2.5.X SC Dragging

Contents

Proposed SC text

All functionality that uses a dragging movement for operation can be operated by a single pointer without dragging, unless dragging is <u>essential.</u>

.NOTE: This requirement applies to web content that interprets pointer actions (i.e. this does not apply to actions that are required to operate the user agent or assistive technology).

Editor's note: Is there an assistive technology or consistent operating level support for both desktop and mobile that helps for people with mobility impairments? The group would like feedback on the frontier between AT, OS & author responsibility.

Suggestion for Priority Level (A/AA/AAA)

AA

Principle and Guideline it falls within

Guideline 2.5 Input Modalities

Understanding document

Intent

The intent of this Success Criterion is to ensure functionality that uses a dragging movement (e.g. sliders, drag-and-drop interfaces) has another [single pointer](#) mode of operation without the need for the dexterity required to drag elements.

Some people cannot perform dragging motions in a precise manner. Others use a specialized or adapted input device such as a head pointer, eye-gaze system, or speech-controlled mouse emulator, which makes dragging cumbersome, error-prone, or outright impossible.

When an interface implements functionality that uses dragging motions, some users can tap or click, but not accurately maintain contact whilst performing a gesture. An alternative method must be provided so that users with mobility impairments that use a pointer (mouse, pen, or touch contact) can use the functionality.

While Success Criterion 2.1.1 Keyboard requires functions implemented for dragging

movements to be keyboard accessible, it is possible to create an interface that works with dragging and keyboard operation but does not work using only simple clicks or taps.

For example, a drag and drop interface for re-ordering items in a list may support up and down arrow keys for moving selected items, but may lack "move up" and "move down" buttons or options for numerical input that support single pointer activation.

Single pointer activation for drag and drop is needed even where keyboard operation is supported because some users on mobile platforms may have no keyboard interface. Other users may lack the strength to operate a keyboard but be able to use pointer input.

Example of content that passes the criteria

- A sortable list of elements may, after focussing a list element, provide adjacent controls for moving the element up or down in the list by simply tapping/clicking on those controls.
- A kanban implementation may provide an additional pop-up menu for focused elements that can be activated by simple clicks/taps providing an option for moving the selected element to another kanban silo.
- A radial control widget where the value can be set by dragging includes a text field that presents the current value and offers the input of the desired value via a keyboard (including on-screen virtual keyboards)
- A map allows users to drag the view of the map around, and the map has up/down/left/right buttons to move the view as well.

Benefits
- Users who struggle with performing path-based gestures can still operate an interface with a pointer interface.

Description of how this SC can be tested

Procedure

For interface elements that support dragging:

1. Check that single pointer operable controls exist that allow pointer users to operate the same functionality without requiring any for of path-based gesture.

Expected Results

- #1 is true

Techniques

GXXX: Ensuring that a single pointer operable alternative is available for dragging movements that operate on content

Applicability
This Failure relates to
- Success Criterion 2.5.X (Dragging)

Description

The objective of this Technique is to ensure that people with motor impairments who cannot carry out dragging movements are presented with a single pointer operable alternative. Some direct manipulation interfaces allow users to pick up targets and move them to another position, for example, to change the position of an item in a priority list, or to change the status of a task in a Kanban implementation (a type of visual process management view which shows tasks in vertical lanes representing process steps such as 'scheduled', 'processed', 'completed').

The single pointer operable alternative may require the user to carry out a series of single pointer interactions (for example, activating a target to be moved; opening a dropdown menu; and selecting a drop destination from the list of menu items offered).

Examples

- A list of items can be re-ordered by picking up an item and dragging it upwards or downwards. Other elements move dynamically to open a gap where the picked-up target can be dropped. After a single pointer activation, the list items display up and down arrows which allow a step-wise re-ordering of the the list via a single pointer inputs (taps or clicks at the up or down arrow).
- A vertical priority list indicates the priority of items listed. Each item can be 'picked up' with a pointer and dragged up or down to another position. The other list items rearrange dynamically. To the left of each list item, a number in a text field shows the current priority position. For any of the items, users can input another number. This leads to a dynamic reordering and renumbering of the priority list.
- In a Kanban implementation for process management, tasks can be dragged horizontally from one 'swimming lane' to another in order to change the status of tasks (for example, to change the status of a task from "in process" to "completed"). One or several items in a lande can be selected by a single tap or click. A single pointer activation of a drop-down menu labelled "Move selected items to" offers a selection of drop targets (other lanes). A further single pointer activation over the desired menu item moves targets to the specified lane.
- In a Kanban implementation for process management, tasks can be dragged horizontally

from one 'swimming lane' to another in order to change the status of tasks. A directional horizontal swipe over an item moves it to the adjacent lane. This process can be repeated until the item is in the desired lane.

Related Techniques

- [G215: Providing controls to achieve the same result as path based or multipoint gestures](#)

Tests

Procedure

Check the interface for the presence of functions triggered by dragging movements

Check that there is a [single pointer](#) input alternative to operate the same function

Expected Results
- Check #2 is true.

If this is a sufficient technique for a success criterion, failing this test procedure does not necessarily mean that the success criterion has not been satisfied in some other way, only that this technique has not been successfully implemented and can not be used to claim conformance.

HXXX: DRAGGING HTML EXAMPLE (KEYBOARD ALTERNATIVE & SINGLE POINTER)

Applicability

This Failure relates to
- Success Criterion 2.5.X (Dragging)

Description

The objective of this Technique is

Examples

- Enter key and single pointer can be used to select and drag the items to the cart: http://whatsock.com/tsg/Coding%20Arena/Drag%20and%20Drop/demo.htm
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Related Techniques

- [G215: Providing controls to achieve the same result as path based or multipoint gestures](#)

Tests

Procedure

GXXX: SLIDER TECHNIQUE

Applicability

This Sufficient Technique relates to
- **Success Criterion 2.5.X (Dragging)**

Description

The objective of this Technique is to ensure that people with motor impairments who cannot carry out dragging movements to adjust a slider control are presented with a single pointer operable alternative. Some slider techniques rely on the user to drag one or more thumbs of a slider control to adjust the value.

A single pointer operable alternative may allow the user to perform a single pointer action at any point along the slider to adjust the slider value, may provide controls to increment or decrement the slider, or provide some other single pointer alternative.

Examples

- **A slider can be adjusted by a single pointer activation at any point along the slider. Sufficient target area is provided to allow for activation and adjustment by the increments allowed by dragging.**
- **Increment and decrement buttons are provided on the relevant sides of the slider to allow the user to increment and decrement the slider by each possible increment using single point activation.**
- **A spinner input field (a clickable +/-) is provided next to the**

slider to allow increment of values that correspond and change the slider via up and down buttons.

Related Techniques

- **[G215: Providing controls to achieve the same result as path based or multipoint gestures](#)**

Tests

Procedure
1. **Check the interface for the presence of slider functions triggered by dragging movements**
2. **Check that there is a [single pointer](#) input alternative to operate the slider which provides the same function and level of increment.**

Expected Results
- **Check #2 is true.**

If this is a sufficient technique for a success criterion, failing this test procedure does not necessarily mean that the success criterion has not been satisfied in some other way, only that this technique has not been successfully implemented and can not be used to claim conformance.

Draft Failure for 2.5.X Dragging

FXXX: Failure of Success Criterion 2.5.X Dragging due to not providing a single pointer method for the user to operate a function that does not require a dragging movement

Applicability
This Failure relates to
- Success Criterion 2.5.X (Dragging)

Description

The objective of this failure is to avoid situations in which people with motor impairments who cannot operate content because the only way to actuate a function is by dragging a target element from its initial position to some other position. The failure occurs when there is no alternative single pointer input available to actuate the function. The alternative may involve a series of single pointer interactions (for example, activating a target to be moved; opening a dropdown menu; and selecting a drop destination from the list of menu items offered).

Examples

Failure example 1:

A list of items can be re-ordered by picking up an item and dragging it upwards or downwards. Other elements move dynamically to open a gap where the picked-up target can be dropped. There is no alternative way to re-order the list that can be executed via a single pointer input.

Failure example 2:

In a Kanban implementation for process management, tasks can be dragged horizontally across from one 'swimming lane' to another in order to change the status of tasks (for example, to change the status of a task from "in process" to "completed"). There is no alternative way to move targets between lanes that can be executed via a single pointer input.

Related Failures

- Failure of Success Criterion 2.5.1 due to providing functionality via a path-based gesture without simple pointer alternative

Tests

Procedure
1. Check the interface for the presence of functions triggered by dragging movements
2. Check that there is a single pointer input alternative to operate the same function

Expected results

- If check #2 is false, then this failure condition applies and the content fails this Success Criterion.

Indication of any suggested glossary definitions

Dragging movement: A dragging movement is an operation where the pointer engages with a target on the down event and the target (or an element representing its position until release)

follows the pointer until the up event without requiring Movement in a specific direction at the start of the movement. The target could be, for example, a list item, a text element, or an image.

WCAG2ICT content

Not sure if this can be applied as written?

Implementations

https://docs.google.com/document/d/13QWLthBoEU6xuJQ4UrYOwuvJp0a42Z70JRjAsjtv1m4/edit#heading=h.uacsmsv3zr96 (2 solid, one a bit ropey)

NOTES

Mobile SC's Assessment Spreadsheet
https://docs.google.com/spreadsheets/d/1wRAViPfAJ4Ytqc71tGZp6gU07HNd2QQaNgtJsog-D90/edit#gid=124994642