# CSS Grid Layout: A New Layout Module for the Web

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People have been using grid designs in magazines, newspapers, posters, etc. for a long time before the Web appeared. At the point when web developers started to create web pages, many of them were based on a grid layout. Different solutions have been used to create grid layouts, like tables, floats, inline blocks, or flexboxes, but all of these techniques have different issues when you try to define a complex grid design.

In order to solve these problems, a new standard was defined to provide a good solution to create grid designs. This specification, called **CSS Grid Layout**, allows users to very easily create two-dimensional layouts on the Web. It has been designed specifically for this purpose and it brings very powerful features to divide the web page into different regions, granting great flexibility to web authors in order to define the sizing of the different sections and how the elements are positioned in each of them.

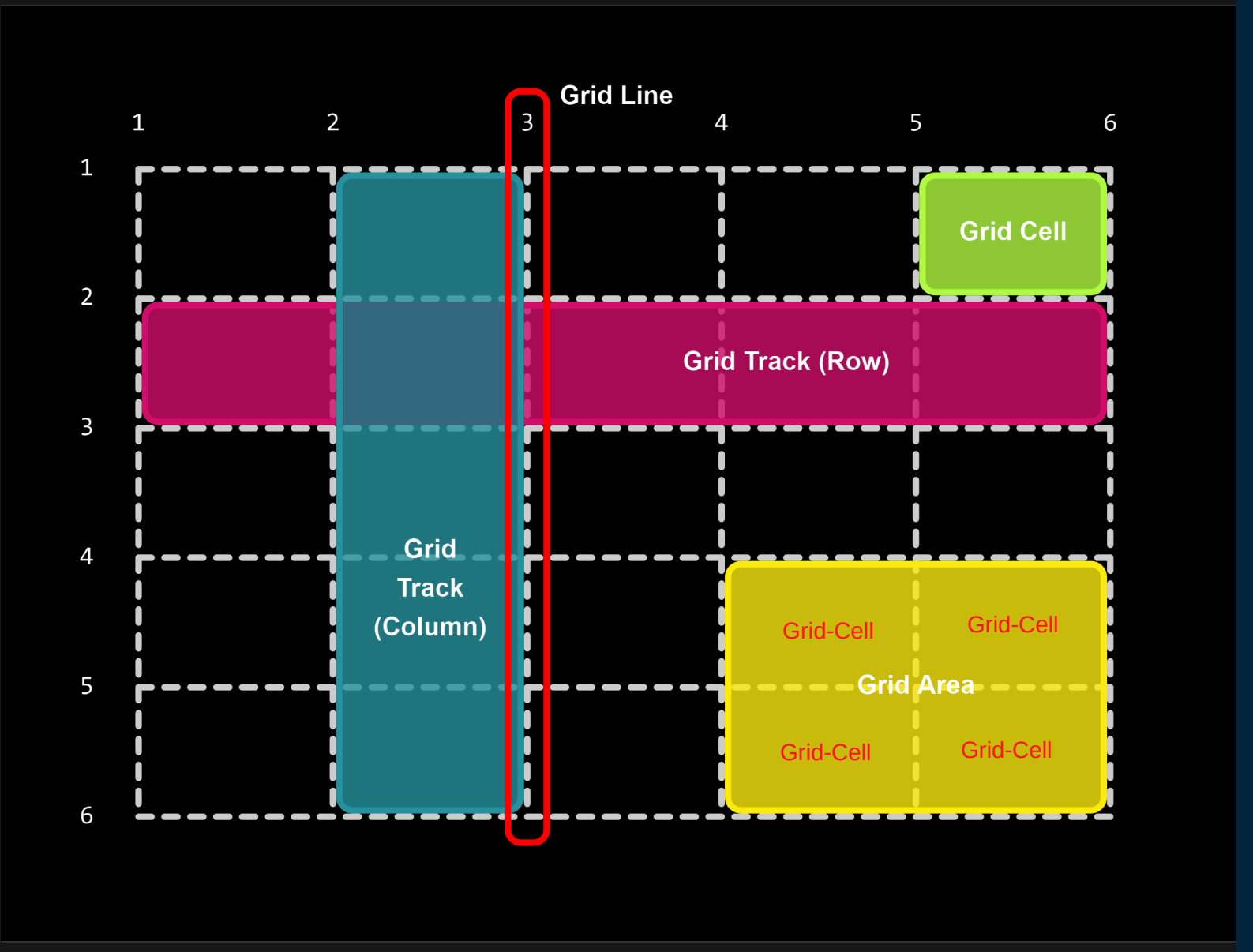
Grid Layout has been under development in WebKit for a while, and you can experiment with Grid Layout today using WebKit in Safari Technology Preview.

## Basic Concepts

A grid is a structure made up of a series of intersecting lines. The main concepts of the CSS Grid Layout spec are:

- The *grid lines* that define the grid: they can be horizontal or vertical,
  and they are numbered starting at 1.

- The *grid tracks*, which are the rows (horizontal) or columns (vertical) defined in the grid.
  el cual son las filas
- The *grid cells*, the intersection of a row and a column.
- A *grid area*, one or more adjacent grid cells that define a rectangle.
  adjuntadas que definen un rectangulo




# Grid Definition

Crear un 'grid' justo necesitas usar un nuevo valor para el

To create a grid you just need to use a new value for the `display` property: `grid` or `inline-grid`. This is the same syntax as Flexbox, so you might be already used to it.

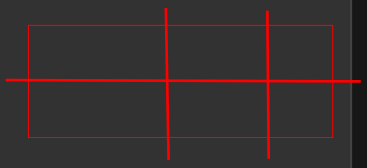
este es la misma sintaxis como asi tu podrias ser siempre usado por ello

Cuando necesites definir la estructura de tu 'grid'

Then you will need to define the structure of your grid. For example, to define the size of the tracks you can do something like this:

definir el tamaño de las 'bandas/filas' tu puedes hacer alguna cosas como estas

```
display: grid;
grid-template-rows: 100px 100px;
grid-template-columns: 400px 200px 100px;
```



Esto creará un 'grid' con 2 filas de 100px cada y 3 columnas

This will create a grid with two rows of 100px each, and three columns, with sizes 400px for first column, 200px for the second column, and 100px for the third column. This grid will have four vertical lines (1, 2, 3, 4) and three horizontal lines (1, 2, 3). You can also name the lines, so you can then reference them later easily.

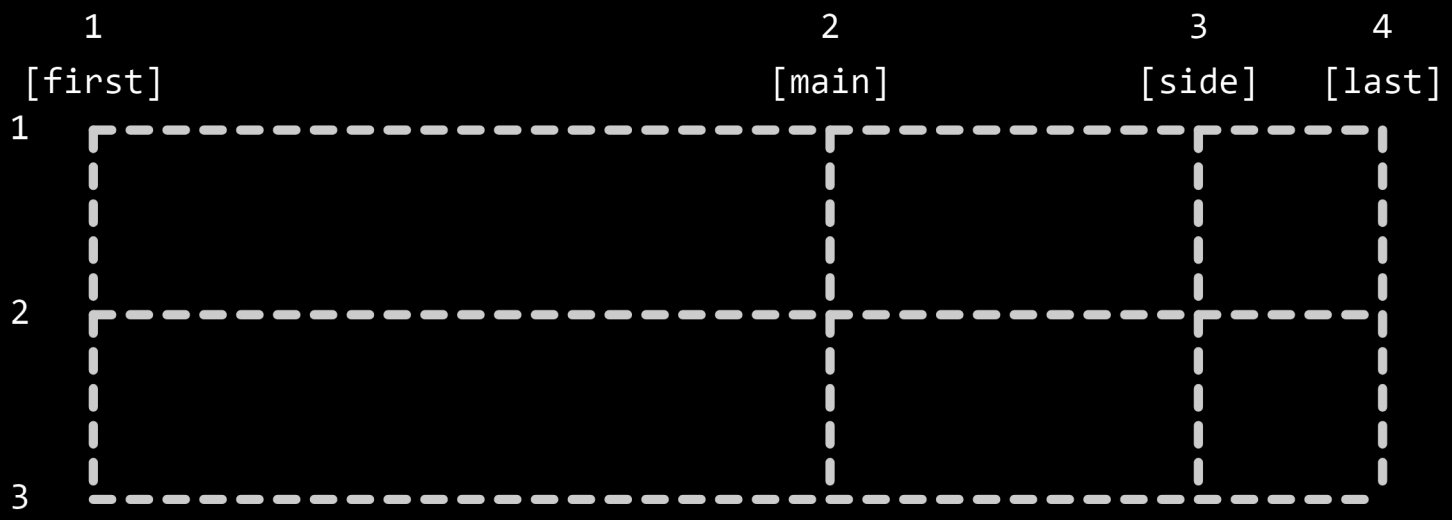
con tamaño 400px para primera columna,200px para la segunda columna y para 100px para la tercera columna

este grid tendrá 4 lineas verticales y 3 lineas horizontales

puedes tambien nombre las lineas asi puedes entonces referenciar a ellos despues facilmente

For example:

```
                                nombre  valor    nombre  valor    nombre valor    nombre
grid-template-columns: [first] 400px [main] 200px [side] 100px [last];
```




Respecto a tamaño banda , tu tienes mucha flexibilidad

Regarding track sizing, you have a lot of flexibility:

Puedes definir un ajustado tamaño banda,ajustando la longitud o porcentaje

- You can define a fixed size track, setting the length or percentage.

Puedes definir un intrinsico tamaño banda , donde el tamaño esta basado sobre el tamaño del contenido , usando

- You can define an intrinsic-sized track, where the size is based on the size of its content, using `auto`, `min-content`, `max-content`, or `fit-content`.

- You can use a new unit `fr` to take advantage of the available space.

Puedes usar un nuevo unit fr tomar ventaja de el espacio disponible

Adicionalmente, hay algunas que puede ser utilizadas establecer el tamaño bandas

In addition, there are some functions that can be useful to set the track sizes:

establecer el minimo y el maximo tamaño de las BANDAS

- `minmax()`, to set the minimum and maximum size of the track, so its size will end up depending on the available space and the size of the rest of the tracks.

así qué el tamaño terminara dependiendo en el espacio disponible

y el tamaño de los restante de la banda

definir un numero tamaño de repeticiones

puede tambien

- `repeat()`, to define a fixed number of repetitions. It can also be used in automatic mode to cause the number of tracks to depend on the available space.

ser usado en modo automatico causar el numero de bandas

depender sobre el espacio disponible

Hay una especial sintaxis que te permite definir la estrucutra grid

There is a special syntax that allows you to define the grid structure using ASCII art:

```
grid-template-areas: "header  header"
                     "sidebar main  "
                     "sidebar footer";
```

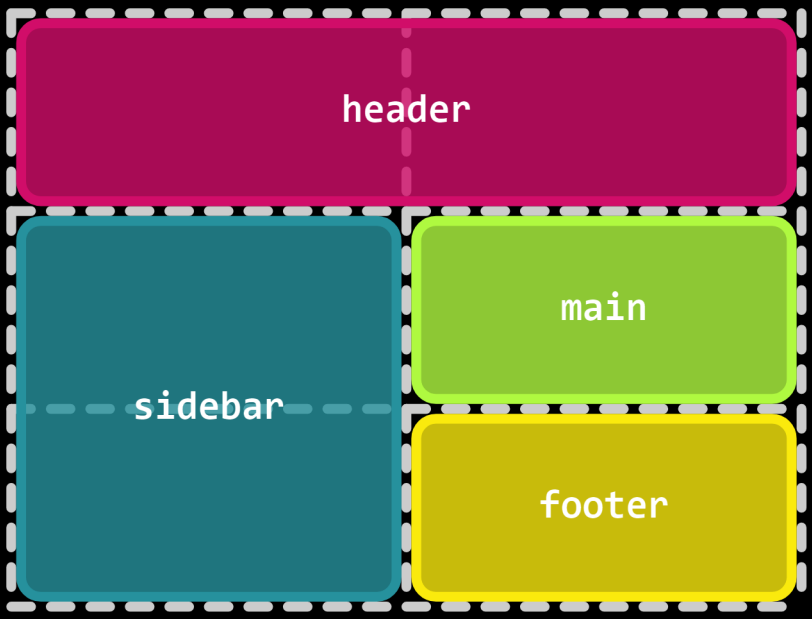
En este ejemplo creamos un 2 x 3 donde la 1º fila esta la cabecear

In this example we create a 2×3 grid where the first row is the header, the rest of the first column is the sidebar, the main content is in the second row and second column, and the footer is in the last row and column.

el resto de las primeras columnas es la barra lateral , el principal contenido

es en la segunda fila y segunda columna

y el footer esta en la ultima fila y columna




Puedes tambien definir el canal entre ambas para eso , justo necesitas

You can also define the gutter between tracks. For that, you just need to use the `grid-row-gap` and `grid-column-gap` properties.

usar el

## Establecer los elementos hijos

# Item Placement

El hijo de un grid son llamados GRID ITEMs Ellos pueden ser posicionados en las diferentes partes de el grid usando el colocar propiedades

The children of a grid container are called *grid items*. They can be positioned in the different parts of the grid using the placement properties `grid-row-start`, `grid-row-end`, `grid-column-start`, and `grid-column-end`. But in most cases you'll be using the shorthands `grid-row`, `grid-column`, and `grid-area`.

Pero en mas casos tu estaras usando los atajos

Nota que esas propiedades referencia a los así que tu deseas poner un elemento en la tercera fila y la segunda columna tu puedes usar alguna como esto

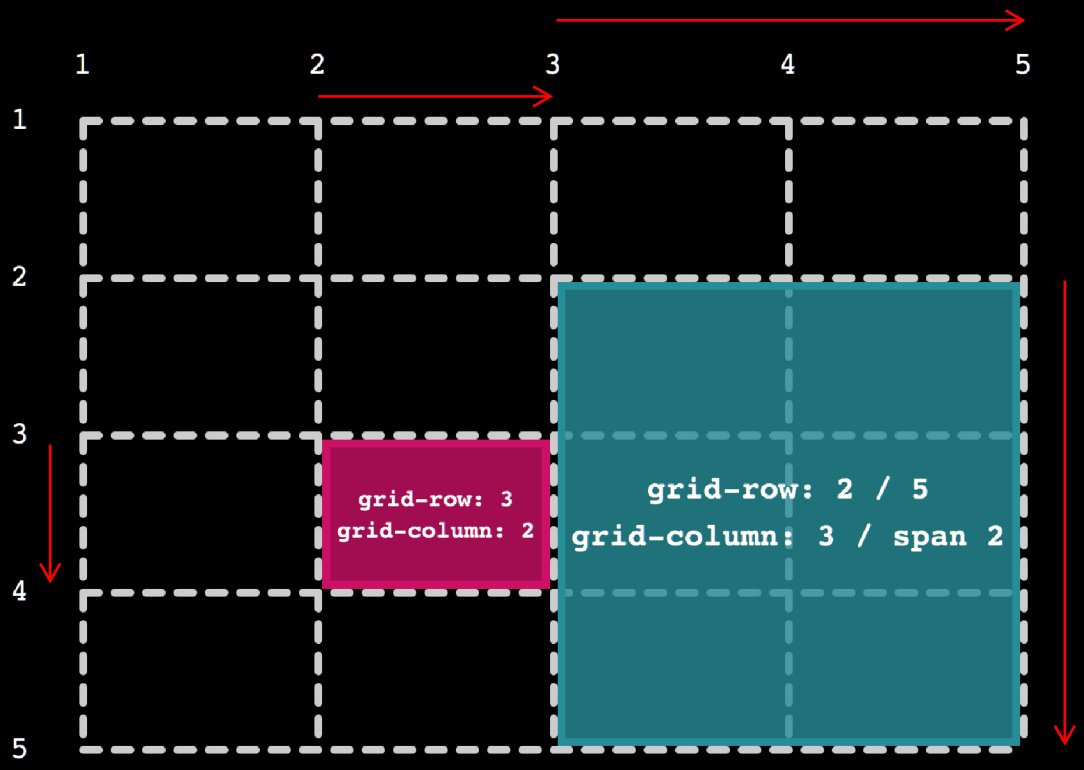
Note that these properties refer to the grid lines, so if you want to put an element on the third row and the second column you can use something like this:

```
grid-row: 3;
grid-column: 2;
```

El elemento puede tambien espaciar bastante lineas , asi que tu puedes usar siguientes sintaxis crear 3 lineas y 2 columnas

The item can also span several lines, so you can use the following syntax to take three rows and two columns:

```
grid-row: 2 / 5;
grid-column: 3 / span 2;
```




Aparte desde eso , tu puedes tambien referencia a nombrada lineas o areas con
Apart from that, you can also refer to named lines or areas with
aquellas propiedades , el cual es muy conveniente ,en algunos escenarios
these properties, which is very convenient in some scenarios.

Como tu puedes imaginar , cuando tu estas usando tu puedes muys
As you can imagine, when you're using Grid Layout you can very
facilmente romper la relación entre el DOM ordenado y la
easily break the relationship between the DOM order and the
orden visual Hay que tener cuidado de mantener el orden correcto
visual order. You have to be careful to keep the right order in the
en el DOM para evitar que su contenido sea menos accesible
DOM to avoid making your content less accessible.

Ultimamente, hay tambien la posibilidad para dejar que los objetos se coloquen ellos
Lastly, there's also the possibility to let the items place themselves
dentro del Si tu no estableces algun propiedad colocar o si tu usas
into the grid. If you don't set any placement property (or if you use
auto el elemento estara automaticamente colocado en alguna celda vacia
`auto`), the items will be automatically placed on some empty cell
de el grid creando nuevas filas por defecto , o columnas si especificado
of the grid, creating new rows (by default) or columns (if specified
a traves
through `grid-auto-flow` property) when required.

# Alignment

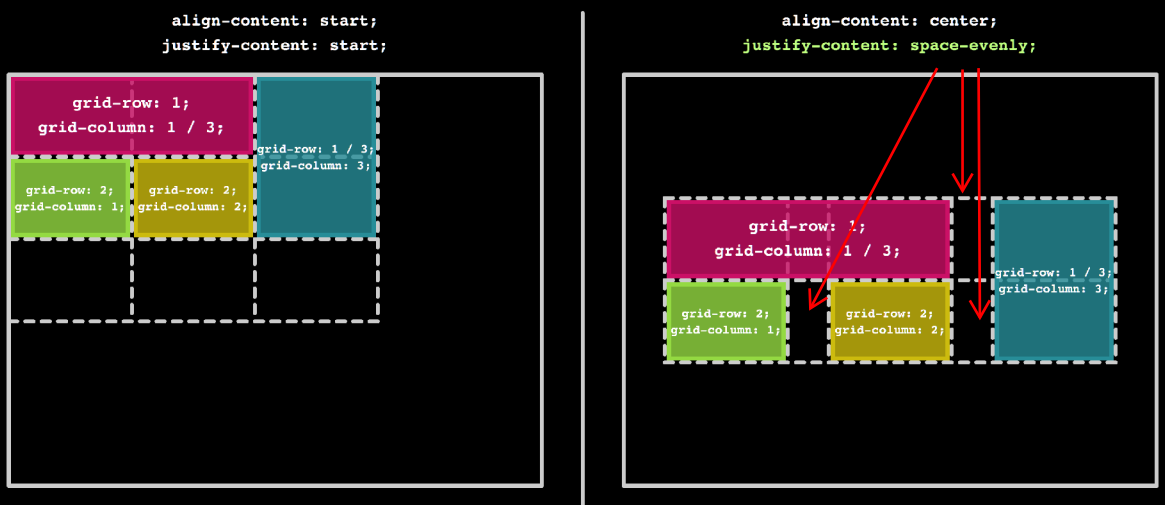
Una de las grandes cosas que viene para libre cuando tu usas CSS GRID

One of the big things that come for free when you use CSS Grid Layout is the alignment support. In Grid Layout you can align horizontally and vertically without any issues with just some simple CSS properties.

The alignment capabilities of Grid Layout operate over two different subjects: grid tracks, with regard to the grid container, and grid items in their respective grid areas. In addition, we can operate on both axes, horizontally and vertically.

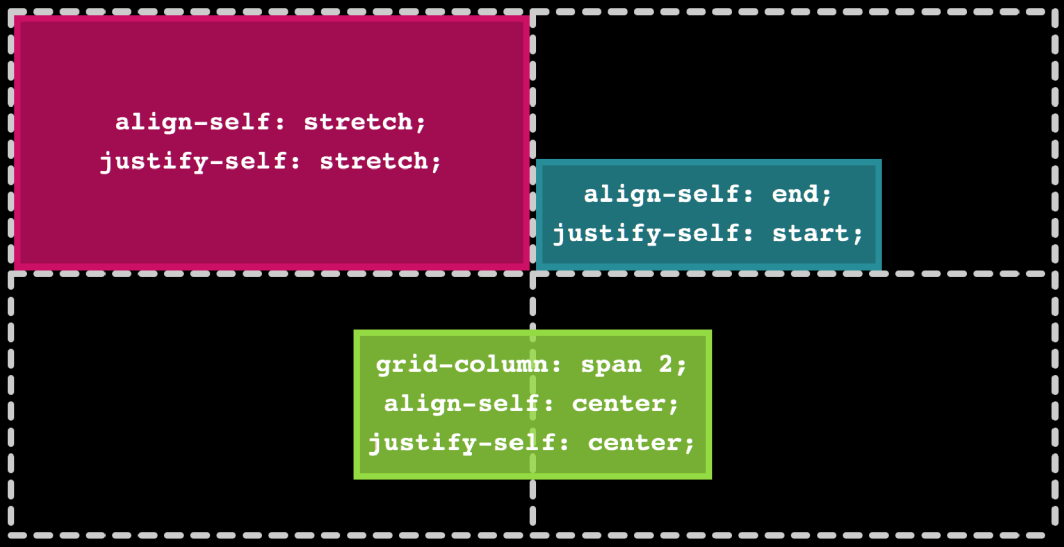
The CSS properties `justify-content` and `align-content` apply to grid tracks to align them horizontally and vertically, respectively. These properties, which define what is known as *Content Distribution* behavior, can also be used to distribute the grid container's available space among the tracks following different distributions: between, around, evenly, and stretch. For example, check the following grid:

```
display: grid;
grid-template-rows: 100px 100px;
grid-template-columns: 150px 150px 150px;
height: 500px;
width: 650px;
align-content: center;
justify-content: space-evenly;
```




Cuando se trata a alineando el grid items

When it comes to aligning the grid items, the `justify-self` and `align-self` properties are used to align horizontally and vertically, respectively. These properties define the *Self Alignment* behavior of the grid items. It's possible to define a default behavior for all the items of a grid container by using the *Default Alignment* properties, `align-items` and `justify-items`, which gives an incredible syntactic flexibility for defining the grid's alignment behavior.




## Responsive Design with Grid

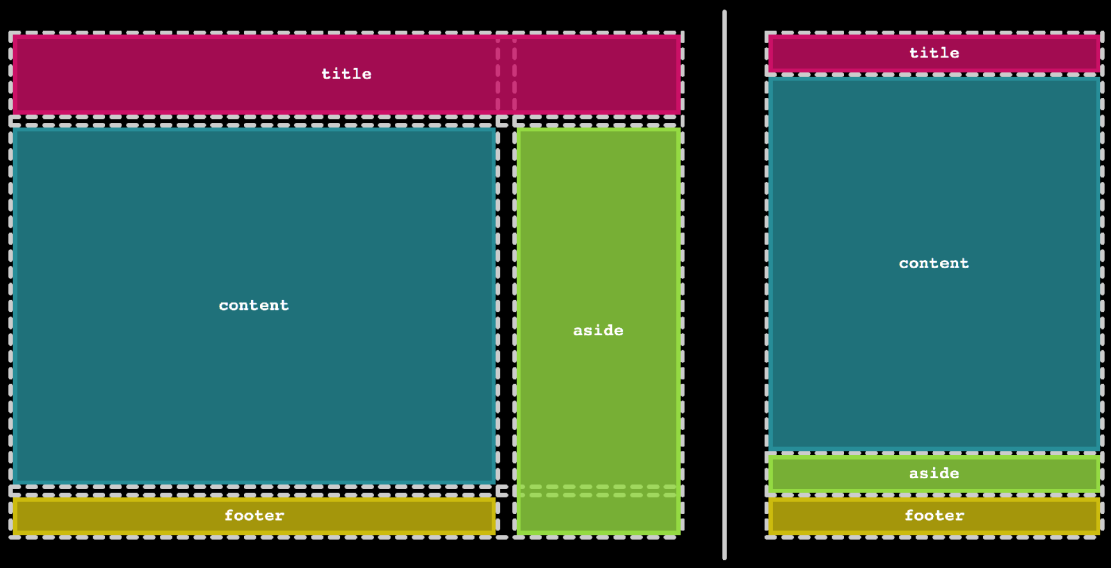
As you can already imagine, all the different Grid Layout properties make it more comfortable to create responsive designs. You can take advantage of the powerful track sizing mechanisms like the `fr` unit, `minmax()`, or `repeat()`. Combine this with media queries to completely change the structure of your grid with just a few CSS lines.

For example:

```
display: grid;
grid-gap: 10px 20px;
grid-template-rows: 100px 1fr auto;
grid-template-columns: 1fr 200px;
grid-template-areas: "header  header"
```

```
                    "content aside "
                    "footer  aside ";

@media (max-width: 600px) {
    grid-gap: 0;
    grid-template-rows: auto 1fr auto auto;
    grid-template-columns: 1fr;
    grid-template-areas: "header "
                         "content"
                         "aside  "
                         "footer ";
}
```




## And Much More

This is just an introductory blog post about Grid Layout, not a deep review of all the different features that it provides: that would require much more than a single post. The different examples explained in this blog post have been published online. You can start to play with them now!

If you want to learn more about CSS Grid Layout, there are a bunch of good resources out there:

- Grid by Example is an excellent website by Rachel Andrew with lots of resources.
- The CSS-Tricks page by Chris House is a very nice reference.

- Jen Simmons has some awesome examples on her website.

On top of that, several people have been talking about Grid Layout at different conferences and events. You won't have problems finding some of the talks published online.

## Conclusion

CSS Grid Layout is here to stay. We're looking forward to seeing this soon in shipping versions of Safari and other web browsers. This is very good news for the Web authors that have been waiting for a tool like this for years. We believe this is going to be a huge step forward for the Web.

The implementation of Grid Layout in WebKit has been performed by Igalia's Web Platform team and sponsored by Bloomberg. If you have any comments or questions, don't hesitate to contact any of the people working on it: Javi (@lajava77), Manuel (@regocas), or Sergio (@svillarsenin). If you want to keep track of the development you can follow bug #60731. New bug reports are very welcome, especially now that Grid Layout is hitting your browser and testing is easier than ever. Exciting times ahead! ■

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