# Fundamentals of Responsive Web Design

Tools & Techniques

#### **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

#### **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

#### **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

**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
  - <a href="http://getbem.com/">http://getbem.com/</a>
- SUIT CSS Naming Convention
  - <a href="https://github.com/suitcss/suit/blob/master/doc/naming-conventions.md">https://github.com/suitcss/suit/blob/master/doc/naming-conventions.md</a>
- <u>u-utilityName</u>
- ComponentName
- ComponentName--modifierName
- ComponentName-descendentName
- ComponentName.is-stateOfComponent
- <u>Variables</u>

# **JavaScript Tooling**

- npm
- Linters

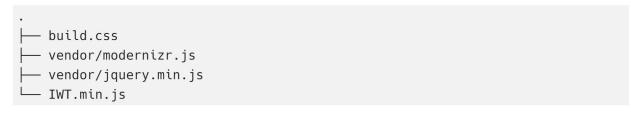
```
PS C:\Users\thimo\git\design-web-toolkit> node .\node modules\stylelint\bin\stylelint.js .\styleguide\assets\styleguide.css
styleguide/assets/styleguide.css
          Expected empty line before rule
                                               rule-empty-line-before
          Expected empty line before rule
                                               rule-empty-line-before
 164:1 ×
 167:1 ×
          Expected empty line before rule
                                               rule-empty-line-before
          Expected empty line before rule
                                               rule-empty-line-before
          Expected empty line before rule
                                               rule-empty-line-before
          Expected indentation of 2 spaces
                                               indentation
          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/

# AgID WebKit: Using

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

Facendo riferimento al <u>template HTML di esempio</u>, vanno inclusi nella tua pagina HTML i file:



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.

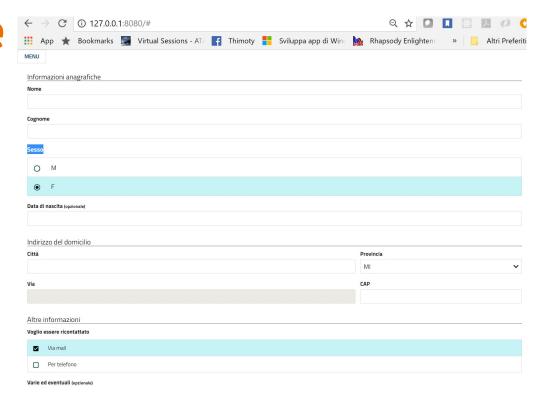
Questo meccanismo permette di incorporare esempi e widget Javascript complessi nel toolkit, senza che ciò abbia impatto sulla dimensione finale del file IWT.min.js, riducendo quindi i tempi di scaricamento e parsing durante il rendering delle pagine.

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



#### **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