

## Web 2.0 and alternatives

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### Abstract:

Web 2.0, or the second generation web—RSS syndication, social networking and news sites, wikis, blogs, and other user-driven communities and services—has transformed the way we produce, collaborate, and share data. The new technologies promise to harness the collective intelligence of specialized communities across the globe, decentralizing content and data distribution.

Along with the rise of Web 2.0, multimedia creation and distribution has become more accessible and cost-effective, even to small centers and organizations.

The second generation Web opens up enormous possibilities for scientists and the alternatives community, but the evolving technological landscape can be bewildering, and roadblocks are numerous. We will discuss some of the more useful and exciting developments, and analyze real-life examples of Web 2.0 technologies in the promotion of the 3Rs and humane science. We'll also look at the creation and deployment of multimedia content and discuss how even small centers and organizations can implement rich media on their Web sites.

**Keywords:** 3Rs, alternatives, Web 2.0, social networking, multimedia

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Web 2.0 is a vague, contentious term, subject to varying definitions, but it is generally used to label what many view as a major evolution of the World Wide Web. It would be impossible to provide a comprehensive overview in this subject; for the purposes of this paper, we'll define Web 2.0 as having the following characteristics:

- **Web as platform:** Whereas the first generation Web was mostly a static experience, clicking from one html page to another, Web 2.0 is built out of Web-based applications, providing a richer, more interactive, user-structured experience.
- **Second-generation technology:** Many Web 2.0 applications are built with new, database-driven programming languages—AJAX and FLEX are the most common.
- **User-driven, customizable interfaces:** Web 2.0 sites allow users to customize, tag, edit, and contribute content.
- **Democratic:** Web 2.0 sites are frequently open and democratic, exhibiting what has been termed the "architecture of participation."

Web 2.0 opens up remarkable opportunities for the promotion of alternatives and the 3 Rs. We will look at some of the more useful and exciting developments and analyze real-life examples of Web

2.0 technologies in the promotion of humane science. We'll also look at the creation and deployment of multimedia content and discuss how even small centers and organizations can implement rich media on their Web sites.

The examples used in this paper do not constitute endorsements. The examples provided are selected because they are, in the opinion of this author, some of the best models for Web 2.0 as of this writing.

Some more concrete examples of Web 2.0, followed by descriptions, are:

- News feeds/Syndicated content (RSS)
- Social networking sites (Facebook, MySpace)
- Social bookmarking and tagging sites (de.licio.us)
- Social news sites (Digg, Reddit)
- Wikis (Wikipedia)
- Blogs
- Multimedia (YouTube, Google Video)

RSS feeds allow organizations to make content streams available to a wide audience, just as news organizations syndicate content for publication by other sites. "News-y," frequently-updated content—headlines, calendar items, and blog entries—are the best content for syndication.

From a user's standpoint, RSS feeds make monitoring multiple Websites extremely efficient,

particularly if using newsreader, or news aggregator, software. Newsreaders are available as standalone software, or, more recently, as Web-based applications, such as Google Reader, Bloglines, or Netvibes. Many browsers have integrated RSS feeds as well. For organizations, serving a news feed will allow users to monitor your site without having to actually visit it—increasing convenience and accessibility.

Placing the now-standard orange RSS graphic, or "chiclet," is crucial, as it alerts someone browsing your site to the availability of a feed. The feed and graphic should be placed prominently on your main page.

Another enormously popular innovation in Web usage, particularly with young audiences, is on-line social networking. Facebook and MySpace are the current leaders, and both are growing rapidly. Outside of the U.S., networks such as Bebo (EU) and Mixi (Japan) have proven popular. Facebook has 34 million registered users, and for years was only available to college and university students in the U.S. That has changed, and now nonprofits, companies, and any individual from anywhere in the world can have a presence in the network. The Johns Hopkins Center for Alternatives to Animal Testing (CAAT) has both a "group" and an organization "page" on Facebook, and both have attracted an international audience of "friends." Any organization looking to reach the scientists and policymakers of the future, as well as lay audiences interested in alternatives, should consider maintaining a presence on one or more of the major social networks.

Social networking sites also allow posting of news items, videos, and other material useful for outreach and information dissemination.

Another social transformation of the Web is the ability to share bookmarks. The most prominent social bookmarking site is del.icio.us, which allows each user to not only share his/her bookmarks, but to "tag" them for reference (i.e. a user might tag the CAAT website with the words "alternatives," "3Rs," or "research"). A collection of tagged material has been termed a "folksonomy"—that is, a "folk taxonomy." Bookmarking your organization's site with social bookmarking services and cataloging them with tags results in greater visibility.

News tagging and social news sites represent the true democratic nature of the Web, with all the good and bad that entails. These sites allow users to submit and rate material from the Web, and the collective judgment of the readers/viewers serves as the de facto editorial board, as the stories deemed most interesting or important rise to the top. The most widely viewed social news sites are Digg and Reddit. Many major organizational sites now provide graphics which allow users to "digg" articles (in the case of Digg)

or submit them to a growing multitude of social news services. Adding submission graphics and links on your site allows interested users to submit your stories, potentially resulting in a level of exposure that would otherwise be impossible.

Wikis, or collaborative on-line databases, have become a major force in knowledge sharing, collection, and dissemination. Wikipedia, probably the best known and most extensive wiki, is one of the ten most visited sites in the U.S. Wikipedia has a robust entry on alternatives and the 3 Rs, as well as entries on CAAT and other alternatives organizations. A Wikipedia entry is crucial for any organization, as the site is the first choice for many high school and higher education students who are researching animal testing alternatives. CAAT's analysis has found a substantial number of visitors to the CAAT site first encounter it while visiting Wikipedia.

Perhaps the most well-known example of Web 2.0 sites are blogs, or Web logs. Blogs are a superb outreach and communications tool that can supplement your current site or serve as standalone sites for individuals or groups. They are easy to set up (free in many cases) and to administer. The key to a successful blog is frequent, timely posting of content, as most blog readers expect regular updates and will stop visiting if it is neglected (though having an RSS feed serves to avoid such losses). A unique and distinct message or mission is also important—the explosive growth in blogs means the more useful, well-written, and informative ones will be the most successful. CAAT developed a general animal news and issues blog, "A Boundless Ethic," which covers a much broader set of topics than alternatives and the 3 Rs. The blog drives traffic to the main CAAT site, attracting users interested in animals and science who might not otherwise find it.

The spread of high-speed Internet connectivity has led to the increased adoption of multimedia, particularly video. What once was expensive and time-consuming—producing multimedia content—is now possible for small organizations with limited resources. A consumer model digital video camera, inexpensive sound and light equipment, cheap (or sometimes free) desktop editing software, and a modicum of skill are all that is needed to produce documentaries, interviews, and lectures suitable for publishing on-line. Web video has enormous potential for outreach, education, and fundraising, as a single film can be repurposed on multiple sites, projected at meetings, and posted to video sharing sites like YouTube and Google Video for wide exposure.

CAAT produced a 3-part documentary, "25 Years of Humane Science," which is hosted on the CAAT site, the CAAT blog, CAAT's Facebook pages, and on YouTube and Google Video. CAAT also uploaded one of William "Bill" Russell's legendary lectures in

song to YouTube—at this writing, it has been viewed over 2,000 times.

The second generation Web offers tremendous opportunities to advance alternatives to animal testing and the 3 Rs and to reach a much wider audience. Though particular technologies will evolve, or in some cases disappear, the social aspects of the Web will grow and remain vital to individuals and organizations. Incorporating some, or all, of the Web 2.0 technologies discussed here will enable organizations, large and small, to ride the wave of technology as Web 2.0 moves to Web 3.0 and beyond.

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CAAT Facebook Group:  
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CAAT Facebook Page:  
<http://jhu.facebook.com/profile.php?id=7300321598>

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Digg  
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Reddit  
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What is Wiki?  
<http://wiki.org/wiki.cgi?WhatIsWiki>  
CAAT Wikipedia entry  
[http://en.wikipedia.org/wiki/Center\\_for\\_Alternatives\\_to\\_Animal\\_Testing](http://en.wikipedia.org/wiki/Center_for_Alternatives_to_Animal_Testing)

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Blog (Wikipedia entry)  
<http://en.wikipedia.org/wiki/Blog>  
A Boundless Ethic (CAAT blog)  
<http://aboundlessethic.com/>

#### **Multimedia:**

CAAT Media Center:  
<http://caat.jhsph.edu/media/index.htm>  
Alternatives to Animal Testing—In Song (Bill Russell video)  
<http://www.youtube.com/watch?v=3ShQdc7Kbmo>

