YouTube To MuseTube -
Now We Have Web 2.0 Tools, How Do We Use Them?

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Abstract
Despite the relative ease of implementing Web 2.0 technologies, a wide range of issues need to be addressed at the start of a project, such as security, in-house or out-of-house software application management, whether or not to monitor user-generated content (and if so, how) and assessment. Identifying different initiatives, tools and processes as well as reviewing select learning theories can assist museum professionals to create new collaborations that improve our best practices as well as to create new forms of museum content that engage and enhance visitors' experiences.

Keywords: Web 2.0, social networking, collaboration, education, visitors experience, user created content

Introduction
At the 1997 Museums and the Web conference, I presented a paper titled "Contextual Links and Non-linear Narrative: A Virtual Rashomon". The paper described a project I was developing to enable cultural institutions to create Web sites about stories of their community members and link those stories at their overlap with the stories of other communities at other cultural institutions. The basis of this project was to create a virtual neighborhood similar to the real one that I had grown up in. It seemed like a relatively easy project to develop, but the reality was that *Virtual Kitchen Stories* was very labor-intensive, and difficult to coordinate; it also required a lot of Web production skills (both technology and design) and a high level of institutional commitment to access limited resources.

At that time I was not aware that I thinking about social networking, along with looking for tools to facilitate user-generated Web content. But since then, Web 2.0 has developed sufficiently that at the closing plenary of the 2005 Museums on the Web, David Bearman presented a substantial list of Web 2.0 tools to the conference. Bearman challenged the participants to use these tools "to envision and build a community of museum professionals".

Bearman's list illustrated several important principles associated with social networking: the Web is awash with tools and processes that can inspire and more fully engage users to interact and learn; content is core in being able to make the Web a participatory experience; collaboration is relatively easy and requires no special technical abilities or skills, only imagination and creativity; and finally, if you can think it, you can do it.

Challenges
The list of Web 2.0 tools has grown exponentially since then as new tools seem to be developed daily. Some of these Web destinations are Wikipedia (and other wikis), Facebook, Myspace, Second Life, Blogger, del.icio.us, flickr, Wordpress, yackpack, gong, zotero, Gcast and talkshoe. These tools represent a multitude of methods that can be employed to enable users to share content, collaborate, communicate, and create. But this wide selection of technology tools has also created a new problem. Rather than simply identifying technology tools, new media professionals need to really imagine and identify a project's mission and goals before searching and selecting appropriate technology.

A second important issue needing to be addressed reflects the allure of Web 2.0, user-generated content and social networking as well as one of the major challenges of working in this medium. New media content creators are faced with the dilemma that they need to relinquish some of their control over Web content. The strength of the tools is also a source of contention because anybody and everybody can create and publish content, with no regard to

quality or accuracy. As professionals, we all understand the necessity of being the content editors and designers for our Web sites, and we strive to ensure that the quality of the virtual presence reflects the quality, mission and goals of the practical environments. But Web visitors are also Web producers and often have other agendas. They can and will post what they want, where they want and when they want; this can cause the most honest and benign of content to be suspect. Yet this can also be beneficial to the museum community as it can allow us to begin to think about how can we tap into this creative energy and use it to our advantage, to engage Web visitors, promote institutions and build our community.

Theories and Theorists 101

Guidance, inspiration and answers to these issues can be found by reviewing several learning theories about creativity and then determining practical applications for these theories. The work of Seymour Papert, Howard Gardner, Rodger Schenk and Sir Kenneth Robinson can all be directly applied to the challenges museum professionals face when contemplating how to harness Web 2.0 to enhance our community.

In *The Children's Machine*, Seymour Papert describes how groups of learners of any age come together and form communities of learners. These communities are not limited only to traditional schools; they can be seen in Brazilian samba academies, Chinese kung-fu schools and Jewish Yeshivas. Papert provides examples illustrating that there are no limits to defining what students are, other than individuals who possess the desire to learn and participate. Novices are taught by the experienced and will later pass on the knowledge and skills gained to other novices who are not geographically bound.

Promoting the theory of multiple intelligences, Howard Gardner describes nine separate human faculties that "process information that can be activated in a cultural setting to solve problems create products that are of value in a culture" (Gardner, 1999, pp.13-4). He continues that "[p]eople have a wide range of capacities. Person's strength in one area of performance simply does not predict any comparable strengths in other areas." (p. 31). In essence, Gardner argues that different individuals have different strengths and methods of understanding events and the world that surrounds them, and as well possess different modalities for communicating this understanding. Another way of expressing this is to say that some people "get" math, some "get" art, some "get" music and so on. Their understandings come from the individual narratives that they construct to develop their intelligence. Those who speak art will create visual narratives that are art related; those who speak chemistry will construct narratives that are chemistry related.

In *Narrative and Intelligence* Robert Schank describes how individuals create their own stories and narratives to help them learn and remember. Sometimes these stories directly relate to a subject, as when a person can place himself or herself into the content, such as identifying with a specific location that one has visited when learning about geography. Yet narratives can also be softer and more creative. For example, a person can remember hard facts by creating a personal narrative about the time and place that they were originally presented and learned. Then later, when the need arises to use these facts, the learner recollects their personal narrative about actually learning them. Schenk writes: "We have difficulty remembering such abstractions, but we can more easily remember a good story. Stories give life to past experience" (p.10). Using and understanding these life events to construct personal narratives and stories will assist individuals to learn, understand and enrich their lives.

Sir Kenneth Robinson eloquently states that we are in the midst of a paradigm shift in our approach to learning because of the increasing complexity of human society, caused in part by the intersection of culture, technology and communication. Many models of learning and education were developed in the previous 200 years in response to the industrial revolution but are rapidly losing their relevance. The current information revolution requires the development of models that encourage creative and critical thinking and problem solving.

Accepting the assumptions of Papert, Gardner, Schenk and Robinson, it is relatively safe to assume that within any group, there will be differences in how information is processed, how problems are solved and how projects are created. One of the most important experiences that art, science, historical or cultural museums can provide is to construct spaces (both virtual and practical) that allow and encourage visitors to create their own personal narratives that best reflect their own individual learning styles and intelligences. The importance of this process cannot be underestimated. Many times people cannot remember straight data, but will remember the same data if there is a story involved.

The creation of personal narratives that promote individual styles of learning is one of the most powerful byproducts of using technology and social networking tools. These tools and Web destinations use real time reflections, lessons, exhibitions or other learning experiences to produce rich personal narratives that encourage individual users both to discover their own vision and method of communicating, as well as to share that vision with others

By integrating these four related theories into practical applications, museum professionals can create new initiatives for collaboration and outreach. Web 2.0 tools help museums find innovative ways to share resources with minimum investment and maximum return. Empowering individuals to create and share their narratives fosters a greater involvement in museums by the global community and can only assist us as museum professionals to continue creatively do our work.

Practical Applications

Understanding the underlying issues and theories is important, but essentially is empty if we cannot allow ourselves to cultivate and promote practical applications. And although changes in technology seem to happen at the speed of light, the natural tension created by the generally slow tempo of the museum world can work to the benefit of the museum community. A wide selection and variety of Web 2.0 tools are available, accessible and relatively easy to use and maintain. This means that the reality of creating practical solutions using Web 2.0 applications is now truly limited only by the imagination of the developer (and in some cases, also the user).

We need only to look at the Web to see how new applications are being used. The evidence shows that if a tool is made, people will use it, even if not for the original purpose. The explosive growth of Facebook, YouTube and a multitude of other applications illustrates the creativity of the users and is something that we can emulate. For example, blogs can be used to pose the type of questions that stimulate individual reflection and learning. Wikis promote collaborations with visitors and with other museum professionals. Other resources include video and audio capture tools that put the creation of multi-media into the hands of the users, and open- source applications permit user-generated virtual exhibitions.

Conclusion

It is clear that tools and processes associated with Web 2.0 can cause a radical shift in the development and control of Web content. Professionals can (and should) design content for their institutions using the standards and best practices of our community. But users are also joining the act by making content that speaks more directly to them. Continuing to engage users as we already know how to do, as well as learning to include them in the process, can only strengthen the museum community. These processes promote creativity and collaboration in news ways that are people friendly, extremely cost-effective, and minimally demanding technically. These Web destinations, once created, can more fully engage visitors, promote the mission and goals of museums, and provide locations where the professional, popular and scholarly can truly co-exist and complement each other in unexpected ways.

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Selection of Web 2.0 Tools
Resource Sharing

ResourcesShare: http://www.shambles.net/Web2/.
Large collection of tool software and resources for social-networking).

Bookmarks/photos: http://www.jeteye.com/?home.

Delicious: http://del.icio.us/.
Social bookmarks.

Flickr: http://www.flickr.com.
Organize and share photos and graphics

YouTube: http://www.youtube.com/
Share movies. For teachers- http://teachertube.com/.

Pando: http://www.pando.com/.
Free P2P software for downloading, streaming and sharing large media files fast.

Flektor: http://www.flektor.com/
A host for photos, videos, and music. Make customized slideshows, polls, text, or direct and edit your movies with hundreds of effects and next generation glitter graphics all on-line.

Community Spaces (Education) - Synchronous and Asynchronous

Tapped In: http://tappedin.org/tappedin/
Learning and community building.

Education with New Technologies

http://learnWeb.harvard.edu/ent/home/
Collaborative lesson building and professional development.

Google Groups: http://groups.google.com/

Yahoo Groups: http://groups.yahoo.com/

Student Study Group: http://letscram.com/
Example of student use of networking/

Second Life: http://secondlife.com/
Virtual immersive community.

Synchronous Communication

Skype: http://skype.com Free voice conferencing.

GIZMO: http://gizmo.com/

Ecamm: http://www.ecamm.com/mac/callrecorder/
Call Recorder software for recording from Skype conversations on a Mac.

Rogue Amoeba: http://www.rogueamoeba.com/
Similar tools for recording calls.

PowerGramo (PC): http://www.powergramo.com/
Tools for recording PC calls.

Pamela (PC): http://www.pamela-systems.com/

TalkShoe: http://www.talkshoe.com/
Live Interactive Podcasting and Audioblogging.

Meebo: http://www.meebo.com/
Chat with others in AIM, MSN Messenger, Google Talk, or Yahoo Chat.

Jott: http://www.jott.com/
Speak a message and it will be converted into to text to be sent to email addresses or phones numbers as text messages

Asynchronous Communication with Voice

Yackpack: http://yackpack.com/
Create Async audio discussion with group and individual audio mail.

Gong: http://gong.ust.hk/
Asynchronous threaded discussions.

Collaborative Knowledge Building Tools

Wikispaces: http://wikispaces.com/

PBWikis: http://www.pbwiki.com/

Wet paint: http://www.wetpaint.com/

Imagination: http://www.imagination3.com/LaunchPage.
Shared Whiteboard for drawing with others.

Shared Word processing: http://docs.google.com/
Writely now part of the Google suite called Google docs and spreadsheet.

Concept Cartoons: http://www.conceptcartoons.com/

CMapTools: http://cmap.ihmc.us/
Share knowledge via concept maps.

Web Journaling and Portfolios

Blogger: https://www.blogger.com/

Gcast: http://www.gcast.com/

Gabcast: http://www.gabcast.com/

Wordpress: http://wordpress.org/

livejournal: http://www.livejournal.com/

b2evolution: http://www.b2evolution.net/

TalkShoe: http://www.talkshoe.com
Live Interactive Podcasting and Audioblogging. Record group chat and voice via phone, Skype or VoIP and archive as a podcast with free hosting.

Research Tools

Bibliography creator: http://www.bibme.org/

Google Scholar: http://scholar.google.com/

Zotero: http://www.zotero.org/
A Firefox tool that stores/organize/annotates/locates research materials while working on-line.

Citations: http://www.Webcitation.org/archive/

The Way Back Machine: http://www.archive.org/Web/Web.php
A way to see how pages change over time and has added an archive feature as well.

Encyclopedia of Life: http://www.eol.org/
Comprehensive, collaborative, ever-growing, and personalized, the Encyclopedia of Life is an ecosystem of Web sites that makes all key information about life on Earth accessible to anyone, anywhere in the world.

Coordination Tools

Shared calendars at Google: http://www.google.com/intl/en/googlecalendar/tour.html

Calendar hub: http://calendarhub.com/

Google Maps: http://maps.google.com/

Google Earth http://earth.google.com/download-earth.html

Shared To do lists: http://voo2do.com/

Remember the milk: http://www.rememberthemilk.com/

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David has been working in new media since 1990 and is currently an instructional technology analyst at Loyola Marymount University in Los Angeles. Prior to this he was New Media Coordinator ah the Skirball Cultural Center, educational technologist at Hebrew Union College, and has worked as an independent web and media designer and art cataloger. His primary interests are in exploring the relationship of narrative and intelligence in storytelling and learning; the integration of non-linear narrative in new media; and how technology (especially Web 2.0) promotes the collaborative process between multiple disciplines and institutions.

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