TPAC Update 2022

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Intro: The Problem
Survey results: why developers recreate form controls

- Couldn't change appearance sufficiently: 36.6%
- Wanted to add functionality: 31.6%
- Browser inconsistencies: 27.3%
- Accessibility issues: 2.8%
- Other: 1.8%
Survey results: top 10 controls recreated by web developers

Source: gwhitworth.com
<selectmenu>
<selectmenu>: Goals

- <selectmenu> can do everything a <select> can do
- Authors can fully control the appearance of the <selectmenu>
- Authors don’t have to rewrite click and keyboard handlers, form integration, input/change events, listbox hide/show behavior...
- <selectmenu> is accessible-by-default
<selectmenu>: Basics

```xml
<selectmenu>
  <option>Option 1</option>
  <option>Option 2</option>
  <option>Option 3</option>
</selectmenu>
```
Styling parts

```html
<style>
.my-select-menu::part(button) {
  color: white;
  background-color: #f00;
  padding: 5px;
  border-radius: 5px;
}
.my-select-menu::part(listbox) {
  padding: 10px;
  margin-top: 5px;
  border: 1px solid red;
  border-radius: 5px;
}
</style>
<selectmenu class="my-select-menu">
  <option>Option 1</option>
  <option>Option 2</option>
  <option>Option 3</option>
</selectmenu>
```
Anatomy
Replacing parts

```html
<selectmenu class="my-custom-select">
  <div slot="button">
    <button behavior="button">Open</button>
    <span class="label">Choose an option</span>
  </div>
  <option>Option 1</option>
  <option>Option 2</option>
  <option>Option 3</option>
</selectmenu>
```
The behavior attribute

- The behavior attribute wires up click and keyboard event handlers, assigns the correct ARIA semantics, and applies other functionality appropriate for the control

- Behaviors available to `<selectmenu>`:
  - button
  - listbox
  - selected-value

- These only work with `<selectmenu>`
Replacing parts

```html
<selectmenu>
  <div slot="button">
    <span class="label">Choose a plant</span>
    <span behavior="selected-value"></span>
    <button behavior="button">▼</button>
  </div>
  <div slot="listbox">
    <div behavior="listbox" popup>
      <optgroup>
        <legend>Flowers</legend>
        <option>Rose</option>
        <option>Lily</option>
        <option>Orchid</option>
        <option>Tulip</option>
      </optgroup>
      <optgroup>
        <legend>Trees</legend>
        <option>Weeping willow</option>
        <option>Dragon tree</option>
        <option>Giant sequoia</option>
      </optgroup>
    </div>
  </div>
</selectmenu>
```

Choose a plant  Rose  ▼

![Options]

Flowers

- Rose
- Lily
- Orchid
- Tulip

Trees

- Weeping willow
- Dragon tree
- Giant sequoia
Replacing parts

```html
<selectmenu>
  <div slot="button">
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        <option>Weeping willow</option>
        <option>Dragon tree</option>
        <option>Giant sequoia</option>
      </optgroup>
    </div>
  </div>
</selectmenu>
```
Demos

Rounded select

Vertically aligned options
Demos

Scroll Indicators

Images in dropdown
Demos

Custom listbox layouts
<selectmenu>: Roadmap

- Finalize behavioral details in OpenUI
- PR to HTML Spec
- Upgrade Chromium prototype to full implementation
  - https://chromestatus.com/feature/5737365999976448
- Ship!
Try it out!

- Recommend using Edge Canary or Chrome Canary for the latest bugfixes.
  - Requires about://flags/#enable-experimental-web-platform-features to be enabled.
  -⚠️ This implementation is experimental and subject to change⚠️
- Demos available at https://microsoftedge.github.io/Demos/selectmenu/
- Send OpenUI your feedback
  - Preferred method is via the OpenUI Issue tracker
popup
Introducing the `popup` attribute

```html
<button popup-toggle-target=my-popup>Toggle the pop-up</button>
<div id=my-popup popup>Pop-up content</div>
```
Pop Up API (Explainer)

- [x] Pop Up (Explainer)
- [x] Select (Editor's Draft)
- [ ] Resource (Explainer)
- [ ] Research
- [ ] Main
- [ ] Author

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- API Design
  - HTML Content Attributes
  - Drag-and-drop: placing a pop-up
  - Attributes and Possible Values
  - Events
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  - Anchoring
  - Quicklook
- Software:
  - Accessible Drag'n'Drop
  - Claims of Top-Level UI
  - Accessibility / Semantics
  - display elements
popup takes three different values that adjust its behaviors (eg: focus, dismiss, nesting, etc)

- **auto**: best for menus or control use-cases
- **hint**: best for tooltip type use-cases
- **manual**: best for notifications, toast or alert type use-cases
The **popup** binding attribute has 3 variations

- **popupshowtarget**: Will show the popup
- **popuphidetarget**: Will hide the popup
- **popuptoggletarget**: Will hide/show the popup
Styling, ::backdrop & :open

[popup] {
  --hide: 1;
  transition: transform 0.2s;
  transform: translateY(calc(var(--hide) * -100vh))
    scale(calc(1 - var(--hide)));
}

[popup]:backdrop {
  transition: opacity 0.2s;
  opacity: calc(1 - var(--hide, 1));
}

[popup]:open,
[popup]:open::backdrop {
  --hide: 0;
}
How to try it out

• Recommend using Edge Canary or Chrome Canary for the latest bugfixes.
  • Requires about://flags/#enable-experimental-web-platform-features to be enabled.
  •⚠ This implementation is experimental and subject to change⚠
• Full run-down of examples and how to use it by @jh3yy
Questions?