# CSS IS AWESOME!

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⚠️ *Je ne suis pas un designer*

# w3c The Rule of Least Power



> "When designing computer systems, one is often faced with a choice between using a more or less powerful language for publishing information, for expressing constraints, or for solving some problem. This finding explores tradeoffs relating the choice of language to reusability of information. The "Rule of Least Power" suggests **choosing the least powerful language suitable** for a given purpose.

# Règles du jeu



1. Texte
2. HTML (sémantique)
3. CSS (layout, style, animations simples)
4. SVG (formes et animations complexes)
5. JavaScript, WebAssembly (gestion d'états, appel backend, calculs)

⚠️ *... mais il y a toujours de bonnes raisons pour ne pas suivre ces règles*

# Le CSS c'est vaste



- Selectors
- Box model
- Float
- Media Query
- Animations
- Gradients
- Responsive Design
- Media
- Variables
- Colors
- Shapes
- ...

# Plan



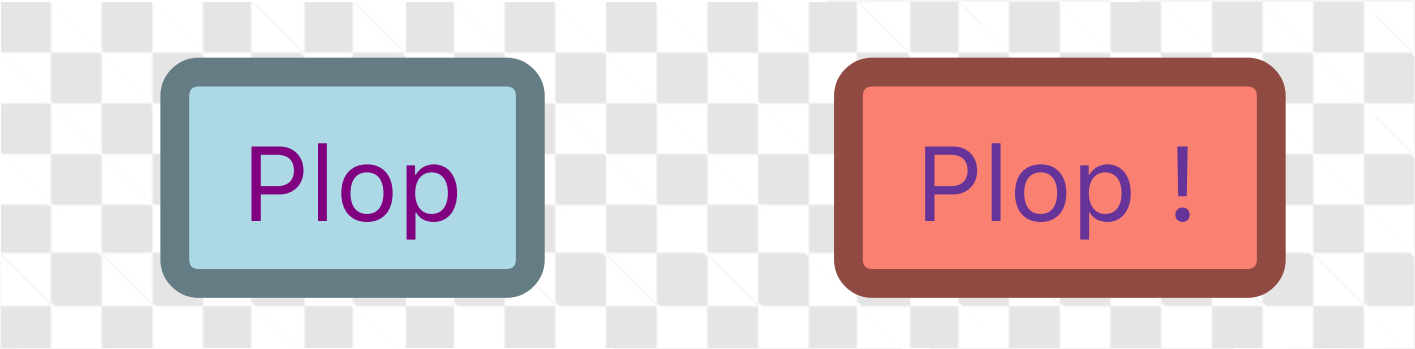
I. Utiliser un pré-processeur ?
II. Unités
III. Flexbox et Grid
IV. Pseudo éléments
V. Animations
VI. Pseudo classes d'état
VII. HTML
VIII. Conclusion

# Utiliser un pré-processeur ?

# Bordure des boutons



```
button {
  background: lightblue;
  color: purple;
  /*border: medium solid currentColor;*/
  border: medium solid rgba(0,0,0,.42);
}
button.danger {
  background: salmon;
  color: rebeccapurple;
}
```



# Alors utilise-t-on un pré-processeurs ?



Oui, mais privilégiez:

- le CSS
- les post-processeurs

- ✻ `currentColor`
- 🦊 `background-origin`
- *w3c* CSS Variables (aka Custom Properties)
- *w3c* CSS Color Module Level 4

# Compatibilité



Navigateur usage ≥ 0,4% en France

| | 26,6 % | 18,6 % | 15,8 % | 11,5 % | 4,7 % | 4,4 % | 1,3 % | 1,0 % | 0,5 % |
|---|---|---|---|---|---|---|---|---|---|
| CSS currentColor value | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |
| CSS3 Background-image options | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |
| CSS Variables (Custom Properties) | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |

# Unités

🎨 CommitStrip

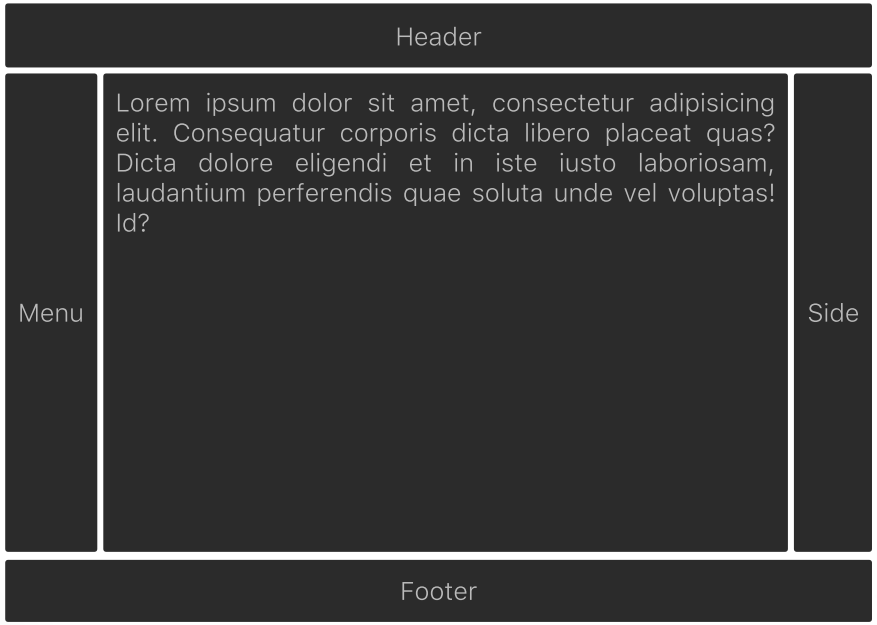
# Les unités de longueur



| | |
|---|---|
| px, cm, pt, ... | longueurs absolues (mesure physique) |
| em, rem | fonction de la `font-size` |
| ex, ch | hauteur d'un `x`, largeur d'un `0` |
| vh, vw | (100vh, 100vw) = (hauteur, largeur) du *viewport* |
| vmin, vmax | min(1vh, 1vw), max(1vh, 1vw) |

# Holy Grail avec **calc**






```
<body>
  <header>Header</header>
  <div>
    <nav>Menu</nav>
    <main>Content</main>
    <aside>Side</aside>
  </div>
  <footer>Footer</footer>
</body>
```

# Bilan unités



- 🦊 Unités
- w3c Truc et astuces
- 🦊 `calc`
- ✻ Fun with Viewport Units

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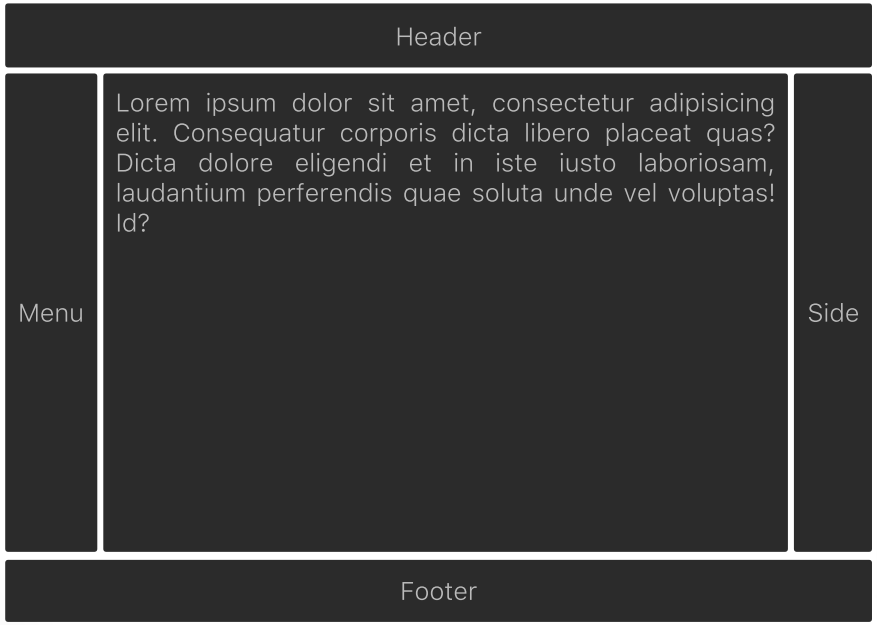
|---|---|---|---|---|---|---|---|---|---|
| rem (root em) units | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |
| Viewport units: vw, vh, vmin, vmax | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |
| calc() as CSS unit value | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |

# Flexbox et Grid

# Holy Grail avec **flexbox**

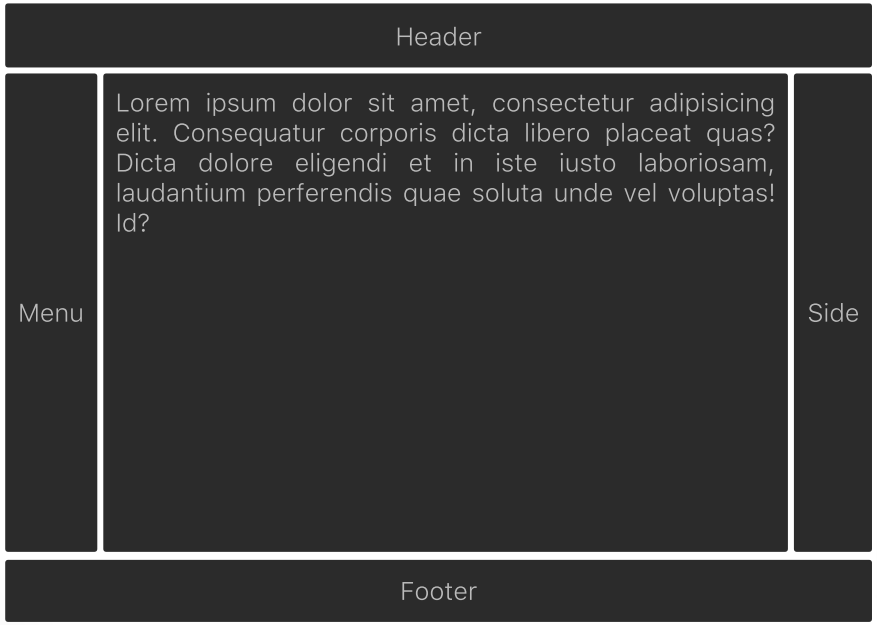





```
<body>
  <header>Header</header>
  <div>
    <nav>Menu</nav>
    <main>Content</main>
    <aside>Side</aside>
  </div>
  <footer>Footer</footer>
</body>
```

# Holy Grail avec **grid**






```
<body>
  <header>Header</header>
  <div>
    <nav>Menu</nav>
    <main>Content</main>
    <aside>Side</aside>
  </div>
  <footer>Footer</footer>
</body>
```

# Bilan Flexbox & Grid



Flexbox

- 📽️ Flexbox, et le CSS redevient fun ! (Hubert SABLONNIÈRE)
- 📐 Solved by Flexbox
- 🐸 Flexbox Froggy

Grid

- 🦊 `@supports`
- # Grid by examples
- 📽️ CSS Grid Changes Everything (About Web Layouts) by Morten Rand-Hendriksen
- 🥕 Grid Garden

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|---|---|---|---|---|---|---|---|---|---|
| CSS Flexible Box Layout Module | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |
| CSS Grid Layout | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |
| CSS Feature Queries | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |

# Pseudo éléments

# Le dîner d'un philosophe



```html
<div class="table">
  <div class="plate"></div>
</div>
```

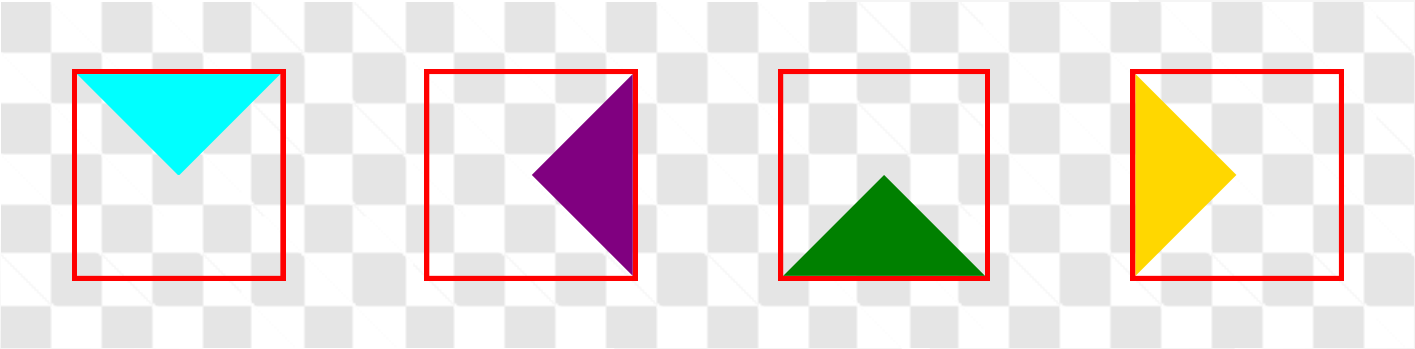
```css
.table::before, .table::after {
  color: gray;
  font-size: 2rem;
  content: '⋔';
  transform: rotate(180deg);
}
```

# Triangle avec des bordures



```
div.top, div.right, div.bottom, div.left {
  border: 2em solid transparent;
  display: inline-block;
  box-shadow: 0 0 0 .1em red;
}

div.top { border-top-color: cyan; }
div.right { border-right-color: purple; }
div.bottom { border-bottom-color: green; }
div.left { border-left-color: gold; }
```



# Info-bulle



```
.popover {
  position: relative;
  background: teal;
}
.popover::before {
  position: absolute;
  z-index: -1;
  content: '';
  top: 1.25em; left: 1em;
  border: .8em solid transparent;
  border-top-color: teal;
  transform: skew(-30deg);
}
```

Hello DevFest Toulouse !

# Bilan pseudo éléments



- w3c The :before and :after pseudo-elements
- mais aussi `::first-letter`, `::first-line`, `::selection`, `::backdrop`
- S An Ultimate Guide To CSS Pseudo-Classes And Pseudo-Elements

⚠️ `::before` et `::after` ne marchent pas sur `input`, `img`, `iframe` (pas encore spécifié)

- Table et assiette de 🍽 CSS Diner
- Ⓦ Dîner des philosophes

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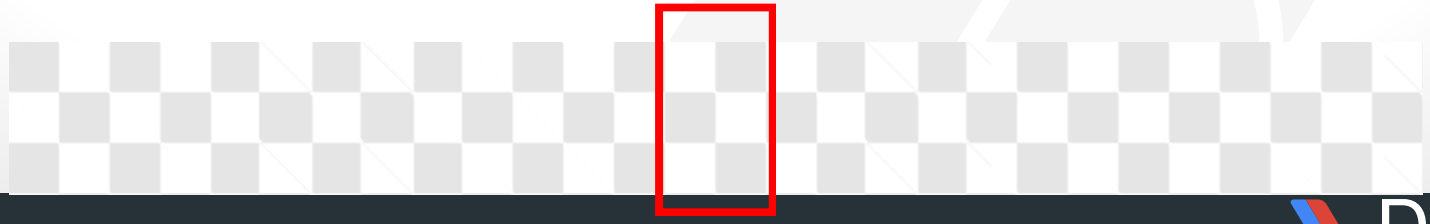
|---|---|---|---|---|---|---|---|---|---|
| CSS Generated content for pseudo-elements | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |
| CSS3 2D Transforms | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |

# Animations

# Texte de chargement



```
.loader {
  display: inline-block;
  white-space: pre;
  height: 1.3em; margin-top: -.3rem;
  line-height: 1.5;
  overflow: hidden;
}
.loader::before {
  display: inline-table;
  content: '⠈⠁\a ⠐⠁\a ⠠⠁\a ⠄⠁\a ⠂⠁\a ⠁⠁\a ⠈⠀\a ⠐⠀\a ⠠⠀\a ⠄⠀\a ⠂⠀\a ⠁⠀\a ⠈⠁';
  animation: spin 1s steps(10, end) infinite;
}
@keyframes spin {
  to { transform: translateY(-15em); }
}
```



# Dessiner



```
.editable svg path {
  stroke: purple;
  stroke-width: 1em;
  fill: none;
  stroke-dasharray: 4700;
  stroke-dashoffset: 4700;
  animation: draw 2s linear infinite;
}
@keyframes draw {
  to { stroke-dashoffset: 0; }
}
```

# Bilan animations



- 🦊 Utiliser les animations CSS
- ➽ Text spinners
- ➽ CSS only loaders
- 📐 Animate.css
- ✻ How SVG Line Animation Works
- ➽ Animated line drawing in SVG
- ➽ CSS triggers

# Compatibilité



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|---|---|---|---|---|---|---|---|---|---|
| CSS Animation | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |
| SVG (basic support) | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |

# Pseudo classes d'état

# Usage des info-bulles



Input Text

mandatory field

Mandatory

hover me

Hello DevFest Toulouse

# Pseudo états



- `:hover`
- `:focus`
- `:visited`
- `:checked`
- `:valid`
- `:invalid`
- `:empty`
- `:target`
- …

# Checkbox Hack

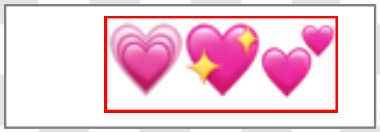


```
.editable input[type=checkbox] + label::before {
  content: 'Click if you like it';
}

.editable input[type=checkbox]:checked + label::before {
  content: '💗💖💕';
}

fieldset input[type=checkbox] { opacity: 0; }
```

> The science of operations, as derived from mathematics more especially, is a science of itself, and has its own abstract truth and value.
>
> ⇝ *Ada Lovelace*



# Switch



```
.switch + label {
  display: block;
  position: relative;
  padding: .1em;
  width: 2em;
  height: 1em;
  background-color: #ccc;
  border-radius: 1em;
  border: medium solid #444;
  transition: 0.4s;
}

.switch:checked + label {
  background-color: green;
}
```

```
.switch + label::before {
  display: block;
  position: absolute;
  content: '';
  top: 0.1em;
  left: 0.1em;
  height: 1em;
  width: 1em;
  background-color: #fff;
  border-radius: 50%;
  transition: all 0.25s;
}

.switch:checked + label::before {
  transform: translateX(1em);
}
```

Switch ☑

## Hiding Content for Accessibility

```
.panel input[type=checkbox] {
  position: fixed;
  left: -100vmax;
}
```

### Apollo 11

> The computer (or rather the software in it) was smart enough to recognize that it was being asked to perform more tasks than it should be performing. It then sent out an alarm, which meant to the astronaut, I'm overloaded with more tasks than I should be doing at this time and I'm going to keep only the more important tasks; i.e., the ones needed for landing ... Actually, the computer was programmed to do more than recognize error conditions. A complete set of recovery programs was incorporated into the software. The software's action, in this case, was to eliminate lower priority tasks and re-establish the more important ones ... If the computer hadn't recognized this problem and taken recovery action, I doubt if Apollo 11 would have been the successful moon landing it was.[26]

*Letter from Margaret H. Hamilton, Director of Apollo Flight Computer Programming MIT Draper Laboratory, Cambridge, Massachusetts[27], titled "Computer Got Loaded", published in Datamation, March 1, 1971*

# Principe pour les onglets



```html
<div class="tabs">
  <input type="radio" name="tab" id="home" checked>
  <input type="radio" name="tab" id="projects">
  <input type="radio" name="tab" id="about">
  <nav>
    <label for="home">Home</label>
    <label for="projects">Projects</label>
    <label for="about">About</label>
  </nav>
  <div data-for="home">Home page</div>
  <div data-for="projects">Projects page</div>
  <div data-for="about">About page</div>
</div>
```

# Démo des onglets

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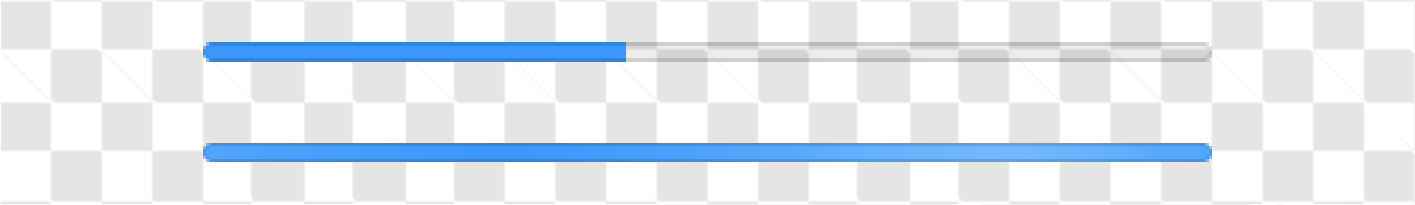
|---|---|---|---|---|---|---|---|---|---|
| CSS3 selectors | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |
| Form validation | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |
| CSS3 3D Transforms | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |

# HTML

# Progress

- The HTML5 progress Element

```
<progress value="42" max="100">42 %</progress>
<progress></progress>
```



# Panel



```html
<details>
  <summary>Des détails</summary>
  <p>Plus d'infos
    à propos des détails.</p>
</details>
```

```css
details {
  border: medium solid currentcolor;
  border-radius: .25em;
}

details summary {
  background: #888; color: #eee;
}
```

▶ Des détails

# Dialog



```
.editable dialog {
    box-shadow : .25em .25em .125em rgba(0, 0, 0, 0.42);
}

.editable dialog::backdrop {
    position          : fixed;
    top               : 0; right : 0; bottom : 0; left : 0;
    background-color : rgba(0, 0, 0, 0.8);
}
```

# Polyfill



- Better details polyfill
- Dialog Polyfill

# Compatibilité



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|---|---|---|---|---|---|---|---|---|---|
| Details & Summary elements | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |
| Dialog element | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |
| progress element | 49 58 59 60 | 61 | 9.0-9.2 9.3 10.0-10.2 10.3 | 48 52 54 55 | 11 | 10 9.1 10.1 | 14 | 4.4 4.4.3-4.4.4 | 46 |

# Conclusion

# Bilan



1. Utilisez du CSS pour simpifier le code
2. Utilisez intelligemment les pre/post-processeurs
3. HTML, SVG are Awesome !
4. JavaScript, TypeScript can be Awesome !

## 👉 Traitez le CSS comme du code

1. Revue de code
2. DRY
3. Clean Code
4. Single Responsibility Principle
5. ...

# Liens



- 📐 les slides en HTML

  https://ilaborie.github.io/slides/devfest-tls.html#cssIsAwesome

- 📐 les slides en PDF

  https://ilaborie.github.io/slides/devfest-tls.pdf

- 📐 le code

  https://github.com/ilaborie/slides

- 🐵 Blog: 'Making Of'

# Pour apprendre



- `(Ctrl|⌘) + Shift + i`
- CSS Secrets by Lea Verou
- 🦊 CSS sur MDN , The A11Y Project
- CodePen , JSFiddle , Dabblet ,...
- CSS Tricks , Smashing Magazine
- 📐 CSS Flags , A Single Div

CSS
is
Awesome!