Web 2.0: Building Online Communities Using Social Networking Technologies

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Over the past three years, Internet web sites have been evolving into a series of platforms organizing content and communications among individuals and organizations for the purpose of social networking. Sites like MySpace, YouTube and Wikipedia have shifted online activities from “browsing” to collaborating, interacting and personalizing. MySpace boasts over 100 million accounts, YouTube serves an average of 100 million video streams per day and Wikipedia contains over 1.7 million articles in English edited by users from all over the world. As a result, web design and organizational thinking in this new era needs to be more focused on building event-driven experiences, rather than simply designing information silos amended with numerous hyperlinks. But how do consumers and businesses keep up with these changes and more importantly how do they exploit the new technologies in ways that benefit customers, employees, and even their industry? This issue of Educational Update is designed for that very purpose.
enabled authors to directly enhance their information with photos, videos, and pre-programmed web searches simultaneously contained in other digital collections. As a result, end users received the benefit of a “rich” information site as they seek the latest news stories, crop recommendations, or management tips.” Source: The Buckeye, May 2005.

Web syndication and RSS feeds offer users easier access to relevant information without having to visit numerous web sites. Web syndication also allows web designers to flow content into their website from relevant locations across the Internet. This technological advance typifies the evolution from the first generation world wide web to the current social networking web. Another advance in this collaborative direction is the ability to re-use and re-purpose digital files for different uses.

“Just like we insert plant photos or audio/video files describing proper pruning techniques into a wide variety of digital fact sheets, garden calendars, and diagnostic databases, so too can we insert episodic podcast content. We just have to think of digital content, no matter what it was originally created for, as being flexible units that can be reorganized and inserted into unforeseen projects of the future.” Source: The Buckeye, May 2006.

Dr. Rhodus and his team have designed and revised numerous websites over the years which parallel the advancements in Web 2.0 technologies: WebGarden, PlantFacts, TurfNotes, SportsNotes, Ohio State HCS News and Podcasts, BuckeyeTurf Podcasts, ASHS Horticulture Pods, and ASHS HortTalks. These websites employ various Web 2.0 technologies and position H&CS to move forward in developing community building websites.
WEB 2.0 Technologies

Web 2.0 is the collection of server-based solutions that have allowed the web to become a publishing platform. Instead of the traditional one-way form of web authoring, these solutions invite all Internet users to share, collaborate, and contribute in the process of website development. Users now have an increased ability to contribute text, bookmarks, photos, audio, videos and more to many different websites. This ease of access to web content alters the way users interact with the new world wide web. Users can now build an online social network where community members contribute content, share resources, collaborate on the agenda and determine the direction of the website.

How many of the sites listed below do you utilize or even recognize? While the list of 31 sites is only a sample, the technologies being highlighted cover the gamut of what is happening with Web 2.0. After browsing a few of these sites, one quickly realizes that Web 2.0 sites contain a lot more than just text and photos. Each site is facilitating a unique kind of user experience. Gone are the days when you browse and read text stories. Today, you register and participate in adding content and information to a site. Then, you follow-up with release permissions and publish your content for others to see, hear, and/or utilize in their own sites via RSS or direct embedding. In this way, the cumulative experiences of all who participate result in a much greater assembly of resources than any one organization or individual would ever be able to accomplish.

Combining the power of many and the dynamic updating that is possible with RSS has completely transformed the web landscape. Thus, the use of Web 2.0 technologies creates the potential for building community through an online interface.

<table>
<thead>
<tr>
<th>Web 2.0 Web Sites</th>
<th>Web 2.0 Technology</th>
<th>Explanation of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Podcast Maker, ProfCast, Odeo</td>
<td>Podcasting</td>
<td>Multimedia authoring and syndication</td>
</tr>
<tr>
<td>MediaWiki</td>
<td>Collaborative Authoring</td>
<td>Open editing and tagging</td>
</tr>
<tr>
<td>Flickr, Slide, Zoto</td>
<td>Photo and Image Management</td>
<td>Open image access and tagging</td>
</tr>
<tr>
<td>Delicious, Blinklist, Stumbleupon</td>
<td>Social Tagging</td>
<td>Democratic website ranking</td>
</tr>
<tr>
<td>Digg, Newsvine, Gabbr</td>
<td>Peer Production News</td>
<td>Users decide what is news</td>
</tr>
<tr>
<td>YouTube, Google Video, MetaCafe</td>
<td>Video Collections</td>
<td>Video uploads</td>
</tr>
<tr>
<td>Blogger, WordPress</td>
<td>Blogging</td>
<td>Personal authoring and publishing</td>
</tr>
<tr>
<td>Joomla, Drupal</td>
<td>Content Management Systems (CMS)</td>
<td>Web design &amp; management</td>
</tr>
<tr>
<td>MySpace, FaceBook, Xanga</td>
<td>Social Networking</td>
<td>Connect single user with hub of friends</td>
</tr>
<tr>
<td>GoogleDocs, Rallypoint</td>
<td>Collaborative Writing</td>
<td>Online word processing</td>
</tr>
<tr>
<td>Google, Yahoo Answers, IMDB</td>
<td>Customized Search Engines</td>
<td>Targeted searches</td>
</tr>
<tr>
<td>Wayfaring, Frappr, HousingMaps</td>
<td>Mapping</td>
<td>Sharing personal maps</td>
</tr>
</tbody>
</table>

Additional information on popular Web 2.0 sites is offered from SEOmoz.org, a Seattle-based search engine optimization company.
Building Online Communities

“Social software enables people to rendezvous, connect or collaborate through computer-mediated communication and to form online communities.” Source: Wikipedia.org

How does the new Internet achieve a community building objective? The answer lies in your perspective and approach to web communications. Following the lead of Tim O’Reilly, President and CEO of O’Reilly Media, Inc., the following principles have emerged from the Web 2.0 revolution: “1. The Web As Platform, 2. Harnessing Collective Intelligence, 3. Data is the Next Intel Inside, 4. End of the Software Release Cycle, 5. Lightweight Programming Models, 6. Software Above the Level of a Single Device and 7. Rich User Experiences.” As a result, individuals and/or organizations attempting to build online community will be readily identified by their mastery of the following core competencies:

Core Competencies:

- Services, not packaged software, with cost-effective scalability
- Control over unique, hard-to-recreate data sources that get richer as more people use them
- Trusting users as co-developers
- Harnessing collective intelligence
- Leveraging the long tail through customer self-service
- Software above the level of a single device
- Lightweight user interfaces, development models, AND business models


Currently, we are refining the curriculum for a non-credit course about designing community-building websites utilizing various Web 2.0 technologies that emphasize social networking. By teaching people to effectively integrate social networking technologies (podcasting, blogging, tagging, mashups, mapping, and collaborative writing) into their traditional view of web communications, we hope to prepare future leaders and business owners to meet and interact with their “virtual community” (customers, suppliers, employees, peers and local community members) in many exciting ways. Specifically, teaching students (of all ages) techniques for creating, editing, uploading, tagging and embedding content across a variety of topics provides individuals the basic building blocks for designing a community-oriented website. To facilitate this instruction, our teaching platform and all assignments will involve the use of Joomla, an open-source Content Management System (CMS). Based on in-depth analysis and evaluation, we feel that Joomla is the best way to facilitate: content authoring, managing page layout, comprehensive site indexing, RSS importing and exporting, cross-platform compatibility, and ease of instruction. Previous solutions for single page authoring, file uploading, and hyperlinking between pages is not appropriate or relevant in achieving our desired goals. Too much time is spent on “doing it all ourselves.” The only way to be fully Web 2.0 aware is to get past this perspective.

Training H&CS 560 Students

Taught by Professor Rhodus, the Horticulture & Crop Science course, Virtual560, provided OSU students an opportunity to learn and utilize various social networking technologies that aid in building community websites. <See: http://hcs.osu.edu/virtual> This course taught students to effectively harness the power of podcasting, blogging, tagging, and mapping inside a content management system for the purpose of creating a community building website.
Web 2.0: Building Online Communities

Students in Virtual560 developed skills using: WordPress, Joomla, Gallery, ProfCast, and Flickr.

http://hcs.osu.edu/virtual
While students in the course came from many different backgrounds and possessed a wide variety of computer-related skills, by the end of the class they were able to design, create, and integrate many different Web 2.0 technologies into their assignments.

Students in Virtual560 engaged in a quarter long process of creating online content using blogs, podcasts, digital photo galleries, visual-based presentations and a content management system. For the first few weeks, each student learned simple blogging techniques and basic html coding. After that, they were asked to evaluate various award-winning Web 2.0 sites and present their findings using their skills in blogging and podcasting. The students then worked in teams and created a series of online communities using Joomla.

Virtual Clubs

The Virtual Club assignment was designed to familiarize students with the inside workings of Joomla. The four-week project began with a brainstorming session about various concepts that a “Virtual Club” could be designed around. Many different ideas were written on the board and students were allowed to indicate their first, second, and third preference for working on a specific concept. Teams of four were assigned, based on voting preferences. The final themes included: Professional Golf Management (PGM) Student Club, Golf Course Design, Public Horticulture, Healthy Living, Global Reforestation, Turf & Wildlife Management, and Digital Photography. Dr. Rhodus and Victor van Buchem also authored a virtual club that was used for developing assignment tutorials and technique demonstrations.

Once the teams were identified, they had to prepare a plan for their Virtual Club project, including: team member profiles, goals and objectives, assignments, deadlines and deliverables. These plans were reviewed and revised two more times, as each project progressed. Final plans and a team presentation were presented to the class and recorded as an enhanced podcast tour of the club website. Along the way, students learned how to subscribe to WordPress.com and create their own club blog; how to subscribe to Flickr.com and create online slide shows, how to embed YouTube videos into their project and how to embed RSS feeds. A particularly successful project was the Healthy Living Virtual Club. (See left)
Partnering with OHIONET

Librarians across the country have also been exploring the reality of Web 2.0, e.g., “Library 2.0” project organized in 2006 by the American Library Association for 50 librarians across the U.S., “Learning 2.0” organized in 2006 by the Public Library of Charlotte & Mecklenburg County for PLCMC staff and “5 Weeks to a Social Library” developed in 2007 by librarian Meredith Farkas of Norwich University in Vermont.

The inVirtual Perspective Technology Team is partnering with OHIONET to train librarians in the use of social networking technologies for building online community oriented programs. A library membership organization that serves roughly 300 libraries, OHIONET encompasses: 115 academic libraries, 92 public libraries, 87 special libraries, and all K-12 libraries in the State of Ohio, through a special arrangement with INFOhio. OHIONET has provided training opportunities and technology support to its members for over 30 years.

The training program encourages individual participants to develop a “Virtual Branch” website for hosting unique community oriented programming and plans of action for their respective libraries. Utilizing social software solutions, librarians will develop online programming for their home libraries that engages the community and offers increased interaction among community members. Helping librarians learn to communicate effectively with social software - with fluencies and literacies that include the visual, aural, animated, and interactive along with the verbal - will illustrate more fully the communicative potentials made available to them by this collaborative technology.

PlantFacts and Web 2.0

Since 1996, the OSU PlantFacts web search engine has served the horticultural community with thousands of fact sheets, bulletins and websites from 46 different universities and government institutions across the United States and Canada. We are now integrating an “OpenSearch” format that allows search results to be shared with other tools and websites. This means that we have developed a customized database for the FireFox 2.0 and Internet Explorer 7 browser search bar. This new feature allows one to customize their browser search at the time of searching by selecting from any number of pre-installed search engine plug-ins. This type of technology is also being developed by a number of the popular Web 2.0 sites:

After adding any of these sites, you are free to tailor your search for information to a specialized collection of resources, including OSU PlantFacts. However, that’s not all. The OSU PlantFacts search engine ALSO generates an RSS feed linked to any specific search!!! This means that you can publish the RSS feed into a website or news aggregator and get continuous updates from the search engine whenever you browse the website or refresh the news aggregator. This type of dynamic updating of content on a website, from a search engine is a special feature that can benefit everyone in the Green Industry.
The following steps will help you to add the OSU PlantFacts search engine to a Firefox 2.0 or Internet Explorer 7.0 browser toolbar:

1. Connect to: http://plantfacts.osu.edu/web/
2. Click on search engine options in the browser search bar
3. Add “PlantFacts”
4. Enter Emerald Ash Borer and press Return
5. View search results. Click on: (more from ohioline.osu.edu)
6. Click on RSS link at bottom of page (requires FireFox 2.0 or Explorer 7.0 browser)
7. This feed can be used by a news aggregator program or embedded into a content management system like Joomla.

inVirtual Perspective Technology Team...

The OSU inVirtual Perspective Technology Team consists of Dr. Tim Rhodus, Professor; Bud Witney, Systems Manager, Victor van Buchem, Associate Editor, and Elaine Eberlin, Systems Specialist. The team is responsible for the design and maintenance of the systems, databases, and much of the content contained in the numerous web sites positioned within Horticulture & Crop Science in Virtual Perspective and OSU PlantFacts (hcs.osu.edu).

Online access to this document and thoughts from the team are available at: http://hcs.osu.edu/insight