

## 2.2 SC Spacing Between Touch Targets

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### Taskforce Update 4/2/2020

**Pointer target spacing (Level AA):** For each target, there is an area with a width and height of at least 44 CSS pixels that includes it, and no other active targets, except when:

**Enlarge:** A mechanism is available to change the CSS pixel size of all targets so that the width and height are each at least 44 CSS pixels;

**Inline:** The target is in a sentence or block of text;

**Essential:** A particular presentation of the target is essential to the information being conveyed.

**Editor's note:** This criteria has been formulated to increase the hit-area of small targets, but the group would like feedback from providers of touch-screen devices if there is another way of forming the criteria to better complement the tap-heuristics used.

## Intent

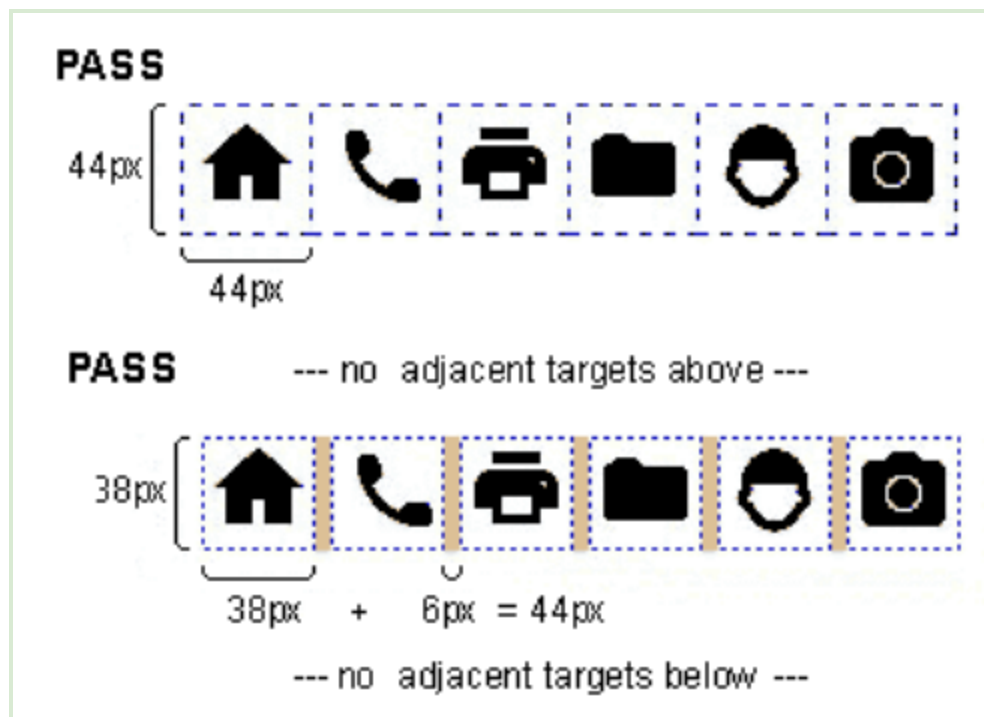
The intent of this success criteria is to ensure targets can easily be activated without accidentally activating an adjacent target. When touch targets are small, it is difficult for users with hand tremors and those who have difficulty with fine motor movement to activate them accurately. Increasing the hit area of touch targets will reduce the likelihood of accidentally activating the wrong control.

Users with different disabilities may have different needs for control sizes. Changing the control size is one way but not the only way to increase space between controls. It can be beneficial to provide an option to increase target area without increasing control size or provide a mechanism to control the density of layout and thus potentially change the target size of controls can be beneficial to a wider range of users. For example, users with visual field loss may prefer a more condensed layout with smaller sized controls while users with other forms of low vision may prefer large controls.

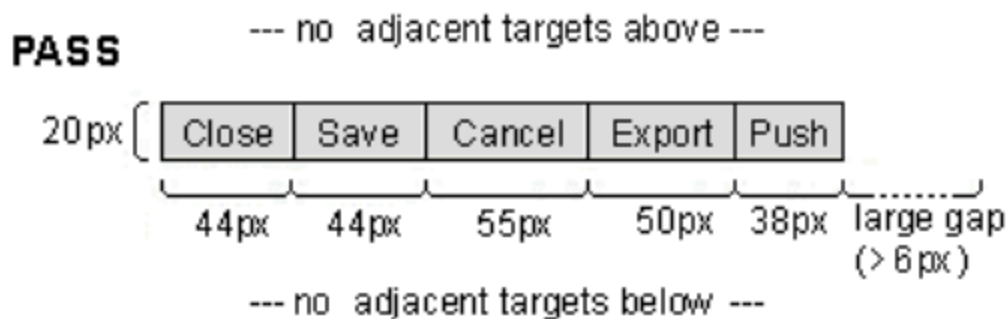
There are three exceptions:

- If there is a mechanism to change the target sizes or spacing to meet the minimum, such as a button to change the sizes and layout of the targets.
- If the target is within a sentence there doesn't need to be a minimum target size.
- If the spacing of the targets is essential to the information being conveyed there doesn't need to be a minimum target size.

The requirement is for a touch target to have a width and height of the target plus the spacing of at least 44 CSS pixels each. For example:

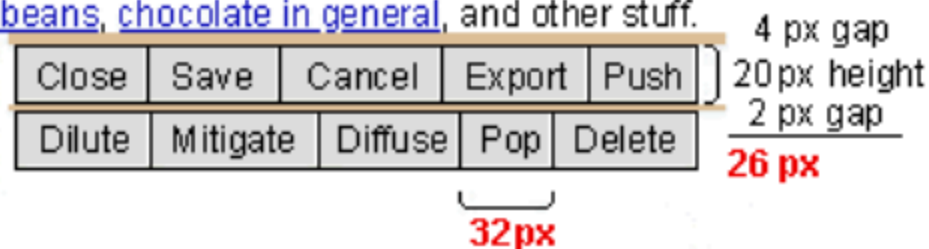


**Figure 1:** The top edge of a control and the top edge of the control below it are at least 44px apart.

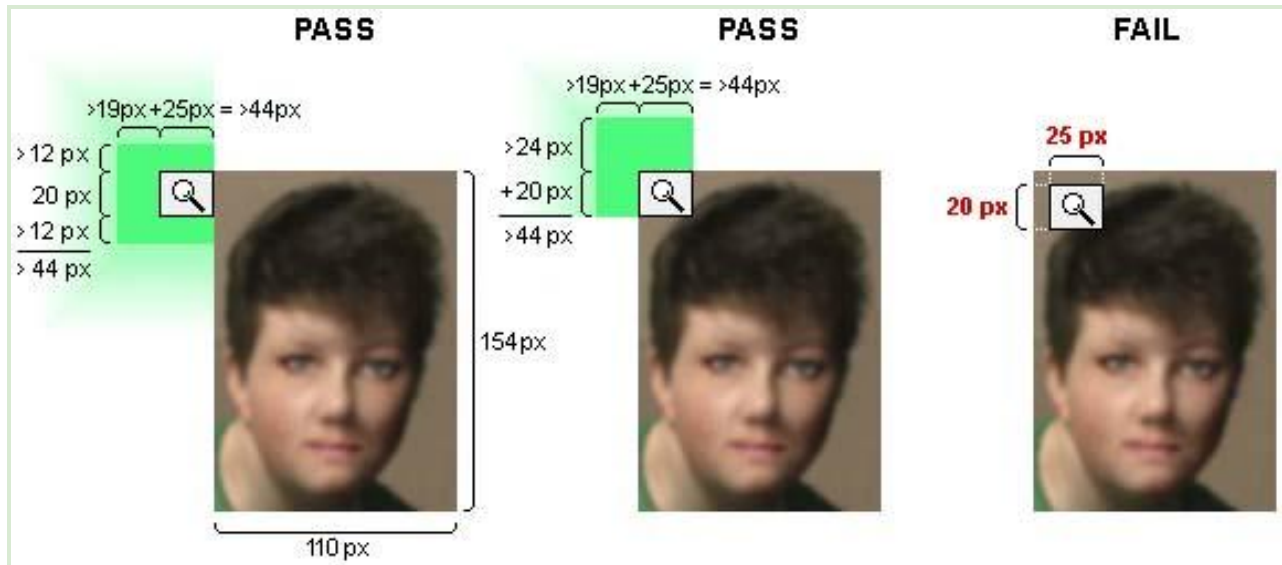


## FAIL

whereas many people prefer [donuts](#), [biscuits](#), [jellybeans](#), [chocolate in general](#), and other stuff.



**Figure 2:** Adjacent icons of a size smaller than 44 x 44px sit in a horizontal row of boxes of 44 x 44 px each.



**Figure 3:** Targets that are smaller than 44 x 44px (here, a loupe sized 25 x 20 px indicating that an image can be magnified in a lightbox view) meet the Success Criterion if they have enough adjacent spacing even if they are flush with a larger target or even overlap it (here, a blurred photographic image of a person). If the small target sits on top of the larger target, it is surrounded by an active click area and therefore needs to be 44 x 44px (visible size or visible size plus spacing) to meet the success criterion.

## Benefits

- Users who use a mobile device where touch screen is the primary mode of interaction;
- Users with mobility impairments such as hand tremors;
- Users who use a mobile device in environments where they are exposed to shaking such as public transportation;
- Users who have difficulty with fine motor movements;
- Users who access a device using one hand;
- Users with large fingers, or who are operating the device with only a part of their finger or knuckle.

## Examples

- **Example 1: Buttons**  
Three buttons are on-screen and the touch target area of each button is 44 by 44 CSS pixels.

- **Example 2: Text Link in a paragraph**

Links within a paragraph of text have varying touch target dimensions. Links within paragraphs of text do not need to meet the 44 by 44 CSS pixels requirements.

## **Related resources**

- Target and spacing sizes for smartphone user interfaces for older adults.  
<http://mural.maynoothuniversity.ie/6045/1/PS-Target-Spacing.pdf>

## **Suggestion for Priority Level (A/AA/AAA)**

Level AA

## **Principle and Guideline it falls within**

Operable

## **Description of how this SC can be tested**

(Like the procedure from a technique)

### **Option 1**

1. Determine what targets are adjacent to each other.
2. For each adjacent combination, look at the target width and height and the computed CSS margin properties
3. Ensure that the minimum height and width (target size plus spacing between targets) is 44 CSS pixels each.

### **Option 2**

1. Determine what targets are adjacent to each other.
2. Draw a 44x44 box somewhere within the element
3. Check to see if the box includes one target and spacing.

## **Techniques**

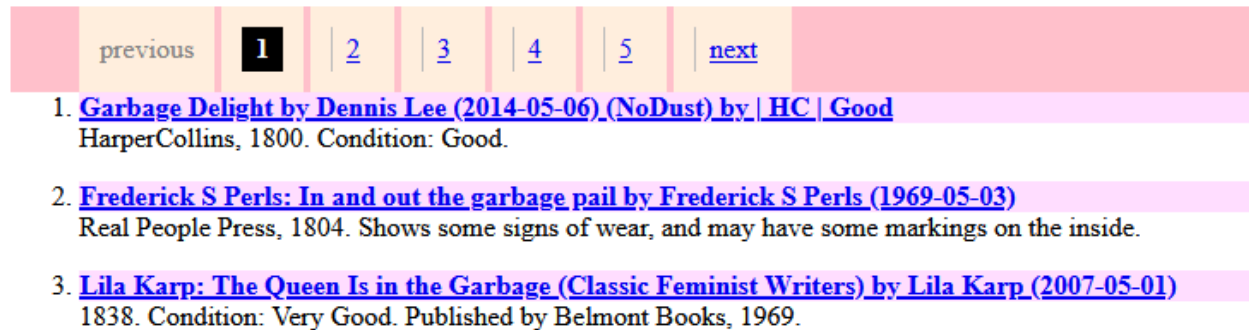
### **Example 1 (display: inline-block, min-height: 44px and min-width: 44px set on list items inside pagination menu)**

The first example shows a situation where the targets (in this case, the linked numbers in the pagination menu) are smaller than 44 x 44 CSS pixels. However, the list items that contain them

have a minimum height and width of 44 px set, so that sufficient target spacing is assured.

## Search results (garbage):

<http://3needs.org/en/testing/code/target-spacing.html>



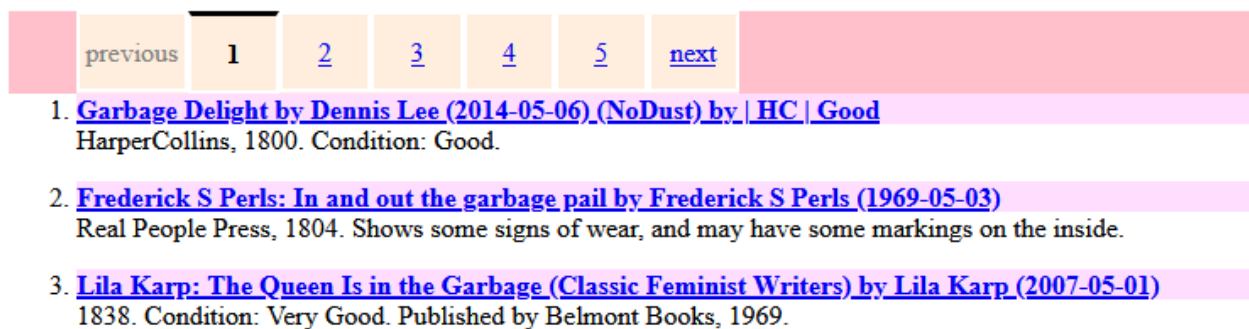
The screenshot shows a search results page. At the top is a pagination menu with a pink background. It contains a 'previous' link, a large black box with the number '1', and links for '2', '3', '4', '5', and 'next'. Below the pagination menu are three search results, each on a pink background. The first result is 'Garbage Delight by Dennis Lee (2014-05-06) (NoDust) by HC | Good', with a subtext 'HarperCollins, 1800. Condition: Good.' The second result is 'Frederick S Perls: In and out the garbage pail by Frederick S Perls (1969-05-03)', with a subtext 'Real People Press, 1804. Shows some signs of wear, and may have some markings on the inside.' The third result is 'Lila Karp: The Queen Is in the Garbage (Classic Feminist Writers) by Lila Karp (2007-05-01)', with a subtext '1838. Condition: Very Good. Published by Belmont Books, 1969.'

## Example 2 (display: flex, min-height: 44px and min-width: 44px set on links inside pagination menu)

The second example uses min-width and min-height on the targets (the linked numbers in the pagination menu) and not on the parent container, thereby meeting this target spacing Success Criterion and incidentally also the AAA Success Criterion 2.5.5 Target Size.

## Search results (garbage):

<http://3needs.org/en/testing/code/target-spacing.html>



The screenshot shows a search results page. At the top is a pagination menu with a pink background. It contains a 'previous' link, a large black box with the number '1', and links for '2', '3', '4', '5', and 'next'. Below the pagination menu are three search results, each on a pink background. The first result is 'Garbage Delight by Dennis Lee (2014-05-06) (NoDust) by HC | Good', with a subtext 'HarperCollins, 1800. Condition: Good.' The second result is 'Frederick S Perls: In and out the garbage pail by Frederick S Perls (1969-05-03)', with a subtext 'Real People Press, 1804. Shows some signs of wear, and may have some markings on the inside.' The third result is 'Lila Karp: The Queen Is in the Garbage (Classic Feminist Writers) by Lila Karp (2007-05-01)', with a subtext '1838. Condition: Very Good. Published by Belmont Books, 1969.'

## Tests

### Procedure

For each target that cannot be enlarged by a mechanism, is not inline, and is not covered by the essential exception:

- Check that the target has enough spacing so that the space around it measures at least

44px width and 44px height.

### **Expected Results**

- Check #1 is true

### **Indication of any suggested glossary definitions**

No new definitions.





## NOTES

Mobile SC's Assessment Spreadsheet

<https://docs.google.com/spreadsheets/d/1wRAViPfAJ4Ytqc71tGZp6gU07HNd2QQaNgtJsog-D90/edit#gid=124994642>

[adsheets/d/1wRAViPfAJ4Ytqc71tGZp6gU07HNd2QQaNgtJsog-D90/edit#gid=124994642](https://docs.google.com/spreadsheets/d/1wRAViPfAJ4Ytqc71tGZp6gU07HNd2QQaNgtJsog-D90/edit#gid=124994642)

Can we take out equivalent target from the touch target SC in 2.1?

### Discussion:

<https://www.w3.org/2002/09/wbs/35422/target-spacing/results>

### Summary:

- Would it encourage people to *shrink* links and add spacing? Could be a negative impact.
- Things like dropdowns or other dynamic content can create overlaps / adjacencies that are complex to test. Might create false positives? Definitely makes testing harder, you have to open all menus at all sizes?
- Is it smaller than both width & height of 44, or either? Could be read as either at the moment. Also, it seems direction would matter, if you have a 150px wide by 30px tall button, doesn't need 8px horizontally. It should have 8px in the same direction where it is short. Assuming that is correct, an SC text update needed.
- There's a wish to split up width and height
- Understanding needs 'intent' section.
- At least a technique needs fleshing out, and a procedure.

- Could we include links to the UI guidance on this from platform providers in the understanding doc?
- Zoom not considered, take 0 / 100% zoom, needs to be addressed in the understanding document that it is not a sufficient solution.
- Automated testing seems like almost a requirement. Inline CSS doesn't work

## OLD SC TEXT

### Post meeting 24th March 2020:

**Pointer target spacing:** For each target that has a width or height of less than 44 CSS pixels, any dimension that is less than 44 CSS pixels has a minimum overall size (target size plus spacing between targets) of 44 CSS pixels except when:

**Resize:** A mechanism is available to change the size of all targets so that the width and height is at least 44 CSS pixels;

**Inline:** The target is in a sentence or block of text;

**Layers:** If the target is part of additional content (such as a menu drop-down), the targets from the lower layer are not in scope for the targets on additional content;

**Essential:** A particular presentation of the target is essential to the information being conveyed.

**Editor's note:** This criteria has been formulated to increase the hit-area of small targets, but the group would like feedback from providers of touch-screen devices if there is another way of forming the criteria to better complement the tap-heuristics used.

If a width or height of adjacent targets is less than 44 CSS pixels, any dimension less than 44 CSS pixels has a minimum overall size (target size plus spacing between targets) of 52 CSS pixels except when:

**Inline:** The target is in a sentence or block of text;

**Essential:** A particular presentation of the target is essential to the information being conveyed.

**Editor's note:** This criteria has been formulated to increase the hit-area of small targets, but the group would like feedback from providers of touch-screen devices if there is another way of forming the criteria to better complement the tap-heuristics used.

## Technique description for how the SC can be fulfilled

1. Add padding or margins to controls so the height and width are at least 44px each.
2. Button is available to toggle the height and width of all adjacent targets to at least 44px each.
3. Button is available to increase the spacing between adjacent targets so the height and width are at least 44px each.