FROM 'HELLO WORLD' TO GLOBAL GALLERY: THE WORLD WIDE WEB FOR EXHIBITION AND DISSEMINATION OF VISUAL ARTEFACTS AND INTERACTIVE WORK.

Prof. Richard Vickers (<u>Keynote Speaker</u>)
Senior Lecturer New Media, Faculty of Art,
Architecture and Design, University of Lincoln-Hull
School of Art and Design, UK
rvickers@lincoln.ac.uk

And in the beginning there was line mode: hello world!

In human evolutionary terms the development of the World Wide Web doesn't even register on the scale. It is hard to believe that it was just over 13 years ago (1) that Tim Berners-Lee named the Web, 'the Web'. It was only 12 years ago that the CERN (European Laboratory for Particle Physics) research centre made the system and the software available to the wide world. How far we have come in so little time, I doubt that Berners-Lee or any of the other pioneers of the Web could have possibly imagined the impact their work would have.

The first browsers were line mode only browsers unable to display any graphical elements, but this was not to be the case for long, in a visual world the visual browser was not too far behind. The first really successful browser Mosaic (2) was developed at the National Centre for Supercomputing (NCSA) during 1992-1993 by Marc Andreesen amongst others. It was also in 1992, during his time at the NCSA that Andreesen proposed (3) the html image <IMG> tag enabling inline images to be displayed within a web page for the first time and Mosaic the first (4) browser to do so. Andreesen left the NCSA to set up a new company Netscape, releasing Netscape Mosaic as a commercial product. 1994 saw the arrival of Netscape Navigator, which went on to capture an estimated 95% of the browser market(5). Unusually slow of the mark, Microsoft didn't launch its first version of Internet Explorer until 1996 initially distributing it for free, then packaging it together with the Windows operating system successfully allowed the corporation to gain dominance of the browser market by 1999(6).

The ability to display images on the web was not only made possible due to advances in browser development but also required advances in image compression, which to some extent preceded or was concurrent with Berners-Lee development of the World Wide Web. The two main image compression formats were the GIF (Graphic Interchange Format) developed by CompuServe in 1987(7), and the JPEG format (Joint Photographic Experts Group), which was standardised by ISO in 1991(8). These still remain the dominant formats to this day. Newer technologies such as Portable Network Graphics (.PNG), which interestingly was specified as a World Wide Web Consortium (W3C) recommendation as early as 1996, and the emergent Scalable Vector Graphics (.SVG), have not yet achieved widespread implementation and their full potential remains unrealised to date.

Playing the waiting game; bits, bytes, baud rate and bandwidth

Another major factor in the ability to distribute visual and interactive content have been improvements in modem technology and increased bandwidth, particularly with the recent availability of broadband. The first modem that I owned was a 14.4K model, much heralded at the time as a major improvement over the previous 9660-baud rate model. In the early days of web browsing patience was not a virtue, but an absolute necessity. For graphically heavy content, or pages that contained shockwave it could take minutes, not seconds for the page to load. But modem technology advanced quite quickly; 28.8K modems followed, then 33.6K and 56K models. But every time the modems got faster, the content seemed to get just that bit bigger, content had become increasingly bandwidth hungry.

Broadband will perhaps satisfy consumer demand for faster speeds and more bandwidth. However the

rollout and uptake of broadband in the UK has been relatively slow, although it appears to have gained some momentum during 2003. The Nielson/Netratings (9) survey of September 2002 showed that the UK lagged behind many other European countries, with only 9% of UK households using a high-speed connection, compared to 39% in Germany and 33% in Sweden. Price may have been the major contributing factor to the slow take-up in the UK, and the last year has seen prices slashed by some of the major players in a competitive price war to attract subscribers.

Broadband users can now happily download full-length feature films or thousands of MP3s with ease, causing the major entertainment industry corporations to worry that the technologies they embraced so readily has made pirates of the proletariat. The real advantage of broadband is that we can at last use and view the Web with the minimum of waiting. Hopefully the Flash loading bar will soon be relegated to the history books along with the line mode browser.

Rewind to the future past; adding animation and complex interactivity.
The ability to add complex interactivity and animations to the Web was initially due the advent of Macromedia Director, software perhaps now more synonymous with CD-Rom development than the web. In 1984 (10) Jamie Fenton, Marc Canter and Mark Pierce formed MacroMind and a year later released a programme called VideoWorks. In 1988 VideoWorks was renamed Director version 1.0 and John Thompson and Erik Neumann developed the proprietary scripting language Lingo, which replaced the original Tiny Basic language used by VideoWorks. An interesting anecdote from this period is that VideoWorks/Director was used to create the 'futuristic' computer graphic displays for Star Trek, 'The Next Generation'(11). By 1992 and version 3.1.3 of Director, MacroMind became Macromedia. 1995 saw the arrival of Macromedia Shockwave and by 1996 Director had evolved to version 5.0.

1996 was significant for the launch of another new piece of software by Macromedia, as this year saw the release of Flash version 1.0. This vector based animation product was originally developed by Jonathon Gay and was known as FutureSplash Animator before Macromedia bought Gays company FutureWave, after Adobe amongst others had passed on the opportunity. The advantage that Flash offered over Director was its use of vector graphics, which resulted in much smaller file sizes and also facilitated scalable content. The file sizes were indeed much smaller than comparative Shockwave products, but designers and developers using Flash have kept pushing the boundaries. Some of the most exciting cutting edge work still comes with a considerable file size and lengthy download.

Following a similar pattern to the development of Director, Flash went through many rapid improvements, refinements and releases. Now after many version upgrades and releases we have Macromedia MX 2004 (12), with advanced Object Oriented scripting using ActionScript 2.0. Developers are able to create ever-richer content and applications for the web, hopefully enhancing the user experience, although having that broadband connection will surely improve that experience. According to Macromedias own figures, the Flash Player plug-in has achieved incredible market penetration, and is now installed on more than 97.4% of Internet-enabled desktops and more than 436 million people can view Flash content immediately.(13)

Fast forward to the future present.
Since the IMG tag was proposed and the first browser supported it, visual artefacts have been disseminated and exhibited via the web. Programmers' family albums, complete with a photo of the family pet dog were a common sight in the early 1990s, unfortunately. Thankfully we have come a long way since then and the web has opened up endless opportunities for artists to disseminate and exhibit their work to a global audience, on a scale unthinkable apart from for the very few who achieved some notoriety during their life. On a recent trip to Vienna I had the pleasure of meeting the Romanian sculptor Liviu Mocan, who showed me a printed catalogue from a recent exhibition of his work in the
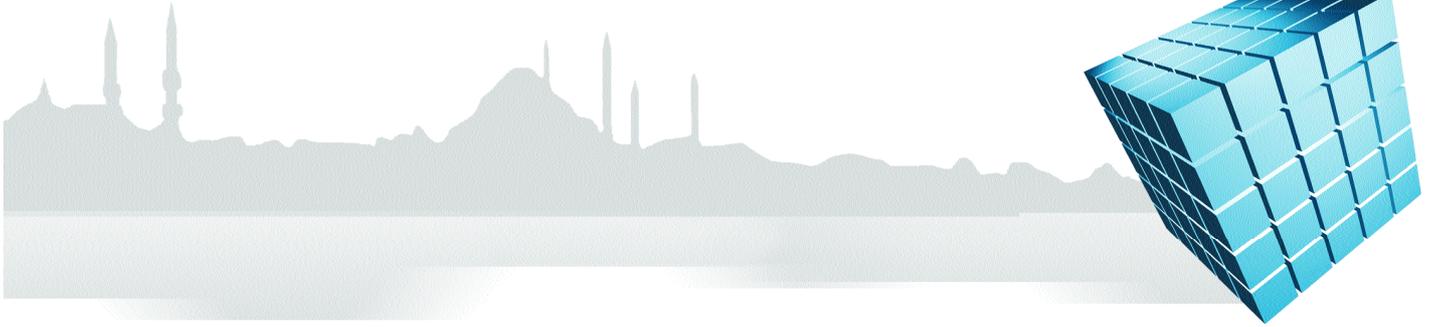
United States. He also gave me his business card and asked me to have a look at his website (14) which I did upon return to the UK. The website not only reinforces the printed material but also offers much more material to a much wider audience. Released from the prohibitive costs of print runs and the very fixed nature of printed materials, the web is a global gallery and exhibition space, dynamic in nature and content.

Designers from traditional design disciplines have also embraced the web as a means of disseminating their work to a wider audience. The Swedish graphic designer Monica Eskedahl (15) has a beautifully executed Flash portfolio site at www.eskedahl.se, which was designed by the Swedish 'media neutral design agency' (16) 24hr. The site reinforces Eskedahls own style and works very effectively as a Web based portfolio. It is an excellent example of Flash used well to create a clear and simple interface with good structure and information architecture, maintaining a holistic user-centred approach to the design and delivery.

With the ever-increasing digital toolbox and the transition from silver halide to silicon almost complete, photography may arguably be redefined as a new media activity. Adobe Photoshop, Director and Flash can be used to produce interactive work, adding new layers of meaning or narrative. The Web has opened up endless possibilities for the dissemination of photographic work and the very concept of exhibition.

The photographer John Holden recently worked with new media design creatives (17) Less Rain to produce the 'Eyes Only' project, which provides an interactive framework for unidentified phenomena, observation and interpretation amongst a group of "wired" users (18). This project was produced as a printed book; CD-Rom and Web based online archive. The user is able to navigate across a number of daytime and nighttime locations, scattered around the world. Apart from a collection of atmospheric phenomena (rain, clouds etc.) for each location, a number of unexpected 'events' may be triggered. These phenomena appear as judders,

sudden flashes, strange disturbances, all potential UFO sightings. The minimal intervention of these phenomena mirrors the almost futile exercise of watching and waiting for UFOs. When a user sights a UFO they will be able to report the sighting by taking a snapshot and e-mailing it, for other users to see, to the online archive (19).

With the uptake and roll-out of broadband we can expect to see more video and film work, either produced specifically for exhibition and dissemination via the Web, or that this mode of delivery will be an important consideration as part of the production, or post-production process. The filmmakers of the 21st century similarly to stills photographers, are using digital tools to produce their work. Short film by its very nature tends to be experimental and is often made on a small budget, and has had limited opportunity for distribution in the past, usually via the film festival route to small specialist audiences. This looks set to change, as the audience is now anyone, anywhere in the world with access to the Web, although they will need that fast connection to have a really fulfilling experience.

Atom Films, which merged with Shockwave.com in 2001 (20), is a leading distribution network for films, animation and games across the Web with over 2000 titles and a mass audience of more than 16 million users every month (21). Atom Films offer the user a choice of two media formats (Windows Media Player and Real Player) and four connection speed settings (28.8, 56, 100 & 300), launching the media player in a separate window. Macromedia Flash MX has an incredible video compression ability using the Sorenson Spark codec and also allows the video content to be displayed integrated within a web page, rather than in a separate player window (22). The 2004 Sundance Online Film Festival (23) is utilising the Flash Video Streaming service to deliver dynamic, integrated streaming video content to a worldwide audience (24). The site offers two connection speeds and a notice on the front page of the site states that the web site has been developed for people with a fast Internet connection.

The interactive designer and artist Ross Mawdsley

who produced wonderfully crafted commercial new media work as part of the UK design agency IKDA, also created experimental interactive narratives as Simian (www.simian.nu) for exhibition and dissemination via the Web. He states that Simian is a creative outlet, free from the constraints of clients and briefs. It is a place to try out new concepts, new styles, and most importantly a place to put down my thoughts and feelings (25). Mawdsley also states that,

> "Flash has given us the opportunity to express our feelings, thoughts styles, and ideas in a way we haven't been able to do before. It's opened up our way of thinking to a whole new level. An of course the Internet has opened up our work to a whole new audience – the world". (26)

Mawdsley produced 6 volumes in the Simian range, his style and the complexity and detail of the work grows throughout the series.

The egalitarian web and the wired community goes wireless.

The technological evolution has just about caught up with the concept of the World Wide Web. The final factor is perhaps the most important one, the human factor. Technology and tools are just that, 'technology and tools' it is how we use them that matters; the possibilities are all of ours to explore and share. The technology is relatively cheap and readily available and the evolution of the web has indeed opened up incredible opportunities for the dissemination and exhibition of visual artefacts and interactive work to all.

As we move towards a wireless rather than wired community, the possibilities keep on expanding, mobile phones no longer exist solely to make or receive voice calls, we can now connect to the Web via them, send and receive email, access WAP (Wireless Application Protocol) services and text using the omnipresent SMS (Short Message Service). With the latest generation of mobile phones we are able to instantly send photos and imminently video via the emergent MMS (Multimedia Message Service). Mobile devices, services and applications are in exponential growth, with their full potential probably barely realised, who knows where they may lead us in another 13 years time? Wi-Fi (Wireless Fidelity), LAN (Local Area Networks) and bluetooth, are enabling even greater access to the weird and wonderful machine that is the World Wide Web. The global gallery may now be coming to a mobile device near you soon.

References:
(1)Tim Berners-Lee, 'Weaving The Web'. Texere. London. 2000. P.26.
(2)http://www.ncsa.uiuc.edu/Divisions/PublicAffairs/MosaicHistory/timeline.html
(3)http://www.webhistory.org/www.lists/www-talk.1993q1/0182.html
(4)James Gillies & Robert Cailliau, 'How the web was born', Oxford University Press. 2000. P.240.
(5)Ibid. P.258.
(6)http://livinginternet.com/w/wi_browse.htm
(7)http://www.w3.org/Graphics/GIF/spec-gif87.txt
(8)http://www.w3.org/Graphics/JPEG/
(9)http://www.nielsen-netratings.com/pr/pr_020909_uk.pdf
(10)http://www.lingoworkshop.com/articles/article2.asp
(11)Ibid
(12)http://www.macromedia.com/software/flash/
(13)http://www.macromedia.com/software/flash/survey/whitepaper_jul03.pdf
(14)http://www.liviumocan.com
(15)http://www.eskedahl.se/
(16)http://www.24hr.se
(17)http://www.lessrain.co.uk
(18)http://lesspc.lessrain.com/eyesonly/observationTool.htm
(19)Ibid.
(20)http://www.atomshockwave.com/
(21)Ibid.
(22)Besley, Bhangal & Farr, Foundation Flash MX, Friends of Ed, Birmingham, 2002. P.376.
(23)http://www.sundanceonlinefilmfestival.org/
(24)http://www.macromedia.com/software/flashcom/fvss/
(25)http://www.simian.nu
(26)Ross Mawdsley, New Masters Of Flash, The 2002 Annual, Friends of Ed, Birmingham, 2001. P.447.