From Homepages to Network Profiles: Balancing Personal and Social Identity

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The World Wide Web constitutes one of the most important inventions of the late 20th century: it has changed culture, society, business, communication, politics, and many other fields of human endeavour, not least also by providing a more user-friendly pathway of access to its major underlying technology, the Internet itself. Key phases in its development can be charted, especially by how it has been used to present and share information – and here, the personal or professional, private or official *homepage* stands in as a useful representation of wider Web trends overall. From hand-coded beginnings through several successive stages of experimentation and standardisation, to the shifting balance between personal sites and social networks, the homepage demonstrates how the Web itself, and its place in our lives, have changed.

Phase 1: The First Homepages

To a significant extent, the history of the World Wide Web is also a history of the homepage. The first Web pages, made available in 1990, necessarily *were* homepages – for the Web itself, for the nuclear research centre CERN where it was invented, and for key figures in its early history, including inventor Tim Berners-Lee (2000). Hand-crafted in rudimentary Hypertext Markup Language (HTML), these early pages drew on their authors' experience with previous technologies – such as the online information retrieval protocol Gopher, which provided a menu- or directory-style access interface to stored documents rather than the more flexible structure of Web pages. The first WWW homepage, still preserved at CERN[1], provides little more than an ordered list of links to other documents, therefore.

As HTML gained further features, Web browser capabilities developed alongside it and, as a greater number of users learnt to 'code' in HTML, organisational and personal Websites began to proliferate. Many early Web users had at least some degree of access to personal storage spaces on institutional Internet servers, where they could now also store Web-accessible HTML documents. Indeed, a shift from single hom*epage* to multi-page Webs*ite* began to occur: to link between Web pages no longer meant only to link from one user's

[1] http://www.w3.org/History/19921103-hypertext/hypertext/WWW/TheProject.html

homepage to another's, but also to link between different pages in one's own Website. Many personal homepages continued to maintain a logically ordered structure, however. This was by necessity as much as by choice: the significant manual effort involved in developing and maintaining a site's document structure and HTML code meant that different areas of personal interest were often collated on different pages, and then linked to from a central page. In spite of the significant changes to Web technologies and Web logics since the early 1990s, and despite the fact that later changes removed the need for such a hub-and-spokes organisation, this logic still persists to substantial extent today.

One important element of handcoded, multi-page Websites was the list of links to other sites; indeed, CERN's own homepage for the Web ultimately constitutes just such a list. Prior to the introduction of the first search engines, such lists and directories of other Web resources provided the only means of discovering what content was available 'on the Web', other than through word of mouth. 'Links lists' often served as an *aide-mémoire* for the users compiling them as much as a service to others: they were a means of publicly bookmarking other sites at a time when some Web browsers had not yet begun to incorporate bookmarking functionality. They were also a way to share useful finds with other interested users; for some Web authors, compiling an authoritative list of Web resources in their field of interest even became the principal driver for maintaining their personal homepage.

Phase 2: Attempts at Organising the Web

The wider popularisation of the Web as a means of many-to-many communication has been attributed to the introduction of Mosaic as one of the first graphical Web browsers (Reid, 1997), building in turn on the growing availability of personal computers with mouse-operated graphical user interfaces. Using such technology, it now became possible for a much wider range of users to begin to explore the World Wide Web. An immediate consequence of this influx of Web 'surfers' was the further proliferation of Websites and homepages; in turn, the question of content discoverability became an ever more pressing issue for the new medium.

One attempt to address this issue lay in efforts to develop more comprehensive, searchable directories of Web content: *David and Jerry's Guide to the World Wide Web*, renamed *Yahoo!* in 1995, became an early front-runner in this field. Such Web directories took the idea of the 'links list' and pursued it on an industrial scale. Later, such attempts to order the Web into clearly defined areas of interest encountered the librarian's problem of developing a

universal ontology for human interests, and a gradual shift from directory- to search-based access occurred (Halavais, 2009).

Especially at this early stage, however, Web directories necessarily lagged behind in their coverage of actual Web content. They focussed on the better-known, 'official' sites on the Web. An alternative to trying to have one's personal site listed in such directories, therefore, was to seek strength in numbers: to move to one of a handful of early homepage hosting solutions, which provided their own mechanisms of organising, listing, and searching Websites. If Howard Rheingold's romantic notion of 'homesteading on the electronic frontier' (the subtitle of his 1993 book *The Virtual Community*) ever applied to the early Web, then those isolated homesteads now began to give way to a first wave of urbanisation – quite literally, in fact, as homepage provider *GeoCities* (launched in 1995) emerged as one of the first major Web-native business successes.

The relevance of such metaphors to the day-to-day use of *GeoCities* and its hosted sites should not be overstated. However, *GeoCities* did deliberately organise its sites into a number of neighbourhoods named for offline cities, including Hollywood and Silicon Valley, which were meant to signal the likely field of interest (entertainment, technology, …) of each hosted site. Using *GeoCities* meant having access to a reliable, shared infrastructure, as well as a range of simple tools for building one's site; the pay-off for these benefits was having to subscribe to the rules of a commercial hosting provider (Fernback, 2004). Nonetheless, this constituted an important step in mainstreaming the idea and practices of Website design well beyond the initial in-group of technologists and hackers. *GeoCities* users created some 38 million pages before the site closed (Shechmeister, 2009). A number of unofficial archival projects, such as *ReoCities*, now attempt to preserve this legacy of early Web design.

The availability of standard hosting and development tools and the emergence of a common, interlinked space for homepages necessarily led to a certain degree of standardisation in Website design and features. *GeoCities* sites, in particular, often shared a certain style, caricatured as relying too much on animated graphics, flashing texts, and 'page under construction' notices. Further, standard user interface features were imposed by the platform itself – such as a *GeoCities* watermark, displayed permanently in the browser window. This, in turn, spurred the next phase of homepage development, which emphasised a greater level of individualism in Website design.

Overall, then, *GeoCities* can be seen as a precursor to social networking platforms such as *Facebook*. It provided a standardised and reliable platform for the development of personal homepages or profiles, even by users with comparatively limited technical skills;

consequently, it had considerable success in attracting a large userbase. Later platforms would add social networking and continuous update functionalities into the mix, but in the mid-1990s, these features were still beyond the technical capabilities of the fledgling World Wide Web.

Phase 3: Dreamweaver and the Return to Individualism

The provision of standard Website design tools, however rudimentary, by services such as *GeoCities* gave a first indication of future possibilities. New impulses for Web design were provided with the launch of the first version of (offline) Web authoring software *Dreamweaver*. Launched by Macromedia in late 1997, and acquired by Adobe a decade later, it would grow to become a comprehensive Web authoring solution, but even in its early versions it provided basic WYSIWYG editing functionality, enabling users without HTML skills to develop reasonably clean Web pages.

The emergence of *Dreamweaver* as a content authoring tool coincided with another important shift. The second wave of search engines, led by *Google*, which first launched in 1996, now provided a considerably more comprehensive coverage of Web content than the labour-intensive Web directories of the mid-1990s (Halavais, 2009). In turn, this meant that joining centralised hosting solutions like *GeoCities* became less important; even sites hosted on comparatively obscure domains now became easily discoverable. During the second half of the 1990s, a growing number of individuals and groups registered their own domain names, rather than operating from a sub-domain or directory on a Web hoster's site. Hosting providers remained important, but stepped into the background and allowed their clients to redirect user-owned domain names to hosted Web spaces (see also Indrek Ibrus's chapter in this volume).

The combined result of these shifts was a return to a greater diversity of hand-crafted, *Dreamweaver*-authored Websites across a broad range of individual domains, in a remote echo of the first phase of Web-based homepages. Link directories became less important as '*googling*' emerged as a synonym for 'finding' as and when required, however (also see Alex Halavais's chapter in this volume). Owing to the greater flexibility afforded by later versions of *Dreamweaver* and similar graphical Web authoring tools, the homepages of the late 1990s also contained a broader range of text, images, and basic audiovisual features than the hand-coded pages of Web pioneers earlier in the decade. *Dreamweaver*, in turn, also introduced its

own stylistic idiosyncrasies; an overreliance on the HTML 'table' element for page formatting, for example, and a preponderance of link buttons and other 'rollover' graphics.

Later versions of the software foreshadowed a major shift in Web design and personal presence online, making the first steps towards interfacing with online databases to enable the delivery of dynamic Web content. Even if supported by their Web hosts, such functionality would have been well beyond the design abilities of most average *Dreamweaver* users. As dynamic and searchable Web content became an increasingly desirable feature for Websites, the balance from individual Websites to standard site providers shifted once again.

Phase 4: Blogs and the Shift towards Web 2.0

Designing Websites around a database backend that holds the core content enables the development of entirely different structural logics and user interfaces (Manovich, 2001). Access to page content can be provided according to a range of ordering principles, for example by title, keywords, date, or author; content becomes easily searchable; and page design and content are decoupled from one another, so that the same material can be accessed in a variety of interface contexts. Further, if database backend and Website interface are maintained by a third-party provider, users are now able simply to concentrate on content authoring. This reduces the required level of technical skills even more, and thus broadens the potential number of users who can become active as content creators.

Emerging in the late 1990s, and gaining popular recognition during the early years of the new millennium, blogs were the first type of mainstream Website to be built around a database-driven backend (Gurak *et al*., 2004; Bruns & Jacobs, 2006). Arguably, blogs took over from hand-crafted Websites as the preferred form of personal homepage during these years. In doing so, they changed the underlying logic of homepages (Walker Rettberg, 2008): earlier, static Websites were comparatively simple repositories of personal and professional information, updated irregularly with considerable effort, and organised into a collection of interlinked pages. By contrast, the core defining feature of blogs is their reverse chronological organisation: they are built around a stream of more or less regular activity updates by the blogger, and relegate background information to a number of secondary 'about' pages, usually available from a sidebar on the main blog page. Using blog hosting solutions such as *LiveJournal* or *Blogger*, to set up and operate a blog required little more of the author than to sign up, fill in their details, choose from a selection of basic design templates, and begin writing blog posts in a Web-based or offline WYSIWYG editor.

Consequently, a significant number of blogs were established (but often abandoned again) within a very short timeframe; in some cases they reacted immediately to breaking news events such as the 11 September 2001 attacks in New York and Washington DC, or the Hurricane Katrina disaster in New Orleans (Bruns, 2006).

Importantly, blogs and other regularly updated Websites popularised the concept of the update feed, provided for example in RSS (Really Simple Syndication) format, containing titles, excerpts, and links to the latest updates posted to a blogger's Website (Rothenberg, 2003). Using aggregator tools such as *Google Reader*, readers were now able to be alerted to new updates on a large number of their favourite sites, without having to visit each of these sites regularly. RSS feeds also enabled general search engines and specialised blog search and aggregation providers such as *Technorati* to track the latest content updates in the blogosphere in close to real time. New content discovery in previous phases depended on search engines returning to an existing site to re-index its latest contents, but now they could be actively informed about the new material they needed to add to their indices (Lasica, 2003).

Earlier phases of development had been characterised by a comparative absence of reliable content indices. But now the very abundance of discoverable content meant that individual blogs could find it difficult to become known amongst their peers. As a result, the 'links list' made a reappearance in the form of 'blogrolls' and 'Webrings': respectively, individual lists of a blogger's favourite blog sites, or coordinated directories of thematically or otherwise related blogging communities. Such elements – usually placed in a sidebar or static page on the blog itself – constitute a further precursor to the social networking platforms that emerged during the late 2000s: they can be understood as simple, user-generated attempts to articulate the blogger's own network of friends and peers. Indeed, early and even some recent studies of national and international blogospheres explicitly attempted to map the social networks formed through blogroll interlinkages (see e.g. Adamic & Glance, 2005; Park & Thelwall, 2008; Highfield, 2009).

Later developments reacted once again against the relatively limited scope for blog personalisation provided by these standardised blog platforms. A greater range of design templates for hosting solutions was added, as were various open-source and commercial alternatives, which users were able to install on their own servers or on commercial content hosting platforms. *WordPress*, for example, both operates the ready-to-use blog host *WordPress.com* and provides an open-source blogging package for installation on the user's own server via *WordPress.org*. Many more recent blogging solutions advance well beyond

blogging itself (at its simplest, the reverse-chronological display of timestamped posts), and instead serve as fully-featured content management systems. As a result, they combine the ease of use and structural organisation of blogging with the flexibility and diversity of applications found in more conventional, custom-designed Websites (albeit only to users who have the design and development capabilities required to make full use of them).

Phase 5: Social Networking: You Are What You Tweet

Since the mid-2000s, development has continued to shift the balance further from personal presence to social networking online. Blogs and other forms of personal Web 2.0 sites mainly continued to support the establishment of a homepage-style site containing personal information and updates, but social networking sites such as *Facebook* and *Twitter* embed this personal presence directly in a wide and complex network of peer-to-peer 'friendships'. In this transition from personal to social, the early social network *MySpace*, launched in 2003, can be placed at the mid-point. It provided scope for users to modify and customise their personal homepages within the *MySpace* system, to the extent that a very broad range of styles and designs was able to co-exist on the platform. It also introduced significant functionality for individual users to connect with, befriend and exchange messages with one another.

By contrast, the current global leader in social networking sites, *Facebook*, launched in 2004, offers a much more streamlined interface that provides far fewer opportunities for users to modify the look and feel of the site. Users can change their personal information and nominate affiliations and interests, as well as connect various on-site applications to their personal profile, but they have no control over fundamental design choices. On the other hand, *Facebook*'s functionality for declaring and describing various forms of friendship and acquaintance between users, and for forming groups and communities around specific shared interests and concerns, far surpass those of *MySpace*. This combination of social flexibility and streamlined, reliable user interface design can therefore be seen as an important factor in *Facebook*'s unprecedented success.

Twitter, in turn, reduces the on-site personal profiles of its users to an even more rudimentary remnant. A profile image, a character-limited personal blurb and a customisable page background and colour scheme are all that remain available to them to express any permanent personal presence. Instead, on *Twitter*, users *are* what they tweet and who they connect to. The core indications of their personal identity are what they have posted recently,

what other users they follow, and which users follow them. Indeed, even these connections are severely simplified, as 'friendship' becomes a binary choice which cannot be qualified any further. Considered in isolation, then, *Twitter* is a social network between communicative entities who are defined almost entirely by their communicative acts alone (Bruns, 2011).

Future Developments in the Personal/Social Dynamic

Having moved beyond the homepage, and in some cases having abandoned it altogether, individual personal presence is now spread across a range of homes, and exists in the interweavings between them. For example, although they are deprived of any detailed on-site profile, *Twitter* users can include a permanent link to their homepage, blog, or *Facebook* page. Blogs and other personal sites can embed the user's latest *Twitter* or *Facebook* updates, as well as the most recent materials posted to other social media spaces from *del.icio.us* to *YouTube*. The proliferation of social networking spaces has continued, as witnessed by the 2011 launch of Google's second attempt at social networking, *Google+*. Given the continued existence of a number of previous platforms, ranging from hand-coded homepage hold-outs to by now well-established personal and professional bloggers, it is clear that no one such Website or platform can now be considered in isolation.

Such developments are directly encouraged by the providers of leading social media platforms, by offering embeddable *Facebook* 'Like' or *Twitter* 'tweet this' buttons. Additionally, the developers of multi-platform client tools enable users to post the same or similar content to a wide variety of social networking platforms. Such functionality both enables and complicates the maintenance of different personas on different platforms, from the personal interest blog through the social network of friends on *Facebook* to a professional presence on *Twitter*, for example: it allows users to direct specific forms of content only to selected groups of recipients, but at the same time it establishes an intricately interconnected media ecology in which a hermetic separation of one's public from one's private self is ever more difficult to uphold.

Considering the oscillation between customised, personalised sites and standardised, streamlined spaces that we have observed during the phases outlined above, we may next expect to see a renewed push towards greater diversity once again, beyond the 'one size fits all' models exemplified by *Facebook* and *Twitter*. A range of boutique social networking platforms, such as *Ning*, has already emerged. They enable smaller communities of users to develop a shared space for personal profiles and social connection outside of the leading

generic social networks. At the same time, however, the embeddable functionality now offered by market leaders such as *Facebook* and *Twitter* may be seen as an attempt to fend off any potential exodus of users, or decline of participation in the generic networks, that may result from the emergence of off-site alternatives. Increasingly, the embeddable functionality that these generic sites are beginning to offer will enable them to reposition themselves as backend network providers to apparently independent sites, in much the same way that *YouTube* is a backend content host whose videos may be embedded into almost any other Website.

The payoff to *Facebook* and *Twitter* of such developments would be that they remain central repositories of user-generated content, social network connections, and profiles. The benefit to users would be that participation need no longer take place only through the Websites of these generic social networks (or through client software that connects to them). It would further complicate the maintenance of different professional and personal identities, however, and obscure the activity trails that participation on specific third-party Websites may generate on these generic social networking platforms.

A fundamental criticism of such developments, in fact, is that they further enshrine the so far largely unpoliced capture of personal profiles and social networking activities by private enterprise. *Facebook*'s fundamental business model is to monetise the 'social graph' which its users have built. (The same is true of *Twitter*, to the extent that it has developed a business model at all.) But to do this necessarily conflicts with users' rights to privacy and their ownership of their personal information and content. By becoming a universal social networking backend layer for the World Wide Web, a service such as *Facebook* would cement its position even further, making even more difficult the development of alternatives or the policing and control of how personal data about users' actions and identities are used. This, of course, is not a problem limited to *Facebook* alone, but applies to any social networking platform with ambitions to take its place.

This brief overview of the historical trajectory from the early hand-coded homepages through a range of intermediate solutions to the large social networking platforms of today shows a number of contradictory forces at work, then. The desire for greater control over the design and structure of individual sites conflicts with the benefits of ease of use and standardised user interfaces that are available from mainstream platforms. Individual profiles, as central spaces for expressing and displaying personal identity, variously stand out from or are swamped by large-scale social networks for marking 'friendship' and communicating with other users as nodes in the wider network. The need to maintain control and ownership

of personal data and content clashes with the drive to share and exchange information in order to participate fully in social networking environments. Individual, fragmentary personae for specific communicative purposes and social contexts are difficult to maintain in an increasingly interconnected media ecology. These contradictions are unresolved; they are addressed mainly by developing technological platforms, communicative spaces, and personal strategies that position themselves a little closer to one or the other end of any one of these opposing values. Future evolution beyond the phases of development outlined here, then, is just as likely to return to the communicative models exemplified during those phases as it is to explore new combinations of these possible settings. The inherently unresolvable nature of the conflicts that lie at the heart of the challenge of balancing personal and social identity will also ensure that no one solution will remain uncontested for long. This remains a thoroughly dynamic, changeable space.

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