

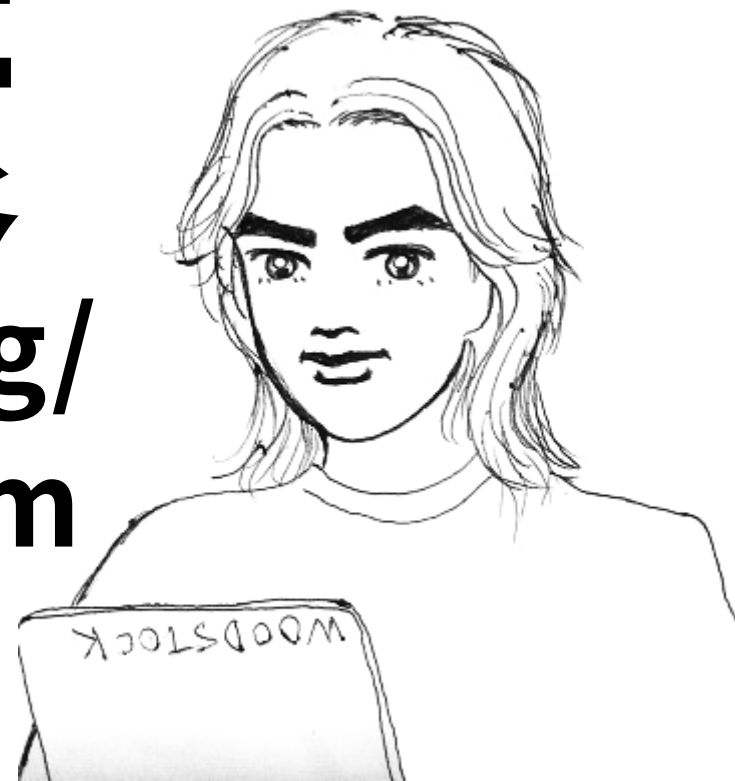
無障礙網頁 實務

布局 · 互動 · 響應 · 影音

Jedi

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網頁設計的技術趨勢

先說結論：

**返樸歸真的
本格派網頁設計**

網頁設計的技術趨勢

HTML



(目前是 HTML 5.2)

是唯一的 HTML

網頁設計的技術趨勢



HTML5 Accessibility

Get the current accessibility support status of HTML5 features across major browsers. **Editor's draft**, July 2018

Browser Results

Overview

Feature Support

How to Test

Notes & Further Resources



92%

Chrome 62
on Windows 10



100%

Edge 16
on Windows 10



89%

Firefox 58.0b9
on Windows 10



56%

Internet Explorer 11
on Windows 10



98%

Safari 11.0.3
on OS High Sierra

<https://html5accessibility.com/>

網頁設計的技術趨勢



[Press Releases](#) [FAQ](#) [About](#) [Feedback](#)

Chrome

58.94%

Safari

13.7%

UC Browser

7.46%

Firefox

5.17%

Opera

3.5%

IE

3.12%

Browser Market Share Worldwide - June 2018



[Press Releases](#) [FAQ](#) [About](#) [Feedback](#)

Chrome

68.48%

Safari

19.07%

IE

4.47%

Firefox

2.7%

Samsung Internet

1.74%

Edge

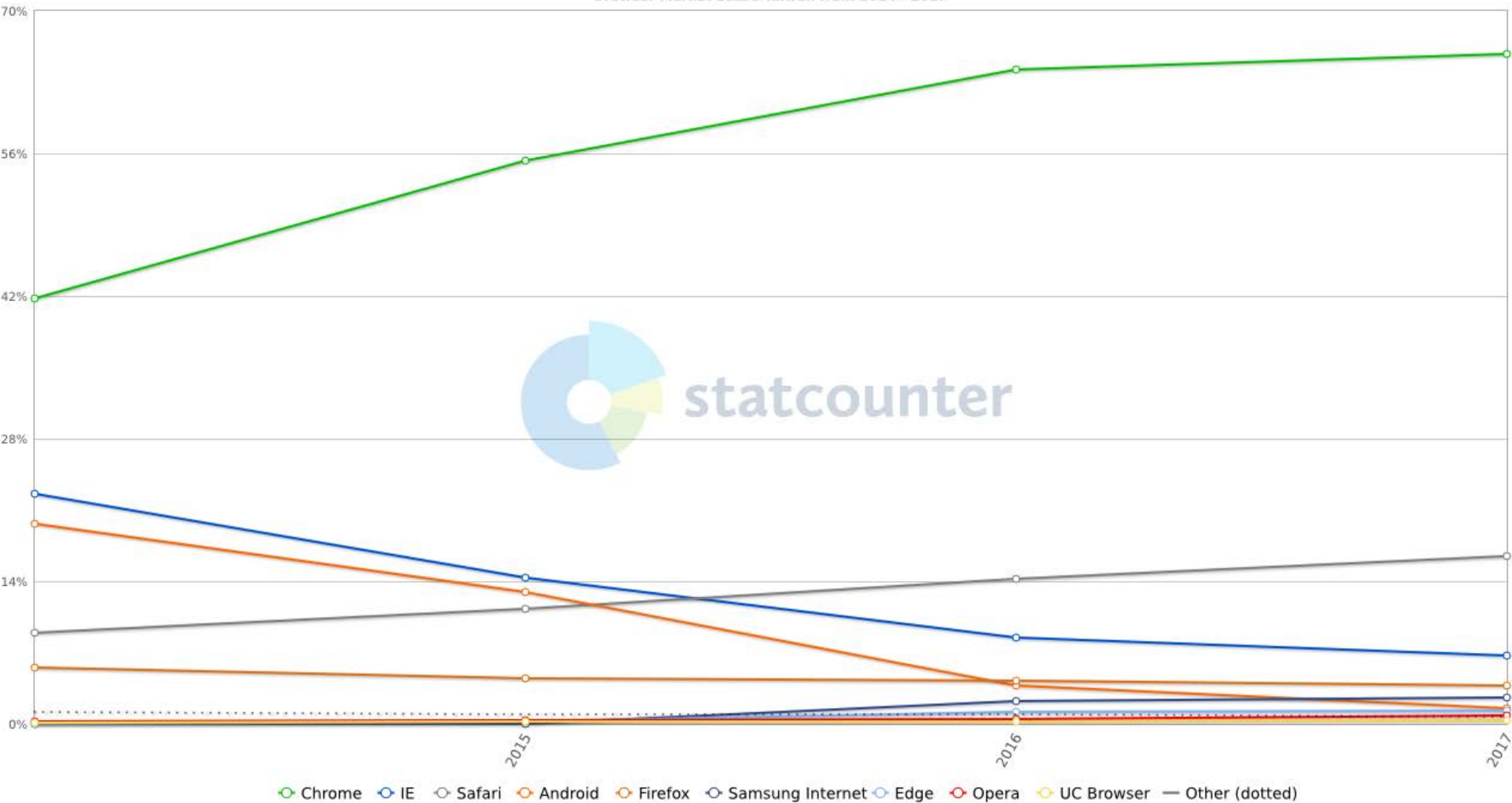
1.39%

Browser Market Share in Taiwan - June 2018

<http://gs.statcounter.com/browser-market-share/>

網頁設計的技術趨勢

StatCounter Global Stats
Browser Market Share Taiwan from 2014 - 2017



<http://gs.statcounter.com/browser-market-share/>

網頁設計的技術趨勢

CSS

已經不只是 CSS3

認識 CSS 標準

CSS 3

≠

CSS version 3

認識 CSS 標準

CSS 3

=

CSS Level 3

認識 CSS 標準

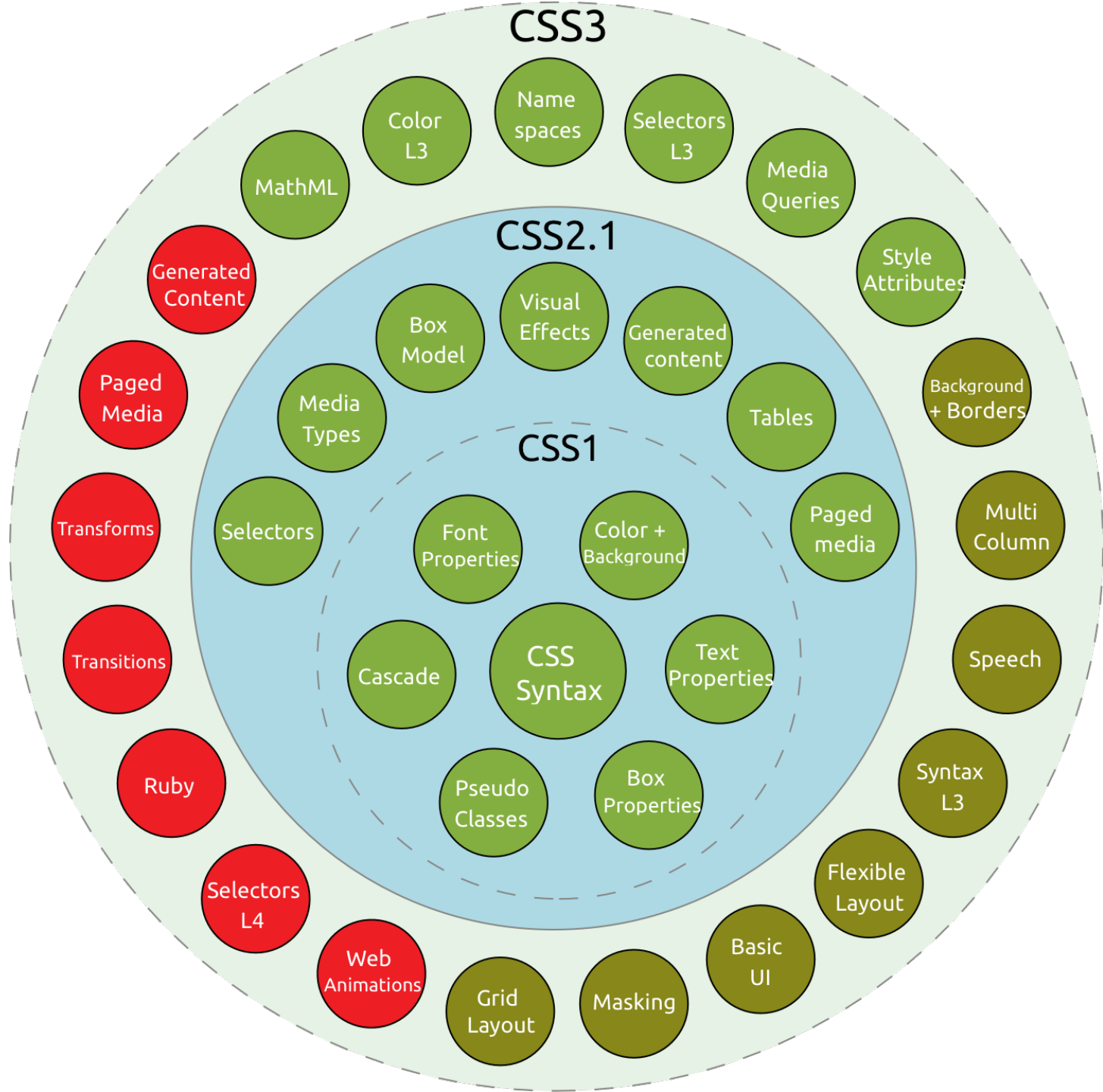
CSS Level 2 Revision 1

**CSS 2.1 之後
轉型模組化**

認識 CSS 標準

原有 Level 2 模組 逐漸更新為 Level 3

Color, Basic User Interface, Selector, Background and Border, Conditional Rules, Values and Units, Cascading and Inheritance, Fonts, Writing Modes, Counter Styles, Image Values and Replaced Content, Text Decoration, Fragmentation, Syntax, Text, Box Alignment, Display, Paged Media, Intrinsic & Extrinsic Sizing, Overflow, Generated Content for Paged Media, Lists, Positioned Layout, Table, Font Loading, Inline Layout, Fill and Stroke, Page Floats, Media Queries



認識 CSS 標準

全新模組 從 Level 1 開始

Multi-column Layout, Flexible Box Layout, Shapes, Masking, Cascading Variables, Composition and Blending, Grid Layout, Will Change, Geometry Interface, Scroll Snap, Containment, Animation, Transforms, Transitions, Timing Functions, Ruby, Device Adaption, Exclusion, Filter Effects, Regions, Scoping, Non-element Selectors, Motion Path, Round Display, Painting API, Properties and Values API, Typed OM, Worklets, Rhythmic Sizing, Logical Properties and Values, Layout API

認識 CSS 標準

不會有 CSS 4

認識 CSS 標準

只會有

CSS Snapshot

網頁設計的技術趨勢

**感覺很複雜，
哪裡好了？**

網頁設計的技術趨勢

親和力

無障礙設計

網頁設計的技術趨勢

**常做的事變得容易
複雜的事變得可能**

(減少對前端框架的依賴)



網頁布局技術

HTML Document Flow

CSS Positioning

CSS Floats (Fluid / Fixed)

CSS Tables

CSS Multiple-column

CSS Flexbox

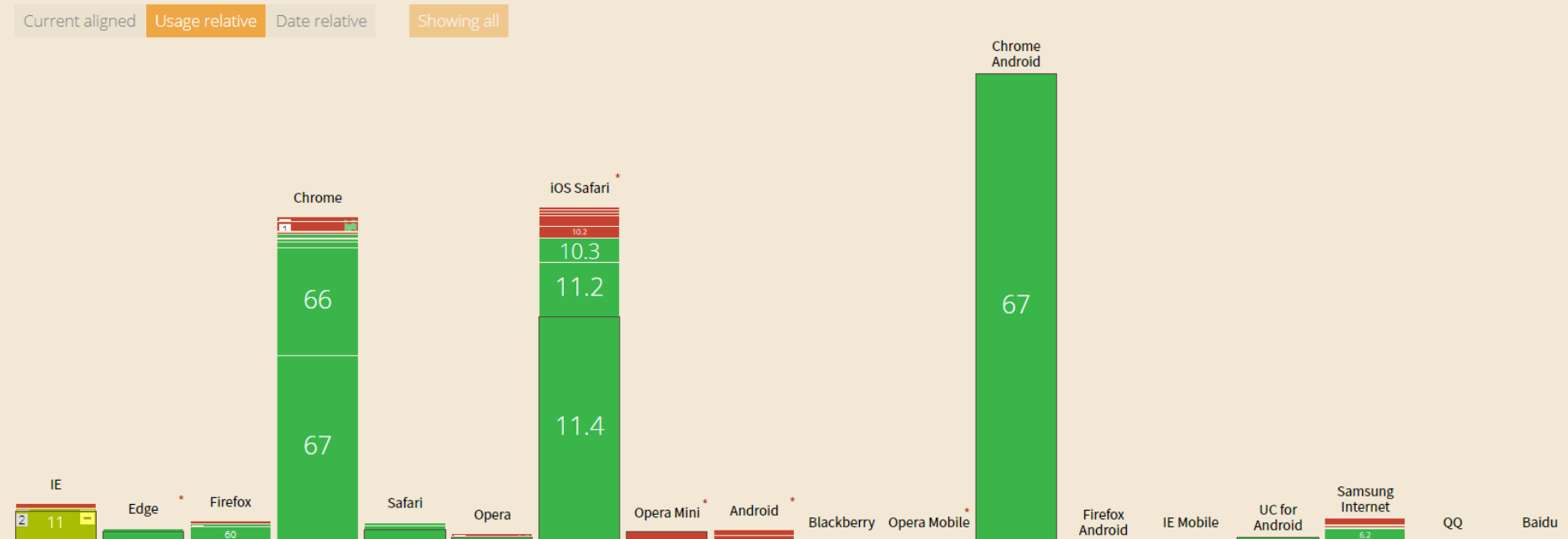
CSS Grid

CSS Grid Layout (Level 1)

CSS Grid Layout 📄 - CR

Method of using a grid concept to lay out content, providing a mechanism for authors to divide available space for layout into columns and rows using a set of predictable sizing behaviors. Includes support for all **grid-*** properties and the **fr** unit.

Usage	% of all users
Taiwan	88.92% + 2.41% = 91.33%
unprefixed:	88.92%
Global	84.53% + 3.2% = 87.73%
unprefixed:	84.53%



<https://caniuse.com/#feat=css-grid>

CSS Grid Layout (Level 1)

有史以來最快普及的 CSS 技術
2017 年進入 CR，同年內所有主流瀏覽器全部實現

CSS Grid Layout

**跟所有其他網頁布局技術不同，
也非現有網格布局前端框架能及**

(960 Grid System, Bootstrap, Foundation, etc…)

CSS Grid Layout

1. **先有布局再放內容**
2. **二維平面布局**
3. **可留白**
4. **可重疊**
5. **可自動產生（完全響應）**
6. **不受百分比限制**
7. **完全不影響 DOM**
8. **可以跟其他布局技術混用**

CSS Grid Layout

The screenshot displays a web browser window with a CodePen example titled "Example of Negative". The browser address bar shows the URL <https://s.codepen.io/jensimmons/debug/GENbzL>. The main content area shows a CSS Grid layout with several boxes and a grid overlay. The grid lines are numbered 1 through 6 on both the horizontal and vertical axes. The boxes are defined by their grid-row and grid-column values:

- Box A: grid-row: -5; grid-column: -6;
- Box 1: grid-row: 1; grid-column: 1;
- Box 2: grid-row: 1; grid-column: 2;
- Box 3: grid-row: 1; grid-column: 3;
- Box 4: grid-row: 2; grid-column: 1;
- Box 5: grid-row: 2; grid-column: 2;
- Test Box: grid-row: -1; grid-column: -1;
- Box B: grid-row: 5; grid-column: 6;

The Firefox Grid Inspector tool is open on the right side of the browser window. It shows the HTML structure with the following code:

```
<!DOCTYPE html>
<html lang="en">
  <head></head>
  <body translate="no">
    <section></section>
  </body>
</html>
```

The Grid Inspector settings are visible, showing the "Overlay Grid" for the "section" element. The "Grid Display Settings" are also shown, with "Display line numbers" checked, "Display area names" unchecked, and "Extend lines infinitely" unchecked. A small grid diagram is displayed at the bottom of the settings panel.

學習網格布局的工具首選：Firefox Grid Inspector

現在就下載 Firefox

<https://moztw.org/firefox/download/latest-win.html>

https://portableapps.com/apps/internet/firefox_portable



CSS Grid Layout

網格布局：

**不見得用於整個網頁，
可以只在某個或某些
HTML 元素內採用**

CSS Grid Layout

**宣告採用網格布局的
HTML 元素，稱為：**

網格容器

Grid Container

<https://codepen.io/JediLin/pen/qyprba>

```
1 <!doctype html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta http-equiv="x-ua-compatible" content="ie=edge">
6     <title>CSS Grid - Grid Container</title>
7     <meta name="viewport" content="width=device-width, initial-scale=1">
8   </head>
9   <body>
10    <main>
11      這個 main 要當成網格容器 (Grid Container)
12    </main>
13    <aside>
14      這個 aside 不採用網格布局
15    </aside>
16  </body>
17 </html>
```

CSS Grid Layout: 網格容器

<https://codepen.io/JediLin/pen/qyprba>



```
1 main {  
2   display: grid;  
3 }
```

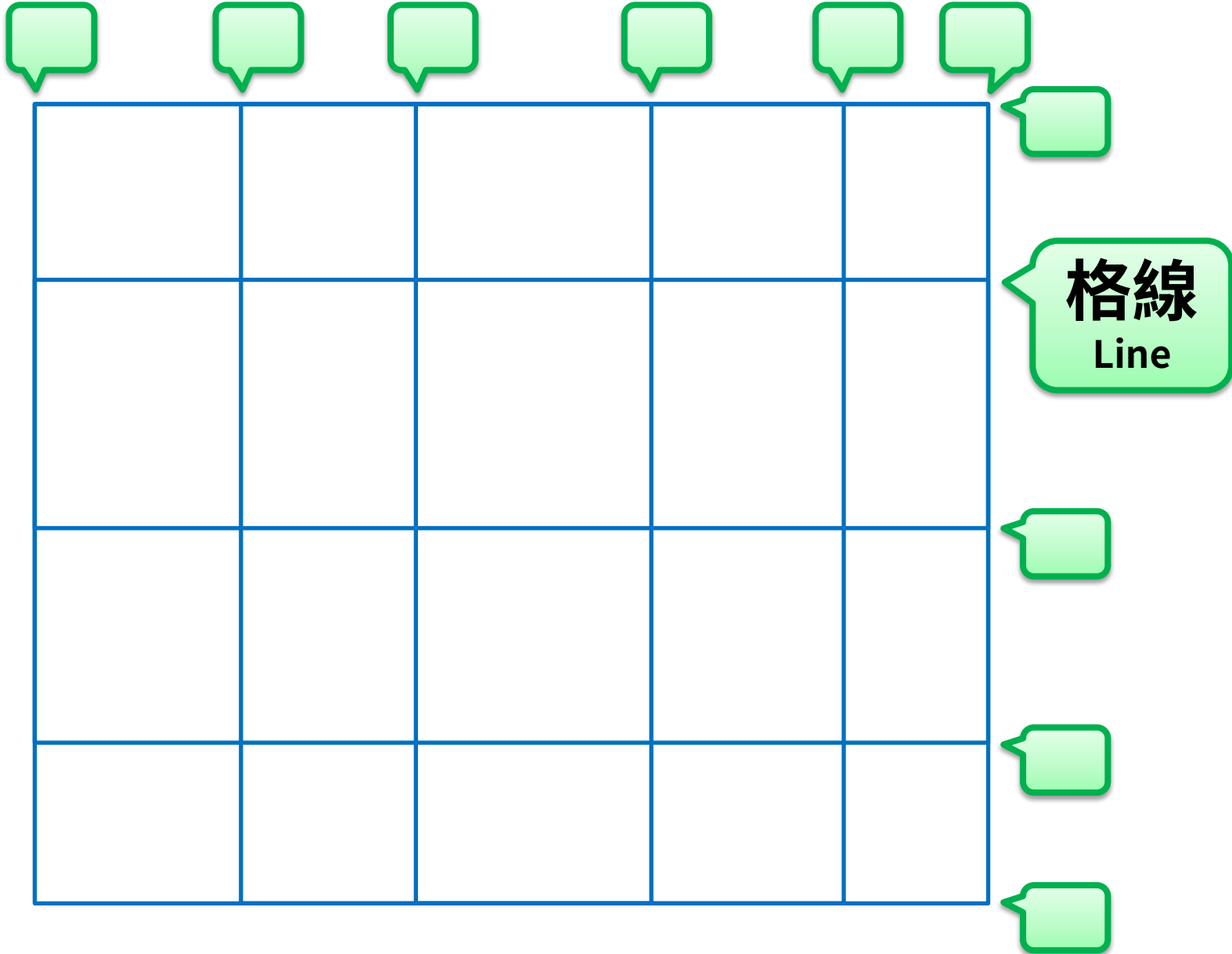
CSS Grid Layout: 網格容器

CSS Grid Layout: 解剖

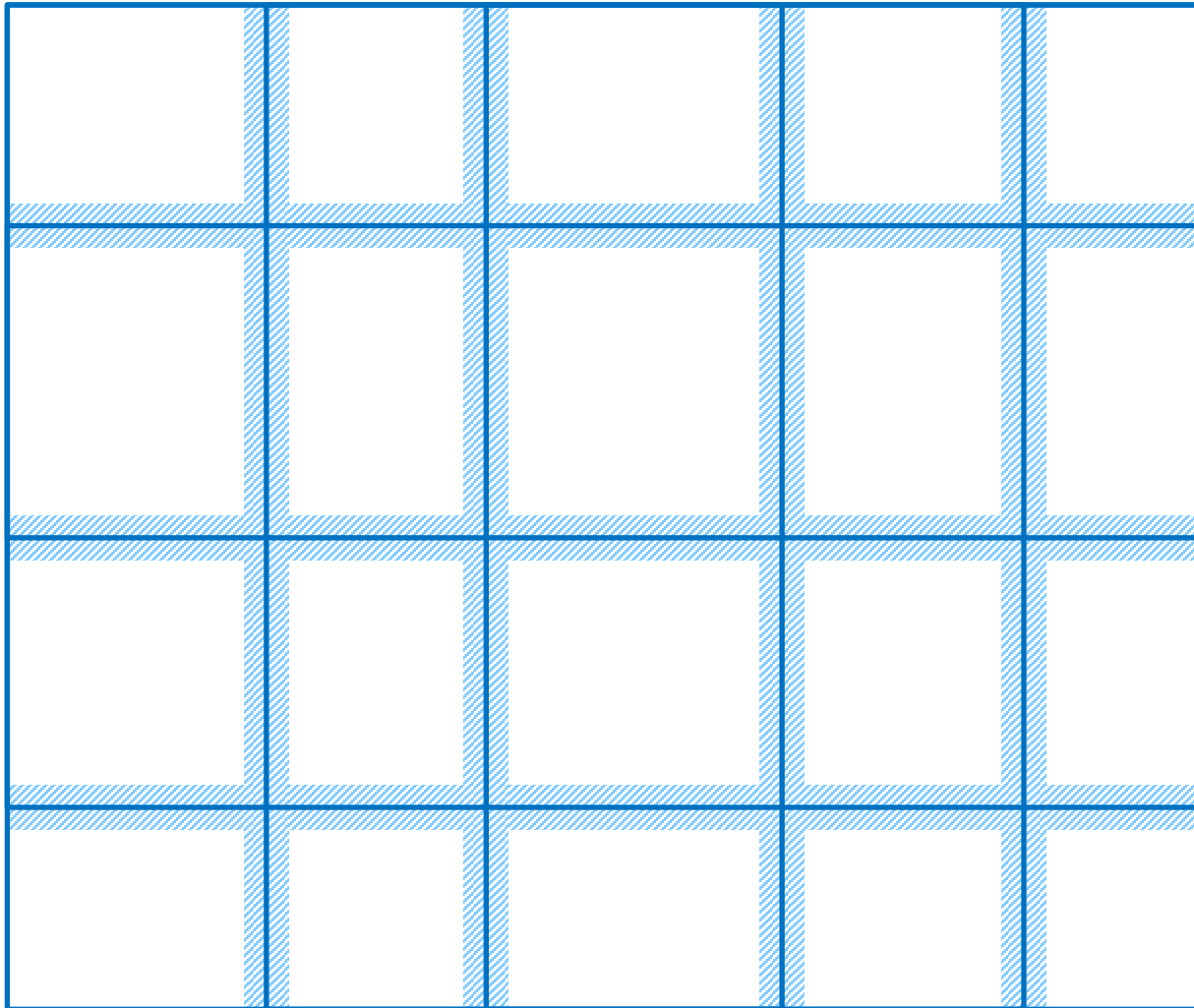


網格容器
Grid Container

CSS Grid Layout: 解剖



CSS Grid Layout: 解剖

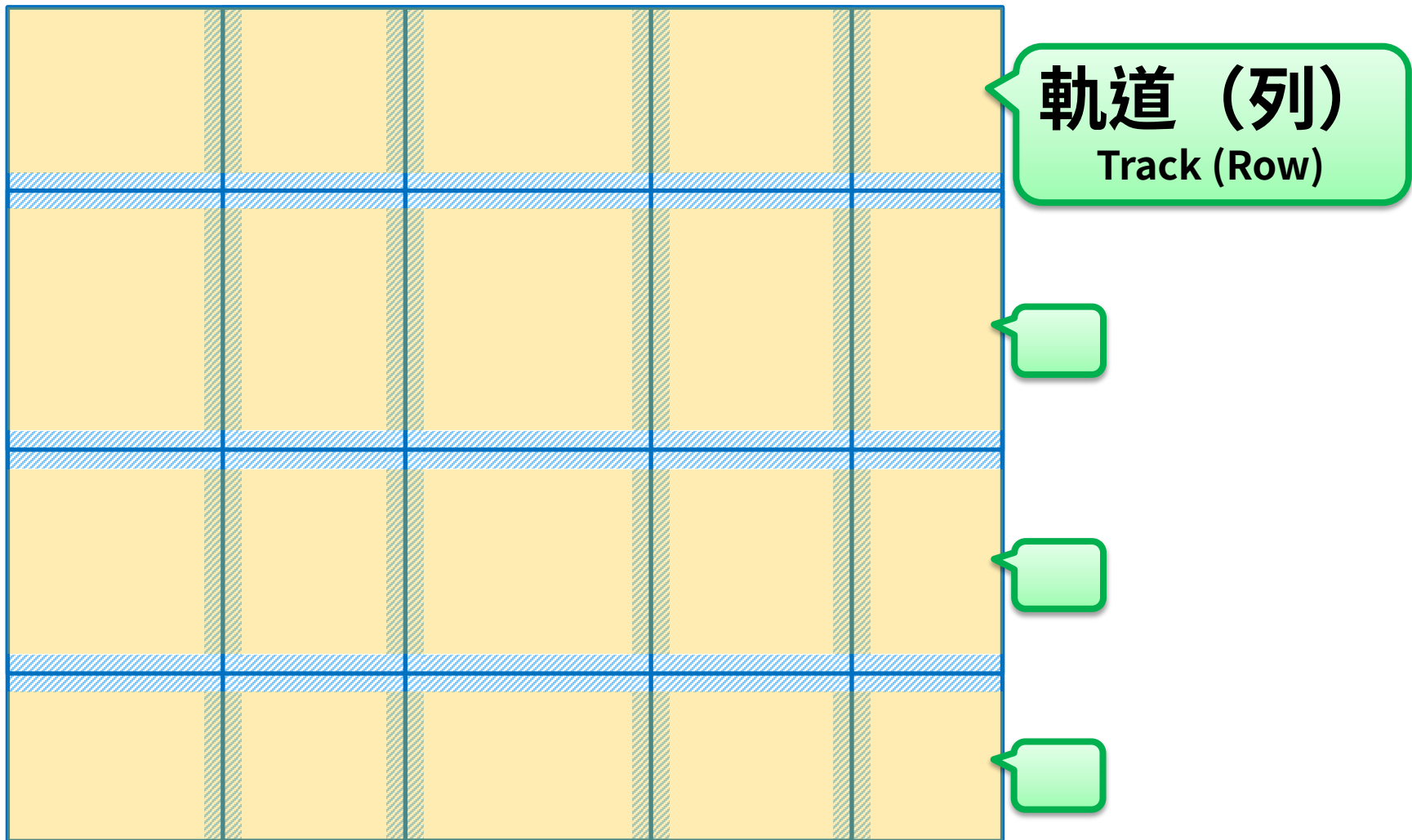


溝

Gap / Gutter



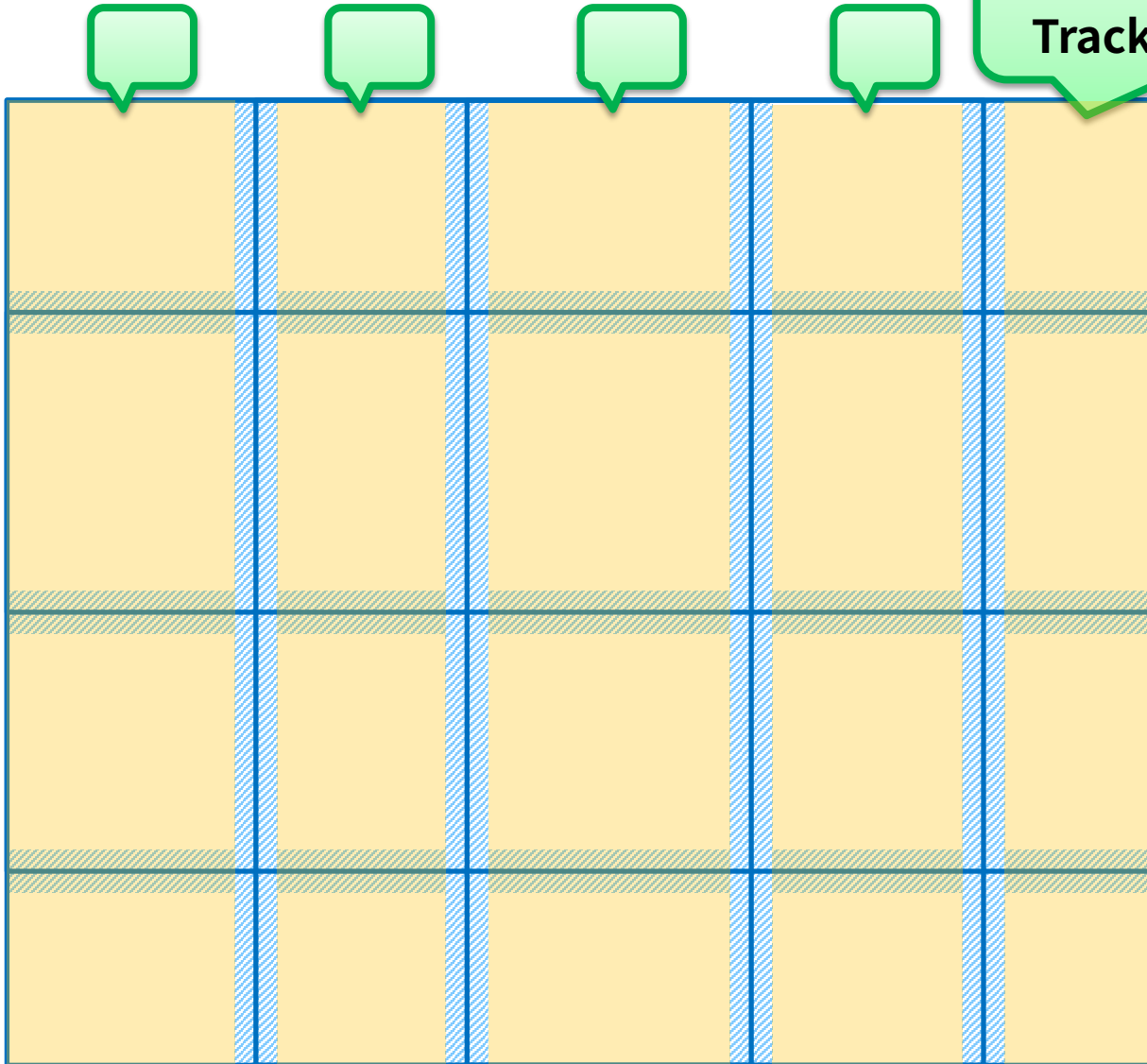
CSS Grid Layout: 解剖



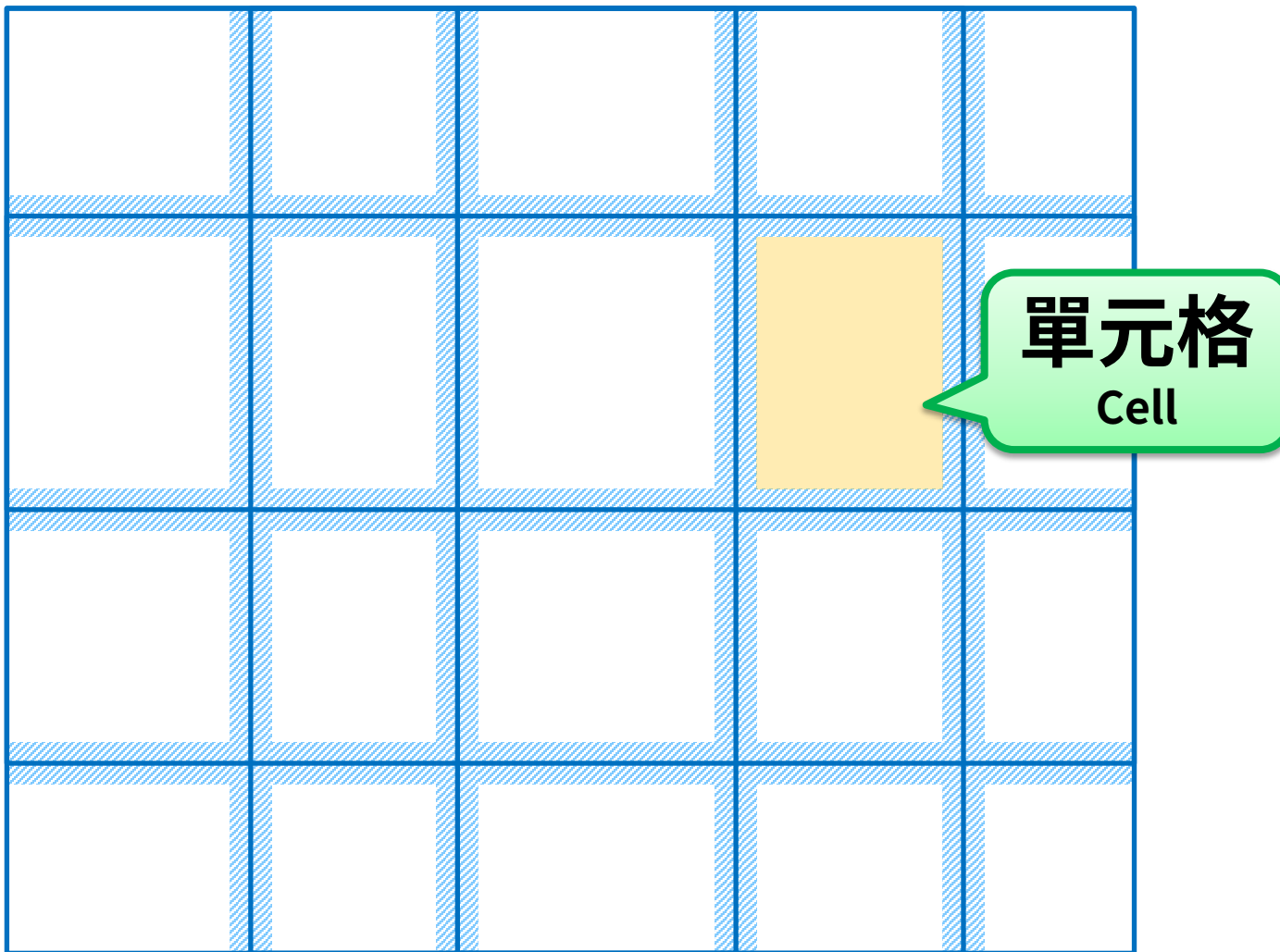
CSS Grid Layout 軌道 (欄)

軌道 (欄)

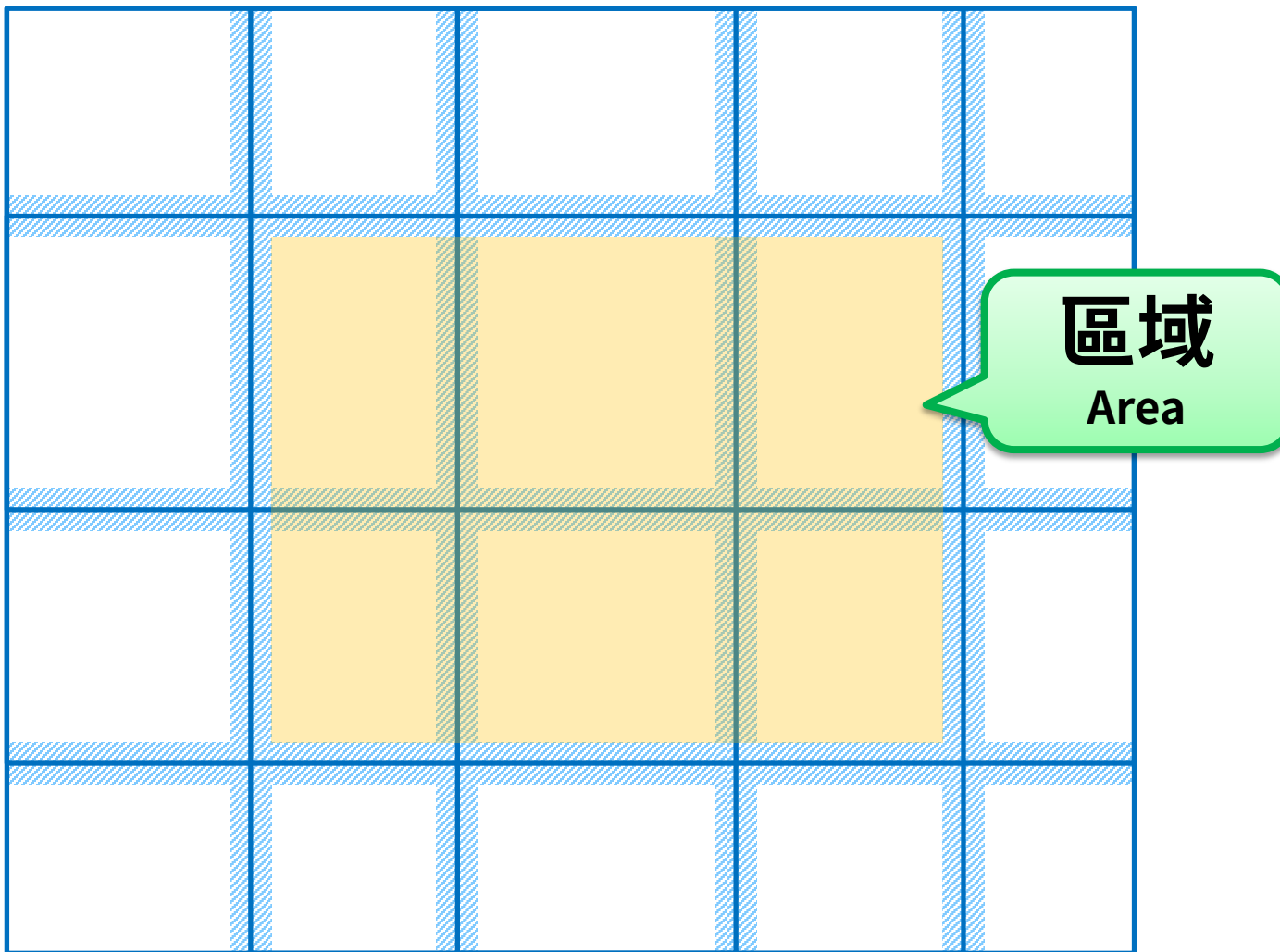
Track (Column)



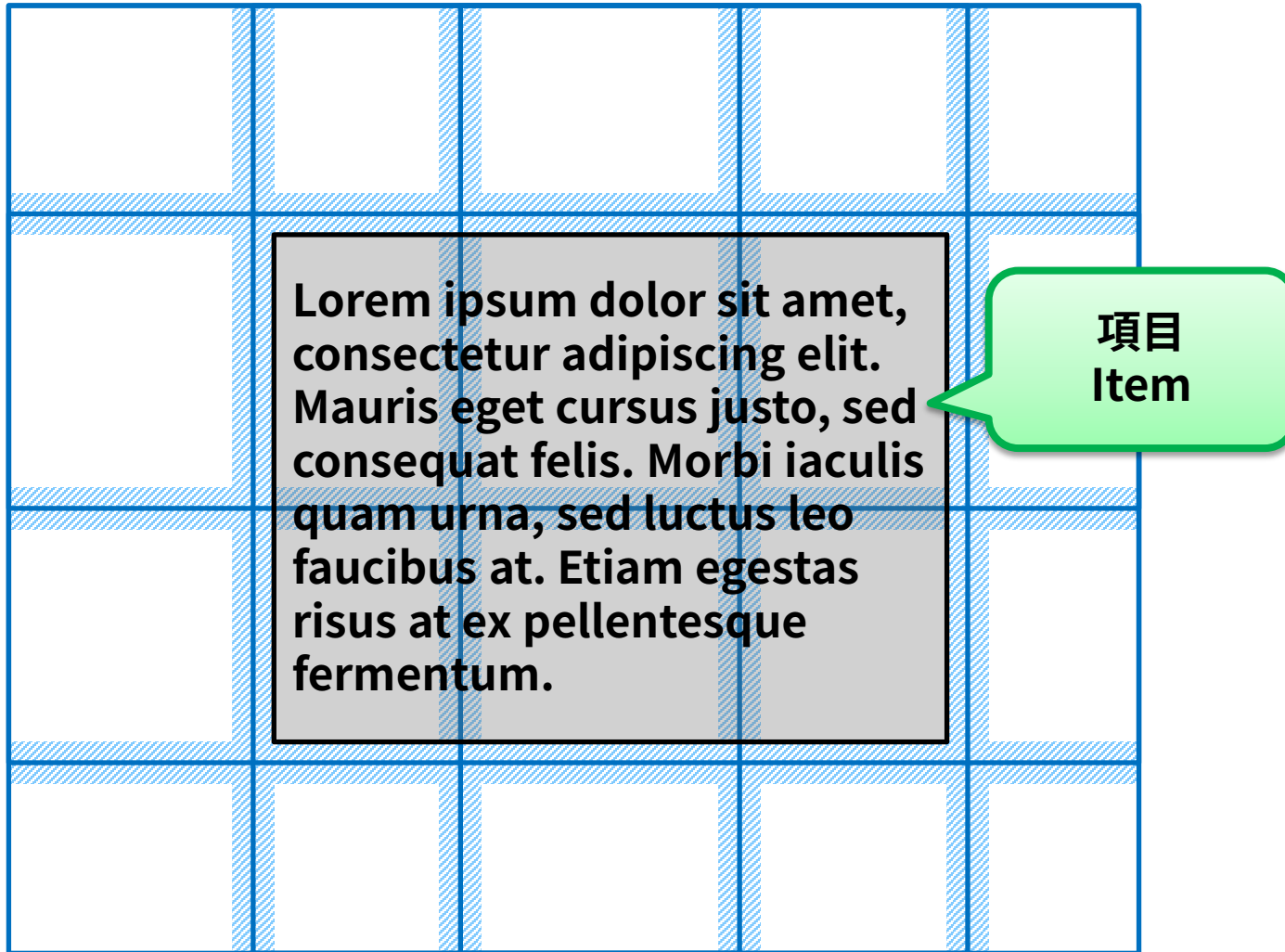
CSS Grid Layout: 解剖



CSS Grid Layout: 解剖



CSS Grid Layout: 解剖

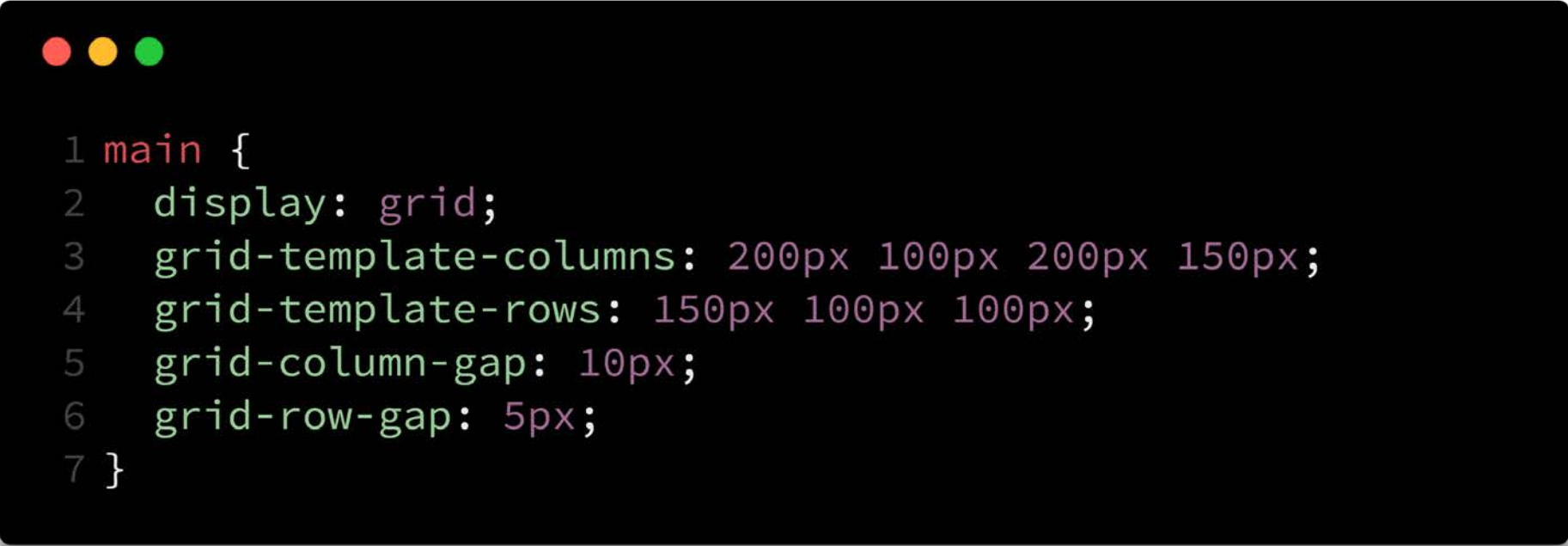


CSS Grid Layout

定義明式網格

Explicit Grid: 具體指定的網格欄與網格列

<https://codepen.io/JediLin/pen/VByMzq>



```
1 main {  
2   display: grid;  
3   grid-template-columns: 200px 100px 200px 150px;  
4   grid-template-rows: 150px 100px 100px;  
5   grid-column-gap: 10px;  
6   grid-row-gap: 5px;  
7 }
```

CSS Grid Layout: 網格模版

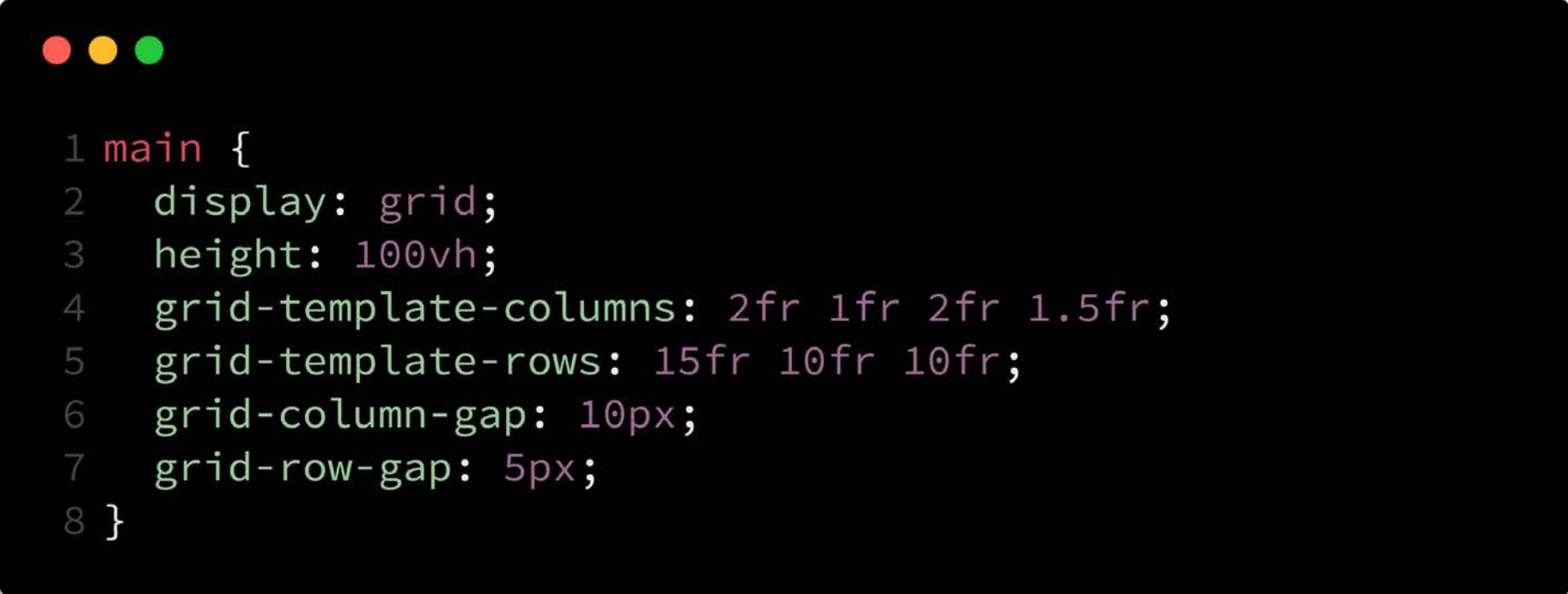
CSS Grid Layout

fr

分塊單位

fraction unit

<https://codepen.io/JediLin/pen/LBeOYv>



```
1 main {  
2   display: grid;  
3   height: 100vh;  
4   grid-template-columns: 2fr 1fr 2fr 1.5fr;  
5   grid-template-rows: 15fr 10fr 10fr;  
6   grid-column-gap: 10px;  
7   grid-row-gap: 5px;  
8 }
```

CSS Grid Layout: fr 單位

CSS Grid Layout

repeat()

重複網格欄列配置

<https://codepen.io/JediLin/pen/MBrQEp>

```
1 main {  
2   display: grid;  
3   height: 100vh;  
4   grid-template-columns: 100px 1fr 2fr 1fr 2fr 1fr 2fr 1.5fr;  
5   grid-template-rows: 15fr 10fr 10fr;  
6   grid-column-gap: 10px;  
7   grid-row-gap: 5px;  
8 }
```

```
1 main {  
2   display: grid;  
3   height: 100vh;  
4   grid-template-columns: 100px repeat(3, 1fr 2fr) 1.5fr;  
5   grid-template-rows: 15fr 10fr 10fr;  
6   grid-column-gap: 10px;  
7   grid-row-gap: 5px;  
8 }
```

CSS Grid Layout: repeat()

CSS Grid Layout: Item

網格項目

網格容器的子元素

孫元素無法直接成為網格項目 (Level 1)

<https://codepen.io/JediLin/pen/EpoLYx>

```
1 <!doctype html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta http-equiv="x-ua-compatible" content="ie=edge">
6     <title>CSS Grid - item</title>
7     <meta name="viewport" content="width=device-width, initial-scale=1">
8   </head>
9   <body>
10    <main>
11      <h1>子 h1</h1>
12      <nav>子 nav
13        <a>孫 a</a>
14      </nav>
15      <p>子 p</p>
16      <div>子 div</div>
17      <ul>子 ul
18        <li>孫 li 1</li>
19        <li>孫 li 2</li>
20      </ul>
21      <span>子 span</span>
22      <section>子 section
23        <p>孫 p</p>
24      </section>
25    </main>
26    <aside>
27      這個 aside 不採用網格布局
28    </aside>
29  </body>
30 </html>
```

CSS Grid Layout: item

CSS Grid Layout: Item

**網格項目依序
自動排入單元格**

CSS Grid Layout: Item

具名項目

VS.

匿名項目

<https://codepen.io/JediLin/pen/BPJxKx>

```
1 <!doctype html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta http-equiv="x-ua-compatible" content="ie=edge">
6     <title>CSS Grid - item</title>
7     <meta name="viewport" content="width=device-width, initial-scale=1">
8   </head>
9   <body>
10    <main>
11      匿名項目<span>具名項目</span>匿名項目
12    </main>
13    <aside>
14      這個 aside 不採用網格布局
15    </aside>
16  </body>
17 </html>
```

CSS Grid Layout: item

CSS Grid Layout

網格項目順序

auto-placement, auto-flow, order

<https://codepen.io/JediLin/pen/vapjVR>

```
1 <!doctype html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta http-equiv="x-ua-compatible" content="ie=edge">
6     <title>CSS Grid - item order</title>
7     <meta name="viewport" content="width=device-width, initial-scale=1">
8   </head>
9   <body>
10    <main>
11      <div>1</div>
12      <div>2</div>
13      <div>3</div>
14      <div>4</div>
15      <div>5</div>
16      <div>6</div>
17      <div>7</div>
18      <div>8</div>
19      <div>9</div>
20      <div>10</div>
21    </main>
22  </body>
23 </html>
```

CSS Grid Layout: placement

<https://codepen.io/JediLin/pen/vapjVR>



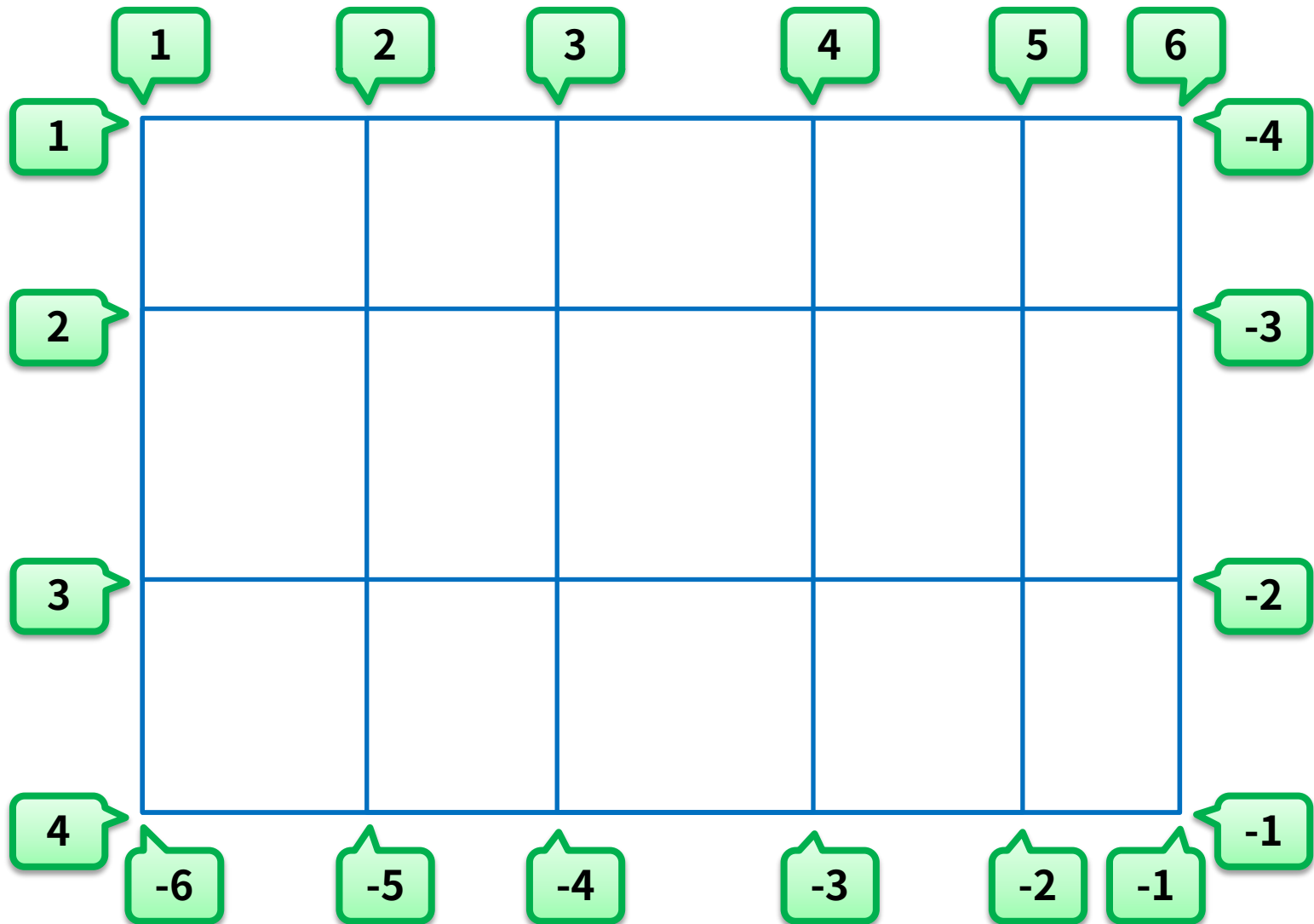
```
1 main {  
2   display: grid;  
3   grid-auto-flow: column;  
4   grid-auto-flow: row;  
5 }  
6  
7 main div {  
8   order: 2;  
9 }  
10  
11 main div:nth-child(5) {  
12   order: 1;  
13 }
```

CSS Grid Layout: placement

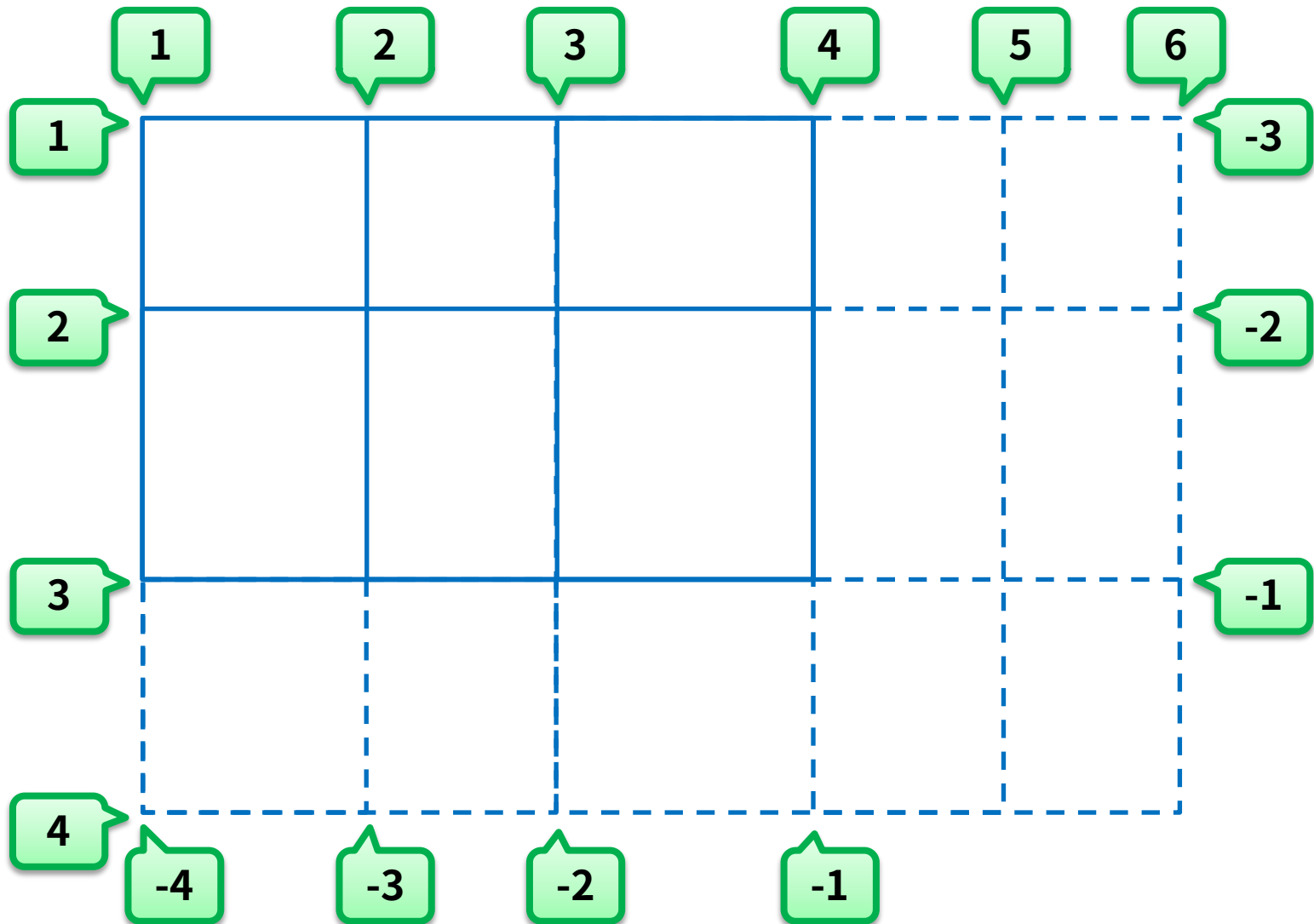
CSS Grid Layout

網格線排列法

CSS Grid Layout: Line



CSS Grid Layout: Line



<https://codepen.io/JediLin/pen/rrpERb>

```
1 main {  
2   display: grid;  
3   grid-template-columns: repeat(4, 1fr);  
4   grid-template-rows: repeat(3, 100px);  
5 }  
6  
7 main div:nth-child(7) {  
8   grid-column: 1;  
9   grid-row: 1;  
10 }  
11  
12 main div:nth-child(10) {  
13   grid-column: 1;  
14   grid-row: 1;  
15 }  
16  
17 main div:nth-child(2) {  
18   grid-column-start: 2;  
19   grid-column-end: 5;  
20   grid-column: 2 / 5;  
21   grid-row: 1 / 3;  
22 }  
23  
24 main div:nth-child(6) {  
25   grid-column: 1 / -2;  
26   grid-row: 2 / span 3;  
27 }
```

CSS Grid Layout: placement

CSS Grid Layout

網格區域排列法

<https://codepen.io/JediLin/pen/RBQrQj>

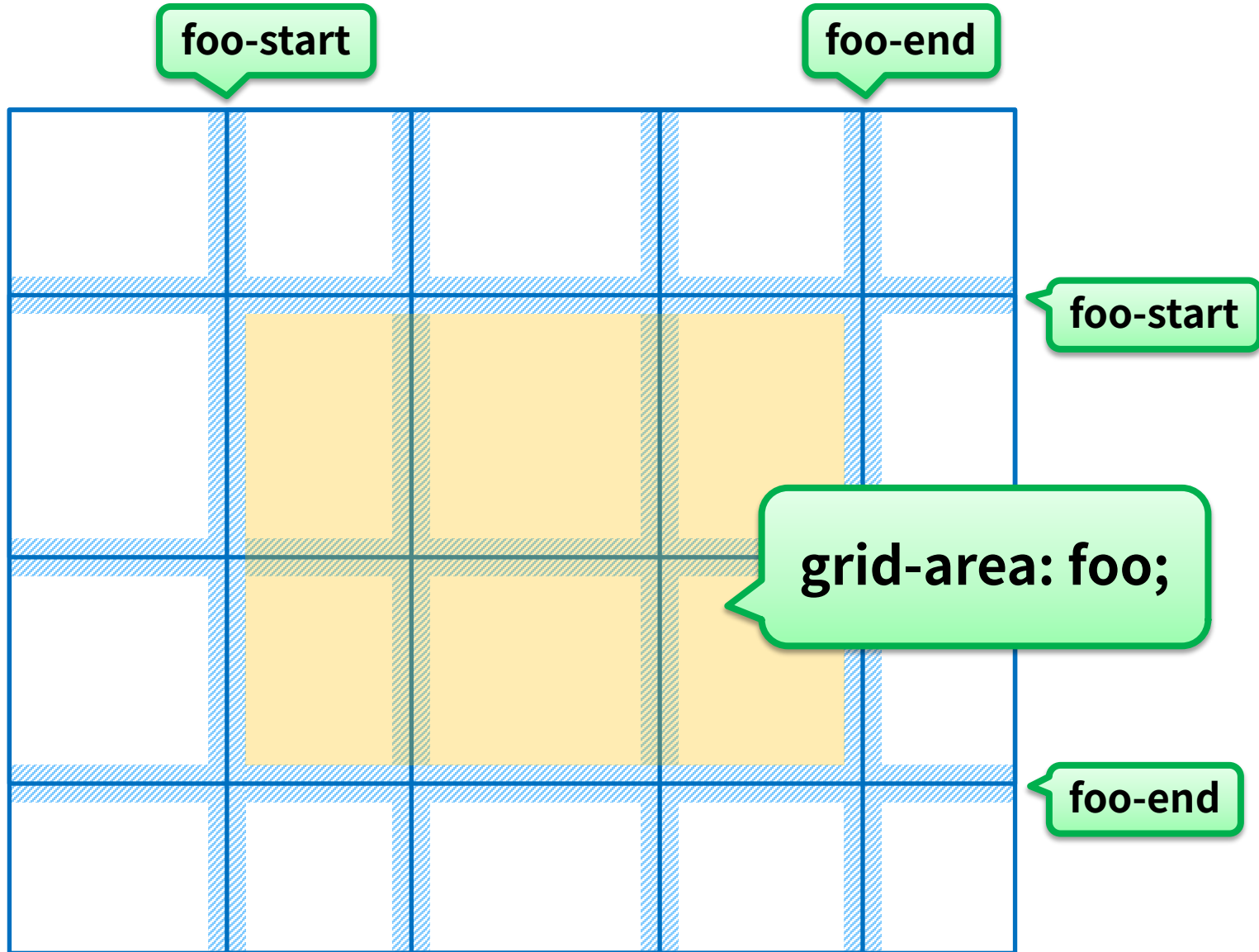
```
1 main {
2   display: grid;
3   grid-template-columns: repeat(4, 1fr);
4   grid-template-rows: repeat(3, 100px);
5   grid-gap: 20px;
6   grid-auto-flow: row;
7   grid-template-areas:
8     "brand brand brand support"
9     "..... main main support"
10    "..... main main etc";
11 }
12
13 main div:nth-child(1) {grid-area: brand;}
14 main div:nth-child(2) {grid-area: main;}
15 main div:nth-child(3) {grid-area: support;}
16 main div:nth-child(4) {grid-area: etc;}
```

CSS Grid Layout: area

CSS Grid Layout

**指定區域配置
送你神奇名稱**

CSS Grid Layout: 神奇名稱



<https://codepen.io/JediLin/pen/djdGxJ>

```
1 main {
2   display: grid;
3   grid-template-columns: repeat(4, 1fr);
4   grid-template-rows: repeat(3, 100px);
5   grid-gap: 20px;
6   grid-auto-flow: row;
7   grid-template-areas:
8     "brand brand brand support"
9     "..... main main support"
10    "..... main main etc";
11 }
12
13 main div:nth-child(6) {
14   grid-column: brand-start / etc-end;
15   grid-row: main-start / support-end;
16 }
17
```

CSS Grid Layout: area

CSS Grid Layout

網格項目 如何對齊區域

<https://codepen.io/JediLin/pen/yqvOqg>

```
1 main {  
2   display: grid;  
3   grid-template-columns: repeat(4, 1fr);  
4   grid-template-rows: repeat(3, 150px);  
5   grid-gap: 20px;  
6   grid-auto-flow: row;  
7   justify-items: stretch; /* can be stretch, */  
8   align-items: stretch; /* start, or end */  
9 }  
10  
11 main div:nth-child(1) {  
12   justify-self: start;  
13   align-self: center;  
14 }  
15  
16 main div:nth-child(2) {  
17   justify-self: end;  
18   align-self: stretch;  
19 }
```

CSS Grid Layout: justify & align

CSS Grid Layout

網格如何對齊 網格容器

<https://codepen.io/JediLin/pen/jpZrLa>



```
1 main {  
2   display: grid;  
3   width: 40em;  
4   height: 20em;  
5   border: 5px solid hsla(120,50%,50%,1);  
6   grid-template-columns: repeat(4, 4em);  
7   grid-template-rows: repeat(3, 4em);  
8   grid-gap: 10px;  
9   grid-auto-flow: row;  
10  justify-content: start; /* start | center | end */  
11  align-content: start;  
12 }
```

CSS Grid Layout: justify & align

CSS Grid Layout

**自動計算
repeat 次數**

<https://codepen.io/JediLin/pen/PBQGxB>

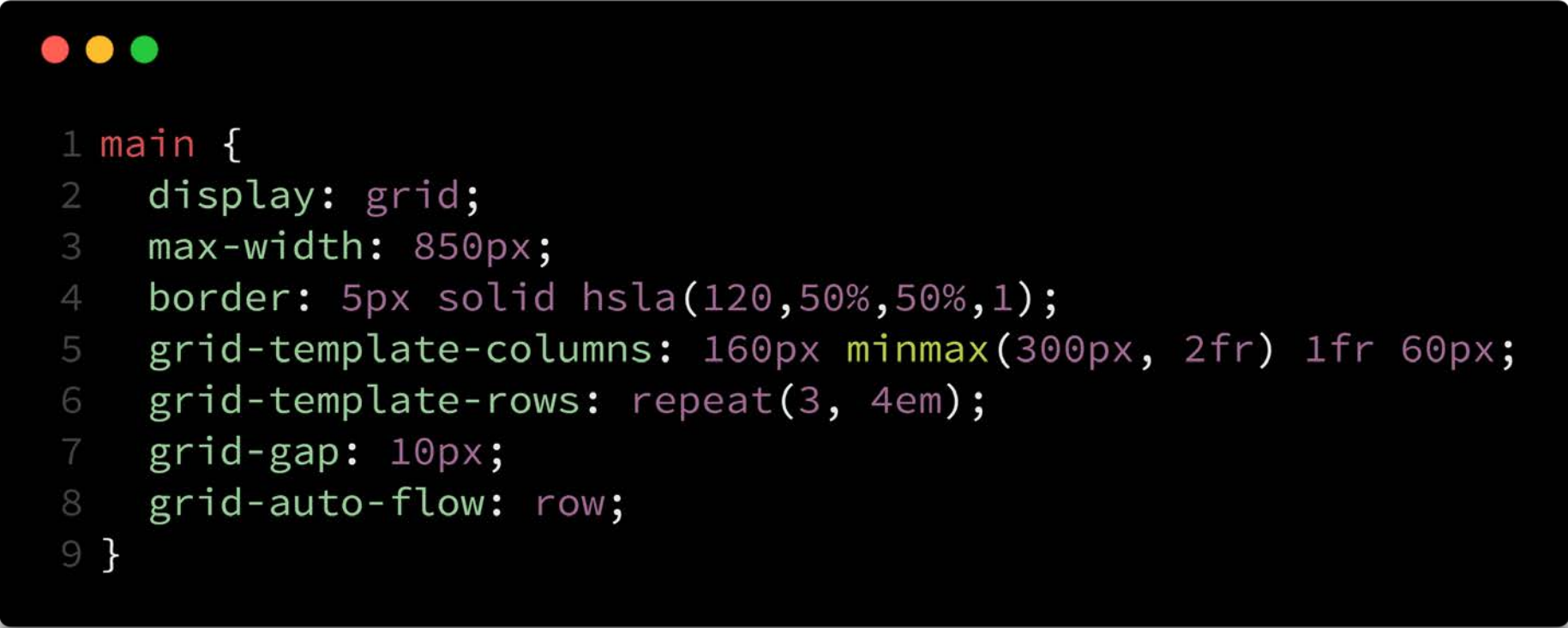
```
1 main {  
2   display: grid;  
3   max-width: 850px;  
4   border: 5px solid hsla(120,50%,50%,1);  
5   grid-template-columns: 160px repeat(auto-fill, 100px) 60px; /* try auto-fit */  
6   grid-template-rows: repeat(3, 4em);  
7   grid-gap: 10px;  
8   grid-auto-flow: row;  
9 }  
10  
11 main div:nth-child(4) {  
12   grid-column: -3 / -1;  
13 }
```

CSS Grid Layout: auto-fit, auto-fill

CSS Grid Layout

彈性長度範圍

<https://codepen.io/JediLin/pen/rrJWLW>



```
1 main {  
2   display: grid;  
3   max-width: 850px;  
4   border: 5px solid hsla(120,50%,50%,1);  
5   grid-template-columns: 160px minmax(300px, 2fr) 1fr 60px;  
6   grid-template-rows: repeat(3, 4em);  
7   grid-gap: 10px;  
8   grid-auto-flow: row;  
9 }
```

CSS Grid Layout: minmax()

<https://codepen.io/JediLin/pen/MBQpaL>



```
1 main {  
2   display: grid;  
3   max-width: 850px;  
4   border: 5px solid hsla(120,50%,50%,1);  
5   grid-template-columns: 1fr min-content 1fr;  
6   grid-template-columns: 1fr max-content 1fr;  
7   grid-template-columns: 1fr 1fr 1fr;  
8   grid-gap: 10px;  
9   grid-auto-flow: row;  
10 }
```

CSS Grid Layout: min-content, max-content

CSS Grid Layout

舊瀏覽器怎麼辦？

CSS 的優勢

容錯

**瀏覽器若看不懂新的 CSS 語法
就直接忽略，不影響其他部分**

CSS 的優勢

階層

**較晚出現的 CSS 屬性
覆蓋早先出現的
(相同特定性的情況下)**

CSS Grid Layout

display: grid;

使下列屬性對網格項目失效：

float

clear

display: inline-block;

display: table-cell;

vertical-align

flex

flex-grow

flex-shrink

flex-basis

column-*

CSS Feature Query

```
@supports(display: grid) { ... }
```

瀏覽器若支援 `display: grid;`
才會套用這段樣式規則

<https://codepen.io/JediLin/pen/oMqjaK>



```
1 <!doctype html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <meta http-equiv="x-ua-compatible" content="ie=edge">
6     <title>CSS Grid - fallback demo</title>
7     <meta name="viewport" content="width=device-width, initial-scale=1">
8   </head>
9   <body>
10    <header>Header</header>
11    <aside>Sidebar</aside>
12    <main>Content</main>
13    <footer>Footer</footer>
14  </body>
15 </html>
```

Grid > Flexbox > Float

<https://codepen.io/JediLin/pen/oMqjaK>

```
1 body { display: flex; flex-wrap: wrap;
2       display: grid;
3       grid-template-columns: minmax(15em,1fr) minmax(40em,3fr);
4       grid-template-rows: minmax(30px,3fr) minmax(150px,15fr) minmax(50px,5fr); }
5
6 header { flex-basis: 100%; height: 30px;
7          grid-column: 1 / -1; grid-row: 1; }
8
9 aside { float: left; width: 25%;
10        flex: 1 0 auto; height: 150px;
11        grid-column: 1; grid-row: 2; }
12
13 main { float: right; width: 75%;
14        flex: 3 0 auto; height: 150px;
15        grid-column: 2; grid-row: 2; }
16
17 footer { clear: both;
18          flex-basis: 100%; height: 50px;
19          grid-column: 1 / -1; grid-row: 3; }
20
21 @supports(display: grid) {
22   header, aside, main, footer { height: auto; width: auto; }
23   @media(min-height: 230px) { body {height: 100vh; } } }
```

Grid > Flexbox > Float

MICHAEL POLLAN 2018 DEMO by Jen Simmons



MICHAEL POLLAN

BOOKS | APPEARANCES | MEDIA | PRESS KIT | ARTICLES | NEWS | RESOURCES | ON TWITTER

<http://labs.jensimmons.com/2017/01-008C.html>

https://codepen.io/JediLin/pen/ajqpPg

```
1 <!doctype html>
2 <html dir="ltr" lang="en-us">
3   <head>
4     <meta charset="utf-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1">
6     <title>Demo | Jen Simmons Labs</title>
7     <link rel="stylesheet" href="css/01-008.css">
8   </head>
9
10  <body class="C">
11    <header>
12      
14      <h1>Michael Pollan</h1>
15      <nav>
16        <ul>
17          <li><a href="http://michaelpollan.com/books/">Books</a></li>
18          <li><a href="http://michaelpollan.com/appearances/">Appearances</a></li>
19          <li><a href="http://michaelpollan.com/media/">Media</a></li>
20          <li><a href="http://michaelpollan.com/press-kit/">Press Kit</a></li>
21          <li><a href="http://michaelpollan.com/articles/">Articles</a></li>
22          <li><a href="http://michaelpollan.com/news/">News</a></li>
23          <li><a href="http://michaelpollan.com/resources/">Resources</a></li>
24          <li><a href="http://michaelpollan.com/todays-link/">On Twitter</a></li>
25        </ul>
26      </nav>
27    </header>
28  </body>
29 </html>
```

MICHAEL POLLAN 2018 DEMO by Jen Simmons

<https://codepen.io/JediLin/pen/ajqpPg>

```
1 nav ul {
2   list-style-type: none; padding: 0; margin: 0.3rem 0;
3   display: inline-block; text-align: center; }
4 nav li {
5   float: left; border-right: 1px solid #000;
6   padding: 0 1.25rem; line-height: 0.75rem;
7   height: 0.75rem; margin: 0.2rem 0; }
8 nav li:last-child { border-right: none; }
9
10 @supports (display: grid) {
11   .C header {
12     margin: 0 1rem;
13     display: grid;
14     grid-template-rows: 3fr minmax(100px, 350px) max-content auto 1fr;
15     justify-items: center;
16     height: 100vh; }
17   @media (max-height: 980px) { .C { height: 100vh; } }
18   .C img {
19     grid-row: 2;
20     height: 100%; }
21   .C h1 { grid-row: 3; }
22   .C nav { grid-row: 4; }
23   .C ul {
24     display: flex;
25     flex-wrap: wrap;
26     margin-bottom: 3em; }
27   .C li { float: none; } }
```

MICHAEL POLLAN 2018 DEMO by Jen Simmons

CSS Grid Layout

- 1. 純粹由 CSS 提供更具響應性的使用體驗**
- 2. 更簡潔的 HTML，便於回歸元素語意，避免不必要的層層容器元素，重視 DOM 順序**

https://www.layout.land/

The screenshot shows a YouTube channel page for 'Layout Land'. The browser address bar displays the URL <https://www.youtube.com/channel/UC7TizprGknbdalibHpiROtag/videos>. The page features a grid of 20 video thumbnails, each with a title, view count, and upload date. The videos cover various CSS topics, including Flexbox, CSS Grid, and responsive design.

Video Title	Views	Upload Date
Hot metal : Pasteup :: Floats : CSS Grid	3.9K views	2 weeks ago
MinMax in CSS Grid - 3/3 Flexibility	3.2K views	3 weeks ago
FR Units in CSS Grid - 2/3 Flexibility	4.1K views	4 weeks ago
Min & Max Content Sizing in CSS Grid - 1/3 Flexibility	5.7K views	1 month ago
Designing for a Viewport	4.8K views	1 month ago
Object Fit	6.2K views	1 month ago
Introduction to Viewport Units	8.7K views	1 month ago
Drop Caps on the Web Using Initial Letter	3.2K views	1 month ago
Overlap on the Web, Graphic Design Made Easy with CSS	8.7K views	2 months ago
Use Clip Path to Vary Your Designs on the Web	5K views	2 months ago
Failing Well	4.8K views	2 months ago
The Magic of Feature Queries, Part 2 - 6/7	4.4K views	2 months ago
The Magic of Feature Queries, Part 1 - 5/7	5.9K views	2 months ago
Unlocking the Power of CSS Overrides - 4/7 Resilient CSS	7K views	2 months ago
How Browsers Handle Errors in CSS - 3/7 Resilient CSS	7.6K views	2 months ago
Can I Use?	10K views	2 months ago
Introduction to Resilient CSS - 1/7	18K views	2 months ago
HTML Source Order and When There's No CSS	5.2K views	2 months ago
Whitespace on The Web! - with CSS Grid	5.8K views	2 months ago
Flexbox + Grid Together = Easy Gallery Layout	12K views	3 months ago
Grid Basics		
CSS Shapes		
Grid like you're Jan Tschichold		
Innovative Graphic Design		
Flexbox vs. CSS Grid		

<https://gridbyexample.com/>

Grid by Example



互動元件

**如果你想做一個物件，
觸動之後會把使用者帶
到其他網頁位置……**

互動元件



互動元件

<a> 天生可以……

- 建立超連結
- 變更目前網址
- 使瀏覽器重繪或復新畫面
- 在網頁內定位至其他位置
- 取得鍵盤焦點
- 用鍵盤操作
- 自動宣告為「連結」角色
- 使用 CSS 虛擬類別，如
`:link`, `:visited`, `:focus`, `:hover`, `:active`

超連結

盡一切努力避免

或用其他方式強迫連結開啟至新視窗

互動元件

**如果你想做一個物件，
觸動之後會執行某些動作
或導致某種變化……**

互動元件



<button>

互動元件

<button> 天生可以……

- 取得鍵盤焦點
- 用鍵盤操作
- 送出表單資料至伺服器
- 重設表單
- 以 **disabled** 屬性「停用」
- 自動宣告為「按鈕」角色
- 使用 CSS 虛擬類別，如
:focus, :hover, :active, :disabled

F O C U S

輸入焦點管理與鍵盤操作

tabindex=

輸入焦點管理與鍵盤操作

tabindex="0"

**可按照 DOM 順序
取得輸入焦點**

輸入焦點管理與鍵盤操作

tabindex="-1"

**暫時不要讓它
取得輸入焦點**

輸入焦點管理與鍵盤操作

tabindex="-1"

可用 **focus()**

取得輸入焦點

輸入焦點管理與鍵盤操作

tabindex=

永遠不要大於 0

事件處理

Event Handlers

onMouseOver + onFocus

onMouseOut + onBlur

onMouseDown + onKeyDown

onMouseUp + onKeyUp

動態產生內容

Dynamic Content

write()

應由使用者明確操作觸發

Dynamic Content

write()

不要由 **onFocus** 觸發

不要突然亂入



真道理 愛台灣
中時電子報
times

中國
時報

工商
時報

旺報

時報
周刊

國刊

cti 中天

CNN 中視

ZUTV
中旺電視

lecoin

孝親獎

旺旺太陽星
雙創計劃

簡 繁

本網頁已閒置超過3分鐘。請捲動滑鼠滾輪，或按鍵盤任意鍵，或點擊任一空白處，即可回到網頁。

台灣大車隊 55688 安全、舒適、貼心
UB 聯邦銀行 UNION BANK OF TAIWAN
Apple Pay

使用 Apple Pay 綁定 JCB 卡
搭乘台灣大車隊即回饋 70 元



瞭解更多 >

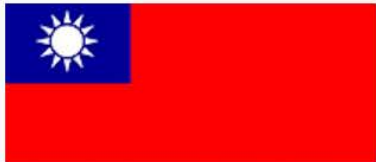
(每月每戶回饋一次)

謹慎理財 信用至上

最HOT新聞推薦給您

更多熱門新聞

- 吳音寧出席雙首長會議又扯韓國瑜 被產發局長霸氣打臉
- 國民黨新「太陽」？ 洪永泰點名2人性格霸氣有機會
- 車內有注射過針筒「含安非他命」 男星清晨驚爆持毒遭逮！
- 困在關西陸派車接送 台女遊客還原真相「感謝對岸」
- 吳音寧、柯文哲「第一果菜市場改建」紛爭 楊儒門說話了



107年國民學日語
萬元補助計畫

巨匠線上真人

馬上申請

【關閉 X】

即時總覽 (658)

2020是否挺柯？宋楚瑜拒絕表態

新聞來源

政治

熱門

Dynamic Content

write()

可能需搭配 focus()

鍵盤陷阱

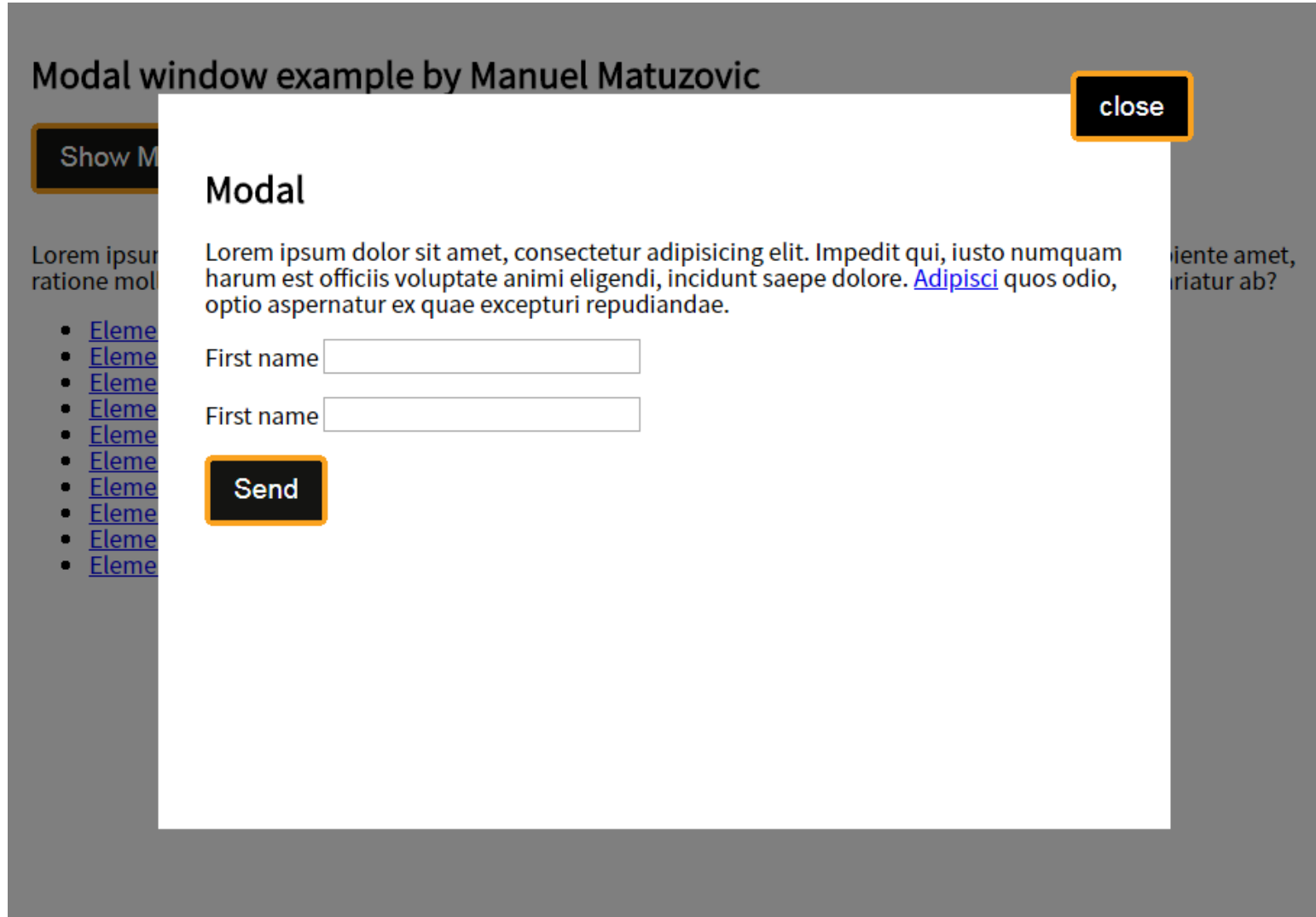
鍵盤陷阱

用於合適的情況

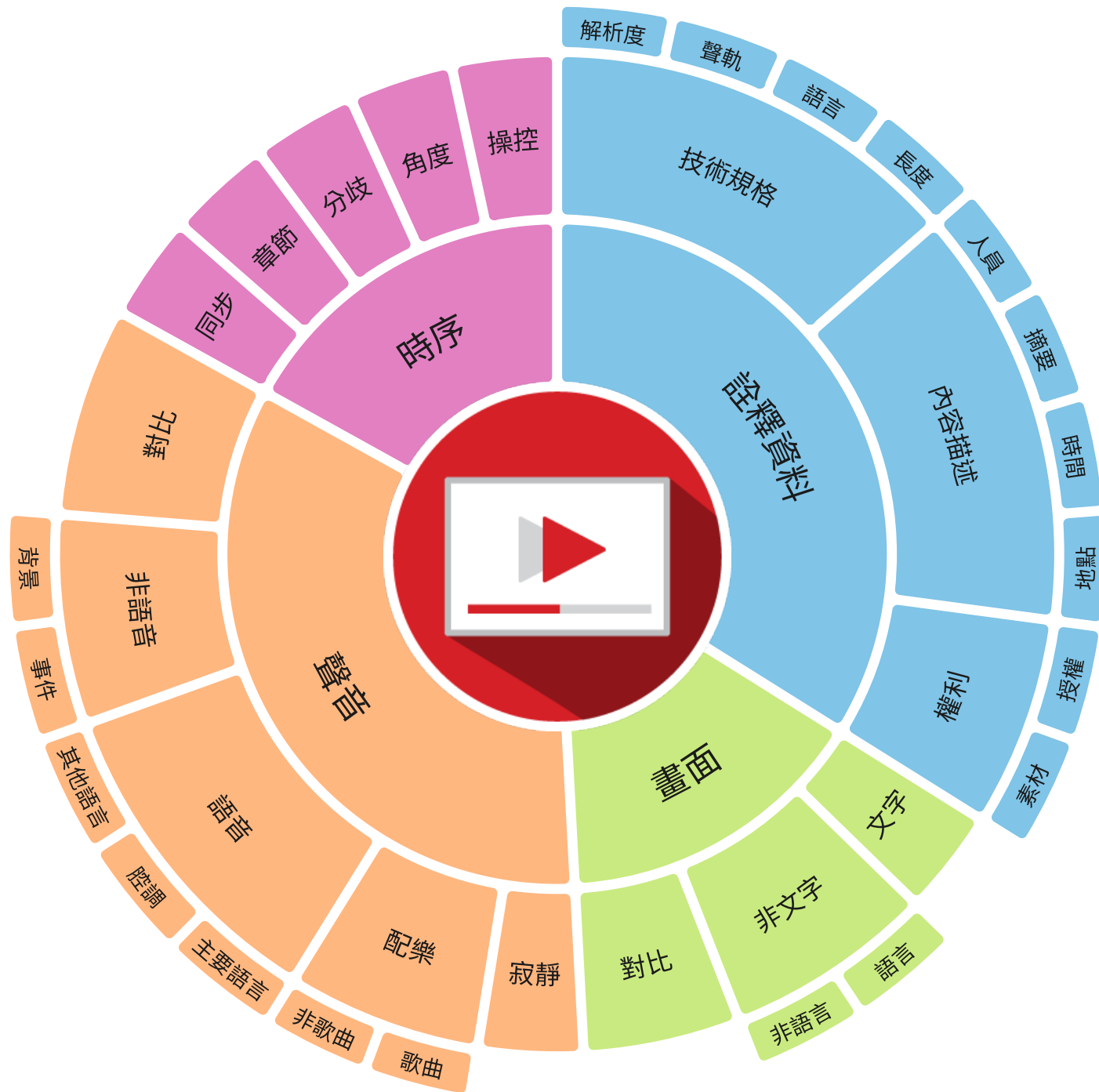
並且

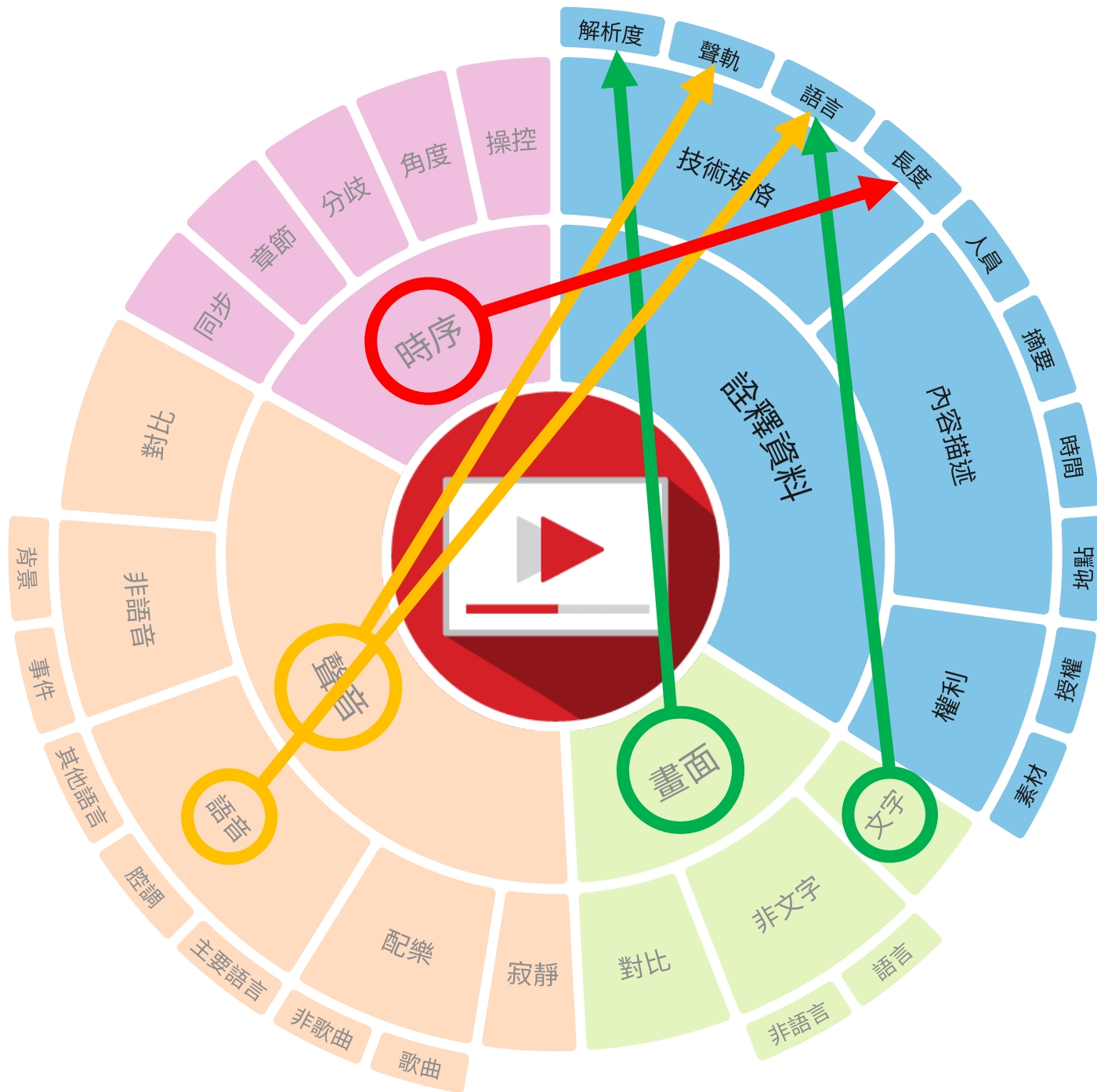
只用於合適的情況

<https://codepen.io/JediLin/pen/GBxxYp>

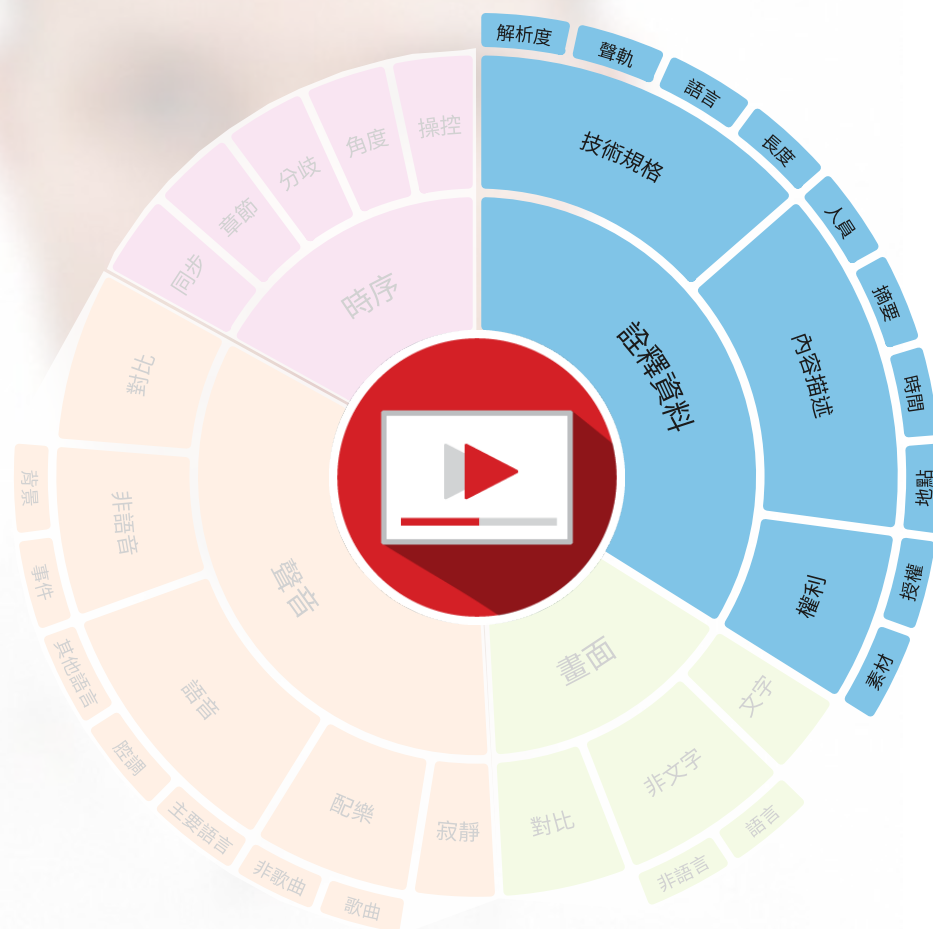


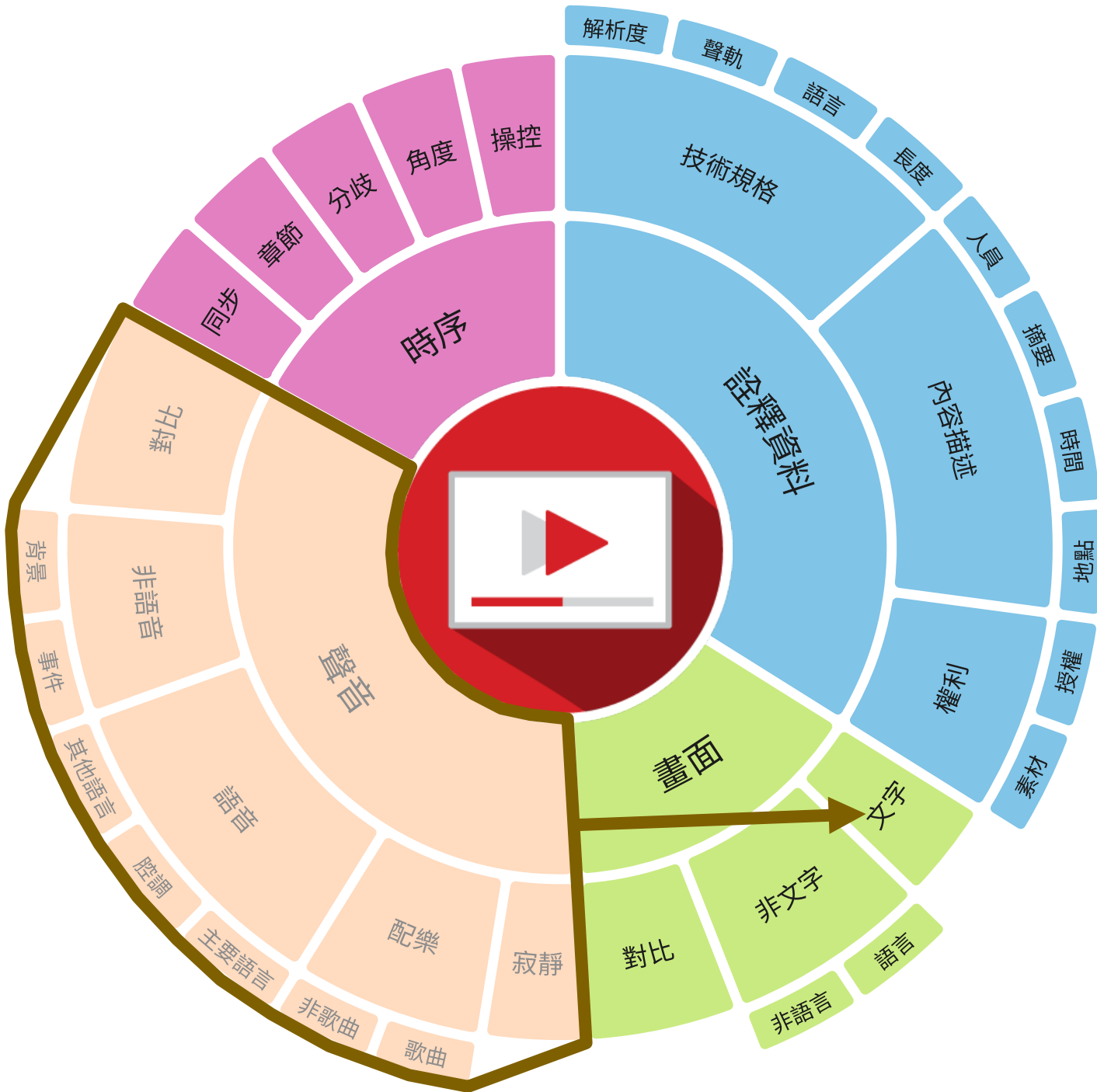
Modal window example by Manuel Matuzovic





制定需要跟影片 一起提供的詮釋資料





字幕

字幕的 呈現模式

(且無法變更)

一定

看得到

公開式字幕

Open Caption

公開式字幕

台灣

電視節目字幕

(也可以切換成不同版本或語言)

**可以隱藏
的字幕**

隱藏式字幕／非公開式字幕

Closed Caption

隱藏式字幕／非公開式字幕

美國 電視節目字幕

cc

字幕色彩對比

字幕色彩對比

**與原本畫面內容
有所區分**

字幕色彩對比

文字色彩
對比低

字幕色彩對比

文字字型
加邊框

字幕色彩對比

文字字型
加邊框

字幕色彩對比

字幕區域

加底色

HTML5

<video>

`<video>` Element API

Methods:

`play()`, `pause()`, `load()`, `canPlayType()`

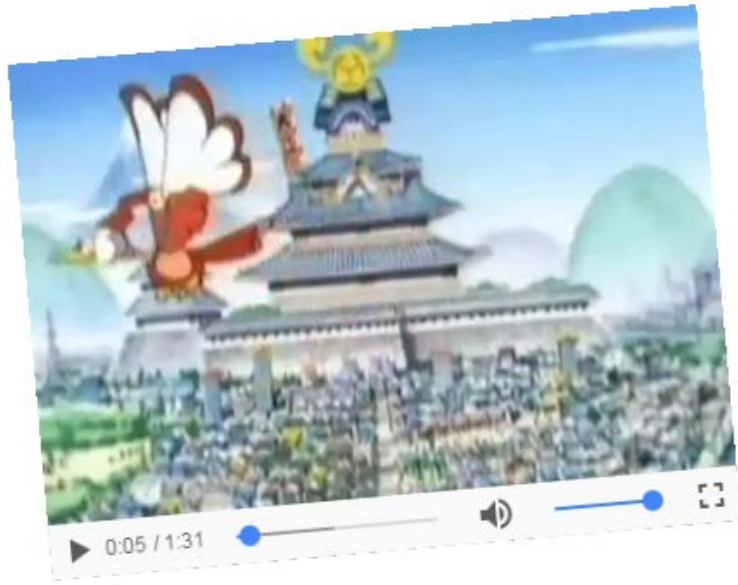
Properties:

`currentSrc`, `currentTime`, `startTime`, `videoWidth`, `videoHeight`, `duration`, `ended`, `error`, `paused`, `muted`, `seeking`, `volume`, `height`, `width`, `seekable`, `played`

Events:

`play`, `pause`, `progress`, `error`, `timeupdate`, `ended`, `abort`, `empty`, `emptied`, `waiting`, `loadedmetadata`

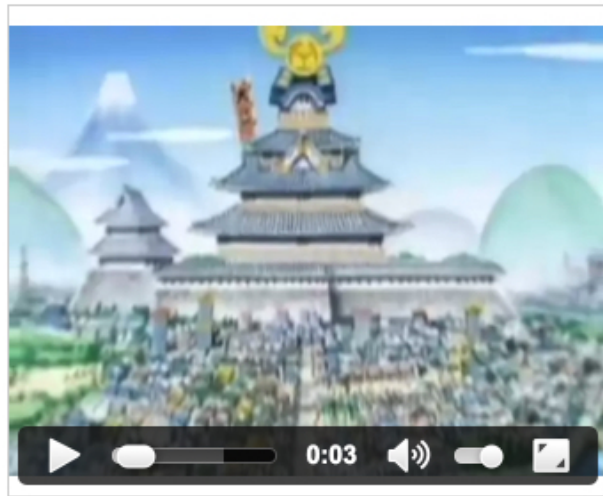
CSS3 Transition/Transform



```
video { width: 300px;  
        transition: all 0.5s ease-in-out; }
```

```
video:hover { width: 400px;  
              transform: rotate(-5deg); }
```

CSS3 Filter



HTML5

<video>

<source>

<track>

替代内容

<video>

寬度（像素）

width=

高度（像素）

height=

<video>

縮圖畫面（網址）

poster=

<video>

預先載入方式

preload=

<video preload="...">

載入影片

auto

僅載入詮釋資料

metadata

不要自動載入

none

<video>

顯示控制介面

controls

自動播放

autoplay

循環播放

loop

靜音播放

muted

<video>

<source>

<source>

指定影片 檔案

<source>

src="path/to/video"
type="video/TYPE"

`<source type="...">`

video/mp4	MPEG 4 (A: AAC / V: H.264)
video/webm	WebM (A: Vorbis / V: VP8)
video/ogg	Ogg (A: Vorbis / V: Theora)

瀏覽器支援

Chrome	MP4	WebM	Ogg
Firefox	MP4	WebM	Ogg
IE	MP4		
Opera	MP4	WebM	Ogg
Safari	MP4	WebM	Ogg

<source

src="path/to/video.mp4"

type="video/mp4"**>**

瀏覽器依序嘗試

<video>

<source>

<source>

<source>

</video>

<video>

<track>

<track>

指定字幕檔案

<track>

WebVTT

WebVTT 範例

WEBVTT

1

00:00:00.020 --> 00:00:02.720

我們的使命是要讓

2

00:00:02.720 --> 00:00:05.360

地球上每個人和每個組織

3

00:00:05.360 --> 00:00:08.240

都能夠實現更遠大的願景

4

00:00:08.240 --> 00:00:10.760

我們想替所有人敞開大門

WebVTT

WEBVTT

空一列

cue

空一列

cue

空一列

cue

空一列

.....

cue

ID

hh:mm:ss.sss --> hh:mm:ss.sss POSITION

text

cue ID

getCueById()

cue POSITION

line	相對於影片高度的縱軸位置 (%)
position	相對於影片寬度的橫軸位置 (%)
size	相對於影片高度的字幕高度 (%)
align	start = left, center, right = end

(以上都可省略)

cue text

text text text

cue text

text <hh:mm:ss.sss>text <hh:mm:ss.sss>text

cue text

****, *<i>*, <u>

cue text

<v Speaker>text

cue text

<c.Class>text

cue style with CSS3

```
::cue(#ID) { ... }
```

```
::cue(.Class) { ... }
```

```
::cue(v[voice="Speaker"]) { ... }
```

<track>

字幕檔案網址

src=

字幕語言

srclang=

字幕本身的標題

label=

<track>

指定字幕類型（用途）

kind=

<track kind="...">

提供給「聽不懂」者的字幕

提供給「聽不到」者的字幕

提供給「看不到」者的描述

導覽用的章節標題

提供給電腦軟體的詮釋資料

subtitles

captions

descriptions

chapters

metadata

<track>

指定為預設字幕

default

```
<track default  
  kind="captions"  
  label="中文字幕"  
  srclang="zh-Hant-TW"  
  src="path/to/video_TW.vtt">
```

替代內容

<video>中，除了
<source>和**<track>**以
外的所有內容



```
1 <video width="560" height="315" poster="thumb.png"
2     preload="auto" controls>
3     <source type="video/mp4" src="video.mp4">
4     <source type="video/webm" src="video.webm">
5     <source type="video/ogg" src="video.ogg">
6     <track default kind="subtitles" label="中文字幕"
7         srclang="zh-Hant-TW" src="cap_TW.vtt">
8     <track kind="captions" label="英文字幕"
9         srclang="en" src="cap_EN.vtt">
10    <iframe width="560" height="315"
11        src="https://www.youtube.com/embed/XXXXXXXXXXXX"
12        frameborder="0" allowfullscreen>
13        <a href="video.mp4" title="MP4 格式">下載原始影片</a>
14    </iframe>
15 </video>
```

<https://codepen.io/JediLin/pen/jpzgpv>



HTML5 video caption/subtitle demo

記住：

字幕只是輔助

Vous regardez
Entre Maître
& Disciples

MAÎTRE SUPREME
CHING HAI

Un conte taoïste sur la
longévité

Partie 2/3

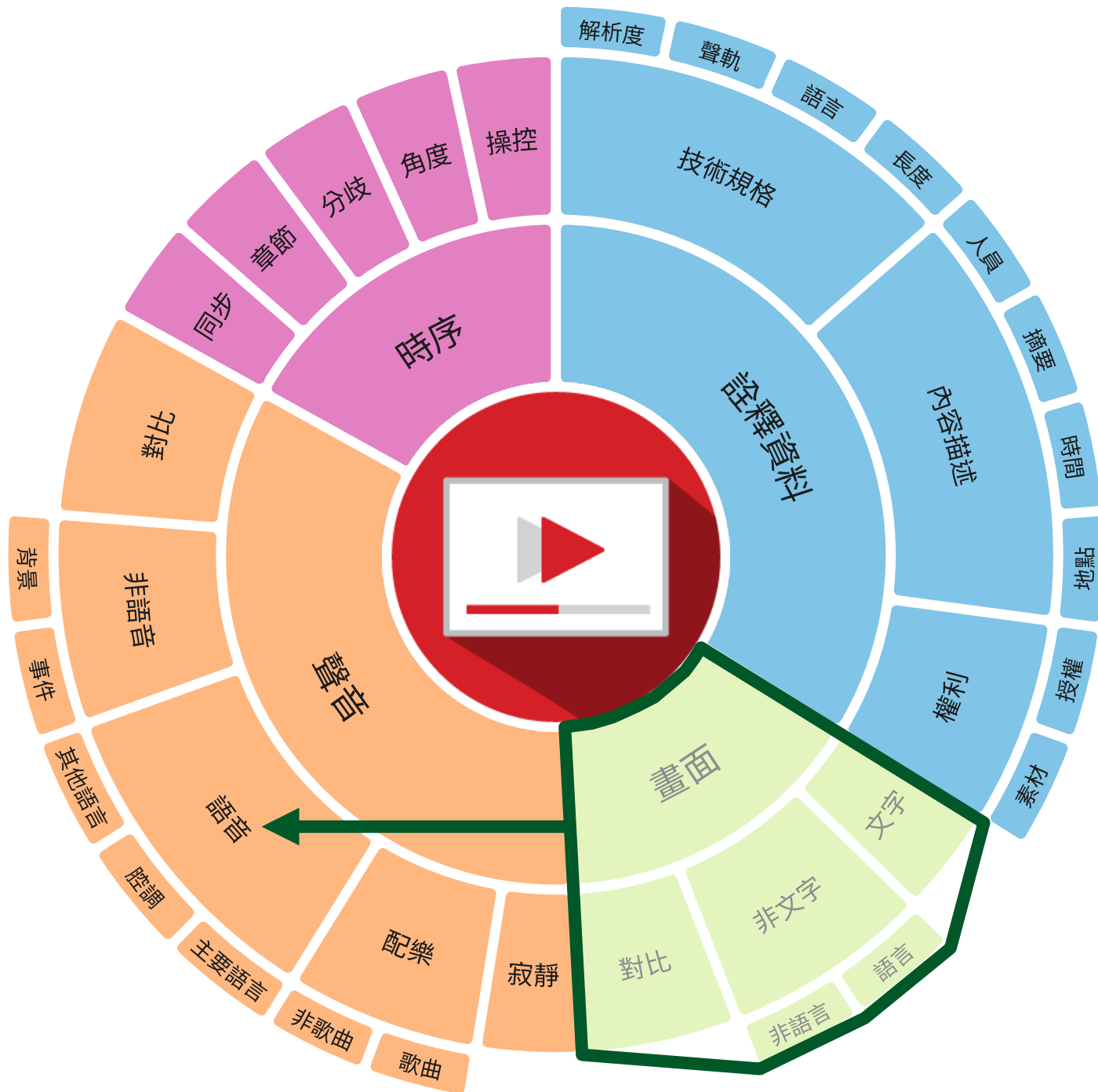
Rassemblement
international
15 décembre 2008

the Muslim or the Hindu
die Muslims oder die Hindus
les musulmans ou les hindous
los musulmanes o hindúes
i musulmani o gli indù
que Muçulmanos e Hindus
Muslim atau Hindu
že by ten moslim a hinduista
कि मुस्लिम या हिन्दु
मुसलमान व हिन्दु

與印度教徒
与印度教徒
ヒンズー教徒が
서로 적대시 하는

Hoi giáo hay An giáo
и индуците всъщност
hogy a muszlim, vagy
Muslimani | Hindusi
мусульмане или индусы
مسلمانان و هندوها باهم
المسلمين أو الهندوس

- Brother Kinryl you will take this letter as fast as you can to Fil Vandrel Aenvithaen from the Silver Towers and you will tell what you saw. We dont want a conflict with the Ainsethe elves. I must know what heppened. We wont start the tests until your return. Brother Jarow you will keep the children in the caves under the pretence of a disease. We have litle time.



Audio Description

音訊描述

口述影像

音訊描述／口述影像

**利用音訊媒介，描述畫面內容
(尤其是不含語音的重要畫面變動)**

音訊描述／口述影像

**需盡可能避免干擾
影片原有的聲音內容
(尤其對話的部份)**

音訊描述／口述影像

想像：

把電視劇修改成廣播劇

AD

口述影像版體驗：海角七號

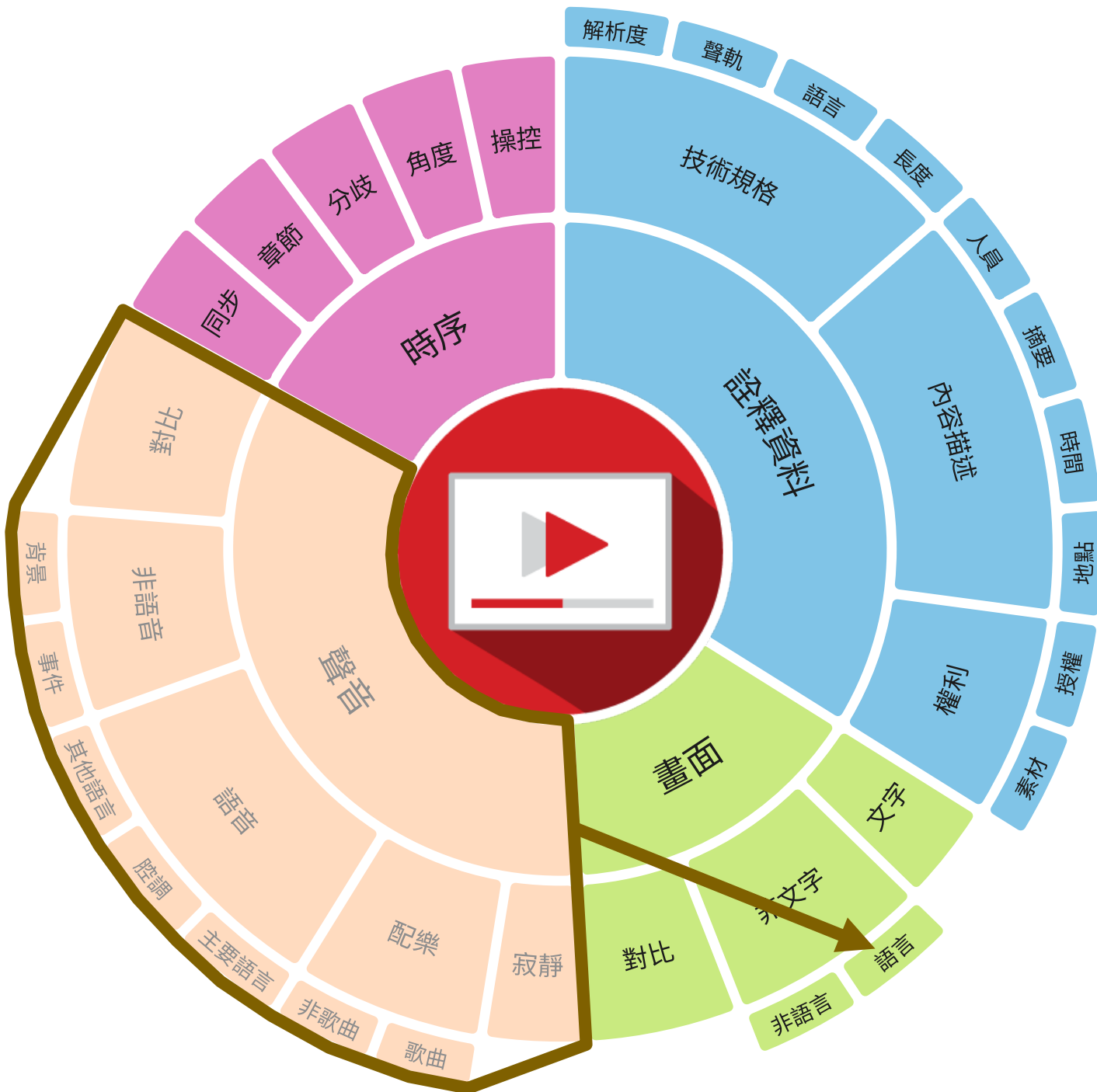
**[https://www.youtube.com/
watch?v=6MEROABvVSsw](https://www.youtube.com/watch?v=6MEROABvVSsw)**

<https://codepen.io/JediLin/pen/GBxavB>



Audio Description:

Audio Descriptions Demo by James Edwards



手語翻譯

Picture-in-Picture, PiP

子母畫面

手語翻譯員報總統政見 | 老外看台灣

**[https://www.youtube.com/
watch?v=bDf8AA9qUgQ](https://www.youtube.com/watch?v=bDf8AA9qUgQ)**

子母畫面

**兩個或多個影片檔案
各自呈現**

子母畫面

**子畫面的播放，
隨母畫面的操作介面控制**

子母畫面

子畫面

**可以改變位置、大小，
與母畫面並排或重疊**

<https://ableplayer.github.io/ableplayer/demos/video10.html>

Able Player Video Demo #10: Video with sign language

An accompanying sign language video is provided for each <source> element.

For additional demos see the [Index of Able Player Examples](#).



nostrud exercitation ullamco laboris nisi ut
aliquip ex ea commodo consequat. Duis
aute irure dolor in reprehenderit in
voluptate velit esse cillum dolore eu fugiat
nulla pariatur. Excepteur sint occaecat

cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est
laborum.

Able Player Video Demo: Video with sign language

Video on the Web

<http://diveintohtml5.info/video.html>

Able Player

<https://ableplayer.github.io/>

響應式

資料表格

https://codepen.io/JediLin/pen/YjLyrg

Responsive Table with Semantics Retained by ARIA

Books I May or May Not Have Read

Author	Title	Year	ISBN-13	ISBN-10
Miguel De Cervantes	<i>The Ingenious Gentleman Don Quixote of La Mancha</i>	1605	9783125798502	3125798507
Mary Shelley	<i>Frankenstein; or, The Modern Prometheus</i>	1818	9781530278442	1530278449
Herman Melville	<i>Moby-Dick; or, The Whale</i>	1851	9781530697908	1530697905
Emma Dorothy Eliza Nevitte Southworth	<i>The Hidden Hand</i>	1888	9780813512969	0813512964
F. Scott Fitzgerald	<i>The Great Gatsby</i>	1925	9780743273565	0743273567
George Orwell	<i>Nineteen Eighty-Four</i>	1948	9780451524935	0451524934

Note that this is an *accessible* (keyboard and screen reader) responsive (width and print) table. It retains table semantics for screen readers with thanks to the liberal application of ARIA roles. You can [read more at my site](#).

Responsive Table with Semantics Retained by ARIA

Books I May or May Not Have Read

Author	Title	Year	ISBN-13	ISBN-10
Miguel De Cervantes	<i>The Ingenious Gentleman Don Quixote of La Mancha</i>	1605	9783125798502	3125798507
Mary Shelley	<i>Frankenstein; or, The Modern Prometheus</i>	1818	9781530278442	1530278449
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ISBN-10:	1530278449

Responsive Table with Semantics Retained by ARIA by Adrian Roselli

Responsive Table by Adrian Roselli

A Responsive Accessible Table

<http://adrianroselli.com/2017/11/a-responsive-accessible-table.html>

Tables, CSS Display Properties, and ARIA

<http://adrianroselli.com/2018/02/tables-css-display-properties-and-aria.html>

Tables, JSON, CSS, ARIA, RWD, TLAs...

<http://adrianroselli.com/2018/04/tables-json-css-aria-rwd-tlas.html>

最後免費贈送……

中_{ㄓㄨㄥ} 文_{ㄨㄣˊ} 加_{ㄐㄧㄚ} 注_{ㄓㄨˋ} 音_ㄢ

中文加注音

可使用 WebFont ， 例如

華_{ㄏㄨㄚˊ}康_{ㄎㄨㄤ}黑_{ㄏㄟ}體_{ㄊㄟˋ}注_{ㄓㄨˋ}音_{ㄩㄣ}字_{ㄗˋ}

<https://blog.justfont.com/phonetic/>

所_{ㄙㄨㄛˋ}有_{ㄩˋ}公_{ㄍㄨㄥ}主_{ㄓㄨˇ}都_{ㄉㄨ}與_{ㄩˇ}王_{ㄨㄥˊ}子_{ㄗˇ}過_{ㄍㄨㄛˋ}著_{ㄓㄨˋ}幸_{ㄒㄩㄥˋ}福_{ㄈㄨˋ}快_{ㄎㄞˋ}樂_{ㄌㄞˋ}的_{ㄉㄜˊ}
日_{ㄖㄩˋ}子_{ㄗˇ}， 只_ㄓ有_{ㄩˋ}小_{ㄒㄩㄥˋ}美_{ㄇㄟˋ}人_{ㄖㄣˊ}魚_{ㄩˊ}失_{ㄕㄞˊ}去_{ㄑㄩˋ}美_{ㄇㄟˋ}妙_{ㄇㄞˋ}的_{ㄉㄜˊ}歌_{ㄍㄜ}
聲_{ㄕㄨㄥ}， 最_{ㄇㄞˋ}後_{ㄏㄞˋ}化_{ㄏㄨㄚˋ}成_{ㄔㄨㄥˊ}泡_{ㄆㄞˋ}沫_{ㄇㄛˋ}。

所_{ㄙㄨㄛˋ}有_{ㄩˋ}善_{ㄕㄞˋ}良_{ㄌㄞˊ}的_{ㄉㄜˊ}女_{ㄋㄩˇ}孩_{ㄏㄞˊ}都_{ㄉㄨ}擁_{ㄩㄥ}有_{ㄩˋ}豐_{ㄈㄨㄥ}衣_ㄩ一_ㄩ足_{ㄗㄨˊ}食_{ㄕㄞˊ}的_{ㄉㄜˊ}
生_{ㄕㄨㄥ}活_{ㄏㄨㄛˋ}， 只_ㄓ有_{ㄩˋ}賣_{ㄇㄞˋ}火_{ㄏㄨㄛˋ}柴_{ㄔㄞˊ}的_{ㄉㄜˊ}小_{ㄒㄩㄥˋ}女_{ㄋㄩˇ}孩_{ㄏㄞˊ}敵_{ㄉㄞˊ}不_ㄘ過_{ㄍㄨㄛˋ}
聖_{ㄕㄨㄥ}誕_{ㄉㄢˋ}夜_{ㄞˋ}的_{ㄉㄜˊ}寒_{ㄏㄞˊ}冷_{ㄌㄞˊ}， 燒_{ㄕㄞˊ}盡_{ㄘㄩㄣˋ}最_{ㄇㄞˋ}後_{ㄏㄞˋ}一_ㄩ根_{ㄍㄨㄥ}火_{ㄏㄨㄛˋ}
柴_{ㄔㄞˊ}， 進_{ㄘㄩㄣˋ}入_{ㄩˋ}天_{ㄊㄞˊ}堂_{ㄊㄞˊ}。

Justfont 網頁注音體網站範例

WebFont 注音方案主要缺點



WebFont 注音方案主要缺點



```
1 <p><span style="font-family: wp01;">所有公主都與王
2   <span style="font-family: wp02;">子</span>過著
3   幸福快樂的日子，只有小美人魚失去美妙的歌聲，最後化成泡
4   沫。</span></p>
5 <p><span style="font-family: wp01;">所有善良的女孩
6   都擁有豐衣足食的生活，只有賣火柴的小女孩敵不過聖誕夜的
7   寒冷，燒盡最後<span style="font-family: wp03;">一
8   </span>根火柴，進入天堂。</span></p>
```

HTML5 Ruby

HTML5 Ruby 注音方案



```
1 <ruby>
2   <rb>中</rb><rt>ㄓㄨㄥˊ</rt>
3 </ruby>
4 <ruby>
5   <rb>文</rb><rt>ㄨㄣˊ</rt>
6 </ruby>
7 <ruby>
8   <rb>加</rb><rt>ㄐㄧㄚˊ</rt>
9 </ruby>
10 <ruby>
11   <rb>注</rb><rt>ㄓㄨˋ</rt>
12 </ruby>
13 <ruby>
14   <rb>音</rb><rt>ㄧㄣˊ</rt>
15 </ruby>
```

HTML5 Ruby 注音方案



```
1 <ruby>中<rt>ㄓㄨㄥˊ</ruby>  
2 <ruby>文<rt>ㄨㄣˊ</ruby>  
3 <ruby>加<rt>ㄐㄧㄚˊ</ruby>  
4 <ruby>注<rt>ㄓㄨˋ</ruby>  
5 <ruby>音<rt>ㄧㄣˊ</ruby>
```

https://caniuse.com/#feat=ruby

Ruby annotation - LS

Method of adding pronunciation or other annotations using ruby elements (primarily used in East Asian typography).

Usage	% of all users		
Taiwan	1.47%	+ 95.7%	= 97.17%
Global	4.96%	+ 89.34%	= 94.29%

Current aligned			Usage relative		Date relative		Show all										
IE	Edge	Firefox	Chrome	Safari	Opera	iOS Safari	Opera Mini	Android	Blackberry	Opera Mobile	Chrome Android	Firefox Android	IE Mobile	UC for Android	Samsung Internet	QQ	Baidu
						9.3											
			49			10.2											
			66			10.3											
		60	67			11.2									6.2		
11	17	61	68	11.1	53	11.4	all	67	10	46	67	60	11	11.8	7.2	1.2	7.12
	18	62	69	12		12											
		63	70	TP													
			71														

Notes Known issues (1) Resources (6) Feedback

Browsers without native support can still simulate support using CSS. Partial support refers to only supporting basic ruby, may still be missing writing-mode, Complex ruby and CSS3 Ruby.

漢字標準格式

<https://css.hanzi.co/>



曲
豊



丰

àèi

𪛗
豆

ㄣ ㄣ ㄣ ㄣ
ㄣ ㄣ ㄣ ㄣ

𩇛
驛



𩇛
驛

東京晴空塔原文「東

京スカイツリー」，英

譯作Tokyo Skytree。

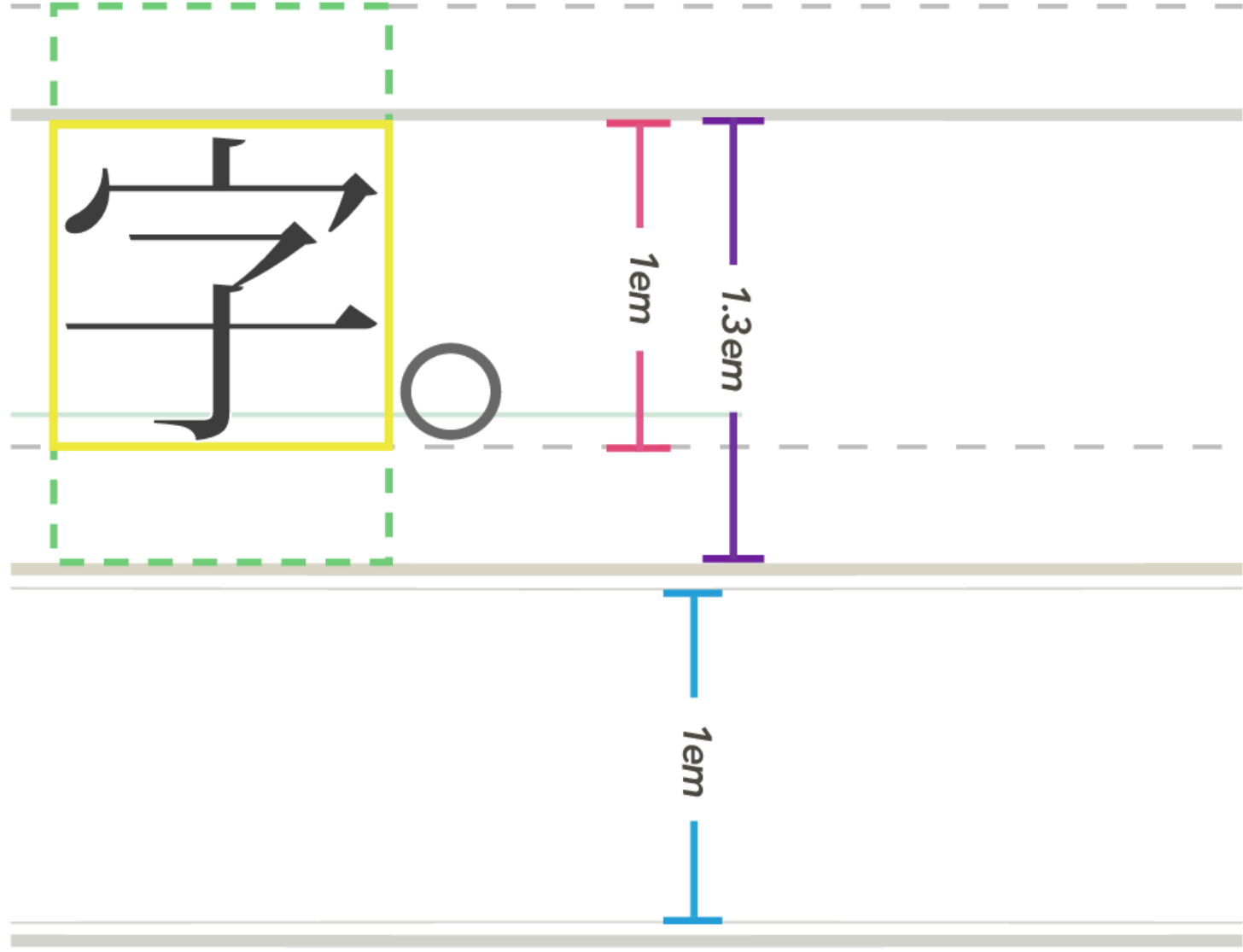
這是棟座落於日本東

京都墨田區的電波塔，

當前為「世界第二高」

的人工構造物。

永字八法



隹永的長

親和力

親 和 力



歷代書體

親^{ㄑㄧㄣ} 和^{ㄏㄜˊ} 力^{ㄌㄧˋ} ▶
qīn hé lì



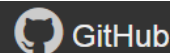
1. 親近和諧的力量。

如：「王先生對待員工一向關懷備至，因此頗具親和力。」

2. 化學上指兩種以上的物質結合時互相作用的力量。

https://codepen.io/JediLin/pen/MBGJXE

⚙ 設定 ⓘ 說明



用《[萌典](https://moedict.tw/)》*半自動*為漢字[#的部分](https://twitter.com/?q=#的部分)來標注發音嗎？

讓媽媽——\
來，安裝窗戶。



≡ 輸入

</> 拷貝輸出代碼

↻ 分享

用《萌典》半自動為漢字#的部分來標注發音嗎？▶

讓媽媽——

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以及 <https://az.hanzi.co/>

總結

無障礙網頁技術： 依照網頁標準使用 HTML 及 CSS