

HTML + CSS



6

Episodio VI

La adaptabilidad (Responsive Web Design)





Contenido

🎯 Responsive web design

- ◉ Algo de historia primero
- ◉ Meta / Viewport
- ◉ Medidas relativas
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 - 👁 em
- ◉ Media Queries
- ◉ Mobile First



Historia

Historia

The screenshot shows the Apple website's layout as of July 14, 1999. The top navigation bar is red with white text. The main content area is white with a red sidebar on the left. The sidebar contains a 'Find It' search bar and a list of links: Product Information, Customer Support, Technology & Research, Developer World, Groups & Interests, Resources Online, and About Apple. Below these links is a section for 'Apple Sites Worldwide' with a dropdown menu showing Switzerland, Taiwan, Turkey, UK & Ireland, and United States (selected), and a 'Go' button. The main content area features a large 'Welcome to Apple' header with the Apple logo and the date 'JULY 14 1999'. Below the header are three promotional banners: 'Introducing CyberDrive' for BMW, 'EMATE 300' for a mobile device, and 'MOVIES FROM MARS' for QuickTime VR. A 'What's Hot' section at the bottom features two articles: 'Preorder Mac OS 8' and 'Be the First to Know'.

Find It

Product Information
Customer Support
Technology & Research
Developer World
Groups & Interests
Resources Online
About Apple

Apple Sites Worldwide

Switzerland
Taiwan
Turkey
UK & Ireland
United States

Go

July 14 1999

Welcome to Apple

Introducing CyberDrive

Register today for a free CD-ROM.

EMATE 300

Mobile, Affordable, & Smart

MOVIES FROM MARS

QuickTime VR Takes You Out of this World

What's Hot

Preorder Mac OS 8

Now you can [preorder Mac OS 8](#), described by Macworld as "the most comprehensive update to the Mac OS in years, sporting a bold new look, a speedier Finder, more shortcuts and integrated Internet functions."

Be the First to Know

Learn about new Macintosh software releases the moment they become available. Check [Hot Mac Products](#) to hear about programs like Speed Demon, ReBirth RB-338 and QuickCRC.

Historia



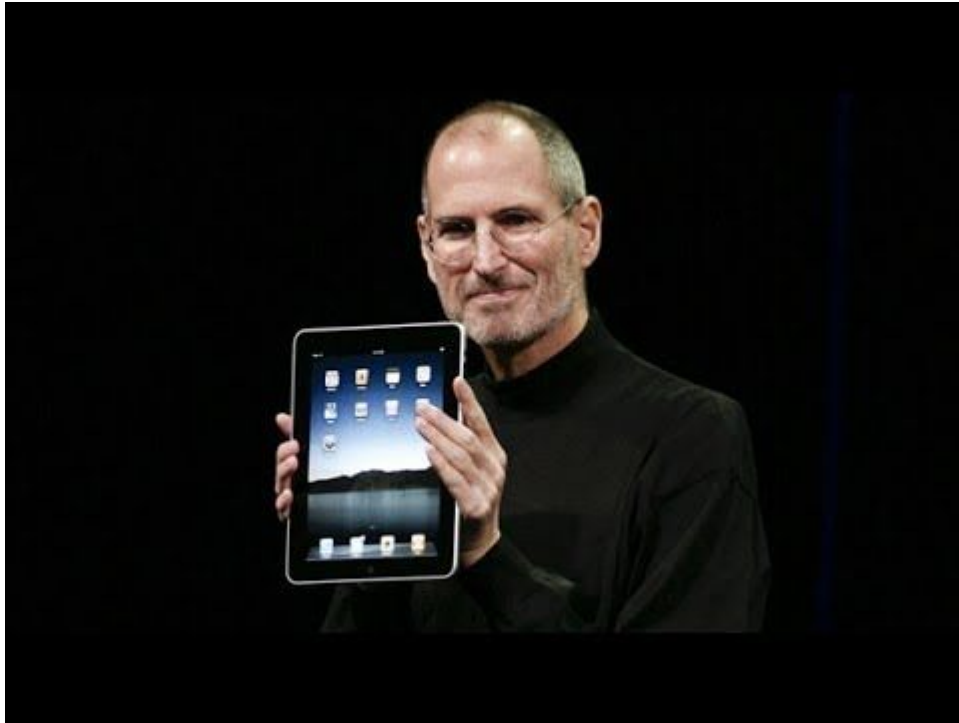
Historia



Historia



Historia



Historia



Historia

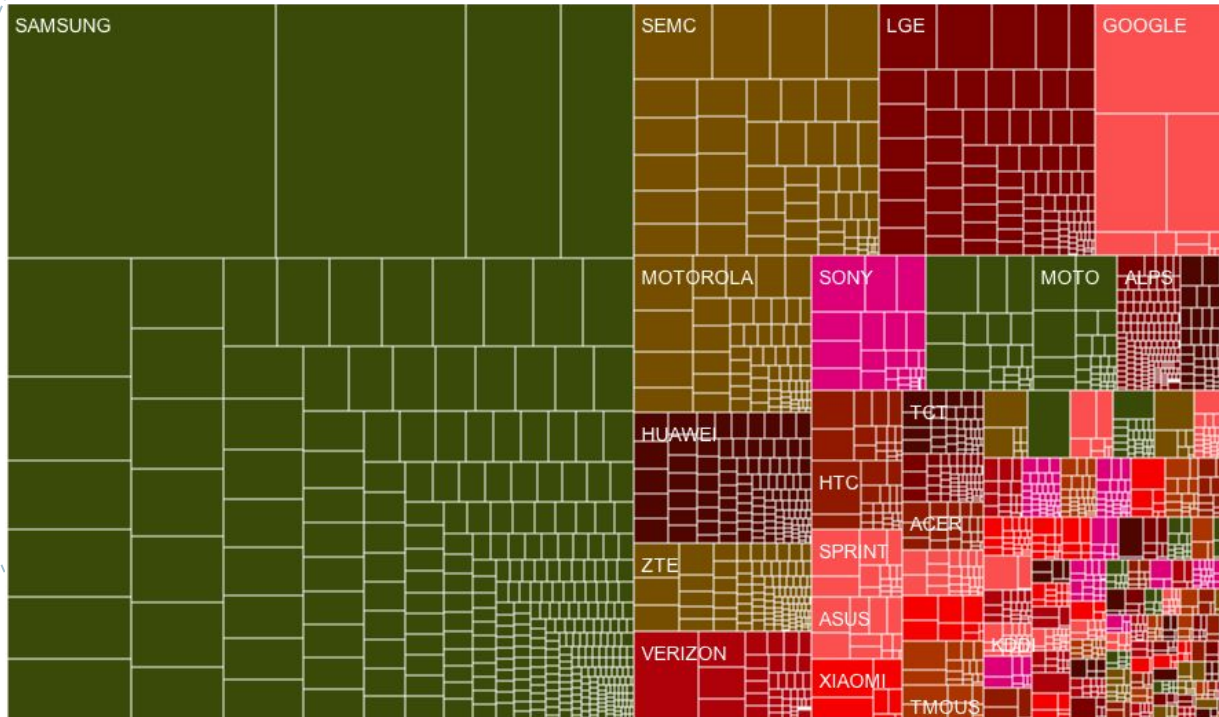


The background of the slide is decorated with several geometric elements: a large orange ring with a dashed red inner circle in the top left; a large yellow circle overlapping the orange ring; a small pink circle below the yellow one; a large light blue dashed circle in the top center; a green circle with a dashed green inner circle in the middle left; a large lime green circle in the bottom left; a small cyan circle to the right of the lime green one; a large green circle with a white center in the top right; a small orange circle above it; a large cyan ring in the bottom right; and a small cyan circle with a dashed cyan inner circle in the bottom right.

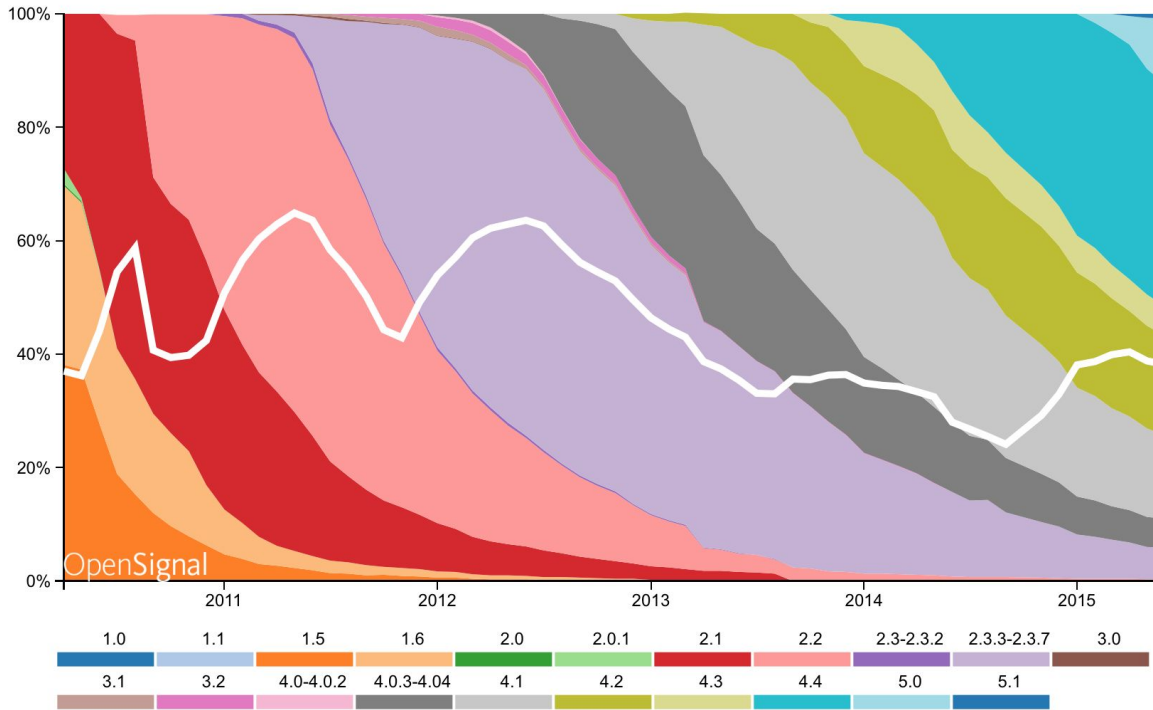
Problemas ¡Fragmentación extrema!



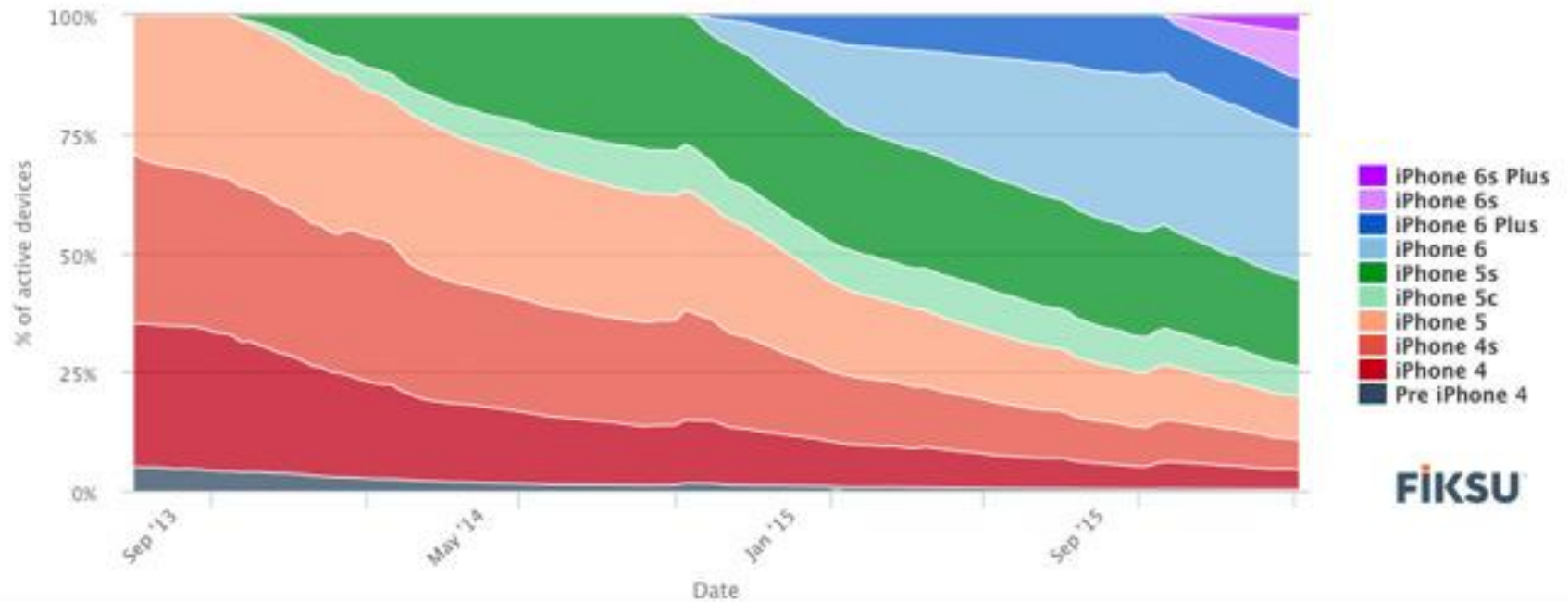
Problema 1: Muchos fabricantes



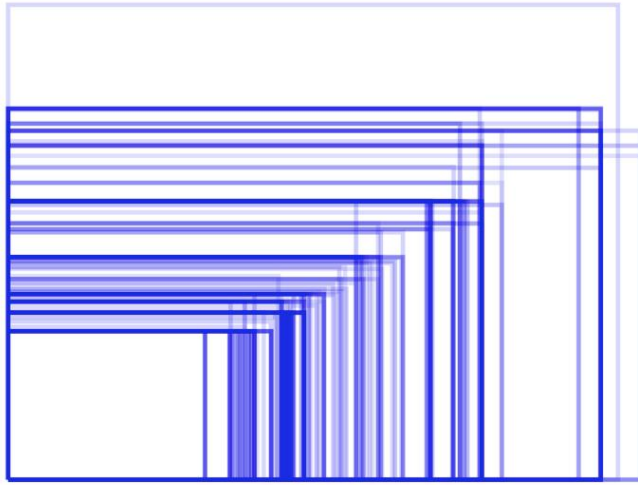
Problema 2: Muchos sistemas OS y versiones



Problema 2: Muchos sistemas OS y versiones

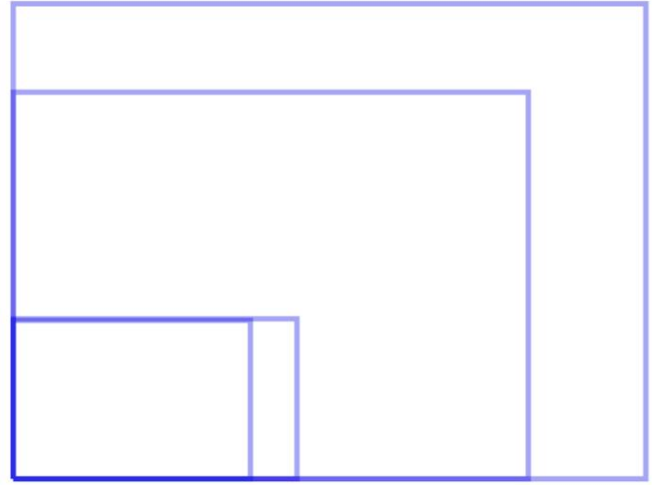


Problema 3: Muchas pantallas



Android

versus



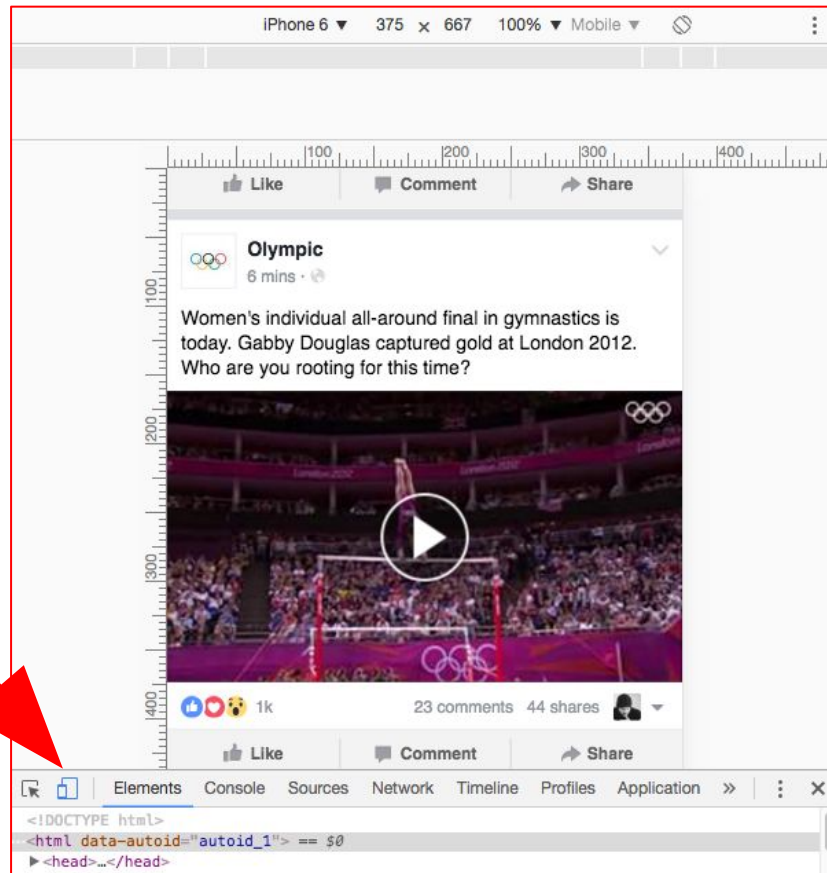
iOS

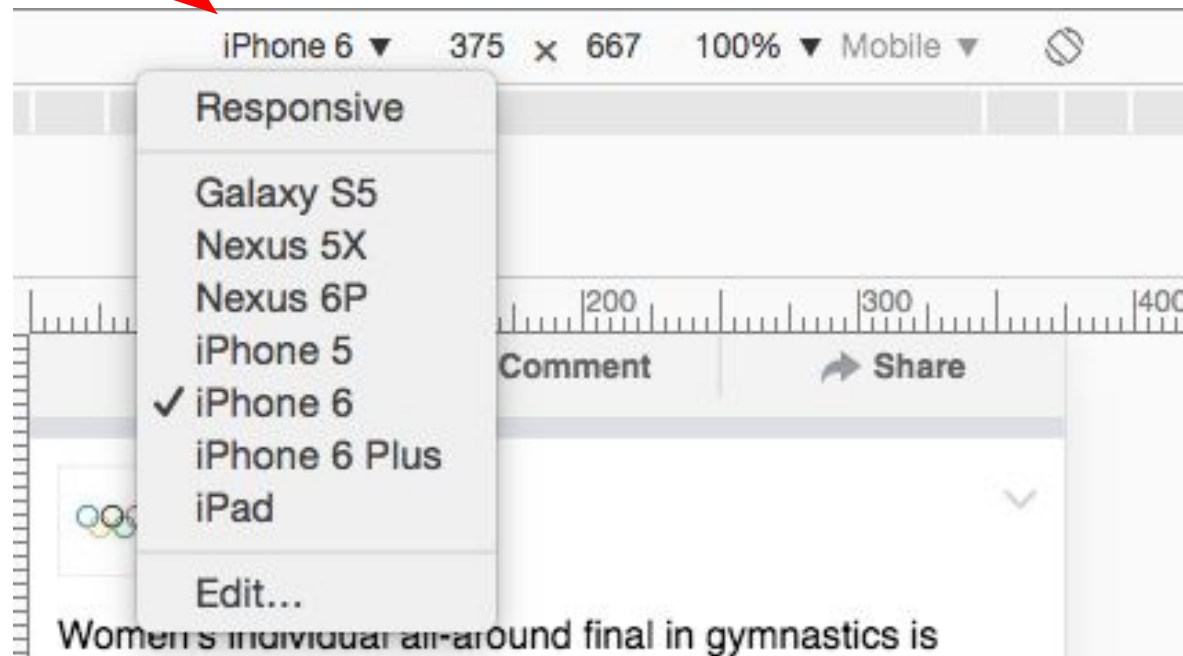
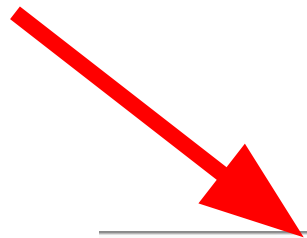
SOLUCIONES



The background features a light gray gradient with several large, colorful circles and dashed lines. In the top left, there is a large teal circle with a white center, a smaller teal circle, and a dashed teal circle. In the top right, there is a large lime green circle, a smaller green circle, and a dashed green circle. In the bottom left, there is a large green circle with a white center, a smaller yellow circle, and a dashed yellow circle. In the bottom right, there is a large yellow circle, a smaller orange circle, and a dashed yellow circle. A large dashed blue line curves from the top left towards the bottom right, passing behind the text.

Dev tools





Tag para Responsive

El tag **<meta> viewport** da al browser instrucciones de cómo se debe dimensionar y escalar la página web al cargarse.

```
<meta  
  name="viewport"  
  content="width=device-width, initial-scale=1"  
>
```

Esta es la estructura básica de este tag, en ocasiones puede que lo veamos con más información.

Sin viewport



Con viewport



Unidades de medida relativas



Medidas que están relacionadas con su padre contenedor directo.

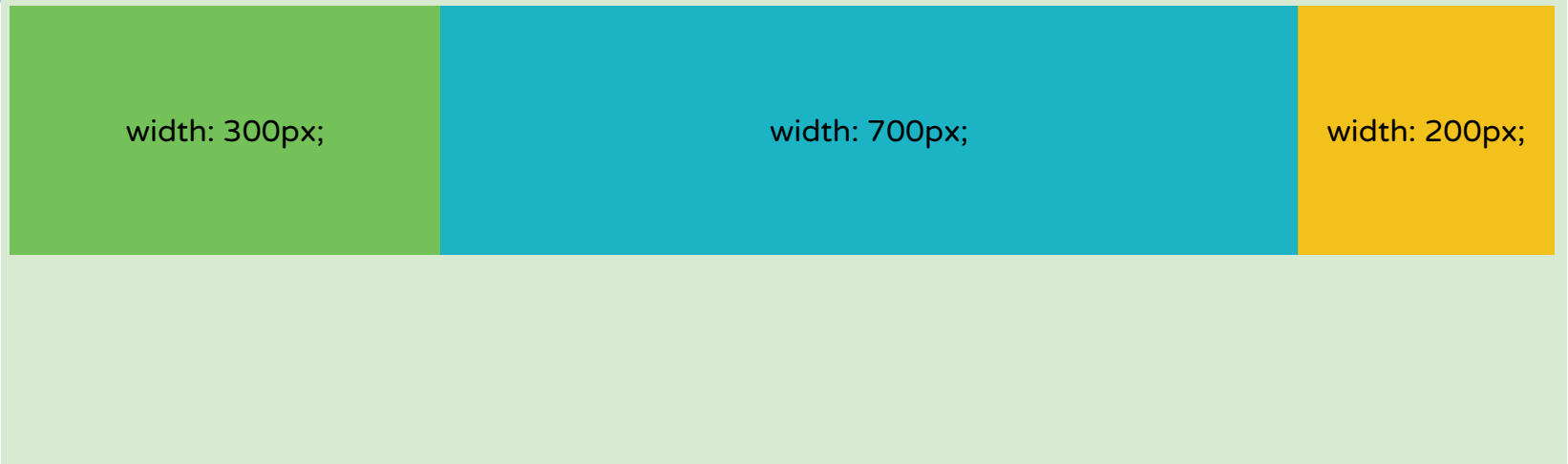


Los Porcentajes – %

Cualquier medida expresada en porcentaje, **SIEMPRE** estará relacionada con la medida (en ese mismo eje) del **elemento padre** que la contiene.

```
.box{  
  width: 25%;  
}
```

- Los altos no se trabajan en medidas porcentuales.

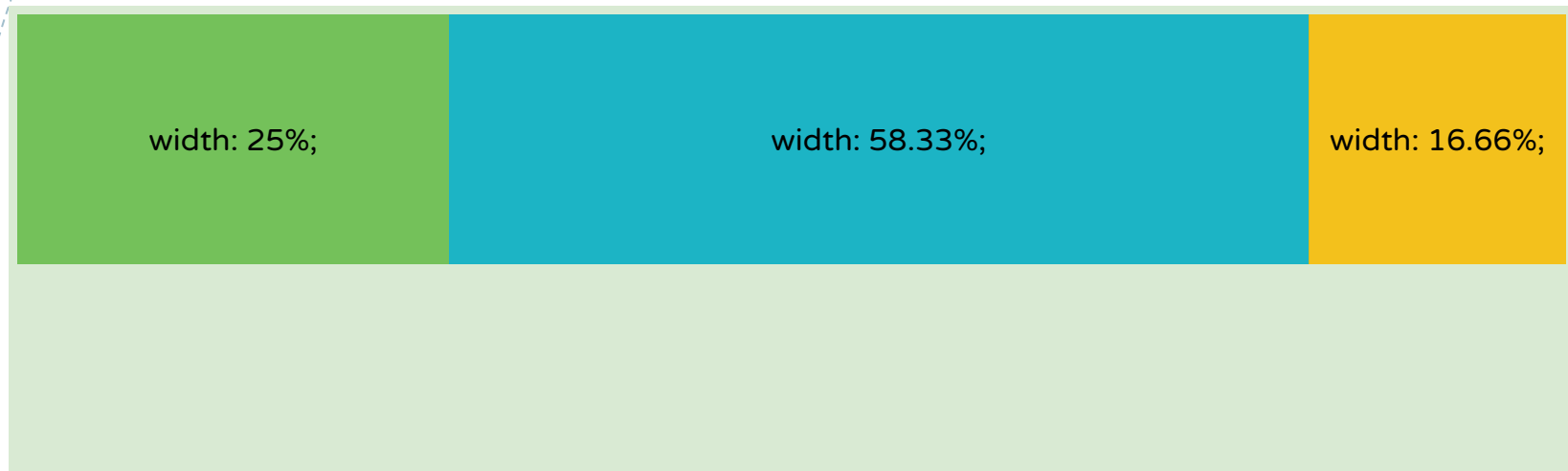


width: 300px;

width: 700px;

width: 200px;

contenedor padre con **1200px** en width



contenedor padre con **1200px** en **max-width**

REGLA DE 3 SIMPLE

width: 25%;
 $(300/1200)*100$

width: 58.33%;
 $(700/1200)*100$

width: 16.66%;
 $(200/1200)*100$

En este caso nuestra “base” es **1200px**

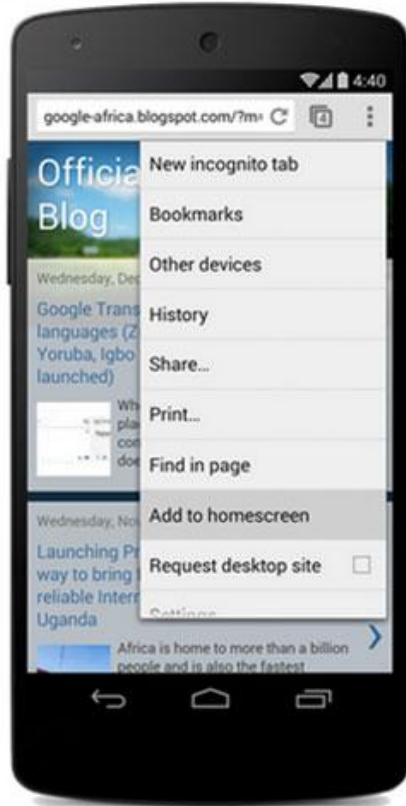
Viewport Measures – vw / vh

Cualquier medida expresada en **vw/vh** tomará **SIEMPRE** como eje referencial **al viewport** del documento.

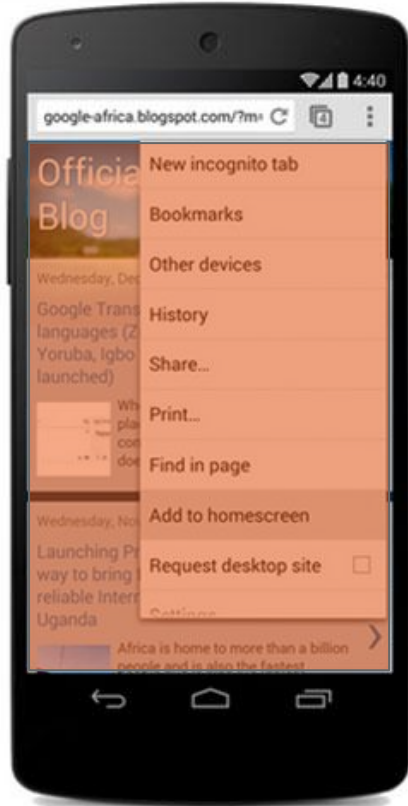
```
.box{  
  width: 25vw;  
  height: 50vh;  
}
```

- **Viewport** hace referencia a la “caja visible” de contenido dentro de un navegador.

El Viewport



El Viewport






A diagram showing a large gray rectangle representing a viewport. Inside the top-left corner of the gray rectangle is a smaller blue rectangle. The blue rectangle contains the text 'width: 30vw; height: 50vh;'. To the right of the gray rectangle, the text 'viewport height de 450px' is written vertically. Below the gray rectangle, the text 'viewport width de 320px' is written horizontally. The entire diagram is framed by a dashed light blue circle, with various colored circles (blue, green, yellow, orange, pink) scattered around the perimeter.

width: 30vw;
height: 50vh;

viewport height de 450px

viewport width de 320px

En este caso, la caja tendrá 0.3 veces el tamaño de ancho del viewport (**96px**) y 0.5 veces el alto del viewport (**225px**)



A diagram illustrating the use of viewport units in CSS. It features a large gray rectangle representing the viewport. Inside the top-left corner of this rectangle is a smaller teal rectangle. The teal rectangle contains the text 'width: 30vw; height: 50vh;'. To the right of the gray rectangle, the text 'viewport height de 250px' is written vertically in red. Below the gray rectangle, the text 'viewport width de 660px' is written horizontally in red. At the bottom of the diagram, a paragraph of text explains the relationship between the box size and the viewport dimensions.

width: 30vw;
height: 50vh;

viewport height de 250px

viewport width de 660px

En este caso, la caja tendrá 0.3 veces el tamaño de ancho del viewport (**198px**) y 0.5 veces el alto del viewport (**125px**)



Los em's – em

Los em's son **unidades** de medida que se **recomiendan usar** en todo lo relacionado con **tipografías**.

1em comenzará siendo igual a **16px** (a menos que seteemos lo contrario)

```
p{  
  font-size: 1em;  
  line-height: 1.5em;  
}
```

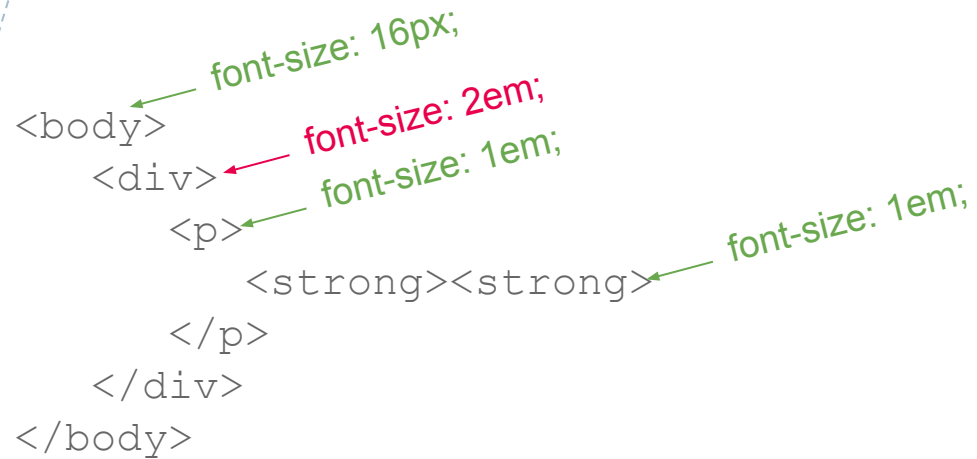
- Toda medida (que no sea el font-size) expresada en em's tomará **SIEMPRE** como base referencial el **font-size** que tenga el mismo elemento que estemos modificando.

```
<body>  
  <div>  
    <p>  
      <strong><strong>  
    </p>  
  </div>  
</body>
```

font-size: 16px;
font-size: 1em;
font-size: 1em;
font-size: 1em;

`<body>` tiene 16px en font-size, los demás elementos por default vienen con 1em en font-size.

Por lo tanto, todos los demás elementos tienen 16px de font-size.



```
<body>  
  <div>  
    <p>  
      <strong><strong>  
    </p>  
  </div>  
</body>
```

font-size: 16px;

font-size: 2em;

font-size: 1em;

font-size: 1em;

Si cambiamos el font-size de `<div>` a 2em, éste tendrá 2 veces el tamaño del font-size de su padre.

`<div>` ahora tiene 32px de font-size.

Por lo tanto los hijos de `<div>` ahora cambiaron con solo haber tocado a su padre.

Los hijos de `<div>` quedaron con 32px en font-size.

```
<body>
  <div>
    <p>
      <strong><strong>
    </p>
  </div>
</body>
```

font-size: 16px;

font-size: 2em;

font-size: 1.5em;

font-size: 1em;

<div> tiene 32px de font-size.

Si a <p> le decimos font-size: 1.5em, <p> tendrá 1.5 veces el tamaño que tenga el font-size de su padre.

<p> ahora tiene 48px en font-size.

 tiene 1 vez lo que tiene su padre en font-size.

 tiene 48px en font-size.

```
<body>
  <div>
    <p>
      <strong><strong>
    </p>
  </div>
</body>
```

font-size: 10px;

font-size: 2em;

font-size: 1.5em;

font-size: 1em;

Si ahora cambiamos la base del documento (<body>) y la llevamos a 10px en font-size. Todos los elementos cambian de tamaño sin haber "tocado" su font-size.

<div> = 20px de font-size

<p> = 30px de font-size

 = 30px de font-size



Practiquemos

Realizar el punto #1 y #2 de la guía de ejercicios.



Los Media Queries

Conjunto de reglas CSS que permiten **re-organizar** el contenido dependiendo de las condiciones de visualización del documento.

Siempre se deben escribir **al final** de nuestra hoja de CSS.



Media-query

```
body { background: red; }
```

```
@media (min-width: 460px){  
  body { background: blue; }  
}
```

Al especificar **min-width**, estamos diciendo “si como mínimo hay Npx de ancho, apliquemos esto” algo como “desde este punto hacia arriba”.



Media-query

```
body { background: red; }
```

```
@media (max-width: 460px){  
  body { background: blue; }  
}
```

Al especificar **max-width**, estamos diciendo “si como máximo hay Npx de ancho, apliquemos esto” algo como “desde este punto hacia abajo”.



Media-query definiendo la **orientación**

```
@media (max-width: 768px) and (orientation: portrait){  
    ...  
}
```

Al especificar **la orientación (portrait o landscape)**, estamos diciendo “si como máximo hay Npx de ancho y además el dispositivo está en posición vertical/horizontal, apliquemos esto”.

Combinando Media Queries

```
@media (max-width: 600px) { ...
```

```
@media (min-width: 700px) { ...
```

```
@media (min-width: 700px) and (max-width: 600px) { ...
```

```
@media (min-width: 700px) and (max-width: 600px) {
```

The background features a light gray grid. A large, faint dashed circle is centered on the page. Various solid-colored circles in teal, blue, green, yellow, orange, and pink are scattered around the perimeter. Some of these circles are nested within the dashed circle, while others are outside. There are also dashed circles in some of the same colors, some of which are empty and some of which contain smaller solid circles.

Estrategias

Mobile-first o Mobile-last



Mobile last

```
// Estilos para desktop
body {
    background-color: red;
    ...
}

// y luego pensar cada se adapta en cada viewport

@media only screen and (max-width: 768px) {
    ... // tablets
}

@media only screen and (max-width: 420px) {
    ... // mobile
}
```



Mobile first

```
// Estilos para mobile  
body {  
    background-color: red;  
    ...  
}
```

```
// y luego pensar cada se adapta en cada viewport  
@media only screen and (min-width: 600px) {  
    ... // tablets  
}  
@media only screen and (min-width: 768px) {  
    ... // desktop  
}
```

The background is white with a decorative arrangement of colorful circles and a dashed line. In the top-left corner, there is a large cyan circle with a white center, a smaller solid cyan circle to its right, and a dashed cyan circle to its left. In the top-right corner, there is a large lime green circle, a smaller solid green circle to its right, and a dashed green circle to its right. In the bottom-left corner, there is a large green circle with a white center, a smaller solid orange circle to its right, and a dashed yellow circle to its left. In the bottom-right corner, there is a large yellow circle, a smaller solid orange circle to its right, and a small solid pink circle above it. A dashed grey line starts from the top-left, curves around the central text, and ends at the bottom-right.

¿Estándares?

1200px

/* Large Devices, Wide Screens */

@media only screen and (max-width : 1200px) { ...

992px

/* Medium Devices, Desktops */

@media only screen and (max-width : 992px) { ...

768px

/* Small Devices, Tablets */

@media only screen and (max-width : 768px) { ...

480px

/* Extra Small Devices, Phones Landscape */

@media only screen and (max-width : 480px) { ...

320px

/* Extra Small Devices, Phones Portrait */

@media only screen and (max-width : 320px) { ...

Mobile last

320px

```
/* Extra Small Devices, Phones Portrait */  
@media only screen and (min-width : 320px) { ...
```

480px

```
/* Extra Small Devices, Phones Landscape */  
@media only screen and (min-width : 480px) { ...
```

768px

```
/* Small Devices, Tablets */  
@media only screen and (min-width : 768px) { ...
```

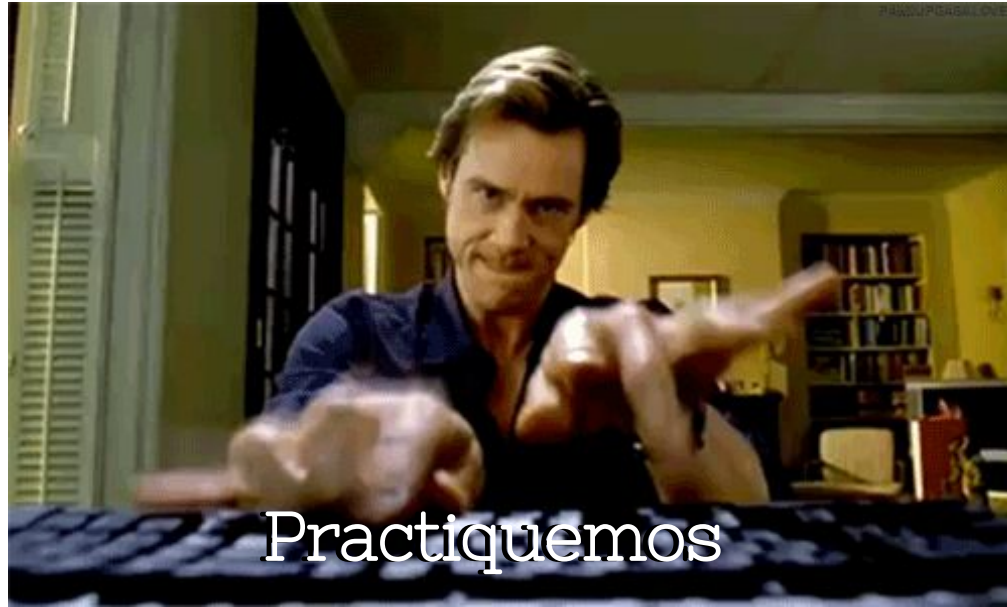
992px

```
/* Medium Devices, Desktops */  
@media only screen and (min-width : 992px) { ...
```

1200px

```
/* Large Devices, Wide Screens */  
@media only screen and (min-width : 1200px) { ...
```

Mobile first



Realizar el punto #3 de la guía de ejercicios.