

Web Design - New design for web sites in a commercial context

Lon Barfield - General Design (lon@design.nl)

Abstract

The web is a completely new medium and is rapidly taking its place alongside existing media such as television, telephone, CD-ROMS, etc. Any new media requires a new approach to design. How do the advances in the web compare to the historical advances in other media, and what are the factors that play a key role in the design of web sites?

It is not just the medium that is developing rapidly, the market is also changing. This is leading to new approaches to the role that the web plays in communication with the public and within organisations.

Introduction; the golden section

I am sitting at my computer working on a piece of text layout, part of it involves the 'golden section'; a ratio of lengths that is particularly pleasing to the human eye and mind. When I was a student I could remember it to three decimal places, but now all I can recall is that there is a decimal point in it somewhere. Where could I find the ratio? I launch myself over to the bookshelf to see if there is a mathematical reference book in amongst my collection. Halfway there I reprimand myself; 'look on the web'; infinitely more information than my collection of books, hundreds of times faster to search and directly accessible from my computer. I don't even have to walk over to the bookcase.

The Internet is so new and different that even people like me, involved in designing and building the medium are still not used to it, we are still caught out.

The internet, a new medium

Why is the internet such a new phenomenon? Fax machines have become cheaper and more widespread in the last five years, all offices have got one and some people have one at home, but I don't remember the same hype about fax as there is about the internet. The reason is that the fax machine was a new way of doing an old function. Fax technology was new but the idea of sending information on a bit of paper to someone else to read is a pretty established idea.

The internet is different because it is a new way of doing a *new* function, and nobody is even too sure what that function is yet. The internet is continually regarded in relation to existing media; the phone company see it as the future for tele-communications; the publishers as a new avenue for publishing; the broadcast companies talk about WebTV,, and so on. The fax machine is no parallel for this, but maybe the telephone is.

The telephone; an old medium

When the humble 'phone was invented nobody knew what to use it for. Different applications of the technology were tried and different customer services were tried using this new piece of technology. Some technical observers were sceptical:

'The telephone is probably a good thing for the Americans, but here in London we have enough messenger boys.'

Others were more visionary:

'The telephone is such an important invention... that there will come a time when every town and city will have one.'

It was a long development route and learning experience for society as a whole to reach the point today where we have a large network, a huge array of telephony services and are starting to see the merger of the telephone with the internet. Who could have guessed at these services in those early days when the medium was still being developed? In a similar way how can we now guess at the direction that the internet will take in the future?

Web site design

So, we have now established that the web is so new that we don't actually have any idea what we are talking about. Should we just wait until it reaches a point where things are clearer? Of course not, we must try to grasp it and use it and design and build it, only then can we play a part in the development and refinement of the medium.

Technical design

Due to the newness, web design is a highly technical design area. Just as the first film makers and first photographers were technicians so today's expert web designers have to know about the ins and outs of the technology, not just to be able to come up with novel solutions but also to design basic good pages.

The web imposes many limitations on the designer; size, colour, speed of download, speed of rendering, availability of plug-ins etc. The designer must be aware of these and be able to use them creatively.

Existing skills

Web design is a new area but it involves elements from other existing areas, in particular graphic design and copy writing. If someone can't design a good newsletter on paper then they are not going to be able to design a good web newsletter. However, an expert DTPer is not necessarily a good web designer. You need a grounding in existing skills coupled with a good grasp of the new skills.

Interaction design

The internet is not just a dynamic medium, it is also a highly interactive medium, as such interaction design (user interface design) plays a key role in the design of web sites. The same ideas and practices that ensure that a video recorder is easy to use are also vital when it comes to designing the interactions in a web site; user models, feedback, dialogue design, etc.

In the early days of the internet I saw a classic example of delay in feedback. You filled a form in to request a tour round a brewery, clicked on the 'send form' button and then you were dumped back at the home page. The first feedback that you had correctly filled everything in came three weeks later when an invitation arrived via the post.

New areas of interaction design

As well as conventional interaction design there are new areas that have arisen from the increasing usability problems associated with the web, in particular the areas of structuring information and supporting user navigation through the structure.

Structuring information and interactivity is a complex activity, partly abstract; based on topology and directed graphs and partly content oriented, adapting the structure to the nature of the information. Just as standard structures have long been in place for the linear structure that is the book, so to are standard structures starting to emerge in web sites.

Coupled with the question of structure is the fact that in the end real users are going to have to click their way around the structures that are built. Thus care and attention must be given to supporting the user as they navigate within the structure. In this interesting area there is much that can be learned from navigation in the real world.

Web copy writing

Writing for the web is different to writing for any other medium. Each new medium requires new styles and new skills. Writing a film script is different from writing a brochure (or a Eurographics 'state of the art' report for that matter). The manner that people read on the internet and the technical possibilities that it offers mean that a whole new way of writing is required.

The internet makes different demands on the user than other media. Different writing styles are needed, the copywriter must know about structuring documents and large blocks of text need to be well supported with headings and sub headings.

Designing for dynamic content

The web is a dynamic medium, it supports dynamic information, (audio, video) and interaction. However it is different to CD based multi-media because the content is also dynamic. The content that a site has this week doesn't have to be the same as the content that it had last week.

This idea of dynamic content means that the designers must be very careful about treating the internet in the same way as designing for CD-i and CD-ROM. They must ensure that the users are aware of the dynamic nature and that they understand how it is structured and how often it is updated. Keeping a site looking 'fresh' is similar to keeping the window display in a shop looking 'fresh', it is an art in itself.

Information auditing; the 'Lubbers effect'

After the Dutch elections in 1994 Ruud Lubbers was no longer the Premiere of the land, however for years afterwards it was still possible to find web sites that declared him as such. Guarding against the 'Lubbers effect' involves good localisation of time dependent information and good information auditing procedures.

Streams, issues and milestones

Some information is characterised by a stream of information elements; consider the share prices on the stock market, a well designed web site will stream this information straight through to the user. Other information comes in chunks or issues, the news for example. In fact it isn't the case that all news happens in chunks. News is also an information stream but conventional methods of dealing with it involve chunking it for news programs and news papers etc. This is mirrored in web sites because web sites are often based on existing information processes for cost and familiarity.

Sometimes the information is highly dependent on milestones. The whole nature and quality of the information is influenced by one key event (the launching of the euro, the UK elections). If the web site connected with this event doesn't change dramatically the day after the event then something is wrong. The recent British elections produced a good example in the site of the Labour party. The day after the election I logged on and there on the home page was; 'Labour wins', a few clicks further and there was a page headed; 'What Labour would do if it won'.

Updating policy

Coping with dynamic content depends in part upon the designer but also upon setting up a good process and policy to get the content onto the site as quickly and coherently as possible. Companies need to decide (and be advised on) setting up editorial groups, defining update trajectories, deciding update frequency and keeping archives.

Allowing a site to be dynamic through public updates solves the problem of finding content, but brings with it a whole new set of problems. One of our projects was setting up a game and a guest book so that people who played the game could then comment on it. The client was a bank and thus concerned about what comments would be posted so we set a system up with a moderator function and volunteered to do the moderation ourselves for the first month. Moderation is fine if it's in your own language, but we quickly discovered the problems in working with a global medium. Comments started coming in in all sorts of languages, and we couldn't tell if they were saying 'this game is great' or 'this bank is useless'.

Internet and business; who does the web

As the medium matures so does the way in which it is handled by businesses. One of the main changes is in which department actually involves itself with the web. There is a definite four phase progression.

The first phase is the pioneer phase where the first steps on the web are taken by a pioneer within the company, someone with access to a computer and the technical skills to set a site up, usually completely independent to the rest of the company. The manager probably doesn't even understand what the person is doing.

The next phase is the 'me-too' phase. The sales and marketing department get hold of the idea and stake a place out, a simple web site with details of the company and a picture of the director. They have an internet site along with all their competitors but after a few months they start asking themselves, 'What next?'

Well, 'what next' is the busy phase. The company start using it as an advertising medium, tying it in to other advertising campaigns in the press and on the TV.

They allocate a yearly budget and the internet takes its place in the media mix used by the sales and marketing departments.

Gradually they start attempting more and more ambitious schemes and putting more and more useful information on the site until someone says; 'Maybe we ought to do some of our internal information management on the internet'. It all starts getting complex and the information systems department takes over and starts implementing systems as part of the Intranet phase.

Managing web projects

A web project is different for several reasons, all requiring careful attention by the companies involved in designing and building web sites. One key feature is the dynamic nature of the medium. A web site is never finished. If you make a brochure or a TV advert at a certain point it is ready and it is printed or broadcast. Once that happens there is no going back. With a web site it is always possible to change things, if this is well managed you have a good dynamic site, if not you have a tricky client relationship because they are continually ringing up to ask for little changes and you are continually asking yourself how much it is all costing.

The situation is even worse if the site is handed over to them. You spend weeks designing and building it and as soon as they get their hands on it they start changing things, shifting pictures around, making HTML mistakes and so on. All these problems need to be covered by good client agreements and contracts.

The organisation; Learning curves

The new aspects of the internet bring problems not just in the design of the sites but also in the relationship between the web designers and the client. Consider the learning curve associated with the web. Sometimes a company will come with a briefing (specification) that they have written themselves, based on zero knowledge of the internet, the problem then becomes two part, firstly telling them diplomatically what a stupid proposal they have made and secondly educating them and working with them to produce a workable proposal.

Exposing weaknesses

The web brings with it its own problems, usually associated with the new powers of the medium. The global nature of the communication brings with it the problem that if you start using it to communicate information local to one particular area the people in other areas also have access to the information, this can be tricky with things like European pricing policies.

The web site also acts as a sort of snapshot of the information flow in a company. Extracting hard information from the deeply entrenched information flow within a company for use in a site can be like squeezing blood out of a stone.

There was the publisher with a database of book descriptions, title, author, overview of contents etc. The only place where this information was gathered together, up to date and available in digital form was in the Quark Xpress files for the printed brochures. Building a web site involved programming a complex software filter to extract this information.

Editorial policy

A company can easily form an internet editorial team, but sorting out a policy and auditing the information is a far more difficult task. During development some areas of a site remain empty because no one is too sure who can supply that information, and information that is supplied is not updated because no one is actually made responsible for that area of the information.

There are many more problems associated with designing and building web sites, some general problems and some more specific to particular clients, the only way to solve these is to make use of experience built up in similar projects and offer advice when it is needed.

Conclusions

The web is a new medium requiring a new approach to design. In terms of its relation to the academic world the key issues are tools and methodologies, in that order. We can work on methodologies when we know what it is that we are doing, and we will only know what we are doing when we have the tools to do it properly.

References

Telephone

Most of the wonderful examples concerning the telephone come from Don Norman's book 'Things that make us smart'. More information about it is on his home page:

www.atg.apple.com/Norman

Technical design

I mentioned technical limitations in web design. One example is the complexity surrounding the use of colour on the web. Have a look at these pages:

www.the-light.com/netcol.html

Web site design

In an interesting self-referential way there is much information about web design on the web. Finding it is difficult however, if you try and search for 'web design' you just get hits on companies who say they can do it. Jakob Nielsen's Website is a god starting point for pure web design, especially the links to his books list and his hotlist

www.useit.com

Interaction design

Interaction design is also well covered in its many guises as CHI, psychology, ergonomics and design. Most of the starting points are related to courses at educational establishments. Use a search engine, but if you want to see how *not* to do it visit:

iides.com

Web copy writing

Finally attention is starting to be given to the new subject of copy writing/structuring for the web in sites such as these:

kbs.cs.tu-berlin.de/~jutta/ht/writing.html
www.w3.org/pub/WWW/Provider/Style/Overview.html

The Lubbers effect

Here is a site that still thinks that Ruud Lubbers is the primeminister!
www.tue.nl/aegee/europe/reports/kte93/lubbers.html

Updating policy

The football guest book mentioned is the dug-out coupled to the ABN AMRO Goalkeeper game, you'll need the shockwave plugin but it's worth it:
www.abnamro.com/goalkeeper/index.htm

Conclusions/tools

For the latest information about tools for the web go to Altavista
www.altavista.digital.com using search string "web tools" +site +building

Finally

This document (and others) can be found on my home page:
www.design.nl/~lon

And, if you ever find that you need information about the golden section (including the first 2000 figures after the decimal point) then visit:
http://www.mcs.surrey.ac.uk/Personal/R.Knott/Fibonacci/phi.html

The speaker

Lon Barfield is an interaction designer with a background in both information technology and design. After graduating with a Masters in computer science at Manchester University he came to the Netherlands to work at the Dutch Centre for Mathematics and Computer Science (the CWI) and Utrecht University. He was one of the three founders of General Design, where he heads the design department. His activities include lecturing on the Interaction Design course at the Utrecht School of the Arts and the Industrial Design course at the Technical University of Delft. He is author of 'The User Interface, Concepts and Design' (Addison-Wesley) and has a regular usability column in the SIGCHI Bulletin.