

History of Web 2.0: Overview

Tim Berners-Lee's vision of the World Wide Web was for a tool which created and gathered knowledge through human interaction and collaboration. Web 2.0 is a stage of development in which the Web is progressing towards this goal. Most analysts define Web 2.0 in terms of the tools that foster online participation in content creation and social interaction. This tends only to produce lists of new software applications or claims of 'we are the web', 'web 2.0 is people' etc etc. What I've attempted to tease out – following examples from Tim O'Reilly and Danah Boyd – is what lies beneath these tools: what makes them so important or useful? Why are they soaring in popularity?

The conclusion I've come to is that their significance lies in their ability to allow the average user to organize online information in such a way that is useful, meaningful and personally relevant. They help people navigate the virtual world and find what they are looking for. They do this by leveraging key characteristics of the Web for a variety of different forms of communication. They can tackle the Web's inherent problem (unfathomable amounts of information) by capitalizing of its inherent possibilities (collective intelligence, wide variety of types of knowledge, social networks – all the potential benefits of millions of people sharing a virtual space).

How does it help you find information online?

How does it use collective intelligence?

How does it connect you with others?

How does it let you find very specialized information?

RSS

Search only works if you know what you're looking for. If you want to simply keep up to date with how the Web evolves, you need to filter for the information you want to hear about. RSS feeds allow you to select such sources of information and by scanning the summaries produced you can digest a large quantity of information very quickly.

N/A

You tap into the activities of others but cannot communicate back. This creates a 'social presence' – the understanding that although you do not directly interact, there are always other people surfing with you.

It allows you to tailor search to what you need; avoiding spam and unwanted advertising.

Folksonomy

Allows you to map your own path through the web by marking links with tag keywords of your choice – like the bookmarking system in browsers, or files on your PC. This means you can return to the pages you like at a later date. Tagging services such as del.icio.us let you see what others have tagged and which links are popular for certain tags. In theory, as more people bookmark more links, it should produce an online user-generated taxonomy of web content. Although there is some debate over how effective this system is, various studies have shown personal tags do have a public utility.

Folksonomies have taken on features of a network as they have developed. Communities have both adopted and been created within folksonomies.

The networks created as a secondary use of folksonomies provide excellent ways to search for specialized material. Since knowledge and understanding are products of the social situation they are used in, folksonomy networks of

people who share similar interests all tag according to a shared vocabulary and meaning system. Searching within such networks should give an individual more tailored results than searches whose rankings are based on the Web as a whole

Blogging

Blogs facilitate the production of self-published information. They can be mines of personal experiences, opinions and research projects, extending the creation of information beyond traditional publishing methods.

By fostering dialogue and creative discussion between people with diverse backgrounds, specialisms and interests.

Features such as the comments section, trackback, blogroll and permalinks help foster a community which self-references, develops ongoing discussions and mutual interests. Blogging might be used to connect to both work colleagues with similar interests and keeping personal diaries for the consumption of friends and family.

There is a huge diversity in blogging styles and subjects, supported by software which provides few strict guidelines on how users should write. Since they are deeply embedded with links, typically concentrated within a specific field of interest, they act as hubs of information on particular subjects

Wikis

Through creating a focus point for each member of a hive mind to contribute their own knowledge, the wiki grows into a mine of useful data. What's more, the information has the potential to be constantly updated and thus never becomes obsolete.

Many people working together towards the goal of editing a body of information harnesses the different aspects of knowledge, analysis and opinions of the individual to create a better product. Their design emphasizes consensus and decision making, without trampling discussion or debate – both are provided with outlets by simply creating either a discussion or another wiki page.

Wikis are highly collaborative and would not function without a community of users. Pre-existing communities, such as schools or classes, might create a wiki for a specific purpose. Or a wiki creates a community with its own social dynamics, understandings and norms – Wikipedia being the key example.

Wikis are simple to use and the software is freely available; like a blog, anyone can set up a wiki on anything and create a hub for information and links about a particular topic.

Social networking

Supports the extension or creation of social networks in an online environment.

Studies suggest users of networking sites gain various forms of social capital. Although the initial excitement surrounding networking sites focused on the possibilities for forming new social bonds with others regardless of geographic proximity or social background, in the majority of cases such sites are used to extend and consolidate real-world social groups.

By creating a social environment online, networking sites help users create and find personal meaning and relevancy in the 'global village' of the Web.

This has various positive benefits.

Ways to develop these ideas

Thus far, I've attempted to examine the way Web 2.0 developments organize the information on the Web by categorizing a series of applications associated with it; blogging, wikis, networking sites etc. However, what has become clear is that these tools have many similarities and overlapping characteristics; mapping each of them out separately is fairly repetitive and perhaps not that analytically useful. I had begun with the assumption that each application organizes information in a different way; this isn't really the case. Take folksonomies for example; part of their utility comes from creating a community-generated public taxonomy, but their primary use is a personal, singular one for individuals to track their own path through the Web. So is there a way of categorizing how Web 2.0 deals with information which is not dependent on the tools themselves, but rather looks at their different aspects?

What I've been trying to get at is that the network effect of the Web means that it is designed to make use of different forms of collaboration. Web 2.0 is all about this collaboration being useful in terms of finding information, meaning and relevancy online. So an analysis of Web 2.0 should be about how different applications facilitate and shape collaboration. By asking how tools such as blogging, wikis and folksonomies do this, you can discern three different forms of collaboration:

1.) **Indirect collaboration:** where collaboration is a useful, indirect and unintentional by-product of singular activity. Google PageRank being the primary example: everyone who clicks on a link is contributing to the functioning of the algorithm for everyone's benefit, but they are doing so for their own personal gain. Other examples include certain functions of del.icio.us and flickr. This is the indirect harnessing of collective intelligence to organize the online environment.

2.) **Instrumental collaboration:** where collaboration is a deliberate, purposeful activity, done with the intention of creating or finding information. The basic functionality of a wiki is a good example of this – often the end-point of the wiki process is well defined and everyone who is contributing is working towards this goal – this might be to plan a meeting, event or write a book or encyclopaedia. Other examples include some functions of blogging tools, networked aspects of folksonomies, some types of social networking (i. e. business contacts networking – Ryze.com is one example). It has been argued that the social aspect of MMORPGs takes this form – people are only contributing because it helps them progress in the game. Other people online create a social presence, spectacle or audience in instrumental collaboration. It's about creating dialogue and conversation for a fairly well-defined end-goal.

3.) **Means/Ends collaboration:** where collaboration is itself the primary purpose of activity. Social networking is the most obvious example of this; similar effects are found in blogging and Jimmy Wales reports that they exist in Wikipedia. We have seen that there are two important by-products of means/ends collaboration 1.) shared value or meaning creation where understanding and knowledge are produced through social interaction – as in the physical world, social interaction shapes an individual's subjective perception. Examples of this include some aspects of folksonomies and Danah Boyd's explanation of some functions of the social networking site Friendster

2.) social capital production – online networking sites have been shown to promote bridging and bonding ties between users

This categorization is similar to Tim O'Reilly's 'hierarchy of Web 2.0 applications'. He argues there are four 'levels' against which you can measure '2.0-ness'. The highest level - and the most Web 2.0 - is where applications could only exist on the net – they fully embrace the network created by the Web and get better the more people use them. He gives examples such as eBay, Craigslist, Wikipedia and del.icio.us. Level two consists of applications which could exist offline, but benefit from the online network; Flickr for example. A level one application is one which can and does exist offline, but gains added features by being online: the file sharing application used in Google Documents, Writely, is one example. Level zero are applications which have primarily taken hold online, but they work just as well offline as long as you have the data in a local cache: MapQuest, Yahoo! Local and Google Maps. There are some applications, according to O'Reilly which defy categorization (Amazon, iTunes) and others that belong in an entirely different system – desktop applications such as email which find their utility on the Web.

The problem with this is that O'Reilly's hierarchy doesn't really allow for one application to use the Web in more than one way. What I've been trying to look at is the nature of the utility of Web 2.0 apps. O'Reilly's analysis is in some ways useful – he lumps eBay, Wikipedia and del.icio.us together – he reasoning behind this is that they all harness the utility of the Web as a network. However, these applications are also very different and they are using the network in different ways. Through the three types of collaboration I've set out above, I'm attempting to ask what these different ways are and whether they are significant.