

A digital art illustration of a city skyline at night, viewed through a rain-streaked lens. The scene is dominated by a palette of teal, blue, and purple. The CN Tower stands prominently in the center, its top illuminated with red and white lights. Other skyscrapers are scattered across the horizon, some with glowing windows and others with colorful light trails. The rain is depicted as numerous vertical white streaks of varying lengths, creating a sense of motion and atmosphere. The overall mood is futuristic and somewhat somber.

Under-Engineered Patterns

#a11yTO 2022

About Adrian Roselli

- I've written some stuff,
- (former) Invited Expert at W3C,
- Building for the web since 1993,
- Learn more at AdrianRoselli.com,
- Avoid on Twitter @aardrian.



A LIST APART

Under-Engineered How?

- Native HTML
- Minimal styling
- Minimal script (no libraries, frameworks, resets)
- Minimal ARIA (if any)
- Accessible by default

Under-Engineered How?

- Support assorted states (disabled, errored, mixed, etc)
- Support scaling (zoom or text)
- Meet WCAG contrast minimums
- Support WHCM / Contrast Themes / forced-colors
- Support prefers-reduced-motion
- Support prefers-color-scheme
- Support printing
- Work with non-LTR languages

REZE



Text Boxen

WATENWTRDBEZFIVIBOTATHE

PEREDS SDVS RTD •

QZMMNNDI ENR SPOL5 22401 LAFKDS

BR IDL7

NDSE QPRLEMEUCYHEWYTI E70.7

WHD DZVTEY OF WDPXVEM

ZADND KLTRDZ XGNDG SDRS WRT FSPDSD PWPZ WHT WDPXND WHT WDPXND

WHD KL WHT WHTD LKID QD 7001

1.2026



Text Boxen

```
textarea,  
input {  
  font: inherit;  
  letter-spacing: inherit;  
  word-spacing: inherit;  
}
```

Text Boxen

- The font declaration inherits:
 - font-size
 - font-family
 - font-style
 - font-variant
 - font-weight
 - font-stretch
 - font-height
 - line-height

Text Boxen

- letter-spacing
 - Text boxes are unaffected when user/author changes on ancestors
 - Must explicitly inherit
 - Useful to support SC 1.4.12 Text Spacing
 - Not in any CSS resets I have found
- word-spacing
 - Text boxes are unaffected when user/author changes on ancestors
 - Must explicitly inherit
 - Useful to support SC 1.4.12 Text Spacing
 - Not in any CSS resets I have found

Assorted Fields

Text area:

Lorem ipsum dolor sit
amet.

Text Input:

Frank

Spaced Text

Text area:

Lorem ipsum dolor sit
amet.

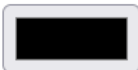
Text Input:

Frank

Assorted Inputs

▼ Show them all

button



mm / dd / yyyy

mm / dd / yyyy , -- : -- --

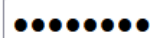
email

Browse...

No file selected.

image

month



reset

search

submit

tel

text

-- : -- --

url

week

datetime

Assorted Fields

Text area:

Text Input:

Spaced Text

Text area:

Text Input:

Assorted Inputs

▼ Show them all

button mm/dd/yyyy mm/dd/yyyy, --:-- -- email

search tel url

Text Boxen

- What you get for free:
 - Internationalization support
 - Windows High Contrast Mode / forced-colors mode support
 - Print support

Text Boxen

- What you can add:
 - A border for better visibility
 - Padding for breathing room
 - More obvious styles for
 - Focused
 - Required
 - Errored
 - Disabled (though I suggest not using them)
 - Read-only (though I suggest not using them)
 - Dark mode styles
- All must still meet WCAG and internationalization best practices

Text Boxen

```
textarea,  
input:not([type="checkbox"]):not([type="file"]):not([type="image"]):n  
ot([type="radio"]):not([type="range"]) {  
  border: 0.1em solid;  
  padding: 0 0.2em;  
}
```

Text Boxen: Focused

```
textarea:focus,  
input:not([type="checkbox"]):not([type="file"]):not([type="image"]):not([type="radio"]):not([type="range"]):focus {  
  outline: 0.15em solid #00f;  
  box-shadow: 0 0 0.2em #00f;  
}
```


Text Boxen: Required

```
textarea[required],
input:not([type="checkbox"]):not([type="file"]):not([type="image"]):not([type="radio"]):not([type="range"])[required] {
  border-inline-start-width: 0.3em;
}
```

Text Boxen: Errored

```
textarea[aria-invalid],
input:not([type="checkbox"]):not([type="file"]):not([type="image"]):not([type="radio"]):not([type="range"])[aria-invalid] {
  background: linear-gradient(135deg, rgba(255,0,0,1) 0,
    rgba(255,0,0,1) .4em, rgba(255,255,255,0) .4em);
}
```

Text Boxen: Read-only

```
textarea[readonly],  
input:not([type="checkbox"]):not([type="file"]):not([type="image"]):not([type="radio"]):not([type="range"])[readonly] {  
    border-inline-start: none;  
    border-block-start: none;  
    border-inline-end: none;  
}
```


Assorted Fields

Text area:

Lorem ipsum dolor sit amet.

Text Input:

Frank

Fields with Attributes

Read-only Text Input:

Phrank

Required Text Input:

Errored Text Input:

Ed

Errored Required Text Input:

Disabled Fields

Mumble:

Lorem ipsum dolor sit amet.

Assigned Name:

Still Frank

#a11yTO 2022

שדות שונים

לקשט:

Lorem ipsum dolor
לשבת
אמט.

שם פרטי:

Frank

נדרש:

#a11yTO 2022



Selects

Selects

```
select {  
  font: inherit;  
  letter-spacing: inherit;  
  word-spacing: inherit;  
}
```


Selects: Before

Basic

Choose a pet

One of these cuddly options... ▼

Spaced Text

Choose a pet

One of these cuddly options... ▼

Selects: After

Basic

Choose a pet

One of these cuddly options... ▾

Spaced Text

Choose a pet

One of these cuddly options... ▾

Selects: Replace the Arrow

```
select { /* from Filament */  
  -moz-appearance: none;  
  -webkit-appearance: none;  
  appearance: none;  
}  
select:not([multiple]) { /* mine again */  
  padding-right: 1.2em;  
  background-repeat: no-repeat;  
  background-position: calc(100% - 0.25em) 0.35em;  
  background-size: 0.85em auto;  
  background-image: url("data:image/svg+xml,...");  
}
```


Selects: Assorted Bits and States

- What you can add:
 - A border for better visibility
 - Padding for breathing room
 - More obvious styles for
 - Focused
 - Required
 - Errored
 - Disabled (though I suggest not using them)
 - Read-only (though I suggest not using them)
 - Dark mode styles
- All must still meet WCAG and internationalization best practices

Selects: All Together

Basic

Choose a pet

One of these cuddly options... ▼

Multiple

Choose a pet

One of these cuddly options... ▲

Dog

Cat

Hamster

Parrot

Spider ▼

Required

Choose a pet

One of these cuddly options... ▼

Required Multiple

Choose a pet

One of these cuddly options... ▲

Dog

Cat

Hamster ▼

Errored

Choose a pet

One of these cuddly options... ▼

Errored Multiple

Choose a pet

One of these cuddly options... ▲
Dog
Cat
Hamster ▼

Disabled

Choose a pet

One of these cuddly options... ▼

Disabled Multiple

Choose a pet

One of these cuddly options... ▲
Dog
Cat
Hamster ▼

الأساسي

اختر حيوانًا أليفًا

أحد هذه الخيارات المحببة... ▼

مضاعف

اختر حيوانًا أليفًا

أحد هذه الخيارات المحببة... ▲
الكلب
قط
الهامستر
ببغاء
العنكبوت ▼

Select: Other Benefits

- Fixes iOS/iPadOS zoom-on-focus 'feature'
 - No need for font-size: 16px, or other variations
- Native `<select>`s dismiss on a gesture instead of navigating

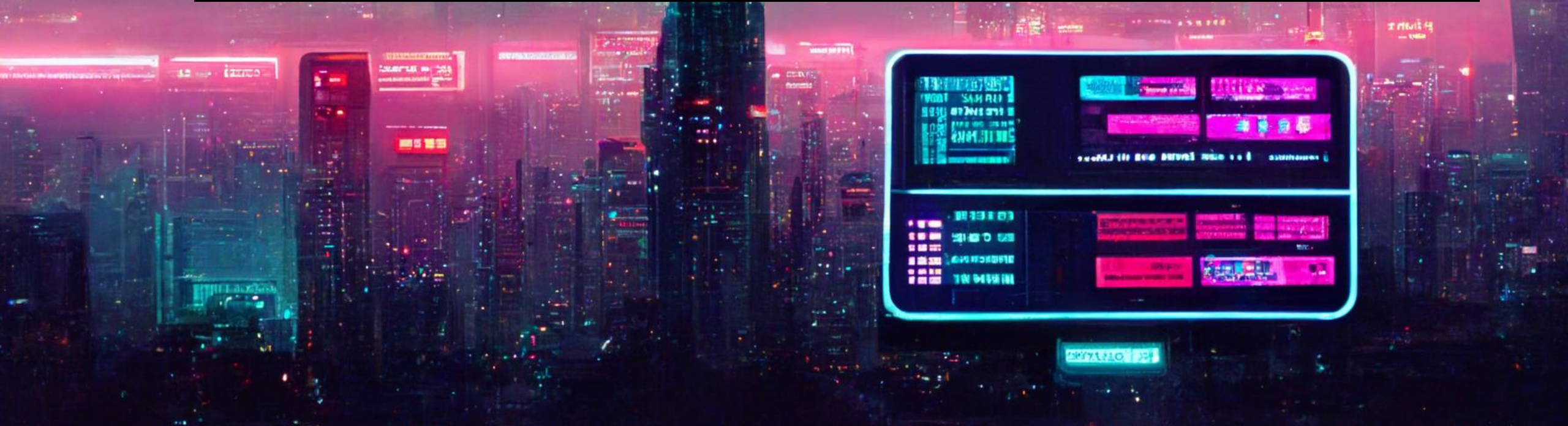
**Android 12,
Chrome 100,
TalkBack 12.1**

Select: Other Benefits

- Here it is on iOS.

iPadOS 15.1,
Safari 15.2,
VoiceOver

Checkboxes and Radios



Checkboxes and Radio Buttons

```
input[type=radio],  
input[type=checkbox] {  
  accent-color: #090;  
}
```


Please fill out the things.

Send Me Spam

- Please send me all the spam.
- Please send it to my neighbor.
- Here is an option that is probably too long to fit on one line so it is an opportunity to test wrapping.
- This one is disabled

- I have read your terms and they make no sense.
- Please send me free things.
- Regardless of my choice above, sign me up for all your physical and electronical spam.

אנא מלא את הדברים.

שלח לי דואר זבל

- אנא שלחו לי את כל הספאם.
- אנא שלחו אותו לשכני.
- הנה אפשרות שכנראה ארוכה מכדי שתתאים לקו אחד ולכן זו הזדמנות לבחון עטיפה.
- זה מושבת

- קראתי את התנאים שלך והם לא הגיוניים.
- אנא שלחו לי דברים בחינם.
- ללא קשר לבחירה שלי למעלה, הירשם אלי לכל ספאם הפיזי והאלקטרוני שלך.

Checkboxes and Radio Buttons: Customized

- What you will need to manage:
 - Checked
 - Mixed (checkbox only)
 - Focused ?
 - Required ?
 - Errored ?
 - Disabled (though I suggest not using them)
 - Read-only (though I suggest not using them)
 - Dark mode styles
 - WHCM / CM / forced-colors
- All must still meet WCAG and internationalization best practices



Checkboxes and Radio Buttons: Customized

```
input[type=radio],  
input[type=checkbox] {  
  position: absolute;  
  top: auto;  
  overflow: hidden;  
  clip: rect(1px, 1px, 1px, 1px);  
  width: 1px;  
  height: 1px;  
  white-space: nowrap;  
}
```

Checkboxes and Radio Buttons: Customized

```
input[type=radio],  
input[type=checkbox] {  
  -webkit-appearance: none;  
  appearance: none;  
  /* to address a Safari bug */  
  background: #fff;  
}
```

Checkboxes and Radio Buttons: Customized

```
<input type="radio" name="spam" id="spamY" checked>  
<label for="spamY">  
  Please send me all the spam.  
</label>
```


Checkboxes and Radio Buttons: Customized

```
input[type=radio] + label::before,  
input[type=checkbox] + label::before {  
  content: '';  
  background: inherit;  
  border: .1em solid rgba(0, 0, 0, .75);  
  display: block;  
  float: left;  
  width: 1em;  
  height: 1em;  
  margin-inline-start: -1.5em;  
  margin-block-start: .15em;  
  vertical-align: top;  
  cursor: pointer;  
  text-align: center;  
  transition: all .1s ease-out;  
}
```

Checkboxes and Radio Buttons: Customized

```
input[type=radio] + label::before {  
  border-radius: 100%;  
}  
  
input[type=radio]:checked + label::before {  
  background-color: #00f;  
  box-shadow: inset 0 0 0 .15em rgba(255, 255, 255, .95);  
}
```

Checkboxes and Radio Buttons: Customized

```
input[type=checkbox] +  
label::after {  
  display: block;  
  content: '';  
  position: absolute;  
  top: .5em;  
  left: .5em;  
  width: 1em;  
  height: 1em;  
  transform: rotate(0deg);  
  transition: all .1s ease-out;  
}
```

```
input[type=checkbox]:checked +  
label::after {  
  top: .4em;  
  left: .7em;  
  width: .4em;  
  height: .8em;  
  border-right: .25em solid #00f;  
  border-bottom: .25em solid #00f;  
  transform: rotate(45deg);  
}
```

Checkboxes and Radio Buttons: Customized

```
*[dir="rtl"] input[type=radio] + label::before,  
*[dir="rtl"] input[type=checkbox] + label::before {  
  float: right;  
}  
*[dir="rtl"] input[type=checkbox] + label::after {  
  left: auto;  
  right: .5em;  
}  
*[dir="rtl"] input[type=checkbox]:checked + label::after {  
  left: auto;  
  right: .7em;  
}
```


Checkboxes and Radio Buttons: Customized

```
@media screen and (forced-colors: active) {  
  ...  
}  
  
@media screen and (prefers-color-scheme: dark) {  
  ...  
}  
  
@media print {  
  ...  
}
```

Please fill out the things.

Send Me Spam

- Please send me all the spam.
- Please send it to my neighbor.
- Here is an option that is probably too long to fit on one line so it is an opportunity to test wrapping.
- This one is disabled

I have read your terms and they make no sense.

Please send me free things.

Regardless of my choice above, sign me up for all your physical and electronical spam.

אנא מלא את הדברים.

שלח לי דואר זבל

אנא שלחו לי את כל הספאם.

אנא שלחו אותו לשכני.

הנה אפשרות שכנראה ארוכה מכדי שתתאים לקו אחד ולכן זו הזדמנות לבחון עטיפה.

זה מושבת

קראתי את התנאים שלך והם לא הגיוניים.

אנא שלחו לי דברים בחינם.

ללא קשר לבחירה שלי למעלה, הירשם אלי לכל ספאם הפיזי והאלקטרוני שלך.

Checkboxes and Radio Buttons: Customized

- Extra lift, but can thoroughly match your brand
- Still no need for external libraries
- Still using native HTML
- Allows you to go beyond what the browsers provide
 - Better focus styles
 - Stronger contrast
 - Larger hit areas



#a11yTO 2022



Toggles

Use `<input type="checkbox">` if:

- you want to progressively enhance the control,
- flipping the toggle will only take effect when the user submits it.

Use `<button aria-pressed>` if:

- you can count on JavaScript being available,
- flipping the toggle has an immediate effect.

Toggles

```
<input type="checkbox" id="Foo">  
<label for="Foo">  
  Styled checkbox  
</label>
```

```
<button type="button" aria-pressed="false"  
onclick="toggle(this.id);">  
  Styled button  
</button>
```

Toggles

Default checkbox



Styled checkbox

Default button



Styled button

Toggles

```
.toggles [type="checkbox"] {
  /* hide it */
}

.toggles [type="checkbox"] + label {
  /* position it */
}

.toggles [type="checkbox"] + label::before,
.toggles [type="checkbox"] + label::after {
  /* set transition */
}

.toggles [type="checkbox"] + label::before {
  /* pill */
}

.toggles [type="checkbox"] + label::after {
  /* thumb */
}

.toggles [type="checkbox"]:checked + label::after {
  /* color and position */
}

.toggles [aria-pressed] {
  /* remove button styles */
  /* position text */
}

.toggles [aria-pressed]::before,
.toggles [aria-pressed]::after {
  /* set transition */
}

.toggles [aria-pressed]::before {
  /* pill */
}

.toggles [aria-pressed]::after {
  /* thumb */
}

.toggles [aria-pressed="true"]::after {
  /* color and position */
}
```


Toggles: Script

```
function toggle(btnID) {  
  var theButton = document.getElementById(btnID);  
  if (theButton.getAttribute("aria-pressed") == "false") {  
    theButton.setAttribute("aria-pressed", "true");  
  } else {  
    theButton.setAttribute("aria-pressed", "false");  
  }  
}
```

Toggles

Toggles

Push alerts to my browser.

Please send me free things.

I have read your terms and they make no sense.

This one is indeterminate.

Flipped Toggles

Wifi

Cellular service

Bluetooth

Airplane mode

Toggles

RTL Toggles

לחץ על התראות לדפדפן שלי.

אנא שלח לי דברים בחינם.

קראתי את התנאים שלך והם לא הגיוני.

זה לא מוגדר.

Flipped RTL Toggles

وای فای

سیلر سروس

بلوٹوٹھ

ہوائی جہاز موڈ

Toggles: forced-colors

Toggles

Push alerts to my browser.

Please send me free things.

I have read your terms and they make no sense.

This one is indeterminate.

Flipped Toggles

Wifi



Cellular service



Bluetooth



Airplane mode



Toggles: Switch Role

- Switch role does not allow for a mixed value
 - aria-checked allows for mixed
 - aria-pressed allows for mixed
- Switch role does not always announce as a switch
 - Keep in mind for documentation
 - Announcement is mixed
 - Safari is best on desktop
 - Safari is worst on mobile
 - Firefox is best on mobile
 - Firefox is worst on desktop



Toggles: Are They Under-engineered?

- Uses the minimum necessary HTML
- Then piles on with the CSS
- Minimal script, and just for the button
- Fundamentally still a native HTML control



#a11yTO 2022

Multi-selects



Multi-selects

- Avoid <select multiple>
- Avoid ARIA listbox
- What native control also does this?

Multi-selects

```
<fieldset>
  <legend>Mammals</legend>
  <input type="checkbox" name="Mam" id="Mam01" value="Aardvark">
  <label for="Mam01">Aardvark</label>
  <input type="checkbox" name="Mam" id="Mam02" value="Babirusa">
  <label for="Mam02">Babirusa</label>
  <input type="checkbox" name="Mam" id="Mam03" value="Chipmunk">
  <label for="Mam03">Chipmunk</label>
  ...
</fieldset>
```

Multi-selects

```
<fieldset>
  <legend>Mammals</legend>
  <p>
    <a href="#Skip">Skip to next group</a>
  </p>
  <input type="checkbox" name="Mam" id="Mam01" value="Aardvark">
  <label for="Mam01">Aardvark</label>
  <input type="checkbox" name="Mam" id="Mam02" value="Babirusa">
  <label for="Mam02">Babirusa</label>
  ...
</fieldset>
```

Multi-selects

Mammals

[Skip to next group](#)

- Aardvark
- Babirusa
- Chipmunk
- Douc
- English Cream Golden Retriever
- Fennec Fox
- Gibbon

Multi-select, but you hate tall content

```
<fieldset tabindex="0">  
  <legend>Mammals</legend>  
  ...  
</fieldset>
```


Multi-select, but you hate tall content

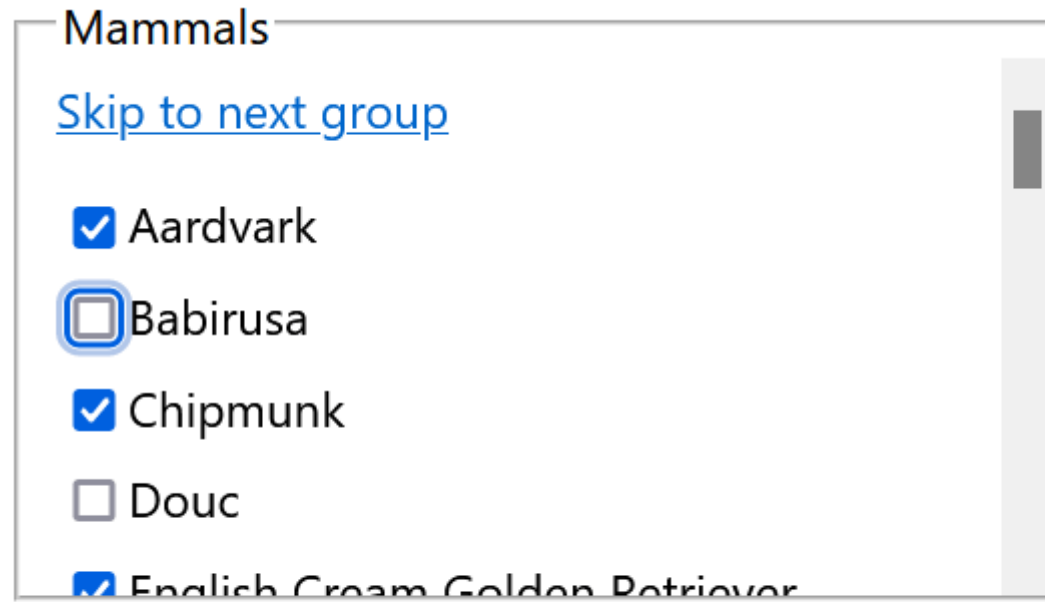
```
fieldset[tabindex] {  
  max-height: 11.5em;  
  max-width: 20em;  
  overflow: auto;  
}
```

Multi-select, but you hate tall content

Mammals

[Skip to next group](#)

- Aardvark
- Babirusa
- Chipmunk
- Douc
- English Cream Golden Retriever

A screenshot of a multi-select menu titled "Mammals". At the top, there is a blue link "Skip to next group". Below the link are five items, each with a checkbox: "Aardvark" (checked), "Babirusa" (unchecked), "Chipmunk" (checked), "Douc" (unchecked), and "English Cream Golden Retriever" (checked). A vertical scrollbar is visible on the right side of the menu.

This content is only here as a destination for the skip link.

Multi-select, but you hate fieldsets

```
<div role="group" aria-labelledby="ScrollingGroupLabel" tabindex="0">
  <p>
    <strong id="ScrollingGroupLabel">Mammals</strong>
  </p>
  <p>
    <a href="#Skip">Skip to next group</a>
  </p>
  <input type="checkbox" name="Mam" id="Mam01" value="Aardvark">
  <label for="Mam01">Aardvark</label>
  ...
</div>
```

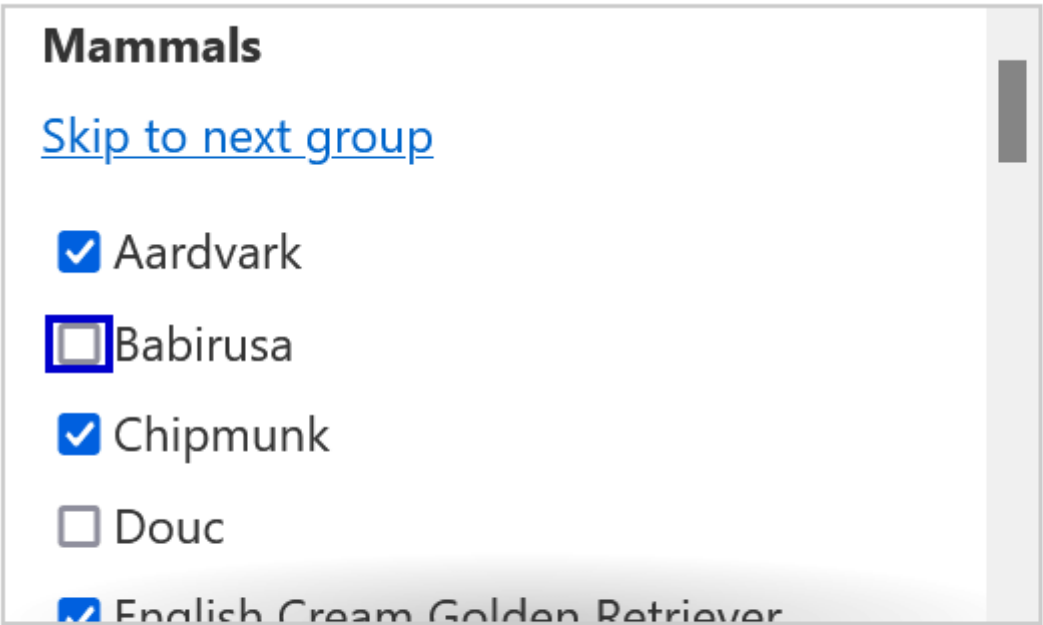
Multi-select, but you hate fieldsets

```
[role="group"][aria-labelledby][tabindex] {  
  max-height: 12.75em;  
  max-width: 20em;  
  overflow: auto;  
  scroll-padding-top: 1em;  
}
```


Multi-select, but you hate fieldsets

```
[role="group"][aria-labelledby][tabindex] > p:first-child {  
  position: sticky;  
  top: 0;  
  background-color: var(--page-bg);  
}
```

Multi-select, but you hate fieldsets



The screenshot shows a multi-select menu titled "Mammals". At the top of the menu is a blue link labeled "Skip to next group". Below the link is a list of five mammal species, each with a checkbox: "Aardvark" (checked), "Babirusa" (unchecked), "Chipmunk" (checked), "Douc" (unchecked), and "English Cream Golden Retriever" (checked). The menu has a vertical scrollbar on the right side.

Mammals

[Skip to next group](#)

- Aardvark
- Babirusa
- Chipmunk
- Douc
- English Cream Golden Retriever

This content is only here as a destination for the skip link.

Multi-select, but you hate letting people glance

```
<button type="button" aria-expanded="true" id="DisclosureGroupTrigger"
onclick="toggleDisclosure(this.id);" aria-controls="DisclosedGroup">
  <span class="icon">
    <svg ...>...</svg>
  </span>
  Mammals
  <span class="counter">( <span id="DisclosureGroupCheckCount">0</span> of <span
id="DisclosureGroupCount">26</span> selected)</span>
</button>

<div role="group" aria-labelledby="DisclosureGroupTrigger" id="DisclosedGroup"
tabindex="0">
  <p>
    <a href="#Skip04">Skip to next group</a>
  </p>
  <input type="checkbox" name="Mam" id="Mam01" value="Aardvark">
  <label for="Mam01">Aardvark</label>

</div>
```

Multi-select, but you hate letting people glance

```
/* Hide the set of checkboxes unless the button has aria-expanded=true */
button[aria-expanded="false"] + [role="group"][tabindex] {
  display: none;
}

/* Hide the selected counter unless JS has run */
button[aria-expanded]:not([data-js]) > .counter {
  display: none;
}

/* Only position the checkboxes over other content if JS has run */
button[aria-expanded][data-js] + [role="group"][tabindex] {
  position: absolute;
  background: #fff;
}

/* Hide the skip link if JS has run */
button[aria-expanded][data-js] + [role="group"][tabindex] > p {
  display: none;
}
```


Multi-select, but you hate letting people glance

▼ Mammals (3 of 26 selected)

- Aardvark
- Babirusa
- Chipmunk
- Douc
- English Cream Golden Retriever

on for the skip link.

[Multi-Selects](#). Lorem ipsum elit. Morbi aliquam, ci ultricies risus, et nisl. Vestibulum eu us tristique scelerisque.

Curabitur sit amet odio in est scelerisque gravida. Integer vitae mi interdum, egestas lectus id, varius arcu.

▼ Mammals

[Skip to next group](#)

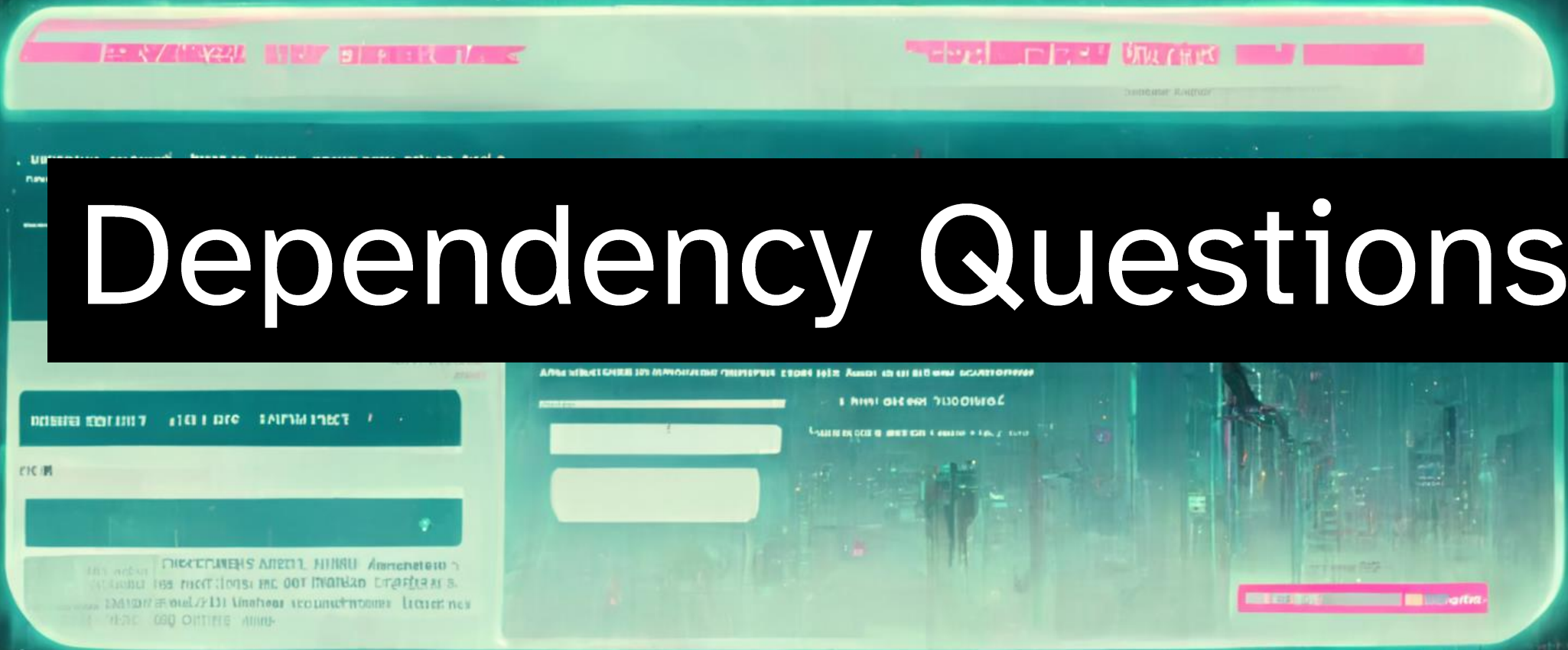
- Aardvark
- Babirusa
- Chipmunk
- Douc
- English Cream Golden Retriever

This content is only here as a destination for the skip link.

Multi-select JavaScript Failure

No
JavaScript

Dependency Questions



Dependency Questions

What pet do you have?

- Dog
- Cat
- Bird
- Griffon
- Other

Group Label

- None
- Some

What pet do you have?

- Dog
- Cat
- Bird
- Griffon
- Other

Your pet

\$240 of pudding

Group Label

- None
- Some
 - Someone
 - Somewhat
 - Somewhere
 - Somehow
 - Someday

Dependency Questions

```
#p5:not(:checked) ~ div {  
  display: none;  
}
```


Dependency Questions

```
<input type="radio" name="pet" id="p5" value="Other">  
<label for="p5">Other</label>  
<div>  
  <label for="mypet">Your pet</label><br>  
  <input type="text" name="mypet" id="mypet">  
</div>
```

Dependency Questions

```
fieldset {  
  display: flex;  
  flex: 1 1 1em;  
  flex-wrap: wrap;  
}  
fieldset input {  
  flex: 0 1 1em;  
}  
fieldset label {  
  flex: 1 1 calc(100% - 2em);  
}  
fieldset legend, fieldset > div {  
  flex: 1 1 100%;  
}  
fieldset > div {  
  margin-left: 1.5em;  
}
```

Dependency Questions

What pet do you have?

- Dog
- Cat
- Bird
- Griffon
- Other

Group Label

- None
- Some

What pet do you have?

- Dog
- Cat
- Bird
- Griffon
- Other

Your pet

\$240 of pudding

Group Label

- None
- Some
 - Someone
 - Somewhat
 - Somewhere
 - Somehow
 - Someday

Responsive Tables



Responsive Tables

```
<div role="region" aria-labelledby="Caption01" tabindex="0">  
  <table>[...]</table>  
</div>
```


Responsive Tables

```
[role="region"][aria-labelledby][tabindex] {  
  overflow: auto;  
}
```

```
[role="region"][aria-labelledby][tabindex]:focus {  
  outline: .1em solid rgba(0,0,0,.1);  
}
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras vel massa est. In interdum euismod massa, et congue tellus ullamcorper id. Cras ipsum risus, cursus vel porttitor a, aliquam at mi. Phasellus faucibus feugiat leo ac porttitor. For the post [Under-Engineered Responsive Tables](#).

Books in a Scrolling Container

Author	Title	Year	ISBN-13
Miguel De Cervantes	<i>The Ingenious Gentleman Don Quixote of La Mancha</i>	1605	9783125
Gabrielle-Suzanne Barbot de Villeneuve	<i>La Belle et la Bête</i>	1740	9781910
Sir Isaac Newton	<i>The Method of Fluxions and Infinite Series: With Its Application to the Geometry of Curve-lines</i>	1763	9781330
Mary Shelley	<i>Frankenstein; or, The Modern Prometheus</i>	1818	9781530
Herman Melville	<i>Moby-Dick; or, The Whale</i>	1851	9781530
Emma Dorothy Eliza Nevitte Southworth	<i>The Hidden Hand</i>	1888	9780813
F. Scott Fitzgerald	<i>The Great Gatsby</i>	1925	9780743
George Orwell	<i>Nineteen Eighty-Four</i>	1948	9780451
Nnedi Okorafor	<i>Who Fears Death</i>	2010	9780756

Pressed Keys

Donec convallis sodales risus ut lobortis. Donec egestas tincidunt sem

Responsive Tables

Responsive Tables

- Why the keyboard affordances?
 - Only Firefox focuses a scrolling area
 - Chromium, Safari do not
 - Chromium users would need caret browsing
 - So we add tabindex for keyboard users
 - And then ARIA to avoid confusing screen reader users
 - Also, not spatial navigation

Un-Responsive Tables: Firefox

CodePen - Caret Table

https://cdpn.io/pen/debug/bGLrYBo/36abba5d798a1a

Navigating a Scrolling Container

The text in the table is large (200%) to try to force the horizontal scroll. If you still see no scroll bar on the table container, make your window smaller.

Cursor landing spot: This text field is here solely so you can give it focus, which is explained in the post.

Books in a Scrolling Container

Author	Title	Year	IS
Miguel De Cervantes	<i>The Ingenious Gentleman Don Quixote of La Mancha</i>	1605	97
Gabrielle-Suzanne Barbot de Villeneuve	<i>La Belle et la Bête</i>	1740	97
Sir Isaac Newton	<i>The Method of Fluxions and Infinita Series: With Its</i>	1763	97

Pressed Keys

Un-Responsive Tables: Chromium Caretting

The screenshot shows a browser window with the title "CodePen - Caret Table". The address bar shows the URL "https://cdpn.io/pen/debug/bGLrYBo/36abba5d798a1a22b06031...". The browser's bookmark bar includes "Tests", "Bookmarks", "Mine", "Validation", "Time Sinks", and "Other favorites".

Navigating a Scrolling Container

The text in the table is large (200%) to try to force the horizontal scroll. If you still see no scroll bar on the table container, make your window smaller.

Cursor landing spot: This text field is here solely so you can give it focus, which is explained in the post.

Books in a Scrolling Container

Author	Title	Year	IS
Miguel De Cervantes	<i>The Ingenious Gentleman Don Quixote of La Mancha</i>	1605	97
Gabrielle-Suzanne Barbot de Villeneuve	<i>La Belle et la Bête</i>	1740	97
Sir Isaac Newton	<i>The Method of Fluxions and Infinite Series: With Its</i>	1763	97

Pressed Keys

Un-Responsive Tables: Safari MouseKeys

Navigating a Scrolling Container

The text in the table is large (200%) to try to force the horizontal scroll. If you still see no scroll bar on the table container, make your window smaller.

Cursor landing spot: This text field is here solely so you can give it focus, which is explained in the post.

Books in a Scrolling Container

Author	Title	Year	IS
Miguel De Cervantes	<i>The Ingenious Gentleman Don Quixote of La Mancha</i>	1605	9
Gabrielle-Suzanne Barbot de Villeneuve	<i>La Belle et la Bête</i>	1740	9
Sir Isaac Newton	<i>The Method of Fluxions and Infinite Series: With Its</i>	1763	9

Pressed Keys

#a11yTO 2022



Wrap-up



Wrap-up

- Blog post coming
- Will link to existing posts

A stylized, rainy night view of a city skyline, likely Toronto, featuring the CN Tower. The scene is rendered in a dark, moody aesthetic with vibrant, neon-like colors (purple, pink, blue) reflecting off the wet surfaces. A large black text box is centered over the image, containing the title "Under-Engineered Patterns" in white, bold, sans-serif font. The overall atmosphere is futuristic and atmospheric, with vertical streaks representing rain.

Under-Engineered Patterns

#a11yTO 2022