The effects of widespread Web standards deployment on the Web design industry and end-user.

Research Proposal Outline, Contextual Practice

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Project Outline

During my third year studies, I will undertake the planning, research and writing of a dissertation alongside my other projects. It is my intention to link the analysis and production of this document to my final major project in order to ensure that relevant research is applied when producing the aforementioned assignment. I believe in doing this, my work will benefit from a more professional and informed point of origin, and my critical faculties for making important design decisions will be improved. I also hope my research and analysis can provide an insight to other students undertaking similar studies, and answer any questions or prejudices they may have of the subject.

As a Web design student, the design, development and production of web sites is paramount to my learning experience. Included within the syllabus is teaching and independent learning on the subject of Web standards, which now forms an important pillar of the Web design industry. During my research I will summarize the history of designing for the web from its background in academia to the widespread deployment of Web standards in the present. I will examine the creation of the Internet and the hypertext language, HTML[1], as a method of sharing scientific documentation over a network, to the explosion of the Internet into the mainstream and the exploitation of HTML markup for artistic and stylistic purposes, to the modern creation of Web standards by the *W3C*[2] and advocacy by the *WaSP*[3]. I will critically analyze the advantages and disadvantages of applying Web standards, the knock-on effects for the end user, and whether Web standards advocacy has led to a meaningful increase in deployment of standards. I will also investigate how the industry is changing to accommodate these standards, and whether they actively seek to employ designers

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[1] HyperText Markup Language *<http://www.w3.org/TR/html401/>*

[2] Word Wide Web Consortium *<http://www.w3.org/>*

[3] The Web Standards Project *<http://www.webstandards.org/>*

nd developers with a working knowledge of standards, and thus how valuable education involving standards is. I will also research education within the working industry, and the financial implications of switching to standards-based design (or *not* switching), the costs associated with educating working designers and what solutions to this problem are most popular.

Overall, I want to provide an analysis of how the industry has changed since the advent of Web standards, and whether the changes have been positive or negative for both industry workers and Web users.

In common language, Web standards refer to guidelines or recommendations set out by the *W3C* that developers should conform to when structuring their markup. In *Designing With Web Standards*, Zeldman states[4]:

> *"Technologies created by the World Wide Web Consortium and other standards bodies and supported by most current browsers and devices now make it possible to design and build sites that will continue to work, even as those standards and browsers evolve."*

One of the principle advantages of developing with Web standards (as opposed to designing with spaghetti code without standards) is, as Zeldman notes[5], fiscal: Web standards are cheaper. The amount of code to be produced is reduced, and therefore so is time. The amount of bandwidth required to display the site is reduced, and so are ISP costs. Developing with Web standards in mind often extends not just to following guidelines, but following predetermined conventions on

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[4] Zeldman, J. (2006) *Designing With Web Standards (2nd edition)*. New Riders. p16.

[5] Zeldman, J. (2006) *Designing With Web Standards (2nd edition)*. New Riders. p14.

semantics, usability and accessibility. The result of this should be a site which displays correctly and without error on all modern Web browsers, is readable by accessibility tools such as screen readers, does not provide any discriminatory disadvantages to differently abled users, and is simple to use.

Conversely, sites which do not follow Web standards often do not provide these features, and could be in conflict with the Disability Discrimination Act[6], which states:

> *"The Disability Discrimination Act makes it unlawful for a service provider to discriminate against a disabled person by refusing to provide any service which it provides to members of the public."* (Disability Discrimination Act)

However, Zeldman is eager to explain[7] that the advantages that using Web standards provides are not without drawbacks. On a developer level, education takes time and resources, including training with non-standard software, that may not be readily available in a working environment. Project managers on a Web team may be unaware of the advantages or legal obligations of their company to accessibility, and decide not to alter their working practices to support standards-based development. Users with older Web browsers may not be able to correctly view sites deployed with Web standards, although this is becoming a lesser problem each year as users are forced to upgrade to more modern browsers such as Mozilla's *Firefox*[8] and Apple's *Safari*[9].

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[6] DDA <http://www.direct.gov.uk/en/DisabledPeople/RightsAndObligations/DisabilityRights/DG_4001068>

[7] Zeldman, J. (2006) *Designing With Web Standards (2nd edition)*. New Riders. p90.

[8] Mozilla Europe <http://www.mozilla-europe.org/en/firefox/>

[9] Apple Safari <http://www.apple.com/safari/>

Figure 1: Non-standards based markup (left) vs. standards based markup (right).

Source: <http://www.iqcontent.com/blog/2007/03/web-standards-could-account-for-huge-savings-at-aib/>

As can been seen in Figure 1, the production of standards-based code results in a far more condensed markup output. Less code for the user to download means less bandwidth consumed, and less time spent in production, which lowers overheads.

Within the past five years, there has been a spate of literature written on the subject of Web standards, most notably the first edition of Jeffrey Zeldman's *Designing With Web Standards* [10] which brought standards awareness to a wider audience through accessible writing and hands-on working examples. Publications like this helped to catapult Web standards advocacy and educate developers in this new method of working. The *Opera* initiative, *MAMA*[11], found that 4.13% of websites in their study of 3,509,180 passed *W3C* validation and thus conformed to Web standards.

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[10] Zeldman, J. (2006) *Designing With Web Standards (2nd edition)*. New Riders.

[11] *Opera* Metadata Analysis and Mining Application *<http://dev.opera.com/articles/view/mama/>*

Study	Date	Passed validation	Total validated	Percentage
Parnas	Dec. 2001	14,563	2,034,788	0.71%
Saarsoo	Jun. 2006	25,890	1,002,350	2.58%
MAMA	Jan. 2008	145,009	3,509,170	4.13%

Source: MAMA <*http://dev.opera.com/articles/view/mama-markup-validation-report/*>

This was a great improvement on the results of the study conducted in 2001, which found less than one percent of websites were conforming to Web standards. This, however, would not account for a greater percentage of Web sites which were applying Web standards, but failing on validation on technicalities. The effects of Web standards advocacy through publications - whether it be via book, blog, or podcast, is evident through studies such as these. There is no doubt that Zeldman's book, which still remains amongst the bestselling in the Web development genre, had a massive impact on the industry, and has either directly or indirectly turned hundreds of thousands of designers onto Web standards.

Methods

In order to answer the questions outlined previously, and provide a meaningful debate on the subject, I will be required to perform both primary and secondary research for the document. I will consult accredited publications such as Zeldman's *Designing With Web Standards*[12] and Friends of ED's *Web Accessibility: Web Standards and Regulatory Compliance*[13]. Additionally, I will draw from Brian Kelly's paper *Addressing The Limitations Of Open Standards*[14]. These peer-reviewed publications will form the principal research sources for my dissertation.

I will perform primary, original research through on-the-ground interviews with people currently working within the industry. This will take place in small numbers, but will be at length and provide qualitative research for the project. I will conduct an interview with several Web designers who have made the switch from designing legacy sites to working with Web standards - I will enquire how and why they made the change and what effect it has had on their working lifestyle. I will also pose questions to an employer within the Web design industry on the subject of Web standards - whether they have a policy on their deployment (full or otherwise), how they have seen the industry change since the advent of standards, and whether they consider an education related to Web standards a bonus when considering employment.

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[12] Zeldman, J. (2006) *Designing With Web Standards (2nd edition)*. New Riders.

[13] Multiple authors. (2006) *Web Accessibility: Web Standards and Regulatory Compliance*. Friends of ED.

[14] Kelly, B. (2007) *Addressing The Limitations Of Open Standards. <http://www.ukoln.ac.uk/web-focus/papers/mw-2007/paper-standards/>*

I will then take my collated research, make any amendments to my pre-planned document structure, and begin to form a critical debate. I aim to provide an objective insight into Web standards, how they are affecting the industry, and how they should be approached in education.

Literature Review

In addition to Zeldman's *Designing With Web Standards* [15], a number of other popular books concerning Web standards have been published. *Web Accessibility: Web Standards and Regulatory Compliance* [16] covers Web standards from the viewpoint of accessibility, for example. Since accessibility on the Web is now becoming a hot topic issue in both the United Kingdom and the United States, more and more publications are being released to educate the industry on their obligations and how best to combat the issues presented with designing for accessibility on the web. *Web Accessibility: Web Standards and Regulatory Compliance* in particular focuses on approaching accessibility issues through the good use of the *Web Content Accessibility Guidelines* (WCAG)[17], various techniques to make normally inaccessible content readable for users with screen readers, and checklists for ensuring a site conforms to common accessibility requirements. Books like these thoroughly cover subsections of the Web standards movement and provide the current working knowledge of problems and solutions in simple, referenced points.

Other publications approach different problems associated with standards-based Web design. such as semantics, or the proper structuring of data on the Internet. Though a site may be developed using Web standards, its content may not be written with the proper syntax, and thus

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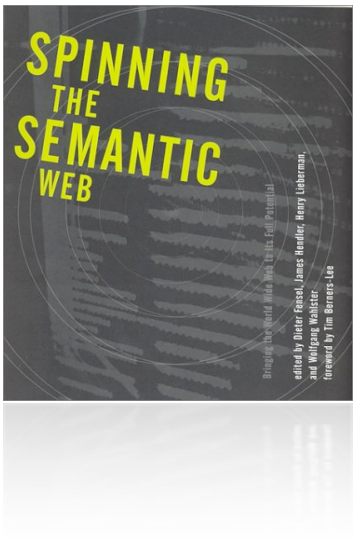
[15] Zeldman, J. (2006) *Designing With Web Standards (2nd edition)*. New Riders.

[16] Multiple authors. (2006) *Web Accessibility: Web Standards and Regulatory Compliance*. Friends of ED.

[17] W3C WCAG 1.0 *<http://www.w3.org/TR/WAI-WEBCONTENT/>*

may be incorrectly defined. Books such as *Spinning the Semantic Web*[18] consider the limitations of languages like HTML at correctly attaching semantic metadata to content in order that it can be autonomously collected and sorted by applications like search engines. Usage of more modern languages like XML, and XHTML have inbuilt functionality to tackle this issue, which is discussed at length in the aforementioned book.



Most popular publications concerning Web standards are aimed towards educating the reader in the correct usage and application of standards, now widely accepted by the wider Web development community. Thus, objective critical analysis is thin on the ground, especially outside academia. I will consult Brian Kelly's paper *Addressing The Limitations Of Open Standards*[19], which discusses the issues associated with following standards with few resources or financial backing.

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[18] Multiple authors. (2003) *Spinning the Semantic Web*. The MIT Press.

[19] Kelly, B. (2007) *Addressing The Limitations Of Open Standards. <http://www.ukoln.ac.uk/web-focus/papers/mw-2007/paper-standards/>*

Dissertation Structure

I plan to structure my dissertation in the following way:

- *Project abstract:* a brief explanation of what the document contains, what research and analysis was carried out, and finally the conclusions and recommendations. It shall also state the argument I will develop during the dissertation.
- *Project introduction:* an overview of the dissertation, introduction to the project topic, proposed areas of research and discussion.
- *Literature review:* an analysis of the current working knowledge of the subject, theories and opinions presented in peer-reviewed literature, and primary research questions to be analyzed in the document.
- *Research methodology:* a discussion on the research to be conducted, what methods of collecting research will be deployed, determine how to answer questions presented in the *Literature review*.
- *Findings and discussion:* evaluation of research findings, discussion of findings.
- *Conclusion and recommendations:* concluding statements, analysis on effectiveness of research and satisfactory answers to posed in *Literature review*.
- *Bibliography:* list of sources referenced alphabetically using Harvard referencing conventions.
- *Appendices:* attached research documents such as interviews, statistics, etc.

Using this layout I can break down the planning, research, analysis and production of my document into digestible sections.

Bibliography

Sources consulted in this document:

- Zeldman, J. (2006) *Designing With Web Standards* (2nd edition). New Riders.
- Multiple authors. (2006) *Web Accessibility: Web Standards and Regulatory Compliance*. Friends of ED.
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- Opera Metadata Analysis and Mining Application <*http://dev.opera.com/articles/view/mama/*>
- DDA <*http://www.direct.gov.uk/en/DisabledPeople/RightsAndObligations/DisabilityRights/DG_4001068*>

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- Multiple authors. (2003) *Spinning the Semantic Web*. The MIT Press.
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- Ruse, K. (2005) *Web Standards Design Guide*. Charles River Media.
- Sitemorse FTSE 100 survey <*http://survey-beta.sitemorse.com/survey/report.html?rt=127*>
- *MACCAWS* ... Making A Commercial Case for Adopting Web Standards <*http://lab.dotjay.co.uk/mirror/maccaws/kit/index.html*>