Web 2.0: Building the New Library

Is Web 2.0 something real? Does it mean anything for the way in which we continue to go about our work? Or is it yet another bubble that will burst if we simply ignore it?

Introduction

'Web 2.0' is a hot story out on the blogosphere right now, with an army of advocates facing off against those who argue that it is nothing new, and their allies with painful memories of Dot Com hysteria in the 1990s. Even respectable media outlets such as *Business Week* are getting excited, and an expensive conference in San Francisco at the start of October had to turn people away as it passed over 800 registrations.

So, is Web 2.0 something real? Does it mean anything for the way in which we continue to go about our work? Or is it yet another bubble that will burst if we simply ignore it for a few months?

Web 2.0: A State of Mind?

Writing back in July, a colleague of mine described Web 2.0 [1] as

> '*an attitude not a technology.*'

In a recent and seminal paper on the topic [2], Tim O'Reilly attempted to define the concepts behind Web 2.0, and offered a useful diagram to illustrate some of the related ideas.
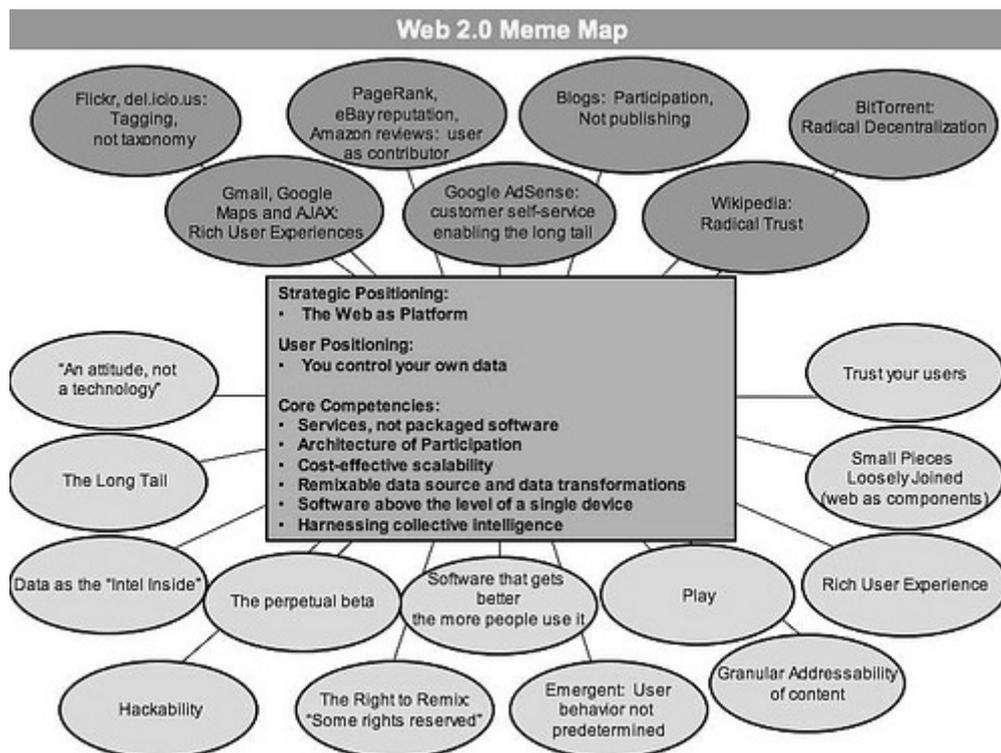

Figure 1 - Tim O'Reilly's Web 2.0 'meme map'

Shortly after releasing the paper, Tim posted a shorter definition of Web 2.0 on one of his company's blogs [3]:

> '*Web 2.0 is the network as platform, spanning all connected devices; Web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an "architecture of participation," and going*

beyond the page metaphor of Web 1.0 to deliver rich user experiences.'

There is undoubtedly a significant degree of hype around Web 2.0 at the moment, but behind the hyperbole lie some important principles, and some powerful potential.

We are seeing the emergence of Web-based services that pull data from a wide range of back-end systems to deliver value to users, when, where and in the form that they require it. We are seeing *ad hoc* relationships being formed by and for these services at the point of need, rather than the costly and time-consuming human creation of contracts or service level agreements. We are seeing disaggregation of content and services into components that are far more meaningful to the user (and potentially far more valuable to the provider), alongside disintermediation of the Gate Keepers in favour of direct access to Web-visible resources. We are seeing previously passive recipients of content beginning to engage, and to combine and recombine that which they are given in new and interesting ways. We are seeing the realisation of much of the Interoperability promise [4], with expensive monolithic systems increasingly likely to be replaced by a platform supporting purpose-specific components.

As discussion raged over this Summer around whether Web 2.0 was anything new or not, I made an attempt to extract some of the important principles as I saw them [5]. These are outlined, with some modification from the original, below.

Paul's Principles of Web 2.0

Web 2.0 presages a **freeing of data**, allowing it to be exposed, discovered and manipulated in a variety of ways distinct from the purpose of the application originally used to gain access. Ian Davis' point [1] is important here, as there is no need for some new Web 2.0 *technology* in order for material that was previously locked away to be made public. Some of the work at backstage.bbc.co.uk [6] is relevant here, and the BBC is to be commended for taking the brave step that it did in opening up access to a growing body of their content and Web-based back room applications. Legislation such as that around Freedom of Information (FOI) [7] and Public Sector Information (PSI) [8] echoes this broader trend, with an increasing presumption that access is a *right* rather than a grudgingly granted privilege. Is publisher hysteria around Google Print [9] not the very antithesis of this?

Web 2.0 **permits the building of virtual applications**, drawing data and functionality from a number of different sources as appropriate. These applications tend to be small, they tend to be relatively rapid to deploy, and they bring power that was previously the preserve of corporations within the reach of suitably motivated individuals. Richard Wallis' work with Google Maps [10], some of which is exposed in a proof of concept known internally as LibMap [11] is one example of the way in which data (from the Silkworm Directory [12]) and functionality (courtesy of Google Maps' API [13]) can build new applications beyond the reach of either on their own.

Web 2.0 is **participative**. The traditional Web has tended to be somewhat one-sided, with a flow of content from provider to viewer. Figures from last year suggested that 44% of Internet-using American adults had actively participated online, by blogging, sharing files, or equivalent [14]. Although unlikely to approach 100% any time soon, that percentage will rise, and participation will become a more pervasive aspect of our online lives as we share reviews of books, comment on the local Chinese restaurant, engage with our governments, or publish our own carefully crafted research into our family tree. Web 2.0 applications have been quick to spot the value of user-generated content. It is useful to facilitate participation in the way a messaging service might, but it is a lot more valuable to fold the output of that participation back into the application and make it available to all of the applications users. This is a substantial part of the attraction of services such as Flickr [15] over previous photo-album applications.

Web 2.0 applications **work for the user**, and are able to locate and assemble content that meets *our* needs as users, rather than forcing us to conform to the paths laid out for us by content owners or their intermediaries. For example, I should be able to see *all* sensible routings from my home to San Francisco, not just those that one airline (bmi), one airline group (Star Alliance), or one travel agent (Expedia) wish to sell me.

Web 2.0 applications are **modular**, with developers and users able to pick and choose from a set of interoperating components in order to build something that meets their needs. Not only that but the Web 2.0 applications themselves become components for building yet more applications. The units of composition are becoming more powerful and hence more valuable.

Web 2.0 is about **sharing**: code, content, ideas. That does not mean there is not money to be made. There is, but new business models need to be found whereby we collaborate on the platform(s) and make money by adding value over and above that which we and others have built together.

Web 2.0 is about **communication** and **facilitating community**. People communicate. The Web facilitated that to a degree, but presented a barrier that hindered the back-and-forth of true communication. Trackbacks and the like are a shaky step towards Tim Berners-Lee's original vision of the Web as a two-way environment which made it as easy to contribute as it did to view.

Web 2.0 is about **remix**. For too long, we have jumped from one area of the Web to another, struggling with different interfaces, ignoring endless advertisements, and wading through uninteresting content on a site in order to locate the service, document, or snippet that meets our needs. Increasingly, we can unambiguously reference and call upon the service, document or snippet that we require, incorporating it into something new that is both ours and the original contributors'.

Web 2.0 is **smart**. Applications will be able to use knowledge of us, where we have been and what we are doing to deliver services that meet our needs. Amazon's recommendation engines are only the beginning, and there is more work to be done allaying fears of intrusion and loss of privacy. Amazon has data, libraries have data. *Everyone* has data. There is real potential to do some compelling things with it, provided that appropriate safeguards are developed and implemented.

Web 2.0 opens up **the Long Tail** [16], making it increasingly cost-effective to service the interests of large numbers of relatively small groups of individuals, and to enable them to benefit from key pieces of the platform while fulfilling their own needs.

Web 2.0 is built upon **Trust**, whether that be trust placed in individuals, in assertions, or in the uses and reuses of data.

Web 2.0 + Library = Library 2.0?

Much of the discussion around Web 2.0 centres upon California's Bay Area, upon small venture capital-backed startup companies, and upon leveraging the Web services of Amazon and others to build interesting niche applications with a sustainability model no more advanced than relying upon Google AdSense [17]. Surely this world of geeks, money and advertising offers little to the library sector?

At Talis, we disagree.

Leveraging the approaches typified by Web 2.0's principles and technology offers libraries many opportunities to serve their existing audiences *better*, and to reach out beyond the walls and Web sites of the institution to reach potential beneficiaries where they happen to be, and in association with the task that they happen to be undertaking.

With these approaches, we take our existing wealth of data, and we make it work much harder. We begin to break down the internal silos of the separate systems within a single library, and we connect those components to one another, and to related components and services far beyond the building. At a technical level, we make it possible for searchers to be presented with choices to view online, borrow locally, request from afar, buy or sell as appropriate to their needs and circumstance. Technically, it is possible, and we are doing it with standards and specifications shared across a range of sectors, rather than inventing our own library-specific standards once again. Can our institutional procedures, and our antiquated notions of 'membership' keep up?

Libraries were once the guardians of knowledge, and the point at which those seeking existing knowledge would engage with it. With the rise of Google, Amazon, Wikipedia and more, there is an oft-stated fear that many users, much of the time, will bypass processes and institutions that they perceive to be slow, unresponsive, unappealing and irrelevant in favour of a more direct approach to services offered by others that just might be 'good enough' for what they need to do.

Libraries should be seizing every opportunity to challenge these perceptions, and to push their genuinely valuable content, services and expertise out to places where people might stand to benefit from them; places where a user would rarely consider drawing upon a library for support.

Conclusion

Web 2.0 is a convenient label upon which to hang a range of concepts. Our automatic reaction to hype such as that accruing to the Web 2.0 meme is often to dismiss the whole thing. Here, though, there is much of value with which libraries should be seeking to engage.

Web 2.0 could be seen as comprising equal parts of evolution and revolution. On the one hand it extends much of what we have been doing for years through the use of standards such as HTML, URIs and HTTP and the ubiquitous Web browser. On the other it challenges outdated attitudes towards the rights of the user, customer choice and empowerment.

As mentioned above, Web 2.0 is participative. That participation is often seen to be on the part of end-users such as bloggers, and this is certainly true. For libraries and associated organisations, though, there is equal scope for participation. We need to work together. Libraries, library systems vendors, publishers, standards bodies, government agencies, more. None of us can do all of this alone, and all of us stand to benefit from doing it together. Can we take the leap? Anyone brave enough to try, please get in touch!

Discussing this article with colleagues, Ian Davis provided a useful sound bite with which to conclude;

> 'Web 1.0 took people to information, Web 2.0 will take information to the people'.

Exactly.

Staying Informed, the Web 2.0 Way

There are numerous blogs engaged in discussing Web 2.0, many of which offer powerful insights into this emerging space. Talis, of course, is actively involved in understanding and shaping Web 2.0, and our various blogs offer access to our evolving thinking here [18]. Richard MacManus at Read/Write Web is another good read [19] and Lorcan Dempsey [20] is like Talis' bloggers in offering a library-oriented view onto this space.

For those who prefer to *listen* rather than *read*, we have just launched a new podcast series called Talking with Talis [21]. Our first programme [22] is a discussion on new models for managing personal identity data online, with Dick Hardt of sxip Identity in Canada. Forthcoming programmes include conversations with Cliff Lynch of the Coalition for Networked Information (CNI) [23] and Chris Awre at the University of Hull [24], and a range of other topics are being prepared. Despite the 'podcast' name, you do not need an iPod to listen, so visit the site, download or stream the audio, and listen to it wherever and however suits you best. I do most of my listening in the car! [25]

To be thoroughly Web 2.0 in approach, you could always set up a Web feed to monitor regularly and automatically the 'web 2.0' tag at Technorati [26] or del.icio.us [27].

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