



Government in the Age of YouTube: The Implications of Internet Social Networks to Government



eC3 Symposium White Paper

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Executive Summary

The 2007 eC3 Symposium, “Government in the Age of YouTube,” was different. The conversations were inspiring, encouraging, exciting and, at the same time, cautionary. The ambivalence of opportunity and risk was always present. As a result, the conclusions to the symposium are partly a call to action, but more a call for collaboration, indicating the things to do now, but also the things to evaluate and analyze.

Clearly, realizing the full potential of Web 2.0 begins with an educational effort that engages all the branches of government in partnerships to change the way we do business. Similarly, realizing the potential of Web 2.0 demands engaging citizens, in a context where government inspires trust and projects credibility. Neither prospect is simply reached. As always, the potential of technology highlights all the cultural, organizational, legal and economic factors that foster or impede our capacity to use technology.

The last factor, cost and the concomitant difficulties of finding investment capital, are familiar to readers of EC3 white papers. Whenever government tries to innovate, it encounters frustration: first, terms of having to find the resources to start something new when budgets are tight; and second, when there is still a digital divide, to provide a new service as well as to maintain an older one, in order to serve all citizens. There is no prospect of saving money through technology, if technology means having to add one more responsibility without replacing another. That is a formula for raising costs. But if no government entity can ignore the digital divide, neither can it ignore how its citizens and constituents are now using the Web.

In this instance, though, the potential of technology could provide government with the momentum to overcome all those familiar barriers. Alternatively, it may empower the communities outside of government to force some change. As one speaker at the symposium, Tara Hunt, noted, the reference to YouTube in the title suggests we are already way behind the curve. With Web 2.0, the Internet and its potential becomes mobile and ubiquitous, the necessary complement to everyday life. The iPhone points to communities of users fully integrated with and by new tools and new resources. Everything can have some virtual aspect or representation. Most government entities, so far, have next to none.

So the question becomes not just how government can use Web 2.0 technologies, but how will government be affected by Web 2.0? Certainly there are now opportunities for government entities to increase their level of engagement with constituents and to improve the quality of the services they deliver. But there are also opportunities for the widespread and nearly immediate engagement and

mobilization of citizens, who can use these technologies both to voice and act upon their concerns, in ways that could circumvent and even subvert all the traditional mechanisms for communication and engagement on which we have routinely relied.

As a result, some call this an opportunity to re-define government's roles and responsibilities, the point at which we seriously re-consider what government can and should do. Is the advent of Web 2.0 a tipping point? Certainly the political debate is moving in that direction; as well, the traditional brick and mortar economies and the accompanying brick and mortar procedures are now increasingly dated or passé. Not too many years ago, there was a great deal of talk about re-inventing government, which was to a large extent premature. But we now have the opportunity, the ideas and, through technology, the capacity to change things. It remains to governments across the nation to find the means.

What is Web 2.0?

History was once defined as “one damn thing after another,” a phrase that has some currency here. Before government has fully applied and accepted the lessons and opportunities of the Internet, along comes Web 2.0, which has variously been described in terms ranging from a simple improvement in Web technology to a true revolution. The temptation is to say that the truth lies somewhere in the middle, but there are indications of a revolutionary and radically disruptive potential, as the examples of both the ailing music and newspaper industries demonstrate. State governments must prepare to meet the challenge and realize the opportunity of Web 2.0.

Many of the most familiar examples are commercial sites, such as FaceBook, Flickr, YouTube or MySpace. These certainly emphasize the significance of community and the contributions of the users, leading to a somewhat facetious but still pertinent alternative definition of Web 2.0 in the private sector: “You create the content, we keep the revenue.” The other examples that readily come to mind are less obviously commercial: the “blogosphere” and Wikipedia. But these are even more emphatically communal.

Just working from those examples, we can start to identify a list of criteria that characterize Web 2.0 instances:

- Web-oriented architecture
- Shared content, shared tools
- “Mash up” – an individually determined mix of tools and content
- User participation and community development
- Ease of access and use
- “Permanent beta”

A formal definition of Web 2.0

Web 2.0 is the network as platform, spanning all connected devices. Web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an “architecture of participation,” and going beyond the page metaphor of Web 1.0 to deliver rich user experiences.

The architecture depends on an always on and always responsive connection to the Web, enabling online or server-based applications and content, allowing for real time communication, with access to shared tools and shared content. That opens up a variety of new opportunities, but it also points to a paradigm shift, one particularly important in terms of how governments have routinely utilized the Internet. Most “government 1.0” applications, such as licensing, e-voting, online tax filing and search tools, are based on straightforward transactions that are bounded. That is, an online form, structured by a government entity, replaces an analogous, traditionally paper-based process. A government 2.0 application would give much more potential to citizens, and consequently remove some power from the government entity, replacing an architecture that emphasizes some sequential and linear process with something now more like a “cloud,” an amorphous, unbounded and malleable space for ongoing development of content and services.

In that context, users have much greater flexibility and freedom of action. They can “mash up” content, using various tools, from various governmental and non-governmental resources. In that context, the boundaries between public and private, creator and user, are blurred. That demands a Web-oriented architecture based on open standards and open content which foster re-use. It explicitly means giving citizens control. Their participation, usually framed in terms of self-defining communities of shared interest, shapes sites, enhances content and identifies agendas.

The greater the barriers to participation, whether technological, cultural, administrative or legal, the less attraction any site will have. And there is an important implication: opening sites to users in these ways means a process of continual evolution, as new tools, new ideas and new content are added and explored. The result will be a sort of “permanent beta,” with all the organizational and administrative implications that has.

The last point alone could give government entities pause, as it represents a major shift in how to conceive and manage the development of projects and budgets. To borrow an analogy from the world of venture capital, government has generally looked at technological change in terms of “the new old thing,” taking some traditional function, program, idea or tool and learning how to do it “faster, cheaper or smarter.” But Web 2.0 is just “new” and the most prominent Web 2.0 sites are purely innovative and consequently quite risky. YouTube, for example, took the chance of creating an audience by creating an application; and it had generated only an annual income of some \$15 million before it sold for \$1.65 billion. That would be a radically different approach to investment for a government entity, a process not predicated on either an existing constituency or need.

Given those factors, certain questions immediately arise. What is actionable? If Web 2.0 technology is going to make

things possible, what can government entities reasonably hope to do? Answering these questions demands a closer look at some examples of Web 2.0 projects, identifying the critical factors to consider and then developing a business case. With that, we will have a checklist for moving forward.

Web 2.0 At Work

There are examples of Web 2.0 applications we can examine which will help determine how government entities can make use of the technology. Most of these, however, are in the private sector; it is important to note that, at this point, there are relatively few instances of government 2.0 projects. We can point to certain pilots, but few full-blown efforts and major investments.

At the same time, it is interesting to see that government, as a topic, has certainly fueled the adoption of such 2.0 applications as blogs. While it is not clear to what extent the general public is fully paying attention to all these, the sheer number of bloggers writing on politics at every level suggests that there are many communities closely interested in government and that virtually nothing government does will go unnoticed.

Reading Blogs

Government entities should pay attention to the bloggers writing about them. This is just the modern day equivalent of reading the newspapers and watching the evening news; blogs are increasingly a critical means to track public opinion and understand the concerns of citizens.

State librarians and archivists, if looking for a way to provide new and relevant services, could act as blog reviewers and aggregators, complementing their work with traditional media.

Blogs set up by government entities are not having the same effect. John Kamensky, of IBM, points out that government blogging is largely done by elected officials and, most often, by ghost bloggers. This may well be simply another way to issue press releases and with the same impact. An alternative, currently being explored by the State Department, has agency staff posting to non-governmental blogs, in this case to various chat rooms, blogs and news sites concerned with the Middle East. “The postings are an effort to take a more casual, varied approach to improving America’s image in the Muslim world.”

The term “casual” raises an interesting concern: very often, the qualities that attract bloggers and readers are informality, immediacy and individuality. To the extent “official” bloggers realize those, the greater the risk of contradicting official policy, of obscuring who speaks for the government. To the extent they do not, the greater the risk of boring and alienating the audience. At this point, though, the risks here are mitigated by a very limited engagement, as only two staff members are engaged in the State Department’s efforts.

Blogs for an internal audience within government are a different matter. Kamensky notes a much larger investment in blogs for the intelligence and defense communities. One consideration here is that these are the youngest communities in government; on an aircraft carrier, the average age is 24 years. So the ready adoption of these tools may be a result of the generation’s familiarity with the Internet, having, in fact, grown up with it. But the sustainability and institutional value of the blogs is assured by support from

the top. Marine Gen. James Cartwright, for example, has demonstrated a personal engagement and personal interest in blogs. His statement that the chain of command is different from the chain of information shows how a “bottom-up” tool can enhance decision making.

But note also the realization that the “chain of information” can sometimes present problems to the “chain of command.” From early on in the war in Iraq, the military has made efforts to control bloggers. In one instance, “Lt. Col. Paul Hastings ... said the soldier’s blog now has to be reviewed by his platoon sergeant and a superior officer. In an e-mail to NPR, Hastings said the popularity of blogging has increased the chance that soldiers may inadvertently give away information to Internet-savvy enemies.” On the whole, these federal examples suggest that the problems and opportunities of Web 2.0 come hand in hand.

Potential for Disruption

Web 2.0 applications present other types of disruptive potential. The crushing impact of digital content and online applications for content sharing in the music industry has been exhaustively explored. The impact on newspapers is also being felt; it is estimated, for example, that Craigslist cost the major newspapers in San Francisco about \$42 million in advertising in just one year. At the same time, that represents very large savings to advertisers and conceivably government could be among that group. But, again, problems and opportunities come hand in hand; any government entity that contemplates moving its “public notices” from the print media to the Web, especially as that may involve a change in statute in most states, will no doubt face some resistance from an industry already suffering a decrease in revenue.

The lesson here is familiar to any government entity exploring its options: traditional practices are very often written into law, which creates a significant barrier to change. As well, those practices often have powerful constituencies, which will argue against change. Those arguments are not simply antiquarian or reactionary. Since the digital divide is very real, with both generational and geographic manifestations, a government entity determined to provide services to all its constituents is often not able to replace one mode of delivery with another, no matter how much more efficient it might seem; it just ends up adding another responsibility to its burden and budget instead, making its capacity to deliver any service efficiently problematic.

Considering the disruptive capacities of Web 2.0, Paul W. Taylor, from the Center for Digital Government, identified the critical concerns that any government entity should consider:

- Intellectual property
- Security
- Privacy
- Surveillance
- Rules of evidence
- Governance
- Convergence
- Codification
- Sense of community
- Institutional relevance

All these bleed into one another. The impact of technology on the definitions of intellectual property and copyright are well documented. Government has traditionally been the guarantor of property rights; this role is increasingly being portrayed in terms of a political choice between corporatism and populism. But government itself has property interests at stake: now that it can readily distribute born digital content online, should it do so or should it guard its revenues and continue to sell that content to third party, for-profit vendors?

That question leads directly to concerns about security and privacy. Increasing the means of communication, expanding the numbers of communicators and sharing more content will inevitably decrease the government’s capacity to control information. As noted above in the case of military bloggers, that creates risk. Government at every level controls information that it needs to protect, whether to manage its functions effectively or to maintain the privacy of its citizens. And, increasingly, government’s use of innovative technology is often perceived as supporting surveillance techniques that can violate privacy. Data mining is just one example of an application that can quickly turn the advantages of content sharing sour.

Such risks have to be interpreted in the frameworks of the rules of evidence and the practices of governance. As with the concepts of intellectual property, these were defined largely in terms of traditional media, such as paper records, and accepted bureaucratic routines. How do those apply to content maintained and created in enterprise wide or multi-jurisdictional Web sites? How does the technological capacity to create, distribute and capture offhand remarks affect the exchange of opinions? Viewed from a political perspective or retrospectively, the loss of context can change the practice of examining the options into whistleblowing. There is a multitude of questions relating to authenticity, legal admissibility, electronic discovery and chain of custody that are only just now being asked. No one has a good answer to them.

These questions are of particular concern to CIOs because their offices are most often managing the applications and

Government Wiki in NZ

The PoliceAct Review Team in New Zealand launched a wiki as part of its efforts to engage the public and solicit ideas while it planned the revision of the country’s Police Act and Police Regulations. As the site explains, “A wiki Act was launched in September 2007, as an innovative way to capture public views on what a new Policing Act might look like. We got an overwhelming response, especially after news of the wiki spread internationally. The cyber conversation stretched far and wide. Contributors came up with ideas for a new Act which covered a broad range of topics, from high-level governance to day-to-day administration.” At the conclusion of the project, the site was preserved as a document of record.

- <http://wiki.policeact.govt.nz/pmwiki.php/Main/HomePage>

Blogs in Santa Ana, CA

The LA Times reported that city officials in Santa Ana are uncomfortable with the tone and style of bloggers invited to sit on city boards and commissions. One council member said, "We don't have any right to tell anyone what they can and cannot say, but we can say what we think is reasonable."

Asked to comment, Viktor Mayer-Schoenberger, from Harvard University's Kennedy School of Government, said, "It's a whole new game, and it's a game that is much more messy."

- LA Times, 1 October 2007

<http://www.latimes.com/news/local/la-me-bloggers1oct01,1,4316275.story?ctrack=1&cset=true>

the storage networks that enable or blur all the traditional frameworks of responsibility and accountability. As more and more applications and functions converge on the Web, this will become truer. The advent of enterprise-wide architectures means the interdependence of government entities, without the clear-cut distinctions based on bureaucratic lines. A lawsuit over a fallen bridge 20 years ago, for example, would have discovery focused on the agencies responsible for design and maintenance; in a Web 2.0 enabled world, electronic discovery might encompass those agencies, as well as those that maintain e-mail systems, Web content management systems, voicemail systems, document or records management systems and both official and unofficial or internal and external blogs to which government staff post comments. To complicate things further, all of these issues have to be addressed by codification, that is, in statute, a prospect that raises a host of political concerns and risks, as well as the already familiar challenge of trying to fix the answers to dynamic technologies in the form of static laws.

Nonetheless, government has to respond. Web 2.0 is establishing a sense of community among stakeholders and even creating specific communities, formed particularly along generational lines and around Web 2.0 applications, a situation that demands engagement. The relevance of government is at stake as it seeks to meet the expectations of its constituencies. It is perhaps worth recalling that the arrival of the commodity Internet—or Web 1.0—over a decade ago brought with it a myriad of concerns, some of which are echoed in this discussion of the next iteration of living online. The decision to proceed then was a function of becoming comfortable with ambiguity. During that time, former Washington State CIO Steve Kolodney insightfully observed that we too often focus on the shadows created by the opportunity at the expense of the opportunity itself. It is worth checking our focus as we anticipate engaging the next round of networked tools.

Business Case: The Value Proposition

That requires government to define a business case for investment in Web 2.0. In the face of all the challenges, there has to be some persuasive rationale for change, some

proposition that indicates the value to government in re-invention, re-orientation and the re-allocation of resources necessary to make Web 2.0 work. The business case, in turn, starts to define what is actionable.

Improved decision making is clearly an opportunity. As noted above, the chain of information is certainly different from the chain of command, especially given the uneven distribution of technological expertise. Web 2.0 applications can broaden the perspective of decision makers by increasing the range of information available. There are risks: information has to be accurate to be useful and there is no guarantee that even accurate information will enhance the speed of decision making. In a partisan environment, all information demands interpretation, a political process that can be painstaking and time consuming. In the short term, some success – the "low hanging fruit" – will demonstrate progress and provide re-assurance.

One possibility is using Web 2.0 to do the research and development for how government can expand the use of Web 2.0. For example, internal blogs can promote knowledge management and sharing, capturing information and making it available for people when and how they need it. They are also a safer environment, as the means to learn about blogs and how to use them and discover what they can do and how to manage them is readily available. That experience will make the legal counsels and executive directors much more comfortable with a proposal, should it follow, for a public blog.

To facilitate this, some entity in any government will have to assume an educational and support role. A white paper or a legislative mandate to "use blogs and wikis to improve decision making" will be a dead letter without a means to show agencies how to use the tools and without some architecture to develop the tools and to facilitate communication and content sharing across programs.

Those same tools can improve the mechanisms for quality control. This is a policy decision, a determination on what sort of knowledge sharing to promote. In that sense, "permanent beta" can mean continuous improvement, through an ongoing professional review. Better access to better information can improve routines, measure performance and evaluate procedures.

Blogging is the means to post ideas and wikis to assist the collaborative exchange of information. The values can be better internal processes and the streamlining of bureaucracy. Rather than let the analysis run wild, there can be a focus on some problematic, rule-bound functions designed around paper routines, such as human resources or procurement, or on practices such as telecommuting, that increase the need

Values

- Improving decision making
- Providing mechanisms for quality control
- Enlisting citizens in the business of government
- Bridging the gap between government and citizens
- Recruiting new staff and reaching new audiences
- Creating Web 2.0 opportunities

for some innovative means of collaborating. But there is a risk in building even a better suggestion box: asking for ideas for improvements creates the expectation of implementing improvements. There has to be some corresponding action to maintain credibility.

The lessons learned here can promote enlisting citizens in the business of government. The term “bowling alone” connotes the decline in civic engagement and a disinterest in community; in contrast, Web 2.0 applications enhance engagement and support communities. As this shift occurs, Web 2.0 can also reduce the distance between the government and the governed, a perceived difference that has increasingly impaired our capacity to deal with problems and allocate resources.

Licensing is one example. If government makes all the data available about all the professions it licenses or regulates, it creates the opportunity for third parties to mash it up, conceivably adding ratings, annotations and feedback.

Restaurant inspection data could be linked to everything from reviews to recommendations to recipes. Health care information could be linked to patient feedback and cost comparisons.

There is certainly value in giving citizens a greater capacity to act on the information government collects. More and better information could lead to more consistent oversight at a lower cost. The idea, though, is likely to be opposed by the regulated groups. Legitimately, the mash up of accurate government data with unverified anecdotal

data could well create the situation where the former loses credibility and the latter has an unreasonable impact.

Ambitious plans raise complex issues. Web 2.0 applications can create opportunities just to do better. One example is the prospect of bridging the gap between government and citizens, and improving the means for citizens to deal with their own problems and to use government information and services towards those ends. While a cliché, it is still true that many complex Web sites, especially government portals, baffle users; bureaucratic silos, opaque taxonomies of information and multiple wrong doors are all impediments. Web 2.0 can “de-silo” government and give citizens a better chance to solve their problems.

The brute force of a search tool can be replaced by real language tools, asking citizens what they need, relying on some intuitive software to determine how to answer a

question. Even simpler might be a blog where the citizens can answer their own questions, such as through the creation of a Second Life character walking through a complex process like the creation of a new business process or viewing video FAQs hosted by YouTube and linked from government portals.

Anything that eliminates the frustration and duplication of effort in communication, for both citizens and government officials, is beneficial. The former get efficient services, the latter can do more meaningful work than staff help desks. But this does represent a cultural shift. There has to be some agency buy-in and some champions to support the shift in personnel and resources to develop the new resources. The best approach is probably to keep the focus narrow initially in order to create a success, then build on that success and educate others in government on how to use the model.

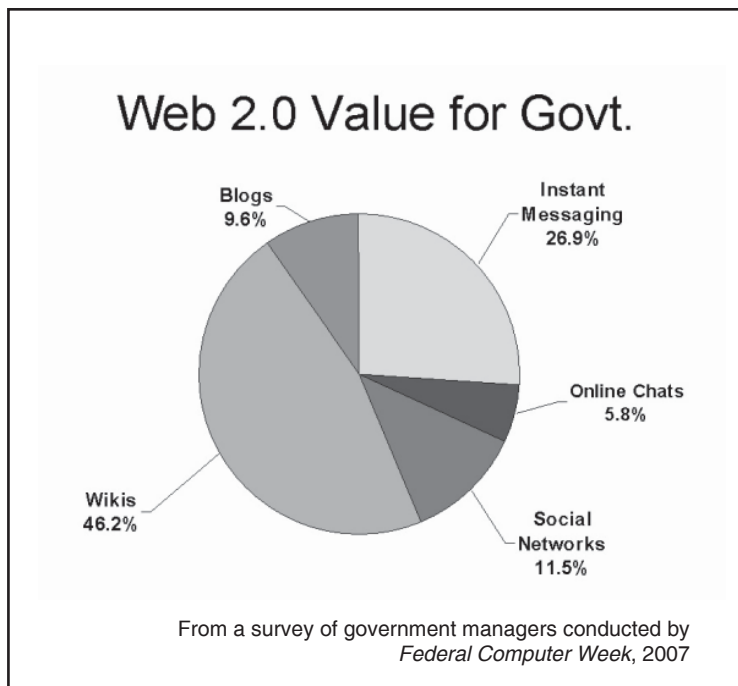
Improving the image of government can have an ulterior motive: recruiting new staff and reaching new audiences.

As often reported, government agencies are facing a wave of retirements as the baby boomers reach a certain age. Answering this human resources challenge means new approaches to recruitment, education and promotion. While this may not require some reincarnation in Second Life, it will require giving younger generations some virtual place simply to carry along the technological practices and habits on which they are learning to rely.

MySpace, Facebook and Second Life could expand awareness of what jobs in government represent. With unions and

universities, government could collaborate to talk about public service earlier, to younger people, in the effort to broaden and deepen the pool of potential candidates. The value of new approaches to outreach could lie in lowered advertising costs, but also in the likelihood of hiring staff that are 2.0. There may be some legal concerns with an over-reliance on technology for recruitment when a digital divide does exist, to some extent, between generations.

There are, as well, significant differences between the applications. Second Life is categorically different from, MySpace and Facebook, demanding a much higher level of investment and engagement from any government entity. There are complications to MySpace and Facebook too, including the growing awareness of the different classes and categories of people which they serve. A recent article in the Economist noted that smaller niche “networks recognise [sic] that people want to hobnob with a chosen few, not to be



spammed by random friend-requests. This suggests that the future of social networking will not be one big social [network] but instead myriad small communities on the Internet to replicate the millions that exist offline.”

Finally, government has the capacity to foster innovation through the support of the standards, architectures and regulatory frameworks that can create Web 2.0 opportunities. “Open content,” making government data freely available in usable formats, is perhaps the simplest way to make things possible. Cities that support the use of broadband and WiFi are doing a bit more, providing the infrastructure that enables

more of the “always on, always responsive” connection to the Web that makes Web 2.0 applications practical. Defined as good government, the provision of essential services or the support of economic development, activities such as these are compelling components to the Web 2.0 value proposition.

Creating economic and intellectual opportunities for people, as well as improving the transparency of government, is undoubtedly a value. There are, though, some risks: in creating competition with businesses already doing something in an area, in violating privacy and in ensuring the accuracy of data once it is released.

Next Steps

With the business case in mind, it becomes easier to envision an agenda. In selecting from that agenda and determining the appropriate next steps, any government entity has to keep in mind all the concerns noted above, as well as the specific factors, such as executive support, available resources and the capacity for managing change that influence the calculation of costs and benefits unique to its situation. But nobody can ignore the potential that Web 2.0 represents.

If it is a tipping point, then all the 2.0 tools—civic networking, blogs, wikis, simulations, testbeds, etc.—are key to reaching the stakeholders to every function of government. Web 2.0 tools can support a conversation about government’s roles and responsibilities wherever a transaction takes place. As a result, Web 2.0 applications can support better communication, continuous improvement, civic engagement and increased trust, as government and citizens routinely collaborate.

This opportunity cuts across all the value propositions examined so far, as it can create the means to get the input to improve decision making, to create trust and credibility, to build knowledge, and to create the infrastructure to expand a wide variety of services. This effort to build knowledge need not have an immediate impact, as it positions government entities to act as other opportunities arise.

The potential then is to integrate Web 2.0 enabled tools and the practices they support into the culture of government, in a methodology institutionalized to support working and speaking with the customers of government on a continuing basis. Some call this an opportunity to re-define government’s roles and responsibilities, the point at which we seriously re-consider what government can and should do. Certainly the political debate is moving in that direction; as well, the traditional brick and mortar economies and the accompanying brick and mortar procedures are now increasingly dated or passé. Not too many years ago, there was a great deal of talk about re-inventing government, which was to a large extent premature. But we now have the opportunity, the ideas and, through the technology, the capacity to change things.

The advent of Web 2.0 *is* a tipping point. ■

Appendix 1: CDC and Web 2.0

The Centers for Disease Control and Prevention (CDC), National Center for Health Marketing (NCHM), is committed to increasing the impact of science through the use of new and emerging technologies. The goal of eCDC efforts is to provide content and tools when (24/7), where (home, work, mobile, etc.), and how (print, multi-media, mobile, multiple languages, etc.) customers want them.

Since April 2006, the NCHM's eHealth Division has launched several eCDC initiatives utilizing a variety of technologies, including Web 2.0 tools:

- New CDC.gov functionality – several new features using Web 2.0 principles were added to the redesigned site: an interactive virtual tour of the new www.cdc.gov, tag clouds that reflect content popularity, new Google search engine, CDC for You content packaged for specific audiences, Email Updates subscriptions, podcasts, RSS and interactive home page features.
- eCDC seminar series – initiated a series of online staff seminars and courses to build broad agency-wide support for web and new media efforts, develop essential skills and knowledge, and foster collaboration among management and technical staff. More than 350 CDC staff and contractors have attended more than 25 eCDC professional development offerings on such topics as Promoting Public Health through Blogging, Geographic Information Systems, Writing for the Web, Healthcare Social Media and the Future of Health Technologies.
- Virtual worlds – conducted a successful pilot project on seasonal flu vaccination in the virtual world for tweens, Whyville, and are building additional capacity in the popular Second Life virtual world. Both projects have received accolades in and outside of CDC.
- eGames - organized an agency-wide eGames event in 2007 providing CDC staff an opportunity to try out interactive health in action gear: Dance Dance Revolution, Remission, Choose Respect, and Wii, an interactive multiuse Nintendo offering; in addition, a 1½ day seminar brought in experts who presented the science behind using eGames in health outreach, to discuss how CDC should be involved in this media.

- Social networks and blogs – conducted two webinars for bloggers on seasonal flu vaccination and HIV testing; posted CDC materials on several social networks including MySpace, Eons, YouTube, and Flickr; and began development of guidelines for CDC staff to use when accessing these channels. More recently, disseminated information for coping with a traumatic event in response to the Virginia Tech shootings to an estimated 800 people using blogs and social networks.

- Created an e-card delivery system where users can send personalized online greeting cards with CDC health information on a variety of topics.

- Mobile applications - co-sponsored the Mobile Persuasion 2007 Conference at Stanford University to further explore partnering opportunities for developing health-related mobile applications. CDC is involved with the planned Texting4Health 2008 Conference at Stanford University to provide the “how to” for initiating health interventions using short message service (SMS) to motivate behavior change.

eCDC is committed to continuing the development of effective electronic innovations that can increase both the impact and reach of CDC products, programs, campaigns, and interventions. In fulfilling this role, the eHealth team will continue to test, update, improve, and adapt new technology to better meet the needs of internal and external users.

Appendix 2: Symposium Participants

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Notes

¹ See <http://twopointtouch.com/2006/08/17/10-definitions-of-web-20-and-their-shortcomings>.

² See Scott Kirsner, "Will Boston ever catch up?" *Boston Globe*, 22 July 2007, pp. D1, D5. http://www.boston.com/business/technology/articles/2007/07/22/will_boston_ever_catch_up/

³ The "macaca" incident in Virginia and the role YouTube may have played in Sen. Allen's defeat in 2006 is worth further analysis. Or consider the sheer number of Minnesota political blogs (over 110 just of the conservative persuasion, as of September 2007) linked on the site of the "Minnesota Democrats Exposed" blog. See <http://www.minnesotademocratsexposed.com>.

⁴ Neil MacFarquhar, "At State Dept., Blog Team Joins Muslim Debate," *New York Times*, 22 September 2007, www.nytimes.com/2007/09/22/Washington/22bloggers.html.

⁵ John Kamensky, presentation at NASS seminar, 26-27 July 2007, Berkeley, CA.

⁶ See NPR, "Soldiers' Iraq Blogs Face Military Scrutiny," 24 August 2004. <http://www.npr.org/templates/story/story.php?storyId=3867981>.

⁷ In Minnesota, for example, M.S. 331A, subd. 7, defines very broadly "public notices," and the statute as a whole explicitly requires their publication in print, with the sole exception of "local transportation projects," which may go online.

⁸ See National Association of State Chief Information Officers (NASCIO). *Electronic Records Management and Digital Preservation: Protecting the Knowledge Assets of the State Government Enterprise. PART I: Background, Principles and Action for State CIOs and PART II: Economic, Legal, and Organizational Issues*. (May/July 2007) <http://www.nascio.org/committees/ea/pubArchive.cfm>.

⁹ Just see the subtitle to Andrew Keen's new work, *The Cult of the Amateur* (NY, 2007), for one assessment of the value of information compiled from the bottom up: "how today's Internet is killing our culture."

¹⁰ For a discussion of the difference expectations of and results from a first and second life, see Frank Rose, "How Madison Avenue is wasting millions on a deserted Second Life," *Wired*, 24 July 2007, http://www.wired.com/techbiz/media/magazine/15-08/ff_sheep

¹¹ "Social graph-iti," *Economist*, 18 October 2007. http://www.economist.com/business/displaystory.cfm?story_id=9990635



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