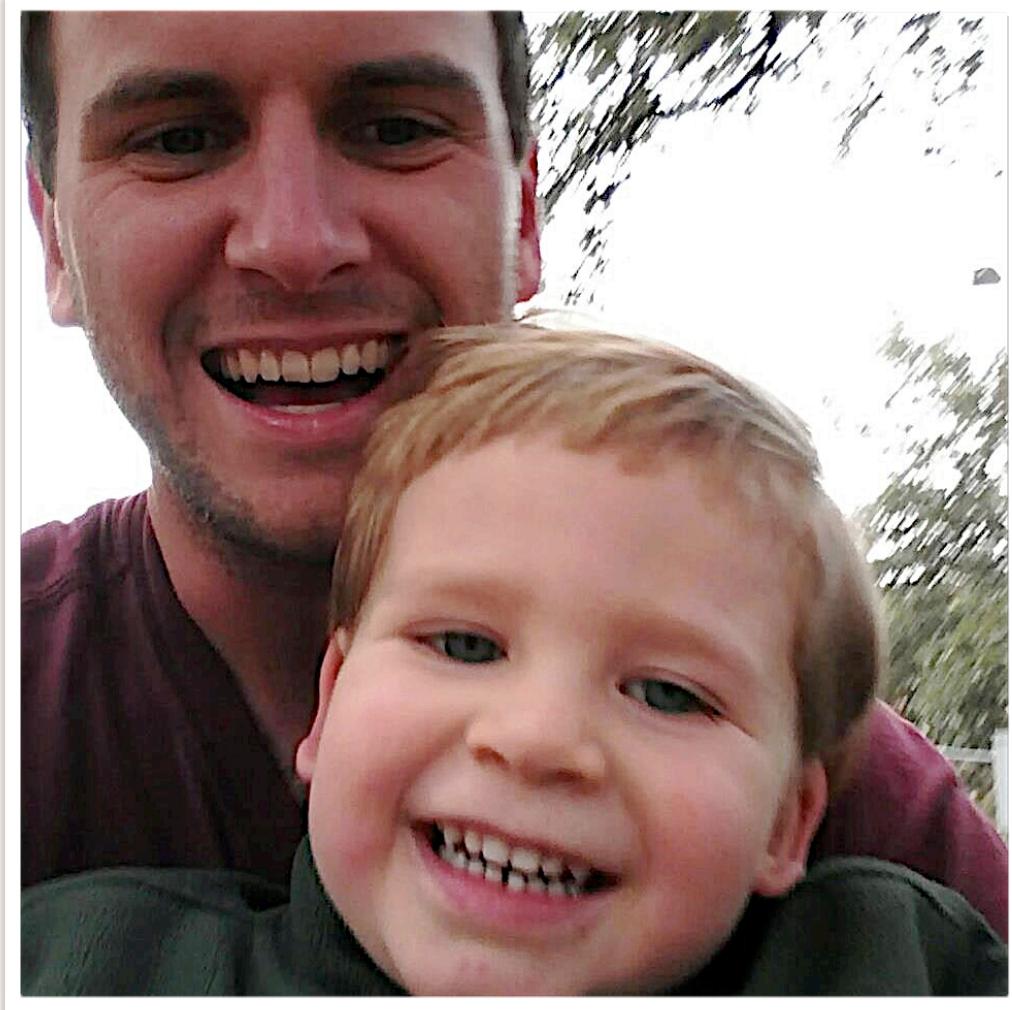


# What HTML5 Means for Web Accessibility

**Kevin Lamping**



@klamping

# My Start

# 2007

The screenshot shows the Alcon website homepage. At the top, there's a navigation bar with links for "Visit Alcon Country Websites", "Health Care Professionals", "Patients & Family", "Investors & Media", and "Careers at Alcon". Below the navigation is a blue header bar with links for "The World of Eye Health", "About Alcon", "Products", "Research & Development", "Corporate Responsibility", "Contact Us", "Locations", a search bar, and a "Go" button. A sidebar on the left says "Learn more about the Novartis and Alcon merger". The main content area features a large image of a woman looking over her shoulder, with the text "Our Vision" and "To be the most trusted leader in eye care." Below this, there are two columns: "Alcon's Commitment to Eye Care" and "In the Spotlight". The "Alcon's Commitment to Eye Care" column contains a paragraph about Alcon's mission to prevent blindness and improve people's lives. The "In the Spotlight" column has a link to "Eye Health Marketplace: Alcon's Commitment to New and Existing Markets".

Alcon

Worldwide Site

▲ Visit Alcon Country Websites

Health Care Professionals

Patients & Family

Investors & Media

Careers at Alcon

The World of Eye Health About Alcon Products Research & Development Corporate Responsibility Contact Us Locations Search Go

Learn more about the Novartis and Alcon merger

## Our Vision

*To be the most trusted leader in eye care.*

### Alcon's Commitment to Eye Care

Every day, we challenge ourselves with Alcon's mission – to provide innovative products that enhance quality of life by helping people see better. As the global leader in eye care, this mission means that we strive to make significant contributions in the fight to prevent and, one day, eliminate blindness. To that end, we are dedicated to providing the highest quality eye care products for treating various eye diseases and eye conditions.

### In the Spotlight

Eye Health Marketplace:  
Alcon's Commitment to New and Existing Markets

# A Favor

? .com

**Just Imagine**

# WCAG 2.0

**Checklist 1: General**

- Keyboard:** All content on page (2.1.1 Keyboard; 2.1.2 No keyboard)
  - Nothing on page requires a user to tab through it.
  - User can tab through some embedded content.
- Sensory:** Understanding content characteristics of component (1.3.3 Sensory Characteristics)
  - Example: A green arrow in a menu has other explanatory text (no sound).
- Colour:** Colour is not used to indicate an action, prompt or status (1.4.1 Use of Colour)
  - Example: When an error is indicated, not just the error needs to be displayed, not just the correct answer.
- Foreground and background contrast:** Background colour (and text) has sufficient contrast (1.4.3 Contrast (Minimum))
- Seizure prevention:** No seizures occur (2.1.3 Three flashes or below)
- Sufficient time:** Users can control the presentation of content (2.2.1 Timing adjustable)
  - Page does not require user to provide a warning.
  - a way to warn.

**Checklist 2: Headings and Text**

- Document structure:** Use proper heading structure (1.3.1 Info and Relationships)
  - H1...H6 are used to identify content (e.g., no H3 headings used where there must be H1 -> H2 -> H3).
  - All lists or groups of links are properly identified.
- Sequence:** Content is presented in a meaningful sequence (1.3.2 Meaningful Sequence)
  - White space characters are properly used.
  - HTML “stable” elements (Content of tables must be properly identified).
- Text Resize:** Text can be resized using Ctrl+ (in Firefox). Does not break the layout (1.4.4 Resize Text)
- Contrast:** Minimum contrast is 4.5:1 for text less than 18pt (1.4.3 Contrast (Minimum))
  - CSS is used to control visual presentation.
  - If CSS is used to replace text where it is part of a logo or image, CSS is used to control visual presentation.
- Links:** The purpose of a link is clearly described by the link text preceding the link text (2.4.4 Link Purpose)
- Language of Parts:** Sections of the page have the “lang” (language code) attribute (3.1.2 Language of Parts)
  - Example:  
`<p xml:lang="es">Info</p>`

**Checklist 3: Images**

- ALT Text:** All images use appropriate alternative text (1.1.1 Non-text content)
  - Alternative text provides a **short** description of the image.
  - CSS is not used to include images.
  - Images that should be ignored by screen readers, should have a null alt attribute.
  - Set alt attributes for images used.
- Images of text:** Text is used to convey information in three cases:
  1. Image of text is visually customized.
  2. Particular presentation of text is required to do so.
  3. Image of text is part of a logo or graphic.
- CSS:** CSS is used to control visual presentation.
- Input:** The context does not change when a form element (e.g., automatically submitting the form window) is opened (3.2.2 On Input)
- Errors:** If an input error is automatic, it is provided to the user in text (3.3.1 Error Identification)

**Appendix A: Checklist for Forms**

- Form labels:** Label elements are used to require input (1.3.1 Info and Relationships)
  - Labels have same id attribute as <input> (with <legend>) is used.
- Resize:** Form controls and input fields (1.4.4 Resize Text)
- Focus:** The context does not change when a form element (e.g., automatically submitting the form window) is opened (3.2.2 On Focus)
- Input:** The context does not change when a form element (e.g., automatically submitting the form window) is opened (3.2.2 On Input)
- Errors:** If an input error is automatic, it is provided to the user in text (3.3.1 Error Identification)

**Appendix B: Checklist for Audio and Video**

- Label and Alternative Text (Audio and Video):** A label describes the purpose of the audio-only or video-only content and a descriptive name of the non-text content is provided in the alternative text (1.1.1 Non-text content)
- Pre-recorded audio:** A text transcript is provided that presents equivalent information (1.2.1 Audio-only and Video-only (Prerecorded))
- Audio Control:** If audio on a web page plays for more than 3 seconds a mechanism is provided to either:
  - pause or stop the audio; and/or,
  - control audio volume independently from the user's overall system volume level (1.4.2 Audio Control)
- Captions:** Either open (always visible) or closed captions are provided for live and pre-recorded audio content in synchronized media (e.g., a video with a synchronized audio track, or a webcast).
  - 1.2.2 Captions (Prerecorded); 1.2.4 Captions (Live)
- Pre-recorded video:** An audio description is provided for prerecorded video content by including either:
  - a second user-selected audio track containing descriptions; or,
  - providing the audio descriptions within the video itself.
    - 1.2.1 Audio-only and Video-only (Prerecorded); 1.2.3 Audio Description or Media Alternative (Prerecorded); 1.2.5 Audio Description (Prerecorded)

# Your Job

Acce\$\$ibility

# Good News

# Bad News

Accessibility  
is easy

**HTML  
is mostly  
accessible**



# Alt Text



# Labels



# Semantics

Let's skip  
that and  
talk **HTML5!**

Accessibility  
is hard...

**for  
non-trivial  
stuff**

Even simple  
non-trivial  
stuff

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- Foreground and background contrast:** Background colour (and text) has sufficient contrast (1.4.3 Contrast (Minimum))
- Seizure prevention:** No seizures occur (2.1.3 Three flashes or below)
- Sufficient time:** Users can take as much time as they need (2.2.1 Timing adjustable)
  - Page does not require a user to provide a response
    - a way to respond
    - a way to warn

**Checklist 2: Headings and Text**

- Document structure:** Use proper heading structure (1.3.1 Info and Relationships)
  - H1...H6 are used to identify content (i.e., no H3 headings used directly below H1).
    - must be H1 -> H2 -> H3
  - All lists or groups of links are properly identified.
- Sequence:** Content is presented in a meaningful sequence (1.3.2 Meaningful Sequence)
  - White space characters are properly used.
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  - Set alt attributes for images used as links.
- Images of text:** Text is used to convey information following three cases:
  1. Image of text is visually customized.
  2. Particular presentation of text is required to do so.
  3. Image of text is part of a logo or graphic.
- CSS:** CSS is used to control visual presentation.
- Background Images:** If images of text are used as background images, they are not used as the primary text.

(1.4.5 Images of text)

**Appendix A: Checklist for Forms**

- Form labels:** Label elements are used to require input (1.3.1 Info and Relationships)
  - Labels have same id attribute as the form control (with <label>).
- Resize:** Form controls and input fields (1.4.4 Resize Text)
- Focus:** The context does not change when a form element (e.g., automatically submitting the form window) is activated (3.2.1 On Focus)
- Input:** The context does not change when a form element (e.g., automatically opening a pop-up window) is activated (3.2.2 On Input)
- Errors:** If an input error is automatic, it is provided to the user in text (3.3.1 Error Identification)

**Appendix B: Checklist for Audio and Video**

- Label and Alternative Text (Audio and Video):** A label describes the purpose of the audio-only or video-only content and a descriptive name of the non-text content is provided in the alternative text (1.1.1 Non-text content)
- Pre-recorded audio:** A text transcript is provided that presents equivalent information (1.2.1 Audio-only and Video-only (Prerecorded))
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  - (1.2.2 Captions (Prerecorded); 1.2.4 Captions (Live))
- Pre-recorded video:** An audio description is provided for prerecorded video content by including either:
  - a second user-selected audio track containing descriptions; or,
  - providing the audio descriptions within the video itself.
    - (1.2.1 Audio-only and Video-only (Prerecorded); 1.2.3 Audio Description or Media Alternative (Prerecorded); 1.2.5 Audio Description (Prerecorded))

# Support



Accessibility  
is Frustrating

we forget  
about it

we make  
excuses

**we all need  
forgiveness**

Bless me  
father, for I  
have sinned

It has been  
days since  
I last used a  
**screen reader**

I am sorry for this  
and all the sins of  
my past life,  
especially for



Amen

What's the  
point?

You have a  
choice

They don't

# We're Zuul



Ghostbusters™ & © 2004 Columbia Pictures. Inc. All Rights Reserved

Accessibility  
is good for  
you

**Accessibility**  
**Usability**



“For my 1 year old  
daughter a magazine is an  
iPad that **doesn’t work**”

- YouTube Video



“...people aren’t  
talking about  
how he made his  
[tech] **accessible**”

“a 15-year-old kid  
can be playing  
with Garage Band  
and come up with  
unbelievable ideas”

“He has leveled  
the playing field.”

“His company  
made it accessible  
without screaming,  
**‘This is for the  
blind, this is for  
the deaf’”**

“I’m just hoping  
his life [will]  
**challenge** those to  
do what he has  
done”

“you just make it  
one of your apps.  
That will create a  
world accessible to  
anyone”

**“Thanks”**

**- Stevie Wonder**

All you  
need is love

What does  
**HTML5**  
mean for web  
accessibility?

article, aside,  
footer, header,  
nav, section

<header>

# `<header>`



`== <div>`

# <header>



== <section>

# <header>



== <header>

`<header>`



`== <div>`

# <header>



== <header>

html5accessibility.  
com

# <footer>

Unsupported



Supported

<footer>



Unsupported



Supported

# Disclaimer

what does  
“supported”  
really mean?



Talks to



Listens to



# Support needed here



Talks to

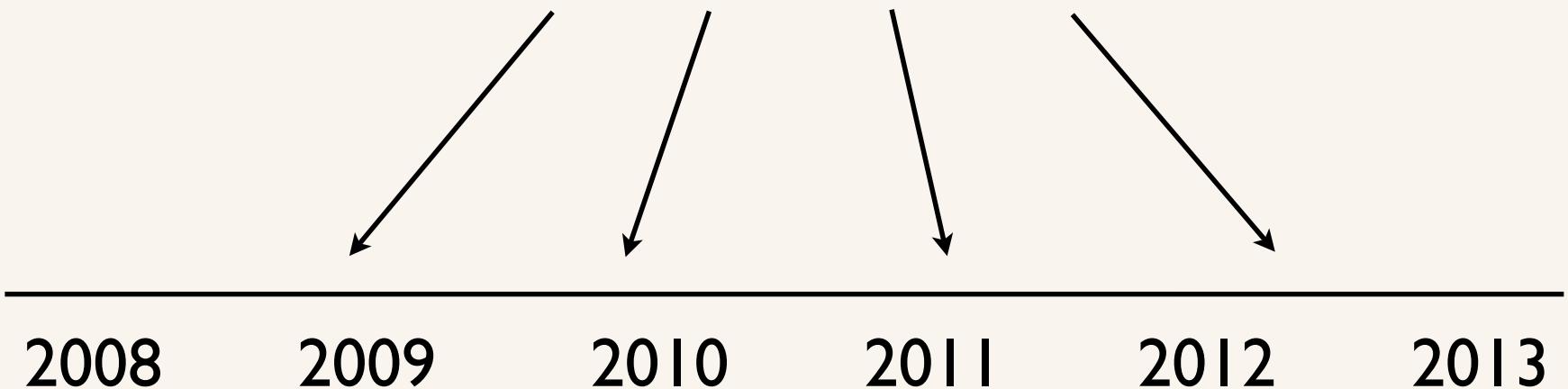


# and here

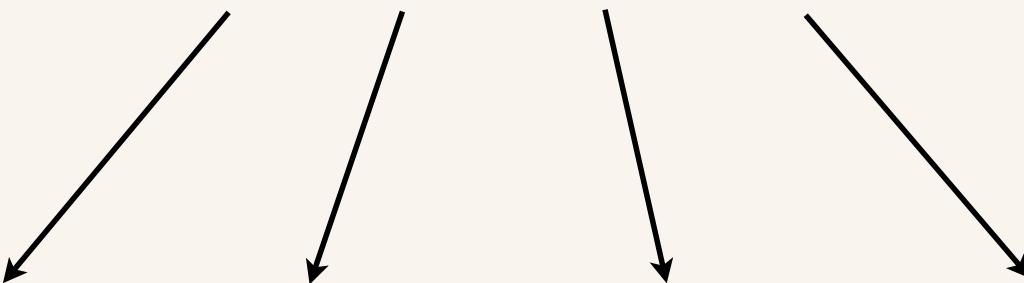
Listens to



# **Users are here**



# Support is Users are here



2008

2009

2010

2011

2012

2013

Is there any  
hope?

# Belt



article, aside,  
footer, header,  
nav, section

It ain't over till  
the fat lady  
sings an ARIA

# ARIA

<span role="xyz">

```
<header  
role="banner">
```

<footer  
role="contentinfo">

<nav  
role="navigation">

<aside  
role="complementary">

<article  
role="article">

<section role="???">

<main role="main">

Can you  
improve?

<audio>  
<video>

# Keyboard Support

It's not just for  
Screen Readers



```
<audio src="a.ogg"  
type="audio/ogg">
```

```
<video src="v.ogg"  
type="video/ogg">
```

# Chrome Audio Controls



# Firefox Video Controls



# Custom Audio Controls



```
<button  
class="audio-play">
```

```
<track  
kind="subtitles"  
srclang="en"  
src="track.vtt" />
```

```
<video src="v.ogv">  
  <track...></track>  
</video>
```





**VIDEOJS**  
HTML5 Video Player

SETUP

CUSTOMIZE

SOURCE CODE

DOCS

HELP »

# HTML5 Video, Now Available Everywhere

Same HTML/CSS skin and JavaScript API for HTML5 and Flash Video



[more tech](#)



Tube **CSS**

[more skins](#)

<figure>  
<figcaption>

## **Edan Patrick Lamping Born**



Katie Lamping

My Son: 7lbs 14oz, 20in, Edan (meaning: perfect), Patrick (after Aunt Patty, St. Patrick's Day, and our friend Patrick)

```
<figure>
```

```
  
```

```
  <figcaption>My Son...
```

```
  </figcaption>
```

```
</figure>
```

```
<figure role="group">
  
  <figcaption id="c">
    </figcaption>
</figure>
```

```
<figure role="group">
  
  <figcaption>My Son...
  (photo 1).</figcaption>
</figure>
```

<canvas>

it's complicated

```
<canvas>
```

```
  <h2>Shapes</h2>
```

```
  <p>A circle and
```

```
    <a ...>box</a>.
```

```
  </p>
```

```
</canvas>
```

[http://is.gd/  
OTCv0x](http://is.gd/OTCv0x)

# Support







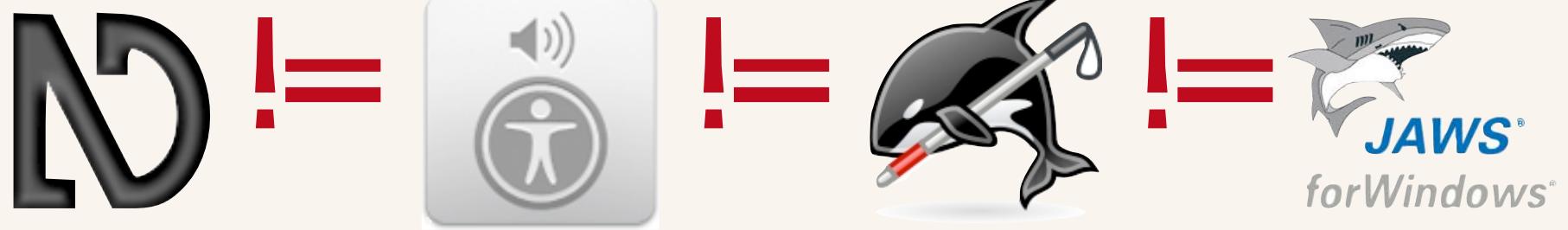
Two things  
about  
Mobile  
Accessibility

Test for it.

# Use HTML5 elements

They're natively  
supported

Test Test Test Test



Does HTML5  
improve web  
accessibility or  
make it worse?

It's kinda  
both

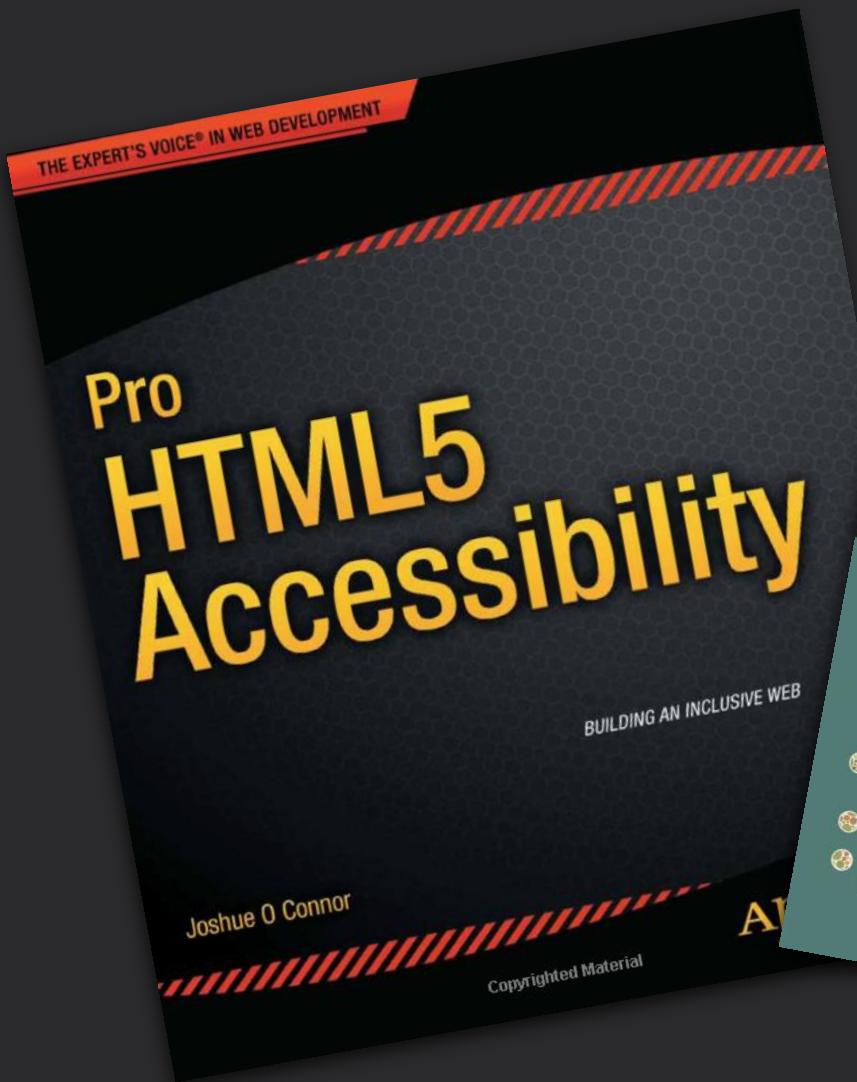
# How have screen readers adapted?

It's getting  
better all  
the time

Does HTML5  
remove the  
need for  
accessibility  
testing?

No. Not at all.  
Test your stuff

The only  
constant is  
change



# Credits

<http://www.flickr.com/photos/oakleyoriginals/7944244598/>

<http://www.flickr.com/photos/seandreilinger/2137302514/>

<http://www.iconarchive.com/show/scrap-icons-by-deleket/Magnifying-Glass-2-icon.html>

<http://www.clarissapeterson.com/2012/11/html5-accessibility>

github.com/  
klamping/  
html5tx-a11y

@klamping