Using CSS Grid Today

Scott Gruber
Los Angeles, November 2018

History of Web Layouts

- Table
- Floats
- Flexbox
- CSS Grid

CSS Grid Layout shipped in
production browsers 2017.

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

Global 84.16% + 3.09% = 87.25%

unprefixed: 84.16%

Current aligned | Usage relative | Date relative | Show all

IE	Edge *	Firefox	Chrome	Safari	iOS Safari *	Opera Mini *	Chrome for Android	UC Browser for Android	Samsung Internet
			1 49						
			63						
			67		10.3				
		61	68		11.2				4
2 11	17	62	69	11.1	11.4	all	67	11.8	7.2
	18	63	70	12	12				
		64	71	TP					
			72						

CSS Grid Layout brings a two-dimensional grid system to the Web.

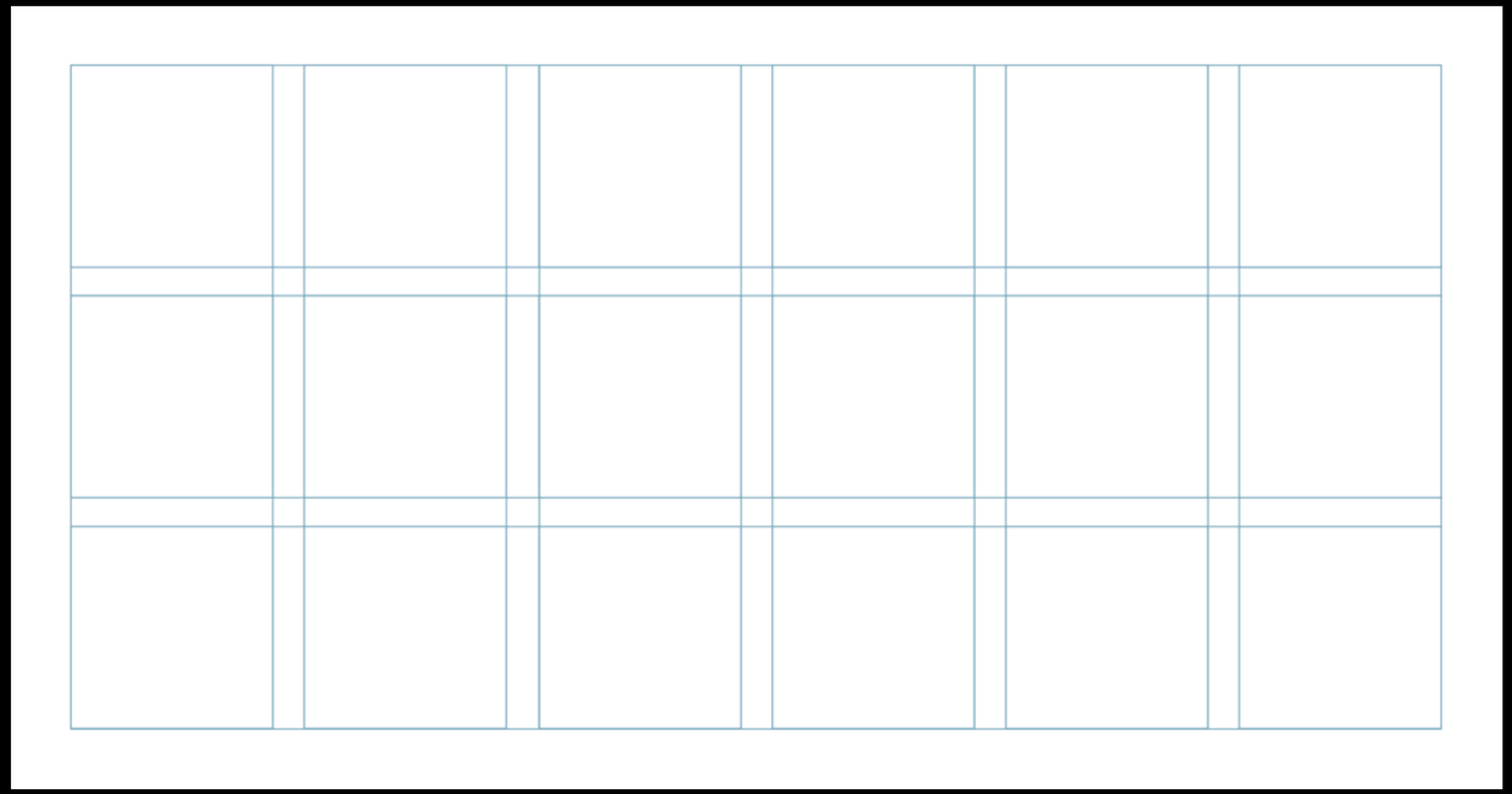
Overview

- Grid terminology
- Grid display
- Creating the grid template
- Naming grid areas
- Placing grid items
- Implicit grid behavior
- Grid spacing and alignment

“A grid is an intersecting set of horizontal and vertical lines”

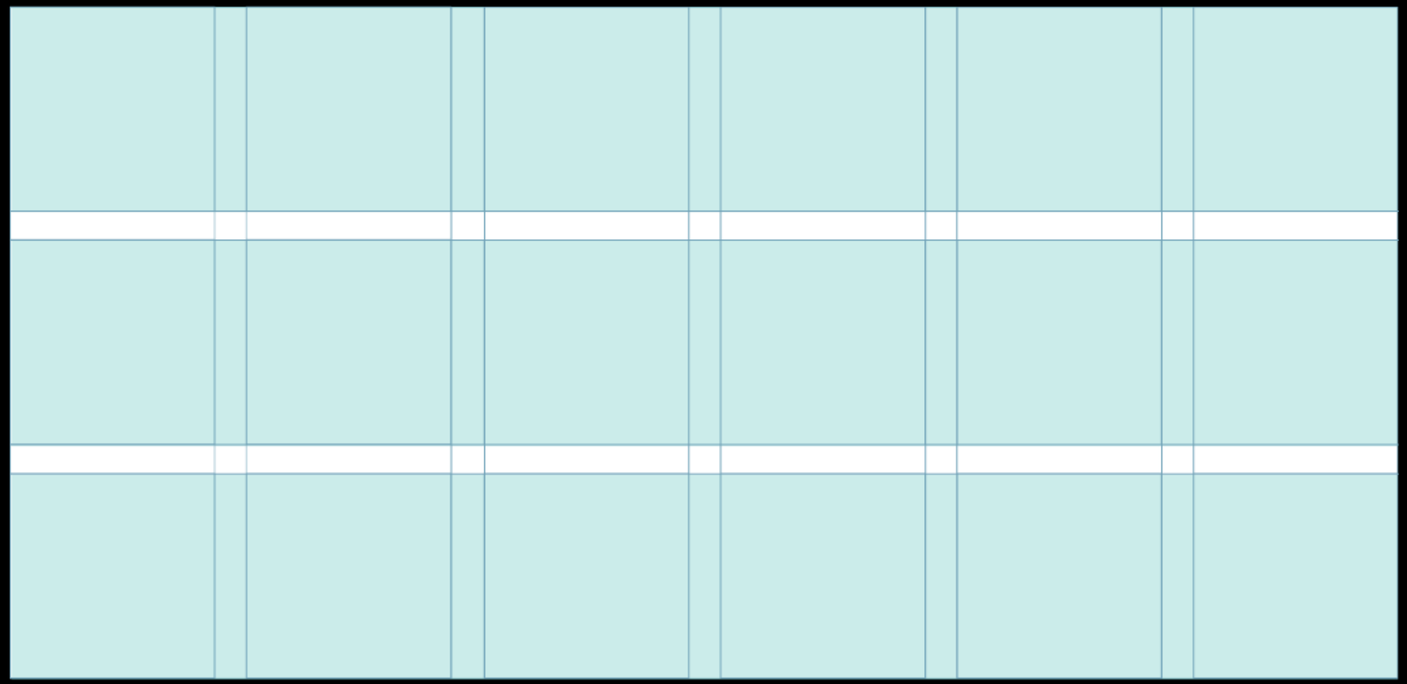
Grid

display: grid;



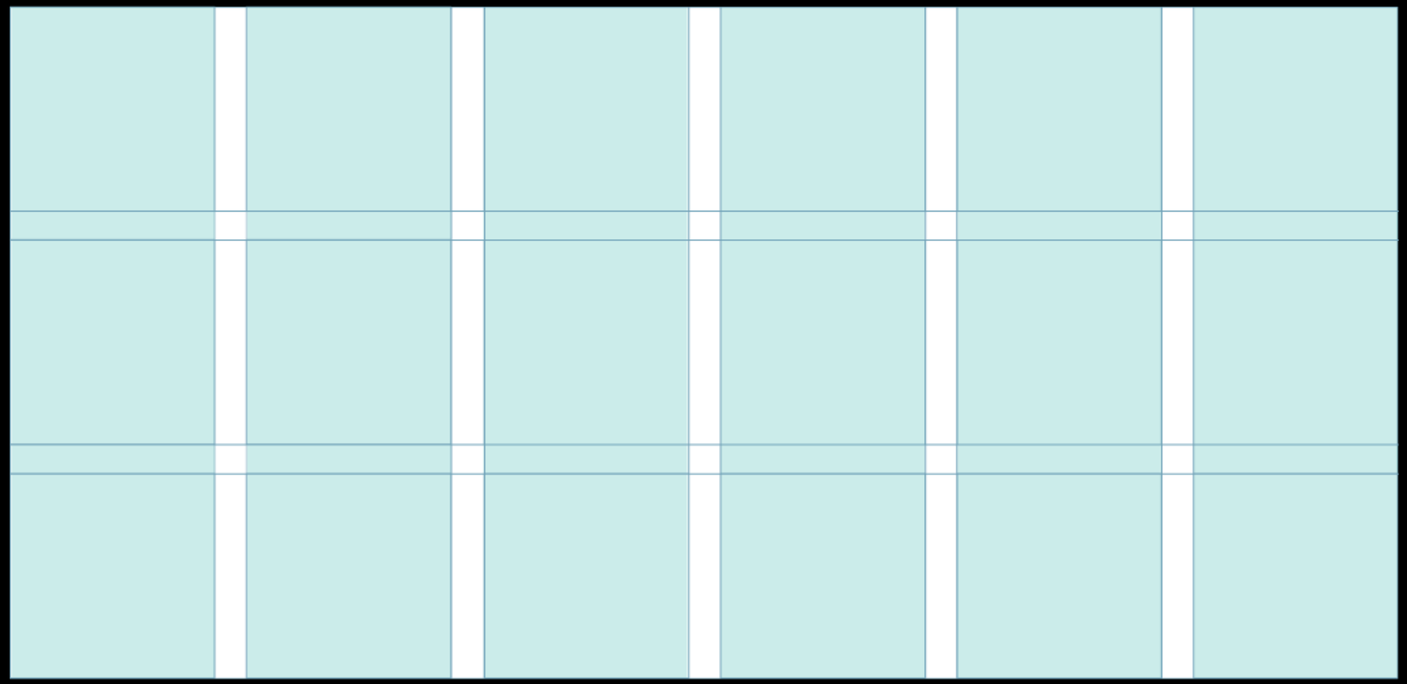
Grid Rows

grid-template-rows
grid-row



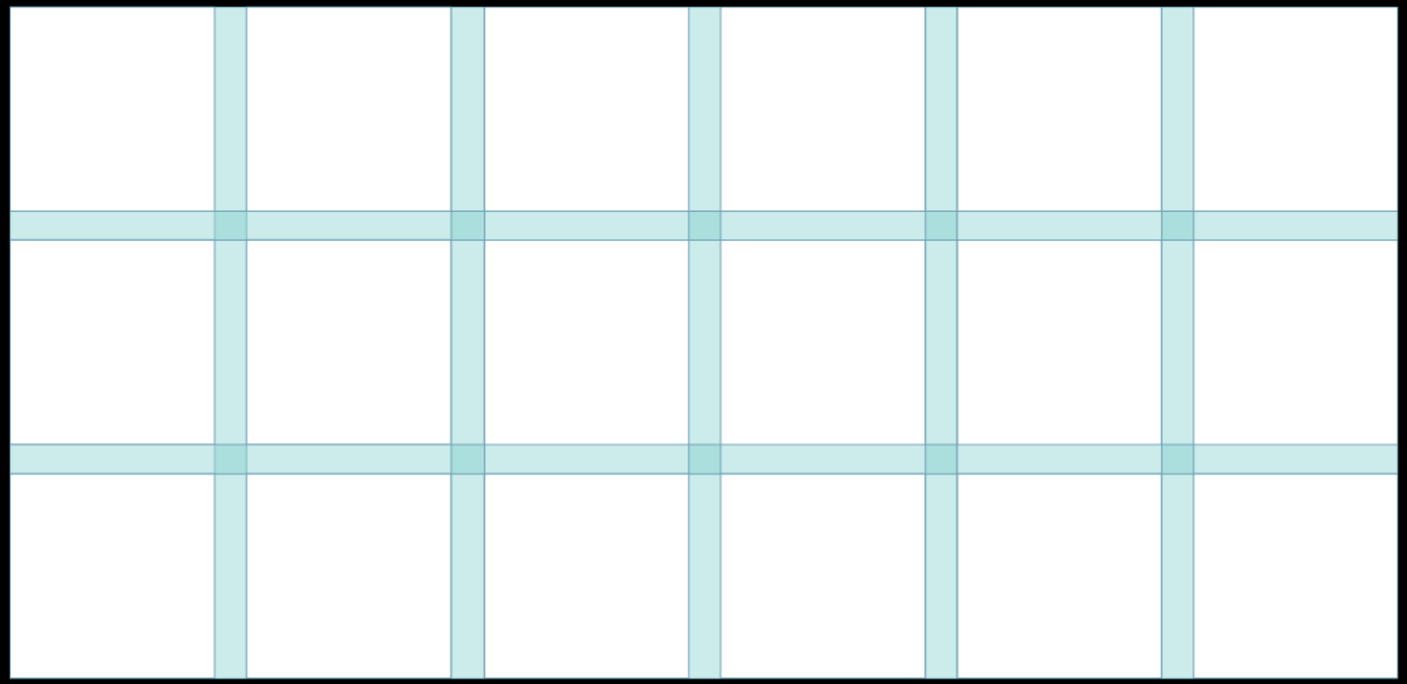
Grid Columns

grid-template-columns
grid-column



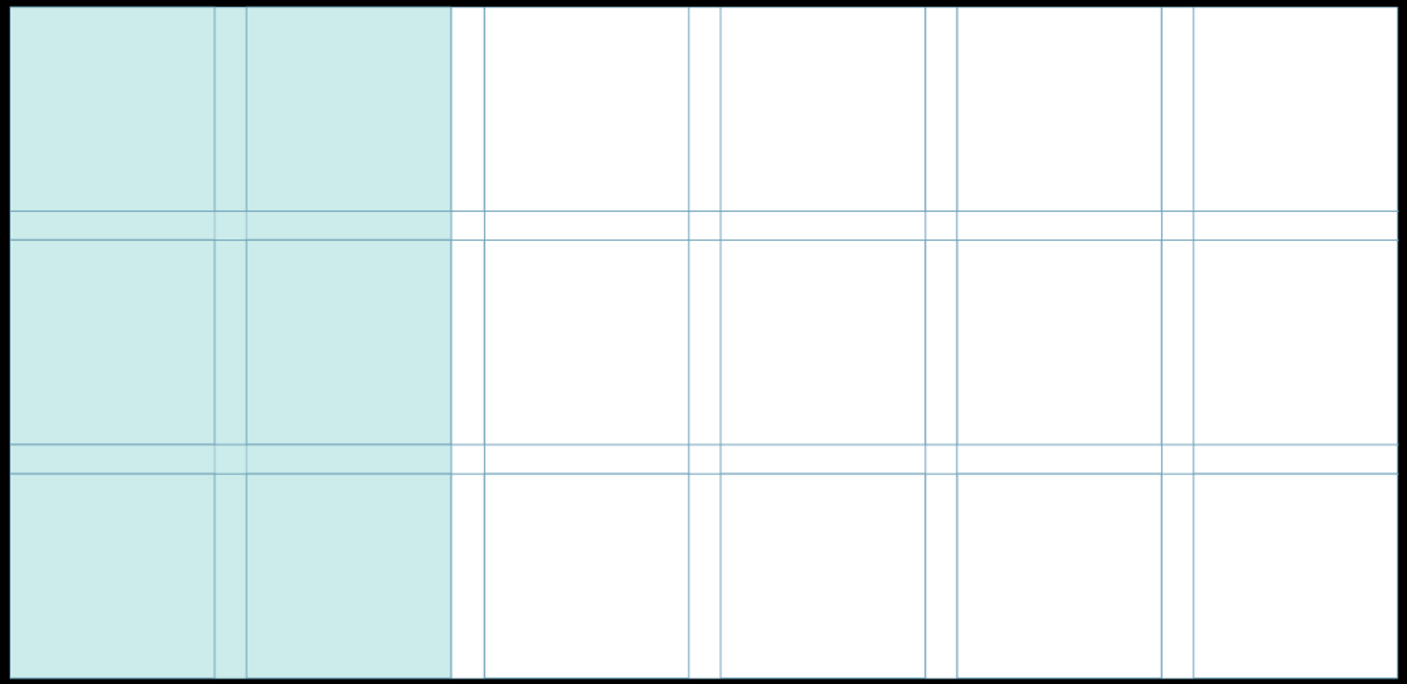
Grid Gap

grid-gap

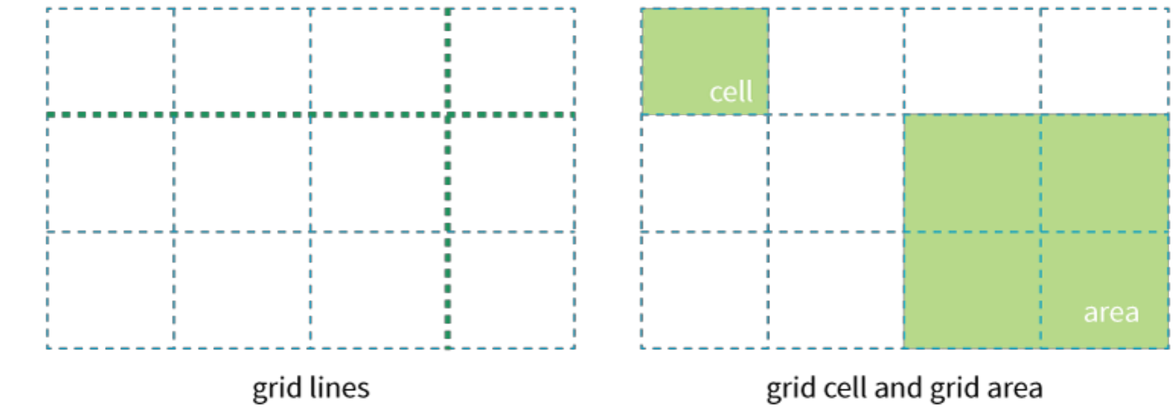


Grid Area

grid-template-areas
grid-area



Grid Terminology



grid lines

grid cell and grid area

grid track (column)

grid track (row)

Creating a Grid Container

To make an element a **grid container**, set its **`display`** property to **grid**.

All of its children automatically become **grid items**.

The markup

```
<div id="layout">
  <div id="one">One</div>
  <div id="two">Two</div>
  <div id="three">Three</div>
  <div id="four">Four</div>
  <div id="five">Five</div>
</div>
```

The styles

```
#layout {
  display: grid;
}
```

Defining Row and Column Tracks

`grid-template-rows`
`grid-template-columns`

- The value of **`grid-tempate-rows`** is a list of the *heights* of each row track in the grid.
- The value of **`grid-template-columns`** is a list of the *widths* of each column track in the grid.

```
#layout {
  display: grid;
  grid-template-rows: 100px 400px 100px;
  grid-template-columns: 200px 500px 200px;
}
```

- The number of sizes provided determines the number of rows/ columns in the grid. This grid in the example above has 3 rows and 3 columns.

Track Size Values

The CSS Grid spec provides a *lot* of ways to specify the width and height of a track. Some of these ways allow tracks to adapt to available space and/or to the content they contain:

- Lengths (such as `px` or `em`)
- Percentage values (%)
- Fractional units (`fr`)
- `minmax()`
- `min-content`, `max-content`
- `auto`
- `fit-content()`

Giving Names to Grid Areas

`grid-template-areas`

- **`grid-template-areas`** lets you assign names to areas in the grid to make it easier to place items in that area later.

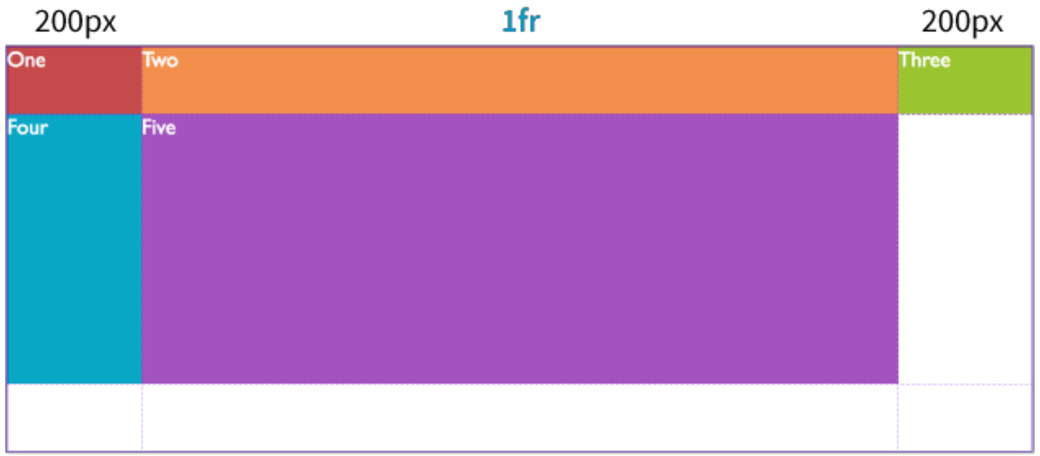
- The value is a list of names for every cell in the grid, listed by row.

- When neighboring cells share a name, they form a grid area with that name.

Fractional Units (fr)

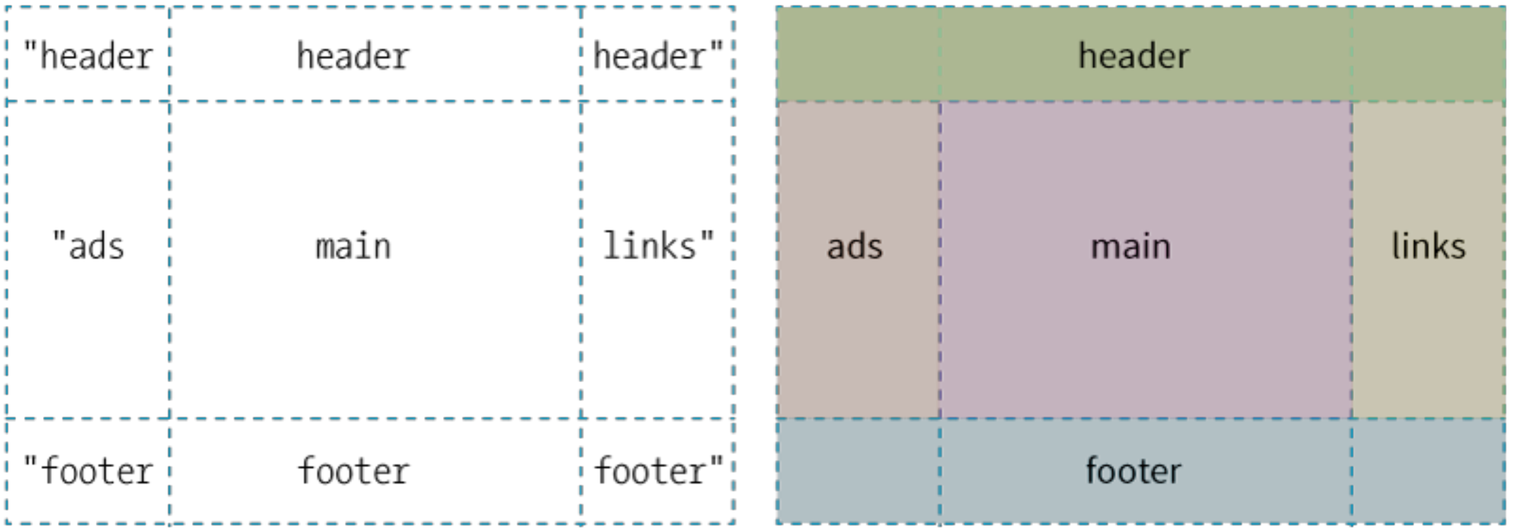
The Grid-specific fractional unit (**`fr`**) expands and contracts based on available space:

```
#layout {
  display: grid;
  grid-template-rows: 100px 400px 100px;
  grid-template-columns: 200px 1fr 200px;
}
```



Giving Names to Grid Areas (cont'd)

```
#layout {
  display: grid;
  grid-template-rows: [header-start] 100px [content-start] 400px [footer-
start] 100px;
  grid-template-columns: [ads] 200px [main] 1fr [links] 200px;
  grid-template-areas:
    "header  header  header"
    "ads     main    links"
    "footer  footer  footer"
}
```



Header
Home
About
People
News
Contact
Aside
Article
Content for my article would go here.
Section
Footer

Simple Page

HTML

```
<div class="grid">
 <header>Header</header>
 <nav>
  <ul>
  <li><a href="">Home</a></li>
  </ul>
 </nav>
 <article>
  <h1>Article</h1>
  <p>Content for my article would go here.</p>
 </article>
 <aside>Aside</aside>
 <section>Section</section>
 <footer>Footer</footer>
</div>
```

Header
Home
About
People
News
Contact
Aside
Article
Content for my article would go here.
Section
Footer

Simple Page

Placing items on a Grid

```
.grid {
  display: grid;
  grid-gap: 10px;
  grid-template-areas:
    "header"
    "nav"
    "article"
    "aside"
    "section"
    "footer";
}
```

```
header {
  grid-area: header;
}
nav {
  grid-area: nav;
}
article {
  grid-area: article;
}
aside {
  grid-area: aside;
}

footer {
  grid-area: footer;
}
```

Repeating Track Sizes

The shortcut **`repeat()`** function lets you repeat patterns in track sizes:

`repeat(#, track pattern)`

The first number is the number of repetitions. The track sizes after the comma provide the pattern:

BEFORE:

```
grid-template-columns: 200px 20px 1fr 20px 1fr 20px 1fr 20px
1fr 20px 1fr 20px 1fr 200px;
```

AFTER:

```
grid-template-columns: 200px repeat(5, 20px 1fr) 200px;
```

(Here **`repeat()`** is used in a longer sequence of track sizes. It repeats the track sizes **`20px 1fr`** 5 times.)

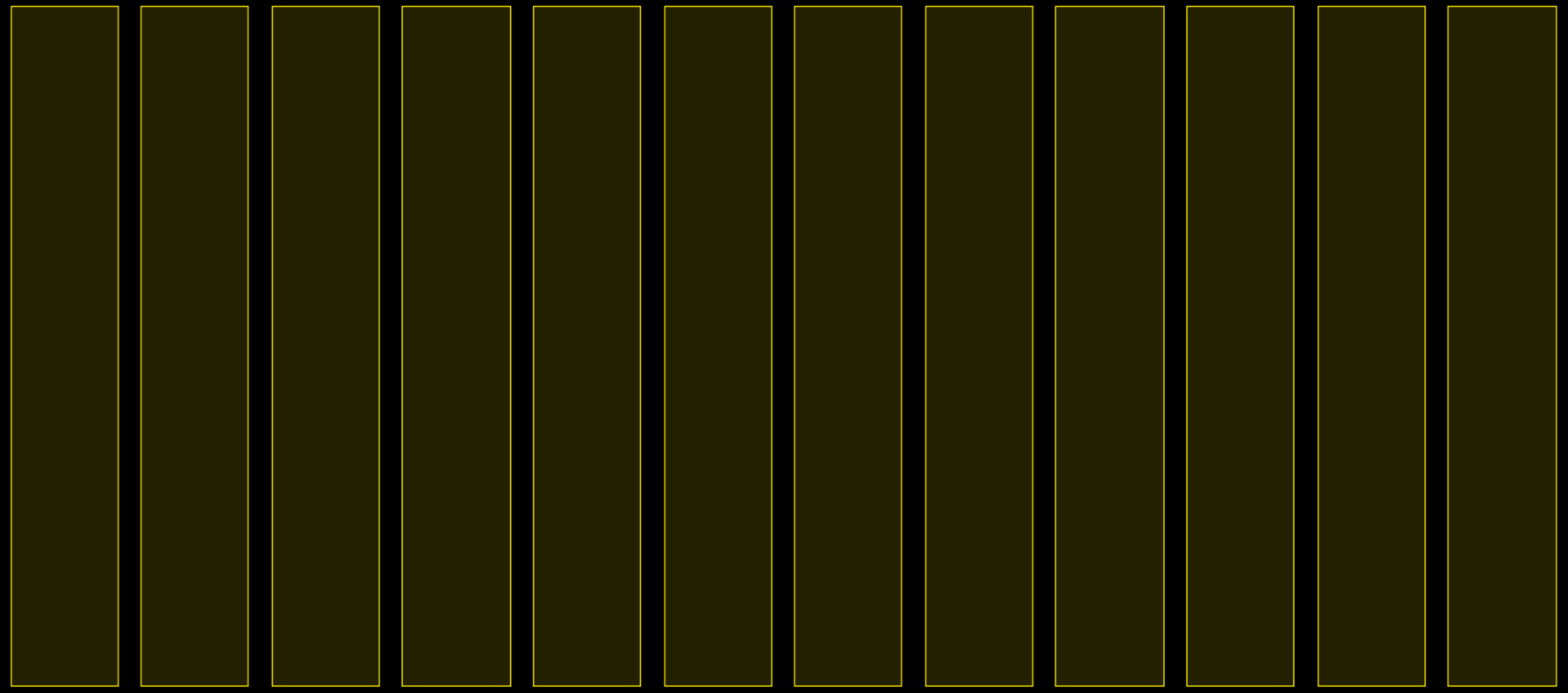
Feature Queries

The @supports CSS at-rule lets you specify declarations that depend on a browser's support for one or more specific CSS features.

This is called a feature query.

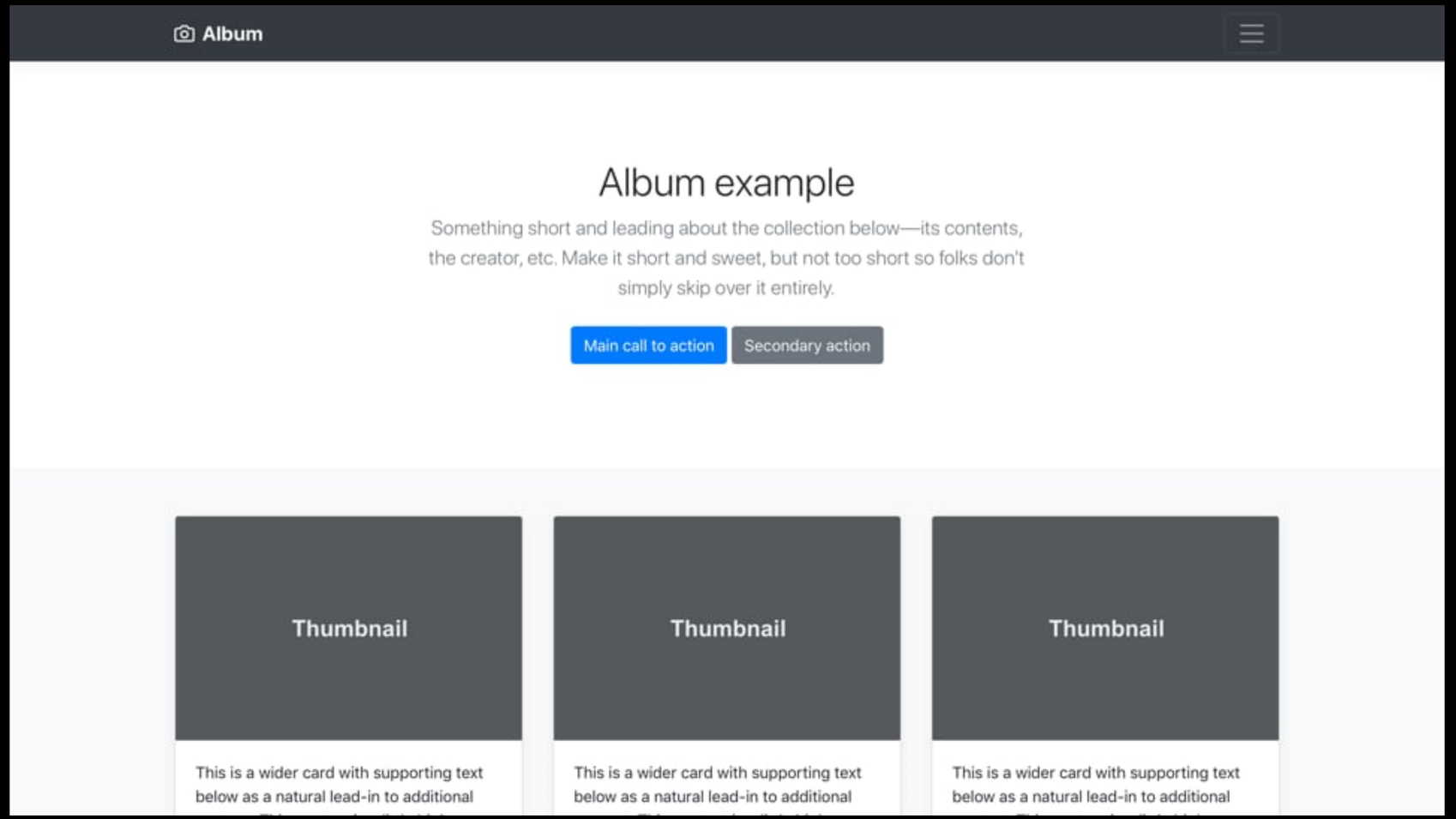
Feature Queries

```
@supports (display: grid) {
    display: grid;
    grid-gap: 1em;
    grid-template-columns: repeat(auto-fit, minmax(300px, 1fr));
}
```



ansarada (5) - 12 · 1024px width · 12 columns · 1.5% gutter

Bootstrap 12 column grid



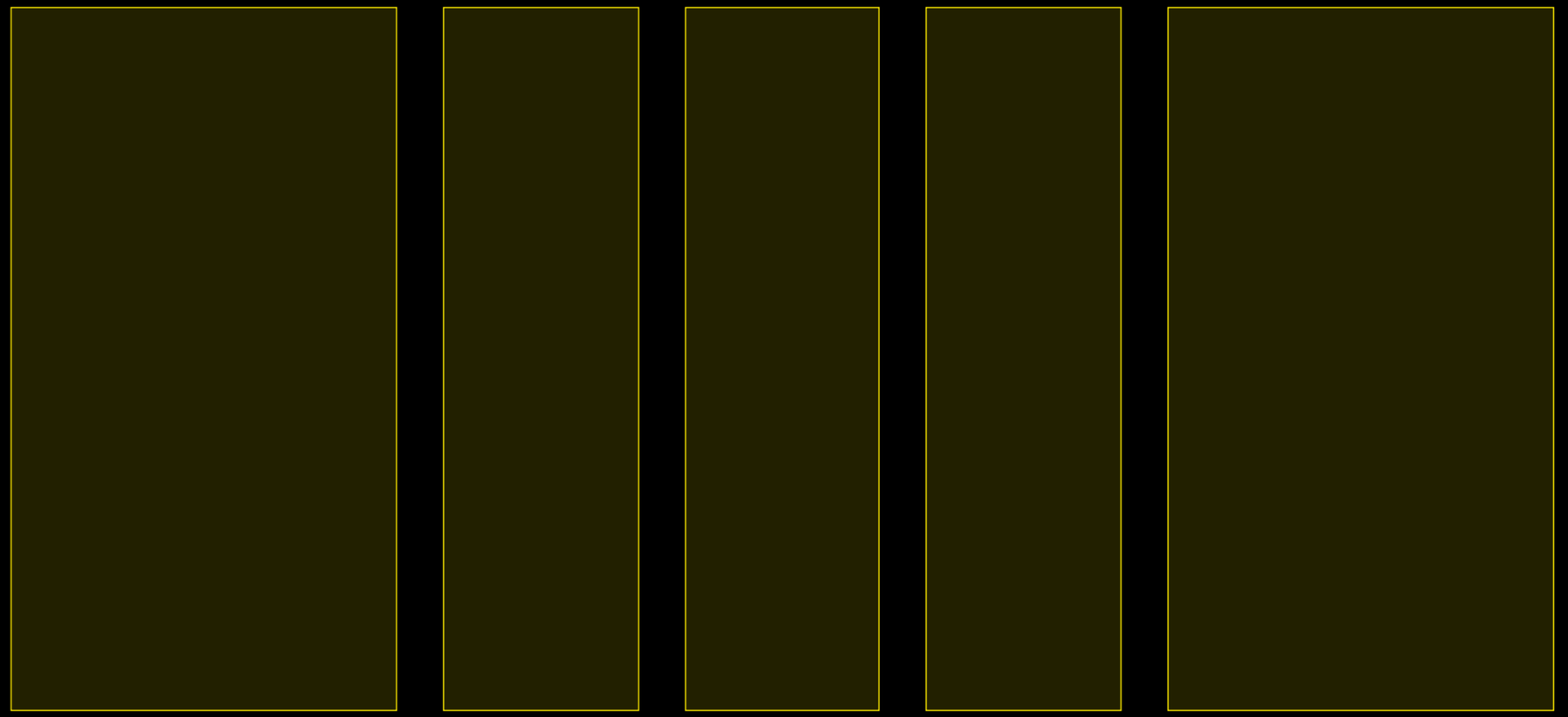
Bootstrap 12 column grid

"Grid lets us move away from bootstrap 12 column grids"

“Grids can help you create
magazine layouts on the web”

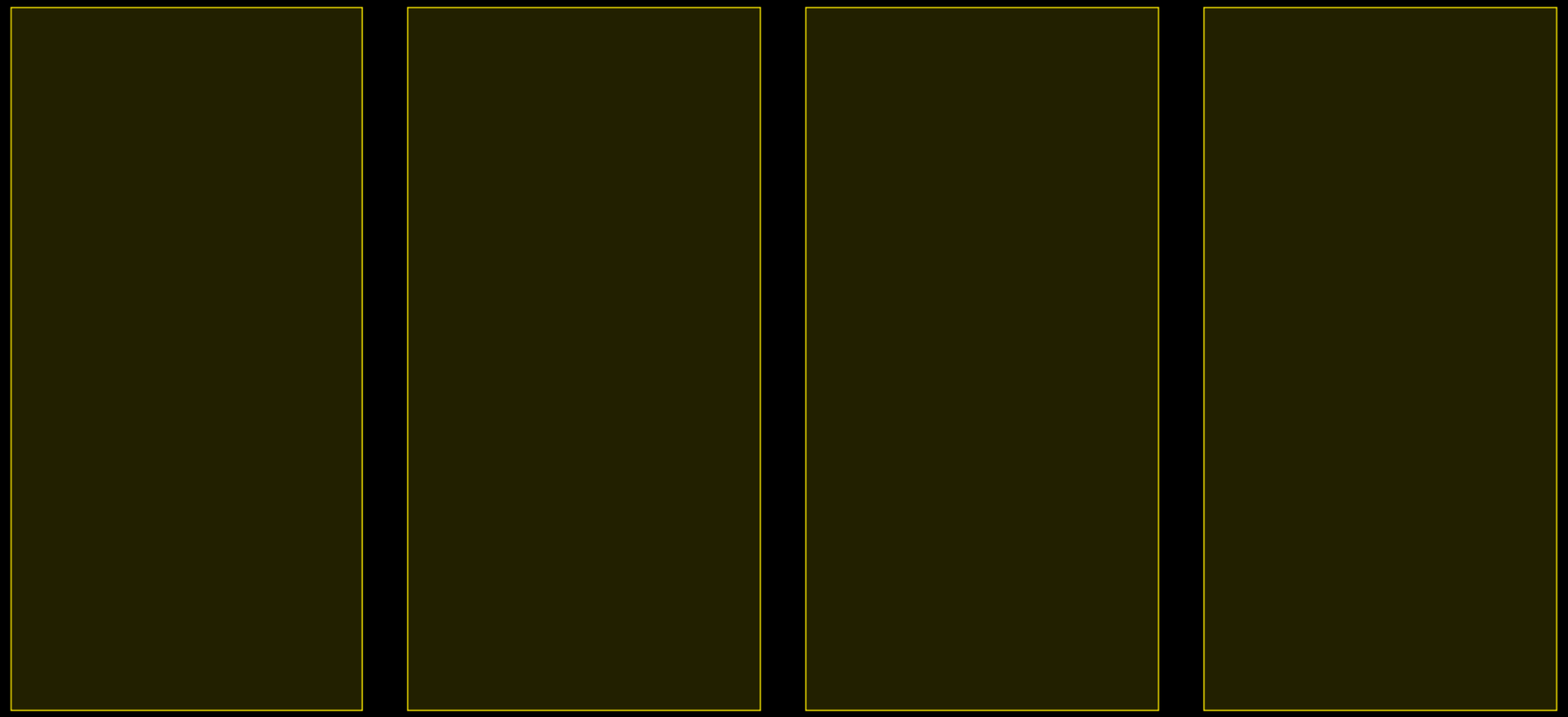
“Don’t just choose a grid. Design it!”

–Nathan Ford
founder of Gridset



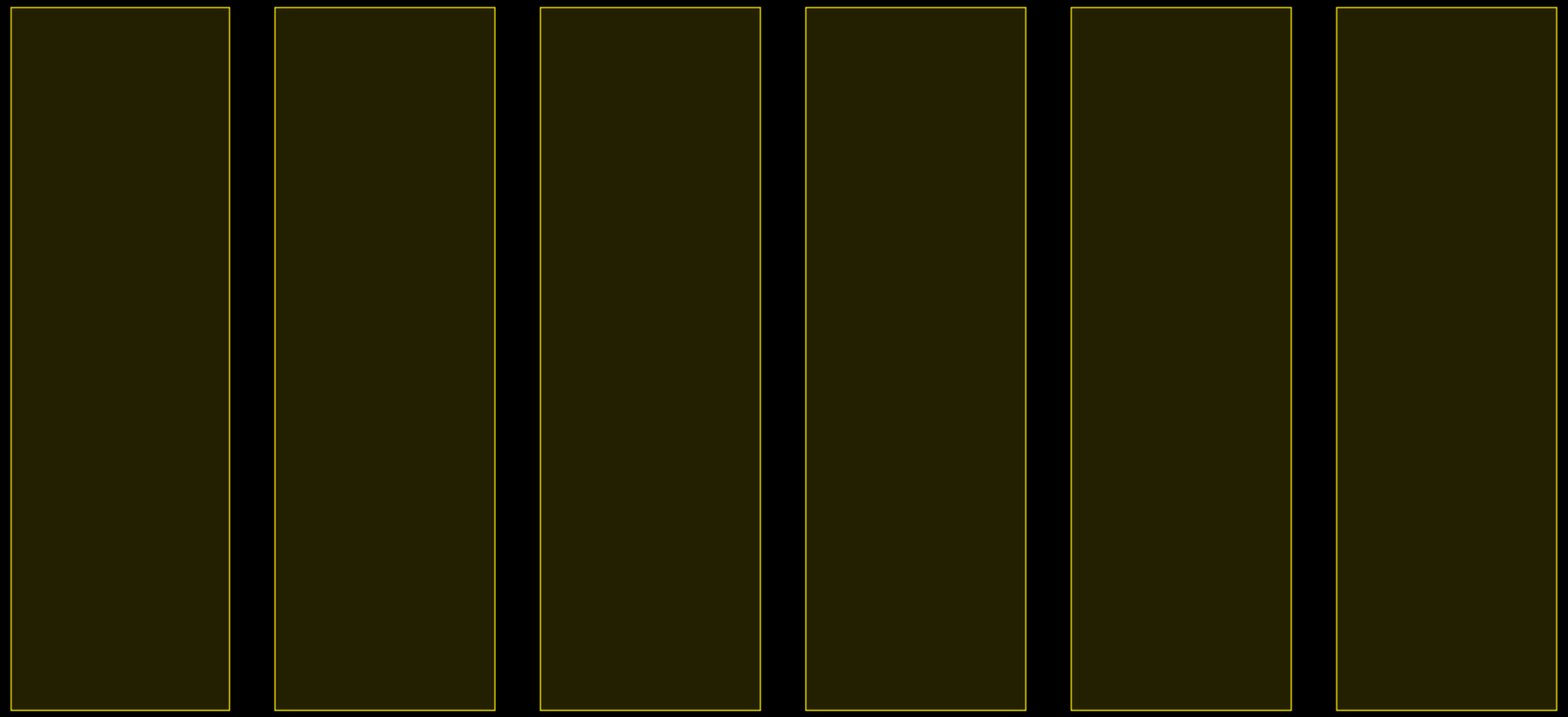
F - Desktop · 990px width · 5 columns · 3.0303% gutter

“The Fonmon”



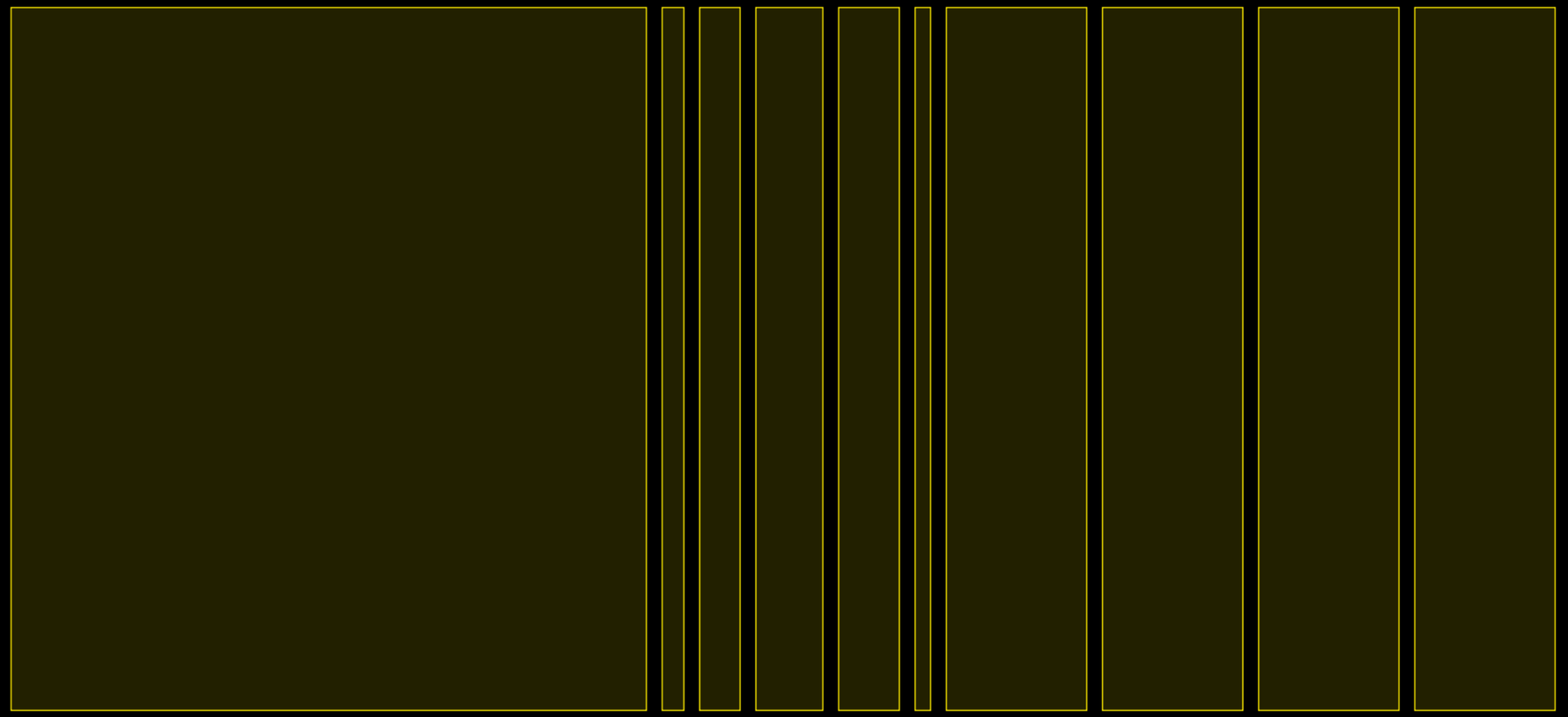
C - Desktop B · 990px width · 4 columns · 3.0303% gutter

“The Gertsner”



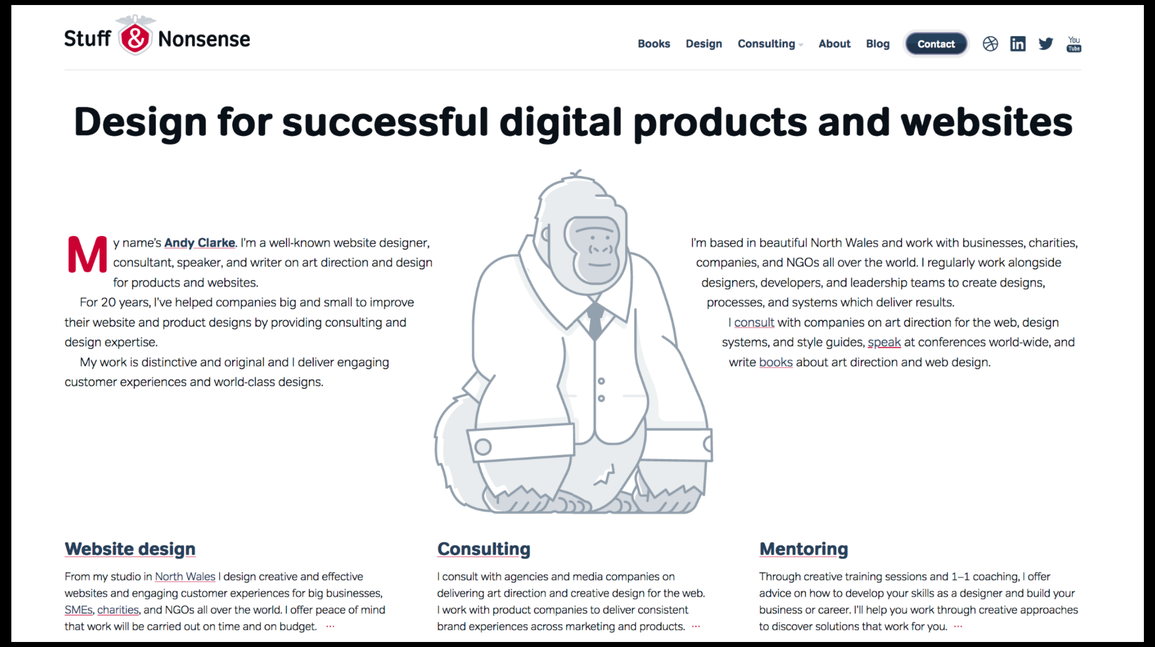
C - Desktop A · 990px width · 6 columns · 3.0303% gutter

“The Gertsner”



D - Desktop · 990px width · 10 columns · 1.0101% gutter

“The Carson”



Andy Clarke, Head of Creative at Stuff and Nonsense. Design consultant and mentor.
Author of "Art Direction for the Web"
@malarkey
https://stuffandnonsense.co.uk

“Art direction and design helps your audience feel something”

Cool CSS to explore in 2019

- **Layout - CSS Grid and Flexbox**
- **Multi-column layout**
- **Floats as originally designed.**
- **CSS Shapes, Transforms and Animations**
- **Feature queries**

Hatton Garden (Un)Safe Deposit Company

How four old-school London villains pulled off the biggest heist in British history and drove away with £200 million in stolen jewellery from safety deposit boxes.

IN APRIL 2015, the Hatton Garden Safe Deposit Company, an underground safe deposit facility in London's Hatton Garden area, was burgled. The total stolen may have a value of up to £200 million, and the incident has been called the "largest burglary in English legal history." The heist was planned and carried out by four elderly men who were experienced thieves, all of whom pleaded guilty and received prison sentences in March 2016. Four men were also tried on suspicion of involvement; three were found guilty and sent to prison, while the fourth was cleared.

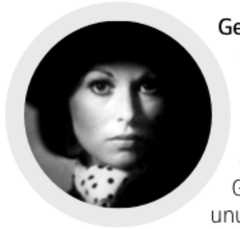
Hatton Garden (Un)Safe Deposit Company

How four old-school London villains pulled off the biggest heist in British history and drove away with £200 million in stolen jewellery from safety deposit boxes.

IN APRIL 2015, the Hatton Garden Safe Deposit Company, an underground safe deposit facility in London's Hatton Garden area, was burgled. The total stolen may have a value of up to £200 million, and the incident has been called the "largest burglary in English legal history." The heist was planned and carried out by four elderly men who were experienced thieves, all of whom pleaded guilty and received prison sentences in March 2016. Four men were also tried on suspicion of involvement; three were found guilty and sent to prison, while the fourth was cleared.

Getaway driver

> I was driving on sidewalks, down alleys. I ducked into one alley, and then we saw the cops go by… It was intense. It was very intense. I got in pretty deep



Georgia Durante's life has taken some unexpected turns. She was a photographic model for Kodak, a "Kodak Girl"—who went on to work as a stunt driver. She was the stunt double for Cindy Crawford in a commercial for Pepsi. Going from modelling to television isn't unusual, but what Hollywood film crews didn't know was that in between, Durante's driving skills were honed during a career as a driver.

In her teens mobsters such as Carlos Gambino, and Sammy Giancana, took Durante under their wing. Durante's driving story began in New York City. She says she never knew exactly what went down at the after-hours club, but the intrigue drew her into the mafia's underworld. She said:

"I'm there and 5 feet away from me, this guy pulls out a gun and shoots the guy next to him. Everybody scattered, the guy fell to the floor."

Suddenly, the owner of Sundowners threw Durante a set of car keys. They put the man in the back of the car and Durante found herself in the driver's seat. They dropped the man off at the hospital, and Durante sped away.

"I was driving on sidewalks, down alleys. I ducked into one alley, and then we saw the cops go by… It was intense. It was intense. I got in pretty deep."

That incident earned her a reputation. She started off picking up and delivering packages to locations around the city. Then they moved her up to what were called "pickups." But when a mob war broke out, Durante knew she had to leave that lifestyle.

She wanted to take her daughter away from their abusive household, but she could never escape her husband. Then one day, she grabbed her daughter, got in the car and started driving. They ended up in Los Angeles; Durante arrived with only $7 in her wallet. She and her daughter lived out of their car and stole food from convenience stores. She desperately needed a job, but she had to lay low. And the only work experience she had came from modelling and driving cars.

Then it hit her: Every time she turned on the TV at her friend's house, she would see a car commercial. For someone on the run, it was perfect. At first, everyone ignored her. But Durante kept showing up.

"Finally, they said, 'All right, we'll see what you can do.' And that was my big break," she says. "Before I knew it, I was turning down work. I was only one person. I couldn't do it all."

"If I would've taken no for an answer, who knows where I'd be now."

ART DIRECTION FOR THE WEB BY ANDY CLARKE

Getaway Driver

I WAS DRIVING ON
SIDEWALKS, DOWN ALLEYS
I DUCKED INTO ONE ALLEY,
AND THEN WE SAW
THE COPS GO BY...
IT WAS INTENSE.
IT WAS VERY INTENSE.
I GOT IN PRETTY DEEP

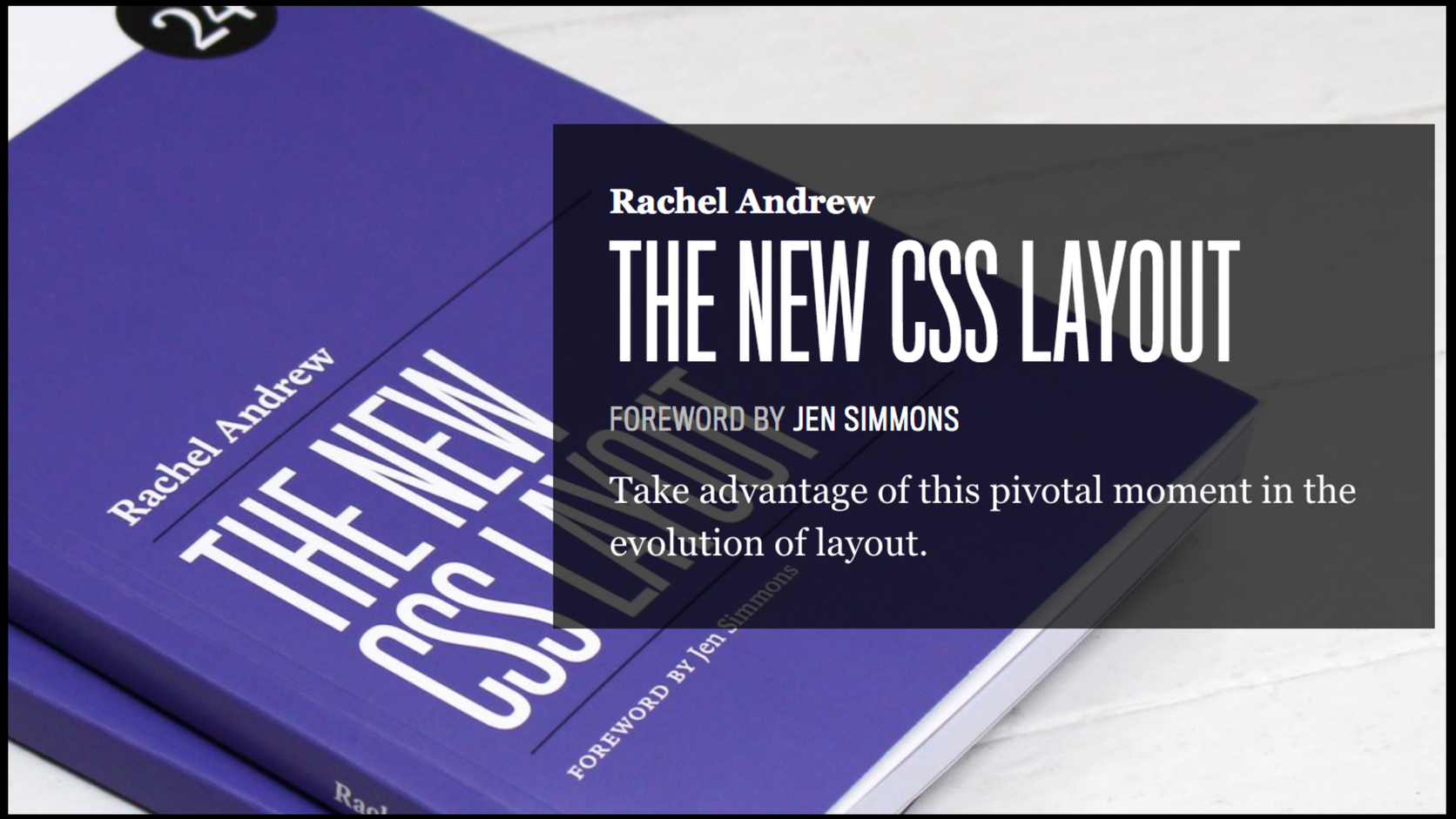
GEORGIA DURANTE'S LIFE has taken some unexpected turns. She was a photographic model for Kodak a "Kodak Girl"—who went on to work as a stunt driver. She was the stunt double for Cindy Crawford in a commercial for Pepsi. Going from modelling to television isn't unusual, but what Hollywood film crews didn't know was that in between, Durante's driving skills were honed during a career as a getaway driver.

In her late teens legendary mobsters such as Carlos Gambino, and Sammy Giancana, took Durante under their wing. Durante's driving story began in New York City at a mafia-run club called Sundowners. She says she never knew exactly what went down at the after-hours club, but the intrigue drew her into the underworld. She said:

"I'm there and 5 feet away from me, this guy pulls out a gun and shoots the guy. Everybody scattered, the guy fell to the floor."

That incident earned her a reputation. She started off picking up and delivering packages to locations around the city. Then they moved her up to what were called "pickups." But when a mob war broke out, Durante knew she had to leave that lifestyle. She wanted to take her daughter away from their abusive household, but she could never escape her husband.

ART DIRECTION FOR THE WEB BY ANDY CLARKE


Rachel Andrew
THE NEW CSS LAYOUT
FOREWORD BY Jen Simmons
Rachel Andrew
THE NEW CSS LAYOUT
FOREWORD BY JEN SIMMONS
Take advantage of this pivotal moment in the evolution of layout.

Rachel Andrew

@rachelandrew
https://rachelandrew.co.uk

Photo by Drew McLellan

Jen Simmons

Designer Advocate at Mozilla.
@jensimmons
https://www.layout.land

“If I can leave you with any advice, it is to make room for time to play with new things.”

Thank you.

https://speaking.scottgruber.me

@scott_gruber