. (Refer to Guideline 4.1 for additional requirements for components and content that accepts user input.)</li> </ul>	Supports with Exceptions	There are no non text elements that are controls or accept user input, that don't also have a description of their function when using assistive technologies
<ul style="list-style-type: none"> <li>• Time-Based Media: If non-text content is time-based media, then text alternatives at least provide descriptive identification of the non-text content. (Refer to Guideline 1.2 for additional requirements for media.)</li> </ul>	Supports	<p>Application does not contain any non-text time based content.</p> <p>Administrative users have the ability to upload rich media content to the application that may be inaccessible to certain users. Administrative users are trained to upload a text equivalent with all rich media files.</p>
<ul style="list-style-type: none"> <li>• Test: If non-text content is a test or exercise that would be invalid if presented in text, then text alternatives at least provide descriptive identification of the non-text content.</li> </ul>	Supports	Application does not contain tests or exercises
<ul style="list-style-type: none"> <li>• Sensory: If non-text content is primarily intended to create a</li> </ul>	Supports	Application does not contain any non-text time based content.

specific sensory experience, then text alternatives at least provide descriptive identification of the non-text content.		Administrative users have the ability to upload rich media content to the application that may be inaccessible to certain users. Administrative users are trained to upload a text equivalent with all rich media files.
<ul style="list-style-type: none"> <li>• CAPTCHA: If the purpose non-text content is to confirm that content is being accessed by a person rather than a computer, then text alternatives that identify and describe the purpose of the non-text content are provided, and alternative forms of CAPTCHA using output modes for different types of sensory perception are provided to accommodate different disabilities.</li> </ul>	Supports	Application does not use CAPTCHA.
<ul style="list-style-type: none"> <li>• Decoration, Formatting, Invisible: If non-text content is pure decoration, is used only for visual formatting, or is not presented to users, then it is implemented in a way that it can be ignored by assistive technology.</li> </ul>	Supports	Application does not use non-text content as pure decoration that is focusable by assistive technologies

*Guideline 1.2 Time-based Media: Provide alternatives for time-based media*

Checkpoint	Support Level	Comments
<b>1.2.1 Audio-only and Video-only (Prerecorded): For pre-recorded audio-only and pre-recorded video only media, the following are true, except when the audio or video is a media alternative for text and is clearly labeled as such: (Level A)</b>	Supports	-
is provided that presents equivalent information for	Supports	Application does not contain any pre-recorded audio content.

prerecorded audio-only content.		Administrative users have the ability to upload rich media content to the application that may be inaccessible to certain users. Administrative users are trained to upload a text equivalent with all rich media files.
<ul style="list-style-type: none"> <li>• Prerecorded Video-only: Either an alternative for time-based media or an audio track is provided that presents equivalent information for prerecorded video-only content.</li> </ul>	Supports	<p>Application does not contain any pre-recorded audio/video content.</p> <p>Administrative users have the ability to upload rich media content to the application that may be inaccessible to certain users. Administrative users are trained to upload a text equivalent with all rich media files.</p>
<b>1.2.2 Captions (Pre-recorded):</b>	Supports	-
<ul style="list-style-type: none"> <li>• Captions are provided for all pre-recorded audio content in synchronized media, except when the media is a media alternative for text and is clearly labeled as such. (Level A)</li> </ul>	Supports	<p>Application does not contain any pre-recorded audio content.</p> <p>Administrative users have the ability to upload rich media content to the application that may be inaccessible to certain users. Administrative users are trained to upload a text equivalent with all rich media files.</p>
<b>1.2.3 Audio Description or Media Alternative (Prerecorded):</b>	Supports with Exceptions	-
<ul style="list-style-type: none"> <li>• An alternative for time-based media or audio description of the prerecorded video content is provided for synchronized media, except when the media is a media alternative for text and is clearly labeled as such. (Level A)</li> </ul>	Supports with Exceptions	<p>Application does not contain any pre-recorded video content.</p> <p>Administrative users have the ability to upload images, audio, video, and multimedia content to the application that may be inaccessible to certain users.</p>
<b>1.2.4 Captions (Live):</b>	Does not support	-
<ul style="list-style-type: none"> <li>• Captions are provided for all live audio content in synchronized media. (Level AA)</li> </ul>	Does not support	All live audio is user generated and does not have synchronized captions.
<b>1.2.5 Audio Description</b>	Supports	-

<b>(Prerecorded):</b>		
• Audio description is provided for all pre-recorded video content in synchronized media. (Level AA)	Supports	Application does not contain any pre-recorded audio content.

*Guideline 1.3 Adaptable: Create content that can be presented in different ways (for example simpler layout) without losing information or structure*

Checkpoint	Support Level	Comments
<b>1.3.1 Info and Relationships:</b>	Supports	-
• Information, structure, and relationships conveyed through presentation can be programmatically determined or are available in text. (Level A)	Supports	The application provides support of information, structure, and relationships programmatically.
<b>1.3.2 Meaningful Sequence:</b>	Supports with Exceptions	-
• When the sequence in which content is presented affects its meaning, a correct reading sequence can be programmatically determined. (Level A)	Supports with Exceptions	Application supports a meaningful sequence.  Except when a lockdown banner is visible, it is not the first element that is focusable when using a keyboard.
<b>1.3.3 Sensory Characteristics:</b>	Supports with Exceptions	-
• Instructions provided for understanding and operating content do not rely solely on sensory characteristics of components such as shape, size, visual location, orientation, or sound. (Level A) Note: For requirements related to color, refer to Guideline 1.4.	Supports with Exceptions	Application does not rely on sensory characteristics alone to provide understanding of content, except:  - When a broadcast message includes an attachment, an icon identifies it as such - When a user is viewing a chat, an active audio/video call is identified by icons. - When an administrator is viewing an alert, the alert type is identified solely by its icon. - When an administrator is viewing an alert, an active audio/video call is identified by icons.

*Guideline 1.4 Distinguishable: Make it easier for users to see and hear content, including separating foreground from background*

Checkpoint	Support Level	Comments
<p><b>1.4.1 Use of Color:</b></p> <ul style="list-style-type: none"> <li>Color is not used as the only visual means of conveying information, indicating an action, prompting a response, or distinguishing a visual element. (Level A) Note: This success criterion addresses color perception specifically. Other forms of perception are covered in Guideline 1.3 including programmatic access to color and other visual presentation coding.</li> </ul>	<p><b>Supports</b></p> <p>Supports</p>	<p>-</p> <p>Application for non-administrative users does not use color to convey information for controls and content.</p>
<p><b>1.4.2 Audio Control:</b></p> <ul style="list-style-type: none"> <li>If any audio on a Web page plays automatically for more than 3 seconds, either a mechanism is available to pause or stop the audio, or a mechanism is available to control audio volume independently from the overall system volume level. (Level A) Note: Since any content that does not meet this success criterion can interfere with a user's ability to use the whole page, all content on the Web page (whether or not it is used to meet other success criteria) must meet this success criterion. See Conformance Requirement 5: NonInterference.</li> </ul>	<p><b>Supports with Exceptions</b></p> <p>Supports with Exceptions</p>	<p>-</p> <p>Application does not auto play audio for more than 3 seconds without user interaction.</p> <p>When a user selects to initiate an audio call, the audio for the call begins as soon as the page connects to the call. In order to change the volume of the audio call, the system volume level must be manipulated. However, application audio calls are not initiated without user interaction.</p>
<p><b>1.4.3 Contrast (Minimum): The visual presentation of text and images of text has a contrast ratio of at least 4.5:1, except for the following: (Level AA)</b></p>	<p><b>Supports with Exceptions</b></p>	<p>-</p>
<ul style="list-style-type: none"> <li>Large Text: Large-scale text and images of large-scale text have a contrast ratio of at least 3:1;</li> </ul>	<p>Supports with Exceptions</p>	<p>Application supports a high contrast ratio of text colors of at least 4.5:1 when in-app accessibility mode is enabled.</p>

<ul style="list-style-type: none"> <li>• Incidental: Text or images of text that are part of an inactive user interface component, that are pure decoration, that are not visible to anyone, or that are part of a picture that contains significant other visual content, have no contrast requirement.</li> </ul>	Supports	Supports
<ul style="list-style-type: none"> <li>• Logotypes: Text that is part of a logo or brand name has no minimum contrast requirement.</li> </ul>	Supports	Supports
<b>1.4.4 Resize Text:</b>	<b>Supports with Exceptions</b>	-
<ul style="list-style-type: none"> <li>• Text (but not images of text) can be resized without assistive technology up to 200 percent without loss of content or functionality. (Level AA)</li> </ul>	Supports with Exceptions	Application can be resized up to 200 percent without loss of content or functionality except where it conflicts with navigation controls. In these cases text sizes are increased, but are limited to a threshold that is below 200 percent
<b>1.4.5 Images of Text: If the technologies being used can achieve the visual presentation, text is used to convey information rather than images of text except for the following: (Level AA) Note: Logotypes (text that is part of a logo or brand name) are considered essential.</b>	<b>Supports</b>	-
<ul style="list-style-type: none"> <li>• Customizable: The image of text can be visually customized to the user's requirements;</li> </ul>	Supports	<p>Application does not natively utilize images of text to convey information.</p> <p>Administrative users have the ability to upload images, audio, video, and multimedia content to the application that may be inaccessible to certain users.</p>
<ul style="list-style-type: none"> <li>• Essential: A particular presentation of text is essential to the information being conveyed.</li> </ul>	Supports	<p>Application does not natively utilize images of text to convey information.</p> <p>Administrative users have the ability to upload rich media</p>



		content to the application that may be inaccessible to certain users. Administrative users are trained to upload a text equivalent with all rich media files.
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**Principle 2: Operable - User interface components and navigation must be operable**

*Guideline 2.1 Keyboard Accessible: Make all functionality available from a keyboard*

Checkpoint	Support Level	Comments
<p><b>2.1.1 Keyboard: Note 1: This exception relates to the underlying function, not the input technique. For example, if using handwriting to enter text, the input technique (handwriting) requires path dependent input but the underlying function (text input) does not. Note 2: This does not forbid and should not discourage providing mouse input or other input methods in addition to keyboard operation.</b></p>	Supports	-
<p>• All functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes, except where the underlying function requires input that depends on the path of the user's movement and not just the endpoints. (Level A)</p>	Supports	Application works with keyboard only interaction, but only when Android Voice Assistant is enabled
<p><b>2.1.2 No Keyboard Trap: Note: Since any content that does not meet this success criterion can interfere with a user's ability to use the whole page, all content on the Web page (whether it is used to meet other success criteria or not) must meet this success criterion. See Conformance Requirement 5:</b></p>	Supports	-

<b>Non-Interference.</b>		
If keyboard focus can be moved to a component of the page using a keyboard interface, then focus can be moved away from that component using only a keyboard interface, and, if it requires more than unmodified arrow or tab keys or other standard exit methods, the user is advised of the method for moving focus away. (Level A)	Supports	Application does not contain any keyboard traps, but only when Android Voice Assistant is enabled

*Guideline 2.2 Enough Time: Provide users enough time to read and use content*

Checkpoint	Support Level	Comments
<b>2.2.1 Timing Adjustable: For each time limit that is set by the content, at least one of the following is true: (Level A) Note 1: This success criterion helps ensure that users can complete tasks without unexpected changes in content or context that are a result of a time limit. This success criterion should be considered in conjunction with Success Criterion 3.2.1 which puts limits on changes of content or context as a result of user action.</b>	Supports	-
• Turn off: The user is allowed to turn off the time limit before encountering it; or	Supports	Application does not use a timer.
• Adjust: The user is allowed to adjust the time limit before encountering it over a wide range that is at least ten times the length of the default setting; or	Supports	Application does not use a timer.
• Extend: The user is warned before time expires and given at least 20 seconds to extend the time limit with a simple action (for example, "press the spacebar"), and the user is allowed to extend	Supports	Application does not use a timer.

the time limit at least ten times; or		
• Real-time Exception: The time limit is a required part of a real-time event (for example, an auction), and no alternative to the time limit is possible; or	Supports	Application does not use a timer.
• Essential Exception: The time limit is essential and extending it would invalidate the activity; or	Supports	Application does not use a timer.
• 20 Hour Exception: The time limit is longer than 20 hours.	Supports	Application does not use a timer.
<p><b>2.2.2 Pause, Stop, Hide: For moving, blinking, scrolling, or auto updating information, all of the following are true: (Level A) Note 1: For requirements related to flickering or flashing content, refer to Guideline 2.3. Note 2: Since any content that does not meet this success criterion can interfere with a user's ability to use the whole page, all content on the Web page (whether it is used to meet other success criteria or not) must meet this success criterion. See Conformance Requirement 5: Non-Interference. Note 3: Content that is updated periodically by software, or that is streamed to the user agent is not required to preserve or present information that is generated or received between the initiation of the pause and resuming presentation, as this may not be technically possible, and in many situations could be misleading to do so. Note 4: An animation that occurs as part of a preload phase or similar situation can be considered essential if interaction cannot occur during that phase for all users and if</b></p>	Supports with Exceptions	-

<p><b>not indicating progress could confuse users or cause them to think that content was frozen or broken.</b></p>		
<p>• Moving, blinking, scrolling: For any moving, blinking or scrolling information that (1) starts automatically, (2) lasts more than five seconds, and (3) is presented in parallel with other content, there is a mechanism for the user to pause, stop, or hide it unless the movement, blinking, or scrolling is part of an activity where it is essential; and</p>	<p>Supports with Exceptions</p>	<p>Application does not move, blink, or scroll automatically, except:</p> <ul style="list-style-type: none"> <li>- When user is in a text chat with other users and new messages will automatically into view when user is already viewing the most recently sent message.</li> <li>- Receiving new broadcast messages will automatically scroll list to insert received broadcast to top of list</li> </ul>
<p>• Auto-updating: For any auto-updating information that (1) starts automatically and (2) is presented in parallel with other content, there is a mechanism for the user to pause, stop, or hide it or to control the frequency of the update unless the auto-updating is part of an activity where it is essential.</p>	<p>Supports with Exceptions</p>	<p>Application does not move, blink, or scroll automatically, except:</p> <ul style="list-style-type: none"> <li>- When user is in a text chat with other users and new messages will automatically into view when user is already viewing the most recently sent message.</li> <li>- Receiving new broadcast messages will automatically scroll list to insert received broadcast to top of list</li> </ul>

*Guideline 2.3 Seizures: Do not design content in a way that is known to cause seizures*

Checkpoint	Support Level	Comments
<p><b>2.3.1 Three Flashes or Below Threshold: Note: Since any content that does not meet this success criterion can interfere with a user's ability to use the whole page, all content on the Web page (whether it is used to meet other success criteria or not) must meet this success criterion. See Conformance</b></p>	<p>Supports</p>	<p>-</p>

<b>Requirement 5: Non-Interference.</b>		
<ul style="list-style-type: none"> <li>• Web pages do not contain anything that flashes more than three times in any one second period, or the flash is below the general flash and red flash thresholds. (Level A)</li> </ul>	Supports	<p>Application does not natively contain content that flashes more than three times in any one second period, or the flash is below the general flash and red flash thresholds.</p> <p>Administrative users have the ability to upload rich media content to the application that may be inaccessible to certain users. Administrative users are trained to upload a text equivalent with all rich media files.</p>

*Guideline 2.4 Navigable: Provide ways to help users navigate, find content and determine where they are.*

Checkpoint	Support Level	Comments
<b>2.4.1 Bypass Blocks:</b>	Supports with Exceptions	-
<ul style="list-style-type: none"> <li>• A mechanism is available to bypass blocks of content that are repeated on multiple Web pages. (Level A)</li> </ul>	Supports with Exceptions	Long lists must be navigated all the way through to get to top or bottom navigation buttons. Lists do not use infinite scrolling.
<b>2.4.2 Page Titled:</b>	Supports	-
<ul style="list-style-type: none"> <li>• Web pages have titles that describe topic or purpose. (Level A)</li> </ul>	Supports	All major application pages have titles that describe topic or purpose.
<b>2.4.3 Focus Order:</b>	Supports	-
<ul style="list-style-type: none"> <li>• If a Web page can be navigated sequentially and the navigation sequences affect meaning or operation, focusable components receive focus in an order that preserves meaning and operability. (Level A)</li> </ul>	Supports	Application is navigable in a sequential manner
<b>2.4.4 Link Purpose (In Context):</b>	Supports with Exceptions	-
<ul style="list-style-type: none"> <li>• The purpose of each link can be determined from the link text alone, or from the link text</li> </ul>	Supports with Exceptions	The purposes of all major buttons within the application can be determined from the text alone or

together with its programmatically determined link context, except where the purpose of the link would be ambiguous to users in general. (Level A)		from the text together with its context. Some minor elements might not contain detailed hints explaining the purpose of the button.
<b>2.4.5 Multiple Ways:</b>	Not Applicable	-
• More than one way is available to locate a Web page within a set of Web pages except where the Web Page is the result of, or a step in, a process. (Level AA)	Not Applicable	Application does not contain sets of web pages
<b>2.4.6 Headings and Labels:</b>	Supports	-
• Headings and labels describe topic or purpose. (Level AA)	Supports	Application has clear headings and labels for all elements
<b>2.4.7 Focus Visible:</b>	Supports with Exceptions	-
• Any keyboard operable user interface has a mode of operation where the keyboard focus indicator is visible. (Level AA)	Supports with Exceptions	Assistive Technology such as Voice Assistant must be enabled for keyboard focus to be visible

***Principle 3: Understandable - Information and the operation of user interface must be understandable***

*Guideline 3.1 Readable: Make text content readable and understandable*

<b>Checkpoint</b>	<b>Support Level</b>	<b>Comments</b>
<b>3.1.1 Language of Page:</b>	Supports	-
• The default human language of each Web page can be programmatically determined. (Level A)	Supports	Application defaults to a human language that can be programmatically determined.
<b>3.1.2 Language of Parts:</b>	Supports	-
• The human language of each passage or phrase in the content can be programmatically determined except for proper names, technical terms, words of indeterminate language, and words or phrases that have become part of the vernacular of the immediately surrounding text.	Supports	Application content is understandable

(Level AA)		
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*Guideline 3.2 Predictable: Make web pages appear and operate in predictable ways*

Checkpoint	Support Level	Comments
<b>3.2.1 On Focus:</b>	Supports	-
• When any component receives focus, it does not initiate a change of context. (Level A)	Supports	Application does not initiate a change of context when a component receives focus
<b>3.2.2 On Input:</b>	Supports	-
• Changing the setting of any user interface component does not automatically cause a change of context unless the user has been advised of the behavior before using the component. (Level A)	Supports	Application does not automatically change the setting of user interface components without advising users.
<b>3.2.3 Consistent Navigation:</b>	Supports	-
• Navigational mechanisms that are repeated on multiple Web pages within a set of Web pages occur in the same relative order each time they are repeated, unless a change is initiated by the user. (Level AA)	Supports	Application provides a consistent navigation structure throughout the page
<b>3.2.4 Consistent Identification:</b>	Supports	-
• Components that have the same functionality within a set of Web pages are identified consistently. (Level AA)	Supports	Application components that have the same functionality are identified consistently throughout the application.

*Guideline 3.3 Input Assistance: Help users avoid and correct mistakes*

Checkpoint	Support Level	Comments
<b>3.3.1 Error Identification:</b>	Supports	-
• If an input error is automatically detected, the item that is in error is identified and the error is described to the user in text. (Level A)	Supports	Any error in form will be followed by with a dialog popup describing the error
<b>3.3.2 Labels or Instructions:</b>	Supports	-

• Labels or instructions are provided when content requires user input. (Level A)	Supports	The application provides labels and instructions for most content requiring user input.
<b>3.3.3 Error Suggestion:</b>	Supports with Exceptions	-
• If an input error is automatically detected and suggestions for correction are known, then the suggestions are provided to the user, unless it would jeopardize the security or purpose of the content. (Level AA)	Supports with Exceptions	Some error dialogs do provide suggestions as to what the error is, but not all
<b>3.3.4 Error Prevention (Legal, Financial, Data): For Web pages that cause legal commitments or financial transactions for the user to occur, that modify or delete user-controllable data in data storage systems, or that submit user test responses, at least one of the following is true: (Level AA)</b>	Not Applicable	-
• Reversible: Submissions are reversible.	Not Applicable	Does not apply to this application
• Checked: Data entered by the user is checked for input errors and the user is provided an opportunity to correct them.	Not Applicable	Does not apply to this application
• Confirmed: A mechanism is available for reviewing, confirming, and correcting information before finalizing the submission.	Not Applicable	Does not apply to this application

***Principle 4: Robust - Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies***

*Guideline 4.1 Compatible: Maximize compatibility with current and future user agents, including assistive technologies*

Checkpoint	Support Level	Comments
<b>4.1.1 Parsing: Note: Start and</b>	Not Applicable	-



<p><b>end tags that are missing a critical character in their formation, such as a closing angle bracket or a mismatched attribute value quotation mark are not complete.</b></p>		
<p>• In content implemented using markup languages, elements have complete start and end tags, elements are nested according to their specifications, elements do not contain duplicate attributes, and any IDs are unique, except where the specifications allow these features. (Level A)</p>	<p>Not Applicable</p>	<p>Application does not use Markup Languages</p>
<p><b>4.1.2 Name, Role, Value: Note: This success criterion is primarily for Web developers who develop or script their own user interface components. For example, standard HTML components already meet this success criterion when used according to specification.</b></p>	<p>Not Applicable</p>	<p>-</p>
<p>• For all user interface components (including but not limited to: form elements, links and components generated by scripts), the name and role can be programmatically determined; states, properties, and values that can be set by the user can be programmatically set; and notification of changes to these items is available to user agents, including assistive technologies. (Level A)</p>	<p>Not Applicable</p>	<p>Does not apply to mobile application</p>

