A spin around JavaScript and ARIA

Blind *and* in a wheelchair…

You don't know that you don't know

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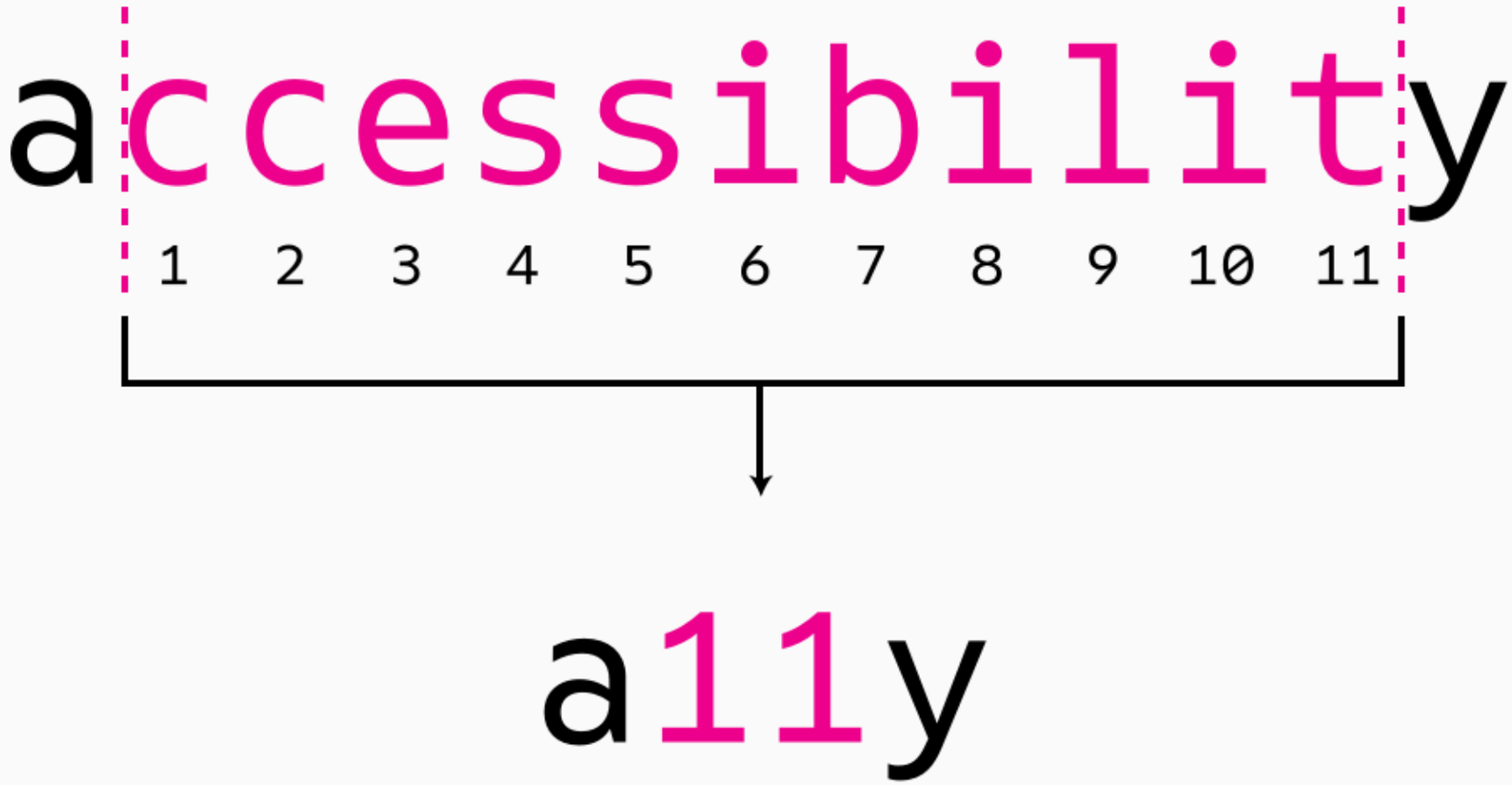
Knowbility
https://knowbility.org

A11y Rules Podcast
https://a11yrules.com

a11y


accessibility
1 2 3 4 5 6 7 8 9 10 11
a11y

For everyone

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On every device

Assistive Technologies (AT)

- Screen readers
- Keyboard
- Dragon Naturally Speaking
- Sip & puff switch
- Eye tracking
- etc…

People with disabilities are, by far, the largest minority group on the web

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Sighted keyboard-only user

Temporary impairments!

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Technical challenge

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Meeting requirements doesn't always ensure accessibility

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Involve real users with disabilities in your testing process

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Barriers aren't just for people with disabilities

JS

Ye goode olde days

97%

http://webaim.org/projects/screenreadersurvey5/#javascript

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JS to increase accessibility

- Additional information
- Warnings
- Instructions
- Warning for timed responses
- Giving additional time

Information interpretable as text

e.g. Progress bar - indicate progress in text.

Focus management

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Keyboard navigation

Tab

SHIFT + Tab

ENTER

Spacebar

Focusable elements

- **Links**
- **Buttons**
- **Form elements**
  - **iframe**
  - **etc**

Exhaustive list on:
https://allyjs.io/data-tables/focusable.html

Focus on non-focusable elements

tabindex="0"

To allow keyboard focus for user.

tabindex="-1"

To allow programmatic focus

Positive tabindex

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Accessible modal window

- Doesn't appear in normal tab order
- Captures keyboard until window closed
- Sets focus on heading
- Close with "esc" or close button

Working example:
http://bit.ly/accessible-modal

Event handlers

Device dependent

- Mouse
or
- Keyboard

Device independent

- Mouse
and
- Keyboard
and
- Other means

Event pairing

Pair mouse events with nearest keyboard equivalent

`mousedown / keydown`

Focus on purpose, not mechanics of action

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Modifying default behavior

```
object.addEventListener("mouseover", myScript);
```

```
object.addEventListener("mouseout", myScript);
```

```
object.addEventListener("focus", myScript);
```

```
object.addEventListener("blur", myScript);
```

```
object.addEventListener("click", myScript);
```

```
object.addEventListener("dblclick", myScript);
```

Dynamic content

1. Can you trigger content with keyboard?
2. Is content accessible?

WAI-ARIA

Accessible

Rich

Internet

Applications

A technical spec by the W3C to help increase accessibility of the web, particularly dynamic content and user interfaces

1st rule of ARIA

"Don't use ARIA (unless it is necessary)"

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Semantics vs WAI-ARIA

A <button> is a button

a is a div

Why change default behavior?

Triggered and focused with keyboard only

http://bit.ly/button-div

ARIA Roles

```
<form role="search">

<div role="tooltip">

<input type="text" role="alert">

<input type="image" role="slider">
```

ARIA Properties and States

```
<input aria-required="true">

<input aria-labelledby="errormsg">

<button aria-expanded="false">
  <div aria-hidden="true">

  <div aria-live="assertive">
```

Live Regions

```
<div aria-live="off">
```

Live Regions

```
<div aria-live="polite">
```

Live Regions

```
<div aria-live="assertive">
```

Questions?

Thank you!

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