

Web Accessibility on Spanish Universities

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- Introduction
 - Data Set Study
 - Description of the Test
 - Process of Analysis
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- Spanish law mandatory:
 - Enact on 2002, 11th July and modified on 2007, 28th December
 - Web sites of Spanish public institutions must be accessible.
 - Companies that offer services on Spain with important economic and social impact must offer an accessible Web site.
- The law indicates the standard to follow:
 - UNE 139803, which is based on WCAG 1.0.
 - It is necessary to obtain an *AA level* to fulfill the law.

**Are the Spanish universities
respecting the laws?**

Data Set Study: Universities

- Spain has 77 universities:
 - Taking into account public and private institutions.
 - The final scope of the current project is to analyze the complete set.
 - This study only covers the subset awarded with the “Campus of International Excellence”.
 - This subset represents the 25.97% of the universities.
- “Campus of International Excellence”
 - Program of the Spanish Minister of Science and Education.
 - Awarded the best campus projects to increase the level of:
 - Research.
 - Studies.
 - Only 20 universities were finalist.

Data Set Study: Web Pages Selected

- 6 sections selected from each main Web Site.
 - Home.
 - News Page.
 - Staff Section.
 - Directory.
 - List of Studies.
 - Study detail.
- Total of 111 Web Pages:
 - All provided by different Content Manager Systems.
 - Different languages used.
 - HTML, XHTML, etc.

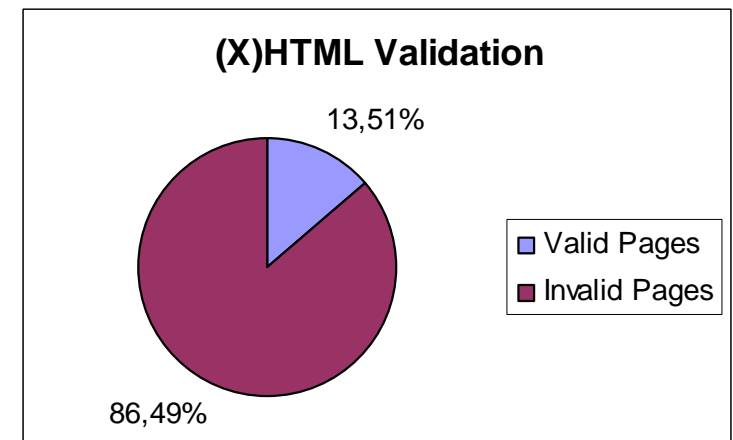
- As a first step of the project we analyzed the dataset in an automatic way.
- Verifying the UNE 139803:
 - Very similar to WCAG 1.0.
 - TAW software made by the CTIC Foundation (W3C Spain Office is a part of this foundation).
- To obtain an *AA level* with the WCAG 1.0 we have to respect the standard of (X)HTML and CSS.
 - To test (X)HTML we used the W3C Online Validator.
 - The CSS was made with the W3C Online Validator.

Process of Analyze: (X)HTML Grammar

- First point checked.
 - If a Web page does not respect the grammar it cannot be valid.
 - It is very difficult to respect the accessibility normative if we do not write correct code.
- This point has two main actors:
 - **Developers** of the code for the visualization with CMS.
 - Re-use of the code: repetition of errors in different pages.
 - **The Editor** who introduces the content of the site.
 - They use the code made by the developers: propagate the errors.
 - They do not need to know HTML: can be used without knowing the impact on the correctness of the Web Site.

Process of Analyze: (X)HTML Grammar

- 88.49% of the Web pages of the Universities have grammar errors.
 - Only 13.51% are accessible!
- High number of errors by page:
 - 34.37 errors in average.
 - Up to 70.37 if we only take into account pages with errors.

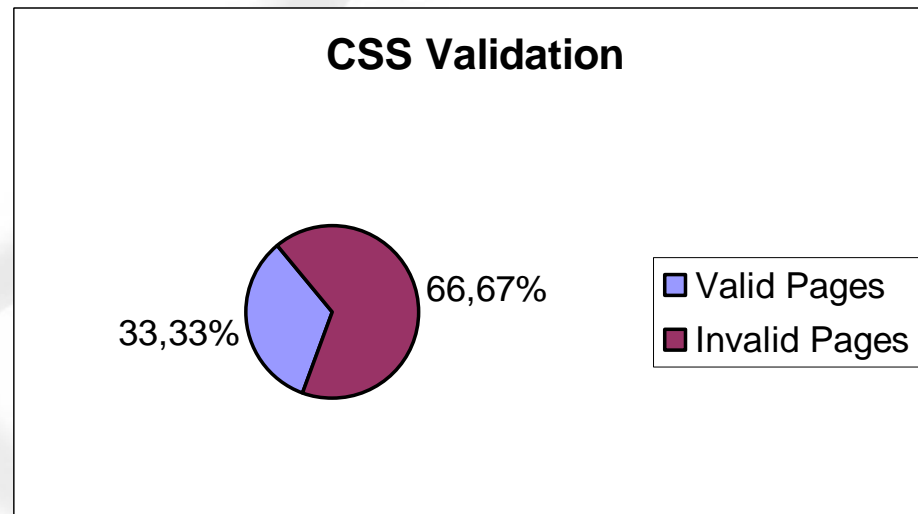


Process of Analyze: CSS Grammar

- It is also compulsory to obtain the accessibility *AA Level*.
- This point only involves developers who write the CSS styles.
 - Difficulties to obtain the same visualization with all the browsers:
 - Hacks.
 - Complex layout due to a visual design made without taking into account accessibility issues.

Process of Analyze: CSS Grammar

- 33.33% of the pages have a standard CSS.
 - Better situation than the HTML test.
 - It excludes the 2/3 parts of the total set.

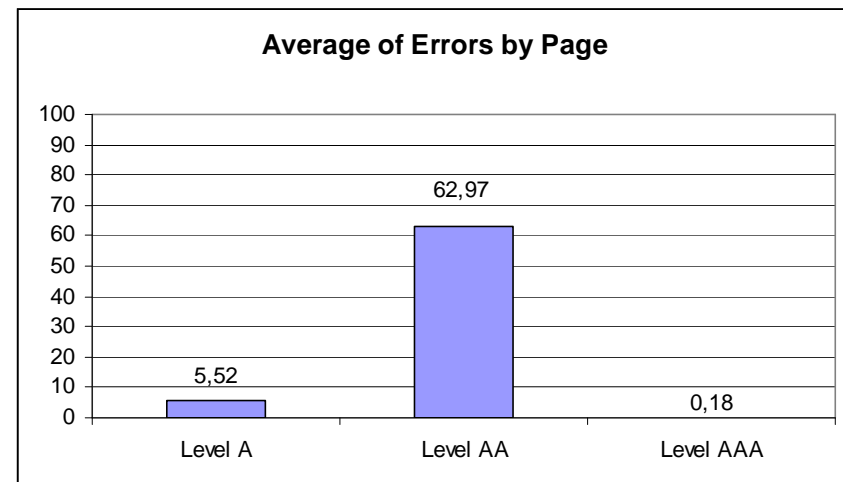
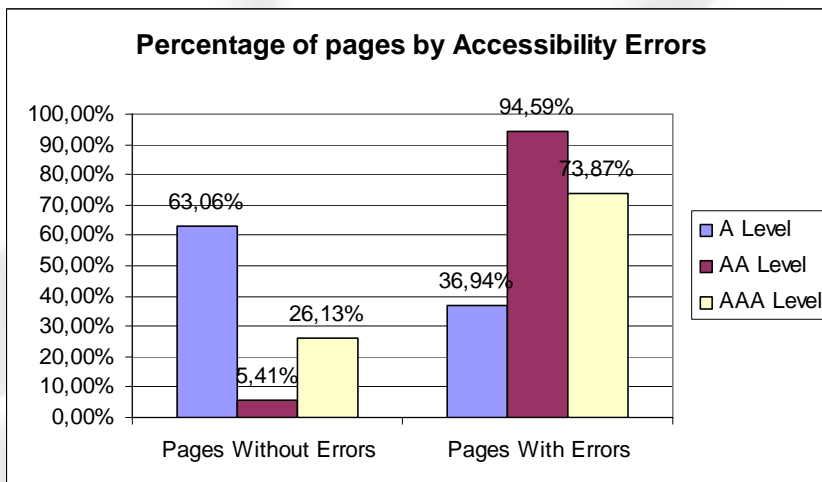


Process of Analyze: Accessibility Test

- We test the complete normative:
 - Test for all levels: **A**, **AA** and **AAA**.
 - We do not test the accessibility of the layout or the content.
 - This will be the next step.
- This point only involves all the staff related to the Web Site.
 - From directives to the editors, they have to think in accessibility.
 - Accessibility policy and formation plan.

Process of Analyze: Accessibility Test

- 4.50% of Web pages are accessible!
 - It means they obtain the *A* and *AA levels*.
 - 5.49% pass the *AA level*.
 - 1.51% pass the *AA level* but not the *A level*.



Process of Analyze: Complete Validation

- HTML test + CSS test:
 - Only the 13.51% of Web pages pass the test.

- HTML test + CSS test + Accessibility test:

Only the 0.9% is accessible!

- In this process, we have tested the accomplishment of the Spanish Laws testing:
 - HTML grammar.
 - CSS grammar.
 - WACG 1.0, base of the Spanish normative UNE 139803.
- The result shows a very poor level of compliance:
 - Only the 4.50% of the Web Sites can be called accessible.
 - Only if we take into account accessible parameters.

Only 0.9% of Web pages of the Spanish Universities fulfill the law!

Thank you for your attention.

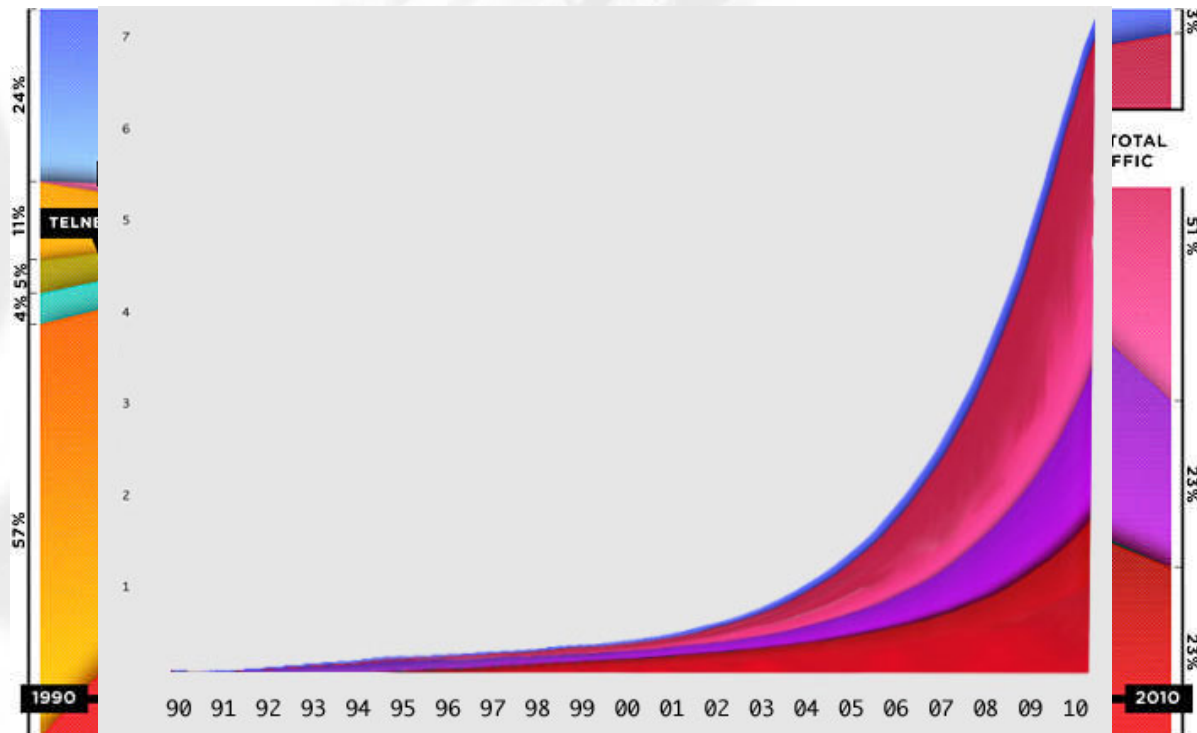
Juan Manuel Fernández Ramírez

Smart-phones and Tables Apps New Ways to Browse Web

Panel Session:
Internet of Tomorrow: Is it for Everybody?

Juan Manuel Fernández Ramírez

- **The Web Is Dead. Long Live the Internet**
(Chris Anderson and Michael Wolff, Wired 2010)



- The use of the classic Web is growing up slowly:
 - The use mobile app to access to the information on the Web is growing exponentially.
 - A mobile app is not a Web browser.

- The situation on USA at the first three months of the year:
 - 34% of the mobile handsets sold in the first three months of 2010 were Smart-phones.
 - 40% of American adults users the cell phones to surf the Web, e-mail, etc.

(Cisco estimates based on CAIDA publications, 2010)

(Pew Research Center, 2010)

- The use of an smart-phone has some good points to explode:
 - It is a personal device that can be adapted to our necessities.
 - Always with us:
 - We can use it, with our modifications, in any place.
- But...
 - Does the app developer know the accessibility needs? And the need for a non Web app?
 - Web Accessibility has improved thanks to SEO techniques
 - If this techniques are not important for the mobile app, will the developers apply them on a new app?

- Web accessibility is “well known” by the developers due to the different laws.
 - Section 508 (USA), European laws based on WCAG (Spain UNE 139803, etc.).
- Software Accessibility rules are different and laws are not “well known”.
 - Section 508, UNE 139802, etc.
 - Laws talk about “general” software but, the mobile apps have different requirements.

- The use of smartphones to browse the Web is a reality nowadays.
- These app open a great number of opportunities to obtain the e-integration of all people.
 - Can we explode these opportunities?
 - Do enterprises and developers want to explode them?
- Will the laws will cover the special needs of these apps?
 - They need to evolve fast to obtain good results.

Thank you for your attention.

Juan Manuel Fernández Ramírez



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Internet of Tomorrow - Potential Bottlenecks

Krzysztof Walkowiak



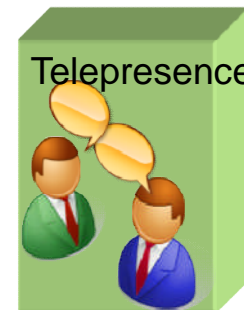
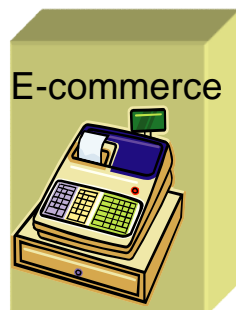
There is no free lunch ...



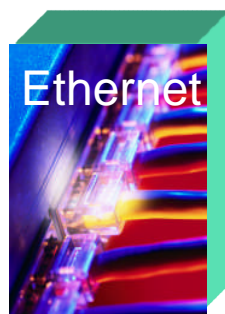


Technological Bottlenecks

**everything
over IP**



**IP over
everything**





Other Potential Bottlenecks

- Law regulations
- Business constraints
- Globalization
- User demands
- Digital divide
- Generation gap

• ???????