



# Web Accessibility Basics

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## What is Web Accessibility?

- Web can be used by people with disabilities
- Meets a minimum set of requirements so that people with disabilities can:
  - Perceive
  - Understand
  - Navigate
  - Interact

# Mobility Impairments



© Apress (source: <http://uiaccess.com/understanding>)

# Speech Impairments



© Stephen Hawking (source: <http://www.hawking.org.uk>)

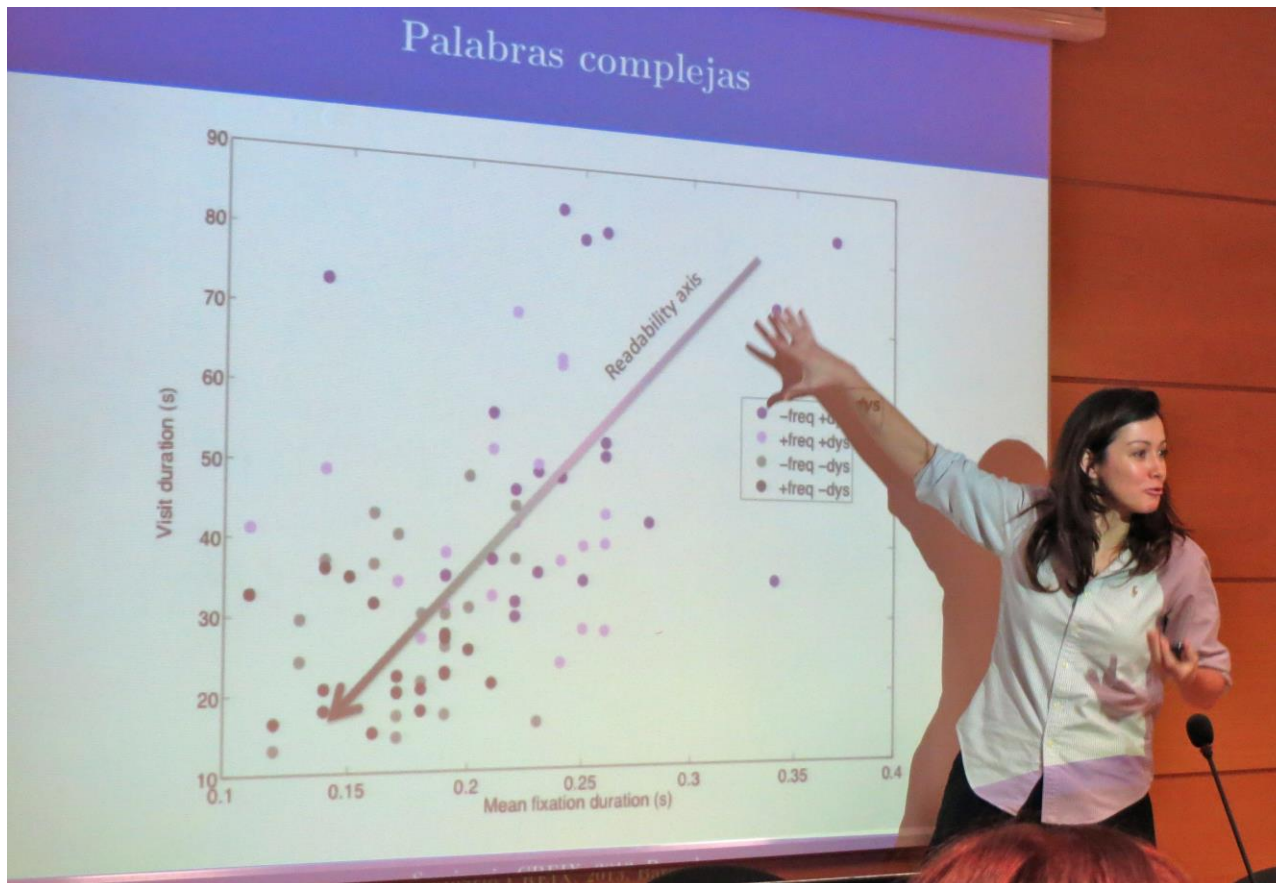
# Hearing Impairments



© DO-IT (source: <http://www.washington.edu/doit/>)

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# Cognitive Impairments



© Piratas De La Ciencia (source: <http://www.piratasdelaciencia.com>)



# Vision Impairments



© Tech Share India (source: <http://techshare.barrierbreak.com>)

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# Combined Impairments W3C<sup>®</sup>



© Sense (source: <http://www.sense.org.uk>)

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# Facts and Figures



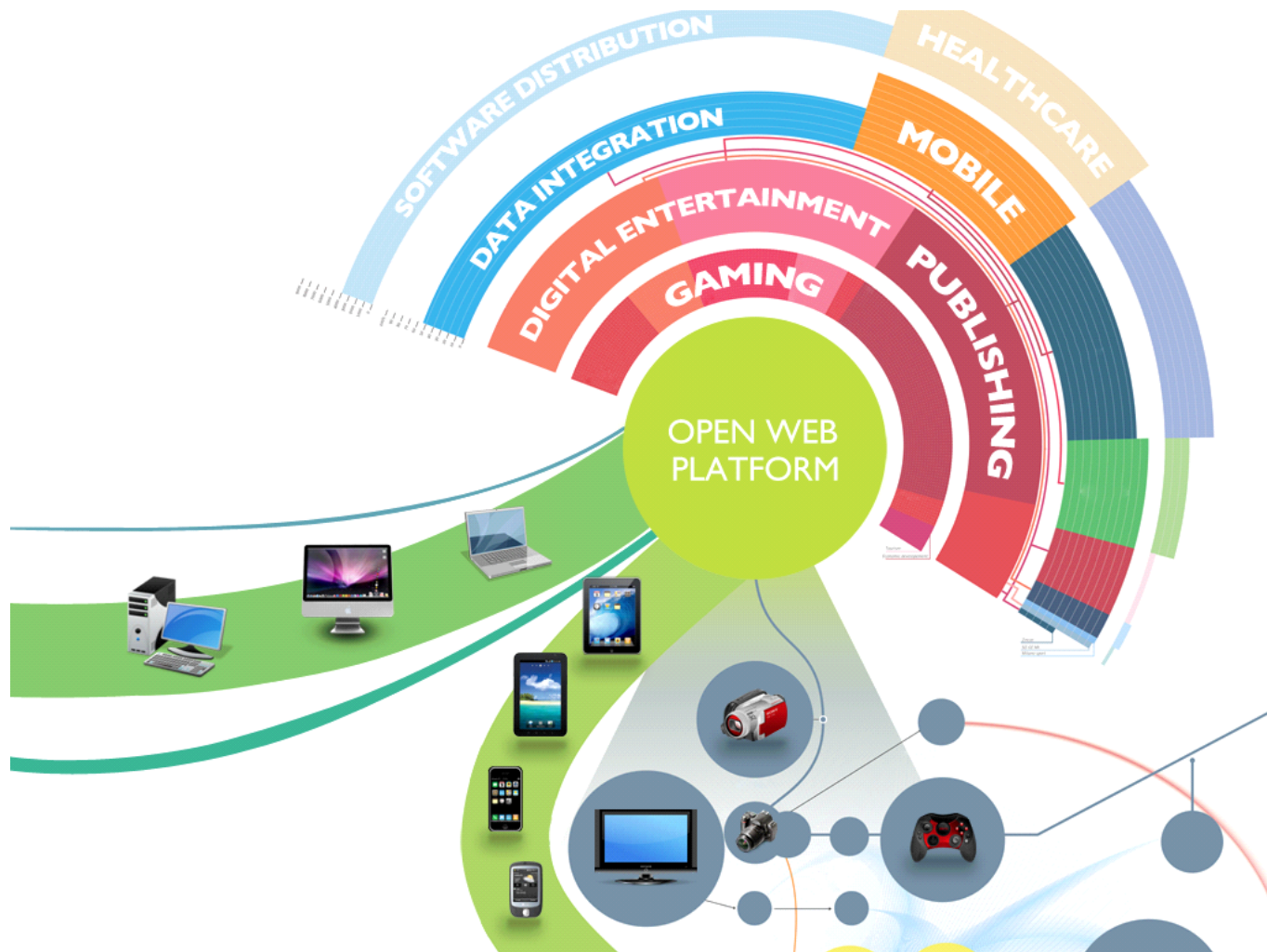
- ~15% of the world's population, or estimated 1 billion people, live disabilities (WHO)
- In countries with life expectancies over 70 years, individuals spend on average 8 years [...] living with disabilities (Disabled World)
- Disability rates are significantly higher among groups with lower education attainment (OECD)

- UN Convention on the Rights of Persons with Disabilities (UN CRPD) – ratified by all EU states
- European Council and Parliament resolutions, EU Anti-Discrimination Act, EU Member States ...
- Corporate Social Responsibility (CSR) and other company-internal policies on equal opportunity
- Business case factors and return on investment

- ~57% benefit from accessibility (Microsoft)
- Ageing customers and employees (SAS)
- Mobile web design and accessibility overlap
- Usable content in different contexts (Boeing)

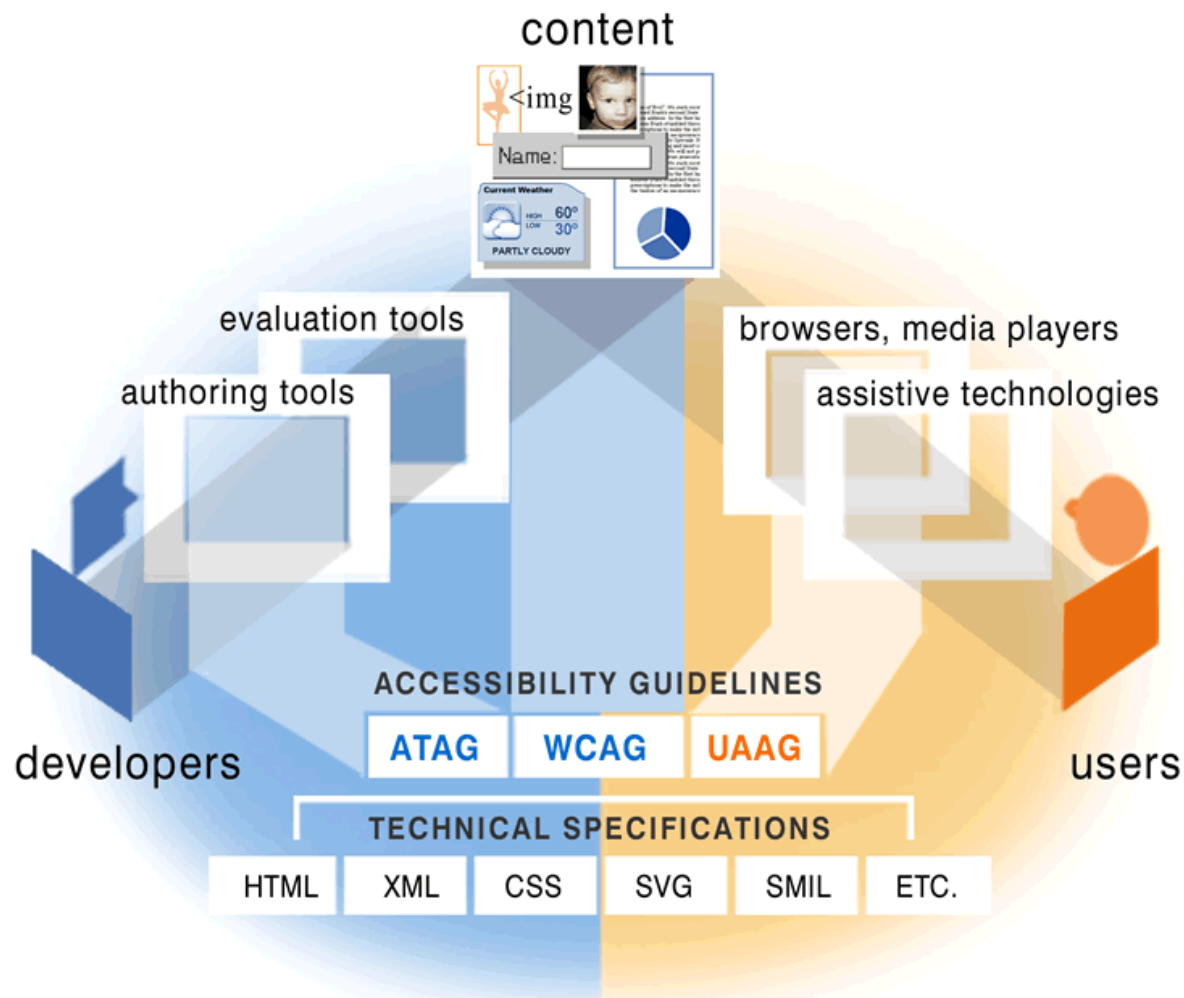
- Legal & General Group – doubled site visitors, cut maintenance costs by 2/3, increased natural search traffic by 50% (2007)
- Tesco – spent £35 thousand to redesign site, £13 million per year in resultant revenue (2004)
- CNET – 30% increase in traffic from Google after providing transcripts (2009)

# World Wide Web

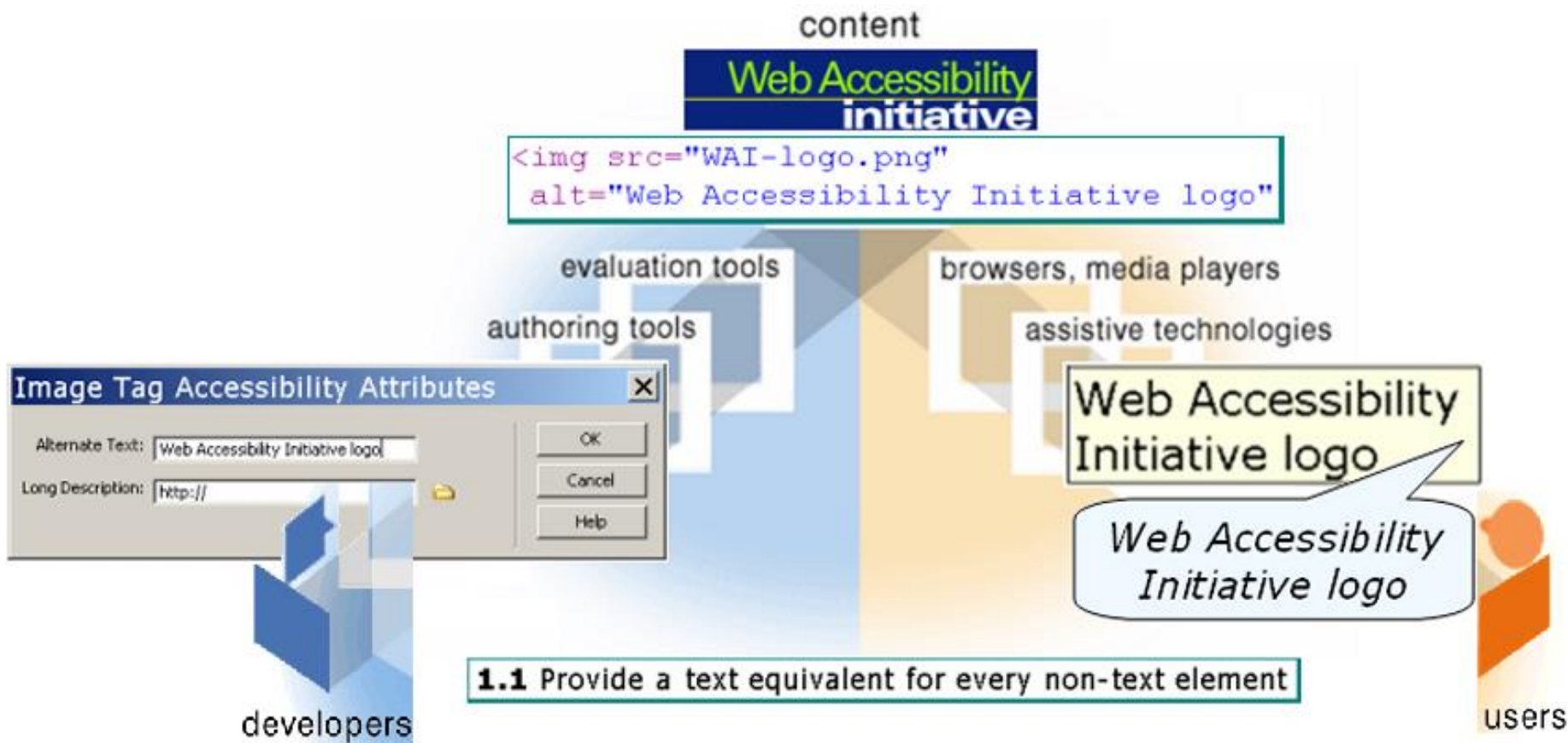




# Accessibility Standards W3C<sup>®</sup>



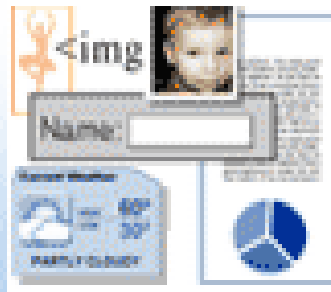
# Example Scenario



# WAI Guidelines



content



**Web Content  
(WCAG)**

evaluation tools

browsers, media players

authoring tools

assistive technologies

**Authoring Tool  
(ATAG)**

**User Agent  
(UAAG)**

developers

users

content



**Web Content  
(WCAG)**

WCAG 2.0 is also  
ISO/IEC 40500:2012  
and included in EN 301 549

# About WCAG 2.0



## Web Content Accessibility Guidelines (WCAG):

- Universal set of guidelines defining common accessibility requirements for web content
- Addresses the accessibility needs of a broad spectrum of different types of disabilities
- Developed in an open, collaborative effort, with involvement of users, experts, and industry
- Internationally recognized as the standard for web accessibility (e.g. EU Riga Declaration)



- 4 Principles: **P**erceivable, **U**nderstandable, **O**perable, and **R**obust – “POUR principles”
- 12 Guidelines and 61 “Success Criteria”, divided into 4 “conformance levels”
- Separately provided “Techniques” on how to meet these Success Criteria in different contexts

# WCAG 2.0 Resources



## WCAG 2.0 Overview:

- <http://www.w3.org/WAI/intro/wcag>

## How to Meet WCAG 2.0:

- <http://www.w3.org/WAI/WCAG20/quickref/>

## Web Accessibility Tutorials:

- <http://www.w3.org/WAI/tutorials/>

# Easy Checks



Install on your computer or watch your neighbor:

For Chrome, Firefox, and Opera:

- <http://chrispederick.com/work/web-developer/>

For Internet Explorer:

- <http://paciellogroup.com/resources/wat/>

For Windows and Mac:

- <http://paciellogroup.com/resources/contrastanalyser/>

We will use the Before and After Demo (BAD):

- <http://www.w3.org/WAI/demos/bad/>

...But feel free to also use your favorite website!

Page titles should be:

- Unique and informative
- Relevant information first
- Reflects main heading



Text alternatives should be:

- Short and concise
- Describe the purpose
- Up-to-date
- Empty for decorative images

Page structure includes:

- Proper headings `<h1>`, `<h2>`, `<h3>`, ...
- Proper lists, paragraphs, and semantics
- No misuse of tables and other elements
- Landmarks for orientation (WAI-ARIA)
- Matching order in the code and visually

Color (luminosity) contrast should be:

- Minimum ration of 4.5:1
- Also applies to images, buttons, gradients, etc.
- (Not the only way to convey information)

Forms structure includes:

- Every control is associated with a <label>
- Labels are clear and unambiguous
- Form can be (easily) used by keyboard
- User is in control (no automatic submit)

Forms interaction includes:

- Instructions are clear and unambiguous
- Required fields are marked (not by color only)
- Error messages are informative and helpful
- Confirmation when tasks are completed



# More Resources



Resources to help you learn to implement WCAG 2.0:

- Easy Checks – A first Review of Web Accessibility

<http://www.w3.org/WAI/eval/preliminary>

- List of Web Accessibility Evaluation Tools

<http://www.w3.org/WAI/ER/tools/>

Many more resources at <http://www.w3.org/WAI/>

# Real Accessibility



© Mushegh Hovsepyan (source: UNDP Photo Contest, Flickr)

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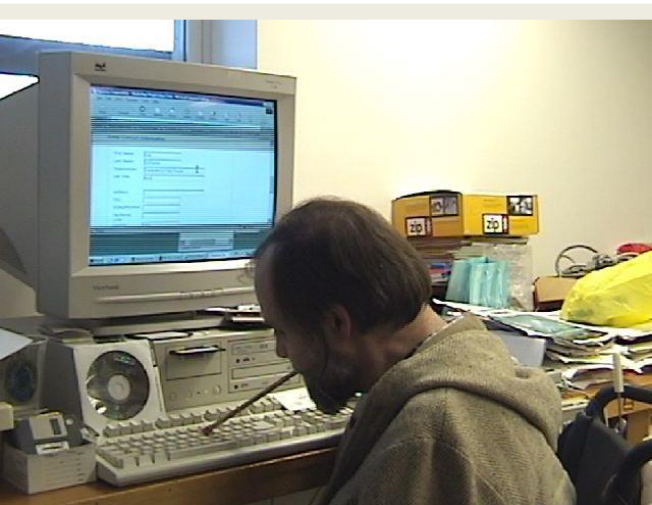
# Inclusive Design



© Ljubljanski grad (source: <http://www.ljubljanskigrad.si>)



# It's About People



© Shawn Lawton Henry (source: <http://uiaccess.com/>)

A decorative graphic in the top-left corner consisting of several light blue squares of varying sizes arranged in a grid-like pattern.

# Thank You



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