

Gender and web design software

Gabor HORVATH
Gloria MOSS
Rod GUNN
Eszter VASS

Glamorgan Business School
University of Glamorgan
Pontypridd, Wales
CF37 1DL, UK

ABSTRACT

There are several studies dealing with the differences between sites originated by men and women. However, these references are mainly related to the “output”, the final web site. In our research we examined the input side of web designing. We thoroughly analysed a number of randomly selected web designer softwares to see, whether and to what extent the templates they offer determine the final look of an individual’s website. We have found that most of them are typical masculine templates, which makes it difficult to any women to design a feminine looking website. It can be one of the reasons of the masculine website hegemony on the web.

Key words: Internet, gender differences, web aesthetics, web design, websites

LITERATURE REVIEW

The website serves a variety of functions. These range from informing, persuading and reminding users [1] as well as sustaining traffic, that is, attracting the casual surfer to linger [16] and revisit the site [9]. The competition for the user’s attention as well as the shift to consumer-controlled interaction [22] makes this a challenging task.

The search for the factors that will influence the usefulness, enjoyment and ease-of-use of the websites [21] and satisfaction [20] has led Human Computer Interaction (HCI) researchers to attempt to understand the elements (technical, visual and content) in web design that are valued [16] and those that currently produce a deficit between expectations and experience. Although there are many definitions of HCI [18] [4], the one fairly extensively used is of a discipline concerned with the design, evaluation and implementation of interactive computing systems for human use, and the study of major phenomena surrounding them [7].

The search for these factors is a prize worth fighting for. Retailing research is driven by the notion that the physical form of a product is an important element in its design [3] and that it creates certain effects in buyers [11]. It has been found that products perceived as pleasurable are preferred [24] and used more frequently than those not perceived as pleasurable [10], leading to enhanced purchasing [6] [5].

These findings have helped establish store atmospherics as an important field of research study. Values and identities have

been extensively studied [17] but a relatively unexplored field concerns itself with the non-interpretive elements of navigation, content, form and colours.

Web-design

Summarizing the work on web-design aesthetics, a recent study refers to the relative ‘paucity of research’ [12], with ‘no principles of good www design ... set in stone’ [9] The fact that some web design is perceived as less than optimum is demonstrated by the fact that the 10 factors with the greatest deficit amongst Internet users in the US and Netherlands included a factor relating to graphics [20].

The design of websites can most easily be affected by IT professionals. This is a profession in which participation rates for women, across the board, have fluctuated during the 1990s somewhere between 19% and 22% [15]. The position varies only in different parts of the world and different IT specialisms. In the US, the proportion of women among US computer professionals fell in the 1990s from 35.4% to 29.1%. In the UK in 1994, women made up 30% of computer scientists, 32% of systems analysts, 35% of computer programmers, 10% of information system security directors, 18% of project leaders and 14% of applications development managers [2]. The trend is downward. The 1980s saw an influx of women into IT, with a fourfold increase between 1980 and 1986 in the number of women awarded bachelor’s degrees in computer science, and a threefold increase in the number of women awarded master’s degrees [8]. Recent years have seen a sharp decline in the number of women pursuing degrees in computer-related fields, together with a reduction in the numbers of women taking advanced-degree programmes [8]). The result is a male dominated profession, a point highlighted by figures from the Equal Opportunities Commission showing the horizontal and vertical segregation [15] present in the IT profession in the UK . In terms of web design, there is a study examining the use of websites in small businesses [19] but, even including this study, there is a paucity of research on the demographics and *modus operandi* of this relatively new industry, with just one examination of the gender demographics of the industry [13]. This examination appears in the context of a study focused on Higher Education websites, revealing that the majority of websites in the sample of 32 websites under consideration were produced by a man, or predominantly male team, with just 7% produced by a female or predominantly female team, and just 19% produced by an equal mixture of men and women [13]. This information, if representative of the website sector as a whole, reveals a sector which, in parallel with the related [23] IT sector, is male-dominated.

According to recent research, one of the effects of the male domination, vertically and horizontally, of the IT profession is the creation of a 'masculine computer culture' that produces a 'masculine discourse' and a prioritization of technical issues, both of which serve to deter women from entering the field [15]. The authors suggest that it is only by including a 'broader set of skills and discursive practices' that a more diverse group of people will be attracted into IT (including a critical mass of women) and that the masculine culture can be altered.

There are some studies dealing with the differences between sites originated by men and women [13] [14]. However, these references are mainly related to the "output", the final web site. In our research we examined the input side of web designing.

There are several web designer agencies offering their services to the public. They can prepare and maintain professional websites – but that is quite expensive, especially if one only needs a low cost / personal website. But what can one do if just entered to the world of WWW (without or with only a limited programming knowledge) and still want to launch his or her own website? There is a possibility for DIY, to create this website with the help of one of the web builder softwares – with their pre-programmed templates.

We rated a large number of randomly selected web designer softwares to ascertain whether, and to what extent, the templates they offer are positioned across the full spectrum of the web aesthetic design continuum. This continuum could be thought to contain at either extreme features that typify the masculine or feminine webdesign aesthetic and our interest was in identifying where on this continuum the templates associated with the softwares were positioned.

Our hypothesis was that the aesthetic character of the majority of templates would be located at the masculine end of the continuum rather than across the range of the spectrum, a hypothesis occasioned by the observation that a large proportion of commercial websites are anchored at the male end of the webdesign continuum [13] [14]. If this hypothesis is supported by the findings of this study, then one consequence might be difficulties in constructing a website with features more typical of the feminine end of the webdesign continuum. Given evidence of women's positive response to design anchored at the feminine end of the webdesign continuum, this could have negative consequences on companies' ability (especially of those on a limited budget) to mirror the aesthetic preferences of women.

METHODOLOGY

There are several easy to use website builder softwares available on the Internet to choose from. We have selected our test softwares randomly from the www.tucows.com website, which is a nice collection of such programmes. Most of them were trial versions with limited functions. However, they still provided access to a number of templates. We also included Microsoft FrontPage in the study, because this is the software most Windows user has access to. The softwares tested were the following:

1. Website Mentor Professional R1
(WRAPTECH LIMITED · DARK-STREET.CJB.NET)

This software allows the user to create a personal or business Web site. It includes 25 templates and is cross-browser compatible. It is also possible to add JavaScript and PHP functions to the web pages.

2. WYSIWYG Web Builder 2.7.2
(PABLO SOFTWARE SOLUTIONS ·
WWW.PABLOSOFTWARESOLUTIONS.COM)

The Web Builder 2.7.2 is a WYSIWYG (What-You-See-Is-What-You-Get) program which means that the finished page will display exactly the way it was designed. The program helps users to create a web page without learning HTML. They can position objects to anywhere they want. Web Builder gives them full control over the content and layout of their web page. The supporting website contains free downloadable templates for WYSIWYG Web Builder to help them start their own web site.

3. TrendyFlash Website Builder 1.0
(TRENDYFLASH.COM · WWW.TRENDYFLASH.COM)

This program allows everyone to create professional quality Flash Web sites without Flash designing or programming knowledge. Users can add their own logo, JPG images, and MP3 music; edit image size, image position and transparency; and modify text size and positioning. The trial version includes 29 themes covering different categories and 20 animated designs making 580 distinct Flash Web site lay-outs possible.

4. IntroWizard Flash Website Builder 1.0
(INTRO WIZARD TECHNOLOGIES ·
WWW.INTROWIZARD.COM)

With this program the users can make their own Flash Web site by selecting a design, typing in their content and clicking "Create." They can select from 23 Flash Web site template designs. They can add up to 13 sections or buttons with four images in each section. They can have 52 images in total and each section can have its own text color. Users can also add a link to a Flash poll, chat box or guestbook.

5. Easy Website Pro 2.02
(PHOTONFX · WWW.PHOTONFX.NET)

This program helps to build home pages and publish them to the Internet. This version includes WYSIWYG (What-You-See-Is-What-You-Get) editor with MP3, MPEG, and Flash support. It is possible to import pictures and create thumbnails in one click. It allows applying own logos, buttons, MP3s, videos, guest book and counter. There are 12 built in templates to choose from.

6. A4Desk Flash WebSite and Menu Builder 5.45
(FAICO INFORMATION SOLUTIONS ·
WWW.A4DESK.COM)

This is template-based, WYSIWYG Flash site builder software. There are 169 templates to choose from, grouped in categories, such as Corporate and commerce, Family etc. Users can create Flash menu headers and Flash Web sites without Flash programming experience.

7. EZGenerator Web Site Builder 2.5.0.14
(IMAGE-LINE SOFTWARE ·
WWW.EZGENERATOR.COM)

This is a powerful program which helps to create an entire Web site, including all navigation, artwork, buttons and sitemap. You can include a blog, digital images and an online calendar. You can use the Newsletter Management system, create

questionnaires and generate reports with the Flash Poll tool or power your Web site with an E-Commerce Web shop. There are over 2,500 free Web templates available.

8. Namu6 - Website Editor 2
(NAMU6 LTD. · NAMU6.COM)

This very simplified program allows you to create, maintain and publish a Web site.

9. Microsoft FrontPage 2002
(MICROSOFT - WWW.MICROSOFT.COM/OFFICE)

FrontPage is an award-winning Web authoring tool program that a number of people tend to regularly use to update their homepages, or sometimes to design full blown sites

The research method consisted of rating the templates (we examined 3682 templates all together) of these website builder programs against a number of different criteria based upon the earlier research of Moss et al [14].

They have grouped the characteristics of web sites into three main groups and used them to objectively rating the web-sites. These groups were:

- (1)Criteria concerning navigation issues
- (2)Criteria concerning language, its register and the amount of self-promotion
- (3)Criteria relating to visual elements

Their study [14] revealed statistically significant differences between the male and female-produced websites on 13 out of the 23 factors analysed. Most of the differences occurred in the areas of visuals and language, with one difference occurring in the area of navigation. The four factors of self-denigration, expert language, the use of particular text colour, and the use of horizontal layout have shown the largest statistical difference between the two genders. At slightly lower significance level they found differences in the following cases: the use of crest, a male figure, formal typography, the blue/black typography, abbreviations, informal language and the formality of the images

However, among their criteria were several which can be used only for the analysis of completed (i.e. with real content) websites. Therefore we could not use the criteria related to Navigation issues (e.g. How varied is the subject matter?) and Language (e.g. Denigration, Use of expert/ technical language, Abbreviations, Seriousness / humour).

We have found that the following 5 criteria (related to visual elements) can be applied for website templates:

Quality of shapes
Are straight lines dominant or there are rounded shapes as well?

Layout
Does it follow convention in having lines organised horizontally and vertically and text arranged within this?

Colour of typefaces
How many different coloured typefaces used throughout the site?

Text colours
What are the colours used?

Regularity of the typography
Is the typography formal or informal?

The scoring was the following:

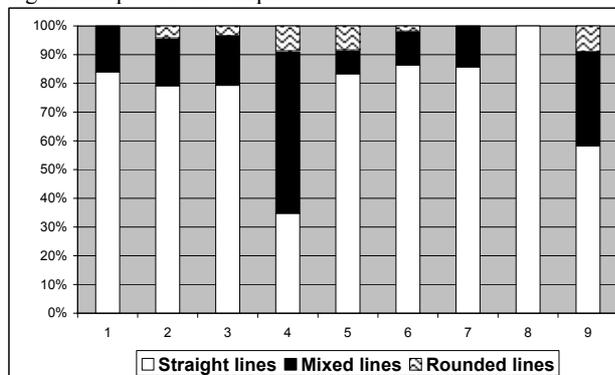
Criteria	Description	Score
Quality of shapes	Mainly straight	1
	Mixture	2
	Mainly rounded	3
Layout	Conventional layout	1
	Unconventional layout	2
Typeface colour	One colour	1
	2 – 3 colours	2
	4 - 6 colours	3
	7 + colours	4
Text colours	Mainly black or blue typography	1
	Some white, yellow, pink or mauve typography	2
	Mainly white, yellow, pink or mauve typography	3
Typography	Formal / regular typography	1
	Both	2
	Informal / irregular typography	3

RESULTS

The basic elements (quality of shapes, layout and typography) of the templates can not be changed by the users (in most cases) therefore they are determining the final characteristic of the website created by using them. It can be very restrictive for female users if they want to create feminine type websites, especially if there are no feminine type templates available. But is there any?

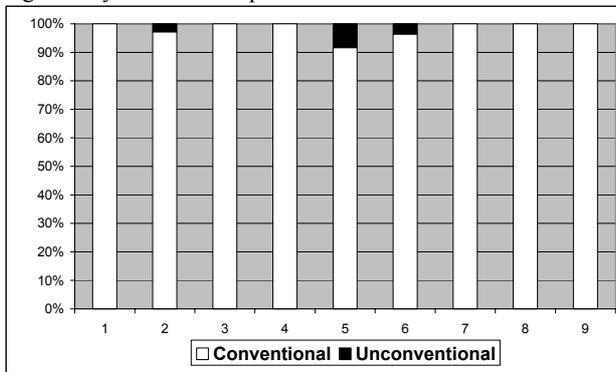
We have found that most of the templates (84% of total) are using mainly straight lines (Fig 1), which is typical of masculine type web-sites. 15% of them contain a mixture of straight and non straight lines. Many websites – which are trying to appeal to women (e.g. www.bounty.com) – are featuring similar shapes. Only 1% of the templates analyzed were designed with a predominance of rounded lines, a feature linked to the female webdesign aesthetic.

Fig 1 – Shapes on the templates



If we look at the figures relating to the layout of the templates we can see that the bias towards the masculine characteristic is even higher there (Fig 2). There are only a very small proportion of templates (0.2% of total) and only 3 out of 8 programs which offer the possibility to create web sites with (slightly) unconventional layout.

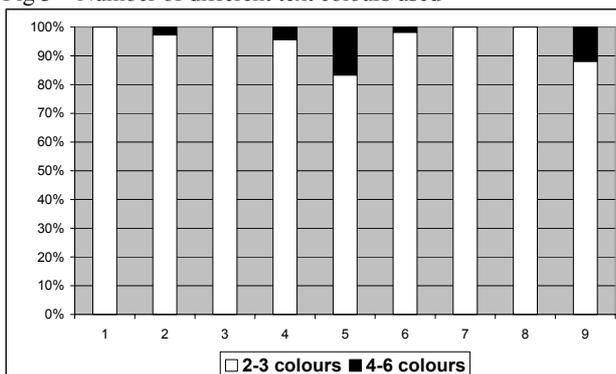
Fig 2 – Layout of the templates



The colour of typefaces (both the number of different colours and the colours used) is a very important characteristic when analyzing and describing the gender of a website. However, the text colours used in templates are less important because they can be changed by the users in most cases. The reason why we included them in our study is that we believe that most of the users will not change the colours of the templates (we assumed that they have only limited programming skills).

The results of our study show that the generality (99.6%) of the templates are using 2-3 colours which is a typical masculine feature. There are no templates using only one colour (Fig 3). The reason for this is that the hyperlinks have traditionally different colours (mainly blue) from the normal text. Therefore all the templates start with at least two colours. However, most of them do not add more colours and only 0.4% of them offer more than 4 colours.

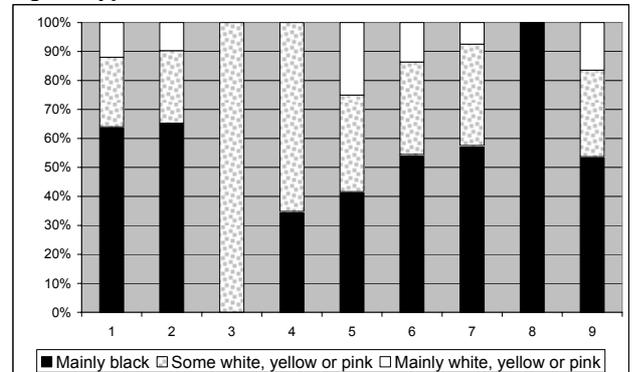
Fig 3 – Number of different text colours used



Regarding the colours used in templates, it would appear at first glance as though a number of templates employ feminine colour schemes. (Fig 4). Although the use of mainly black and blue text is still typical (49%), 45% of the templates have some and 6% of them have mainly white, yellow, pink or mauve typography.

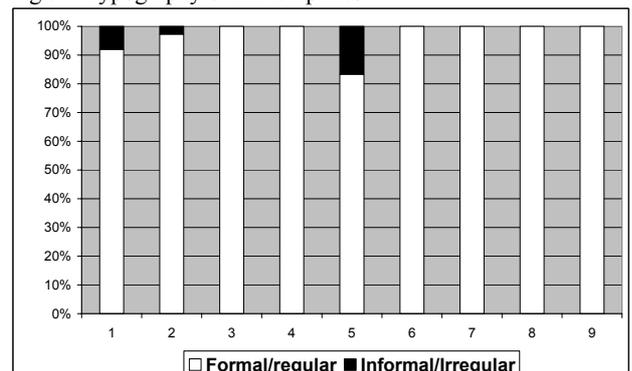
However, it is worth mentioning that in most templates the use of colours different from black or blue is restricted to the use of white, because of the darker (mainly black) background colours preferred by male web designers. Therefore it is not the case that all of the templates featuring colours other than black and blue have feminine characteristic.

Fig 4 – Types of different text colours used



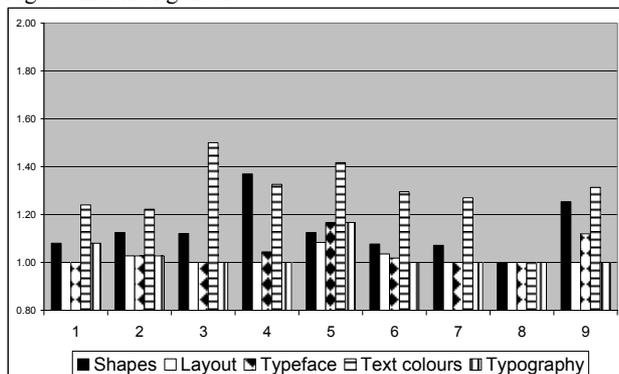
As for the typography we have also found an overwhelming dominance of masculine design. Only 0.2% of the templates have informal/irregular typography and only three out of the programs offered such a template (Fig 5).

Fig 5 – Typography of the templates



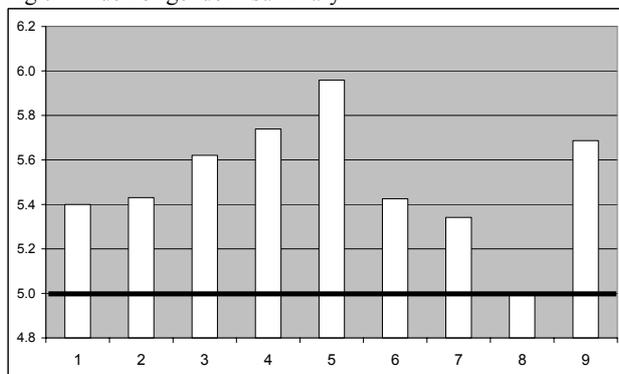
In order to determine the gender of the designs of a particular program, a special index was created based on the ratio of templates bearing feminine or masculine characteristics within the software. We calculated this index by multiplying the relative frequency of each criterion by the score given above. Then we added the values belonging to the same criteria group (e.g. Quality of shapes, Layout etc.) together. This gave us an index of gender for the templates of given software related to a certain criteria group. If this index is close to 1, it means that the majority of the templates of the program examined are masculine in relation to the given criteria. If there was a program with all feminine templates it would score 2 (the max value) in each factor. However, as we can see there is no program to get even close to this value (Fig 6).

Fig 6 – Index of gender



The Figure 7 shows the summary of the indexes above. The value of the summarized indexes could be in the range of 5 to 10, with a score of 10 indicating a program with exclusively feminine templates. We can see that Program N.8 is a fully masculine program showing no feminine features at all, scoring the minimum, 5.

Fig 7 – Index of gender - summary



CONCLUSIONS

There are some studies [13] [14] dealing with differences between sites originated by men and women. However, these references are mainly related to the “output”, the final web site. In our research we examined the input side of web designing.

We thoroughly analysed 9 randomly selected web designer softwares to see, whether and to what extent the templates they offer determine the final look of an individual’s website. We discovered that most of them are typically masculine templates. The use of these templates would make it very difficult to construct a feminine-looking website.

Our results confirmed our initial hypothesis was true, that there is a masculine hegemony within the web designer programs.

An earlier study [14] suggested that applying the mirroring principle (i.e. the efficacy of tools or messages can be maximised by ensuring that they contain features that mirror the preferences of the target market) to the case of web design, this would mean designing web pages so that they contain features that typify the web productions of the target market. However,

to do so demands the availability of programs offering feminine type templates as well as masculine ones.

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