Programación de Aplicaciones Telemáticas

TEMA 4: CSS

AGENDA

SESIÓN 1: CORE CSS

- Introducción
- Selectores CSS
- Pseudo-classes
- Pseudo-elements
- Unidades de medida CSS
- Contenido
- Layout
- Seguridad
- Referencias

AGENDA

SESIÓN 2: CSS FRAMEWORKS

- Introducción
- Layout
- Content
- Components
- Utilities
- Referencias

AGENDA

SESIÓN 3: MEJORANDO TUS SITES

- Accesibilidad
- Responsive Web Design
- Web Components
- Preprocesadores CSS
- Referencias

SESSION 1: CORE CSS

INTRODUCCIÓN

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML.

CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file

SELECTORES CSS

The CSS class selector matches elements based on the contents of their class attribute.

SELECTORES CSS

- Type selectors
- Class selectors
- ID selectors
- Universal selectors
- Attribute selectors

SELECTORES CSS

CLASS SELECTORS

```
/* All < a > elements. */
a {
  color: red;
}
```

SELECTORES CSS

CLASS SELECTORS

```
/* All elements with class="spacious" */
.spacious {
  margin: 2em;
}
/* All < li > elements with class="spacious" */
li.spacious {
  margin: 2em;
}
/* All < li > elements with a class list that
   includes both "spacious" and "elegant" */
/* For example, class="elegant retro spacious" */
li.spacious.elegant {
  margin: 2em;
}
```

SELECTORES CSS

ID SELECTORS

```
/* The element with id="demo" */
#demo {
  border: red 2px solid;
}
```

SELECTORES CSS

UNIVERSAL SELECTORS

```
/* Selects all elements */
* {
  color: green;
}
```

SELECTORES CSS

ATTRIBUTE SELECTORS

```
/* < a > elements with a title attribute */
a[title] {
  color: purple;
}
/* < a > elements with an href matching "https://example.org"
a[href="https://example.org"] {
  color: green;
}
/* < a > elements with an href containing "example" */
a[href*="example"] {
  font-size: 2em;
}
/* < a > elements with an href ending ".org" */
a[href$=".org"] {
  font-style: italic;
```

PSEUDO-CLASSES

A pseudo-class is used to define a special state of an element.

PSEUDO-CLASSES

:active :any-link :checked :blank :default :defined :dir() :disabled :empty :enabled :first :first-child :first-of-type :fullscreen :focus :focus-visible :focus-within :has() :host() :host-context() :hover :indeterminate :in-range :invalid :is() (:matches(), :any()) :lang() :last-child :last-of-type :left :link :not() :nth-child() :nth-last-child() :nth-last-of-type() :nth-of-type() :only-child :only-of-type :optional :out-of-range :placeholder-shown :read-only :read-write :required :right :root :scope :target :valid :visited :where()

UNIDADES DE MEDIDA

- Unidades relativas
- Porcentajes

UNIDADES DE MEDIDA

UNIDADES RELATIVAS

- em, (no confundir con la etiqueta < em > de HTML) relativa respecto del tamaño de letra del elemento.
- ex, relativa respecto de la altura de la letra x ("equis minúscula") del tipo y tamaño de letra del elemento.
- px, (píxel) relativa respecto de la resolución de la pantalla del dispositivo en el que se visualiza la página HTML.

CONTENIDO

- Estilos de fuentes
- Texto y párrafos en CSS
- CSS background (fondo)
- Bordes CSS
- Margin CSS y padding CSS

LAYOUT

- Float CSS y clear CSS
- Position, left y top
- Width CSS y height CSS
- Diseño por capas: z-index CSS
- Visibility y display CSS
- Overflow CSS

SEGURIDAD

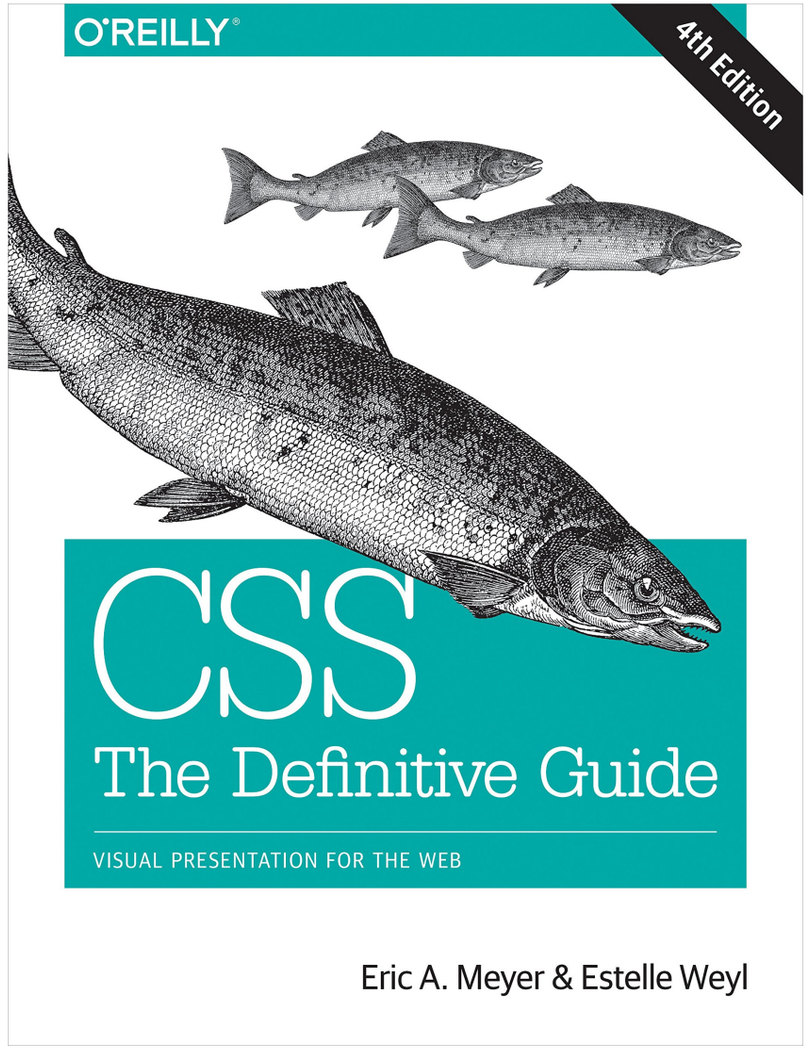
CSS

- Sensitive data hidden with CSS
- Don´t prevent senstive actions only with CSS

REFERENCIAS

- https://developer.mozilla.org/en-US/docs/Web/CSS/Class_selectors
- https://caniuse.com/

REFERENCIAS



SESIÓN 2: CSS FRAMEWORKS

FRAMEWORKS CSS

BOOTSTRAP

Bootstrap is the a popular CSS Framework for developing responsive and mobile-first websites.

https://getbootstrap.com/

FRAMEWORKS CSS

BOOTSTRAP

- Layout
- Content
- Components
- Utilities

FRAMEWORKS CSS

BOOTSTRAP

LAYOUT

- Containers
- Grid

FRAMEWORKS CSS

BOOTSTRAP

LAYOUT

- https://getbootstrap.com/docs/4.5/layout/overview/
- https://getbootstrap.com/docs/4.5/examples/grid/#contai
- https://developer.mozilla.org/en-US/docs/Web/CSS/Media_Queries/Using_media_queries
- https://getbootstrap.com/docs/4.5/layout/grid/

FRAMEWORKS CSS

BOOTSTRAP

CONTENT

- Reboot
- Typography
- Code
- Images
- Tables
- Figures

FRAMEWORKS CSS

BOOTSTRAP

CONTENT

- https://getbootstrap.com/docs/4.5/content/reboot/

FRAMEWORKS CSS

BOOTSTRAP

COMPONENTS

- Alerts
- Badge
- Breadcrumb
- Buttons
- Button group

FRAMEWORKS CSS

BOOTSTRAP

COMPONENTS

- Card
- Carousel
- Collapse
- Dropdowns
- Forms

FRAMEWORKS CSS

BOOTSTRAP

COMPONENTS

- Input group
- Jumbotron
- List group
- Media object
- Modal

FRAMEWORKS CSS

BOOTSTRAP

COMPONENTS

- Navs
- Navbar
- Pagination
- Popovers
- Progress

FRAMEWORKS CSS

BOOTSTRAP

COMPONENTS

- Scrollspy
- Spinners
- Toasts
- Tooltips

FRAMEWORKS CSS

BOOTSTRAP

UTILITIES

- Borders
- Clearfix
- Close icon
- Colors
- Display

FRAMEWORKS CSS

BOOTSTRAP

UTILITIES

- Embed
- Flex
- Float
- Image replacement
- Interactions

FRAMEWORKS CSS

BOOTSTRAP

UTILITIES

- Overflow
- Position
- Screen readers
- Shadows
- Sizing

FRAMEWORKS CSS

BOOTSTRAP

UTILITIES

- Spacing
- Stretched link
- Text
- Vertical align
- Visibility

REFERENCIAS

- https://getbootstrap.com/
- https://startbootstrap.com/themes?showAngular=false&showVue=false&showPro=false

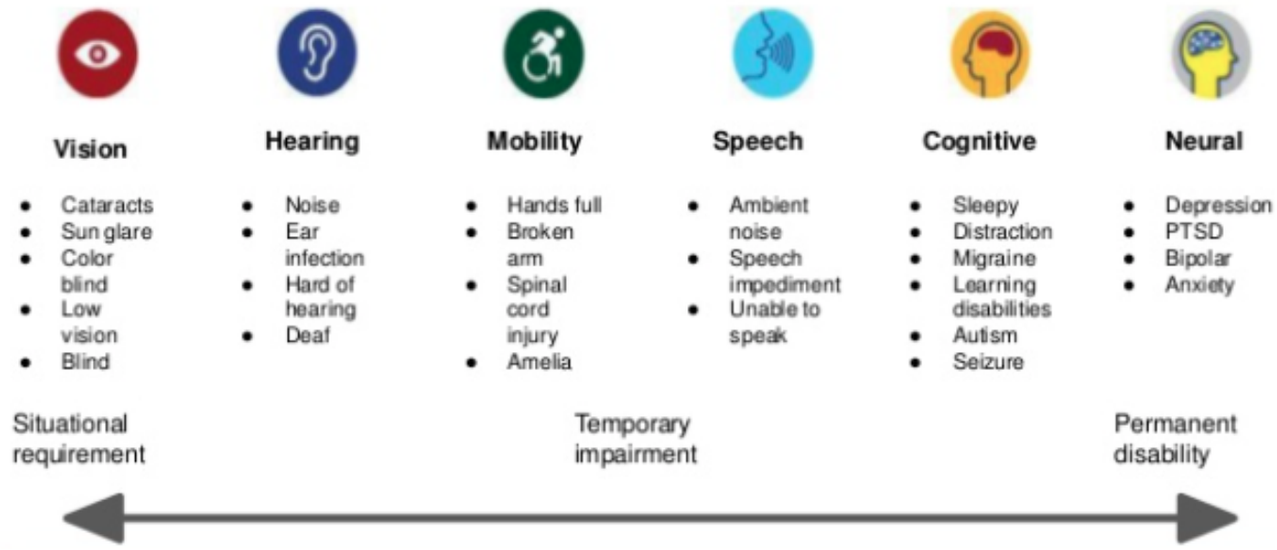
SESIÓN 3: MEJORANDO TUS SITES

ACCESIBILIDAD

La accesibilidad Web significa que personas con algún tipo de discapacidad van a poder hacer uso de la Web. En concreto, al hablar de accesibilidad Web se está haciendo referencia a un diseño Web que va a permitir que estas personas puedan percibir, entender, navegar e interactuar con la Web, aportando a su vez contenidos. La accesibilidad Web también beneficia a otras personas, incluyendo personas de edad avanzada que han visto mermadas sus habilidad a consecuencia de la edad.

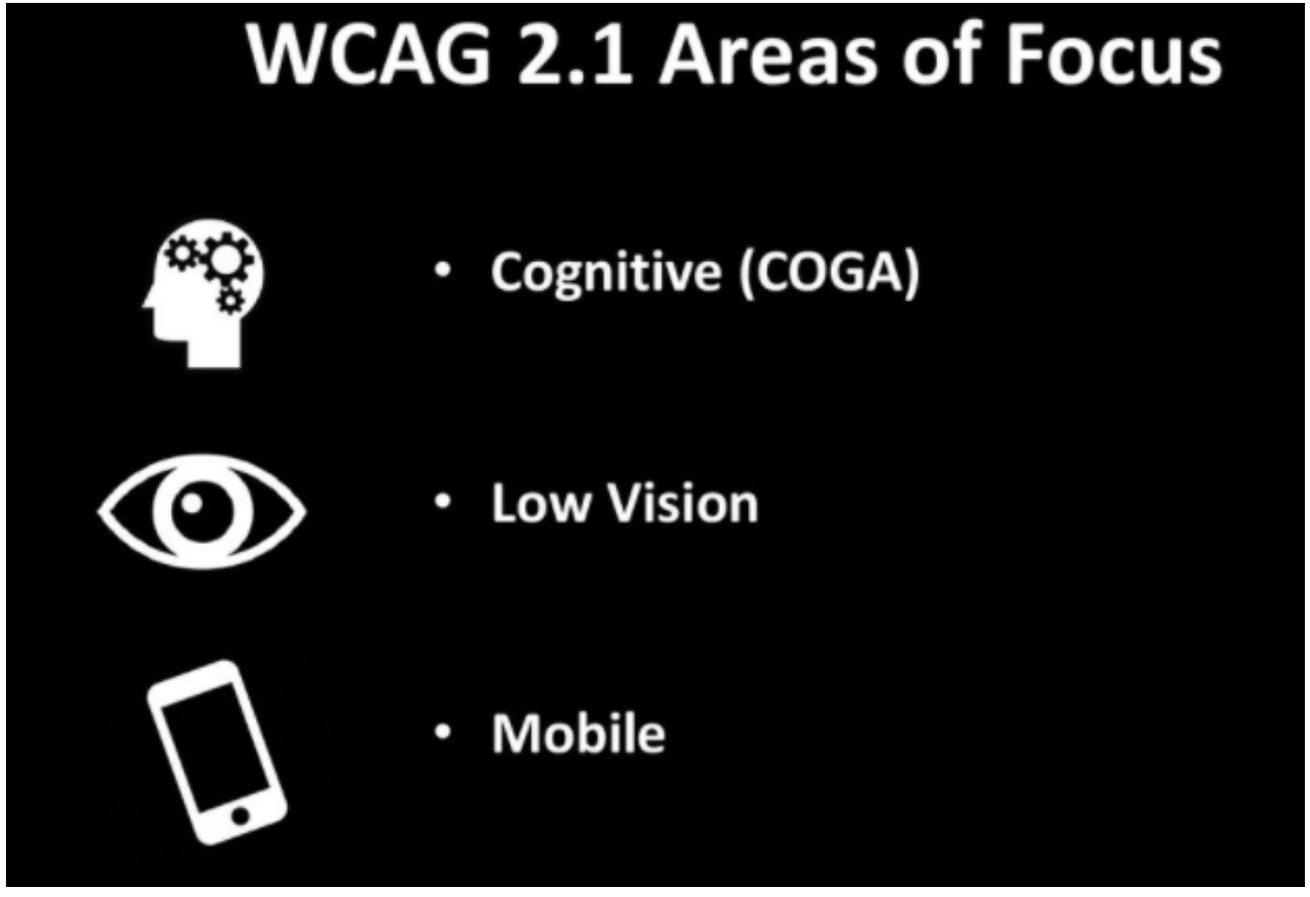
ACCESIBILIDAD

Discapacidades:



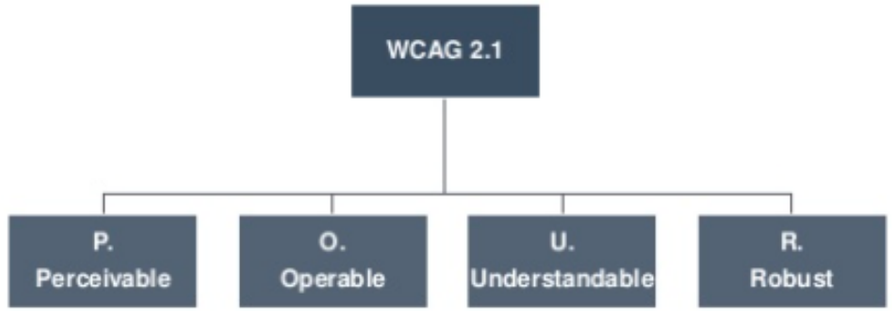
ACCESIBILIDAD

Discapacidades:



ACCESIBILIDAD

WCAG 2.1



ACCESIBILIDAD

WCAG 2.1

ACCESIBILIDAD

WCAG 2.1

	WCAG 2.0 (12 Guidelines)	WCAG 2.1 (1 Additional Guideline = 13)	TOTAL WCAG 2.0 and 2.1 Success Criteria
Level A - the most basic web accessibility features	25	5	30
Level AA - deals with the biggest and most common barriers for disabled users	13	7	20
Level AAA - the highest (and most complex) level of web accessibility	23	5	28
Total	61	17	78

RESPONSIVE WEB DESIGN

Responsive web design (RWD) is an approach to web design that makes web pages render well on a variety of devices and window or screen sizes.

RESPONSIVE WEB DESIGN

VIEWPORT

```
<meta name="viewport" content="width=device-width, initial-sca
```

RESPONSIVE WEB DESIGN

RESPONSIVE IMAGES

RESPONSIVE WEB DESIGN

RESPONSIVE TEXT SIZE

RESPONSIVE WEB DESIGN

MEDIA QUERIES

A Media query is a CSS3 feature that makes a webpage adapt its layout to different screen sizes and media types.

RESPONSIVE WEB DESIGN

MEDIA QUERIES

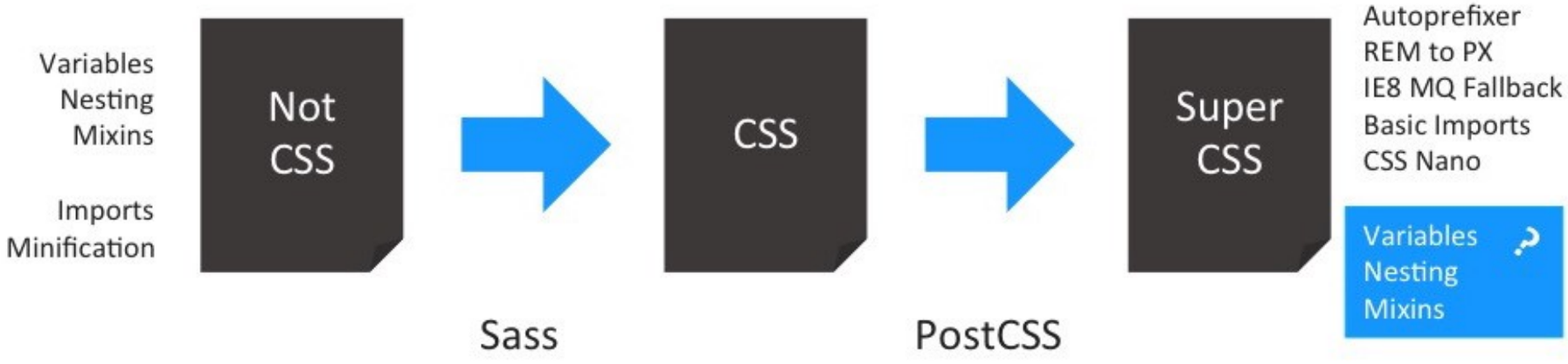
- 320px—480px: Mobile devices
- 481px—768px: iPads, Tablets
- 769px—1024px: Small screens, laptops
- 1025px—1200px: Desktops, large screens
- 1201px and more— Extra large screens, TV

RESPONSIVE WEB DESIGN

MEDIA QUERIES

```
.left, .right {
  float: left;
  width: 20%; /* The width is 20%, by default */
}
.main {
  float: left;
  width: 60%; /* The width is 60%, by default */
}
/* Use a media query to add a breakpoint at 800px: */
@media screen and (max-width: 800px) {
  .left, .main, .right {
    width: 100%; /* The width is 100%, when the viewport is 80
  }
}
```

PREPROCESADORES CSS



PREPROCESADORES CSS

SASS

https://sass-lang.com/

PREPROCESADORES CSS

SASS

Sass is a stylesheet language that’s compiled to CSS. It allows you to use variables, nested rules, mixins, functions, and more, all with a fully CSS-compatible syntax. Sass helps keep large stylesheets well-organized and makes it easy to share design within and across projects.

PREPROCESADORES CSS

SASS

Caracteristicas:

- variables
- nested rules
- mixins
- functions

PREPROCESADORES CSS

SASS

VARIABLES

Sass variables are simple: you assign a value to a name that begins with $, and then you can refer to that name instead of the value itself.

https://sass-lang.com/documentation/variables

PREPROCESADORES CSS

SASS

NESTED RULES

Nesting is combining of different logic structures. Using SASS, we can combine multiple CSS rules within one another. If you are using multiple selectors, then you can use one selector inside another to create compound selectors.

https://sass-lang.com/documentation/style-rules

PREPROCESADORES CSS

SASS

MIXINS

Mixins allow you to define styles that can be re-used throughout your stylesheet. They make it easy to avoid using non-semantic classes like .float-left, and to distribute collections of styles in libraries.

https://sass-lang.com/documentation/at-rules/mixin

PREPROCESADORES CSS

SASS

FUNCTIONS

Functions allow you to define complex operations on SassScript values that you can re-use throughout your stylesheet. They make it easy to abstract out common formulas and behaviors in a readable way.

https://sass-lang.com/documentation/at-rules/function

WEB COMPONENTS

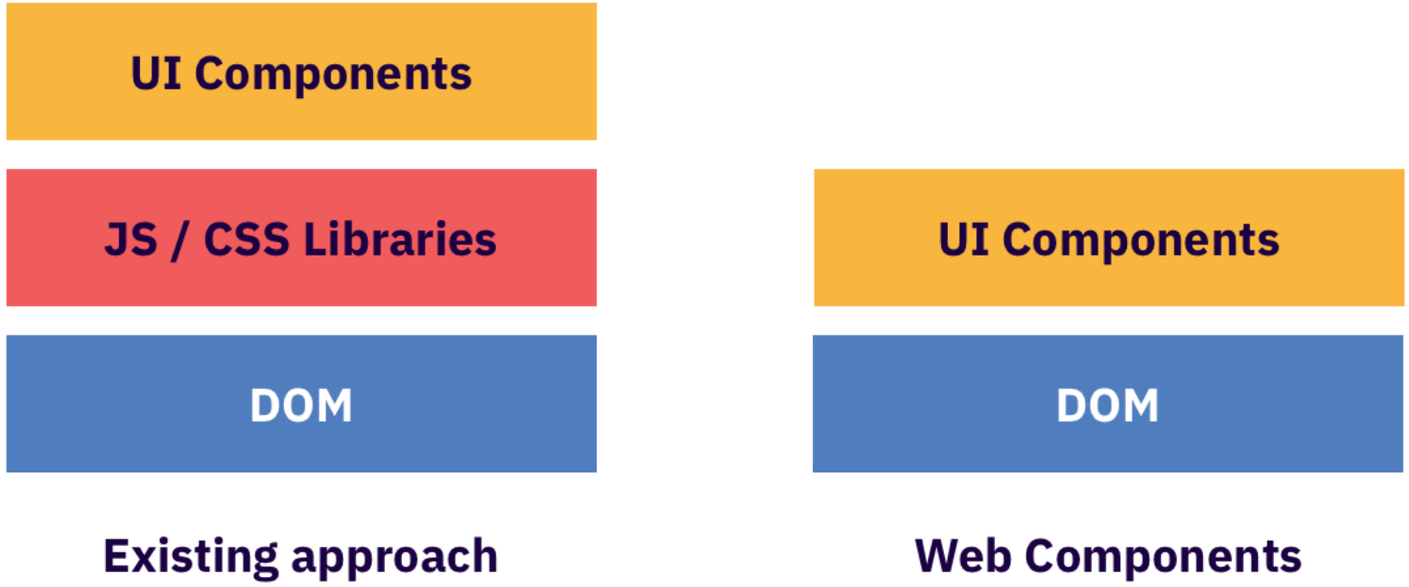
INTRODUCTION

Web Components is a suite of different technologies allowing you to create reusable custom elements

- Custom elements
- Shadow DOM
- HTML templates
- HTML imports

WEB COMPONENTS

INTRODUCTION



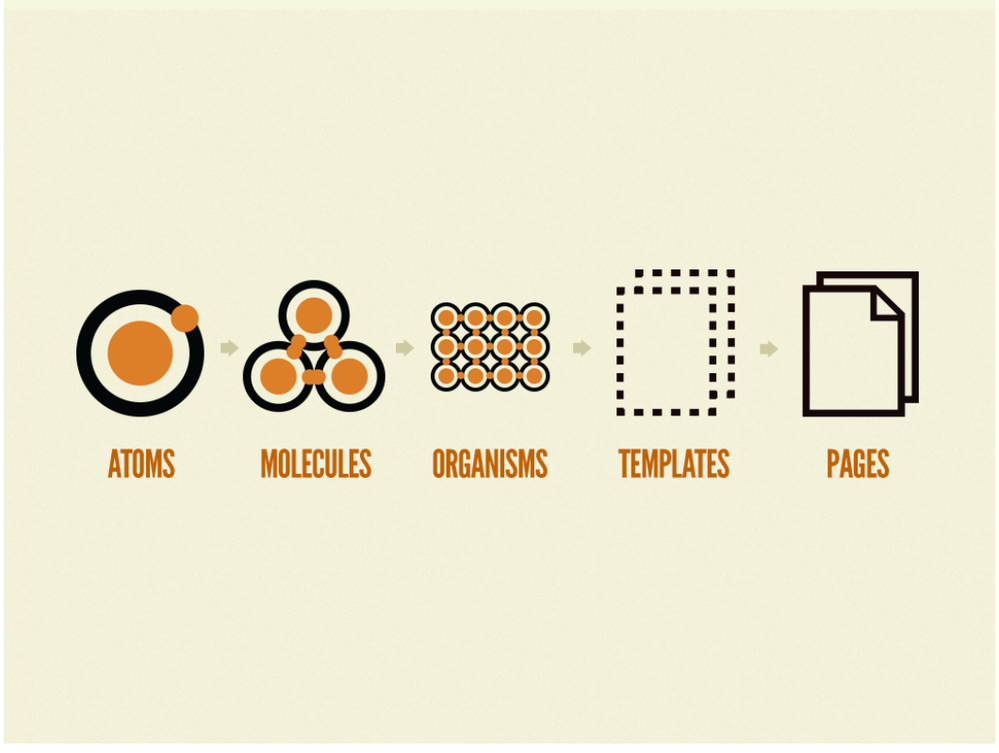
WEB COMPONENTS

LIBRARIES

- https://stenciljs.com/
- https://lit-html.polymer-project.org/

WEB COMPONENTS

ATOMIC DESIGN



https://bradfrost.com/blog/post/atomic-web-design/

REFERENCIAS

- https://html5sec.org/
- https://www.sqreen.com/checklists/html-css-security-che
- https://cheatsheetseries.owasp.org/cheatsheets/HTML5_S
- https://developer.mozilla.org/en-US/docs/Learn/Server-side/First_steps/Website_security
- https://martinfowler.com/articles/web-security-basics.htm
- https://angular.io/guide/security
- https://vuejs.org/v2/guide/security.html
- https://resources.infosecinstitute.com/topic/general-html5
- https://css-tricks.com/css-security-vulnerabilities/