

Accessibility assessment in ICT applications

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Telematics**

Outline

1. Motivation
2. Introduction –What & Why accessibility
3. User Centred Design
4. Harmonization of Standards:
 - 4.1 Accessibility assessment Components
 - 4.2 proposed methodology – Architecture
 - 4.2 Evaluation Experiment
5. Conclusions

Motivation

- Accessibility is about accommodating people with disabilities
- ACCESSIBILITY practices and guidelines can be applied to adapt web systems and applications for people with special needs
- Accessibility assessment tools are needed and User centred design methodologies to be adopted by users
- Harmonisation Methodology of Accessibility Components and well known accessibility standards

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Accessibility is..

- an expression used to describe the degree to which a product, device, service, or environment is accessible by as many people as possible, without modification
- the ability to access and benefit of something
- also about accommodating things that people can't easily change...
- and thus it is often used to focus on people with disabilities and their right of access to entities

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Accessibility is not..

- Just about the Web but,...mobile,..non ICT....ATMS...
- Our main focus will be Web accessibility
- As such from now on, when talking about accessibility, we will most probably be referring to Web accessibility

Nevertheless, lets take a look at

- ICT accessibility; and
- Web accessibility basic concepts...
- Standards and regulation, design tips

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ICT accessibility



- Refers to the accessibility of information and communication technology, in general, to all regardless of disability or impairment
- Can also be conceptualized as the ability to access the functionality, and possible benefit, of some system...
- Impairments affect the user's ability to perceive, understand or physically manipulate things
- They can occur for many different reasons, including medical conditions, injury, the environment or simply old age



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Impairments

Impairments normally constraining ICT access include:

- Visual impairments - Such as low-vision, complete or partial blindness, and color blindness.
- Hearing impairments
- Cognitive impairments and learning disabilities
- Motor or dexterity impairments

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Web Accessibility

- Web accessibility basically means that people with disabilities can use the Web
- As with computer accessibility, Web accessibility encompasses all disabilities that affect access to the Web, including visual, auditory, cognitive, physical, and neurological disabilities
 - Some people with tremors and older people with diminishing fine motor control can use a keyboard, but not a mouse
 - Some people have blurry vision and cannot read text unless it is very large
 - Some people cannot see at all and use a screen reader that reads aloud the information in the web page.

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Accessibility Myths

- Accessible Web applications look boring
- “Text-only” pages are a good way to provide accessibility
- Accessibility adds additional costs to a web application implementation

Web applications are accessible when individuals with disabilities can access and use them as effectively as people who don't have disabilities (Slatin and Rush)

Motivation

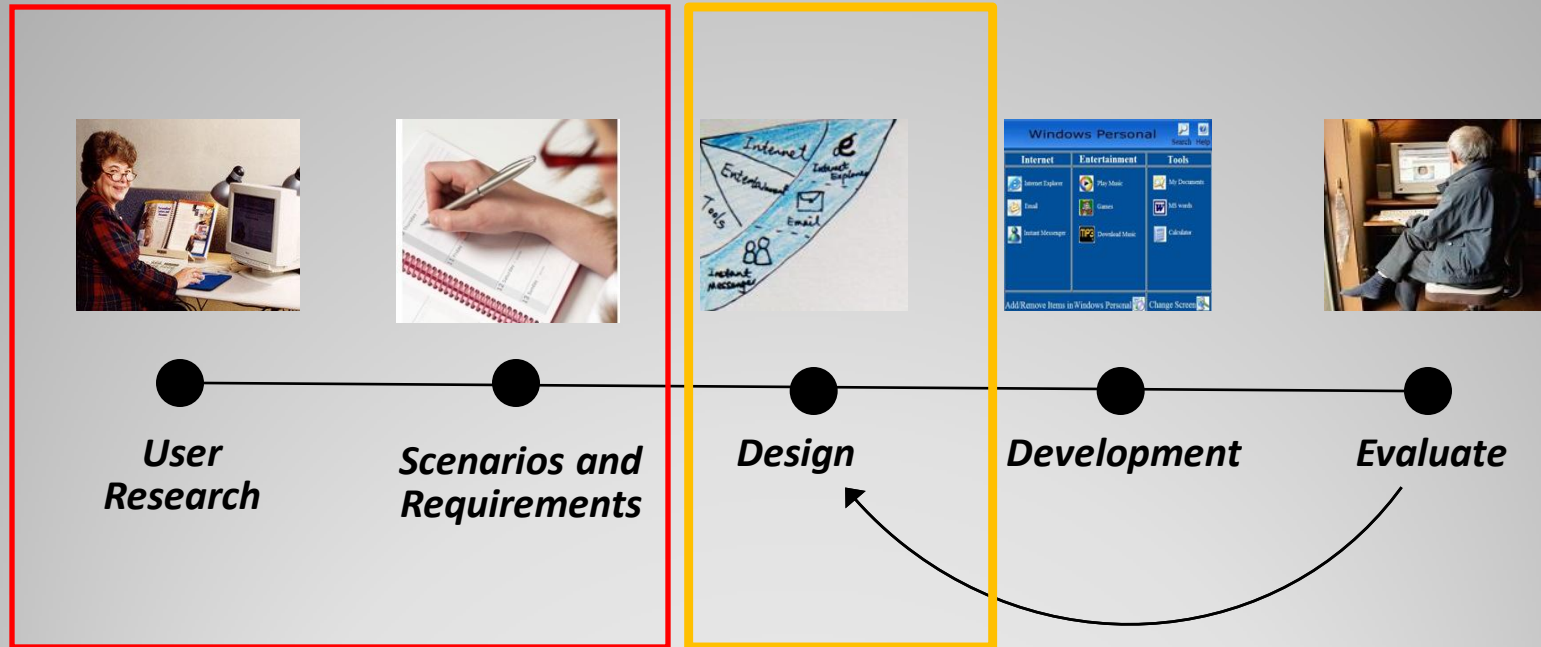
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User Centred Design Process



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Personas..

- a description of a representative user (a pretend person who represents a type or a group of users)



Ask yourself :

Who are the users?

What are the **activities** they wish to perform?

Why they might visit your web applications? i.e. **motivation**

How does our website/services fit into **their context of life?**

Motivation

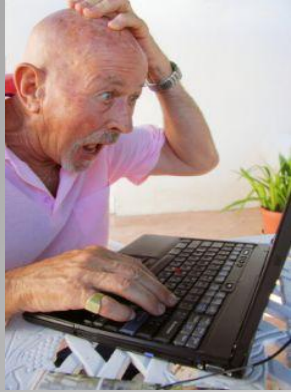
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Example Personas..



“I often get stuck on a website.”

Background

- **age:** 65, **occupation:** retired
- **aging related disabilities:** low-vision, hand tremor, short-term memory loss, **Technical level:** not tech savvy, only uses the web to manage some of his household services and finances

Attributes

- uses screen magnifier, uses computers only at home
- preferred large links and icons, finds scrolling stickers and flashing animations very distracting, easy to get lost in the site

Goals

- able to use basic services on the web easily
- able to customize a website font and color

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Design for people with disabilities

Default View

Glaucoma

Cataracts

Detached and Torn Retina

Diabetic Retinopathy

Macular Degeneration

Monochromacy

Protanopia

Deuteranopia

Tritanopia

Users in Web Ac
tion

Worldwide Web Consortium (<http://www.w3.org/WAI/ev>)

ge Contents

- [Introduction](#)
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roduction

Accessibility evaluation often focuses on [evaluating conformance](#) to accessibility [Content Accessibility Guidelines \(WCAG\)](#). Broadening evaluation to involve [users](#) helps better understand accessibility issues and implement more [effective](#) solutions.

including people with disabilities is that Web [design](#) is not just about the Web and with [assistive tech](#)

Category	Red	Green	Yellow	Total
Top	15	10	10	35
Middle	10	15	10	35
Bottom	15	10	10	35

30

15

0

100

165

150

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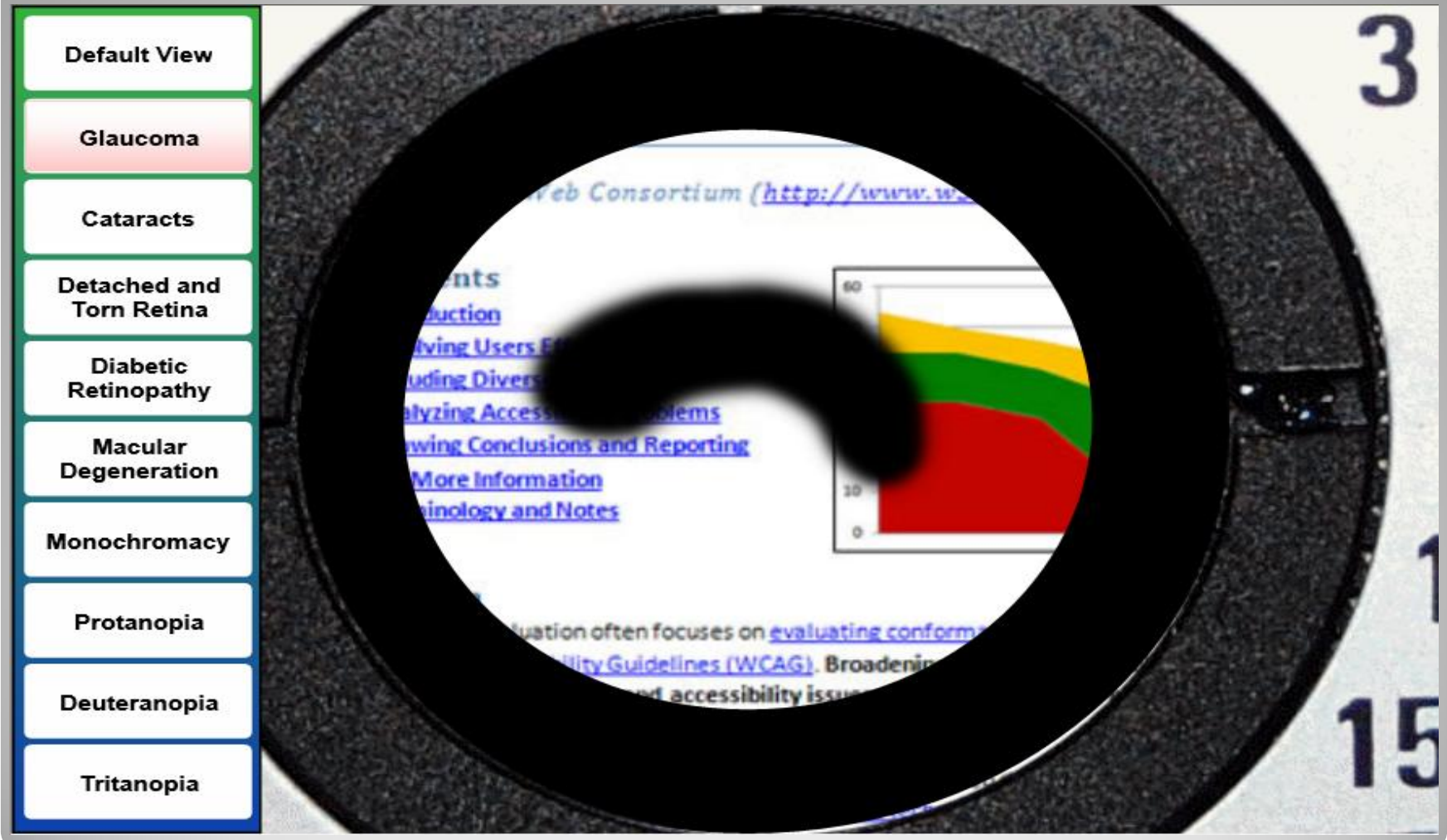
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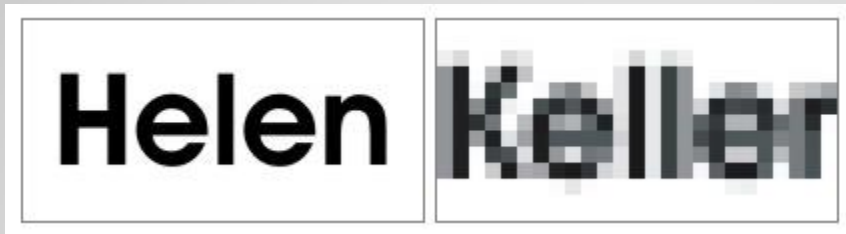
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Low-Vision: Challenges

- cannot see without magnifier
- text in graphics is hard to read
- cannot see pages with low contrast



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Low-Vision: Design Tips

Perceivable:

- To make text more legible when enlarged, use true text as much as possible, rather than text in graphics.
- To the extent possible, use percentages, rather than absolute units (e.g. pixels), in your document layout.
- To the extent possible, maximize the contrast of your web pages, including graphics, fonts, and backgrounds

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Hearing: Challenges

- auditory prompts without visual signposts
- lacking caption/transcript for video and audio content



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Hearing : Design Tips

Perceivable:

- Make sure they can perceive (hear) auditory content
- Alternative text for animation
- Synchronized captioning
- Transcript
- Text description (e.g. for audio instructions)
- Allow for user control of start/stop, animations, and other equivalent options.

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Mobility: Challenges

- may not be able to control mouse or keyboard well
- may become fatigue very easily when using assistive devices (ATs)

Most readers **have 2 key** questions:

Am I on the right page? **Headings**

If not, where do I go next? [links](#)



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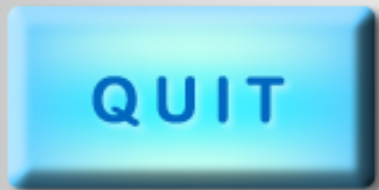
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Mobility: Design Tips

Operable:

- build a good navigation structure (Reduce the number of entry points, consistent navigation structure, provide sitemap)
- give feedback to user actions (e.g. mouse movement feedback, keyboard focus feedback)
- help users navigate efficiently through keyboard (A clickable area needs to appear obviously clickable)



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Web Accessibility Guidelines and Laws

They were developed by consortia and committees-

- Section 508 (USA)
- W3C -EUROPEAN
 - WCAG 1.0 --- 1999
 - WCAG 2.0 --- 2008
- Others (national, businessIBM,)

These standards bodies include the perspective of people with disabilities right at the beginning of the formulation of the standards

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WCAG 1.0

The first version of the Web Content Accessibility (should be adopted by Greek public administrations web sites) - Guidelines 1.0 is now over 10 years old

Its latest version is dated May 5th, 2009 (wcag 2.0)

It provides:

14 guidelines and numerous checkpoints that could be used to determine the accessibility of a web page

3 priorities or levels of conformance

Priority 1 or Level A is a basic requirement for some groups to be able to use web documents

Priority 2 or Level AA indicated better accessibility and removal of significant barriers to accessing the content

Priority 3 or Level AAA checkpoints provided improvements to web content accessibility

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WCAG 1.0

- Unfortunately, WCAG 1.0 is HTML specific and does not provide sound guidance for contemporary web development practice
- It is, nevertheless, the current de facto standard and has definitely contributed to improve overall Web accessibility

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WCAG 2.0

- The first version of the Web Accessibility Guidelines 2.0 was just published on **December 11th 2008**
- The new WCAG 2.0 has **12 guidelines organized under 4 principles**: perceivable, operable, understandable, and robust
- For each guideline, there are testable success criteria rates, as was the case with WCAG 1.0 (**A, AA, AAA**)

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From WCAG 1.0 to 2.0

- It builds upon the foundation of WCAG 1.0 but also introduces some significant changes
- On one hand, some of the changes are subtle
 - For example, forms still require labels, data tables still require headers, and images still require alternative text
 - Web developers who currently design accessible web sites will not have to change their habits much
- On the other hand it represents a substantial shift in philosophy
 - The significant changes involve making the guidelines principle-centered rather than technique-centered

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WCAG design tips

Alternative Text

`<imgsrc="picture.jpg" alt="....." />`

should...

Be accurate and equivalent.

NOT be redundant.

NOT use the phrases "image of ..." or "graphic of ..." to describe the image

Provide a link to the longer description page- Use the longdesc attribute



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WCAG design tips

Screen readers ***LINEARIZE*** table data

How a Screen Reader processes a table:

Top to bottom, left to right

Row 1, Column 1

Row 1, Column 2

Row 1, Column 3

Row 2, Column 1

Etc....

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Table-Not an Accessible Design

```
<?xml version = "1.0"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<!-- Fig. 34.3: withoutheaders.html -->
<!-- Table without headers -->
<html>
  <head>
    <title>XHTML Table Without Headers</title>
    <style type = "text/css">
      body { background-color: #ccffaa;
        text-align: center }
    </style>
  </head>
  <body>
    <p>Price of Fruit</p>
    <table border = "1" width = "50%">
      <tr>
        <td>Fruit</td>
        <td>Price</td>
      </tr>
      <tr>
        <td>Apple</td>
        <td>$0.25</td>
      </tr>
      <tr>
        <td>Orange</td>
        <td>$0.50</td>
      </tr>
    </table></body></html>
```

Price of Fruit

Fruit	Price
Apple	\$0.25
Orange	\$0.50

Reads table as :
"Price of Fruit Fruit
Price Apple \$0.25
Orange \$0.50"

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Table-An Accessible Design

```
<?xml version = "1.0"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<!-- Fig. 34.3: witheaders.html -->
<html>
  <head>
    <title>XHTML Table Without Headers</title>
    <style type = "text/css">
      body { background-color: #ccffaa;
        text-align: center }
    </style>
  </head>
  <body>
    <table border = "1" width = "50%"summary = "This table uses the elements and id and
      headers attributes to make the table readable by screen readers">
<caption><strong>Price of Fruit</strong></caption>
      <tr>
        <th id = "fruit">Fruit</th>
        <th id = "price">Price</th>
      </tr>
      <tr>
        <td headers = "fruit">Apple</td>
        <td headers = "price">$0.25</td>
      </tr>
      <tr>
        <td headers = "fruit">Orange</td>
        <td headers = "price">$0.50</td>
      </tr>
    </table></body></html>
```

Fruit	Price
Apple	\$0.25
Orange	\$0.50

Reads table as:
"Fruit: Apple,
Price: \$0.25 Fruit:
Orange, Price:
\$0.50"

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Objectives:

- Implementation of a harmonized accessibility methodological approach (HAM) applied to software development and design of accessible new applications and services.
- Assist developers through all steps of the development lifecycle.

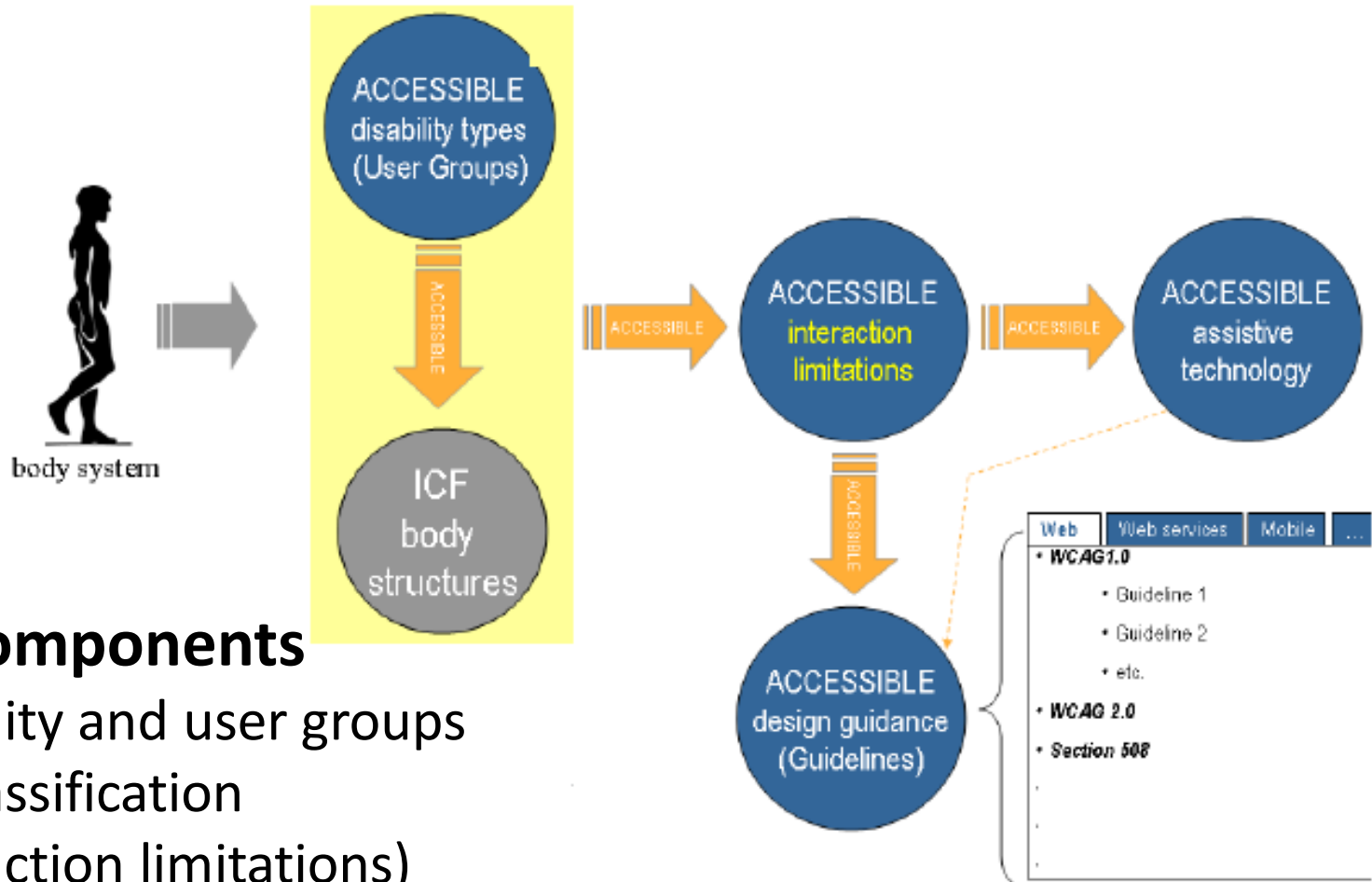
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HAM Components

- Disability and user groups
- ICF Classification (Interaction limitations)
- Assistive technologies
- Accessibility standards & guidelines

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Disabilities

- HAM is based on the disabilities that W3C has proposed, but we also have enhanced the aforementioned list
- The disabilities are categorized according to the Main type (impairment) that they belong to

Disability / Main type	Disability / Sub type
Cognitive impairment	Dementia
	Dysarthria
	Down syndrome
	Learning disability (LD)
	Learning disability (LD) - Speech and language disorders
	Learning disability (LD) - Academic skills disorders
	Learning disability (LD) - Nonverbal Learning Disorder
	Attention Deficit Hyperactivity Disorder (ADHD)
	Traumatic Brain Injury
	Alzheimer disease

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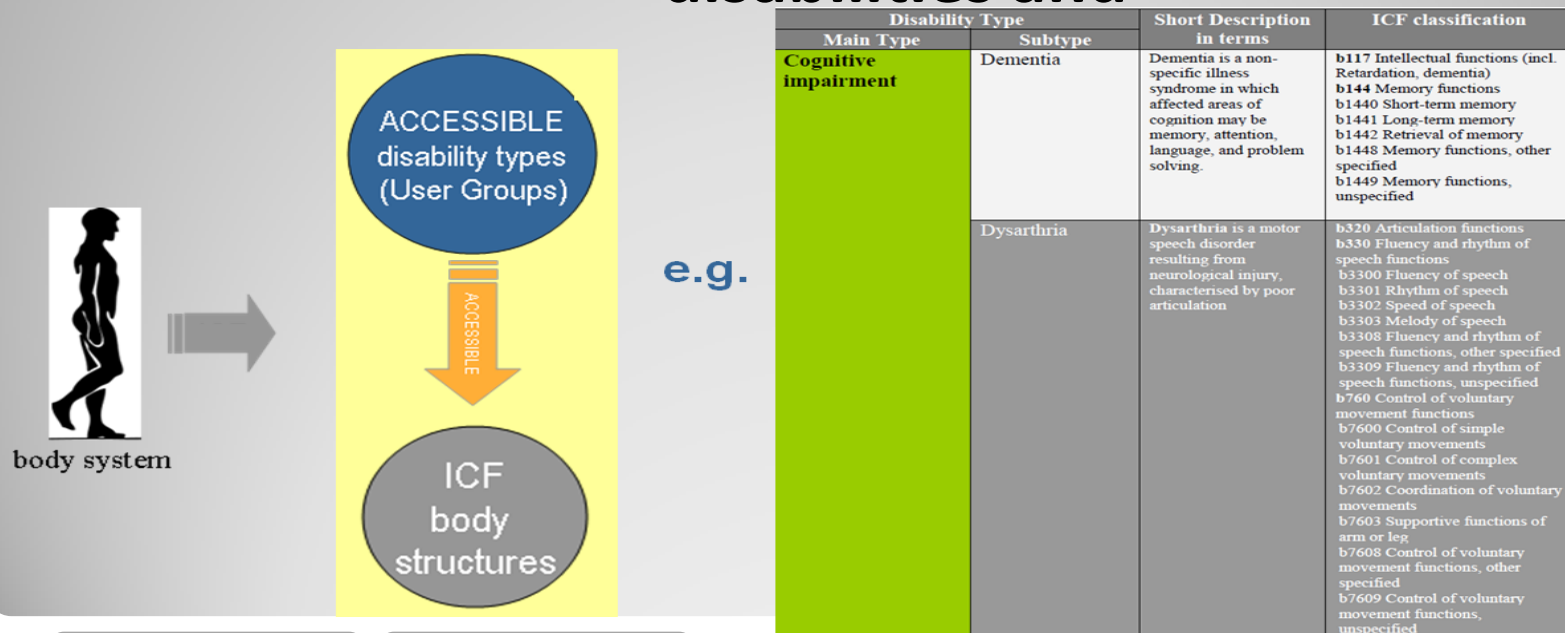
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ICF Classification mapping

ICF provides a concrete classification of impairments of the body structures, which ensures no overlapping.

We mapped ICF Classification with the list of disabilities and



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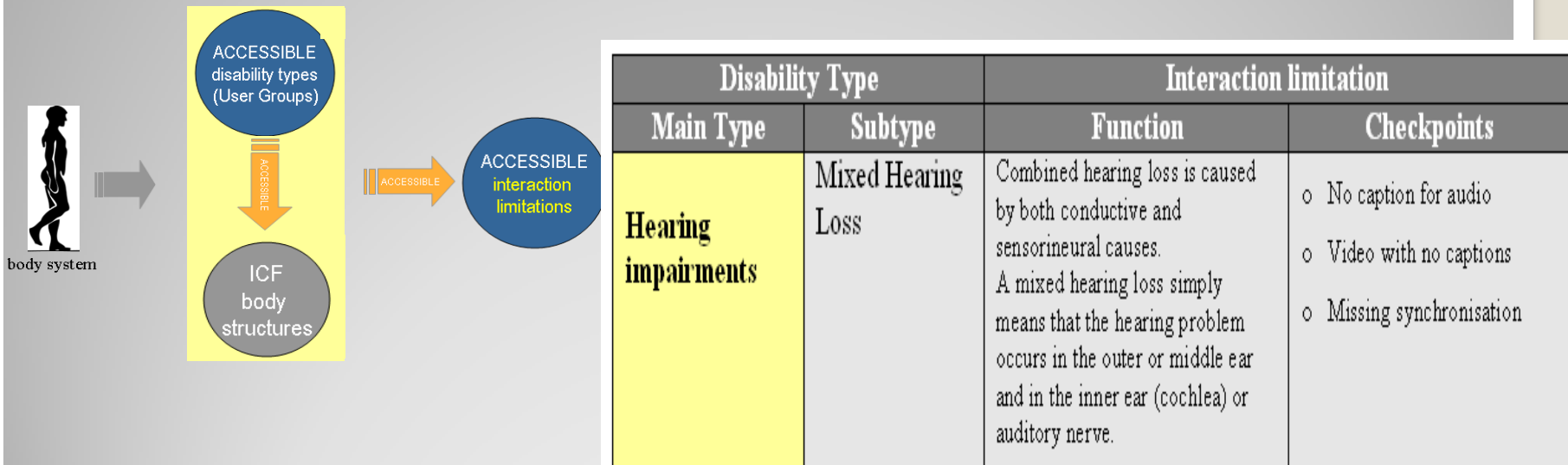
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- Correlation of the interaction limitations and disability types
- We mapped the disability types with the interaction limitations (based also in WCAG)



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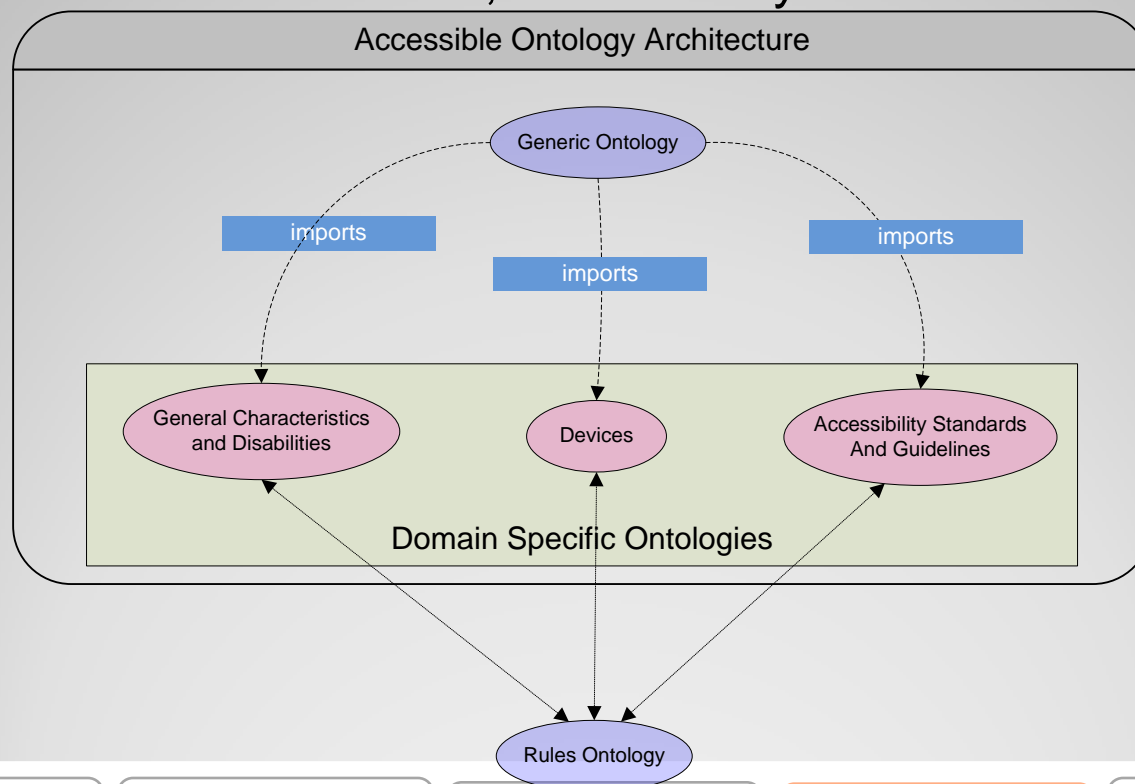
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Harmonization of Standards through Ontologies + SWRL rules

- **A multilayer ontology** was formalized and developed in order to provide a set of standards, definitions for tool capabilities, accessibility guidelines assigned to specific preferences and disabilities of disabled users, accessibility standards or laws



Motivation

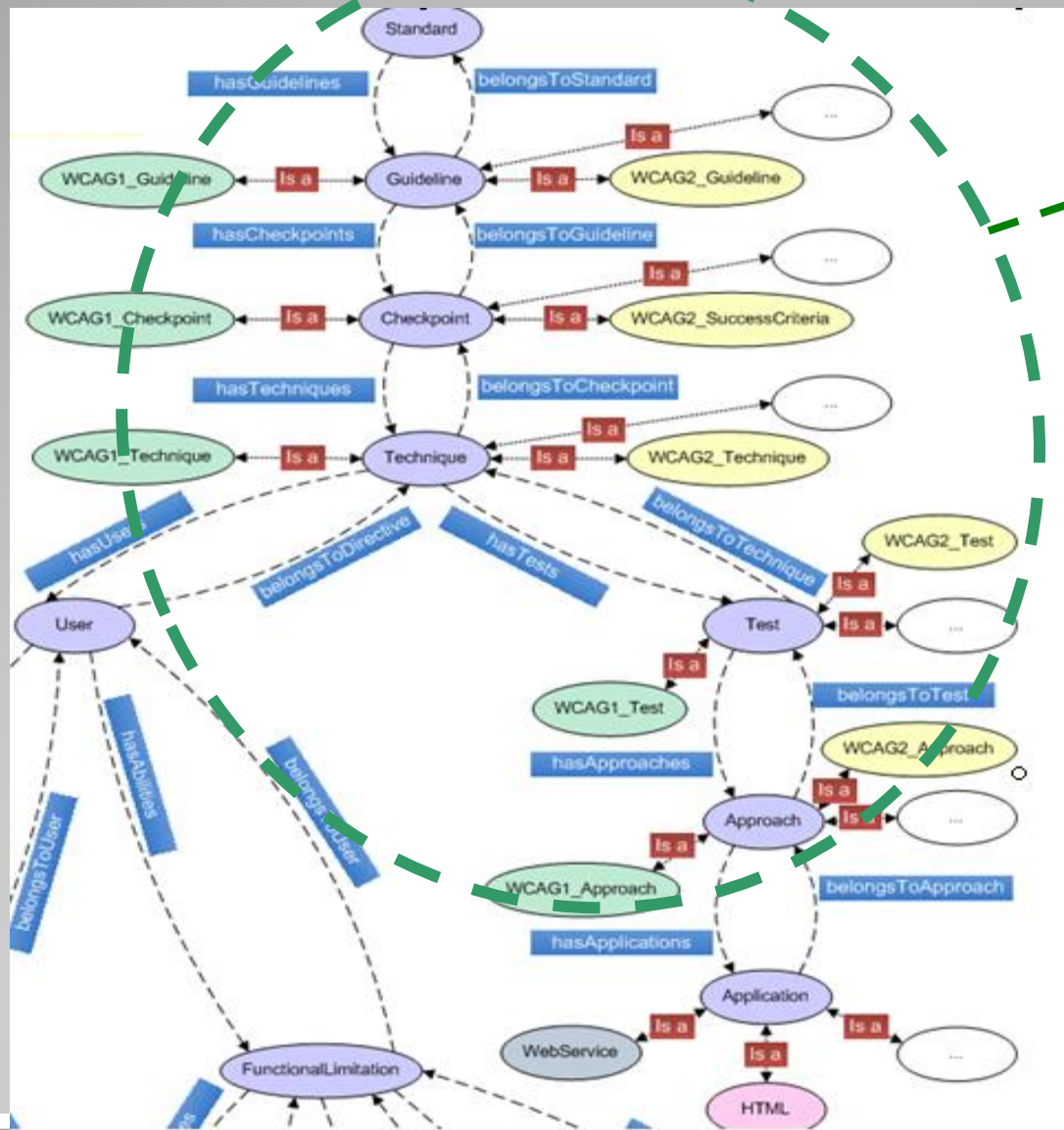
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Standards

Guideline

Checkpoint

Technique

Test

Approach

Motivation

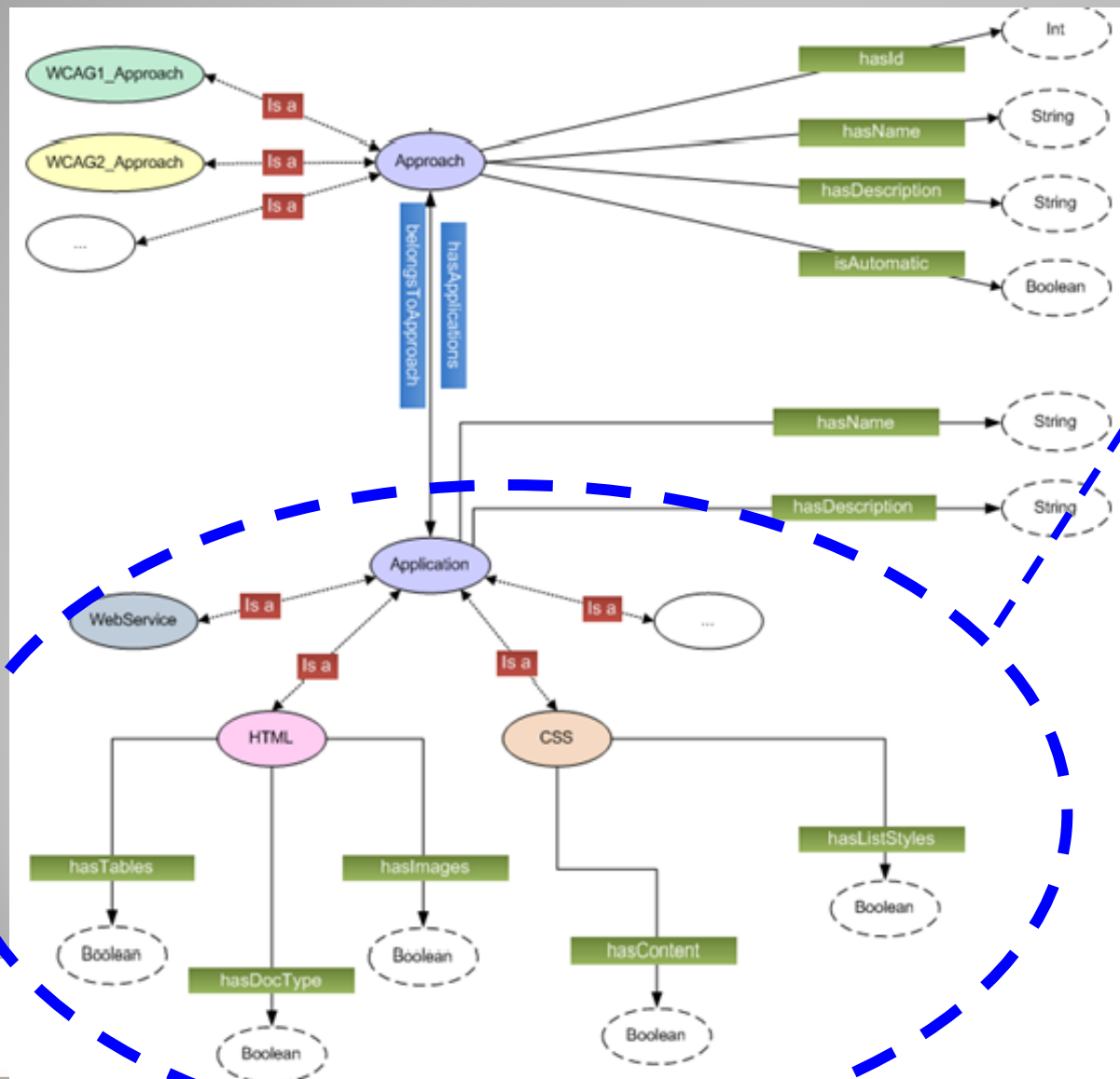
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Applications

Web Service

Html

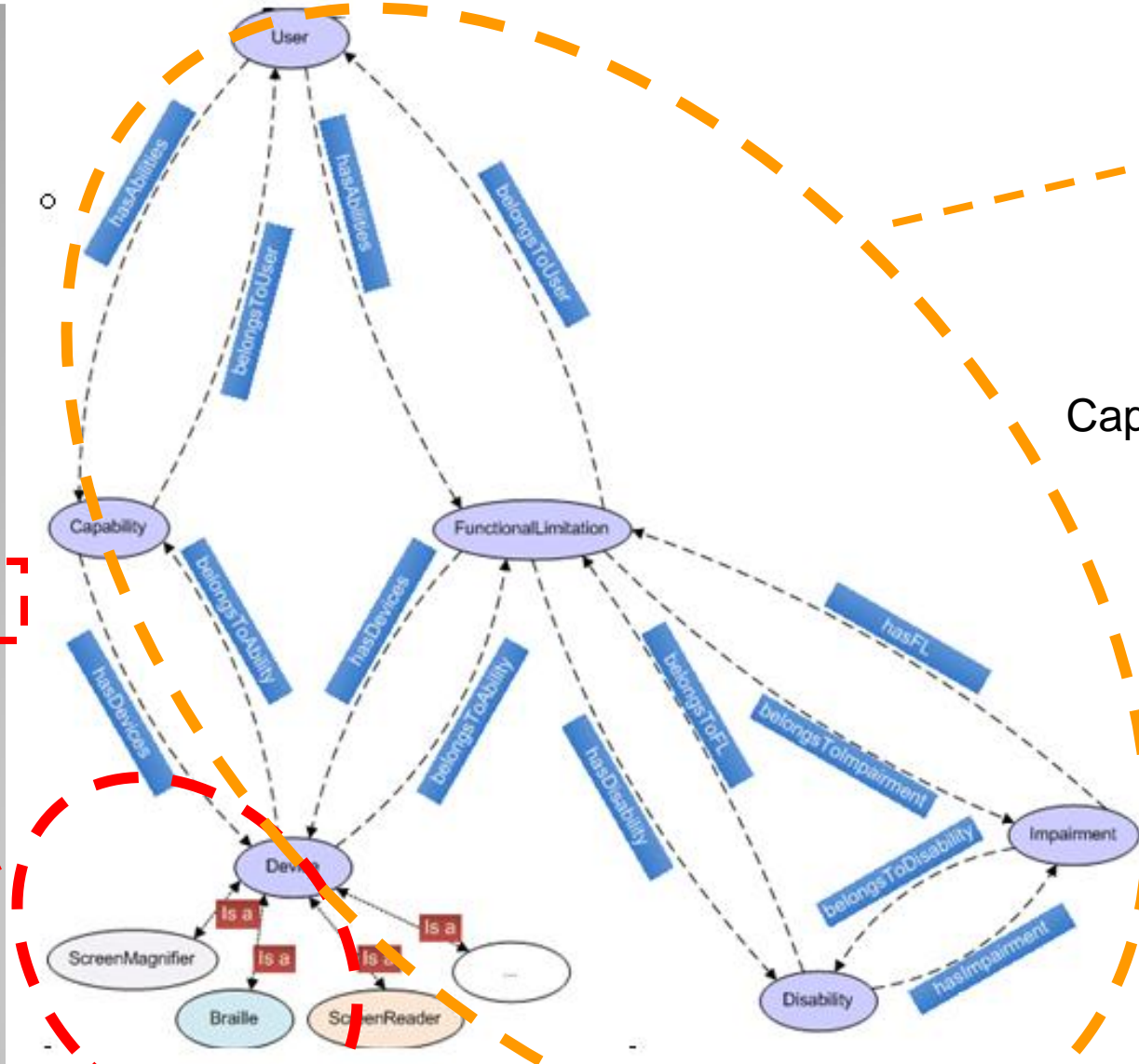
.....

CSS

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Device

User

Capability

FL

Impairment
Disability

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Harmonization of Standards

• Approach

- WCAG1: 218 Approaches
- WCAG2: 267 Approaches

• Checkpoint

- WCAG1: 65 Checkpoints
- WCAG2: 61 Success Criteria
- MWBP: 60 Checkpoints
- Section508: 16 Checkpoints
- PAS78: 28 Checkpoints
- PWAG: 19 Checkpoints
- Netherlands: 125 Checkpoints
- FITA: 22 Checkpoints
- Microsoft: 37 Checkpoints
- IBM: 16 Checkpoints
- BITV: 66 Checkpoints
- Description Language: 25 Checkpoints
- SUN: 19 Checkpoints
- Illinois: 49 Checkpoints
- WebService: 79 Checkpoints
- VERVA: 58 Checkpoints
- StancaAct: 22 Checkpoints

• Guideline

- WCAG1: 14 Guidelines
- WCAG2: 12 Guidelines
- MWBP: 5 Guidelines
- Section508: 16 Guidelines
- PAS78: 8 Guidelines
- FITA: 7 Guidelines
- Microsoft: 12 Guidelines
- BITV: 14 Guidelines
- Description Language: 25 Guidelines
- SUN: 8 Guidelines
- Illinois: 18 Guidelines
- WebService: 19 Guidelines
- VERVA: 8 Guidelines

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Harmonization of Standards

•Technique

- WCAG1: 102 Techniques
- WCAG2: 338 Techniques
- MWBP: 60 Techniques
- Description Language: 25 Techniques
- Webservice: 67 Techniques

•Impairment

- 5 impairments

•Output Result

- 873 output results

•Users

- 36 users

•Functional Limitation

- 125 functional limitations

•Disability+personas

- 38 disabilities, 30 personas

•Device

- Braille: 3 devices
- Assistive Listening Devices: 3 devices
- Scanning Software: 3 devices
- Screen Magnifiers: 6 devices
- Speech Devices: 4 devices
- Screen Readers: 5 devices
- Keyboards: 6 devices
- Text Browsers: 5 devices

•Application

- CORE: 6 applications
- CSS: 17 applications
- HTML: 13 applications

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[\[Keyboards\] Classes](#)

[\[Keyboards\] Object Properties](#)

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All Resources

[a](#)

[b](#)

[c](#)

[k](#)

[x](#)

[y](#)

[z](#)

[A link Attr Of Body Elements](#)

[Abbr Elements Without Title Attr](#)

[abox:hasClass](#)

[abox:hasInstance](#)

[abox:hasNumberOfIndividuals](#)

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Ontology

Namespaces

Default Namespace

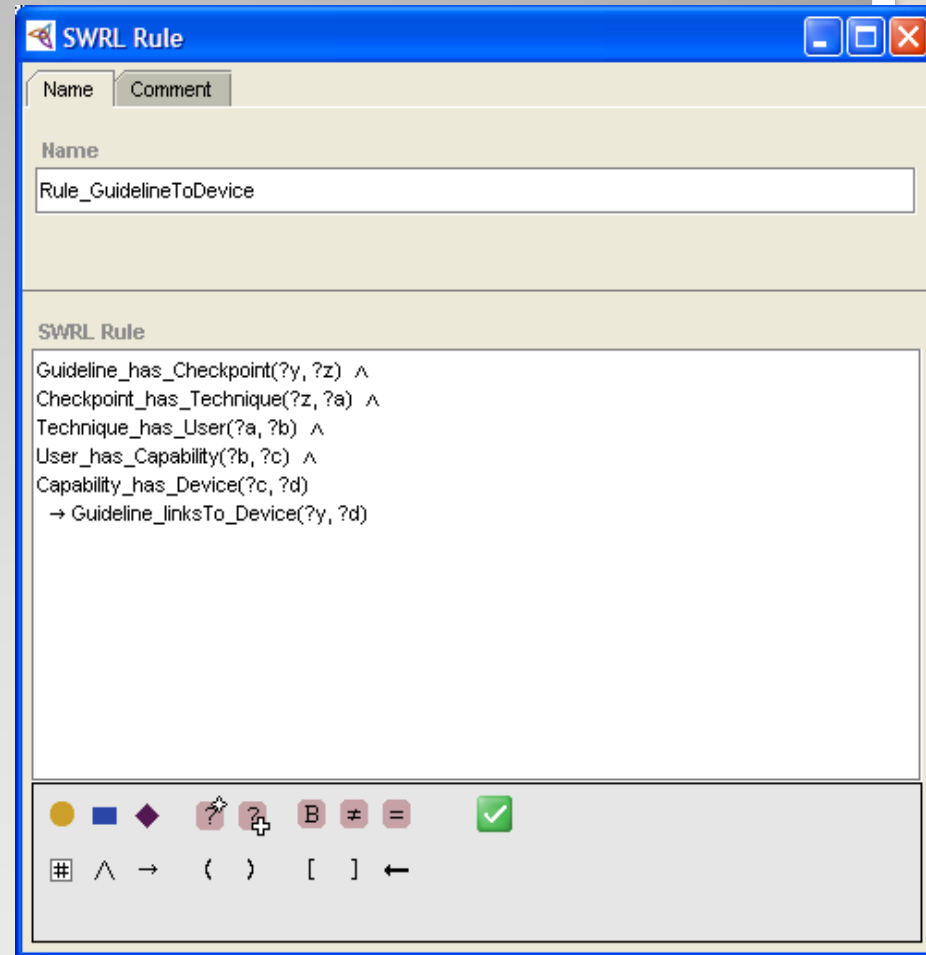
<http://www.AccessibleOntology.com/GenericOntology.owl#>

TextBrowser	http://www.AccessibleOntology.com/TextBrowsers#
xsd	http://www.w3.org/2001/XMLSchema#
Keyboards	http://www.AccessibleOntology.com/AlternativeKeyboardsOrSwitches.owl#
Section508	http://www.AccessibleOntology.com/Section508.owl#
MWG	http://www.AccessibleOntology.com/MicrosoftWebGuidelines#
Braille	http://www.AccessibleOntology.com/Braille.owl#
swrlb	http://www.w3.org/2003/11/swrlb#
IBM	http://www.AccessibleOntology.com/IBMWebAccessibilityChecklist#
rdfs	http://www.w3.org/2000/01/rdf-schema#
VERVA	http://www.AccessibleOntology.com/VERVA.owl#
owl	http://www.w3.org/2002/07/owl#
WCAG1	http://www.AccessibleOntology.com/WCAG1.owl#
SpeechDevice	http://www.AccessibleOntology.com/SpeechDevices#
swrla	http://swrl.stanford.edu/ontologies/3.3/swrla.owl#

http://160.40.50.89/Accessible_Ontology/Version4.0/ - (OWLdoc)

Harmonization of Standards

- Using SWRL Editor (an extension to Protégé-OWL that permits the interactive editing of SWRL rules) 62 rules were created.
- Example:
Rule_GuidelineToImpairment
 - **Guideline_has_Checkpoint(?y, ?z) ^
Checkpoint_has_Technique(?z, ?a) ^ Technique_has_User(?a, ?b) ^
User_has_FunctionalLimitation(?b, ?c) ^
FunctionalLimitation_has_Impairment(?c, ?d) →
Guideline_linksTo_Impairment(?y, ?d)**



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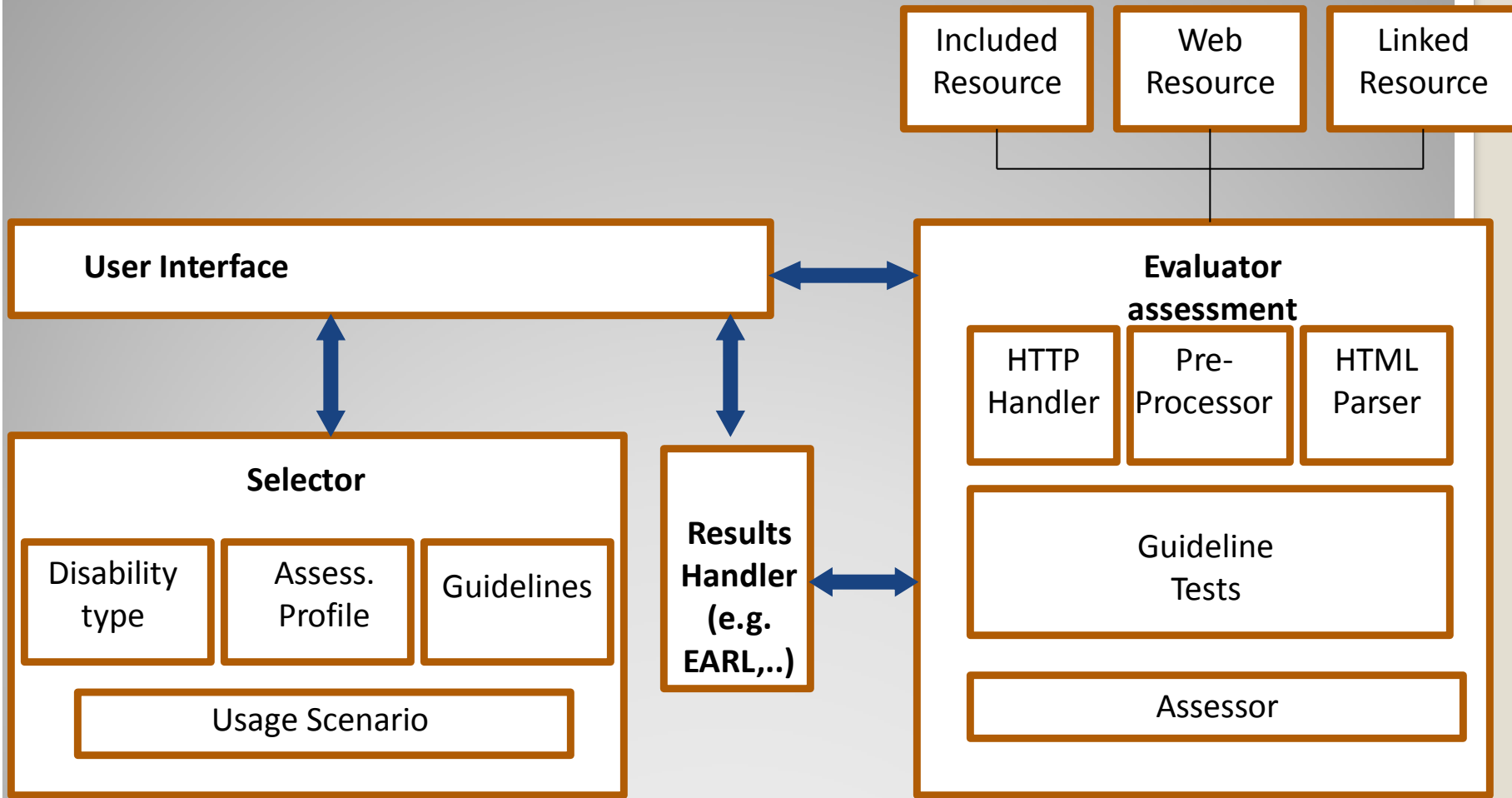
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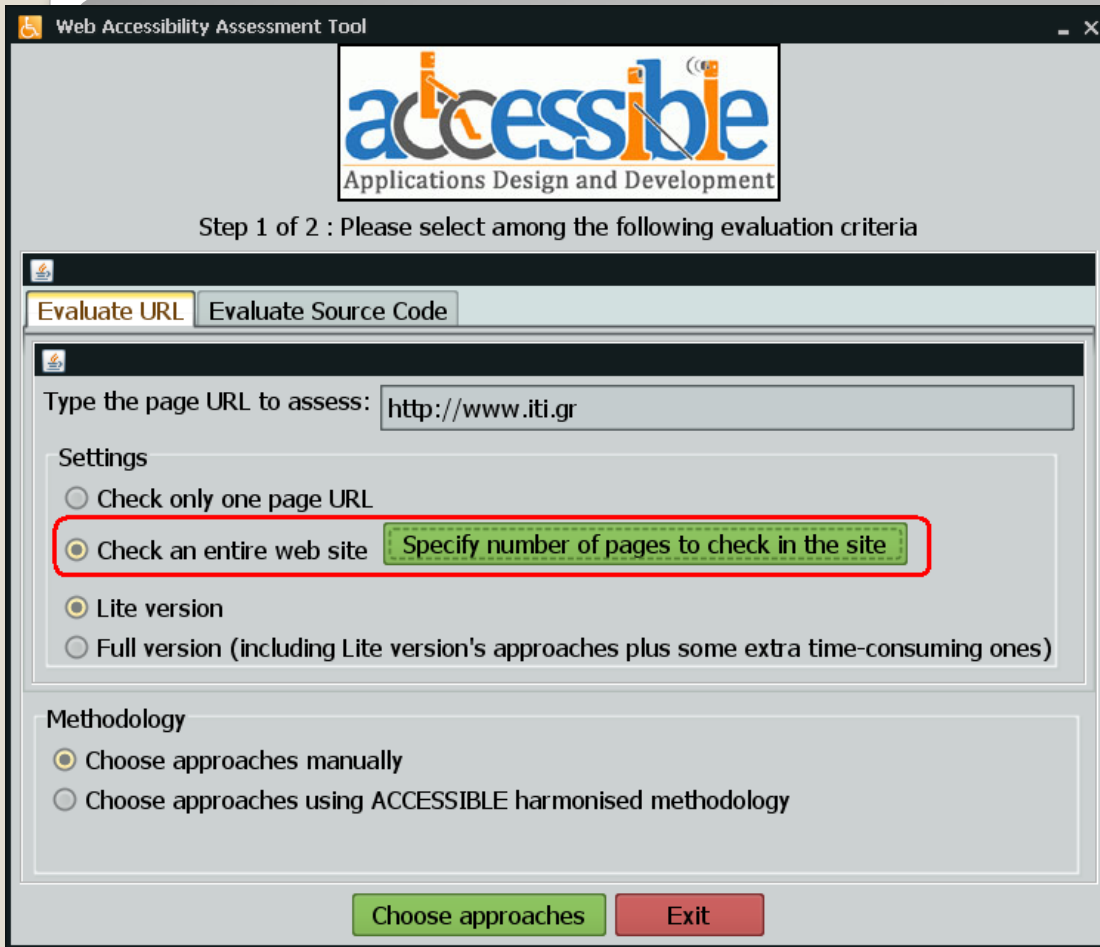
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Web assessment tool



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The screenshot shows a web browser window titled "Choose approaches manually" with a tab for "WCAG 2.0". The interface includes tabs for "Level A", "Level AA", and "Level AAA". The main content area displays the following structure:

- Principle 1: Perceivable - Information and user interface components must be presentable to users in ways they can perceive
 - Guideline 1.1 Text Alternatives: Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print,
 - Success Criterion 1.1.1
 - All non-text content that is presented to the user has a text alternative that serves the equivalent purpose, except for the situations listed below.
 - <input type="image"> elements 'alt' attribute
 - alternate text of images with "ismap" attribute
 - empty "alt" attribute for images
 - null "alt" attribute for images
 - images used as hyperlinks text content
 - "alt" attribute of <AREA> included in <MAP>
 - <OBJECT> elements text equivalent
 - <APPLET> elements "alt" attribute
 - <APPLET> elements text equivalent
 - elements "longdesc"
 - <A> element adjacent to non-text content (element)
 - images used as hyperlinks having adjacent <A> element with same href and description
 - images in table having adjacent <A> element in table cell with same href and description
 - labels are associated with form (checkbox,radio,file,password,text), textareas and select elements and are visible
 - check for images that should be ignored by assistive technology
 - input form (hidden excluded), textareas and select elements identified by "title" attribute if not associated with <LABEL> element
 - ASCII art existence
 - Emoticons existence
 - Guideline 1.2 Time-based Media: Provide alternatives for time-based media
 - Success Criterion 1.2.3
 - <OBJECT> elements text equivalent

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The screenshot shows a web application window titled "Choose approaches using ACCESSIBLE harmonised methodology". The window is in "Step 2 of 2 : Specify approaches to be followed" and has a checkbox for "Use personas" which is currently unchecked. There are five tabs: "Standard", "Impairment", "Disability", "Functional Limitation", and "Personas". The "Disability" tab is selected, showing a list of disabilities. "Colour Blindness" is highlighted in yellow. Below the list is a green button labeled "Find approaches".

The "Approaches" section below shows a list of accessibility criteria. The first item is highlighted in yellow: "[SuccessCriterion 1.4.4, SuccessCriterion 1.4.8] -> \"font-size\" property in .css without relative value (al". Other items include checks for foreground and background colour contrast, line-height, width, text color, text-align, and font size.

On the right side of the approaches list, there are two buttons: a blue "Select all" button with a downward arrow icon, and a red "Clear" button with a red X icon.

At the bottom of the window, there are two buttons: a green "Start evaluation" button and a red "New assessment" button.

Web assessment tool

Choose approaches using ACCESSIBLE harmonised methodology

Step 2 of 2 : Specify approaches to be followed Use personas AEGIS-based ACCESSIBLE-based

Standard Impairment Disability Functional Limitation **Personas**

Emma Karlsson	Profile
Edward Hodgins	Name: Emma Karlsson
Jane Brown	Age: 38
Mikel Vargas	Location: Sollentuna, Sweden
Marta Hansson	Marital status: Single
Caroline Combs	Job: Employed
Gert Van Dijk	Impairment:
Tomasa Almaraz	1. Dysarthria
Carlos Portillo	2. Expressive language disorder
Peter Vandezande	3. Conductive Hearing Loss
	4. Communication disability

Find approaches

Approaches

- [SuccessCriterion 1.1.1] -> empty "alt" attribute for images
- [SuccessCriterion 1.1.1] -> there is no "alt" attribute for images
- [SuccessCriterion 1.1.1, SuccessCriterion 1.2.3, SuccessCriterion 1.2.8] -> <OBJECT> elements text
- [SuccessCriterion 1.1.1] -> <APPLET> elements "alt" attribute
- [SuccessCriterion 1.1.1] -> <APPLET> elements text equivalent
- [SuccessCriterion 1.1.1] -> redundant text links for each active region of a server-side image map with
- [SuccessCriterion 1.1.1] -> Alternate text of elements with "ismap" attribute
- [SuccessCriterion 2.2.4, SuccessCriterion 3.2.5] -> check for "refresh" META elements
- [SuccessCriterion 3.2.5] -> check for hyperlinks with target="_blank"
- [SuccessCriterion 3.1.4] -> check <ABBR> elements "title" attribute
- [SuccessCriterion 3.1.4] -> check <ACRONYM> elements "title" attribute

Start evaluation **New assessment**

Web assessment tool

Success Criterion 2.4.3

Total hyperlinks :	0
Hyperlinks without "tabindex" attribute :	0
Total <AREA> elements :	2
<AREA> elements without "tabindex" attribute :	2
Total <BUTTON> elements :	0
<BUTTON> elements without "tabindex" attribute :	0
Total <INPUT> elements :	0
<INPUT> elements without "tabindex" attribute :	0
Total <OBJECT> elements :	0
<OBJECT> elements without "tabindex" attribute :	0
Total <SELECT> elements :	0
<SELECT> elements without "tabindex" attribute :	0
Total <TEXTAREA> elements :	0
<TEXTAREA> elements without "tabindex" attribute :	0

Success Criterion 2.4.4

Images used as hyperlinks :	0
Images used as hyperlinks without text content :	0
<AREA> elements in <MAP> elements :	2
<AREA> elements in <MAP> without "alt" :	2

Problematic HTML elements of the examined page(s)

- 1) [Page: <http://www.iti.gr>, Description: **Number of total <AREA> elements included in <MAP> elements without "alt" attribute, ERROR**]
AREA[attributes={href=/iti/el/index.html, coords=570,205,670,235, shape=rect}; value=[]]
- 2) [Page: <http://www.iti.gr>, Description: **Number of total <AREA> elements included in <MAP> elements without "alt" attribute, ERROR**]
AREA[attributes={href=/iti/en/index.html, coords=570,240,670,270, shape=rect}; value=[]]

Motivation

Introduction

User Centred
Design

**Harmonization
of Standards**

Conclusions

The Web page experiment



ΕΘΝΙΚΟ ΚΕΝΤΡΟ ΕΡΕΥΝΑΣ & ΤΕΧΝΟΛΟΓΙΚΗΣ ΑΝΑΠΤΥΞΗΣ

Ινστιτούτο Πληροφορικής & Τηλεματικής

Αναζήτηση



αρχική φορέας έργα δημοσιεύσεις γεγονότα προσωπικό επικοινωνία



Ερευνητικές Μονάδες

- Επεξεργασία Σήματος και Εικόνας
- Όραση Υπολογιστών
- Αναγνώριση Προτύπων και Μάθηση Μηχανής
- Αλληλεπίδραση Ανθρώπου - Μηχανής
- Εικονική και Επαιζημένη Πραγματικότητα
- Τεχνητή Νοημοσύνη
- Ασφάλεια και Επιτήρηση
- Βιο-ιατρική και Πληροφορική
- Πληροφορική για το Περιβάλλον, τις Γεωεπιστήμες και την Τηλεπισκόπηση
- Τεχνολογία Δικτύων και Επικοινωνιών
- Πολυμέσα, Βάσεις Δεδομένων και Συστήματα Πληροφοριών
- Ανάλυση Κοινωνικών Δικτύων
- Ηλεκτρονική Διακυβέρνηση
- Εκπαιδευτική και Πολιτιστική Τεχνολογία
- Παραγωγή Υπηρεσιών σε Οργανισμούς και Επιχειρήσεις

Δελτία
Τύπου



Θέσεις
Εργασίας

HELP
WANTED

Ένα καλωσόρισμα από τη διευθύντρια

Το Ι.Π.ΤΗΛ. λειτουργεί υπό την αιγίδα του Υπουργείου Παιδείας, Δια Βίου Μάθησης και Θρησκευμάτων και υλοποιεί ευρωπαϊκά και εθνικά ερευνητικά προγράμματα με αποδέκτες οργανισμούς και επιχειρήσεις. Διαθέτει 10 κύριους ερευνητές και πάνω από 80 άτομα επιστημονικό προσωπικό, οι οποίοι εργάζονται στις διάφορες πτυχές της έρευνας στον τομέα της τεχνολογίας πληροφοριών. Το Ινστιτούτο συνεργάζεται με το Imperial College, το Πανεπιστήμιο του Surrey και το Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης για την απονομή διδακτορικών διπλωμάτων. Διαθέτει άριστες εγκαταστάσεις έρευνας και ένα φιλικό εργασιακό περιβάλλον. Θα χαρούμε να υποδεχθούμε ερευνητές από όλο τον κόσμο ως επισκέπτες και συνεργάτες! <Μάθετε περισσότερα...>



Γεγονότα & Ειδήσεις

★ ΓΕΓΟΝΟΤΑ: Ανοιχτή Μέρα για το κοινό

Το ΙΠΤΗΛ διοργανώνει Ανοιχτή Μέρα για το κοινό την Παρασκευή, 11 Ιουνίου 2010

June 2010						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

★ ΣΕΜΙΝΑΡΙΑ: Σεμινάριο 19 Μαΐου 2010

Ambient intelligence: integrating agents service and ontology, Δρ Διονύσιος Κεχαγιάς, ΙΠΤΗΛ

★ ΣΕΜΙΝΑΡΙΑ: Σεμινάριο 12 Μαΐου 2010

Speech/speaker segmentation based on the Bayesian Information Criterion, Δρ Κώστας Κοτρόπουλος, Αριστοτέλειο Πανεπιστήμιο

Motivation

Introduction

User Centred
Design

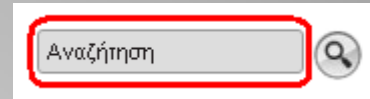
Harmonization
of Standards

Conclusions

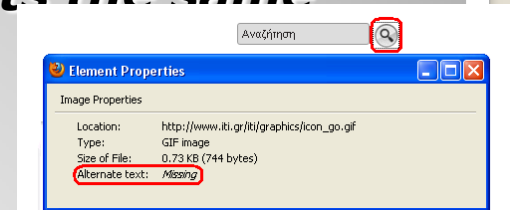
The Web page experiment

Detected Errors and Warnings for the Web page of ITI

- **Errors**



- **Form controls without label = 1 -> H44:Using label elements to associate text labels with form controls**
- **Image used for input element is missing Alt text =1 -> G94:Providing short text alternative for non-text content that serves the same purpose and presents the same information as the non-text content**



- **Anchor contains no text = 1 -> H30:Providing link text that describes the purpose of a link for anchor elements**
- **Images with empty "alt" attribute = 2 -> H37:Using alt attributes on img elements**

```
<a href=""></a>
```

Motivation

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The Web page experiment

- **Warnings**

- **Images with empty "alt" attribute = 2 -> H67:Using null alt text and no title attribute on img elements for images that AT should ignore**

```

```



Element Properties

Image Properties


Location:	http://www.iti.gr/iti/graphics/iti.jpg
Type:	JPEG image
Image Dimensions:	511px × 266px
Size of File:	54.78 KB (56092 bytes)
Alternate text:	<i>Blank</i>

```
  
<h4>Ινστιτούτο Πληροφορικής & Τηλεματικής</h4>
```

Element Properties

Image Properties

Location:	http://www.iti.gr/iti/graphics/iti.gif
Type:	GIF image
Image Dimensions:	64px × 70px
Size of File:	3.91 KB (4007 bytes)
Alternate text:	<i>Blank</i>

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τηλ. 2311 257701-3 / fax. 2310 474128
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Motivation

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Conclusions

- This component is part of a more detailed framework for assessment evaluations of ICT applications (web services, mobileWeb)
- This is the first Web assessment tool that incorporates user profiles, personas.... user's abilities

Motivation

Introduction

Personal Web
Accessibility

Context of Use
Detector

Conclusions

Any question,
comment?



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