

Web Authoring: Web2.0 (Collaborative Technologies) - Overview



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What's web 2.0?

There are many descriptions of what 'web2.0' means, but at its simplest it amounts to websites that you can read and write to - websites that depend on user interaction rather than passivity. This user interaction is usually based around uploading information through the web and by this means encouraging use, comment and relationship forming. The essential points of this are:

- interaction is through the web as a platform
- continuing and regular uploads of information of some sort
- that content is available for use and/or comment
- participation is key
- trust is essential

This exact definition raises questions - Tim Berners-Lee would say (and probably has said) that this is what was intended all along, but it didn't actually happen like that. There are opportunities for more interaction (some of which were there before the term was thought of), often available to you free of charge and effort (except for a little exploratory urge and providing the content).

We all know about facebook and myspace...

'Social' networking is all too familiar - glancing through a list of social networking sites (http://en.wikipedia.org/wiki/List_of_social_networking_websites) brings to mind the major entities such as MySpace, Facebook, Bebo, Flickr, YouTube and older blogging/virtual community sites such as Livejournal.

You may not be as aware of business networking tools, the most well known being LinkedIn (<http://www.linkedin.com/>).

One of the clear evolutionary trends of social networking is that these sites don't stay the same for long - there is a constant drive for extension and development as social groupings change and realign and business wants to benefit from access to large numbers of registered users. Facebook allow businesses and groups to have pages, and have recently changed the standard Facebook offering to keep people interested, and there are now more sites for the over 50s - the so-called silver surfers. Ning and KickApps, as well as others, are services for people wanting to set up sites.

Why collaborative?

The reason I labelled this as 'collaborative' rather than 'social networking' is to encourage a wider view of what is possible and available. It is a good exercise to explore the potential of repurposing tools for use in a group of like-minded users or those who have a shared goal, whether they are together on a course or conference, researchers in a particular topic area, a number of people applying for a grant together, cycling enthusiasts, or any combination.

You need to be aware of a few health warnings. There are free services available but they may be ephemeral - it is worth assembling a toolset of services that you have looked at and, depending on the group's needs and abilities, are happy to recommend. New services will appear and established ones disappear, either because they have been bought up, die, or the developers lose interest. There is also a potential for issues concerning rights (copyright and IPR), privacy and possible plagiarism, especially if you are using free tools outside the University network. This shouldn't put you off, but you do have to be aware that they may be risks - attached is a handy (if exhaustive) document from Edinburgh University that outlines them.

Things to consider about your collaboration group:

- what group services do they need - email, file storage, collaborative editing of documents or spreadsheets, sharing presentations, mapping, images (still, video, diagrams)?
- what are their technical abilities (or what is it safe to assume) and do they all agree on wanting a collaborative site?
- do any of the members of the group have special needs?
- do they need their collaboration to be private - are they all within the University?
- will they need informing when updates have been done by others?
- what is the result of the collaboration going to be?
- how is the result going to be made available, and how long-term does the collaborative site need to be?
- do you want the site to be indexed and be found by the world?
- does the information need to be backed up or stored elsewhere after the collaboration has finished?
- would the group find it difficult to change service during the life of the collaboration?
- how much risk are they willing (or able) to take?

If you have to try and support a very diverse group for collaboration, it may be useful for you to look at OpenID, which is also supported in a growing number of open source software packages, such as Elgg, Drupal and Mediawiki (see Wikipedia article at <http://en.wikipedia.org/wiki/OpenID> and <http://openid.net/>). RPX (<https://rpxnow.com/get>) is a free provider of OpenID single sign on.

Categories of collaborative tools

- Wikis
- Blogging tools or hosted sites
- 'Microblogging'
- Virtual community sites/forums
- E-learning sites
- Sharing sites and materials - photos, video, slides
- Creating and editing materials - photos, video, slides
- RSS feeds
- Online services for individuals or groups

Wikis

Wikis allow multiple users a true web-based collaborative interface to content - the wiki software allows for generation of and changes to pages, and adding links between them. It keeps a record of the changes on a page and allows for backtracking of changes and locking pages so changes are no longer possible. Wikis can particularly suit technical, IT and support uses, as they encourage 'dumping' of knowledge in a simple way.

Typically interaction with the web page is with a widget editor that has a built-in shorthand mark up system, which does not suit everyone (some can also accommodate xhtml input directly). Since a wiki is essentially flat pages or a very flat database, a disadvantage can be lack of structure and there can also be difficulty extracting formatted content, as well as issues of defacement and lack of trust. Limiting access for reading and/or editing to a known group can answer trust/security questions.

A large number of wiki software packages are available for download, with comparisons available via, for instance, <http://www.wikimatrix.org/>. An alternative is to take advantage of the many free services that can be set up for group use, such as <http://www.wikispaces.com/>, <http://pbwiki.com/> (which has specific help for education users - see <http://pbwiki.com/education.wiki>), or wetpaint (<http://www.wetpaint.com/>).

The Computing Service host a managed wiki service (based on Mediawiki), which provides Raven and group authentication (on a read/write basis for all users) - contact wiki-support@ucs.cam.ac.uk for more information - the wiki name will appear as <https://wiki.csx.cam.ac.uk/wikiname> (redirecting from (<http://wiki.csx.cam.ac.uk/wikiname>)).

Several technical users have looked at the wiki as an ideal way to have direct input to web pages and have developed tools for this re-purposing. PHP wiki processor (<http://www.net-assistant.de/wiki/static/StartPage.html>) is a tool that makes the wiki act as a content management system by producing static pages, and there are others that are similar. Deki Wiki has a cms interface that is to be released soon (see <http://wiki.developer.mindtouch.com/>).

Some wikis can have specialist tools embedded into them, for instance Jmol, a Java applet for showing molecular structures (http://wiki.jmol.org/index.php/Main_Page) can be embedded into MediaWiki and other applications. Mediawiki also has chemistry toolboxes built into it (see http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6T64-4SG4CP9-1&_user=6094838&_coverDate=06%2F30%2F2008&_rdoc=1&_fmt=full&_orig=search&_cdi=5020&_sort=d&_docanchor=&_view=c&_acct=C000053194&_version=1&_urlVersion=0&_userid=6094838&md5=0f482afb6ae7e7933914cb16437e319f#fig1 for discussion - needs Raven authentication to see online journal). Ghemical is a molecular modeling program that installs into MediaWiki, as are Avogadro and ChemBio3D - see http://www.ch.ic.ac.uk/wiki/index.php/Second_Year_Modelling_Workshop for full information. A recent book of case studies of use of wikis in education can be bought, either as a download or a paperback, at <http://www.lulu.com/content/2175253>.

Blogs

A blog has a write-in design similar to a wiki, but the structure is for articles, which are listed in different ways - by time of publishing and categorised by keyword. Rss feeds are an integral part of the blog publishing process (announcing each new posting), and the feeds can mirror the categorisation of the content (see <http://csnews.csx.cam.ac.uk/> as an example). Blogs can be ideal for collaboration, especially when there is a need for different strands of content - all effective collaboration needs a regular and frequent addition of content, and the blog is a straightforward way of encouraging that. Essentially it can be used as:

- a collecting point for content (a single blog can have multiple authors and have comments enabled so that users can interact)
- it makes an rss feed available, effectively promoting the content
- and if the audience is wider, social bookmarking such as technorati and del.icio.us can be used to promote the new content and allow it to be found, and google ping (http://www.google.com/help/blogsearch/about_pinging.html) to get new blog entries indexed quickly.

The approach to content dissemination must depend upon how wide the collaboration is.

A useful diagram of some uses of blogs in education is at <http://www.edtechpost.ca/gems/matrix2.gif> - although this is for pedagogical use rather than for, say dissemination of other information.

Many different types of blog are available, for instance (blogger (hosted) - <https://www.blogger.com/>: Wordpress (downloadable or hosted) - <http://wordpress.org/>: typepad (hosted and charged for: <http://www.typepad.com/>). Some are designed to provide a hosted blog environment, with open source software such as Wordpress multiuser (<http://mu.wordpress.org/>), Roller (<http://rollerweblogger.org/project/category/About>), or b2evolution (which specializes in being

multilingual - <http://b2evolution.net/>). Commercial products are also available, such as two of SixApart's products - Movabletype, TypePad and Vox (<http://moveabletype.org/products/>). There are also more specialist blogs such as typo (<http://typosphere.org/>), for use with rubyonrails.

Typically, blogs (particularly personal blogs) will also contain links to other blogs. If you want to promote to a group the reading of several blogs, or keep track yourself, you could use a tool such as blogbridge (<http://www.blogbridge.com/>) to assemble your own collection and keep track of new entries - this can also be done by keeping track of the rss feeds out of the blogs.

Blogs can also be used more broadly for publishing a website (see <http://manila.userland.com/> but other blogging tools can be used for instance see <http://www.onlamp.com/pub/a/onlamp/2006/04/20/from-weblog-to-cms.html> or (more recent) http://codex.wordpress.org/Pages#WordPress_as_a_CMS for how to use Wordpress in this way).

Searching blogs

Because blog entries change quickly, to keep up with current information you will need to use something other than a general Google search (even with bloggers using Google pinging). The Google view of blogs will be for the slightly longer term informational articles that you'll want to go back to. There are blog searching tools such as the Google blog search (<http://blogsearch.google.com/>) and readers such as <http://www.google.com/reader/>

Microblogging

Twitter (<http://twitter.com/>) and Pownce (<http://pownce.com/>), for example, can be used for sending small comments between a group - see <http://www.caroline-middlebrook.com/blog/twitter-guide/> and <http://www.hanselman.com/blog/TwitterTheUselessnessOfMicroblogging.aspx> for details of how to use it and why it might be useful - perhaps useful for quick responses and questions from a remote group in a conference setting (as recently happened at a Google press conference) ? Twitter supports SMS so you can send and received Twitter messages with no UI or client at all. Another view about microblogging is at <http://blogs.zdnet.com/igeneration/?p=620>.

Chat or instant messaging

You can set up a chat group by using gabbly (<http://gabbly.com/>) and have instant messaging - this could be useful to chat between members of an audience at a conference, or with a remote group.

Virtual community sites

For most collaborative ventures, a virtual community would be overkill, requiring far too much time, effort and expertise to set up. Hosted community sites such as Livejournal (<http://www.livejournal.com/>) and The Well (<http://www.well.com/>) have been available for many years, although they have changed with the times. Originally they came about as a forum for sharing ideas and thoughts - perhaps in the first instance providing social interaction for those working at home, the geographically isolated, and technical loners. Their purpose was not for self-promotion but for providing more interaction than, say, usenet news groups, which were popular at that time. Today they serve a similar purpose - The Well sticks more closely to the older format, whereas Livejournal has diverted more into personal blogging. Neither can be used for a small group.

Using downloadable open source software such as Plone (<http://plone.org/>) and Drupal (<http://drupal.org/>), along with available skill and hardware, you could set up tailored local sites for managing community interaction for a group. Don't underestimate the skills involved here - OK if you have a technical person up for the job, but otherwise not. Apart from publishing web pages, such software includes extensive collaboration and e-learning tools. Elgg (<http://elgg.org/>) is another downloadable open source social networking software package, the difference being that it was designed especially for education - for an example of an Elgg-run site (being used for blogging purposes) and an appropriate blog entry see <https://elgg.leeds.ac.uk/> or <https://elgg.leeds.ac.uk/web2reviews/weblog/>

E-learning sites

In the read/write web world, any of the tools mentioned here can be used for e-learning, rather than the traditional view of a VLE being the thing to use. The collaborative nature of elearning has become known (by some) as e-learning 2.0 (see <http://www.elearnmag.org/subpage.cfm?section=articles&article=29-1>). CamTools is the local online tool collection that can be used for collaboration (see

<https://camtools.caret.cam.ac.uk/portal>) - if it provides what you need it is ideally suited for groups that have some members from outside the University.

Henry Rzepa (Imperial College) uses a wiki (Mediawiki) for his Chemistry courses (see http://www.ch.ic.ac.uk/wiki/index.php/Second_Year_Modelling_Workshop) and for the second year projects (<http://www.ch.ic.ac.uk/wiki/index.php/It:projects>) - the wiki has various extensions installed for rendering of images and chemical structures, which has the advantage that users don't need to be using specialist browsers or extensions.

Sharing sites

Social bookmarking

Social bookmarking with del.icio.us (<http://del.icio.us/>) allows you to keep your bookmarks in one place and also share them with others (and benefit from the bookmarks others make available) - this would be very useful for a group collecting links about a particular area of interest. There are various managing tools that you can use, including using a feed to add you del.icio.us bookmarks to your blog or your facebook account. There is a very useful Firefox extension that allows you to save a bookmark directly to your del.icio.us account.

Tagging (Technorati, etc.)

Authors add tagging for categorisation of blog posts to cross reference and interlink with other blogs and user-generated content (photos, videos, etc.) There are many similar sites and also, for instance an automated script to add links to appropriate social tagging services (see <http://www.social-bookmark-script.com/>). Advantages for tagging are that people are constructing tag words using human cross referencing (folksonomies), which may not be immediately obvious to any scripting or automated system. This is also a disadvantage, as there is no controlled vocabulary nor standardisation for spelling or use of upper and lower case. The use of tagging is also wide open to misuse by people wishing to promote their content way beyond its importance.

The services provide widgets (see <http://technorati.com/widgets/>) add to your blog to encourage users to the tagging site.

See blog collection with Technorati with 'social networking' tag (<http://technorati.com/search/social+networking?authority=a4&language=en>)

Sharing materials

There are various services available to share your photos, slides, etc. Sharing photos of events or between friends is straightforward from sites such as Flickr (<http://www.flickr.com>) - the photos need to be tagged so that they can be associated with a term or terms such as the event, name of group, name of owner, and can be found. Some of the tools in the following section have sharing as part of their functionality, others depend on mixing resources that are already shared, such as slides and video.

Using slideshare (<http://www.slideshare.net/>) you can put a set of slides on the web so they are easily available for others to use, which is particularly handy for a conference or seminar. Slideshare does conversion on the fly via an upload form, so it is very convenient. It takes PowerPoint (ppt & pps), pdf, & openoffice (odp) files. You can then embed a link to the hosted flash movie if you want to include it on other pages, or point people towards it on Slideshare. Conversion from PowerPoint to a pdf can be done to include or exclude notes, and may give the chance to include the steps in a slide build and other options. These steps in the pdf may not survive the upload conversion so you will have to experiment. On upload to Slideshare you need to add some metadata about the file, giving as much or as little information you want to. Unless you give adequate information, there is no context for the slides, nor are there any words as all the words have been turned into pictures.

Bandongo (<http://www.bandongo.com/>) is a file sharing site that you can use as a swapping ground for large files (up to 1GB) - this could be useful for a group.

Creating and editing materials - photos, video, slides

In addition, there are other online services not associated with media (see later).

There are now various sites at which you can use tools - a few of these are listed (many tools are freely available for a short time and then become commercial, so some of the following may have changed by the time you look at them):

- <https://www.photoshop.com/express/landing.html> - photoshop online. Also <http://pixlr.com/app/> and <http://www.splashup.com/>
- <http://www.animasher.com/> - to create animated films
- <http://www.jingproject.com/> - to capture images, record video and share online - downloadable software for Macs and PCs giving instant uploading.
- <http://jumpcut.com/> - upload, editing and sharing for videos and photos
- <http://www.muveemix.com/> - mixing videos with music
- <http://www.flowgram.com/> - audio and presentation tool that results in a flash object that can be embedded in your page. <http://mypllick.com/> is a similar tool for use with PowerPoint slides.
- <http://zention.com/> - combine video alongside PowerPoint slides, which you can then embed.
- Tools for creating slideshows, timelines, mixing media (including video editing and recording), combining media or words with mapping or generating tours, see <http://cogdogroo.wikispaces.com/StoryTools>

In addition there are sites that make available free software that you need to download and install - this is one:

- At Moviestorm (<http://www.moviestorm.co.uk/MSDB/AboutPageServlet>) you can download an animated movie making package (suitable for Macs or PCs) free of charge

Mapping

Google maps is a well known service that can be used on web sites and utilized in conjunction with other information (such as event data) in mashups (see later). There are also other mapping services that do this.

Mashups and other dishes

The term "mashup" originated in the music industry - it's music that is made up of other songs already released, usually by other artists. Some of the tools in the previous section are creating mashups. There are many examples, such as <http://www.webmashup.com/cgi-bin/jump.cgi?ID=132> or <http://www.hometrack.co.uk/>

How to make your own mashup (see - <http://www.programmableweb.com/howto>)

Making mashups requires use of APIs to pull information from several sources into another - generic API set for creating social applications from Google as OpenSocial (<http://code.google.com/apis/opensocial/>)

Bewildering example: <http://www.madhusudhan.info/YahooHackDay/SmartEditor.html>

Yahoo Pipes is a web application that interactively aggregates feeds (see http://en.wikipedia.org/wiki/Yahoo!_Pipes): Google mashup editor (<http://code.google.com/gme/>) is very similar it is "an AJAX development framework and a set of tools that enable developers to quickly and easily create simple web applications and mashups with Google services like [Google Maps](#) and [Google Base](#)".

RSS feeds

Rss feeds are a result of a read/write process rather than a particular tool, but they do lie in the heart of interactivity. An rss feed is a timed record of a new article or piece of news - if the reader is a user of multiple sites or particularly interested in time-sensitive information, the feed can be read in an rss aggregator that will flag new articles. RSS feeds are used for placing content from one source into other places, for instance into otherwise static web pages (see <http://www.cam.ac.uk/> and <http://www.cam.ac.uk/cs/> for example) - to do this there is a need for scripting for regular collection and comparison of the feed so that changes are picked up. There is a php script available that allows you to embed the CS or University rss feed in your pages - see <https://wiki.csx.cam.ac.uk/websupport/> for links.

There is an online tool called Publish (<http://publi.sh/>) that allows you to create a disposable rss feed, suitable for personal or group use.

Online services for individuals or groups

- Google groups allows you set up an open or closed area for a group (see <http://groups.google.com/grphp?hl=en>)
- Yugma (<http://www.yugma.com/>) is a tool for having conferencing or online meetings, rather than running a group space.
- Google Docs (<http://docs.google.com/>) is a web-based word-processing site that allows remote writing, sharing and hosting of documents. Before Google bought the company, the product was called Writely. Zoho (<http://www.zoho.com/>) provides a raft of online 'Office' applications plus sharing space, project management, wiki, etc.
- DabbleDB is an online database creation tool - see <http://dabbledb.com/>
- For organizing meeting or other joint event, Meet-O-Matic (<http://www.meetomatic.com/calendar.php>) or Doodle (<http://www.doodle.com/main.html>) are excellent tools.
- Diigo (<http://www.diigo.com/>) allows you to highlight and share comments about web pages, with extra facilities for those in education.

Second life

Second life isn't really read/write but is an extension of user interaction, and can be used for collaboration and remote conferencing (see <http://www.admin.cam.ac.uk/news/dp/2007092502>). For huge amount of info about using SL for educational purposes, see http://www.simteach.com/wiki/index.php?title=Second_Life_Education_Wiki.

Further information

<http://webtools4u2use.wikispaces.com/Webtools4U2Use> has a great set of lists of web2.0 tools that you might find useful

Ten Web 2.0 Things You Can Do in Ten Minutes to Be a More Successful E-learning Professional - <http://www.elearnmag.org/subpage.cfm?section=articles&article=60-1>