

# **UI Basics**

## **Responsivity**

- Browser Compatibility
- Responsivity

## **BROWSER COMPATIBILITY**

### What is User Agent Stylesheet?

- **User Agent Stylesheets** simply refer to **the default styles that browsers apply to web pages**.
- When a browser renders an HTML page, **it applies basic styles before you've even written a single style**.

```
h1 {                               user agent stylesheet
    display: block;
    font-size: 2em;
    margin-block-start: 0.67em;
    margin-block-end: 0.67em;
    margin-inline-start: 0px;
    margin-inline-end: 0px;
    font-weight: bold;
}
```

<h1> default styles in chrome

- While **all browsers apply their basic styles**, **each browser has its specific styles different from other browsers**, and that, of course, **causes an inconsistency problem**.

### Browser's User Agent Stylesheet examples



<https://chromium.googlesource.com/chromium/blink/+/master/Source/core/css/html.css>



<https://dxr.mozilla.org/mozilla-central/source/layout/style/res/html.css>



<https://trac.webkit.org/browser/trunk/Source/WebCore/css/html.css>

The attempt to **solve the browser inconsistency problem** has produced **two approaches:**

**CSS Reset approach**  
(aggressive solution)



**HTML5 Doctor Reset**

Richard Clark - 2010

**HTML5 Reset**

Eric Mayer - 2009

**Eric Meyer's "Reset CSS" 2.0**

Eric Mayer - 2011



**CSS Normalize approach**  
(gentle solution)



**Normalize.css**

Nicolas Gallagher – v8.0.1

### HTML5 Doctor Reset

Richard Clark - 2010

<http://html5doctor.com/html-5-reset-stylesheet/>

### HTML5 Reset

Eric Mayer - 2009

<https://github.com/murtaugh/HTML5-Reset/blob/master/assets/css/reset.css>

### Eric Meyer's "Reset CSS" 2.0

Eric Mayer - 2011

<https://cssreset.com/scripts/eric-meyer-reset-css/>



### Normalize.css

Nicolas Gallagher – v8.0.1

<http://necolas.github.io/normalize.css/>

### Reset CSS :

- Reset CSS says that we don't need the browsers' default styles at all.
- Whatever styles we need, we'll define in the project according to our needs.
- So “CSS Reset” resets all of the styles that come with the browser's user agent.

### Normalize CSS :

- Normalize CSS provides **cross-browser consistency in the default styling** of HTML elements.
- It gives developers **a safe starting point** at which to know **styles are the same across browsers**.
- CSS Normalize can guarantee **normality of elements** before any custom styling is done.

### **Normalize CSS,**

- makes **basic element styles the same across web browsers** before more styles are added.
- defines **a standard to start with** when working on a new project
- provides **basic support for Internet Explorer**, and corrects bugs of IE

### style.css

```
/* Your own css starts from here */
```

Reset.css / Normalize.css / Your own reset.css

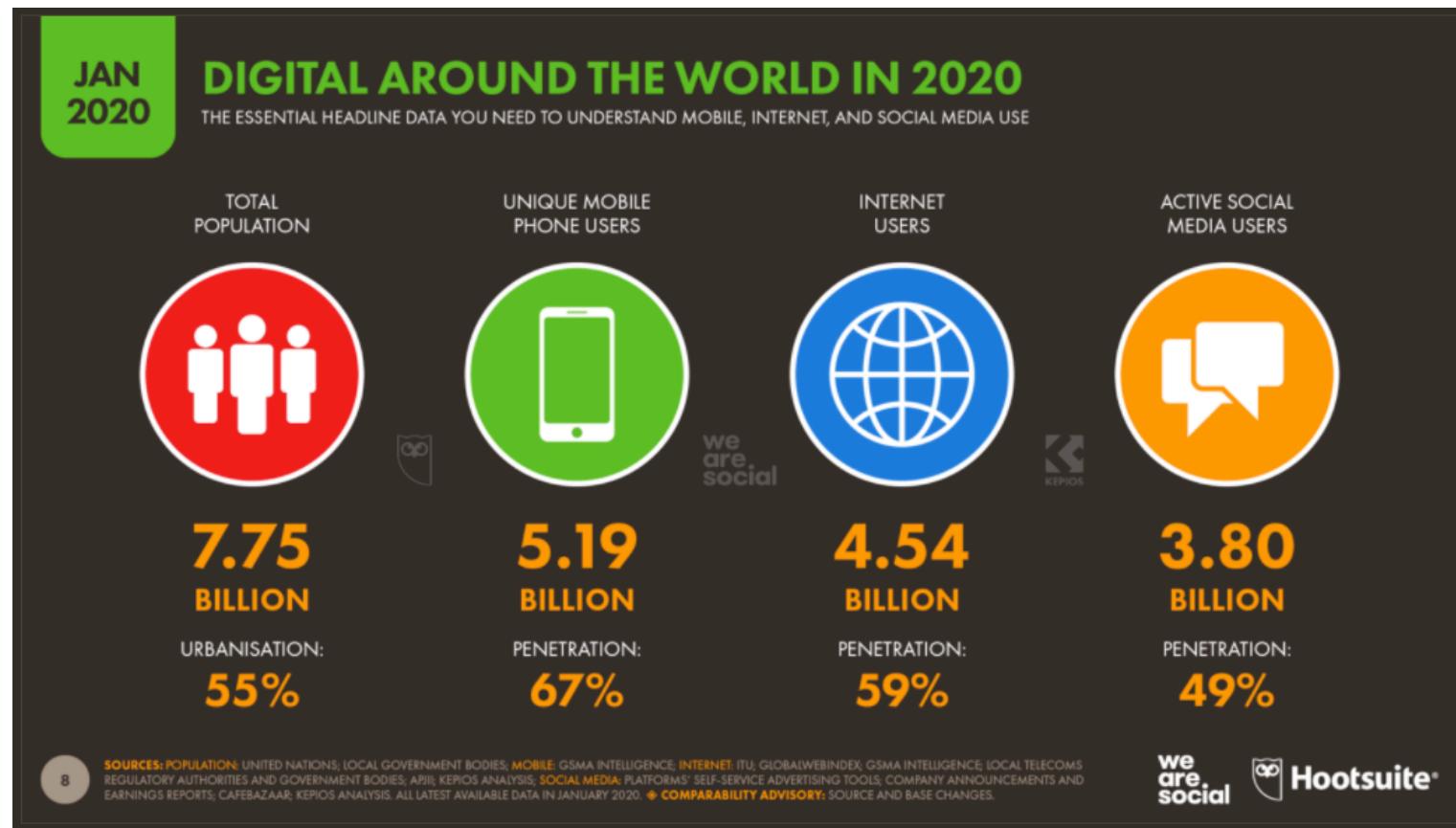
```
/* Your own css starts from here */
```

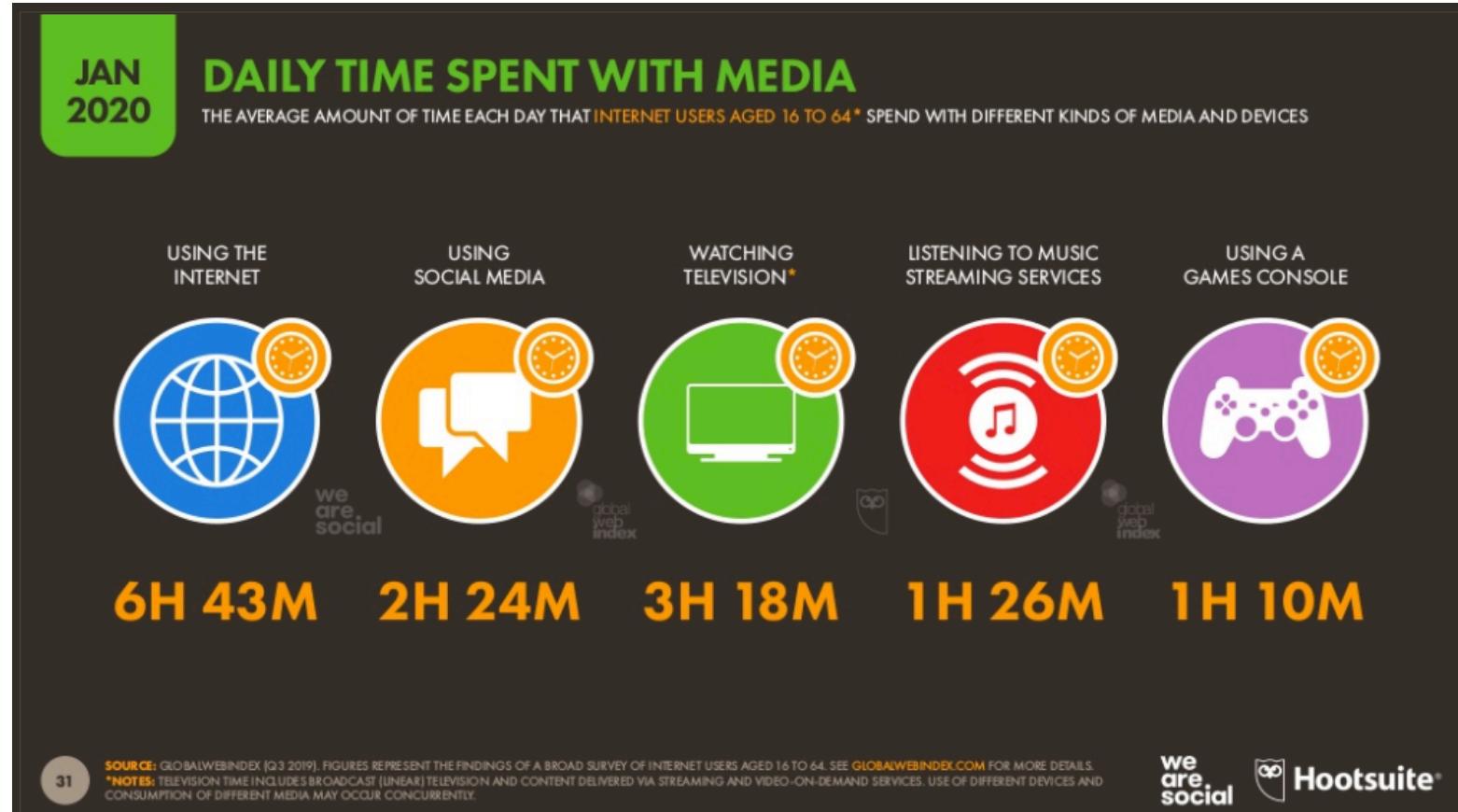
```
h1 {  
    font-size: 20px;  
    margin: 5px;  
}
```

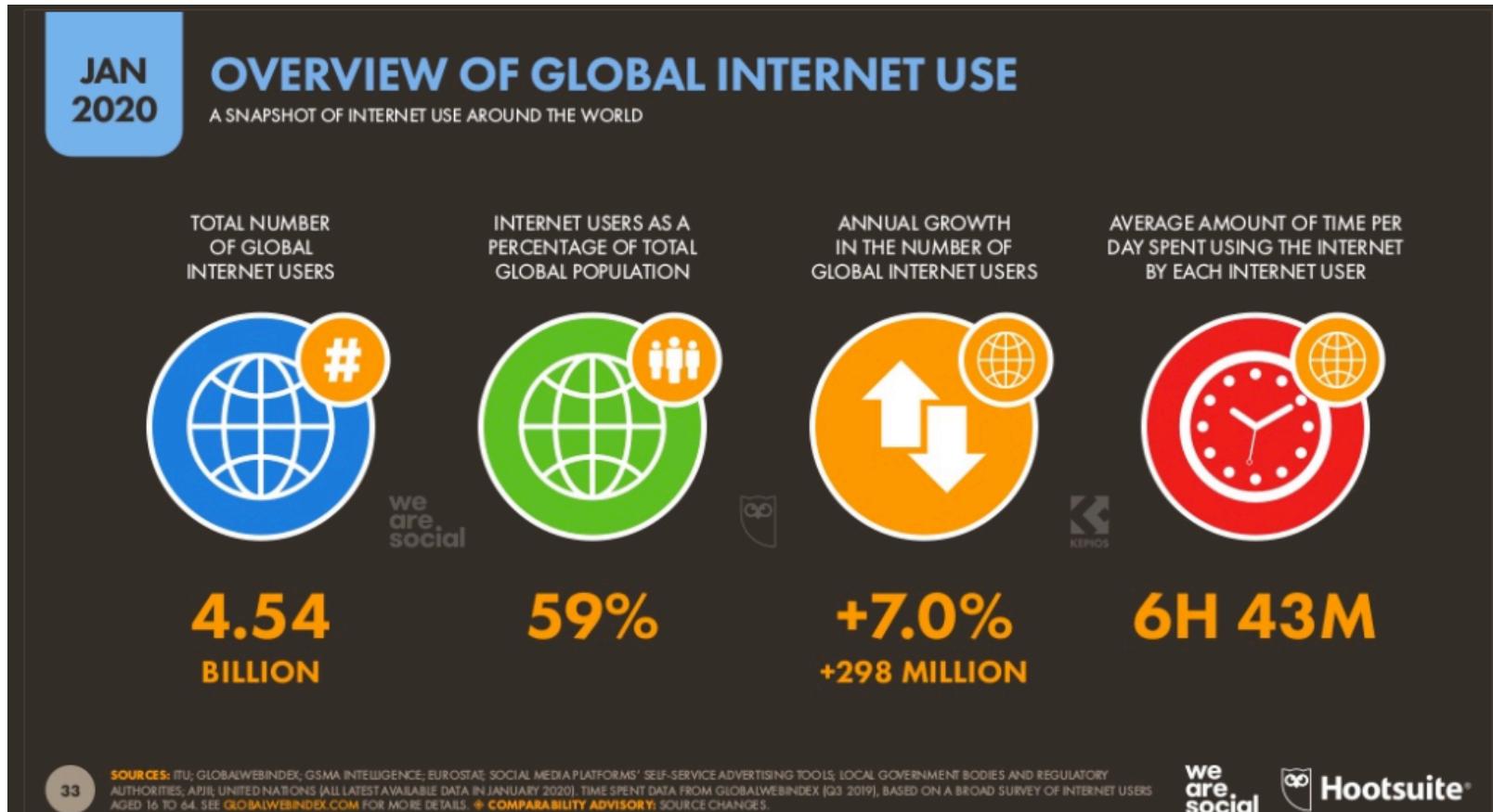
**RESPONSIVE  
WEB  
DESIGN**

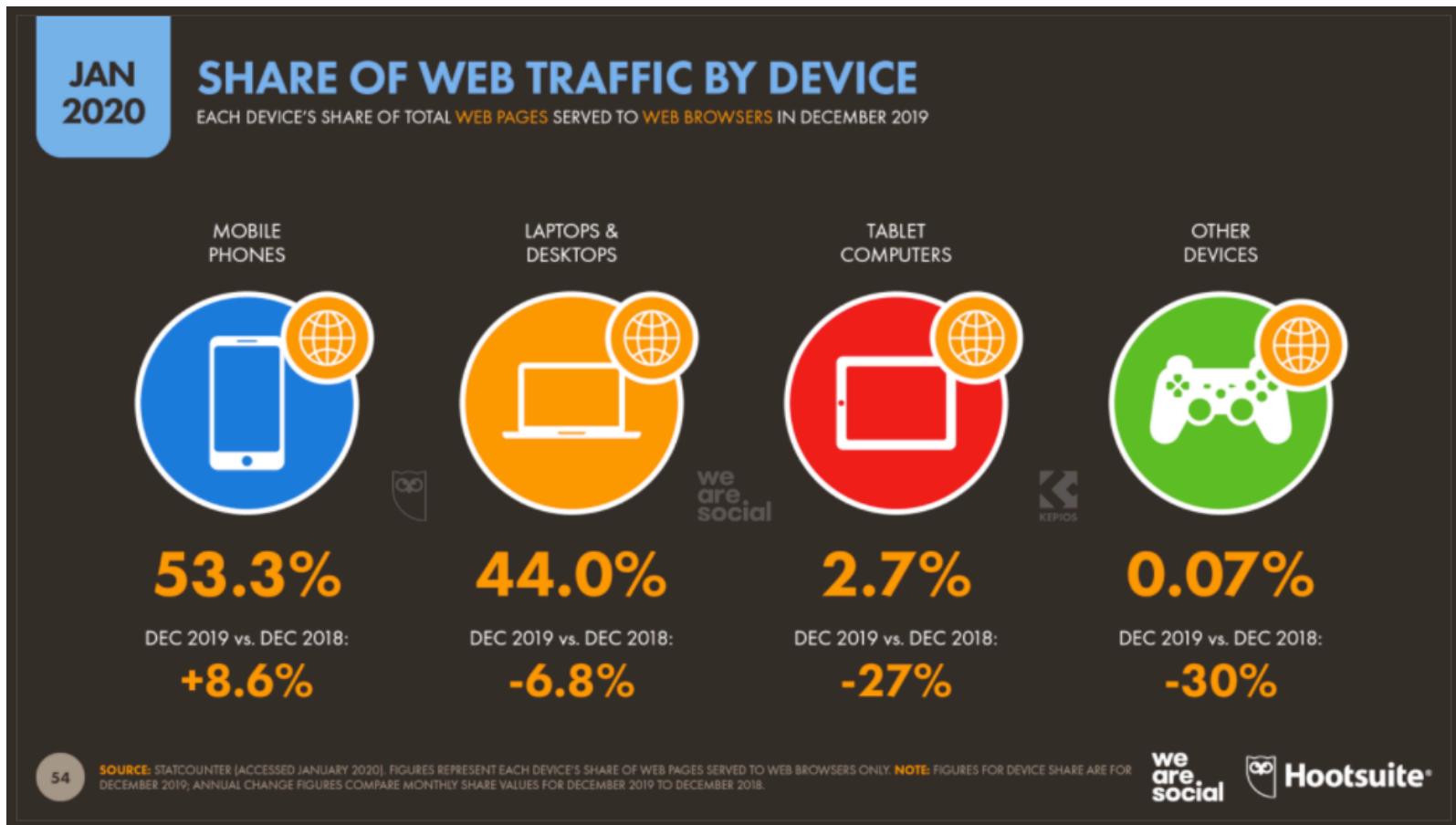
### What is Responsive Web Design ( RWD) and why is it important?

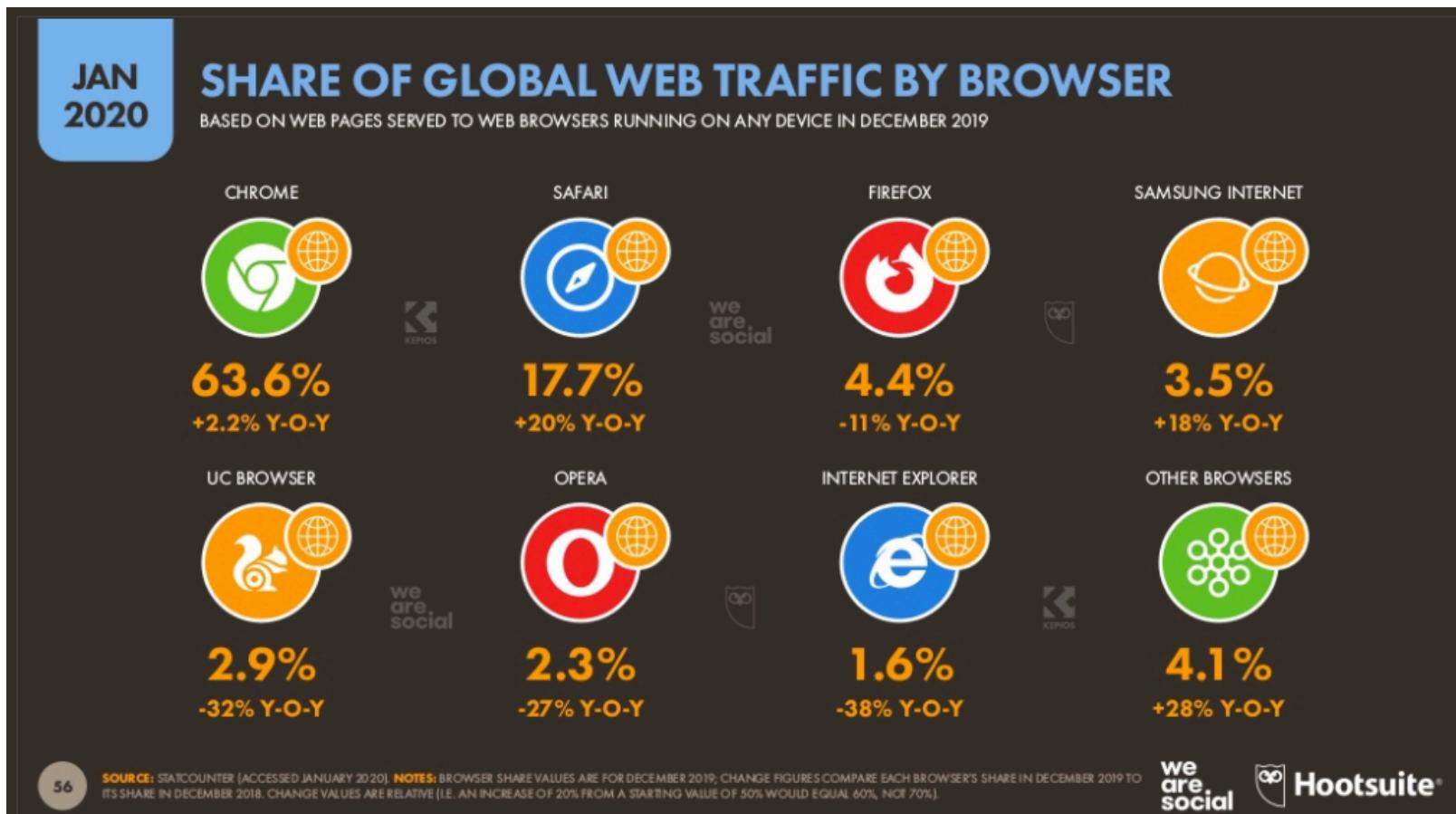
- Responsive web design (RWD) is a **web development approach** that creates **dynamic changes** to the appearance of a website, **depending on the screen size** of the device being used to view it.
- The **same HTML is served to all devices**, using **CSS** to change the appearance of the page.
- Rather than creating a separate site and corresponding codebase for wide-screen monitors, desktops, laptops, tablets and phones of all sizes, a single codebase can support users with differently sized viewports.
- It is also **possible to hide** some items/sections according to devices.











It is called **responsive web design** when you use CSS and HTML to **resize**, **hide**, **shrink**, **enlarge**, or **move** the content to make it *look good on any screen*.

## Chania

The Flight  
The City  
The Island  
The Food

### The City

Chania is the capital of the Chania region on the island of Crete. The city can be divided in two parts, the old town and the modern city.

**What?**  
Chania is a city on the island of Crete.

**Where?**  
Crete is a Greek island in the Mediterranean Sea.

**How?**  
You can reach Chania airport from all over Europe.

Resize the browser window to see how the content respond to the resizing.

Desktop

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Tablet

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Mobile

### Advantages of Responsive Web Design?

#### 1. Attract a wider audience:

- Your audience will access your website from *a variety of different devices in all shapes and sizes.*

#### 2. Easier to maintain:

- Multiple websites for multiple devices means any changes needs to be made across all of them. With a responsive website it means *you only have to make the change once.*

#### 3. Easier to monitor analytics:

- A responsive website is just one website, meaning *your analytics is just one source of information.*

#### 4. Boost for SEO:

- Google are now, in order to improve their search results for mobile users, favouring responsive websites so they appear higher on the search engines results.

#### 5. Improved conversion rates:

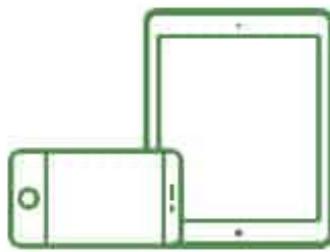
- A responsive website will increase sales as it will reach a larger, more target audience and give them the smooth and easy experience they are looking for.

### The Screen Sizes for Responsive Web Design?



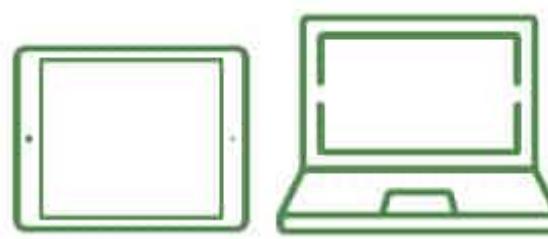
0-480

Smaller  
smartphones



481-768

Tablets & larger  
smartphones



769-1279

Laptops, larger tablets  
in landscape, and small  
desktops



1280+

Larger desktops  
and monitors

### There Major Principles of Responsive Web Design?

- Percentage or Grid Systems
- Fluid Image Use
- Media Queries

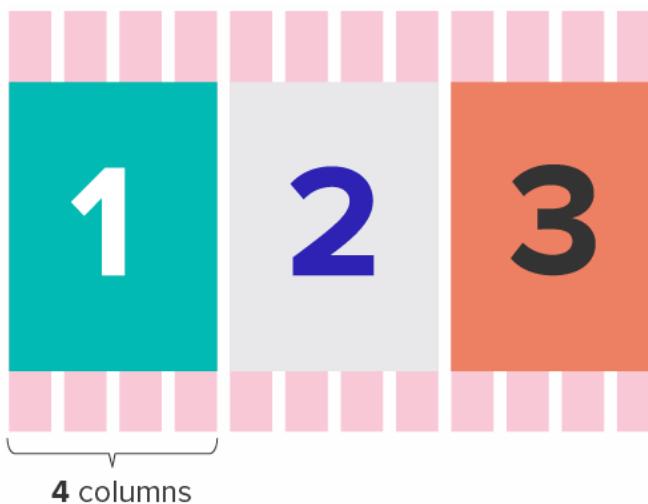
## What Are The Major Principles of Responsive Web Design?

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- Media Queries

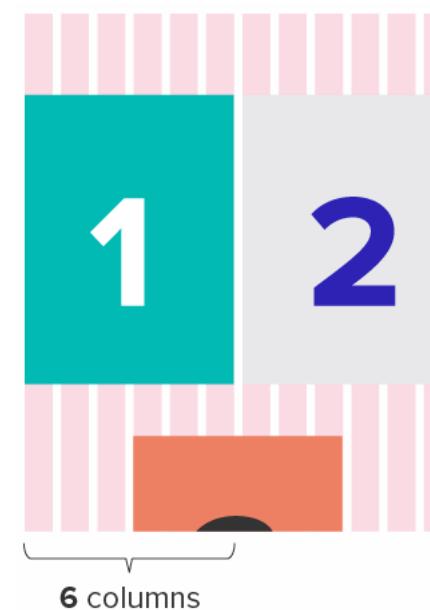


## There Major Principles of Responsive Web Design?

- Percentage or 12-Grid Systems
- Fluid Image Use
- Media Queries



Desktop



Tablet



Mobile

## There Major Principles of Responsive Web Design?

- Percentage or 12-Grid Systems
- **Fluid Image Use**
- Media Queries

```
<picture>
  <source srcset="img_smallflower.jpg" media="(max-width: 600px)">
  <source srcset="img_flowers.jpg" media="(max-width: 1500px)">
  <source srcset="flowers.jpg">
  
</picture>
```



650 Kb

Width > 1500px



180 Kb

Width: 600 - 1499px



32 Kb

Width < 599px

## There Major Principles of Responsive Web Design?

- Percentage or 12-Grid Systems
- Fluid Image Use
- **Media Queries**

```
@media screen and (max-width: 992px) {
  .column {
    width: 50%;
  }
}
```

```
@media screen and (max-width: 600px) {
  .column {
    width: 100%;
  }
}
```

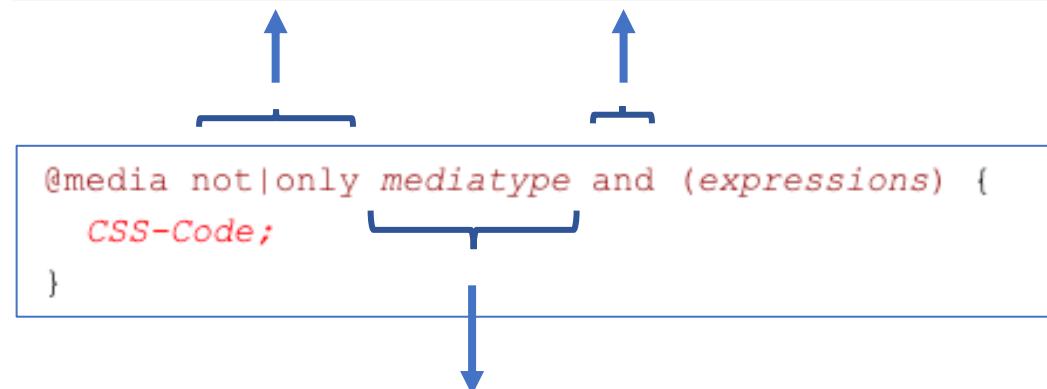
```
@media screen and (min-width: 800px) {
  body {
    background-color: lavender;
  }
}
```

**not:** The **not** keyword reverts the meaning of an entire media query.

**only:** The **only** keyword prevents older browsers that do not support media queries with media features from applying the specified styles. **It has no effect on modern browsers.**

**and:** The **and** keyword combines a media feature with a media type or other media features.

They are all optional. However, if you use **not** or **only**, you must also specify a media type.



Value	Description
all	Used for all media type devices
print	Used for printers
screen	Used for computer screens, tablets, smart-phones etc.
speech	Used for screenreaders that "reads" the page out loud

## Viewport

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

- The **viewport** is the **user's visible area of a web page**.
- The viewport **varies with the device**, and will be smaller on a mobile phone than on a computer screen.
- When we started surfing the internet using tablets and mobile phones, **fixed size web pages were too large** to fit the viewport. **To fix this, browsers on those devices scaled down the entire web page to fit the screen**.