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# Fundamentals of Responsive Web Design

— Tools & Techniques —

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# Agenda

- Recap: CSS / CSS3 / HTML 5
  - Box Model, Basic Layout, Floating
- Viewport and Media Query
- Responsive Layout: Responsive Grid and FlexBox
- Pre/Post Processors for CSS: SASS / LESS
- BME and SUIT: naming conventions
- JavaScript tooling: npm, Node, Webpack, Modernizr, Polyfills
- Italia Designers WebKit for AgID
  - Using the standard build
  - Installing the kit, customization and rebuild
- Esercizi di costruzione con i componenti del WebKit
- Quiz

# **GIT Repo for the course**

Examples can be cloned from this repo:

<https://github.com/thimotyb/mypasite.git>

# HTML5 : What's new

- Semantic Layout
- Canvas
- Multimedia Elements
- Local Storage API
- Forms

[https://www.w3schools.com/Html/html5\\_intro.asp](https://www.w3schools.com/Html/html5_intro.asp)

# HTML5 Forms

<https://brave-kowalevski-eeded5.netlify.com/html5/>

- fieldset
- label
- placeholder
- required
- autofocus / autocomplete
- datalist

## Types:

- email
- number (with min/max ranges)
- tel
- search
- pattern
- color
- date / month / week / time
- range

# CSS / CSS3

- Selectors
- Box Model
- Dimensions
- Layout / Positioning
- Transitions

<http://www.css3-tutorial.net/>

# Viewport and Media Query

- Adding viewport meta tag
- Media Query and BreakPoints

[https://www.w3schools.com/Css/css\\_rwd\\_intro.asp](https://www.w3schools.com/Css/css_rwd_intro.asp)

# Responsive Layout: FlexBox

- Flex
- Flex support (caniuse)
- Flex shorthand
- Examples with Media Query

<https://css-tricks.com/snippets/css/a-guide-to-flexbox/>



# Styling HTML5 forms with CSS3 and FlexBox

<https://brave-kowalevski-eeded5.netlify.com/html5/styled>

```
<div class="form-Input_Wrapper">  
  <input id="film" name="film" type="text" placeholder="e.g. King Kong" required/>  
  <label for="film">The film in question?</label>  
</div>
```

```
flex-direction: row-reverse
```

input:required + label:after { }

# Responsive Layout: Responsive Grid

Building a Responsive Grid

[https://www.w3schools.com/Css/css\\_rwd\\_grid.asp](https://www.w3schools.com/Css/css_rwd_grid.asp)

SUIT Responsive Grid

<https://github.com/suitcss/components-grid>

# Pre/Post Processors: LESS / SASS ...

- Variables
- Mixins
- Nesting
- Import

SASS: Extends

<http://lesscss.org/>

<https://sass-lang.com/>

# CSS Naming Conventions

- BEM (Block Element Modifier) - Simple naming convention
  - <http://getbem.com/>
- SUIT CSS Naming Convention
  - <https://github.com/suitcss/suit/blob/master/doc/naming-conventions.md>
- [u-utilityName](#)
- [ComponentName](#)
- [ComponentName--modifierName](#)
- [ComponentName-descendentName](#)
- [ComponentName.is-stateOfComponent](#)
- [Variables](#)

# JavaScript Tooling

- npm
- Linters

```
PS C:\Users\thimo\git\design-web-toolkit> node .\node_modules\stylelint\bin\stylelint.js .\styleguide\assets\styleguide.css

styleguide/assets/styleguide.css
113:3  x  Expected empty line before rule      rule-empty-line-before
164:1  x  Expected empty line before rule      rule-empty-line-before
167:1  x  Expected empty line before rule      rule-empty-line-before
339:1  x  Expected empty line before rule      rule-empty-line-before
342:1  x  Expected empty line before rule      rule-empty-line-before
343:5  x  Expected indentation of 2 spaces      indentation
347:1  x  Expected no more than 1 empty line    max-empty-lines

PS C:\Users\thimo\git\design-web-toolkit> 
```

- Modernizr <https://modernizr.com/>
- Webpack <https://webpack.js.org/>

Facendo riferimento al [template HTML di esempio](#), vanno inclusi nella tua pagina HTML i file:

# AgID WebKit: Using

<https://designers.italia.it/kit/web-toolkit/>

```
.  
├─ build.css  
├─ vendor/modernizr.js  
├─ vendor/jquery.min.js  
└─ IWT.min.js
```

Gli altri file contenuti nella directory `build` sono Javascript associati a componenti dell'interfaccia opzionali:

```
├─ 0.chunk.js  
├─ 1.chunk.js  
└─ ...
```

Tali file vengono **caricati automaticamente** a runtime solo dove il componente (es. carousel) viene effettivamente utilizzato nell'HTML.

Questo meccanismo permette di incorporare esempi e widget Javascript complessi nel toolkit, senza che ciò abbia impatto sulla dimensione finale del file `IWT.min.js`, riducendo quindi i tempi di scaricamento e parsing durante il rendering delle pagine.

Tali file devono essere comunque presenti nella stessa directory dove è situato il file `IWT.min.js`. Se il percorso di questa directory differisce da quello di default (`/build`), è necessario specificare il percorso alternativo, **relativo alla radice del sito web**.

# AgID Toolkit: Exercise

<https://github.com/thimotyb/mypasite>

- Usare i componenti della styleguide
- Installare http-server
- Provare a navigare con NVDA

← → ↺ 127.0.0.1:8080/# 🔍 ☆ 🖨️ 📄 🔄

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MENU

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Indirizzo del domicilio

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Via

CAP

Altre informazioni

Voglio essere contattato

☒ Via mail

☐ Per telefono

Varie ed eventuali (opzionale)

# AgID WebKit: Customization

`https://github.com/italia/design-web-toolkit`

`git clone https://github.com/italia/design-web-toolkit.git`

`npm install`

`build e watch`

`customize css source (theme) and rebuild`