: How will Web 2.0 impact design and development of decision support systems?

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Web 2.0 applications facilitate information sharing, user-centered design, and collaboration. In the past 50 years, new information technologies have often driven innovations in computerized decision support systems. Recently, Web 2.0 technologies have significantly impacted the design of DSS, especially mobile DSS. Web 2.0 applications are generally superior to the first generation of Web-based DSS applications. It seems Web 2.0 is the eighth major technology innovation to impact decision support for managers.

Let's review the generations of computerized decision support. DSS 1.0 were built using timesharing systems. DSS 2.0 were built using minicomputers. DSS 3.0 were built using personal computers and tools like Visicalc, Lotus and Excel. DSS 4.0 were built using DB2 and 4th generation languages.DSS 5.0 were built using a client/server technology on LANs. DSS 6.0 were built using large scale data warehouses with OLAP
servers. DSS 7.0 were built using Web technologies.

Has enough changed with Web 2.0 technologies that we are now
embarking on DSS 8.0? Are the Web 2.0 technologies really something
new? Based upon an examination of the Web 2.0 conference and expo site
(web2expo.com), some of the technologies and phenomena associated with Web
2.0 include: social networking applications, online mapping, portable
visual elements, mashups, syndication, tagging, open source, rich
Internet applications, Ruby on Rails, AJAX, Flex, Flash, LAMP, web
services, virtual worlds and the mobile web.

Claudia Imhoff in her blog on February 12, 2007 wrote "I recently
complained to my husband that I couldn't keep up with all the
marvelous and innovative ways that people are using technology these
days. Take Web 2.0 for example. Do you know what it means? Do you
understand the ramifications it generates? Do you see how you might
use it? Do you understand how YOU will influence it?" Claudia's
husband recommended watching Michael Wesch's video titled "Web 2.0 ...
The Machine is Us/ing Us" (4.33 min.) at YouTube
(http://www.youtube.com/watch?v=NLlGopyXT_g&NR=1). Wesch is an
Assistant Professor of Cultural Anthropology at Kansas State and is
primarily focused on the impacts of digital technology on human

interaction.

Based on Claudia's recommendation and questions, I have watched Wesch's video many times and visited the web sites he mentions. His main message is the "machine" is us! With Web 2.0 form and content can be separated, data can be exported, and it is now easier to upload content to the web. Users of the Web are creating and organizing a database-backed Web. In some unspecified way, the "machine" is learning from our actions. Web 2.0 is "people sharing, trading, collaborating." Somehow all of us are organizing and managing the content of the web by our individual actions. Because of Web 2.0 we supposedly need to rethink many things like copyright, authorship, privacy and even love and ourselves. So its seems opportune to "rethink" decision support and DSS.

Some of the Web 2.0 examples shown by Wesch include Blogger, flickr maps, YouTube and Wikipedia. Flickr is probably the best online photo management and sharing application and it may be useful to have geotagged photos accessed from a map representation. Blogs are now well accepted, but just because a new blog is created every half second doesn't mean anyone really reads much in all of the blogs. Claudia Imhoff's blog on the b-eye-network gets many "hits" or page views. I check it periodically and do a quick scan. I also occasionally read Jill Dyche's blog. I get RSS feeds from a few more blogs. I quickly check the new topic and either scan or delete. I am not a regular blog reader and I'm not currently a blogger. We've all read the criticism of Wikipedia and YouTube. "And so it goes."

On April 11, 2007, Kurt Vonnegut died. He has always been one of my favorite author's so I decided to reread his novel, Slaughterhouse-Five (1969). It weaves together what seem like random blog postings that when combined in a linear way by a great author create a powerful novel. I'm unsure about where the great author or the decision support designer fits in Michael Wesch's or Tim O'Reilly's Web 2.0.

O'Reilly (2005) has been a major proponent of the Web 2.0 vision. He identified seven principles: 1) the web as platform, 2) importance of harnessing collective intelligence, 3) primacy of database management and importance of owning data, 4) end of the software release cycle,

5) using lightweight programming models that allow for loosely coupled systems, 6) ensuring software is not limited to a single device, and 7) creating rich user experiences. And so it goes.

When I recently visited flickr, I was amazed by all of the reader comments. Who has time to read and write comments about other people's photos. As far as social networking, I do have a Facebook page and a linkedin page. BUT I'm not an active user. I have 9 friends in Facebook. I joined to try it out and I can see how it can help one keep up with the happenings in the lives of a few people one cares about. I don't understand why I would ever want hundreds of Facebook "friends". As far as linkedin, I was invited by Alexander Verharen, Manager of the QAD Demo Center, a few years ago to join. I'm linked to five additional people: Malini Jayaganesh, a Researcher at Monash University, Willem Kossen an advisor at M&I/Partners, Alan See, at Aberdeen Group, Ron Swift, Vice President Cross Industry Solutions (Marketing) at Teradata and Mike Tully, President & CEO at Aerial Services, Inc. Supposedly my network is 30% complete. LinkedIn is an online network of more than 10 million people from around the world, representing more than 130 industries. Please help me complete my network by visiting http://www.linkedin.com/in/danpower. LINK TO ME and write a recommendation for me.

So web 2.0 is about linking people, about sharing content, about blogging. Because of XML, information is now in reusable containers or repositories. The Internet with wired and wireless access has high capacity bandwidth, is low cost to use and is universally accessible. Because of AJAX and similar tools, Web users can now manipulate data, not just retrieve data. Supposedly because of Web 2.0, users can do things on the Web now that can not be done in any other way (Carton, March 5, 2007).

This past week I have been trying to virtually attend the Web 2.0 conference. My attempt has not been successful. Very little video has been available and what I did watch was of low quality. Few authors have posted slides of their presentations, the photos are more artistic than informative, the live twittering is boring. I did enjoy Sharon Cordese's web posts using computer generated speech. Etelos is a Diamond sponsor of the conference so I spent some time at the company's web site. "Etelos provides on-demand, customizable Web applications on the hosting environment that you choose. The Etelos Ecosystem for developing and deploying on-demand applications is

revolutionizing the world of software distribution." I watched the ads and demonstration and it seems like an easy to use and customize application for companies that are involved in direct sales like insurance agencies, software, and various luxury goods. "And so it goes."

Danny Kolke, President and CEO of Etelos (www.etelos.com), argues "all applications are based on content. When you are looking at a page - it's just content." For data-driven decision support we need structured data -- precontent. For model-driven DSS, we need access to models that can be manipulated -- content creators. For knowledge-driven DSS, we need access to knowledge and rules -- metacontent. Finally, we need communications capabilities for decision support-- content creating and sharing. Web 2.0 technologies may help with managing, accessing and using our decision support content.

The evolving technologies that seem most useful for creating a new generation of DSS are associated with building rich Internet applications (RIA). Web applications built with AJAX, Flex, etc. have the features and functionality of traditional desktop applications. With new client-side presentation-layer tools, we can use a slider to change data and perform calculations without sending data back to the server. These tools should help implement dashboards and improve web-based charts. Social networking in organizations seems useful for creating innovative communications-driven DSS. Tools like Wikipedia may be the forerunners of novel document-driven DSS. Tag clouds may or may not help DSS users interact with and understand a specific DSS.

Tim Berners-Lee (2006) questioned if Web 2.0 is meaningful since many of the technology components have been present since the creation of the Web. He states "I think Web 2.0 is of course a piece of jargon, nobody even knows what it means. If Web 2.0 for you is blogs and wikis, then that is people to people. But that was what the Web was supposed to be all along." He notes "I hope the Semantic Web will take off so that basically all the data which is out there which you have access to, to the Web pages, will now be available as data so you can treat it as data." The semantic web is another topic for a future column. "And so it goes."

In honor of Kurt Vonnegut, let's repeat the serenity prayer: "God

grant me the serenity to accept the things I cannot change, courage to change the things I can, and wisdom always to tell the difference."
"And so it goes."

As always your comments, questions and suggestions are welcomed.

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