Code Fellows

CSS GRID

Modern layout for the modern web

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OVERVIEW

What CSS Grid Layout is, and what it does

“CSS Grid Layout is the most powerful layout system available in CSS. It is a 2-dimensional system, meaning it can handle both columns and rows, unlike flexbox which is largely a 1-dimensional system. You work with Grid Layout by applying CSS rules both to a parent element (which becomes the Grid Container) and to that elements children (which become Grid Items).”

https://css-tricks.com/snippets/css/complete-guide-grid/

OVERVIEW

What CSS Grid Layout is, and what it does

- Since CSS Grid Layout is built on the concept of a parent element upon which a `display: grid` property is set, and then the children of that element are positioned with `grid-xxxxx: value` properties, it has similarities to CSS Flex Layout in terms of how we conceptualize the layout scheme.

- Creating an effective grid-based layout is at its most successful when the developer is working to realize a pre-designed wireframe. Trial-and-error is not a useful approach.

- CSS Grid Layout (MDN docs) was not supported by major browsers (Chrome, Firefox, Safari) until March 2017. It is a relatively new technology.

HOW DID WE GET HERE?

How have we managed page layout prior to CSS Grid Layout?

- An important part of learning a new tool is having an understanding of the problem that the tool solves.

- The knowledge provides insight into how the tool was designed, and thereby makes working with the tool more intuitive.

- So, we need to have a brief history lesson about page layout on the web to truly understand why CSS Grid Layout came about, the problems that it solves, and thus how it is intended to be used.

- Let’s jump in our DeLorean with Doc Brown and go back in time!

HOW DID WE GET HERE?

How have we managed page layout prior to CSS Grid Layout?

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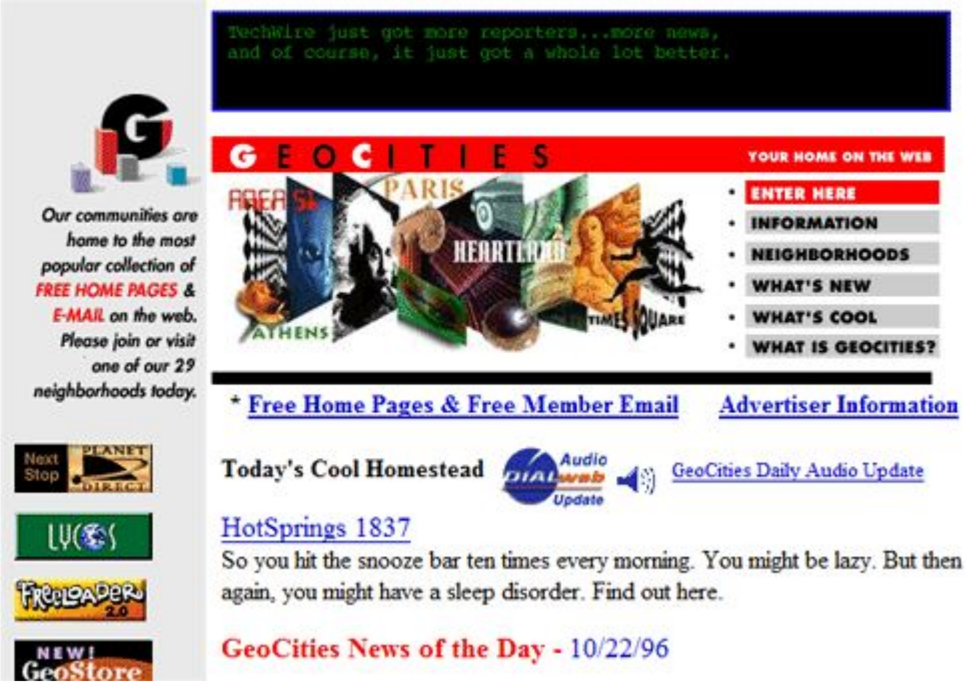
HOW DID WE GET HERE?

How have we managed page layout prior to CSS Grid Layout?

1996

- The dark ages of table-based layouts
- At that time, the best way to put blocks of content on a web page was to enclose the content in tables
- Use of `<iframe>` elements was common for sidebars



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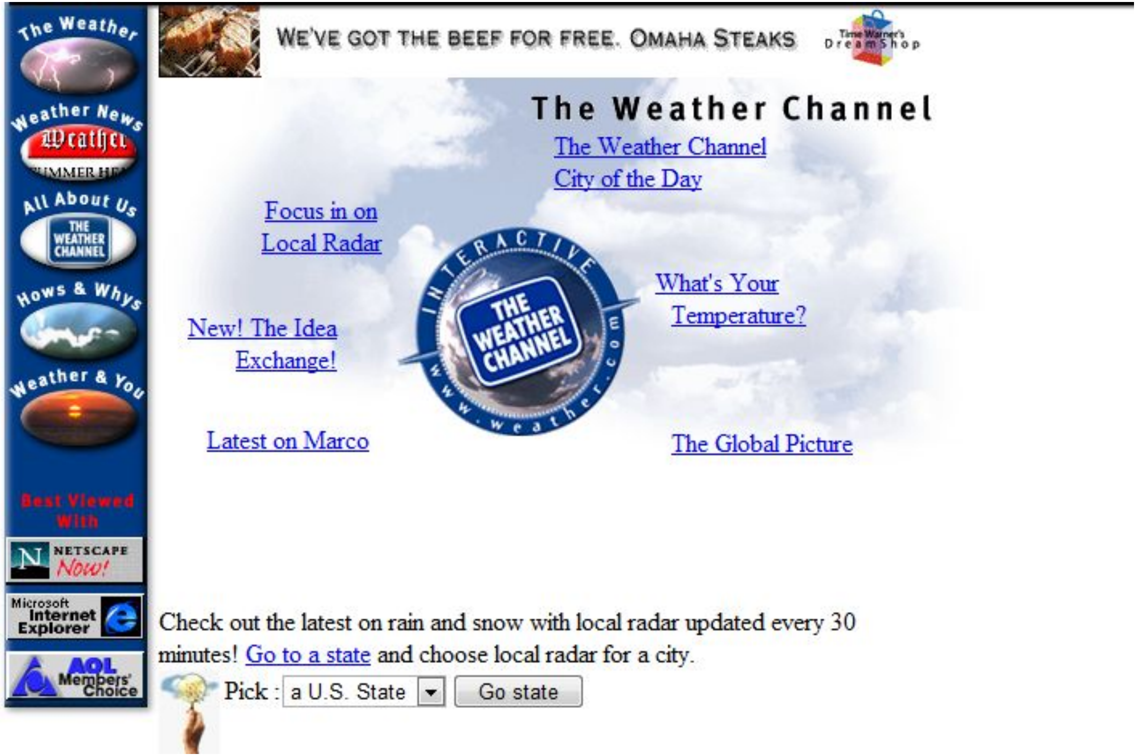
HOW DID WE GET HERE?

How have we managed page layout prior to CSS Grid Layout?

Another example from that awful time…



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HOW DID WE GET HERE?

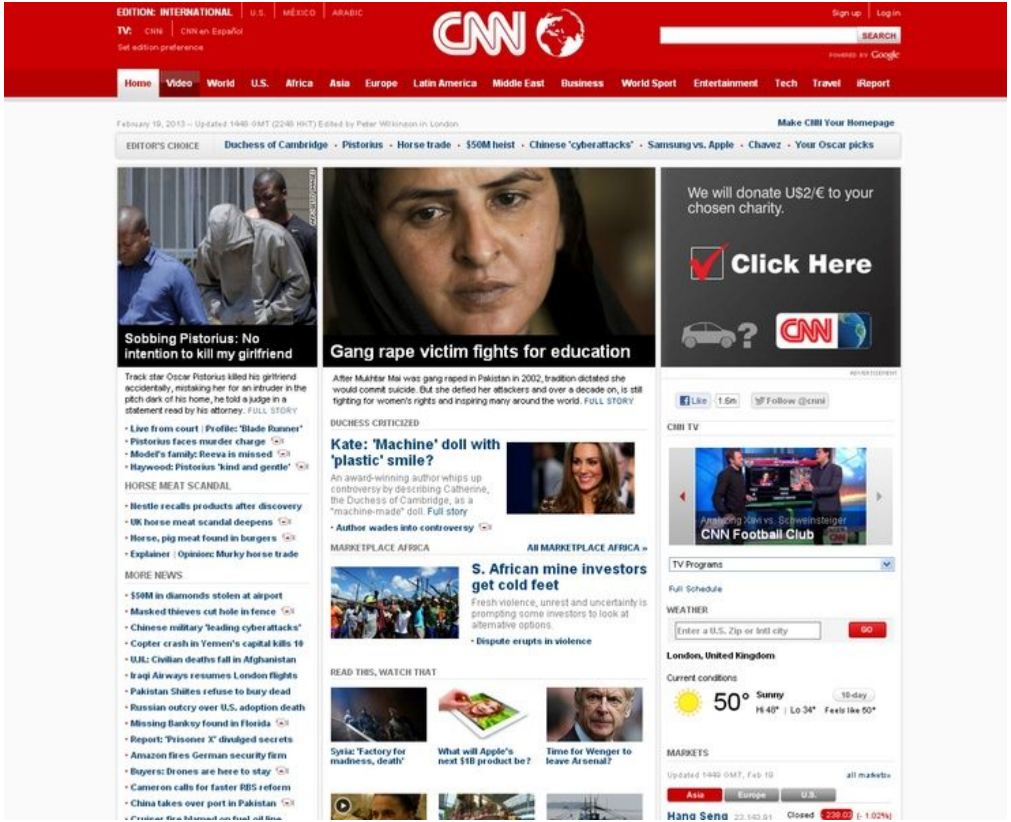
How have we managed page layout prior to CSS Grid Layout?

2002

- Center columns of content because of varied display sizes

- More images on the screen

- Within columns, some common horizontal delineations of content… almost like ***rows***



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Sobbing Pistorius: No intention to kill my girlfriend

Track star Oscar Pistorius killed his girlfriend accidentally, mistaking her for an intruder in the pitch dark of his home, he told a judge in a statement read by his attorney. FULL STORY

- Live from court | Profile: 'Blade Runner'
- Pistorius faces murder charge
- Model's family: Reeva is missed
- Haywood: Pistorius 'kind and gentle'

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- UK horse meat scandal deepens
- Horse, pig meat found in burgers
- Explainer | Opinion: Murky horse trade

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Gang rape victim fights for education

After Mukhtar Mai was gang raped in Pakistan in 2002, tradition dictated she would commit suicide. But she defied her attackers and over a decade on, is still fighting for women's rights and inspiring many around the world. FULL STORY

DUCHESS CRITICIZED

Kate: 'Machine' doll with 'plastic' smile?

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- Author wades into controversy

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HOW DID WE GET HERE?

How have we managed page layout prior to CSS Grid Layout?

2007

- Release of the iPhone changed everything
- Concepts in web layout were transformed: ***responsive*** became a primary concern
- Content was released from constraints of columns… and note the grid of icons

HOW DID WE GET HERE?

How have we managed page layout prior to CSS Grid Layout?

And here we are now...

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HOW DID WE GET HERE?

How have we managed page layout prior to CSS Grid Layout?

- With phones and tablets, screen real estate is at a premium.
- But… content needs to be spaced out on the screen enough for users to be able to use their fingertips interact with the elements.
- Because of this, utilizing the edges and boundaries of the screens on handheld devices became increasingly important
- The old center-column style of webpage layout simply does not work well on handheld devices.

HOW DID WE GET HERE?

How have we managed page layout prior to CSS Grid Layout?

- Designers for the past decade designers have been incorporating these features into designs for desktop and laptop displays.

- This consolidates the design process and leads to more consistent UI for purposes of marketing and branding

- In addition, user experience is enhanced when there is similarity between the varied views offered by handheld, laptop, desktop, TV, and so on

- Developers managed to achieve many of the designers' goals with float-based layout, but overall it was not a great solution

HOW DID WE GET HERE?

How have we managed page layout prior to CSS Grid Layout?

- One solution that emerged were the development of CSS frameworks, such as Bootstrap (released 2011), Foundation(released 2011), Cascade (released 2013), and Skeleton (released 2014).

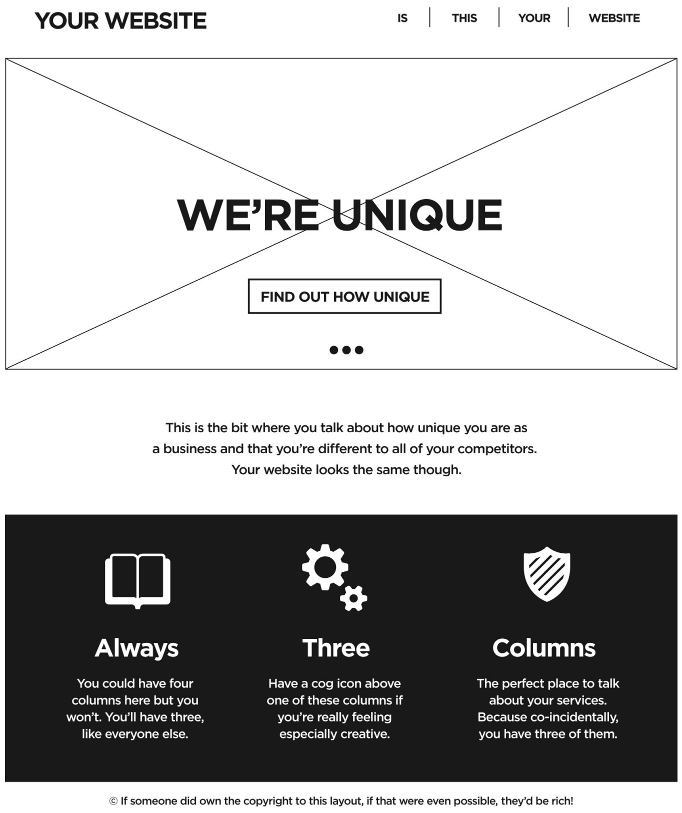
- These frameworks provided a simple plug-and-play solution for a lot of the new challenges of page layout, particularly responsiveness.

- But they came with a cost. Not money, as these frameworks are all open source. Bootstrap, for instance, currently weighs in at 3.2 MB.

- There was one other problem with these frameworks...

HOW DID WE GET HERE?

How have we managed page layout prior to CSS Grid Layout?



YOUR WEBSITE

IS | THIS | YOUR | WEBSITE

WE’RE UNIQUE

FIND OUT HOW UNIQUE

●●●

This is the bit where you talk about how unique you are as
a business and that you’re different to all of your competitors.
Your website looks the same though.

Always

You could have four columns here but you won’t. You’ll have three, like everyone else.

Three

Have a cog icon above one of these columns if you’re really feeling especially creative.

Columns

The perfect place to talk about your services. Because co-incidentally, you have three of them.

© If someone did own the copyright to this layout, if that were even possible, they’d be rich!

HOW DID WE GET HERE?

How have we managed page layout prior to CSS Grid Layout?

- It was clear there was a need for native and lightweight solutions. Work for the CSS Grid Layout spec began in earnest in 2011.Hence, the emergence of CSS Flex Layout and CSS Grid Layout

- CSS Flex Layout makes responsive design very simple.

- CSS Grid Layout provides increased versatility over flex because of how elements can be arranged and overlapped, and how screen space and alignments can be precisely managed.

- Interestingly, it is currently a W3C Candidate Recommendation despite already being adopted by most major browsers.

TERMINOLOGY

The terminology needed to work with CSS Grid Layout

- **Grid container:** The parent element upon which `display: grid` is applied

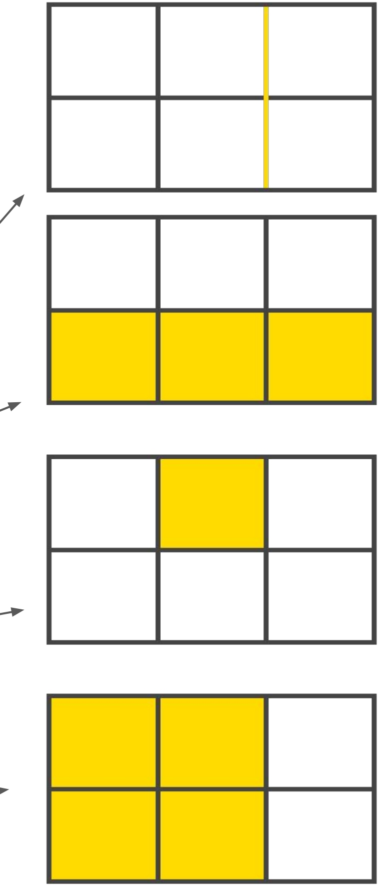
- **Grid item:** The direct children of the grid container that are positioned in the grid

- **Grid line:** The basic grid structure, analogous to borders on cells in tables

- **Grid track:** The interior parts of grid structures; this is where content lives

- **Grid cell:** A single unit of the grid

- **Grid Area:** A section of the grid, typically made up of multiple grid cells



TERMINOLOGY

The terminology needed to work with CSS Grid Layout

Container properties

- ➢ `display`
- ➢ `grid-template-columns`
- ➢ `grid-template-rows`
- ➢ `grid-template-areas`
- ➢ `grid-template`
- ➢ `grid-column-gap`
- ➢ `grid-row-gap`
- ➢ `grid-gap`
- ➢ `justify-items`
- ➢ `align-items`
- ➢ `place-items`
- ➢ `justify-content`
- ➢ `align-content`
- ➢ `place-content`
- ➢ `grid-auto-columns`
- ➢ `grid-auto-rows`
- ➢ `grid-auto-flow`
- ➢ `grid`

Item properties

- ➢ `grid-column-start`
- ➢ `grid-column-end`
- ➢ `grid-row-start`
- ➢ `grid-row-end`
- ➢ `grid-column`
- ➢ `grid-row`
- ➢ `grid-area`
- ➢ `justify-self`
- ➢ `align-self`
- ➢ `place-self`

EXAMPLES

Examples using CSS Grid Layout

- Let’s go look at a couple of examples:
- The CodePen example accompanying the official MDN documentation
- The “definitive” guide on CSS Tricks
- Ultimately, you’ll learn the most about CSS Grid Layout by opening up live examples and playing around with the settings.

SUMMARY

Summary CSS Grid Layout

- A tool that was developed because of evolution in devices and design practices
- Broadly compatible only within the last 18 months, so it is relatively new, and therefore an opportunity to learn something that some experienced developers may not have worked with much
- Easy to use, and a much smaller code footprint than other responsive/grid solutions with as the CSS frameworks.

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