

ANGULAR  
**ARCHITECTS**

# A11y Best Practices

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# LXT's 10 A11y Best Practices



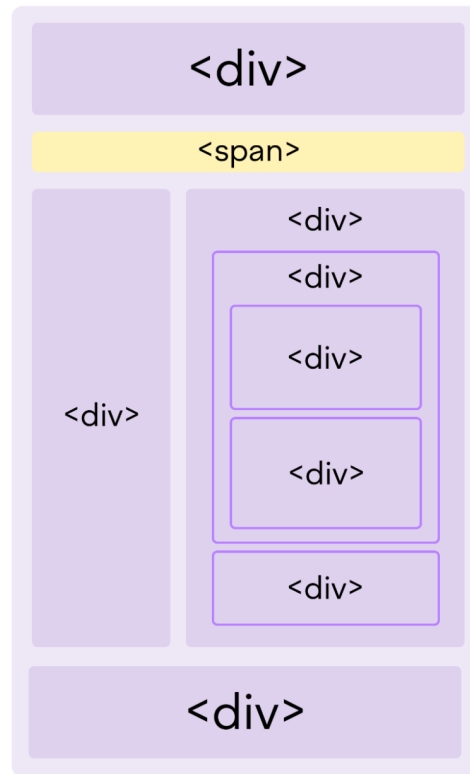


# A11y – Best Practices

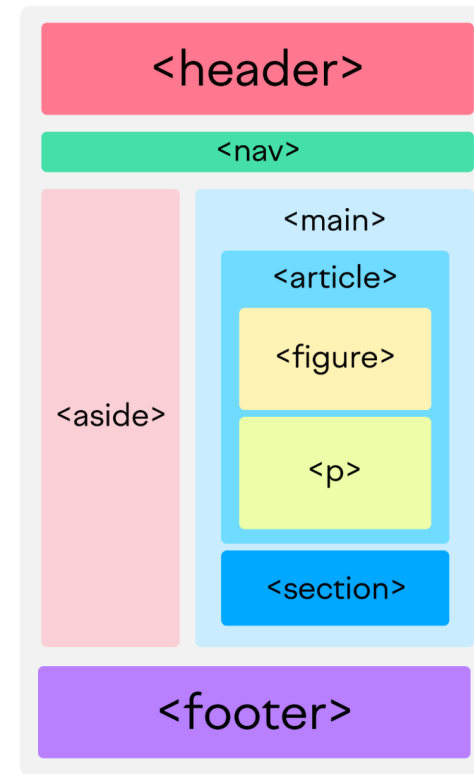
1. Semantic HTML & Structure
2. Keyboard A11y & Navigable
3. Color & Contrast
4. Text Alts
5. Media
6. Tables
7. Forms
8. Font Size
9. Tap Targets
10. Language

# Semantic HTML

Non-Semantic HTML



Semantic HTML



#1 Semantic

# Semantic HTML

```
<div class="wrapper">  
  <aside class="sidebar">  
    <app-sidebar />  
  </aside>  
  
  <main class="main-panel">  
    <app-navbar />  
  
    <article class="content">  
      <router-outlet />  
    </article>  
  
    <app-footer />  
  </main>  
</div>
```

#1 Semantic

# Keyboard A11y & Navigable

- [WCAG 2.1, 2.4](#)
- navigation with keyboard etc. must be possible
- use correct focus and tab order [tabindex]
  - avoid [tabindex] > 0
  - can only be "0" (adds focus border/outline) or "-1" (avoid focus)
- focus must be clearly visible and recognizable
  - use ":focus" to show outline (like ":hover"), avoid "outline: none"
  - must be at least 2px, should be at least 3px (hint: color contrast!)
- use skip links to skip navigations
- a vs. button

# Keyboard A11y & Navigable

```
<a routerLink="/home">  
  <span class="simple-text logo-mini logo-image-small">  
    <img ngSrc="/assets/angular_gradient_68x68.png" width="34"  
height="34" alt="Back to home" />  
  </span>  
  
  <span class="simple-text logo-normal">NG a11y</span>  
</a>
```

# Color & Contrast

- [WCAG 1.4.1](#), [1.4.3](#), [1.4.6](#)
- avoid color as the only visual means of
  - conveying information, indicating an action, prompting a response or distinguishing a visual element
  - **links with text-decoration: none (just don't!)**
- use a contrast ratio of at least 4.5:1 for text & images of text (3:1 for headings)
  - <https://www.whocanuse.com/>



# Text Alts



- [WCAG 1.1](#)
- use descriptive text [alt] for images & icons
  - can be alt="" / role="none" (no desc / just decorative)
  - icons/image without purpose [aria-hidden]
- <https://alttext.ai/>

# Text Alts



```
<img  
  class="full-width"  
  width="2596"  
  height="1890"  
  ngSrc="/assets/img/photos/grimming_from_glaeserkoppe.jpg"  
  alt="Snowy mountain landscape with ski tracks in the  
  foreground. Peaks and ridges extend under a blue sky with  
  scattered clouds."  
  priority  
>
```

## 4 Text Alts

# Media (Audio & Video)



- [WCAG 1.2](#)
- audio-only content
  - text transcript [1.2.1](#)
  - and captions for prerecorded [1.2.2](#)
- video-only content
  - alt text or alternative content [1.2.1](#)
- prerecorded video content
  - text transcript or audio description [1.2.3](#)
- AA
  - captions for live audio content [1.2.4](#)
  - audio description for prerecorded video content [1.2.5](#)

# Tables



- [WCAG 1.3.1](#), [2.4.6](#)
- use header and footer, use col or row
  - `<thead>` & `<tbody>`
  - `<th role="columnheader">` or `<th role="rowheader">`
  - if not using native `<table>` use ARIA table, row, columnheader, rowheader
- use caption & summary (or description)
  - `<caption>` identifies topic and is useful in most situations
  - `<summary>` provides orientation or navigation hints



# Tables



```
<table>
  <caption style="text-align: left">
    Availability of holiday accommodation<br />
    <span style="font-size: 0.75em; display: block">
      Column one has the location and size of accommodation, other
      columns show the type and number of properties available
    </span>
  </caption>
  <thead>
    <tr>
      <td></td>
      <th id="stud" scope="col">Studio</th>
      <th id="apt" scope="col"><abbr title="Apartment">Apt</abbr></th>
      <th id="chal" scope="col">Chalet</th>
      <th id="villa" scope="col">Villa</th>
    </tr>
  </thead>
  <tbody>
    [...]
  </tbody>
  <summary>This is an example of an HTML table</summary>
</table>
```

## 6 Tables

# Tables



```
<p id="tableDescription">
```

Column one has the location and size of accommodation, other columns show the type and number of properties available.

```
</p>
```

```
<table aria-describedby="tableDescription">
```

# Forms



- [WCAG 1.3.1](#), [3.3](#)
- use form elements labels & descriptions
  - `<label for="!!!">`
  - grouping with `<fieldset>` & `<legend>`
  - `[aria-describedby]` & `[aria-required]`
- use good feedback
  - recognizable, understandable & helping
  - `[aria-invalid]` & `[aria-live]`

# Forms



## 7 Forms

```
<label for="from">From (*)</label>
<input
  autocomplete="false"
  type="text"
  name="from"
  id="from"
  class="form-control"
  required
  [minlength]="minLength"
  [maxlength]="maxLength"
  [pattern]="pattern"
  [attr.aria-invalid]="
    flightSearchForm.controls['from']?.dirty && flightSearchForm.controls['from'].invalid
  "
  [attr.aria-describedby]="
    flightSearchForm.controls['from']?.dirty &&
    flightSearchForm.controls['from'].errors
    ? 'from_errors'
    : null
  "
  [(ngModel)]="from"
/>
@if (flightSearchForm.controls['from'] && flightSearchForm.controls['from'].dirty) {
  <app-flight-validation-errors
    id="from_errors"
    [errors]="flightSearchForm.controls['from'].errors"
    fieldLabel="From"
  />
}
```



# Font Size

- [WCAG 1.4.4](#)
- text can be resized up to 200%
  - without loss of content or functionality
  - except for captions and images of text
- `html { font-size: 100% }` (and then rem)
- for most browsers that will be 16px
- use rem not px (browsers make it work)
- <https://www.youtube.com/watch?v=rg3zgQ3xBRc>

# Tap Targets (pinky finger)

- [WCAG 2.5.5](#), [2.5.8](#)
- size of the target for pointer inputs is at least 24x24 (better 44x44) CSS pixels
- use padding if element (e.g. icon) is too small

# Accessible Language

- [WCAG 3.1](#)
- use [lang]
- make text readable & understandable
  - unusual words
  - abbreviations
  - reading level (complexity)
  - pronunciation (dialect)

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**Recap**



The background is an abstract composition of geometric shapes. The upper portion features a bright purple sky with soft, white, cloud-like patterns. Below this, a series of dark, intersecting lines form a perspective that leads the eye towards the center. The lower portion of the image is a deep red color, overlaid with a grid of thin, dark lines that create a sense of depth and structure.

# Questions?