

# Introduction to Web 2.0 Technologies

## What is Web 2.0?

- A simple explanation of Web 2.0 (3 minute video): <http://www.youtube.com/watch?v=0LzQIUANnHc&feature=related>
- A complex explanation of Web 2.0 (5 minute video): <http://www.youtube.com/watch?v=nsa5ZTRJQ5w&feature=related>
- An interesting, fast-paced video about Web.2.0 (4:30 minute video): [http://www.youtube.com/watch?v=NLIgopyXT\\_g](http://www.youtube.com/watch?v=NLIgopyXT_g)

Web 2.0 is a term that describes the changing trends in the use of World Wide Web technology and Web design that aim to enhance creativity, secure information sharing, increase collaboration, and improve the functionality of the Web as we know it (Web 1.0). These have led to the development and evolution of Web-based communities and hosted services, such as social-networking sites (i.e. Facebook, MySpace), video sharing sites (i.e. YouTube), wikis, blogs, etc.

Although the term suggests a new version of the World Wide Web, it does not refer to any actual change in technical specifications, but rather to changes in the ways software developers and end-users utilize the Web. Web 2.0 is a catch-all term used to describe a variety of developments on the Web and a perceived shift in the way it is used. This shift can be characterized as *the evolution of Web use from passive consumption of content to more active participation, creation and sharing.*

Web 2.0 Websites allow users to do more than just retrieve information. Now users can build on the interactive facilities of Web 1.0 to provide "network as platform" computing, allowing users to run software-applications entirely through a browser. Users are able to co-author the data on a Web 2.0 site and exercise control over it. These sites have an "architecture of participation" that encourages users to add value to the application as they use it. This stands in contrast to traditional Websites, which limit visitors to passive viewing and whose content only the site owners can modify.

Web 2.0 Websites typically include some of the following features/techniques:

- **Search:** the ease of finding information through keyword searching.
- **Links:** guides to important pieces of information. The best pages are the most frequently linked to.
- **Authoring:** the ability to create constantly updating content that is co-created by users. In wikis, the content is *iterative* in the sense that the people undo and redo each other's work. In blogs, it is *cumulative* in that posts and comments of individuals are accumulated over time.
- **Tags:** categorization of content by creating tags that are simple, one-word descriptions to facilitate searching and avoid having to fit into rigid, pre-made categories.
- **Extensions:** automation of pattern matching for customization by using algorithms (i.e. Amazon.com recommendations).
- **Signals:** the use of RSS (Real Simple Syndication) technology to create a subscription model which notifies users of any content changes.

## Web 2.0 and Education

Web 2.0 is difficult to define because it is not really a thing, but an approach, or shift, in how we use the Web we already have. *The key is a change to a more active user who actually creates content rather than just passively receiving it.* This change in how we experience the Web mimics

a parallel shift occurring in education. Instead of a top-down, "sage on the stage" approach to teaching, we are moving towards a more *constructivist*, "guide on the side" pedagogy which empowers students and encourages them to take responsibility for, and co-create, their learning experience.

Young people seem to be particularly attracted to Web 2.0 developments, often for the social aspects of easy communication, coordination, and online self-expression. Web 2.0 innovations harmonize well with current thinking about educational practice. In particular, Web 2.0 offers students new opportunities to take more control of their learning and create customized information, resources, tools, and services. Web 2.0 also encourages a wider range of expressive capability, facilitates more collaborative ways of working, enables community creation, dialogue and knowledge sharing, and creates a setting for learners to attract authentic audiences.

I believe it is our duty as instructors to reach out to our students as best we can. Whether or not we choose to embrace Web 2.0 technologies remains to be seen, but at the very least we should understand the concept and its main components. This is my intention in offering this workshop.

Now we will look at a few of the most popular Web 2.0 tools in more depth:

- Blogs
- Podcasts
- Social Networks
- Wikis
- ePortfolios
- Micro-Blogs
- Social Bookmarking

Adapted from: [http://en.wikipedia.org/wiki/Web\\_2.0](http://en.wikipedia.org/wiki/Web_2.0) and [http://partners.becta.org.uk/index.php?section=rh&catcode=\\_re\\_rp\\_02&rid=14543](http://partners.becta.org.uk/index.php?section=rh&catcode=_re_rp_02&rid=14543)

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## **Blogging**

→ Blogs in Plain English (3 minute video): <http://www.youtube.com/watch?v=NN2l1pWXjXI>

→ Example blogs: <http://wordpress.org/showcase/>

Over 70 million blogs have been created since 2003 and the numbers just keep increasing! Why? Because people want to express themselves and they like to have an audience. The World Wide Web makes it possible for you to publish your thoughts (or whatever else you'd like) and distribute them out to the entire world (of Internet-connected computer users). And believe it or not, this can all be done for free!

Nowadays, there are several good, reliable blogging tools available for free on the Web. You can set up your account and start blogging away within minutes.

### **Blogging Definitions**

#### **What is a Web log (Blog)?**

A Weblog, or "blog", is a personal journal on the Web. Weblogs cover as many different topics, and express as many opinions, as there are people writing them. Some blogs are highly influential and have enormous readership, while others are mainly intended for a close circle of family and friends.

#### **Why are blogs important?**

The power of Weblogs is that they allow millions of people to easily publish their ideas, and millions more to comment on them. Blogs are a fluid, dynamic medium, more akin to a "conversation" than to a library — which is how the Web has often been described in the past. With an increasing number of people reading, writing, and commenting on blogs, the way we use the Web is shifting

in a fundamental way. Instead of primarily being passive consumers of information, more and more Internet users are becoming active participants. Weblogs allow everyone to have a voice.

### **What are common misperceptions about Weblogs?**

The main misconception about blogs is that they are only personal diaries. Weblogs come in all flavors, from personal journals that are mainly shared with close friends and family, to blogs with readership levels placing them in the league of mainstream media. Blog topics include political commentary, product reviews, scientific endeavors, and any area of information where people have a deep expertise and a desire to express it.

### **What is a blogger?**

A blogger is someone who writes a blog.

### **What is the blogosphere?**

Blogosphere is a word used to describe the online community of bloggers and their writings.

### **How is a Weblog different from a Website?**

A Weblog is a Website that is updated frequently, most often displaying its material in journal-like chronological dated entries or posts. Most blogs allow readers to post comments to your post, and link from their blog to your posts using the *permanlink* URL or address. In a blog, the content can be published and syndicated separate from the formatting using an RSS feed. Readers can then subscribe to the feed to automatically receive updates.

### **What is a Weblog post or entry?**

An entry, a post, or a posting, are the terms often used to refer to a specific article or commentary written by the blogger on his or her Weblog.

### **What is a comment?**

Many Weblogs allow readers to write a reaction to what was written in the blog entry. Comments can often be found directly following the blog entry.

### **What's the relationship between blogging and journalism?**

Weblogs are different from traditional media. Bloggers tend to be more opinionated, niche-focused, and partisan than journalists, who strive for editorial objectivity. Blogs encourage dialog with readers, which is why many traditional journalists now also have blogs. The relationship between blogging and journalism can be characterized as symbiotic rather than competitive. Bloggers are often sources for journalists, and many blogs contain commentary and riffs on what journalists wrote that day. Frequently newsmakers use blogs to respond to what journalists write about them. And by linking to traditional media, Weblogs can introduce new readers to journalists and their publications.

### **Are Weblogs a business or a hobby?**

For most people, blogging is a hobby. For some, especially journalists, writers, and business and political leaders, writing blogs enhances their professional careers by giving their voices a broader audience and allowing more engaged contact with their readers, constituents, and customers. Some bloggers have readership numbers approaching that of big media and are able to earn income from their popularity.

### **What is a permalink?**

The homepages of most Weblogs have several entries, or posts, listed on them. Because blogs tend to be frequently updated, articles you find on a Weblog's homepage one day may not be there the next. A permalink is the permanent identifier to a specific Weblog post or article. Bloggers love permalinks — they provide an easy way to capture specific references to posts or articles about which bloggers are writing.

### **What is a "blogroll?"**

A blogroll is a list of blogs and bloggers that any particular blog author finds influential or interesting — so much so that the author wants the link to be enduringly visible on his or her site instead of just in occasional entries. A blogroll is often found to one side of a blog's entries, and the hyperlinked names lead directly to the blogs in question. Blogrolls indicate which online community a blogger is attracted to or belongs to, and they are part of the conversations of the blogosphere.

From: <http://support.technorati.com/support/siteguide>

## **Blogging Resources**

- Wordpress: <http://wordpress.com>
- Blogger: <https://www.blogger.com/start>
- Technorati: <http://support.technorati.com>
- Prologger - Blogging for Beginners: <http://www.prologger.net/archives/2006/02/14/blogging-for-beginners-2/>
- About.com – Web Logs: <http://Weblogs.about.com/?once=true&>
- EduBlogs: <http://edublogs.org/>
- Top 100 Education Blogs: <http://oedb.org/library/features/top-100-education-blogs>

## **Podcasts**

→ Podcasting in Plain English (3 minute video): <http://www.youtube.com/watch?v=y-MSL42NV3c>

A Podcast is basically just an audio (or video) file. What distinguishes a podcast from other types of audio on the Internet is that a “podcaster” can solicit subscriptions from listeners, so that when new podcasts are released, they are automatically delivered, or fed, to a subscriber's computer or mobile device. Usually, the podcast features an audio show with new episodes that are fed to your computer either sporadically or at planned intervals, such as daily or weekly. This format encourages listeners to “subscribe.”

As long as you listen to podcasts only on your computer (the vast majority of podcast subscribers do), you don't need any special software other than the audio/video player you already have on your computer. But if you want to subscribe to a podcast “feed”, you'll need to install “podcatcher” software on your computer. The most popular podcatcher software is iTunes. Millions of podcasts are currently available for free and thousands of new podcasts are created every day!

Adapted from: <http://www.entrepreneur.com/encyclopedia/term/159122.html>

### **What is podcasting?**

- “Pod” – a mobile playback device such as an iPod or any other MP3 player (a laptop or desktop computer also works).
- “Casting” – derived from broadcasting.
- Podcasting is the distribution of multimedia files, such as audio and video, over the Internet for playback on mobile devices and/or personal computers.
- Most podcasts are shared (syndicated) using the RSS format - Real Simple Syndication.

### **How is a podcast different from a plain old audio file?**

- The key difference is the distribution model.
- Through RSS, anyone can subscribe to and “catch” podcasts, which will be automatically downloaded and managed by a “podcatching” program like iTunes.
- Simple audio files must be found and downloaded manually by users.

### **What kinds of podcasts can I make?**

- Lectures for students to listen to at their leisure.

- Guest speakers and special events.
- Student study guides.
- Supplemental materials for students.
- Help online students feel more connected.
- Ideal for Speech, ESL, Foreign Language, Physical Education and many more types of classes.
- Have students create their own podcasts as part of your course.
- Staff development and training.
- *The possibilities are endless!*

### Why make a podcast?

- Students like it and are comfortable with the technology.
- Information comes to the students; they do not have to go get it.
- Audio and video files can be reused in future courses and also in online and hybrid courses (ETUDES-NG).
- Ideal for audio and visual learners – adds variety to your presentation strategies.
- Of great value to students with learning disabilities.
- Students can review materials/lectures as many times as they want, at their own pace.
- No more students missing lectures!

### What do you need to create audio podcasts?

- A personal computer (Mac or PC) connected to the Internet.
- A microphone (built into new Macs, cheap to buy) or digital recording device.
- Free podcast-creation software (GarageBand for Macs, Audacity or other for PCs).
- *(You do NOT need an iPod or MP3 player to listen to or create podcasts.)*

### Publishing your podcast

- Select a Web server to host your podcast “feed”.
  - You can easily publish directly to iTunes with a .mac account.
  - You can publish to iTunes from a PC as well, but it is more complicated.
  - WLAC plans to support your podcasts, so soon you will not have to worry about this step at all.
- A “feed” is Web code which communicates the location and subscription information of your podcast to the world. In other words, your podcast feed is published in RSS format which allows users to subscribe to it.
- If you do not care about allowing subscriptions to your podcasts, you can instead simply upload your audio files to your Website or online course shell.

### iTunes

- For both Mac and PC users.
- iTunes is by far the most popular hosting service, but others are available.
- It is FREE to upload podcasts (hosting) and download podcasts (subscribing) to your computer or mobile device.

### Where to find (educational) podcasts

- Search iTunes
- Education Podcast Network- <http://www.epnWeb.org>
- Podcast Alley - <http://www.podcastalley.com>
- Learning In Hand - <http://learninginhand.com/podcasting/find.html>

- Podcast Directory - <http://www.podcastdirectory.com>
  - Digg - <http://digg.com/podcasts/view/education>
  - OpenCulture - <http://www.oculture.com/>
  - NPR - [http://www.npr.org/rss/podcast/podcast\\_directory.php](http://www.npr.org/rss/podcast/podcast_directory.php)
  - Learn Out Loud - <http://www.learnoutloud.com/Podcast-Directory>
  - Pod Feed - <http://www.podfeed.net>
  - Odeo - <http://odeo.com>
  - There are many other podcast directories available as well. Do a Web search for "podcast directory" and you will find directories of all kinds.
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## Social Networking

→ Social Networking in Plain English (2 minute video): [http://www.youtube.com/watch?v=6a\\_KF7TYKvc](http://www.youtube.com/watch?v=6a_KF7TYKvc)

Social networking Websites provide a "virtual community" for people interested in a particular subject or just to "hang out" together. Members create their own online profile page with biographical data, pictures, likes, dislikes and any other information they choose to post. Users can communicate with each other text, voice, chat, instant message, videoconference, and blogs, and the services typically provide a way for members to contact friends of other members, thus enabling everyone's "network" to grow.

Social networking Websites may also serve as a vehicle for meeting in person. One can find dating sites, friendship sites, sites with business agendas, and hybrids that offer a combination of these. Globally, hundreds of millions of people have joined one or more social networking sites so far.

The most popular social networking Websites include:

- MySpace (<http://www.myspace.com>)
- Facebook (<http://www.facebook.com>)
- Friendster (<http://www.friendster.com>)
- LinkedIn (<http://www.linkedin.com>)

## Social Networking History

Introduced in 2002, Friendster was the first online social networking site, which was quickly followed one year later by MySpace. MySpace was started by two young friends and it quickly became extremely popular. Its parent company, InterMix, was acquired by News Corporation for \$580 million just two years after it was launched! Next came Facebook in 2004, which initially targeted only college students, but now welcomes users of all ages. More new social networking sites are popping up all the time.

## Social Networking Trends

- **Prospective Employees**  
Employers can use information on social sites to learn about prospective employees. Reading profiles and perusing photos has become standard for human resources departments in some companies. One's job search could be affected accordingly.
- **Cell phone Applications**  
The cell phone's potential for socializing remains huge, and mobile features allow social networking site users to continue their experience when away from the desktop. Uploading photos, sending videos and sharing voice messages while on the go are all possible now using social networking in conjunction with mobile devices (see Micro-blogging section below).

- **The 21st Century Portal**

Socially-established Websites starting to become more content-conscious. Pundits believe that in the future, all content portals will have characteristics of social networking sites. Moreover, beyond the sense of belonging that might be sought via social networking, people will visit these sites to be entertained or to find useful information.

Adapted from: [http://www.pcmag.com/encyclopedia\\_term/0,2542,t=social+networking+site&i=55316,00.asp](http://www.pcmag.com/encyclopedia_term/0,2542,t=social+networking+site&i=55316,00.asp)

## YouTube

One other social networking site very much worth mentioning here is YouTube (<http://www.youtube.com>). YouTube is a social space for sharing video content as well as for discussing the content posted there. YouTube allows anyone to store short videos for private or public viewing. Founded in 2005, it was acquired by Google in 2006 for \$1.65 billion!

YouTube provides a venue for sharing videos among friends and family as well as a showcase for new and experienced videographers. Featuring videos it considers entertaining, YouTube has become a destination for ambitious videographers, as well as amateurs who fancy making a statement of some kind. Using the search engine provided, you can quickly and easily find free video content on almost any topic. YouTube videos are "streamed" to users on the YouTube site and can also be "embedded" into other Websites and blogs with ease.

Adapted from: [http://www.pcmag.com/encyclopedia\\_term/0,2542,t=YouTube&i=57119,00.asp](http://www.pcmag.com/encyclopedia_term/0,2542,t=YouTube&i=57119,00.asp)

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## Wikis

→ Wikis in Plain English (4 minute video): <http://www.youtube.com/watch?v=-dnL00TdmLY>

"Wiki" is the word for "fast" in Hawaiian. A wiki is a page or collection of Web pages designed to enable anyone who accesses them to contribute or modify the content easily. Wikis are often used to create collaborative Websites and to power online communities. Wikis are used in business to provide intranets and knowledge management systems. Wikis are used in education to allow students to co-create documents and research topics collaboratively.

The collaborative encyclopedia *Wikipedia* ([http://en.wikipedia.org/wiki/Main\\_Page](http://en.wikipedia.org/wiki/Main_Page)) is the most popular example of a wiki today.

Wikis have several key characteristics, which include:

- Invites all users to edit any page or to create new pages within the wiki Website, using only a simple Web browser.
- Promotes meaningful topic associations between different pages by making page link creation intuitively easy and showing whether an intended target page exists or not.
- Seeks to involve the visitor in an ongoing process of creation and collaboration that constantly changes the Website landscape.

A wiki enables documents to be written collaboratively, iteratively, in a simple markup language using a Web browser. A single page in a wiki Website is referred to as a "wiki page", while the entire collection of pages, which are usually well interconnected by hyperlinks, is "the wiki". A wiki is essentially a database for creating, browsing, and searching through information.

A defining characteristic of wiki technology is the ease with which pages can be created and updated. Generally, there is no review before modifications are accepted. Many wikis are open to alteration by the general public. Many edits can be made in real-time and appear almost instantly

online. Since this can facilitate abuse of the system, most private wiki servers require user authentication to edit pages, and sometimes even to read them.

Like many simple concepts, "open editing" has some profound and subtle effects on Wiki usage. Allowing everyday users to create and edit any page in a Website is exciting in that it encourages democratic use of the Web and promotes content composition by nontechnical users.

Adapted from: <http://en.wikipedia.org/wiki/Wiki> and <http://wiki.org/wiki.cgi?WhatIsWiki>

## ePortfolios

→ WLAC has contracted with *Avenet eFolio* (<http://www.avenetefolio.com>) as our ePortfolio service provider. Contact Eric Ichon ([ichone@wlac.edu](mailto:ichone@wlac.edu)) if you are interested in setting up an account.

→ Example eFolio template: [www.joshuastern.efolioca.efolioworld.com](http://www.joshuastern.efolioca.efolioworld.com)

Electronic portfolios (also referred to as ePortfolios or Webfolios) are gaining recognition as a valuable tool for learners, instructors, and academic organizations. ePortfolios are higher education's new "got to have it" tool. They have been called the "show-and-tell platform of the millennium" and are expected to revolutionize how students are assessed in formal education. All the hype aside, ePortfolios can best be viewed as a reactionary response to fundamental shifts in learning, teaching, technology, and learner needs in a climate where learning is no longer perceived as confined to formal and traditional educational practices.

Portfolios have long been the showcase tools of artists as a way to express competency and work completed. ePortfolios are digital versions of traditional portfolios. Definitions of ePortfolios vary, but generally include the notion of a digital resource (personal artifacts, instructor comments) demonstrating growth, allowing for flexible expression (i.e. customized folders and site areas to meet the skill requirements of a particular class, institution, or job), and permitting access to varied interested parties (parents, potential employers, fellow learners, instructors, etc.).

In higher education today, ePortfolios are big business with several companies offering ePortfolio management services for a price. Subscribing to an ePortfolio service allows a school or college the ability to access a comprehensive Web-based information management system in which learners build and maintain digital repositories of artifacts, which they can use to demonstrate competence and reflect on their learning. ePortfolios are considered "authentic assessments" which are a reaction to our traditional objective assessment strategies such as standardized testing.

ePortfolios can include a wide range of information and content, for example:

- Personal information
- Education history
- Recognition – awards and certificates
- Reflective comments
- Coursework – assignment, projects
- Instructor comments
- Previous employer comments
- Goals, plans
- Personal values and interests
- Presentations, papers, other work
- Personal activities – volunteer work, professional development

All of the artifacts included should have a purpose – they should demonstrate a skill, an attribute, and learning acquired from experience.

Adapted from: <http://www.elearnspace.org/Articles/eportfolios.htm>

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## Micro-Blogging

→ Twitter in Plain English (2:30 minute video): <http://www.youtube.com/watch?v=ddO9idmax0o>

Micro-blogging (AKA 'mobile social-networking'; AKA 'themed Instant Messaging') encompasses technologies which enable users to write brief messages, usually limited to less than 200 characters, and publish them via Web browser-based services, email, or mobile phones. The most popular micro-blogging service today is called Twitter (<http://twitter.com>).

Twitter is a free social networking and micro-blogging service, that allows its users to send and read other users' updates (known as tweets), which are text-based posts of up to 140 characters in length. Twitter had over 5 million visitors in September 2008!

Adapted from: <http://en.wikipedia.org/wiki/Twitter>

Other less popular micro-blogging sites include:

- Plurk (<http://www.plurk.com>)
- Tumblr (<http://www.tumblr.com>)
- Jaiku (<http://jaiku.com>)
- Pownce (<http://pownce.com>)

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## Social Bookmarking

→ Social Bookmarking in Plain English (3:30 minute video): <http://www.youtube.com/watch?v=x66IV7G0cNU>

Social bookmarking is a way to store, organize, search, manage, and share collections of websites. With the help of metadata "tags", or keywords, these lists can be organized and shared across the Internet.

In a social bookmarking system, users save links to websites that they want to remember and/or share. These bookmarks are usually public, but can be saved privately, or shared only with specified people or groups. People can access these bookmarks chronologically, by category or tags, or via a search engine. Many social bookmarking services provide web feeds (RSS) for their lists of bookmarks and tagged categories. This allows subscribers to become aware of new bookmarks as they are saved, shared, and tagged by other users.

As these services have matured and grown more popular, they have added extra features such as ratings and comments on bookmarks, the ability to import and export bookmarks from browsers, emailing of bookmarks, web annotation, and groups or other social network features.

Adapted from: [http://en.wikipedia.org/wiki/Social\\_bookmarking](http://en.wikipedia.org/wiki/Social_bookmarking)

Popular social bookmarking sites include:

- Del.icio.us (<http://delicious.com>)
- Digg (<http://digg.com>)
- Technorati (<http://www.technorati.com>)