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E–GOVERNMENT 2.0: IMPROVING INNOVATION, COLLABORATION, AND ACCESS

HEARING

BEFORE THE

COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

DECEMBER 11, 2007

Available via http://www.access.gpo.gov/congress/senate

Printed for the use of the
Committee on Homeland Security and Governmental Affairs

U.S. GOVERNMENT PRINTING OFFICE

40–507 PDF WASHINGTON : 2009

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
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TUESDAY, DECEMBER 11, 2007

U.S. SENATE,
COMMITTEE ON HOMELAND SECURITY
AND GOVERNMENTAL AFFAIRS,
Washington, DC.

The Committee met, pursuant to notice, at 10:05 a.m., in Room SD–342, Dirksen Senate Office Building, Hon. Joseph I. Lieberman, Chairman of the Committee, presiding.

Present: Senators Lieberman, Akaka, and Carper.

OPENING STATEMENT OF CHAIRMAN LIEBERMAN

Chairman LIEBERMAN. The hearing will come to order. Good morning and welcome to each of you. Thanks very much for being here.

Five years ago this month, the President signed into law the E–Government Act of 2002—a bill that I was privileged to be a lead co-sponsor with a former colleague—Senator Conrad Burns. Another colleague who some of you still may be hearing about, Senator Fred Thompson, was involved in parts of the proposal. The aim of the bill was to bring the Federal Government into the Internet age so that we could better serve the public. The goal of the bill, as I said at the time, was to exchange the cumbersome, static, and often bewildering process for citizens to get information and conduct transactions with government agencies for a "dynamic, interactive, and user-friendly government."

Today we are going to ask how close the government has come in the ensuing 5 years to achieving that goal. As I see it in sum, much has been achieved over the past 5 years, but there certainly is a lot more that we can and must do. That is why Senators Collins, Carper, and I introduced legislation to reauthorize the E–Government Act, S. 2321, for an additional 5 years, and also to add some strength to it. One month ago, this Committee favorably reported the bill out, and I am optimistic that we are going to be able to move it through the Senate soon.

Our first witness today, Karen Evans, is the Administrator of the Office of E–Government and Information Technology at the Office of Management and Budget, a position that was created in the original E–Government Act. Her testimony will provide an overview of what we have been able to achieve since passage of the Act, what challenges have arisen, and what the future goals are for E–Government.

We are also going to examine an important issue addressed by our reauthorization bill, which is that the public frequently cannot find information and services placed on government websites. It is a pretty basic problem. And the source of it is that information and services placed on many government sites, through practice or policy, are simply inaccessible to commercial search engines such as Google. Our bill aims to remedy this by requiring regular review, reporting, and testing across the Federal Government of accessibility to search capabilities.

Two of our witnesses today, John Needham from Google and Ari Schwartz from the Center for Democracy and Technology will discuss this problem, why it exists, and what relatively simple steps can be taken to overcome it and vastly expand the ease of citizen access to Federal Government information.

In this regard, our reauthorization bill may already have had an impact. Of course, in the normal processes of Washington, we will immediately take credit for this whether it did or not. Last week the Office of Personnel Management announced that it would make available to commercial search engines for the first time the listing of the 60,000 job vacancies that now exist in the Federal Government. That is significant. And it will have, we think, an immeasurable effect on the ability of people seeking employment in the Federal Government to use the Internet to find and apply for such positions. And it shows, I think, how easily we can dramatically expand access to possibilities and information in the Federal Government.

Today we will also examine how new collaborative technologies can strengthen interaction among government agencies and the public. We are very glad to have as a witness Jimmy Wales, the founder of Wikipedia, one of the most thrilling examples of what collaborative technology can produce. We have asked Mr. Wales to take us through some of the ideas behind Wikipedia and then to relate them to our jurisdiction, which is to say to help us understand how similar technologies and collaborative activities can be applied to government for greater information sharing and communication, both within the government, but also between the government and the public.

In fact, quite encouragingly, the intelligence community has already developed and is using a process collaborative technology that they call Intellipedia, which is based directly on the Wikipedia model. So Mr. Wales, if imitation is a form of flattery, you should feel flattered. And the aim of this is to foster collaboration and information across the intelligence community, obviously on a closed site.

While our focus today is on the Executive Branch, I think it is also important to acknowledge that we, in the Legislative Branch, have a lot more that we can do better in this regard as well.

In this spirit, Senators McCain, Collins, and I are today introducing legislation that will require the Congressional Research Service to make its extremely valuable taxpayer funded reports more easily accessible to the taxpayers. No method currently exists for the public to access these reports quickly and easily, though those who can afford to pay can now access them through private companies who gather them. Our bill would allow members and

committees to easily post all CRS reports on their websites so they are more readily available to anyone with access to the Internet.

The Legislative Branch can also do a much better job of presenting information to the public about the status of bills and resolutions before Congress. We in Congress have access to a comprehensive website run by the Library of Congress, but the public site, known as THOMAS, is far less advanced. Furthermore, Senate votes unlike House votes are intentionally presented in a format that limits the public's ability to examine Senator's records which may be tempting, for sure, but not in the public interest.

Incidentally, it is a bit silly too, because I can tell you that in Connecticut every Sunday in at least two of the major newspapers they print the votes of the Connecticut delegation in the preceding week.

I intend to work with my colleagues and the Library of Congress to eliminate these blocks to transparency and accountability. So these issues are essential, I think, to the future of an effective and responsive government. These really quite miraculous technologies, which I find my children's generation are taking for granted, yet still amaze me and they enable us to do things that quite recently we were unable to do.

Just as the private sector has harnessed these new technologies to fuel its growth in an information-based economy, we in government have a responsibility to keep pace with the skill set of that up and coming workforce, as well as with the underlying new technologies, to meet our responsibility to the public.

So I look forward very much to this discussion today.

Our first witness is Karen Evans, Administrator of the Office of Electronic Government and Information Technology at OMB.

Good morning, thanks for being here. We look forward to your testimony.

TESTIMONY OF KAREN S. EVANS,[1] ADMINISTRATOR, OFFICE OF ELECTRONIC GOVERNMENT AND INFORMATION TECHNOLOGY, OFFICE OF MANAGEMENT AND BUDGET

Ms. EVANS. Good morning, Mr. Chairman. Thank you for inviting me to speak about the current status of E–Government, the potential for collaborative technologies, and any remaining potential challenges for the future of E–Government Services.

As you stated, this December 17 marks 5 years since the President signed the E–Government Act of 2002 into law. The passing of this Act was an acknowledgment of the rapid transformation the Internet and Information Technology has on the way citizens, private business, and government interact with one another. Currently, our efforts such as the Federal Enterprise Architecture and the Government Lines of Business are used to enhance collaboration among Federal agencies by aligning their business processes at a strategic level, which makes it easier for them to partner and work with one another.

It is the challenge of getting these processes institutionalized which is one of the difficulties in getting agencies to collaborate and share information better. And it is also one of the remaining

[1] The prepared statement of Ms. Evans appears in the Appendix on page 40.

challenges for E–Government, when looking ahead and attempting to transform services and get results.

Before addressing what has been accomplished over the last 5 years, I wanted to briefly update the Committee on the latest security and privacy metrics across the Federal Government. Title III of the E–Government Act, otherwise known as the Federal Information Security Management Act (FISMA), calls for a comprehensive framework for ensuring the effectiveness of information security controls over information resources supporting Federal operations and assets. Our latest FISMA fiscal year 2007 fourth quarter report continues to show 88 percent of all major IT systems across the Federal Government have been certified and accredited, while 19 out of the 25 major agencies have Privacy Impact Assessments for 90 percent or more of the applicable systems.

Overall, we considered FISMA to be successful in helping to meet the goal of improved information security across Federal IT systems and we will continue to work with agencies to increase security and privacy effectiveness, while at the same time managing risk to an acceptable level. We will be providing our annual FISMA report to Congress on March 1, 2008.

Overall, good progress has been made toward achieving the core goals of the E–Government Act, namely to increase access to government information and services and to provide enhanced opportunities for increased citizen participation in government. Some notable examples of this are the Federal Internet Portal which is up and running at USA.gov. People can easily participate in Federal rulemaking process through Regulations.gov. And the process of doing Privacy Impact Assessments has helped to protect the personally identifiable information (PII) in the care of the government.

Compared to 2002, there are now easy to use online government services that the public can access. More importantly though, people are using and embracing these services.

USA.gov achieved an incredible 97 million visits during fiscal year 2007 or 1.87 million visits per week. This last year USA.gov also received numerous national recognitions for the quality and the effectiveness in providing government information to the public and was highlighted in July 2007 by *Time Magazine* in an article entitled "25 Sites We Can't Live Without." USA.gov now features multiple channels to allow citizens to contact them with questions about Federal Government information and services through the National Contact Center and through the new online live assistance chat features.

GovBenefits.gov, led by the Department of Labor, empowers people to make decisions for themselves and their families by providing a single website to access information on more than a 1,000 government benefit and assistance programs. GovBenefits.gov significantly reduces the amount of time individuals spend trying to identify and access relevant information about government benefit programs. By answering a few specific questions, individuals are better able to determine which government benefits they may be eligible to receive along with a description and contact information for each program. To date, GovBenefits.gov is receiving approximately 250,000 visits per month by citizens and has provided nearly 5.5 million citizen referrals to benefit programs.

State and local governments have also benefited from our efforts. The E–Government Act provides State and local governments the opportunity to use the GSA Federal supply schedules for automated data processing equipment, software, supplies, support equipment and services as included in their Schedule 70. GSA issued its final rule authorizing the acquisition of IT by State and local governments on May 18, 2004.

Recently, under the SmartBUY Initiative, which is Software Managed and Acquired on the Right Terms, that leverages the entire Federal Government's buying power. We awarded contracts for the latest security encryption products and services at discounted prices. This was the first time a SmartBUY agreement was extended to State and local governments, allowing them to leverage their purchasing power alongside the Federal Government, and allowing them to purchase the same products comparable to what the Federal Government has.

When looking ahead, we see many of the presidential E–Government initiatives as foundational services, positioning the government to be more collaborative, transparent, and accountable through the use of information technology. Initiatives such as Regulation.gov provide an environment to allow for a collaborative approach, truly fostering E–Democracy, which brings citizen participation in government back to a more personal level. In fact, the purpose of many of the initiatives is to provide a more citizen-centered approach toward the delivery of government services so the people themselves are not just recipients but also active participants in how these services are delivered.

Helping to further the goal of a more citizen-focused government will be the Federal CIO Council. Through this top-level coordination, the CIO Council will continue to play a key role in the future of promoting and working to implement the next generation of E–Government services which takes advantage of the successes and lessons learned from the past 5 years. The Council will leverage the presidential E–Government initiatives and lines of business which have matured and are ready to move to the next level of service for a more citizen-centric, collaborative approach toward the delivery of government information and services.

Today people demand and expect electronic services from their government. The advancements in private sector in providing user-friendly and time-saving electronic services have shown that the public benefits from these capabilities. There is an expectation that the American people has for their government to delivery the same high quality services while also protecting their privacy. As I have discussed today, through highlighting several accomplishments that we have achieved over the last 5 years, the government is making significant strides toward meeting these expectations with the effective, collaborative, time-saving electronic services and providing citizens with increased opportunities to participate in government while managing the risk associated with these services.

The E–Government Act of 2002 has proven to be a pivotal piece of legislation enabling the Federal Government to recognize and take action on the changes the Internet and information technology has on society and government. Reauthorization of the E–Government Act will further promote online access to government infor-

mation and services and show a commitment to implementing convenient and time-saving electronic services.

In addition, a well-informed citizenry is essential to a healthy democracy and the new provisions on the best practices for the search functionality included in the reauthorization act will leverage the advances made in search technology to help ensure government information and services remain easily accessible by everyone.

Last, the reauthorization will allow the intent and the purpose of the E–Government Act to continue to be a driving force behind increased opportunities for the American public to participate in the government.

I would be happy to take questions at the appropriate time.

Chairman LIEBERMAN. Thanks, Ms. Evans. That was a very good beginning and we will have questions.

John Lewis Needham is a Manager of Public Sector Content Partnerships for Google, Inc.

I know I should not do this, but I feel I have a responsibility to my family and friends to ask whether you were at the Google wedding this weekend? [Laughter.]

Mr. NEEDHAM. I had to be here, so I could not attend. [Laughter.]

Chairman LIEBERMAN. OK. Very good. Thank you.

Mr. Needham, thanks for being here. We are all great admirers and users of Google. We look forward to your testimony now.

TESTIMONY OF JOHN LEWIS NEEDHAM,[1] MANAGER, PUBLIC SECTOR CONTENT PARTNERSHIPS, GOOGLE, INC

Mr. NEEDHAM. Thank you. Chairman Lieberman, Ranking Member Collins, and Members of the Committee, it is a great pleasure to be with you this morning to discuss Google's role in making government more accessible to citizens.

My name is John Lewis Needham. I am the Manager of Public Sector Content Partnerships at Google. In this capacity, I lead the company's efforts to build public-private partnerships with government agencies in the U.S. and internationally.

Google's mission is to organize the world's information and make it universally accessible and useful. Making government information more accessible does not just help citizens find the content they need, it also enables the government to provide services more efficiently to taxpayers and makes our democracy more transparent, accountable, and relevant.

This Committee has a long tradition of promoting these values, which Google shares. For example, Google Maps and Google Earth, which rely in part on government-provided geospatial data, can be used by the government to better serve its citizens. To offer two illustrations, the U.S. Geological Survey recently used Google Maps to show realtime data on earthquakes all around the world. And the National Park Service is using Google Earth to inform citizens about recreation opportunities across the country.

This morning, I will focus my testimony on how people throughout our Nation are using the power of web search engines to find and interact with our government. First, I will share some trends

[1] The prepared statement of Mr. Needham with an attachment appears in the Appendix on page 56.

on how Americans connect with government online. Second, I will identify the challenges that citizens face in trying to find government information services on the Internet. Third, I will explain a technology known as a Site Map Protocol which enables government agencies to make their content more accessible to search engine users. And finally, I will highlight a few of our successful partnerships with government and outline steps that agencies can take to make their websites more accessible.

Let me start by describing how citizens today are connecting with government information online. According to recent research by the Pew Internet and American Life Project, at least 77 percent of U.S. Internet users go online to find some form of government information. We also see that Internet users are choosing search engines like Google as their preferred way to connect with the government.

To clarify, search engines work by sending a software program to "crawl" the pages on public websites, adding this information to our index. As a result, when a Google user types a query into the search box, we very quickly access that index to return relevant search results. Here is an example. The National Institutes of Health's website, NIH.gov, offers a rich collection of public health and medical information from the 27 institutes and centers that comprise NIH.

Let us say that you are trying to find out the status of a study on avian flu. You might not be aware of one relevant NIH service, which is located at ClinicalTrials.gov or how to get directly to the page that lists all current avian flu related studies. So you start your search on Google.com. This is a likely scenario, given that very few Internet users go directly to the NIH.gov website. In fact, according to our analysis of Internet traffic to NIH websites during July 2006, only 4 percent of visitors arrived at NIH.gov web pages through typing the address NIH.gov directly into their browser.

This example is consistent with research by Google and others on the flow of Internet traffic, which indicates that as many as four out of five Internet users in the United States reach government websites by using Google and similar search engines. But if the information on a particular government website is not part of a search engines index, citizens are bound to miss out on that information.

Search engines have made connecting to online government resources easier, but challenges remain. Specifically, we have found that many government agencies structure their websites in ways that prevent search engines from including their information in search results, often inadvertently. The most common barrier is a search form for a database that asks users to input several fields of information to find what they are looking for. Our crawlers cannot effectively follow the links to reach behind the search form.

Let me offer an illustration. A citizen may be interested in locating the Environmental Protection Agency's enforcement actions regarding a particular company. So that user conducts a search on Google.com with the company's name and the key words EPA enforcement. The results of this search for EPA enforcement and a company name would include relevant information, obviously, but would not include information from the EPA's Enforcement and

Compliance History online database which offers a list of enforcement reports for specific companies. This is because the information in this database, again this EPA Enforcement and Compliance History online database, cannot be included in a search engine's index.

Now EPA.gov is certainly not the only government website that search engines have difficulty indexing. In fact, we estimate that the information in all or part of 2,000 Federal Government websites is not included in search engine results.

Now with all of that said, the good news is that there is a simple technical solution to address this problem. In 2005, Google introduced a standard called the Sitemap Protocol that helps ensure the accessibility of information on a website. It allows a website owner to produce a list, or map, of all web pages on the site and systematically communicate this information to search engines. When a Federal agency places a site map on its website, search engines can readily identify the location of all pages on the site, including database records lying behind a search form. Using this sitemap, search engines are more likely to index, and make visible to citizens, the information on the agency's website.

The Sitemap Protocol has been widely embraced by the search engine industry including Google, Microsoft, Yahoo!, Ask.com, and others. What this means is that by implementing sitemaps, a government agency can ensure that it is serving the American people no matter which search engine they are using.

Implementing the Sitemap Protocol is free and easy. It does not require site redesign, the purchase of new technology, or more than a few hours or days of the webmaster's time. Implementation involves creating a list of web pages in an acceptable format and adding a file that contains this list to a website. Google provides a variety of tools to accomplish this task and we present them to public sector web managers at *Google.com/publicsector*.

It is important to note today that I am only talking about information that is already public. Content that is maintained on internal websites, including personally identifiable and classified information, should not be made accessible through any search engine and is not the type of information we are working to index.

We believe it would be technically simple for Federal Government agencies to produce a sitemap for the information on their websites and that doing so would bring significant benefits. And we know that implementing a protocol is easy to do because we have worked with many government partners at all levels to take this step. For example, the Department of Energy's Office of Scientific and Technology Information operates a large database that makes research and development findings available to the public. OSTI developed a sitemap for its energy citations and information bridge services in just 12 hours, opening 2.3 million bibliographic records and full text documents to crawling by search engines. After its implementation of sitemaps, OSTI saw a dramatic increase in traffic to its services as more citizens discovered these resources.

Other Federal agencies that have recently embraced sitemaps include the Government Accountability Office, which used the standard to make a database of 30 years of GAO reports visible to search engine users; the Library of Congress, which has made its Amer-

ican Memory Collections easier to find; the National Archives and Records Administration, which is now in the process of sitemapping the Federal Government's largest public database; and GovBenefits.gov, referenced by Administrator Evans, which now makes its profiles of over 1,000 benefit programs just one search away. And OPM, referenced by you Mr. Chairman, which is also taking the step of making its job postings more accessible to search engine users.

At the State and local level, we have launched partnerships with the States of Arizona, California, Florida, Michigan, Utah, Virginia, and with the District of Columbia. These partnerships are making it easier for residents to uncover job postings, reports on school performance, and the professional license records of contractors.

The private sector long ago recognized the increasing importance of web search, but unfortunately the Federal Government lags behind. Last month this Committee took an important step in elevating the profile of these efforts by voting in favor of the E–Government Reauthorization Act of 2007. The Act directs OMB to create guidance and best practices for Federal agencies to make their websites more accessible to external search engine crawlers. It also requires Federal agencies to ensure their compliance and directs OMB to report annually to Congress on agencies' progress. We commend Chairman Lieberman, Ranking Member Collins, and the Committee Members for their leadership on this issue and we look forward to working with you to enact this important legislation.

Mr. Chairman, while my remarks today may have focused on websites and search engines, it is clear that in the years ahead government agencies will need to make information in other formats more accessible. In the Web 2.0 world, where more and more citizens are using blogs, wikis, online mapping, video sharing services, and social networking sites to communicate and collaborate with each other, there will be even more demand for government to bring information to citizens through these new platforms.

We at Google are excited by the promise of this trend and we are committed to continuing to better connect government to citizens.

Thank you, and I look forward to answering your questions.

Chairman LIEBERMAN. Thanks very much, Mr. Needham.

Interesting testimony. It has framed the question that the Committee is very focused on, which is how to make publicly available government information easily accessible over a search engine. So we look forward to coming back to that discussion.

Ari Schwartz is the Deputy Director of the Center for Democracy and Technology. Good morning.

TESTIMONY OF ARI SCHWARTZ,[1] DEPUTY DIRECTOR, CENTER FOR DEMOCRACY AND TECHNOLOGY

Mr. SCHWARTZ. Thank you very much, Mr. Chairman. And thank you for holding this public hearing on the future of E–Government and inviting me to participate.

The hearing falls, as several people have said, almost exactly 5 years after the passage of the E–Government Act. Unquestionably, the Federal Government's use of Information Technology to deliver

[1] The prepared statement of Mr. Schwartz appears in the Appendix on page 62.

information and services to citizens has improved over that time and the E–Government Act deserves some credit for ensuring these important improvements.

This accomplishment is due in no small part to you, Mr. Chairman, and your work and the Members of this Committee, and especially to Ms. Evans and the work of her staff on implementing the E–Government Act.

However, over the past 5 years, we have also learned a great deal from agency implementation of the law about what areas can be improved. Five years of experience, technological progress, and changes in user expectations should guide revisions to the E–Government Act to facilitate availability of resources to the public and privacy protections for the new technologies.

In particular, I would like to discuss two major areas that we, at the Center for Democracy and Technology, believe could be addressed with a relatively minor amount of attention.

The first of these is the area of accessibility of government information. This issue was addressed in the E–Government Act in several ways. For example, the Act called for the creation of a central government portal, now housed at USA.gov. The Act focused on standards of categorization for government information so that it could be more easily found. And the Act created several new means for agencies to work together to help deliver information services to citizens outside the bureaucratic silos.

Simply put, the E–Government Act promotes the idea that citizens should not need to know what agency has particular information or services in order to find that information.

Today my organization, CDT, along with our colleagues at OMB Watch, released a report that found that many of the newly created resources within agencies and across agencies are not available to individuals to find through the major commercial search engines and USA.gov, the very sources that the Pew Internet Life project says individuals are most likely to use to look for government information.

Let me give three examples. The first, GovernmentLoans.gov, is a site that provides an easy-to-use central place to find, among other loans, all farm loans across the government. But if a small farmer were to enter the term "farm loans" or "government farm loans" into Google, Yahoo!, Ask, Microsoft Live, or even USA.gov, they would not find this important resource.

In another example of direct relevance to the homeland security mission of this Committee, a search for the term "New York radiation levels" turns up some important information but does not find the most basic graph from the Homeland Security Department website that is directly available.

Even more troubling, basic government support answers to questions such as "I am not allowed to visit my grandchildren, what can I do?" that are directly answered on the Department of Health and Human Services frequently asked questions page can only be found by digging very deep into the agency's website today.

As Mr. Needham explained, there are simple reasons why these searches do not find government information that is otherwise available on the World Wide Web. Either the agencies are blocking search engines from looking for this information, or they are not

taking proactive steps to allow the information in the database to be searched.

Making this information available is not difficult; in fact many agencies have done so, including those listed by Mr. Needham earlier. We hope that other agencies will follow suit and that OMB will encourage them to do so.

As more information is made easier to search, we are almost certain to find that some contain personally identifiable information. For example, when the government contracting databases were recently made more available, we found that the USDA was publicly releasing the Social Security numbers of their contractors. While this had been happening for years, it took the direct release on the Internet and easy searchability to find this clear violation of the Privacy Act.

The E–Government Act recognized that making more information available online was certain to raise new privacy concerns, and in order to address this problem Congress took the bold step of requiring online privacy statements and Privacy Impact Assessments (PIAs) for all new and changed collections and new databases.

The Privacy Impact Assessments were designed to provide greater transparency to how the government collects and uses personal information. Over the past 5 years, PIAs have become an essential tool to help protect privacy. They have been called one of the three pillars of the U.S. Government privacy policy. Unfortunately, as with other privacy laws, the Federal Government has unevenly implemented the most basic transparency requirements of PIAs across the agencies. The guidance issued by OMB pursuant to the Act with respect to PIAs was vague and has simply not provided agencies with enough information to successfully implement PIAs unless they already had privacy staff on hand.

While some agencies, like the Department of Homeland Security, have set a high standard for PIAs and have continued to improve them over time, the lack of clear guidance has led some agencies to create cursory PIAs or none at all. We hope that the best practices on PIAs called for in the E–Government Reauthorization Act passed by this Committee already can be a starting point for OMB to begin providing more leadership on privacy issues.

Even then, the transparency provided by the PIAs must not be viewed as a full solution on privacy. Congress must begin to address more fundamental privacy issues within government agencies to ensure the trust of the American people. This should begin with a review of the Privacy Act and a look into whether the law is adequate to address how the Federal Government uses personal information today.

We look forward to working with this Committee to help address these critical privacy issues in more detail in the near future.

Finally, I wanted to thank you, Mr. Chairman, for your announcement today on efforts toward openness in the Legislative Branch as well as in the Executive Branch. In particular, CDT has been a champion of gaining greater public access to Congressional Research Service reports since they were rated the No. 1 most wanted government document in a report that we did in 1998. Since then, we have created the OpenCRS.com website to gather public reports, but the public should expect to get access to these

important policy papers in a more systematic way. Therefore, we look forward to working with you on seeing this resolution move forward and we thank you for your leadership on this important issue. Thank you very much.

Chairman LIEBERMAN. Thanks, Mr. Schwartz.

I appreciate your mention of the CRS. It is quite a remarkable office, much larger than what most people would guess. And it has within it real scholars on an extraordinary array of subject matter, policy matters, and they do very high quality work. It ought to be public. It benefits us, but it ought to be public for all of the many people out there who would benefit from seeing the product of this very high level research. Thanks for your support for that.

Mr. Wales, thanks for being here. We welcome your testimony now.

TESTIMONY OF JIMMY WALES,[1] FOUNDER, WIKIPEDIA

Mr. WALES. Thank you. My name is Jimmy Wales and I am the founder of Wikipedia, as well as founder of the non-profit charity The Wikimedia Foundation, which hosts the Wikipedia project and several other related projects.

I am grateful to be here today to testify about the potential for the Wikipedia model of collaboration and information sharing which may be helpful to government operations and homeland security.

To introduce this potential, I would like to first talk about our experience with Wikipedia. The original vision statement for Wikipedia was for all of us to imagine a world in which every single person on the planet is given free access to the sum of all human knowledge. That is what we are doing.

Wikipedia currently consists of more than nine million encyclopedia articles in more than 150 languages. While the English project is the largest, with over 2 million articles, this represents less than one-fourth of the total work.

Wikipedia is currently increasingly important around the world with more than half a million articles each in German and French, and more than 250,000 articles in several additional European languages, as well as more than 400,000 articles in the Japanese language.

Despite being blocked in the People's Republic of China for the past 2 years, the Chinese language Wikipedia, which is primarily written by Chinese speakers in Hong Kong, Taiwan, and around the world, is a healthy community project with more than 150,000 articles and a strong growth rate.

At a time when the United States has been increasingly criticized around the world, I believe that Wikipedia is an incredible carrier of traditional American values of generosity, hard work, and freedom of speech.

Now I would like to talk a little bit about how open, collaborative media like wikis enable more efficient gathering and dissemination of useful information. Although it may be counterintuitive that opening up a wiki project leads to a more useful compendium of information, that is what our experience has been with Wikipedia.

[1] The prepared statement of Mr. Wales appears in the Appendix on page 85.

And I believe that experience can the same for government agencies and operations, as well.

The method of production for Wikipedia is highly innovative. And in keeping with the old adage, necessity is the mother of invention, the story of how Wikipedia came to be is, I hope, both instructive and entertaining.

Wikipedia was born of the famous dot-com crash. In the early days of the project, we worked together as a community with only a shoestring budget. If the financial climate had been better, then I would have likely turned to hiring employees to fill some critical functions. But because investment money and advertising revenue had completely dried up, we were pushed to find new solutions, solutions of community institutions to manage processes that would have been traditionally handled in a top-down manner.

As a result, we pushed the limits of the new Internet medium to create a new kind of community and a new kind of encyclopedia, one controlled by volunteer administrators and editors working together in a grand global conversation to create something new.

According to firms that measure Internet usage, Wikipedia is now the eighth most popular website in the world. And yet despite competing in some sense with companies with billions of dollars to invest, Wikipedia survives on an incredibly modest budget. Last year we spent around $1 million and although this year we are spending a bit more, our budget is still minuscule compared to that of most other tech enterprises, even if you limit the comparison to other top websites.

The First Amendment plays an important role in this project, as do traditional American ideas of individual responsibility. Under U.S. law, everyone writing in Wikipedia takes responsibility for his or her own actions, just as it is true of everyone speaking in any public forum. The maintainer of this forum, the Wikimedia Foundation has set down some fundamental codes of conduct including, but not limited to what constitutional scholars call time, place, and manner restrictions. And I have personally imposed policies which strive toward respect for others, quality writing and the citing of sources.

It is counterintuitive to some that an open discussion with virtually no top-down command and control structures can generate a high quality encyclopedia. Nevertheless, it does.

To illustrate our success improving the quality of Wikipedia, we are currently celebrating a study published in the German weekly news magazine, Stern. According to this study, which just came out last week, Wikipedia scored higher in all but one categories than the standard German encyclopedia Brockhaus. The one standard we fell a little bit short on was readability. I promise, we are working on that one every day.

Now given that Wikipedia is a public enterprise open to the entire public for collaboration and contribution, you may be wondering how wikis or the Wikimedia model may be useful to government. First of all, I want to note generally that there are other ways in which a wiki can be set up usefully, including set ups that do not involve opening the wiki to the general public. You can control access, and a wiki might be useful to an agency that wants to facilitate information sharing up and down the hierarchy for in-

creased vertical sharing. And controlled access wikis can be set up to share inter-agency information, so increased horizontal sharing, as well.

The main point here is there is no requirement of necessity for the tool of a wiki to be open to the general public in order for it to be useful. The word wiki comes from a Hawaiian word wiki wiki, meaning quick. The concept of a wiki was originally created by a famous programmer named Ward Cunningham, who lives in Portland, Oregon. The basic idea of a wiki is quick collaboration. When people need to work together to produce some document, the only option in the old days would be to email around a text file or word processing document. The wiki represents a crucial innovation allowing for much greater speed. The most basic idea of a wiki is a website that can be easily edited by the readers, but modern wikis contain simple yet powerful features that allow for the users to control and improve the quality of the work.

Wikipedia represents the power of a wiki open to the general public, but I believe the same wiki technologies that powers Wikipedia is also being widely adopted inside many enterprises. And I will note here in passing a couple of examples of this innovative use, one in private enterprise and one in the U.S. Government.

First, consider Best Buy. Recently great companies such as Best Buy have been using wiki technology across the enterprise to foster faster information sharing and collaboration inside the enterprise. To give a hypothetical example of how this works, imagine the car stereo installer in a Best Buy store in Florida who discovers a faster or easier way to install a particular brand of stereo. This information can now be shared directly peer-to-peer to other stereo installers within the company across the entire store network. In the past, this kind of local information discovery was lost or isolated.

One Harvard professor's research suggests that one key to successful use of new technologies is adoption. The tools must be easy to use and valuable in the day-to-day life of those using them.

Now I will take a quick look at Intellipedia. I am not an expert on intelligence gathering, so I will simply quote a useful resource, Wikipedia, regarding Intellipedia. The Intellipedia consists of three wikis. They are used by individuals with appropriate clearances from the 16 agencies of the U.S. intelligence community and other national security related organizations including combat and commands and Federal departments. These wikis are not open to the general public.

The Intellipedia uses Mediawiki, which is the same software used by Wikipedia, and the officials who have set up the project say that it will change the culture of U.S. intelligence community which have been widely blamed for failing to connect the dots before the attacks of September 11, 2001.

Tom Fingar has gone on record describing one of Intellipedia's intelligence successes. Mr. Fingar told DefenseNews.com that a worldwide group of intelligence collectors and analysts used Intellipedia to describe how Iraqi insurgents are using chlorine in IEDs, improvised explosive devices. They developed it in a couple days interacting in Intellipedia, Mr. Fingar said: No bureaucracy, no "mother may I," no convening meetings. They did it and it came out pretty good. That is going to grow.

As you can see, just as the dot-com crash forced private industry to think about more efficient and effective ways to use digital technology, the attacks on the United States forced our intelligence community to explore innovate ways to share intelligence among agencies.

This brings us back to what might be called the lesson of Wikipedia, that an open flat forum allowing many stakeholders to participate can facilitate information sharing in an extremely cost-efficient manner and it can take advantage of a wider range of knowledgeable people than traditional information sharing processes do.

Good democratic governments strive to be responsive to citizen's needs. In order to do so, it is important that governments use technology wisely to communicate with the public and also to allow the public to communicate with the government.

It is my belief that the government of the United States should be using wiki technology for both internal and public facing projects. As with any large enterprise, internal communications problems are the cause of many inefficiencies and failures. Just as top corporations are finding wiki usage exploding because the tool brings about new efficiencies, government agencies should be exploring these tools, as well.

The U.S. Government has always been premised on responsiveness to citizens, and I think we all believe good government comes from broad, open public dialogue. I therefore also recommend that U.S. agencies consider the use of wikis for public facing projects to gather information from citizens and to seek new ways of effectively collaborating with the public to generate solutions to the problem that citizens face.

Thank you for inviting me to testify about the potential for the Wikipedia model to improve our government's ability to share and gather information for increased security, for increased governmental responsiveness in our open society, and for the preservation of democratic values. Thank you.

Chairman LIEBERMAN. Thanks, Mr. Wales. That was great, and necessity mothered a great invention.

I love the story of the founding of Wikipedia. And if I may say so, and I appreciate your saying that in some ways, it is classically American. And this is a part of American history, part of the American experience that goes right back to the beginning. It always struck me as instructive, that among the founding generation of Americans were some remarkable inventors, beginning with Franklin and Jefferson. And obviously this continued, in many ways, throughout our history with the extension of the American frontier and all of the advances that have occurred since.

But you have really done that, along with your colleagues, in this age. And so I thank you for it.

And I thank you for the suggestions that you have made about how this collaborative technology can help us, in government, do our job better. I want to come back to that in a few minutes. But let me start with this question that we were focused on in the reauthorization, which is the problem of access through search engines.

Mr. Needham, you testified that in whole or part, there are 2,000 Federal Government websites that are not included in search en-

gine results. And I wanted to ask you why, and to expand a bit on what you said. I know you had a reference to EPA and NIH. But is it accidental? Is it that they are not going the extra mile to make this happen? Or is there some policy? Or is it plain laziness that is bringing us to a point where we should not be?

Mr. NEEDHAM. Right, happy to speak to that.

So I think the principle factor that we can look to is that governments produce lots of information and have a mandate to disseminate that information. And to do that, agencies rely on large databases to hold public records and present government programs to citizens. So that is one factor, lots of information, hard to disseminate it efficiently.

But these databases, the EPA example I gave and many others that I could point to at the Federal, State, and local level. They typically present to the user a search form by which that user then types in key words to find the report they are seeking, or the record or what have you. These search forms cannot be navigated by search engine crawlers. We cannot reach behind to see what is there and add those records to our index.

And because, as we have experienced in our communication with agencies, they tend not to think as much about how citizens are going about finding information but rather about how their website is presented to citizens, they have not taken, by and large, this step of providing us a means of finding those records behind that search form. And that is what the Sitemap Protocol technology enables. It provides the agency a simple mechanism for pointing out to a search engine crawler, these are all of the records in this database, come here and crawl them.

Chairman LIEBERMAN. I appreciate the answer. So you have now created a tool that should make it much easier for Federal Government websites to be included in search engine results.

Let me go back to you, Ms. Evans, and ask you if you want to add at all to Mr. Needham's answer about why some agencies have not made their web pages available to commercial search engines?

Ms. EVANS. Well, I think Mr. Needham hit on the first issue about it is a lot of information and therefore we try to figure out the best way to efficiently deliver it, which is through databases and organization that way.

The other part, which Mr. Needham has also highlighted, is the partnership that we need to work out with commercial search capabilities, because many times when we start delivering these next level of services, what we have also done is streamlined the support services associated with those.

So in talking with Google and other search companies, we try to present the information in a context. We may not be doing it in the most efficient way to provide a context around it. For example, on GovBenefits.gov, when we initially talked, we have a whole support mechanism behind that. So we try to filter so that we do not create frustration in the citizen as well and present a whole series of results to them. And what they do is they see what they are basically eligible for.

Now what we need to do is work in partnership, which is what your reauthorization allows us to do, is that there is a balance between us trying to streamline our backline and making sure that

the citizen really knows what they are eligible for and also making the information commercially available to the search engines, because it is all out there. We just want to make sure that we are providing it in a context so that we do not create more frustration.

Chairman LIEBERMAN. So leaving aside matters that we might not want to have easy access to, because of privacy concerns or classification, is there any other policy reason that would justify limiting access to otherwise publicly available information on Federal websites through search engines?

Ms. EVANS. No, sir. The way that we have put together the policies, but we would need to go back and relook at that to see of any agencies may be interpreting it that way. But the way that the policy is based on the current E–Government Act, it is for greater dissemination of public available information. And then also, the Administration has passed an Executive Order, again supporting the Freedom of Information Act, saying look even further at your information and make this available before it is asked for.

So that information is out there. But we do have to do it in a way that it is easily accessible through the means that citizens research and look for the information.

Chairman LIEBERMAN. I appreciate that answer because that is certainly our intention, that except for privacy and classification reasons, everything else should be maximally and as easily as possible available to the public including through search engines.

Mr. Schwartz, do you want to add anything to this discussion?

Mr. SCHWARTZ. I think Ms. Evans made a good point about the context issue. I think it is an important one. But I also think that the American people are smart and they know how to use search engines. While it may be frustrating a few people, we do not want to block information from the vast majority of people who would be able to figure out the context and use that information. For the minority of people that cannot figure it out, that might be frustrating, but at least they have an opportunity for access.

So I think that there is sort of a balance there of how do you give the right context but make the information as maximally available as possible and maximally searchable as possible.

Mr. NEEDHAM. If I may add a comment on this, as well.

Chairman LIEBERMAN. Please.

Mr. NEEDHAM. We worked with the State of Arizona earlier this year to open up eight of their major databases, which were not initially designed to be crawled by search engines. And the pages that they present to users, indeed may not be utterly clear to the user on first blush, but they did so. They opened these databases. And as we indicated in a report we published or a case study we published yesterday on this website I referenced, *Google.com/publicsector,* the administrators of these agencies, whose databases were opened, are very pleased with the results of citizens for the first time learning about, for example, license record of contractors and of real estate developers, and so forth. So we know it can work because we have seen it work.

Chairman LIEBERMAN. Good. That is a good example. Mr. Wales, do you want to get into this?

Mr. WALES. Yes. Actually, in many cases we have heard about the difficulty when the web crawler comes to a form and they have

to, instead of clicking on something that says Alabama, someone would have to type in Alabama and the search crawler is not able to figure out what to type there.

But we actually find even in the Wikipedia context, which is written by human beings, that there are some websites that even when you type in the right thing and you submit and you get the information you want, you cannot link directly to that. And so someone who is writing something, trying to explain something, and they want to link to a particular statute or a particular regulation or a particular piece of information that has been published by the government, if they are not able to cut and paste that URL and put it into Wikipedia, then even with a human involved it is very frustrating. The only thing you can do is give someone instructions. Go to this page, type in this, select the third link. It can be very frustrating.

Chairman LIEBERMAN. That is a good point. Ms. Evans, do you want to respond?

Ms. EVANS. Well, all I can say is that we are very open to making this more collaborative. We have examples, and I would like to actually share one, that we are embracing this technology and we are using it more ourselves. The EPA was raised as an example here of not making information available. But they recently held what they called the Puget Sound Partnership where they went and for 36 hours they worked directly out there trying to figure out how to do the information, using the technology. What parts of their information were not easily accessible? Could they set up these pages? Could they do all that?

We are taking those lessons learned there. Molly O'Neill from EPA, the CIO from EPA is sharing that now with the other CIOs. So that we can take these types of things and the frustration of the information that we are putting out there and then try to fix it so that we can make sure that it is readily available.

Chairman LIEBERMAN. OK. That is an encouraging example.

As you know, Section 204 of the E–Government Act required the development of an official Internet portal that would be organized by function or topic instead of the boundaries of agency jurisdiction. That is USA.gov which now receives, I gather, almost 1.9 million visits per week.

I wanted to ask you if you have done any work that would enable you to tell us how you think a user's experience is enhanced by using USA.gov instead of attempting to find their information through search engines?

Ms. EVANS. Well, the way that USA.gov is set up—GSA really manages this very well, at least we think they manage it very well. They do hold user focus groups constantly throughout the year to really measure the customer experience, the citizen experience and how to reorganize it.

This is a good example of us and our interpretation of putting the context around the Federal Government information and then trying to give the citizen an enriched experience when they come and that it is the authoritative source for the Federal Government launching off of there, that you are going to authoritative sites.

They did a lot of market research, it used to be called FirstGov.gov. They did research just in the name itself and

changed it based on their market research and changed it to USA.gov. And just the simple name change of that increased the usage by 67 percent.

So they are constantly looking at customer satisfaction. All of the E–Government initiatives are measuring customer satisfaction usage. And then as well as how we can go back and really deploy it and improve it and we make all of those metrics publicly available.

So we set targets. Several of the initiatives may not necessarily be meeting their targets. But we do set the targets and the metrics and we do publish our actual performance against those metrics.

Chairman LIEBERMAN. Do you think enough people know? The numbers are pretty good obviously, but do enough people know and take advantage of the service that USA.gov provides?

Ms. EVANS. I think that if I had—I do it myself. So I will be honest—I go to Google and then I go to USA.gov when I am looking for specific things. But I launch into Google or Yahoo! or Ask.com, just like anyone else does. Because I want to see how my services come up.

But I will tell you that the other benefit to having the government initiatives such as the Federal Internet portal and USA.gov was those services were available when crisis and things happen within the Federal Government that we have to mount an immediate response because the infrastructure is already there. USA.gov, because of its integration of the services, was able to provide support services to the State Department like answering passport questions. They can build out that and complement what the State Department is doing.

As a matter of fact, they actually answer all of their calls now. We get a common set of answers because USA.gov is tied into every agency, so they handle all of the misdirected e-mail. So if anybody does write directly to a department or an agency, it is automatically routed to their set of agents so that they can answer the questions on a consistent basis.

So there is a lot of integration of back end office types of services that we have done through these government-wide initiatives that when something happens like the VA situation where we lost that data, USA.gov and those services built up within 48 hours. They had the capability and they put all of that information out on their website. They had RSS feeds set up, which are automatic sign ups so that people can get the update of the information as we changed it. And we also had 1–800 service so that we could answer 240,000 calls a day for the veterans.

So we tried to put all of that together as an integrated channel so that we are providing the solutions to the citizens. So it is a more complicated question than does everyone know USA.gov?

Chairman LIEBERMAN. I will tell you that in preparing for the hearing we went to Google and typed in Federal Government, and USA.gov came up first in a number of listings.

Let me go to another provision of the E–Government Act and see if I can start a discussion with the four of you, but I will start with you, Ms. Evans. In one provision of that Act, we require the development of a system for finding, viewing, and commenting on Federal regulations. This was really a step forward, obviously. The

goal was not just transparency, but real accessibility to give individual citizens the opportunity that they would find very difficult under the previous technology to both see proposed regulations, gain access to them easily, but actually then to comment on them.

From what I can see, while there has been progress, I have been disappointed that the development of Regulations.gov has not opened up the rulemaking process to a greater degree. CRS, which we referred to earlier, recently reported, "It still appears that relatively few comments have been coming to the agencies via Regulations.gov compared to other methods of comment."

Further, in relation to what we have been discussing today, the data in Regulations.gov cannot be found by outside search engines.

So give us your status report on how Regulations.gov is doing and tell us whether you agree that more needs to be done to facilitate public access to tracking and ability to comment on regulations.

Ms. EVANS. Sir, the short answer is yes, sir, more needs to be done on Regulations.gov.

The other part of it is about searching and doing the docket systems that are back within the agencies and making that information available. Again, this would be one where we would have to partner with commercial search providers about the best way to make that information available because we know that is a limitation right now within it.

Agencies do have to post all of the regulations, proposed rules at Regulations.gov, but what we wanted to do was make sure that the public had the availability to comment through multiple channels. So the comments can go directly to an agency, not necessarily all comments have to come through Regulations.gov. And that was flexibility that the agencies still wanted to maintain.

Some of the things that are being looked at with Regulations.gov because this is really not a technology issue. This is really looking at how do we want the business of rulemaking to evolve? Some of the basic things that I have asked as the technology is going forward is do more comments make a better rule?

Those are things that I think the way the technology is working and that you see through the development of functions like Wikipedia that there are arguments on both sides of that. And that is what needs to be looked at. We are in partnership, we jointly manage that with the OIRA Administrator, Susan Dudley. And these are things that she is embracing because she does want more transparency, she does want more openness in the regulation process. And so we are working with that.

There is an ongoing study right now with the American Bar Association that we have been meeting with them of improvements and requirements, some things that we can do to Regulations.gov that would just make it easier to use so that more people would want to put comments in there, as well.

Chairman LIEBERMAN. Mr. Wales, would you say, based on the Wikepedia experience, that as a matter of policy or that we could conclude that more comments would make better rules?

Mr. WALES. I think so, yes. But I think one of the interesting things about Wikipedia, what is innovative about the wiki tech-

nology is rather than just commenting, people are collaborating and finding ways to compromise.

Chairman LIEBERMAN. Yes, good point.

Mr. WALES. And so, there are some very practical problems, of course, that are faced with open commenting, spammers, crazy people, and all kinds of bad behaviors. And you have to think how do you balance the desire for allowing the general public to comment and not to censor their remarks because maybe somebody does not agree with them versus well it is not censorship to say, links to Viagra advertisements is not really a comment on most regulations, anyway.

And so, I think that these things do take very careful study. People can be very simplistic and say well they, should allow the public to comment on regulations. Well, sure. But how are we going to help the public to come in as a part of a responsible community and do that in a way that everyone finds useful.

Chairman LIEBERMAN. Good, thoughtful answer. Mr. Needham, any thoughts about this question about how we can improve basically Regulations.gov?

Mr. NEEDHAM. Well, you are correct, that this is an example of an E–Government program website, among the many that I have referred to, that are not visible to search engine users. And this, I think, is more of a comment on the USA.gov discussion earlier, that let us say that someone is a farmer that grows tomatoes in Florida is not too plugged into the regulatory process that governs that industry and searches on Google for "tomatoes transport." If this resource were crawled and indexed and integrated in search engines, including USA.gov, this grower might be more engaged in that regulatory process, learn that there is, in fact, a rule that is under comment.

And the point being made here is that not every citizen realizes when they are looking into their health, their business, education, or housing, that government provides a service that is relevant. And that is why it is critical that all of the information of the Federal Government that is public be in all search engines possible and not simply through USA.gov, where a user is consciously looking for information from its government.

Chairman LIEBERMAN. Well said. Mr. Schwartz.

Mr. SCHWARTZ. I want to take on two different points there, the first one that Mr. Needham just raised. In terms of when we first did our report looking at what kinds of searches were not coming up, it was during the polar bear comment period that the Interior Department was having, that had more comments than any other commentary.

Chairman LIEBERMAN. Whether the polar bear was going to be listed as an endangered species?

Mr. SCHWARTZ. Exactly. And we did some searches on that and you could not find that on any search engine at all. It was one of the first things that really got us interested in this issue. This was one of the best known comment periods in the history of the Federal Government. I mean, the most activity in terms of comments and you could not find it on a search engine, except for going through secondary parties. And part of that was because it was not on Regulations.gov.

Eventually GPO sitemapped their site and then you could at least find it through GPO. But that is just one example. You know there are people that are searching for this in a way that, where they hear on the news that there is a comment period on whether the polar bear should be endangered species and they want to comment. They go to search on Google, they do not get the result that they expect.

Regulations.gov shows that concern very acutely.

I want to follow a little bit on Mr. Wales comments and Ms. Evans comments about Regulations.gov. We were hoping by this point that we could be at the point where we were trying out new technologies for regulations and public comment periods.

Chairman LIEBERMAN. What were you thinking of?

Mr. SCHWARTZ. I mean, using the wiki model. A lot of people would think of it as, oh you just put up a rule and then people go and attack it and you get both sides. But the really interesting thing about what happens on Wikipedia is the commentary pages and the notes pages, which are much more similar to a traditional rulemaking than you would think.

If you go through and look through how they go about making determinations and people giving justifications based on facts and what the rules are for how that is done, I think we could learn a lot from just trying out new technologies. Not saying that it should supplant the old ways of rulemaking. But perhaps we can, in certain kinds of rulemakings, we can come up with a more collaborative discussion rather than the traditional conflict policy that kind of governs public comment periods today.

Chairman LIEBERMAN. That is very interesting.

You know there is another institution around Washington that needs more collaboration to be effective, Congress. Maybe we should all form a Congressipedia.

Another thing we do not do here, if I may continue this particular flight, gaining now with the welcoming our colleague from Hawaii. You told us the word wiki is Hawaiian for quickly, that one thing that we do not do enough around here is to legislate wikily. So anyway, I welcome Senator Akaka.

I am going to ask one more series of questions and then I am going to yield to you, Senator Akaka. Thanks for being here.

I want to go directly to you, Mr. Wales, and thank you again for being here, to take up one of the—I guess it is a criticism, a skepticism about Wikipedia, which is that inaccurate content can result when larger numbers of participants outweigh the contribution of a few experts.

In your testimony, you said that controls or kind of management devices can be put in to provide—I like the term—fine grain control to access and edit information. And I wanted to ask you to elaborate on that, particularly, but generally with regard to Wikipedia but also as it may effect collaborative technologies to be used by the Federal Government.

Mr. WALES. Absolutely. So within Wikipedia, the software, the Mediawiki software that we use puts several tools into the hands of the community so that they can manage the quality of the content. Within the community, there are administrators who are elected from the community and they are generally chosen after

they have proven their worth over a period of time in terms of being good writers, thoughtful editors, kind and helpful to others, the kinds of values that we look for in an administrator.

And the administrators have the ability to do things like temporarily lock pages. We can do that in a couple of different ways. One of the ways that has been very successful is what we call to semi-protect a page, which means anyone can edit that page as long as they have been around and had an account at Wikipedia for 4 days, a very low threshold for entry into participation. But this really helps us in cases where a particular article has been highlighted in a news story or something like this and there are a lot of newcomers coming in and things like that.

Certain articles on very controversial topics tend to be semi-protected pretty much all of the time. An example would be George W. Bush, for example.

Chairman LIEBERMAN. Right. Let me understand, this is really interesting. The administrator is empowered to essentially make a judgment call if the administrator thinks that a page may be subject to piling on or any thing else, because it is controversial?

Mr. WALES. That is right. And a lot of times we try to keep this to be something of a cooling off period. In other words, something has been in the news, we will semi-protect it for a few days until everybody relaxes a little bit. And there are over a 1,000 active administrators in the English Wikipedia. And of course, they have conversations and discussions and disputes amongst themselves over whether things should be protected or unprotected.

Occasionally some brave soul will say I think we should unprotect the George W. Bush article, they unprotect it, and say I will watch and make sure there is no vandalism. And usually about 6 hours later they are exhausted and protect it again and go to sleep.

So there are some areas of high potential for pranksters and people like that, that end up semi-protected most of the time.

We also have the ability to block IP numbers. So if there is some form of misbehavior and where it is coming from—the typical case would be a high school, a parliament building, this sort of thing. That's a joke, actually, although it has happened.

We will see some sort of juvenile behavior. And normally what we do in a case like that, is we just simply block that IP number from editing Wikipedia for 24 hours or so. Hopefully that will just calm them down. So that is another sort of tool in our pack.

We have things like recent changes, so there are people who monitor every change that is coming in. Individual users have personalized watch lists. So if you are a particular expert on birds, for example. I met a scientist at Cornell University who is an ornithologist. He monitors a lot of the bird articles. He does not have time to do it personally everyday, but about once a week he said he comes in and checks out a lot of the bird articles. And he can quickly look at the change, just the change in the article. Rather than him to reread the whole thing from scratch, he can quickly see what has changed since the last time he has been there to make sure it seems suitable to him.

So all of those kinds of tools are important, but probably one of the most important tools of all is that the entire history if every

article is kept in the database with very rare exceptions. Occasionally, we completely delete things from the database, privacy violations or other legal reasons. But typically if it is simply a bad version of an article or something like that, the old versions are there. And so if somebody comes in and begins to damage an article, it is typically one click for anyone to go back in and save the previous version as the current version. And so it is hard to do any damage at Wikipedia. Whenever you come in and make a change, you are actually just creating a new version. And if you have done some harm, someone can quickly come behind you and fix it.

Chairman LIEBERMAN. Very interesting. I presume though, it is a different kind of activity that you would say some of those methods you have for protecting the integrity of the system are also relevant for collaborative technologies used by the Federal Government?

Mr. WALES. Absolutely. Some of these techniques are not necessarily as useful in internal facing wikis. If you have an internal wiki and everybody who is editing it is logged in and they are an employee, typically you do not need to block them from editing. You fire them or whatever you need to do to tell them to stop misbehaving.

But other of the tools, for example, the history. You can easily have people who disagree and someone will say you made these edits to this article, but I do not feel that it really improved it. I am going to go back to the previous version and then let us go to the talk page and hash this out.

So these kinds of tools are applicable for internal wikis and external, but a lot of the concepts may be valuable outside even the wiki framework. The idea of understanding that if you can generate a thoughtful community, you can have that community do a lot of the policing that otherwise it would not be cost effective to do.

A similar example would be Craig's List. People post advertisements there, free advertisements. And the staff at Craig's List is really too small to really supervise and monitor everything. But their community can simply, if you see something that is spam or is somehow inappropriate, they can simply flag it and if it gets flagged a certain number of times it just disappears. Overall, this does a pretty good job. And those are the kinds of techniques that I think we are going to be exploring in the industry over the next few years.

Chairman LIEBERMAN. That is fascinating and encouraging because there is a kind of confidence there based on some experience you have had that in the end the better part of human nature prevails.

Mr. WALES. Well, one of the classic examples I always give is to imagine that you are going to design a restaurant. And you think to yourself in this restaurant we are going to be serving steak. And since we are serving steak, the customers will have access to knives. And when people have access to knives, they might stab each other. So to design our restaurant, we are going to put everybody inside a cage.

Well, this makes a bad society. That is not the kind of open society we want to live in. But unfortunately, when people are engag-

ing in web design, this is often exactly the kind of thinking that they have. They think of all of the bad things that people might do and design everything around those worst case scenarios rather than saying, oh you know what, let us keep things as open as we can and wait until we see the bad behavior and then think about what to do about it. We call the police. We get an ambulance. Or in a digital context we simply change it back to the old version.

Chairman LIEBERMAN. I am going to stop now and yield to Senator Akaka. Thanks again for being here.

OPENING STATEMENT OF SENATOR AKAKA

Senator AKAKA. Thank you very much, Mr. Chairman, for holding this important hearing on implementation and reauthorization of the E–Government Act. I have been a strong advocate for transparency in government as well as for privacy for all Americans. We need to continue to keep emphasizing privacy and expanding access to appropriate government information.

That is where I come from. And I want to thank the Chairman for what he is doing along these lines and working hard at it.

I would like to ask the first question to Karen Evans from OMB, and tell you that making government information more available to the public by posting it online is important for government transparency. However, I am concerned that information in Federal forms posted online are often written in, let me put it this way, bureaucratic language that is difficult for many Americans to understand. This can be especially burdensome for those helping people to access the information online, especially librarians.

What steps is OMB taking to ensure that government information posted online is clear, well organized, and readily understandable?

Ms. EVANS. Well, sir, it is good to see you again, thank you.

Senator AKAKA. Thank you for being here.

Ms. EVANS. I believe that our current policies that we have issued dealing with the implementation of the E–Government Act speaks to that very issue about talking about having information out there accessible, easily to find, and easily understandable. How the agencies have actually gone about that and executed that is what we are discussing more today.

I believe that the Federal CIO Council, which was also codified through this Act, has a leadership role in this as well as the Web forum that we have established through USA.gov, that they then work on best practices. They continuously put together toolkits for content managers for agencies to put that information out. But based on many of these things that my colleagues have said today, I believe we will have to go back and revisit many of those to see if we really are doing it in the best way that we can, or should they be updated so that things are going out in a way that citizens understand them and can easily find them.

Senator AKAKA. I would like to follow up by asking Mr. Wales about your thoughts on this kind of an organization. I was interested to hear the Chairman use the word "wiki." And as you know, in Hawaiian that means to hurry up or do it quickly. And when I saw pedia, I was thinking of walking fast. But it is along the line of encyclopedias and of course, the whole thing comes to me as

being important through knowledge and facts and done in such a way where people can understand them and absorb them and use them for their benefits.

So in this case, in this question that I asked Ms. Evans, I just wanted your thoughts about that.

Mr. WALES. Well, I think that one of the interesting things that we see is that the communities who come together, one of the things they really prize is making information available to people in a way that they can understand. And that is something that often specialists, or bureaucrats who are often specialists of some kind, really can sometimes struggle with. Not intentionally, but just because they live in a certain world and speak a certain language and it is very hard for them to really remember and get at, that language is very hard for other people to understand.

This is one of the areas that I would recommend that the Federal Government agencies consider doing some public facing wiki project experiments where perhaps what the general public could do is come in and help explain things in more plain language. Perhaps with the assistance of staff at the agencies to monitor the quality and things like that. But this is a potentially fabulous way of getting at things, particularly in the areas where there has not traditionally been really funding available to explain some arcane regulations to the general public because the regulations are not meant to apply necessarily to the general public. But they may have an interest in knowing and a right to know.

So I think there is a lot of potential here.

Senator AKAKA. Well, thank you. I want to thank both of you for those answers.

Ms. EVANS. I would like to add one thing to this.

Senator AKAKA. Yes.

Ms. EVANS. So, as we are talking about how to do this, the government, we are ready to roll out the new website dealing with the Transparency Act. And there is going to be an event tomorrow. Included in that is the wiki technology, the collaborative technology to do exactly the types of activities that you are talking about, because the Federal Financial Accountability Transparency Act has a very specific requirement about having citizens interact and continuously take feedback back on how the website has developed, how we do these requirements, how information is available, and how we are putting all this information out.

So we have embraced this. It is going to be included in this roll out. We are going to be using this collaborative technology to really take a look at how we have interpreted the law, how we are displaying it, and then take the feedback back on future requirements, future enhancements. And also the actual text around it based on the issues that you are now highlighting. Because as you said, we write in a certain way which may have absolutely no meaning to the people who are looking at the data.

So it will be there. We are going to be actively taking this information and requirements and we are hoping that they will define and refine their own requirements going forward.

Senator AKAKA. Well, I want you to know that this issue is especially important to me. I recently introduced the Plain Language in Government Communications Act, which is S. 2291, along with

Senators Levin, Carper, McCaskill, and Obama, requiring that agencies write information released to the public in clearer and more understandable manner. So this is why I am really interested in this issue.

Mr. Chairman, my time has expired.

Chairman LIEBERMAN. Do you have any more questions, Senator Akaka?

Senator AKAKA. I do.

Chairman LIEBERMAN. Maybe I will do a round and I then will come back to you. I thank you. And this time I will go by the clock, now that you are here.

This is just not the Governmental Affairs Committee, we are now, over the last few years, the Homeland Security Committee so we have a special responsibility with regard to protecting the homeland both from terrorist attack and from natural disasters.

One of the remarkable uses, and this is where Wikipedia becomes itself a kind of public service beyond the information part of it. I gather, or I have been told, that during the recent California wildfires, Wikipedia became for many people the place of choice for the most recent information about the movement of the wildfires. People who were living there were following it.

Intellipedia, which we mentioned earlier, was used to allow various agencies to file status updates and communicate with each other during those fires. I have heard, and maybe Mr. Needham can confirm this, that when Steve Fossett, who I was privileged to know, the great adventurer, was missing that a group of his friends formed their own site and divided the enormous space in which they thought his plane had gone down. And I believe they must have used Google Earth, and they each took a section of it and searched it. Really an unbelievable capacity.

In fact they found some missing planes and things that had been missing for years, but they unfortunately did not find his plane.

So I wanted to start with you, Mr. Wales, and ask what lessons, what kind of opportunities can we draw from these experiences which can perhaps help us. The nice thing about what you have done is that it self-generates, so it does not require a government mandate. But sometimes it may require a government incentive.

So is there anything you can think about, and I will ask the other panelists their thoughts, about how we may bring this potential use of Wikipedia, even Google Earth and others—or just awareness of collaborative possibilities—to bear to both help us prevent and then particularly respond to disasters, both natural and human.

Mr. WALES. So this tendency of Wikipedia to do a really good job of covering this sort of major crisis events is something that we first saw on September 11, 2001, actually. We were a very young project at that time and on September 11, 2001, we still had very few articles about anything, frankly. You could turn on the television and there was not much to be said. So all you saw was the video playing over and over and over and over, the planes crashing into the towers.

Well, at Wikipedia the volunteers began frantically working to fill in all of the kinds of background information that people might want to know. So we did not have an article that morning about

the World Trade Center, so quickly somebody started the article. There would be articles created that day about things like the architect who designed it, an article about the Pentagon, about all of the airlines that were in someway involved that day. All of that kind of background information.

We were still a very young project at the time. Nowadays we see that happen in a much more broad way, Hurricane Katrina, the tsunami, and the recent wildfires. People get very active in participating. And one of the great powers of this model is that we are able to bring to bear more individual minds to the problem than almost anybody else. So we can have a couple hundred people who are scouring through the web and who also have their own personal prior knowledge of where to find different kinds of information and begin pulling that information together in a coherent framework so that people can access it and understand it.

In general, if we want to make sure that the process proceeds efficiently, basically all of the kinds of initiatives that we have been talking about today, making sure that when our volunteers are able to use Google or Yahoo! to find a piece of information on a Federal Government website they are able to then highlight and amplify the volume of the signal there for the general public so that if there is something important going and FEMA issues a statement, that statement will first be findable in the search engines but it will also be immediately available for the volunteers to analyze and integrate into the Wikipedia article.

Chairman LIEBERMAN. Ms. Evans, let me ask you, and I had not thought about it before preparing for this hearing to ask DHS or FEMA, whether in crisis situations today those Federal agencies are attempting to create sites on which information can be shared, particularly from within the affected areas. And whether you think they should.

Ms. EVANS. Well, we do have two initiatives. One in particular is disaster management. It is not shared in an open community to the extent that the Wikipedia communities of interest, that type of approach is set forth. But it is shared within the first responder community based on a lot of the things that we are talking about. And that information is posted out there, it is a tool set. Could it be more collaborative? Should it be more open to the public? That is what we provide, the environment, so that the local communities can use that information as it is being posted by the Federal agencies to be able to respond so that they are using the same Geographic Information System (GIS). They are all using the same type of information to be able to respond.

But that is an initiative that is poised and ready to move to the next evolution of services. All of these are foundational. They have the basic and what they really needed to do was break down the silos of those communities working together. It is not so much the technology. It is how that community works together and responds between the fire department, the police department, and those guys.

And so a lot of what our initiatives have done have brought those communities of interest together. This now allows us to take it to the next level, directly involve the citizenry, where it needs to be

and how it should be involved. And the technology will allow us to do that.

Chairman LIEBERMAN. I hope you will do that because, in the most really remarkable way that could not have been foreseen by earlier generations, the Internet capabilities allow us, as you all know, to create community activity at a level which was unheard of, and in that sense could build a sense of community where often today in actual geographic communities it does not exist.

Ms. EVANS. Right.

Chairman LIEBERMAN. With Senator Akaka's permission, I am going to let Mr. Needham get into this. I am over my time.

Mr. NEEDHAM. Sure. I just want to add to the observations made here and give two examples of what we are describing here of the use of these tools in the context of an emergency.

With the recent wildfires in Southern California, a public broadcaster in the area in San Diego used the Google Map service to provide information to the public aggregated from multiple emergency management agencies so that a user could go straight to Google Maps, not suffer from the lag times one sometimes experiences with a government website which does not have the capacity that Google can put behind its service. And there citizens found information on evacuation routes, on the reach of the wildfires, the areas at risk, and so forth.

A second example I will give, which is relevant to web search which is what I have come here today to talk about. Recently there was an earthquake in the Bay Area, the largest in the last 20 years. And I happened to be there with my family, that recently moved to California. And we were obviously unnerved to feel ourselves shaking for the first time in an earthquake. So I grabbed my mobile phone and searched for "earthquake California." The first search result was a U.S. Geological Survey website, where I was able to view in realtime there the gravity of the earthquake, see a visualization of its reach and know that we were, in fact, safe and we could proceed home and so forth.

These are examples of tools that are built on government information that are in the hands of citizens in a way that we did not have before.

Chairman LIEBERMAN. That is a great example. Thanks. Senator Akaka.

Senator AKAKA. Thank you, Mr. Chairman. I would like to ask Mr. Schwartz, overall, what is your opinion regarding how well agencies are fulfilling their requirements of the E–Government Act? Especially in relation to privacy provisions?

Mr. SCHWARTZ. Thank you, Senator Akaka.

This Section 208 of the Act is the main privacy section. And for the most part, it has really been a mixed picture from the agencies. We have seen some agencies really do exceptionally well in creating what are really the best Privacy Impact Assessments in the world. The Department of Homeland Security actually has a site dedicated to promoting how Privacy Impact Assessments should be done within the agency. They have a large team of privacy professionals that can work with different parts of the agencies.

But yet we have other agencies that have not implemented it well at all. We heard the latest percentages from Ms. Evans, and

I actually missed the numbers, but there are still some that are not implementing PIAs when they are supposed to be, which I think should be the biggest concern.

But there is also some agencies that are only doing them in a cursory fashion. For example, my organization wrote to Secretary Rice about the State Department's passport program and why, for their Privacy Impact Assessment, they really only had a half of a page on Privacy Impact Assessment, publicly available for citizens for what should be one of the most privacy sensitive documents that we have.

And we never received a full answer as to why we do not have a greater Privacy Impact Assessment trying to figure exactly how information is being transferred using the new electronic chip in the passport, etc. We have gone over some of those issues and I think we feel that some of the security measures that they have taken are good measures. But in the long run there should be publicly available information about what kind of steps the State Department has taken to show this kind of a balance.

And so, even among those that are doing PIAs, we are seeing that they are very poorly done.

I think a part of that is a larger, gets to the larger issue which is we do not have—some agencies have a good privacy program in them, like DHS, mostly because it was written into the Department of Homeland Security Act. When Senator Lieberman introduced it originally, it had a privacy provision in it. You had a good chief privacy officer who came into the department at the time that it was formed.

We have not seen that in other agencies. And because we do not have that kind of leadership within agencies, we have not been able to see a good program put into place. And it also means we are not even seeing the letter of the law of the Privacy Act put into place. And the Privacy Act, over time, has weakened because of the way technology has formed.

We urge the Congress to take a larger, a broader look at some of the issues around privacy and the Privacy Act and we hope that this Committee, which has jurisdiction over the Privacy Act, will do that.

Senator AKAKA. Well, thank you for that because we would like to receive recommendations as to how we can bring this about with all agencies. So thank you for that.

Ms. Evans, GAO found that agencies routinely collect information about individuals from commercial sources, but often do not perform Privacy Impact Assessments. However, according to OMB's guidance, agencies should be performing PIAs when they make systematic use of commercial sources.

What is OMB doing to ensure that the use of these commercial sources is addressed in PIAs and other evaluations?

Ms. EVANS. Well, first, we did issue a policy memo back in February 2005 where all agencies have to have the designation of a senior agency official for privacy. What we have done is last year we have incorporated annual reporting now into the overall annual report that we submit to Congress for the Federal Information Security Management Act in March. So last year was the first year that we actually provided a report on government-wide privacy as-

pects which included PIAs and agencies conducting PIAs, doing the PIAs, and the systems that were appropriate.

To get to Mr Schwartz's issue and your issue, sir, what we have added this year which we will be reporting for going forward is the quality of that program. We have asked the inspector generals to review the process that the agency uses internally to determine and assess the quality of the PIA itself. Because we believe that represents the whole thing from start to finish: How you decide what information you are going to use, whether you publish it, whether you are collecting it in the Systems of Records and Notice, how you publish that, how you put it out, and then how you then take it and use it in an IT system.

So when we submit the report this year in March, we will also have additional statistics about the quality that each agency has in that process. Then we will be going back to work individually with each of those agencies to improve that quality because the Administration is very committed to the privacy aspects of the information that we collect and use.

Senator AKAKA. Thank you. Mr. Chairman, my time has expired.

Chairman LIEBERMAN. Thanks very much, Senator Akaka. Senator Carper, welcome.

Senator CARPER. Thank you.

Chairman LIEBERMAN. We have had a very interesting morning and we are glad you are here.

OPENING STATEMENT OF SENATOR CARPER

Senator CARPER. Now Mr. Wales, just a quick question, if you will. What caused you to go out and form the business enterprise that you have and that has been so successful? What was the spark that caused you to go out and create Wikipedia?

I do not mean to interrupt. My son is coming from his high school Charter High School of Wilmington, Delaware, and they are going to be here tomorrow with the Young Democrats and Young Republicans coming on the same bus from Wilmington, Delaware. You can sit on either side of the aisle.

Chairman LIEBERMAN. That should be a very collaborative experience.

Senator CARPER. It promises to be that. And they have the opportunity to pick among three hearings to attend for 45 minutes or so tomorrow morning. And I know they would all love to be here. They talk about Wikipedia a lot.

Mr. WALES. Oh, yes.

So the original inspiration for Wikipedia came about 2 years before I created Wikipedia. I was watching the growth of the open source software movement, Free Software, and recognized that programmers were coming together from all over the world to collaborate on creating software in a new way. And like a lot of people, when I first saw this happening I thought well this is kind of fun, a hobby, but you know it really cannot work.

But very quickly we were seeing that GNU, Linux, Apache, PHP, PERL—all of the software that really runs the web underneath was all collaboratively written, typically by volunteers using a new model of sharing, and using licenses that allow other people to take your work, modify it, reuse it, and so forth.

And so, I realized that this model of collaboration was working and that it was something that could be very big in the future.

It is natural that this started with programmers because if programmers need tools to collaborate to share their code with each other, they can create their own tools. So for example, they have a program called CVS, which they use to check in and out changes of code so that multiple people can be working on the same project at the same time. But for the rest of us the only way we could really collaborate was by e-mailing around word processing documents or whatever. Which if you have ever sent out a document to eight people and asked for revisions and you get eight different versions back, it is a nightmare.

And so I realized that what we really wanted to see was the creation of tools for people to be able to effectively collaborate.

My first version of this, I had the idea that there should be a free encyclopedia. That seemed like an obvious thing. I was in a panic actually when I had the idea that I thought somebody else would do it first. But I designed it in collaboration with a guy that I had hired to help me. It was a very top-down approach, very old fashioned, and it failed. It did not really take advantage of the possibilities of the new medium and for volunteers a very academic top-down approach was just not very fun.

So we discovered the wiki editing technology which had been around for quite some time and applied it to the encyclopedia and it just began taking off almost immediately.

Senator CARPER. You may have already said this, but the lessons that you learned in that endeavor, how might we apply them effectively here?

Mr. WALES. I think there are a few basic principles. One is to recognize that most people are basically good, and so it actually is possible to have a fairly open system with fairly light controls that allows the community to police themselves. And you can actually get really good quality work in that way.

I always compare it to—the management of a community website is very similar to good municipal government. You do not want a police state where people can be kicked out of the project for the slightest hint of dissent. At the same time, you do not want complete anarchy where people are getting mugged in the park and that sort of thing. So you have to find that balance between openness and control that really puts the power into the hands of the community.

And I think that those kinds of ideas are very applicable, clearly to a democratic government in a free society. One of the things I think we should be experimenting with is agencies experimenting with doing public facing wikis to try to get the engagement of the public in various aspects of their work.

Senator CARPER. Thanks very much.

Ms. Evans, it is nice to see you again. As I am sure you recall you were here, a couple of months ago, discussing at-risk IT investments.

In your testimony today, I think you stated that the E–Government Act authorizes Federal IT workforce development programs.

How have agencies progressed since 2002, in closing and identifying IT workforce gaps?

Ms. EVANS. As required by the E–Government Act and also the Clinger-Cohen Act, we have identified the gaps. The CIO Council takes a leadership role in that. We actually have an updated IT workforce assessment summary that we will be releasing shortly and we—this is voluntarily response rate. And so we had a 40 percent response rate.

We have identified the same gaps going forward. The agencies have plans in place to close those gaps and that is now being monitored through the President's Management Agenda. We need to improve more about what we are doing and actually have better metrics to clearly demonstrate that we actually have closed the gaps and we are working with the agencies now on that, as well as the Office of Personnel Management so that we will have clear metrics so we can hold ourselves accountable for in that area.

Senator CARPER. All right. And how do yo plan to continue closing these IT workforce gaps in the future?

Ms. EVANS. There is a couple of things that we have done, besides the actual plans and the hiring. The Council itself has the biggest gap in making sure that we have the workforce, that we hire the workforce, recruit them, and then bring them in, and have the training program.

So the CIO Council itself has worked on several recruitment tools, videos. We have also held online hiring sessions where we have used some of our special authorities so that we could then take those and work with OPM and then immediately hire the folks through online types of registration, making use of the technology so that we can attract the workers.

But then what the challenge that we have is we have to make sure that our workplace retains the workers. The new workforce coming in, when you start looking at the demographics, are used to certain tool sets. And we have to make sure that the government provides those tool sets so that we can retain them once they are here.

Senator CARPER. How do you measure success in this regard?

Ms. EVANS. Currently, right now the one metric is the hiring metric we have. And then we are also tracking the project managers through the framework that the CIO Council has released about the skill levels associated with that. But we need to have better metrics and we are working on developing those metrics, especially in the area of cyber security, enterprise architects, and solution architects.

Senator CARPER. Good. Thanks for being here today. In fact, all of you, thank you for being here today.

Chairman LIEBERMAN. Thanks, Senator Carper. Senator Akaka, if you have a question or two more, we would welcome them.

Senator AKAKA. Thank you so much, Mr. Chairman. Ms. Evans, every government website currently contains a list of individual parts of the site that should not be made searchable by services such as Google Search or Microsoft Live Search. When OMB implemented USASearch.gov, it just contracted with Microsoft Search at the time, meaning that the same search restrictions for commercial services were also in this government search.

The E–Government Reauthorization Act calls for enhanced access to search government websites by commercial, let me say,

search engines which would evaluate and make government search engines more effective, as well. USASearch.gov was meant to be a single point to search all government websites. However, it is largely based on the same technology in use by other commercial search engines such as Google and subject to the same limitations as have been discussed here today.

When OMB set up USASearch.gov, why did it not ask agencies to make improvements to their searchability at that time?

Ms. EVANS. Well, sir, we believe based on the policy that we did issue as required by the E–Government Act that we have asked agencies to do that and that we have provided the framework and the policy in place for them to do it. I believe the way that the reauthorization language has been written, this will give us the mechanism to follow up and make sure that there is accountability for that. It is one thing to have a policy. It is another thing to have an agency implement it and then also report to you on an annual basis the results, "like a scoring" of what they are doing.

And so what we are going to do through the Council and through the web communities that we have, is make sure that we take advantage of things such as the sitemap standard and looking at that information and making a very conscious decision that yes, all of this has to be available. And if they make a decision that maybe it should not be available, then maybe it should not be available to the public all together. Maybe they need to pull that down and there is a reason why.

But the agencies have to go through this and look at it. And I think the way that we have written it that you guys are doing this, our policies will accommodate for the language that is in there and hold the agencies accountable for that in a very transparent way.

Senator AKAKA. Did you need this reauthorization to implement improvements?

Ms. EVANS. No, sir. But I would say that—because we always are evaluating our policy. But I would say with the reauthorization it signals to the Federal agencies, and not just to the agencies, but globally, because we are looked at globally, across the board, about all of the different types of services. We do meet quarterly with all of our counterparts in several other countries. And what this will signify to them is the commitment that the government has, both the Executive Branch and the Legislative Branch, on the use of technology in a responsible way to ensure that government information and government services are available.

We could have done it through our own administrative authorities, but this is something that I think is important to you as well as us. And so the reauthorization of that Act signifies that to the global community, as well.

Mr. NEEDHAM. Senator, if I may comment.

Senator AKAKA. Mr. Needham, yes.

Mr. NEEDHAM. This has been our experience, in fact, in communicating with dozens of Federal agencies that they understand the value of search, the importance of search, and by and large all have complied with the E–Government Act of 2002 in providing a search tool on their website or a site search tool.

But we do not find as much awareness or focus on web search, the step by which a citizen gets to that website to begin with. And

one factor we have identified is a lack of clear guidance or directive from OMB. And with this legislation that has been proposed, we think that will close that gap and the agencies will understand the need to prioritize web search and ensure that whether that user or that citizen is searching on Google, Yahoo!, Microsoft Live Search, Ask.com or USA.gov, the example that you noted, they will find the appropriate Federal agency website.

Senator AKAKA. Well, thank you very much for that, Mr. Chairman.

Chairman LIEBERMAN. Thanks, Senator Akaka. Senator Carper.

Senator CARPER. If I could, a question. It is for Mr. Schwartz, but also I am going to ask our other witnesses to respond to it with their thoughts.

But to Mr. Schwartz, I was not here when you did this, but I am told by my staff and that you brought up some very good points in your testimony about privacy issues. And we all hear too often of breaches that have occurred in certain segments of our government and constituents are at risk, whether it is identity theft, or having some other sensitive information, even medical information and that kind of thing publicly disclosed.

And while OMB has issued a series of memoranda to address this issue, it is imperative that personal information trusted to the government remain secure. And I would ask for you, and for the other three witnesses today, to just share with us what you believe to be maybe the top three things that ought to be done to protect our personal information.

Mr. SCHWARTZ. Thank you, Senator Carper. I think this is an issue that this Committee could look into in more detail, as I said earlier. One of the main things is looking back at the Privacy Act. Well, let me first say that the Committee has already taken the step of passing the E–Government Reauthorization Act, which includes a privacy provision, which would create best practices for PIAs. I was glad to hear Ms. Evans cite that they are working on quality of the PIAs. That is the first step. Now they can look across those and see what they consider to be high quality PIAs, these are Privacy Impact Assessments, and create a best practice based on what the government is doing today, the agencies that are doing a good job today.

So I think that is one area that this Committee has already taken a step. I hope that will pass and so that when the agencies have to cooperate with OMB, they see that it has Congressional approval as well, in terms of those best practices, especially moving into a new Administration after next year.

The second area that I would point to is looking at the Privacy Act. In particular, one thing that we have pointed to are some of the definitions in the Privacy Act. I do not want to get too technical, but there is the main definition of how you figure out what is covered under the Privacy Act of 1974. It is called a System of Records. And the idea there is that if you, as an agency, gather records together based on whether it is personal information or not, and you have that information and you actually search on those terms, then it is a System of Records.

If you just gather the information together and keep it in a place, but you do not go in a search specifically on name or specifically

on Social Security number, it may not be a System of Records under the law.

This is because the law was written in 1974 when we had centralized databases and it was assumed you would always be searching by a Social Security number or a name, right, and not that you could search any of the fields in the database.

Some agencies have interpreted the law very literally, whereas some agencies are taking the broader approach of saying that this was meant to apply to information that is collected in a single place.

That, to me, is one area where, especially in the web age where you can search information across various different resources at the same time, so it might not even be in the same central place. We need to go back and look at some of those definitions like that.

Another example, just because you gave me three, is the definition of routine use, where agencies can say beforehand that they are going to use information, share it with other agencies, and make very broad exceptions as to how they are going to share information, as long as they do it in advance. There is this loophole that is called the routine use exemption, that basically has no limits. As long as you say you are going to use it in advance, you can share that information in advance.

I think we need to go back and look at that in a records context and say, maybe we should have some limits to what kinds of routine uses there should be.

Senator CARPER. Thank you. Mr. Wales.

Mr. WALES. Well, I am not really an expert on what the Federal Government is doing about privacy. I just wanted to make one general point, which is that technology has impacted privacy in sometimes surprising way, so that information that people felt comfortable being public when it meant that you could go down to the courthouse and look it up, feels very different when you can type in your name in a search engine and anyone can find it just like that.

An example in Florida, this is not our Federal Government example, but a State example: All of the tax records for homes, which have been public, I suppose forever, including diagrams and now satellite photos of people's houses, is all available just by searching on people's names in the local county assessor's office.

A lot of people find that very unnerving even though it is the same information that has always been available publicly, except it is a little different if you actually had to go down to the courthouse to get it.

And so I think in many ways we are going to have to be not just thinking about how do we make sure the government is adhering to some privacy standards but actually rethinking what kinds of things people consider private or not and may need a philosophical approach to that question.

Senator CARPER. Good. Thank you. Mr. Needham.

Mr. NEEDHAM. So the one recommendation that we would offer at Google is the same that I have been articulating this morning, which is that Sitemap Protocol or Sitemaps Technology not only enables an agency to tell search engines come and index this information. It can also say stop indexing this information. Simply by with-

drawing an item from that sitemap, that is the message to each search engine to remove that record.

So that if there was a record found in a database that contained PII, the agency can swiftly remove it from search engines through this technology.

Senator CARPER. All right. Thanks. Ms. Evans, the closing word?

Ms. EVANS. Well, because you asked about the top three issues and I think that what we have changed, and Mr. Wales has really highlighted this, is how we used to traditionally collect information, the way we would announce it through the *Federal Register,* and have looked at that need for the information. The Administration has really looked at that, issued the policy about the safeguarding but what is key to that is, why are we collecting the information? Is it really necessary for us to have that information?

For example, Social Security numbers. We are actually asking agencies to really go back, look at that. Why are you collecting that information? Do you really need to have that? Or was it convenient for the programmers, as a unique identifier, to tie all of these systems together? And couldn't we just randomly generate a unique identifier and crosswalk these?

I mean technology has evolved, for some of the reasons why we were collecting certain data in order to make it easier. Now because technology is now gone to the next evolution, some of those business practices we do not need to do anymore.

And so we really have been focusing on the agencies, really having them go back and look at their information holdings. That is the purpose of the policy in which was M–0716. We are holding agencies accountable for it. It is a fairly comprehensive policy. And if you track the scorecard and the progress that the agencies make, last quarter we took every agency down because they did not meet all of the requirements that were in there. And part of that is reviewing all of the information holdings. How do they use that and then how are they protecting that?

Senator CARPER. OK. My thanks to all of you. Thanks for being here and for your responses.

Chairman LIEBERMAN. Thanks, Senator Carper. That was a important line of questioning. I appreciate it.

I want to thank all of the witnesses. This really has been an excellent and, for me, exciting hearing. I am grateful for the progress that we have made in the first 5 years into the E–Government Act. We obviously have more to do.

And the reason this hearing is exciting is because of the dynamism of this part of our lives and the tremendous potential for government. Obviously it effects us in so many other ways, but in this case we are focused on government.

So we want to continue to work with you or push you occasionally. I hope you will come to us if you need help, Ms. Evans.

Ms. EVANS. Yes, sir.

Chairman LIEBERMAN. We are advocates for support because we really believe in what you are doing. I must say, I talked when I was speaking about you, Mr. Wales, that you are a line that goes back into America to Franklin and Jefferson of innovators. Much younger, of course.

But this hearing inspires me to put into the record one of my favorite expressions of the American spirit from American literature, which is Mark Twain's depiction of Huckleberry Finn and Jim on that raft on the Mississippi. And every time they approach the bend in the river, though they did not know what was on the other side, they never feared it. They always had this tremendous sense of excitement. And also confidence that they could meet whatever was there and, in some sense, turn it to their benefit.

And I think that it exactly—I suppose I cannot resist a certain amount of chauvinism in expressing pride that it was the Defense Advanced Research Projects Agency (DARPA), a Federal agency that actually created this modern American river, global river of the Internet. But that you all are really helping us to have that same kind of spirit of adventure and confidence and excitement as we approach the various bends in the river that human experience makes sure we will constantly approach.

And so for our part, we want to make sure that we are doing everything we can to see that the Federal Government is making maximal use of these technologies. I thank you very much.

The record of the hearing will stay open for 15 days in case you want to add anything to your testimony and in case Members of the Committee, particularly those who could not, for reasons of schedule, be here this morning, and want to ask you any questions in writing.

But I thank you very much for the time you took to be here, for what you are doing everyday, and for what you have contributed to our attempt to drive this exciting sense of opportunity through the Federal Government.

The hearing is adjourned.

[Whereupon, at 12:02 p.m., the Committee was adjourned.]

APPENDIX

PREPARED STATEMENT OF SENATOR COLLINS

Offering Federal services and information via the Internet gives people immensely valuable tools for their personal, business, and civic lives.

Anyone with access to a computer and the Web can visit the Federal portal USA.gov and be only a few mouse clicks away from printable tax forms, information on home heating assistance, an e-mail link to their Senator, testimony on legislation of interest, museum collections, data on Civil War ancestors, advice for small business, recipes for low-cost nutrition, energy-saving tips, instructional videos, and thousands of other topics.

These "E-Government" offerings not only provide near-instantaneous information and services to citizens, but also save the Federal Government and individual citizens money that would otherwise be spent on phone or mail queries or in printing and delivering physical documents.

Online resources also allow Federal employees to book travel, enroll in and modify selections in their benefit programs, receive training, and perform other tasks quickly and efficiently. In addition, they are powerful "force multipliers" for government employees who need to research laws and regulations, respond to constituent inquiries, or collaborate with workers in other agencies.

Our intelligence community offers a good example of Internet technology at work. The three classified, collaborative sites that constitute the "Intellipedia" promote intelligence sharing and collaboration on important national security issues.

The World Wide Web—the collection of publicly accessible, hyperlinked texts and graphics that reside on servers connected to the Internet—is less than 20 years old, and is still developing. The Federal commitment to the Web, formalized with the E-Government Act of 2002, is only 5 years old. We have not yet fully tapped the promise of the Internet as a valuable tool for the Federal Government and the public.

Appreciating both the value and the unfulfilled potential of e-government services, I was delighted to join Senator Lieberman as an original cosponsor of S. 2321, the E-Government Reauthorization Act of 2007.

Apart from its reauthorization of several important programs, the bill contains an additional provision that will improve the public's ability to access Federal information posted on the Internet by encouraging Federal agencies to make online public information open to indexing by commercial search engines.

I understand that a large portion of Federal Web pages are not configured to permit automated indexing by "crawlers" or "spiders" for search services like Google, Yahoo!, or Ask.com. If the pages are posted on the Web, I see little reason, as a general practice, for not making them accessible to search engines.

Some agencies have expressed concern about this provision because they fear a citizen might download a form without accompanying instructions or without examining other important information. That may be a valid issue, but it is not unique to the Internet, and there should be ways to mitigate it without making useful materials invisible to search engines. The searchability provision of our reauthorization bill should lead to OMB guidelines that will encourage agencies to review the architecture of their Web pages and make any necessary changes to address such concerns.

That is just one example, Mr. Chairman, of the E-Government issues that the government must address. Today's witnesses from OMB, Wikipedia, Google, and the Center for Democracy and Technology are well positioned to advise us on the state-of-the-art and on best practices for enhancing the value of E-Government to Federal agencies and to the American public.

STATEMENT OF

THE HONORABLE KAREN EVANS

ADMINISTRATOR FOR ELECTRONIC GOVERNMENT AND

INFORMATION TECHNOLOGY

OFFICE OF MANAGEMENT AND BUDGET

BEFORE THE

COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL

AFFAIRS

UNITED STATES SENATE

DECEMBER 11, 2007

Good morning, Mr. Chairman and Members of the Committee. Thank you for inviting me to speak about the current status of E-Government.

As you know, this December 17th marks five years since the President signed the E-Government Act of 2002 into law. The passing of this Act was an acknowledgement of the rapid transformation the Internet and information technology (IT) has on the way citizens, private business, and government interact with one another.

In the invitation letter from the Committee, the stated purpose of this hearing is to discuss the progress the government has made in getting services and information online and available to the public, what new technologies could be used to enhance the government's ability to collaborate and share information, and what challenges remain five years since the enactment of the E-Government Act.

To address this first stated purpose, I will discuss what actions we have taken over the last five years to: 1) address the statutory requirements in the Act; and 2) improve the availability of government information, and services through the effective use of IT.

In regards to the second and third stated purpose, we continue to evaluate technologies to enhance government collaboration, but technology isn't necessarily the leading factor limiting Federal agencies' ability to collaborate. At the moment, efforts such as the Federal Enterprise Architecture and the Governmental Lines of Business (LoBs) are used

to enhance collaboration among Federal agencies by aligning their business processes at a strategic level which makes it easier for them to partner and work with one another. It's the challenge of getting these processes institutionalized which is one of the difficulties in getting agencies to collaborate and share information better, and is also one of the remaining challenges for E-Government when looking ahead and attempting to transform services, and get results.

Before addressing what has been accomplished over the last five years, I want to briefly update the Committee on the latest security and privacy metrics across the Federal Government.

Security and Privacy

Title III of the E-Government Act, otherwise known as the Federal Information Security Management Act (FISMA) calls for a comprehensive framework for ensuring the effectiveness of information security controls over information resources supporting Federal operations and assets. Our latest FISMA FY 2007 fourth quarter report shows 88% of all major IT systems across the Federal Government have been certified and accredited while 19 out of the 25 major agencies have Privacy Impact Assessments for 90% or more of applicable systems. Overall we consider FISMA to be successful in helping to meet the goal of improved information security across Federal IT systems and we will continue to work with agencies to increase security and privacy effectiveness while at the same time managing risks to an acceptable level. We will be providing our annual FISMA report to Congress on March 1, 2008.

Statutory Requirements of the E-Government Act

Section 203 - Compatibility of Executive Agency Methods for Use and Acceptance of Electronic Signatures

E-Authentication

The Presidential E-Government Initiative, E-Authentication, provides a trusted and secure standards-based authentication architecture to support Federal E-Government applications and initiatives. This approach provides a uniform process for establishing electronic identity and eliminates the need for each initiative to develop its own solution for the verification of identity and electronic signatures, saving time and money across the Federal Government. E-Authentication's distributed architecture allows citizens and businesses to use non-government issued credentials to conduct transactions with the Federal Government.

E-Authentication also created the US E-Authentication Identity Federation which allows Federation members to recognize and trust log-in IDs issued by other trusted Federation members. The trusted members issuing these log-in IDs may be other government agencies, academic institutions, or commercial entities, such as banks or other financial services institutions.

As of September 30, 2006, 31 agencies were members of the Federation, with 70 more scheduled to "go live" within the next 12 months. Six credential service providers are also members of the Federation, providing 3rd party credential provisioning and management to E-Government users.

Section 204 - Federal Internet Portal

USA.gov

As the official Internet portal to government information, USA.gov provides a centralized point of entry where the public can locate government information, benefits, and services. This cuts down on the time spent by individuals trying to locate government information of interest to them.

The public has embraced the usefulness of USA.gov and in FY 2007, it received approximately 97 million visits during the year or 1.87 million visits per week. This last year, USA.gov received numerous national recognitions for the quality and effectiveness in providing government information to the public and was highlighted in July 2007, by Time Magazine in an article entitled, "25 Sites We Can't Live Without."

The National Contact Center supports USA.gov through 1-(800)-FED-INFO and serves as a single telephone number for obtaining official information about, state, local, and tribal benefits and services in both English and Spanish. Furthermore, GobiernoUSA.gov provides links to Spanish-language government information and the ability to search across the government online in Spanish.

The usefulness of the National Contact Center and USA.gov can be highlighted in their support for the Department of Veterans Affairs (VA) in its response to breaches of personally identifiable information.[1] This response enabled Veterans and other citizens to call the National Contact Center or access USA.gov to learn more about the breach incidents, who to contact, and steps to mitigate and prevent future breaches and allow those who were affected greater peace of mind. For this particular incident which took place in May 2006, the USA.gov page on Veterans Data Security was viewed 515,993 times in a three week period from May 22 to June 11. During the two months of May and June 2006, 26,801 new subscribers signed up for e-mail alerts to learn of updates to the Veterans Data Security page. Additionally, the National Contact Center handled 113,354 calls related to this incident.

Section 206 - Regulatory Agencies

Regulations.gov

Businesses and individuals can access federal regulations on the Internet, but the process of following and participating in the Federal regulatory process can be time-consuming.

[1] The website can be found at: http://www.usa.gov/dataincidents.shtml.

The public must know the agencies responsible for developing a regulation in order to view it through individual agency websites or the Federal Register. Additionally, on-line access to comments about regulations, along with other supporting documents, is limited.

Regulations.gov, a government-wide rulemaking portal, solves this dilemma by facilitating public participation in the federal regulatory process and improves the public's ability to find, view, and comment on federal regulatory actions. It allows the public to communicate with a wide range of government agencies whose regulations affect their daily lives and acts as a mechanism where Americans can have a voice in influencing upcoming federal regulation.

Collectively, this collaborative multi-agency effort is projected to save the Federal government more than $100 million over a five year period since agencies will not need to deploy or maintain duplicative electronic comment management systems.

Between September 30, 2006 through September 30, 2007, *Regulations.gov:*

- Received 71 million hits (5.9 million hits per month), a 26% increase in hits compared to FY2006;
- Enabled the public to view or download more than 32 million pages, an 88% increase in pages viewed compared to FY2006;
- Posted more than 920,000 documents for public access, a 206% increase in documents compared to FY2006; and
- Enabled agencies to post more than 114,000 public submissions (including public comments submitted by paper, email, and fax).

As of October 1, 2007:

- 26 Federal Departments and Agencies have completed Federal Docket Management (FDMS) implementation which facilitates functionality on Regulations.gov;
- Implemented Federal Departments & Agencies represent over 80% of Federal rulemaking output; and
- Federal Departments and Agencies representing over 90% of Federal rulemaking output will be using FDMS by Q1 FY2008.

Overall, in FY 2007, Regulations.gov has received more than 110,000 public comments on behalf of 100 agencies, and is a prime example of collaborative technology the government is utilizing to increase citizen participation in government and democracy.

Section 207 - Accessibility, Usability, and Preservation of Government Information

Interagency Committee on Government Information Working Groups

OMB established the Interagency Committee on Government Information (ICGI) in June 2003. The Committee developed and provided recommendations to the Office of Management and Budget (OMB) and NARA to promote cost-effective management of Federal information resources.

Adoption of Standards to Make Government Information more Available

OMB issued the following to agencies in order to improve the availability of government information:

- Memorandum M-06-02, "Improving Public Access to and Dissemination of Government Information and Using the Federal Enterprise Architecture Data Reference Model," to identify procedures for agencies to organize and categorize information and make it easily searchable *(December 16, 2005)*; and
- Memorandum M-05-4, "Policies for Federal Agency Public Websites," to promote efficient, effective and consistent use of Federal agency public websites *(December 17, 2004)*.

Records Management

On December 15, 2005, the National Archives and Records Administration (NARA) issued, "Guidance for Implementing Section 207(e) of the E-Government Act of 2002,[2]" to assist agencies in scheduling their electronic records.

Effective management of government records ensures adequate documentation of the policies and transactions of the Federal Government, allows the Federal Government to review and improve its programs, and helps the public obtain information about Federal programs and activities. To achieve these benefits, agencies systematically manage all their records regardless of form and medium (e.g., paper and electronic form) throughout the information life cycle.

OMB continues to work closely with NARA and the General Services Administration (GSA) in support of their records management activities. For example, OMB participates in the Federal Records Council whose role is to provide a forum where upcoming records management policies and developments affecting Federal agencies can be discussed. On August 2, 2007, GSA issued a request for quotes under its SmartBuy initiative to negotiate standards terms, conditions, and discounted prices with vendors providing electronic data and records management software.

[2] NARA's Guidance for Implementing Section 207(e) of the E-Government Act of 2002," can be found at: http://www.archives.gov/records-mgmt/bulletins/2006/2006-02.html.

Dissemination of Federal Research and Development

Dissemination of Federal R&D activities is essential to stimulate an exchange of new scientific information and technologies. Furthermore, agency R&D activities are an essential component of many agency functions and missions. Multiple channels have been utilized to increase the public's access to R&D information including:

- Science.gov - Science.gov provides search capability across 30 Federal agency R&D databases and provides links to science websites and scientific databases allowing citizens to access the results of Federal research.[3] In FY 2007 Science.gov experienced 6.5 million search queries across all of its scientific databases. http://www.science.gov ;
- The RaDiUS database provides the public and agencies with information about federally funded R&D activities. https://radius.rand.org/radius/index.html ;
- Currently individual agency responses to the annual E-Government Act Implementation Report lists websites agencies are using to disseminate R&D information relevant to their agency.

Section 208 - Privacy Provisions

Pursuant to section 208, agencies must conduct a Privacy Impact Assessment (PIA) for electronic information systems and collections when certain criteria have been met. Additionally, agencies must translate privacy policies into a standardized machine-readable format and post these policies on agency websites used by the public. Agencies are also required to report annually to OMB on compliance with the requirements of section 208.

A PIA is an analysis of how the Federal government handles personally identifiable information to ensure compliance with applicable privacy laws and polices, determine the privacy risks associated with the information system, and evaluate protections and alternative processes to mitigate these risks. Conducting a PIA appropriately ensures agencies consider privacy concerns and incorporate mitigating measures into the development and operation of the information system.

Agencies are required to conduct a PIA when developing or procuring IT systems or projects which collect, maintain or disseminate information in identifiable form from or about members of the public, and when initiating a new electronic collection of information in identifiable form under the Paperwork Reduction Act.

The E-Government Act requires agencies to make PIAs publicly available. Consistent with the Administration's policies regarding information dissemination and transparency, OMB interprets this provision to require agencies to post on their websites those PIAs required under the Act to be published.

[3] The list of databases can be found at: http://www.science.gov/searchdbs.html

Reporting on the privacy provisions are incorporated into the quarterly and annual reports agencies submit under the Federal Information Security Management Act (FISMA). Additionally, OMB has issued policies and guidance to support and assist agencies with ensuring adequate compliance with privacy provisions required under law and policy:

- Memorandum M-07-16, "Safeguarding Against and Responding to the Breach of Personally Identifiable Information," requires agencies to implement a breach notification policy to protect personally identifiable information in possession of the government. Additionally, the memorandum discusses new and existing security and privacy requirements to reduce the risks related to data breach and mitigate the effects when a breach occurs *(May 22, 2007)*.
- Memorandum M-06-19, "Reporting Incidents Involving Personally Identifiable Information and Incorporating the Cost for Security in Agency Information Technology Investments," provides updated guidance on the reporting of security incidents involving personally identifiable information to the United States Computer Emergency Readiness Team (US-CERT). Additionally, the memorandum discusses new and existing requirements addressing security and privacy in agencies' FY 2008 budget submissions for IT *(July 12, 2006)*.
- Memorandum M-06-15, "Safeguarding Personally Identifiable Information," reemphasizes to agencies their responsibilities under law and policy to appropriately safeguard sensitive personally identifiable information and train employees on their responsibilities in this area. The memorandum further requires each agency's Senior Official for Privacy to conduct a review of agency policies and processes, and take corrective action as appropriate to ensure adequate safeguards are in place to prevent the intentional or negligent misuse of, or unauthorized access to, personally identifiable information *(May 22, 2006)*.
- Memorandum M-05-08, "Designation of Senior Agency Officials for Privacy" requires agencies to better coordinate privacy concerns by designating a senior official in charge of overall responsibility and accountability for ensuring implementation of privacy protections. This includes the agency's full compliance with federal laws, regulations, and policies relating to information privacy, such as the Privacy Act *(February 11, 2005)*.
- Memorandum M-03-22, "Guidance for Implementing the Privacy Provisions of the E-Government Act of 2002," assists agencies in conducting reviews and PIAs addressing how information in identifiable form is handled when the agency uses or develops new IT systems or modernizes existing systems *(September 26, 2003)*.

Section 209 - Federal Information Technology Workforce Development

On July 21, 2004 OMB issued Memorandum M-04-19, "Information Technology Project Manager Qualification Guidance," to assist agencies with ensuring their project managers are appropriately qualified by utilizing the Federal IT Project Manager Guidance Matrix. This matrix helps to define levels of complexity for IT projects, identify appropriate competencies and experience for project managers, and serves as a tool for validating IT project manager credentials.

Currently, agencies' plans and associated milestones for closing their identified IT workforce gaps are monitored through the Human Capital Scorecard. Through this agencies are seeking to improve across a wide range of positions, but are specifically focused on critical positions, such as:

- Project Management;
- IT Security; and
- IT Architecture.

To develop, supplement, and modernize Federal agency IT workforce skills, the E-Government Act authorized the Information Technology Exchange Program. The program allows members of the Federal IT workforce to work in the private sector and conversely allows individuals from the private sector to bring their skills to the Federal IT workforce. To help agencies implement the program, the Office of Personnel Management (OPM) finalized regulations and posted guidance for agencies to use when participating.[4]

Section 210. Share-in-Savings Initiatives.

GSA, in consultation with OMB, identified potential Share-in-Savings (SiS) opportunities across government and developed guidance on how to determine mutually beneficial SiS. Previously, the Clinger-Cohen Act directed the use of SiS for selected pilot projects, but agencies were not allowed to keep the savings they recognized. The provision in the E-Government Act allows agencies to retain some of these savings.

Section 211 - Authorization for Acquisition of Information Technology by State and Local Governments Through Federal Supply Schedules

The E-Government Act provides state and local governments the opportunity to utilize GSA's Federal Supply Schedules for automated data processing equipment (including firmware), software, supplies, support equipment, and services as included in Schedule 70. GSA has taken responsive action to address the requirements of this section and on May 18, 2004, GSA published its final rule authorizing acquisitions of IT by state and local governments through Federal Supply Schedules.

Recently GSA awarded agreements under the SmartBuy initiative allowing state and local governments to leverage their purchasing power alongside the Federal Government to attain the latest security encryption products and services at discounted prices so they are better able to manage security risks to their IT systems.

Section 212 - Integrated Reporting Study and Pilot Projects

OMB's Federal Enterprise Architecture (FEA) helps identify the relationships between business and management process and IT systems so agencies can better align their

[4] The OPM IT Exchange Program guidance can be found at: http://www.opm.gov/leader/hrd/lead/itep/overview.asp.

technology investments with their agency.[5] By combining and analyzing these relationships from a government-wide perspective, OMB is able to determine how much IT spending is occurring in support of specific lines of business or services, including those which may transcend agency boundaries (e.g. environmental management, law enforcement, human resources, supply chain management, and security management). This analysis also identifies redundancies amongst IT investments (within an agency, or across agencies), thereby highlighting opportunities for potential consolidation, collaboration, or re-use of IT assets.

OMB also continues to work with agencies to evaluate and improve their agency enterprise architectures. During the most recent evaluation (February 2007), OMB assessed 19 of 26 agencies' enterprise architectures as "effective" as part of the President's Expanded E-Government Scorecard[6]. These architectures adequately describe the agency mission and the resources needed to achieve them, and have been used to drive satisfactory program performance and/or cost savings. Since last February, 2 of the 7 underperforming agencies have elevated their architectures to an "effective" level. OMB continues to work with the remaining 5 agencies to work toward an "effective" rating for the February 2008 assessment.

Section 213 - Community Technology Centers

The Department of Education sponsored the Community Technology Center Program, from 2000 to 2005, to provide disadvantaged residents of economically distressed urban and rural communities with access to IT and the training to use it.

OMB, in partnership with the Department of Education, the Government Printing Office (GPO), the Institute of Museum and Library Services, NARA, and GSA, completed a study evaluating the best practices of community technology centers, public libraries, GPO's Federal Depository Library Program, and NARA research rooms.[7] The study identified promising practices to expand computer and Internet access to the public and, where applicable, highlighted completed performance evaluations assessing the effectiveness of certain programs.

Section 214 - Enhancing Crisis Management Through Advanced IT

Disaster Management (DM) is a program of the Department of Homeland Security's Federal Emergency Management Agency (FEMA). DM aims to improve preparation, mitigation, response, and recovery for all hazards by creating the capability to seamlessly and securely share incident information across the Nation's emergency response community in an effort to minimize the loss of life and property. The Disaster Management Interoperability Services (DMIS) incident management platform provides emergency managers with the ability to collaborate and share information with other

[5] The FEA is described in more detail at http://www.whitehouse.gov/omb/egov/a-1-fea.html.
[6] The results of the February 2007 Enterprise Architecture assessment are described in more detail within "OMB 2007 EA Assessment Results" at http://www.whitehouse.gov/omb/egov/a-2-EAAssessment.html.
[7] This study can be found at: http://www.whitehouse.gov/OMB/inforeg/section_213_report_04-2005.pdf

DMIS users within their own organizations and with external organizations. The Open Platform for Emergency Networks (OPEN) system is the infrastructure enabling the exchange of information between disparate systems complying with the messaging standards DM is facilitating in support of practitioner requirements. FEMA is working collaboratively with the Office for Interoperability and Compatibility, within the DMIS toolset and OPEN backbone allow agencies to communicate collaboratively with local communities during an emergency.

SAFECOM Initiative

The SAFECOM initiative provides research, development, testing and evaluation, guidance, tools, and templates on interoperable communications-related issues to Federal, state, tribal, and local emergency response agencies. These services create more effective and efficient interoperable wireless communications, and as a result improve public safety response.

SAFECOM is working with existing Federal communications initiatives and key public safety stakeholders to enhance the cross-jurisdictional and cross-disciplinary coordination of interoperable communications. The scope of this community is broad and the customer base includes over 50,000 local and State public safety agencies and organizations and over 100 Federal agencies are engaged in public safety disciplines, including law enforcement, firefighting, public health, and disaster recovery.

To address the most urgent interoperability needs, SAFECOM is supporting DHS' Office of Emergency Communications' development and implementation of a National Emergency Communications Plan and The National Communications Baseline Assessment. The National Emergency Communications Plan supports and promotes the ability of emergency response providers and relevant government officials to continue to communicate in the event of natural disasters, acts of terrorism, and other man-made disasters, and to ensure, accelerate, and attain interoperable emergency communications nationwide. The National Communications Baseline Assessment provides the first comprehensive assessment of interoperable emergency communication capability, including operability and interoperability, across all levels of government and public sector entities.

Additionally, SAFECOM is helping to ensure all public safety agencies have the necessary tools and resources to meet the immediate demands for interoperability when responding to an emergency. SAFECOM guidance, tools, and templates help guide the migration of the emergency response community's existing communications systems to work more effectively with greater interoperability.

Disaster Assistance Improvement Plan

In August 2006, the President issued an Executive Order establishing a Disaster Assistance Task Force, which is comprised of 15 agencies, led by DHS. The Task Force prepared the Disaster Assistance Improvement Plan (DAIP), which was approved by the

President in September 2007. Specifically, the Executive Order calls for the Task Force to:

> *"Recommend specific actions to improve the delivery of Federal disaster assistance which shall include actions to provide a centralized and continuously updated clearinghouse from which disaster victims may obtain information regarding Federal disaster assistance and State and local government and private sector sources of disaster assistance; reduce unnecessarily duplicative application forms and processes for Federal disaster assistance; and strengthen controls designed to prevent improper payments and other forms of fraud, waste, and abuse."*

The overall intent of DAIP is to streamline the process disaster victims use to apply for and receive disaster assistance from multiple Federal agencies.

Section 215 - Disparities in Access to the Internet

GSA and the National Academy of Science conducted a study to develop a methodology and approach for examining disparities in Internet access and how these disparities influence the effectiveness of online government services. The report based off this study was published January 24, 2005.[8] It included a review of the nature and causes of disparities in Internet access and examined how the increase in online government services influences the disparities in Internet access and how technology development and diffusion trends may offset these adverse influences.

On April 26, 2004 the President gave a speech emphasizing the need for universal and affordable access to broadband technology, helping to eliminate the disparity in access to the Internet.

- The President signed into law a two-year extension of the Internet Access Tax moratorium and has called on Congress to pass legislation that would explicitly extend the moratorium to broadband and make the moratorium permanent. Taxing broadband access would increase the cost of broadband for consumers.
- The President signed an Executive Memorandum that implements Federal rights-of-way reforms to streamline the process for broadband providers to get access to Federal lands to build high-speed infrastructure. The reforms will help to minimize burdens on industry allowing for easier construction of broadband service.
- The Administration has supported the Federal Communications Commission's decision to free new fiber-to-the-home investments from legacy regulations. Deregulating new ultra-fast broadband infrastructure to the home removes a significant barrier to new capital investments thus helping to make broadband access more widely available.

[8] This report can be found at: http://www.cio.gov/documents/icgi/report.pdf

Section 216 - Common Protocols for Geographic Information Systems

Cross-agency coordination of geospatial activities can identify, consolidate, and reduce or eliminate redundant geospatial investments. The Federal Geographic Data Committee (FGDC), established by the Office of Management and Budget in 1990 and re-chartered in the August 2002 revision of Circular A-16, has been essential in developing recommendations for better management of technologies, policies, and people necessary to promote sharing of geospatial data throughout all levels of government, the private and non-profit sectors, and the academic community. The FGDC includes representatives from Federal agencies, as well as numerous stakeholders representing the interests of state and local government, industry, and professional organizations.

The Geospatial One-Stop initiative, through GeoData.gov, continues to provide one-stop web access to geospatial information, and encourages collaborative planning across the government for future investments in geospatial data while expanding partnerships that help leverage investments and reduce duplication.

In 2007, GeoData.gov experienced increased utilization and support from data providers and end users. In 2007, the number of records in GeoData.gov exceeded 150,000 and the number of visits to the site has increased to approximately 60,000 per month.

Major E-Government Initiatives to Benefit the American Public

Highlighted below are some examples of the Presidential E-Government Initiatives seeking to provide better access to Federal Government information and services.

Grants.gov

Grants.gov is a secure, reliable online portal to Federal grants from multiple agencies. Through Grants.gov, state, local, and tribal governments, colleges and universities, non-profits, research institutions, and other organizations have a more effective means to find and apply for grants from more than 1,000 grant programs representing over $400 billion in annual grant funds offered by the 26 Federal grant-making agencies. State and local governments who use to spend hours a day searching for federal grants now spend minutes both searching and applying for grant opportunities. In FY 2007 Grants.gov received 180,861 grant application submissions from the public, an increase of nearly 100% over FY 2006.

GovBenefits.gov

GovBenefits.gov empowers people to make decisions for themselves and their families by providing a single website to access information on more than 1,000 government benefit and assistance programs. GovBenefits.gov significantly reduces the amount of time individuals spend trying to identify and access relevant information about government benefit programs. By answering a few specific questions, individuals are

better able to determine which government benefits they may be eligible to receive along with a description and contact information for each program.

To date, GovBenefits.gov is receiving approximately 250,000 visits per month by citizens and has provided nearly 5.5 million citizen referrals to benefit programs.

Recreation.gov

Recreation.gov provides a single site for Americans to plan vacations to Federal recreation sites. This translates into less time and hassle spent navigating and planning vacations to Federal sites and makes it easier for citizens to plan a vacation or arrange reservations at a campsite, cabin, or for a tour at a Federal recreation site. As of March 2007, all 11 Federal partner agencies are providing up-to-date information to the Recreation Information Database which feeds data to Recreation.gov about Federal recreation sites, and 70 percent of all National Park reservations are made online through the website.

GovLoans.gov

Govloans.gov creates a single point of access for citizens to locate information on federal loan programs. This allows the public better access to $310 billion in federal loans each year, either directly from the federal government or through banks issuing federally guaranteed/insured loans. Prior to this initiative, there was no single source on the web for federal loan program information. As a result, citizens had to navigate through an enormous amount of information to find the federal loan programs best meeting their needs. This program reduces the time spent looking and applying for federal loans and provides enhanced customer service. Govloans.gov is increasingly popular with the public and as of the first quarter of FY 2007, all six Federal partner agencies had programs posted on the website which was averaging 38,639 visits per month.

Export.gov

Export.gov makes it easy for small and medium enterprises (SMEs) to obtain the information and documents needed to conduct business abroad. U.S. companies with fewer than 20 employees accounted for nearly $32 billion in export sales over the last decade. Despite this encouraging statistic, only 2 percent of SMEs export, and of those doing so, 63 percent export to only one foreign market. Thus growth in export related business represents a huge untapped potential for increased prosperity and employment for SMEs in communities all over the nation.

Numerous surveys have revealed a critical barrier for small exporters is a lack of information about the export process and limited resources for obtaining the information and documents necessary to conduct business abroad. Export.gov makes it easier for SMEs to obtain the information and documents needed to conduct business abroad and in the first quarter of FY 2007, Export.gov averaged 506,124 visits per month.

Business.gov

Business.gov saves businesses time and money by providing a one-stop resource for compliance information, forms and government contacts. For the first time, businesses can go to one website to search for compliance information from multiple U.S. federal government agencies Business.gov reduces the burden on the business community by eliminating the need to search through multiple websites to locate and access government information, services, and legal/regulatory requirements and forms. To date 34 out of the total 40 agencies providing substantive compliance information have submitted information to Business.gov, and the website has averaged 210,947 visitors per month.

ExpectMore.gov

ExpectMore.gov is a website that provides the public with information on how Federal programs perform. It is the result of the The Federal Funding Accountability and Transparency Act of 2006 requiring the full disclosure of all entities or organizations receiving federal funds beginning in FY 2007, on a website maintained by OMB. ExpectMore.gov was launched in February 2006 and includes information about every Federal program assessed, what its purpose is, how it performs, and what it is doing to perform better. There are over 1000 assessment summaries and detailed assessments available on ExpectMore.gov. By making candid assessments of programs more accessible to the public, ExpectMore.gov raises awareness of what Federal programs are doing to improve. You can easily browse for program assessments by either their rating or topic, or conduct a keyword search on ExpectMore.gov. Each assessment summary provides a brief program overview, some of the key findings of the assessment, and the follow-up actions agencies are taking to address those findings. Each summary includes links to the program's website and the search results for similar Federal programs. The summaries also link to the detailed program assessment. There you can find the evidence to support the program's rating along with the program's level of funding and actual results achieved.

IRS File Free

The Internal Revenue Service's (IRS) File Free program allows eligible taxpayers to prepare and electronically file their tax returns over the Internet using commercial software for free. The File Free program creates a single point of access to free on-line preparation and electronic tax filing services to reduce the burden and cost to taxpayers who have limited income. This results in faster and more accurate returns for taxpayers and reduced fears about transmitting personal tax information to third parties. As of March 29, 2007, 2.9 million returns were electronically filed through the File Free program.

Expanding Electronic Tax Products for Businesses

Expanding Electronic Tax Products for Businesses reduces the tax-reporting burden on businesses while improving the efficiency and effectiveness of government operations.

This results in timely and accurate tax information and increases the availability of electronic tax filing. Benefits include reducing the number of tax-related forms businesses must file, providing timely and accurate tax information to businesses and increasing the availability of electronic tax filing. Since FY 2006 Expanding Electronic Tax Products for Businesses has achieved its goal of having 100% of targeted IRS business related tax forms available for electronic submission.

E-Vital

E-Vital assists states in automating and streamlining the current paper-bound processes used to collect, process, analyze and disseminate death records among government agencies through an electronic, web-based system called Electronic Death Registration (EDR). EDR results in more accurate and available death record information and allows ordinary citizens a less troublesome and less burdensome process to arrange for things such as survivor benefits in their time of grief. As of January 1, 2007, 58% of US states, jurisdictions, and territories have been awarded EDR contracts to assist in developing and building EDR systems.

Looking Ahead

When looking ahead, we see many of the Presidential E-Government Initiatives as foundational services positioning the government to be more collaborative, transparent, and accountable through the use of information technology. Initiatives such as Regulations.gov provide an environment to allow for a collaborative approach, truly fostering E-Democracy which brings citizen participation in government back to a more personal level. In fact, the purpose of many of the initiatives is to provide a more citizen-centered approach toward the delivery of government services so the people themselves are not just recipients, but also active participants, in how these services are delivered.

Helping to further this goal of a more citizen-focused government will be the CIO Council, whose role it is to serve as the principal interagency forum for improving practices in the design, modernization, use, sharing, and performance of Federal Government agency information resources. Through this top level coordination, the CIO Council will continue to play a key role in the future for promoting, and working to implement the next generation of E-Government services which takes advantage the successes and lessons learned from the past five years. The Council will leverage the Presidential E-Government Initiatives and Lines of Business (LoBs) which have matured and are ready to move on to the next level of service for a more citizen-centric, collaborative approach toward the delivery of government information and services.

Conclusion

Today, people demand and expect electronic services from their government. The advancements in the private sector in providing user-friendly and time saving electronic services have shown the public the benefits these capabilities can provide. There is an expectation by the American people for their government to deliver the same high quality services while also protecting their privacy. As I have discussed today through

highlighting the numerous accomplishments we have achieved over the last five years, the Federal Government is making significant strides towards meeting these expectations with effective, collaborative, time-saving electronic services and providing citizens with increased opportunities to participate in government while managing the risk associated with these services, such as data protection.

The E-Government Act of 2002 has proven to be a pivotal piece of legislation enabling the Federal government to recognize and take action on the changes the Internet and information technology have on society and government. Reauthorization of the E-Government Act will further promote online access to government information and services, and show a commitment to implementing convenient and time saving electronic services. In addition, a well-informed citizenry is essential to a healthy democracy and the new provisions on best practices for search functionality included in the reauthorization language will leverage advances made in search technology, to help ensure government information and services remains easily accessible by everyone. Lastly, reauthorization will allow the intent and purpose of the E-Government Act to continue to be a driving force behind providing increased opportunity for the American public to participate in government.

Testimony of John Lewis Needham
Manager of Public Sector Content Partnerships, Google Inc.
Senate Committee on Homeland Security and Governmental Affairs
Hearing on "E-Government 2.0: Improving Innovation, Collaboration, and Access"
December 11, 2007

Chairman Lieberman, Ranking Member Collins, and members of the committee.

It's a great pleasure to be with you this morning to discuss Google's role in making government more accessible to citizens. My name is John Lewis Needham, and I am the Manager of Public Sector Content Partnerships at Google. In that capacity, I lead our company's efforts to build public-private partnerships with government agencies in the U.S. and internationally.

Google's mission is to organize the world's information and make it universally accessible and useful. The work that I focus on at Google is critical to this mission because few bodies of information are as important to Internet users as the broad, deep, and authoritative data provided by government.

Making publicly available government information more accessible and useful to citizens not only helps deliver to Internet users the government information they need, but it also enables the government to provide services more efficiently and effectively to taxpayers, and it makes our democracy more transparent, accountable, and relevant to its citizens.

This committee has a long tradition of promoting government transparency, accountability, and effectiveness, which are values that Google shares and hopes to support through its products. We believe, for example, that Web-based platforms like Google Maps and Google Earth – which rely in part on government-provided geospatial data – can be used by the government to better serve its citizens. For example, the U.S. Geological Survey recently developed an overlay in Google Maps that shows real-time data on earthquakes all over the world, connecting citizens to its Earthquake Hazards Program. The National Park Service has also published an overlay in Google Earth that enables users to learn more about recreation opportunities throughout the country.

And as video sharing continues to grow in popularity among Internet users, governments are beginning to turn to platforms like YouTube to better engage with citizens. For example, the U.S. Coast Guard launched a YouTube channel last year through which it shares frequent updates about its rescue missions, humanitarian efforts, and law enforcement operations.

These are among the many innovative and useful ways for government to serve its citizens through the web. This morning, I'll focus my testimony on search engines – the most fundamental Web-based resource for millions of Americans – and share with you how people throughout our nation are using the power of Web search to find and interact with their government.

In my testimony, I will cover four main points:

- First, I'll share some trends in how Americans connect with government online;
- Second, I'll identify the challenges that citizens face in trying to find government information and services on the Internet;
- Third, I'll explain a technology known as the Sitemap Protocol or simply Sitemaps, an open standard that enables web site owners – including government agencies – to make their content more accessible to search engine users; and
- Finally, I will highlight a few of our successful partnerships with government, and outline steps that agencies across the federal government can take to make their web sites more accessible.

How citizens are connecting to government online

Let me start by describing how citizens today are connecting with government information online. According to recent research by the Pew Internet and American Life Project, 77 percent of U.S. Internet users go online to find some form of government information. We can assume that this already impressive number has risen farther since this survey was undertaken in 2004. These Internet users are looking for government services in health care and housing, browsing for tourism and recreation information, or doing research for work or school, to name just a few searches for which government provides important resources. And additional research from Pew reveals that Internet users – nearly two-thirds – expect to find their government online.

So we know that Americans are increasingly looking for and expecting to find online information and services from their government. We also see that Internet users are choosing search engines like Google as their preferred way to connect with the government.

Search engines work by sending a software program to "crawl" the pages on public web sites, adding that information to an index of all the content these "crawlers" find on the Internet. As a result, when a Google user types a query into the search box of our search engine, we very quickly access that index to return search results that we've previously crawled and indexed and that are relevant to that user's query.

Here's an example: The National Institutes of Health's web site, www.nih.gov, offers a rich collection of public health and medical information from the 27 institutes and centers that comprise NIH. Let's say you're trying to find out the status of a study on avian flu. You might not be aware of the relevant NIH service, which is located at www.clinicaltrials.gov, or how to get directly to the page that lists all current avian flu-related studies (which is located at www.clinicaltrials.gov/ct2/results?cond=%22Influenza+in+Birds%22), so you start your search at Google.com.

This is a likely scenario given that very few Internet users go directly to the nih.gov site. In fact, according to our analysis of Internet traffic to NIH web sites during July 2006, only four percent of unique visitors went directly to nih.gov sites. ComScore reports that, during that same month, 70 percent of unique visitors used search engines like Google to find NIH resources, rather than typing complicated, and often unknown, Web addresses into their browsers.

This example is consistent with research that Google has conducted and statistics from other parties on the flow of Internet traffic, which indicate that as many as four out of five Internet users reach government web sites by using Google and similar search engines.

But if the information on a particular government web site is not part of the index underlying a search engine, citizens are bound to miss out on information or services that the agency offers. Today, too much public government information is effectively unavailable to the average American. It can't even be found in the federal government's own search engine, USA.gov. It can't be found through Google's search engine. And it can't be found through other Web search services on which the public relies.

Obstacles to finding government information online

Search engines have made connecting to online government resources easier, but challenges remain. Even though the search engine indexing process I explained earlier usually works quite well, certain barriers can get in the way of search engines ability to provide users with exactly what they're looking for.

More specifically, we have found that many government agencies structure their web sites in ways that prevent search engines from including their information in search results – often inadvertently. These technical barriers include:

- **Dynamic databases.** The most common barrier is the search form for a database that asks users to input several fields of information to find what they're looking for. Our crawlers cannot effectively follow the links to reach behind the search form.

- **Robots.txt files.** A "robots.txt" file is a text file that can be placed on a web site and that lists pages that shouldn't be crawled by a search engine. When a robots.txt file's instructions inadvertently prevent search engines from crawling pages, this becomes a barrier to providing government information through search engines.

- **Inaccessible links.** Outdated links on web pages can disrupt the crawling process, making it impossible for search engines to comprehensively index and make available the information on a web site.

All of these barriers prevent the public information on government sites from being included in Google or other search engine results. As a result, information that is intended for public use is rendered effectively invisible to citizen users.

Let me offer a brief illustration: A citizen may be interested in locating the Environmental Protection Agency's enforcement actions regarding a particular company, so that user conducts a search on Google.com with the company's name and the keywords "epa enforcement." The results would include relevant information, including data from EPA. But what this researcher would not find is a link to the Enforcement & Compliance History Online database at www.epa-echo.gov/echo/, which offers a list of enforcement reports for specific companies. This is because the information in this database cannot be included in a search engine's index.

EPA.gov is certainly not the only government web site that search engines have difficulty indexing. And though defining the exact scope of this issue is challenging, we believe that a large segment of government web sites and databases cannot currently be indexed due to the technical barriers

I've mentioned. In fact, we estimate that the information in part or all of 2,000 federal government web sites is not included in search engines results.

Ensuring the accessibility of government information online

With all that said, the good news is that there's a simple technical solution to help make accessible and useful to search engine users this virtually invisible public government information.

In 2005, Google introduced a technical standard that helps to ensure the accessibility of information on a web site. This standard is called the Sitemap Protocol. It provides a mechanism for a web site owner to produce a list – or map – of all web pages on a site and systematically communicate this information or "Sitemap" to search engines.

When a federal agency places a Sitemap file on its web site, search engines can readily identify the location of all pages on the site, including database records lying behind a search form. Using this sitemap, search engines are more likely to index and make the information that the agency's web site provides visible to citizens.

The Sitemap Protocol has been widely embraced by the search engine industry. In November 2006, Google, Microsoft, and Yahoo introduced the Sitemaps.org web site, formally announcing their joint support for the standard for their respective Web search services. Ask.com and others also support the standard. What this means is that, in implementing Sitemaps, a government agency can be sure it's better serving the American people, no matter which search engine individual citizens are using.

Taking the step to implement the Sitemaps protocol is free and easy. It doesn't require site redesign, the purchase of new technology, or more than a few hours or days of a webmaster's time. Implementation involves creating a list of web pages, or URLs, in an acceptable format, and adding the file that contains this list to a web site. Google provides a variety of tools to help accomplish this task and we present them to public sector Web managers at www.google.com/publicsector.

It is important to note that I'm only talking about making the public information on a government web site more available to citizens. Information that is maintained on internal web sites, including personally identifiable information, should not be made accessible through any search engine and is not the type of information we're working to crawl and index through Sitemaps.

Successes in connecting citizens with government

We believe that it would be technically simple for federal government agencies to produce a Sitemap for the information on their web sites, and that doing so would bring significant benefits to individuals throughout the country. And we know that implementing the protocol is easy to do because we've worked with many government partners – at all levels – to take this step.

For example, the Department of Energy's Office of Scientific and Technology Information operates a large database that makes research and development findings available to the public. OSTI developed a Sitemap for its Energy Citations and Information Bridge services in just 12 hours, opening up 2.3 million bibliographic records and full-text documents to crawling by search engines. The process took such little time that OSTI's director, Walt Warnick, remarked that the agency had "spent more time talking about what we did regarding the Sitemap Protocol than we

did executing it." After its implementation of Sitemaps, OSTI saw a dramatic increase in traffic to its services as more citizens discovered previously unknown resources through Web searches.

Other federal agencies that have recently embraced Sitemaps are the Government Accountability Office, which used the standard to make a database of 30 years of GAO reports and Comptroller General decisions visible to search engine users; the Library of Congress, which has made the text and images of its American Memory collections easier for Internet users to find; the National Agricultural Library, which opened its database of research in the field of nutritional supplements to medical researchers; the National Archives and Records Administration, which is now in the process of sitemapping the federal government's largest public database; and GovBenefits.gov, which now makes its profiles of over 1,000 government benefit programs just one search away.

At the state level, we've launched Sitemaps partnerships with Arizona, California, Florida, Michigan, Utah, Virginia, and the District of Columbia. These partnerships are making it easier for residents to uncover the postings for jobs available in their state, reports on school performance, and the professional license record of contractors.

The private sector long ago recognized the increasing importance of Web search. Consequently, private sector webmasters have widely embraced the Sitemap Protocol, enabling search engines to create the rich index of content you can access today through Google.com. Still, the federal government lags behind.

Last month, this committee took an important step in elevating the profile of efforts like Sitemaps to better connect citizens with government by voting in favor the E-Government Reauthorization Act of 2007, S. 2321. The act would direct the Office of Management and Budget to create guidance and best practices for federal agencies to make their web sites more accessible to commercial search engine crawlers. It also requires federal agencies to ensure their compliance with that guidance and directs OMB to report annually to Congress on agencies' progress.

We commend Chairman Lieberman and Ranking Member Collins for their leadership on this issue, and we look forward to working with you to have this important legislation passed into law.

Continuing to help government make its information available to citizens

Mr. Chairman, while my remarks today have focused on web sites and search engines, it's clear that in the years ahead government agencies will need to make information in other formats more accessible.

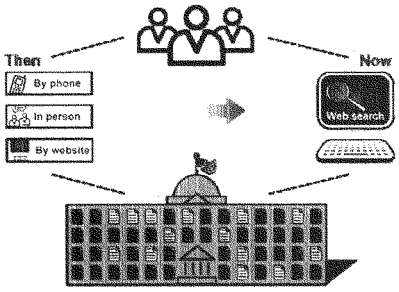
In the Web 2.0 world, where more and more citizens are using blogs, wikis, online mapping, video sharing services, and social networking sites to communicate and collaborate with each other, there will be even more demand for government to bring information to citizens where they are through these new platforms. This information will also help serve as a core component of the user-generated content that is driving the deeper engagement of Americans with each other, and with our democracy, through the Web.

We are excited by the promise of this trend, and we're committed to continuing to better connect government to citizens.

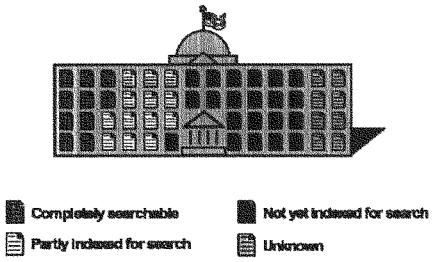
Thank you.

Addendum: The Sitemaps Story in Three Illustrations

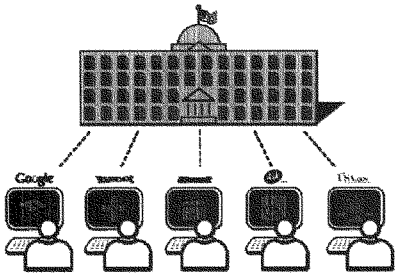
1. The Context: Citizens are connecting with government information through search engines.



2. The Problem: Information in part or all of an estimated 2,000 federal government web sites is not included in search engines because of technical barriers.



3. The Solution: Sitemap Protocol provides a free and easy way to ensure that government information is made easily accessible to citizens through search engines.



Statement of Ari Schwartz
Deputy Director
Center for Democracy & Technology
before the
Committee on Homeland Security and Governmental Affairs
on E-Government

December 11, 2007

Chairman Lieberman, Ranking Member Collins, and members of the Committee, thank you for holding this hearing on E-Government. I am Ari Schwartz, Deputy Director for the Center for Democracy & Technology (CDT).

CDT is a non-profit public interest organization founded in 1994 to promote democratic values and individual liberties for the digital age. CDT works for practical, real-world solutions that enhance free expression, privacy, universal access and democratic participation. We are guided by our vision of the Internet as a uniquely open, global, decentralized and user-controlled medium. We believe the Internet has unprecedented potential to strengthen democracy and encourage citizen participation by placing powerful information and communications technology in the hands of individuals and communities.

The Role of the E-Government Act of 2002

For five years, the E-Government Act has promoted improvements in the federal government's use of information technology, and has resulted in government information resources being more readily available to the public. The law showed great foresight in focusing on issues such as accessibility of information, privacy and security, which remain of central concern to the public.

The principal role of the E-Government Act has been to promote best practices among agencies in important areas and to solidify the federal government's technology management structure. Unquestionably, the E-Government Act has changed the way that the public interacts with the government for the better. For instance, a citizen can look up pending regulations, corporate filings, and search the federal agency websites through the USA.gov portal, regulations.gov and other appropriate sites.

We have also learned a great deal from agency implementation of the law about what areas can be improved. Five years of experience, technological progress, and changes in user expectations should guide revisions to the E-Government Act to facilitate availability of public resources to the public, and privacy protections for new technologies.

Making Government Information Searchable

The Pew Internet Project has found that commercial search engines are the most popular means to find government information.[1] This is true for several reasons. First, citizens don't necessarily know which agency holds the information they seek, but they often know how to search for it. Also, commercial search engines have simply become the most efficient and effective route to find information online. Government agencies must recognize that taxpayers will not find the information that is made available unless this information can be found on commercial search engines. Some agencies have public information resources that are not immediately accessible via search engines due to relatively minor technical problems that the agencies should quickly remedy.

Today, the Center for Democracy & Technology and OMB Watch are releasing a report demonstrating the types of government information that are not available through search engines and why. The full report is attached as an Appendix to this testimony, but I will offer a quick summary of the most important points.

In order to find online information, commercial search engines continually index the Internet via simple programs called crawlers. These crawlers face certain technological limitations that often prevent them from indexing information. Luckily, there are relatively simple ways to make information more accessible to search engines, and help government sites ensure that the most relevant information is provided to the public. Two easy ways to ensure that government information is indexed are to adopt the Sitemaps protocol, which guides search engines to content, and to limit the use of robots.txt files, which ask search engines not to crawl certain content. Unfortunately, CDT and OMB Watch found many important federal government agencies offering information and services that were not being indexed for search because they did not use these protocols well. Select examples of information that cannot be fully found by citizens using commercial search engines include:

- Federal Emergency Management Agency databases: including Flood Map Modernization project at FEMA, which maps out flood hazards.
- Other Department of Homeland Security databases: including topics like environmental radiation monitoring.
- FedBizOpps.gov database: listing approximately 200 government business opportunities within the field of telecommunications.
- Central Contractor Registration database: listing who does business and receives moneys from the federal government
- Federal Procurement Data Services database: includes data on all government contracts, including all telecommunications contracts.
- Smithsonian Institute resources: including many online content collections, including the Smithsonian Institution Research Information System.
- National Oceanic and Atmospheric Administration databases: including databases used to monitor environmental data and research.

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[1] John B. Horrigan, "How Americans Get in Touch with Government" Pew Internet Life, May 24, 2004 — http://www.pewInternet.org/pdfs/PIP_E-Gov_Report_0504.pdf

- Bureau of Labor Statistics databases: including many of the statistics and collections of information hosted on the BLS site.

It is unclear to CDT and OMB Watch whether these agencies know that their information is not publicly searchable and have not taken the adequate steps to change their practices or whether the agencies simply do not know that this important information is not being crawled. In either case, our findings show that this is a systematic problem that should be addressed as soon as possible.

It should also be noted that even the government's own search engine is directly impacted by this problem. The USA.gov site utilizes Microsoft Live Search to run its search capability. Therefore, it is subject to exactly the same inability to search these important sites as other commercial search engines.

Fortunately, the E-Government Act recognized the importance of the availability and accessibility of information. Section 207 of the Act was meant to improve the organization and categorization of government information. OMB was directed to require that agencies proactively improve access to government information and services. As President Bush said in his signing statement for the E-Government Act, "[t]he Act will also assist in expanding the use of the Internet and computer resources in order to deliver Government services, [...] for a citizen-centered, results-oriented, and market-based Government."[2] Recently, by passing the searchability provision of the Reauthorization of the E-Government Act, this Committee helped to ensure that this provision was modernized to include promote best practices that could be used to tackle this problem.

We urge the Committee to work with us to encourage agencies that have not made public information available to search engines to do so immediately and to oversee proper implementation of the search provisions of the Reauthorization Act to ensure prompt compliance.

Privacy Impact Assessments

The increased ability to find information brings with it the challenge to better manage, protect and secure the personal information of individuals held by government that could inadvertently be made public if proper steps are not taken. Congress clearly understood this concern when it passed the E-Government Act. Section 208 of the Act was specifically designed to "ensure sufficient protections for the privacy of personal information as agencies implement citizen-centered electronic Government."[3] The method to achieve this goal was to increase transparency about how the government collects, manages and uses personal information about individuals through Web privacy notices and privacy impact assessments (PIAs).

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[2] http://www.whitehouse.gov/omb/egov/g-3-statement.html
[3] PL 107-347, Section 208

The E-Government Act required that agencies perform PIAs before adopting new technology or using collections of personally identifiable information. These PIAs are public documents, containing a description of the project, a risk assessment and a discussion of potential threats to privacy, and ways to mitigate those risks. PIAs ensure that universal privacy concerns are considered as part of these decisions, and that the public has access to this element of the decision making process.

Over the past five years, PIAs have become an essential tool to help protect privacy. They are sometimes called "one of the three pillars" of the US government privacy policy.[4] Unfortunately, as with the other privacy laws, the federal government has unevenly implemented even the basic transparency requirement of PIAs across agencies.

The guidance issued by OMB pursuant to the Act with respect to PIAs was vague and has simply not provided agencies with the tools they need to successfully implement the PIA requirement unless they already had privacy experts on staff. While some agencies, like the Department of Homeland Security (DHS),[5] have set a high standard for PIAs and have continued to improve them over time, the lack of clear guidance has led some agencies to create cursory PIAs or none at all. For example, despite the major privacy implications of the use of RFID in passports, the US Department of State gave the issue only cursory consideration in its PIA, a document of only ten sentences.[6] Even more troubling is the finding that some agencies simply do not perform PIAs on as many as half their qualifying technologies.[7] Other agencies, even those that prepare in depth PIAs, too often complete them after a project has been developed and approved. PIAs are supposed to inform the decisionmaking process, not ratify it.

The inconsistent implementation of PIAs should be of great concern to this committee. The work of the agencies that have taken the mandate to develop PIAs seriously and used them as a tool for analysis and change should be used as a starting point for developing best practices for all federal agencies. CDT hopes that the provision included in the E-Government Act Reauthorization bill that passed out of this committee last month that

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[4] DHS Chief Privacy Officer Hugo Teuffel, *Presentation before the European Commission's Conference on Public Security, Privacy and Technology*, November 20, 2007 Brussels, Belgium. Mr. Teuffel suggested that the three current pillars are the Privacy Act of 1974, Section 208 of the E-Government Act and the Freedom of Information Act.

[5] The DHS Website on Privacy Impact Assessment offers a range of resources to DHS components and to other agencies — http://www.dhs.gov/xinfoshare/publications/editorial_0511.shtm

[6] http://foia.state.gov/SPIAS/20061.DOS.PIA.Summary.Passport-cleared.pdf Also see CDT's letter May 2, 2007 letter to Secretary of State Rice on the agencies failure to provide adequate PIAs for this and a related project — http://www.cdt.org/security/identity/20070502rice.pdf

[7] OMB FY2006 Report to Congress on Implementation of the Federal Information Security Management Act of 2002, at www.whitehouse.gov/omb/inforegreports/2006_fisma_report.pdf

would specifically requires OMB to create best practices for PIAs across the government will help to address these problems.

As the Government Accountability Office and others have pointed out, OMB has not provided real leadership on privacy issues.[8] Best practices on PIAs can be a starting point for OMB to begin providing such leadership.

Even then, the transparency provided by PIAs must not be viewed as a full solution. Congress needs to begin to address more fundamental privacy issues within government agencies to ensure the trust of the American people. This should begin with a review of the Privacy Act of 1974 and a look into whether the law is adequate to address how the federal government today is using personal information. We look forward to working with this committee to help address these critical privacy issues in more detail in the near future.

Conclusion

The five years of experience in implementing the E-Government Act has provided valuable lessons in how to move government information services forward. In the short term, changes in the way people use the Internet mean that public government information online must be made accessible to search engines. Privacy impact assessments can be improved across the federal government based on the good work that has been done. In the long term, we will need leadership from OMB to protect privacy and security of Americans. We urge this committee to continue its leadership in adapting policy to fit the changing landscape and in oversight of that policy.

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[8] Government Accountability Office, *Privacy Act: OMB Leadership Needed to Improve Agency Compliance*, June 2003 — http://www.gao.gov/new.items/d03304.pdf . Also see Kenneth A. Bamberger and Deirdre K. Mulligan, Privacy Decisionmaking in Administrative Agencies, University of Chicago Law Journal (forthcoming). A draft is available at— http://www.law.uchicago.edu/Lawecon/events/bamberger.pdf

Hiding in Plain Sight:

Why Important Government Information Cannot Be Found Through Commercial Search Engines

1. Summary

In 2002, the E-Government Act was signed into law with noble goals, including "to promote access to high quality Government information and services across multiple channels" and "to make the Federal Government more transparent and accountable."[1] In many respects, the law has been successful, including encouraging agencies to work together to build Web sites that allow users to find information by its content and not only where it is housed in the bureaucracy. However, as more individuals use commercial search engines to find government information, making information accessible to search by various sources has become an important goal. Unfortunately, many important information sources within the federal government are essentially hidden from the very search engines that the public is most likely to use.

In this report, we examine search queries that we believe Americans would expect to result in authoritative and trustworthy government information showing up prominently in their search results. In an examination of Google, Yahoo, Microsoft Live and Ask and the search function provided by USA.gov, we confirmed that many of these searches miss critical information simply because of the manner in which the government agency has published the information. For example:

- A search for "New York radiation" does not find basic FEMA and DHS information about current conditions and monitoring.
- A search to help grandparents with a question about visitation of their grandchildren in any search engine does not turn up an article of the same title located on the Web site of the Administration for Children & Families.
- A search for "small farm loans" turns up the commercial offers for loans, and statistics about government loans, but not most of the major federal government programs designed to help fund small farms.

We have several recommendations for the federal government. Each of these would encourage greater accessibility of government information by making it more searchable.

- Congress should pass the E-Government reauthorization act, which would require the Office of Management and Budget (OMB) to create best practices to encourage searchability of federal Web sites.

[1] PL 107-347

- OMB should officially recognize the importance of commercial search engines to Internet users and work with the CIO Council to adopt policies to help users find information.
- Agencies should adopt an information policy that makes public accessibility of online content and resources a priority.
- Agencies should create Sitemaps of content on their sites, with special attention given to materials stored in databases and accessible only through drop-down menus. For example, many agencies have FAQ databases that are not accessible to search crawlers but contain very succinct and useful answers to common questions.
- Agencies should review their use of robots.txt files in order to ensure they are used in the least restrictive way possible. Every effort should be made to include, rather than exclude, materials from the website, whether materials were excluded purposefully or accidentally in the past.

This report serves only to spotlight a critical gap in the accessibility of government information; we don't seek to punish or embarrass government agencies here. We also do not know whether some agencies purposefully choose to exclude their information from search engines, or whether the agencies don't know how to make this information more available. We hope that this report will call attention to this issue and encourage federal agencies to review their information policies.

2. Introduction

When Americans look for information online, they generally start by using a commercial search engine. According to industry figures, Americans used commercial search engines over 9 billion times in September alone.[2] Search is also the starting point for locating government information online, whether people are looking for information about the safety of drinking water, legislation on domestic spying, or the availability of government jobs. But very often, searches come up short.

Spurred in part by the E-FOIA Amendments of 1996 and the E-Government Act of 2002, the federal government is putting more information and services online, but a considerable amount of government information is, for all practical purposes, invisible to many users. Many federal agencies operate Web sites that are simply not configured to enable access through popular search engines. These Web sites don't allow search engines to "crawl" them, an industry term for indexing online content, and sometimes even block sites from being found by search engines.

With as many as 80 percent of Internet users accessing government information through third party search engines, these uncrawlable sites pose a significant problem. Many Americans are failing to find authoritative government sources, or worse, concluding that the information or service does not exist.

Often, Web sites will be specifically created to allow the public to access a wide swath of valuable government information, such as forms.gov or regulations.gov. However, when an Internet user searches a commercial search engine for the forms and regulations in these databases, they often do not show up.

Ironically, because a commercial engine powers the search at the heart of the federal government's "Official Web Portal" at USA.gov, the same sites that are not found using commercial search engines are likewise not found using the official government search. By opening government databases to commercial search, agencies can also ensure that they will be indexed for USA.gov.

The reasons that government sites are often inaccessible through search vary. In some cases, government agencies may be unaware that their technical decisions have limited the accessibility of the information they control. Agencies may not realize the simple steps they can take to make sure their information is accessible. In other cases, agencies have a policy of making their information unavailable to search engines.

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[2] "U.S. Search Engine Rankings, September 2007," Enid Burns, *Search Engine Watch*, Nov 20, 2007. — http://searchenginewatch.com/showPage.html?page=3627654

3. Frustrating Searches

Before examining the technical barriers to searching government information or proposing solutions, it is instructive to illustrate what type of information is missing today from the viewpoint of Internet users.

Below, we set out a number of typical scenarios that would lead a individual to search for government information and show the data sources that remain hidden after thorough searches, because agencies have not taken the requisite steps to open them to indexing.

Often the agencies mentioned operate tens or hundreds of dynamic databases that cannot be indexed and searched. This is not a comprehensive list of agencies with non-searchable, but useful, content. We have chosen these examples to illustrate the usefulness of some of the resources that are currently inaccessible.

Environmental Protection
A resident of New York City is investigating the environmental hazards in her neighborhood. Concerned about her children's health and safety, she wants to investigate radiation levels in New York. She types "New York radiation levels" into a search engine but is unable to access the Environmental Protection Agency's database on radiation levels or the Department of Homeland Security's monitoring information.

Search terms: "New York radiation levels"
What she doesn't find:

- Environmental Measurements Laboratory: This division of DHS has installed monitoring equipment in New York, and recent data is accessible via its Radiological Emergency Management System. (See Figure 1)
  (http://www.eml.st.dhs.gov/Homeland/)
  DHS has also maintained a historical database of fallout measurements.
  (http://www.eml.st.dhs.gov/databases/fallout/Fallout_Data_Searchform.cfm)

- Environmental Protection Agency: has a searchable database of environmental radiation monitoring.
  (http://www.epa.gov/narel/radnet/eramsdbase.html)

Other agencies hosting inaccessible environmental content include the National Oceanographic and Atmospheric Administration, the U.S. Fish and Wildlife Service, and others.

Figure 1: A highly relevant DHS resource – Radiation levels in New York

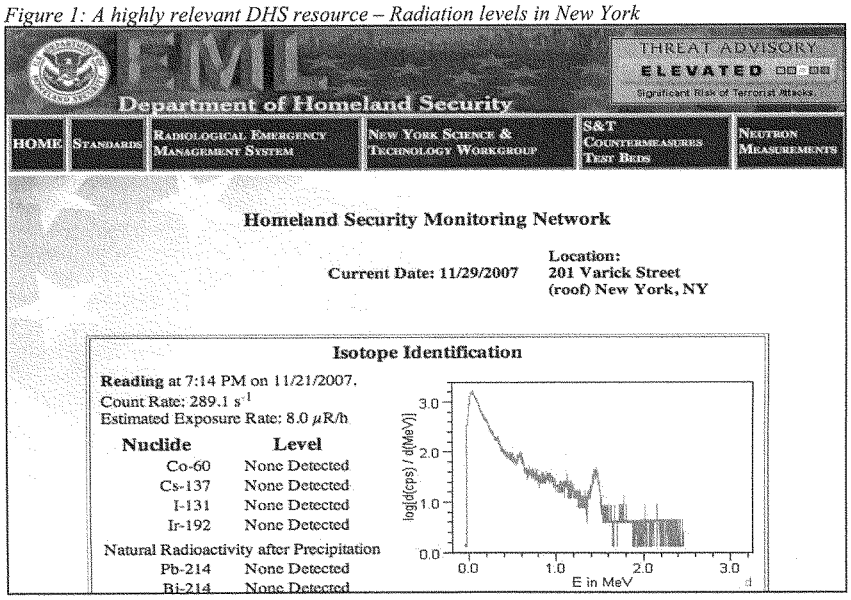
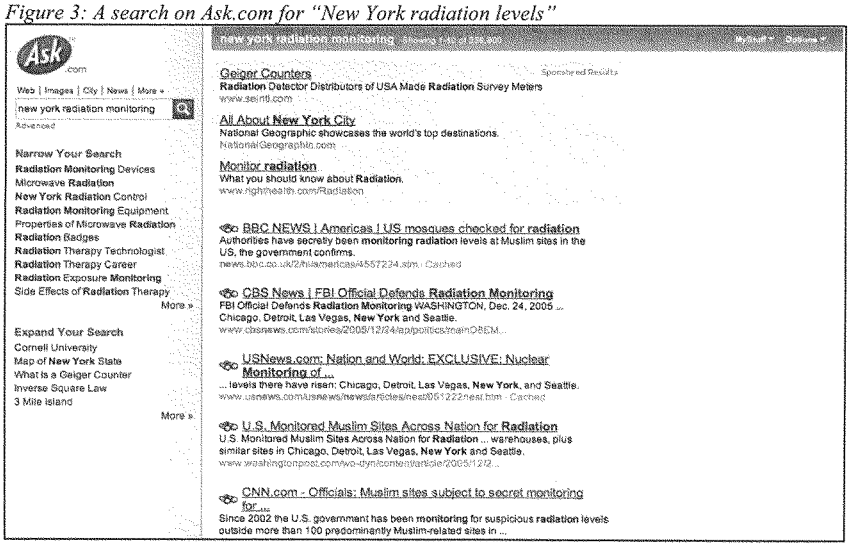


Figure 2: A search on USA.gov for "New York radiation levels"

Figure 3: A search on Ask.com for "New York radiation levels"



Federal Business Opportunities
An employee at a telecommunications company is tasked with researching business opportunities with the federal government. He wants to research telecommunications contracts, both historical information about prior contracts and those currently open for bids. He starts out by typing "government telecommunications contracts" into a search engine.

Search terms: "government telecommunications contracts"
What he can't find:

- FedBizOpps.gov: listing approximately 200 government business opportunities within the field of telecommunications.
  (http://vsearch1.fbo.gov/servlet/SearchServlet)

- Export.gov: listing opportunities for telecommunications work overseas.
  (http://www.export.gov/industry/infocomm/)

- GovSales.gov: listing the sale of government property, including the sale of telecommunications equipment.
  (http://www.govsales.gov/fassys/fassys/?function=003000000000)

- Central Contractor Registration: listing who does business and receives moneys from the federal government.
  (http://www.ccr.gov/)

- General Services Administration: lists information about current federal contracts and awarded contracts.
  (http://www.gsaelibrary.gsa.gov/ElibMain/ElibHome)

- Federal Procurement Data Services: includes data on all government contracts, including all telecommunications contracts.
  (https://www.fpds.gov/)

Other General Services Administration sites and individual agency sites list contract information as well, and often can't be indexed.

Museum Collections
A high school student is doing research on African masks and remembers the collection that he saw at the Smithsonian. The student types in "Smithsonian African mask collection" into a search engine and isn't able to access the Smithsonian Institute's online collection of mask images.

Sample search: "Smithsonian African mask collection"

What he can't find:

- Smithsonian Institute resources: Many online content collections, including the Smithsonian Institution Research Information System. In particular, the collection of images of African masks is not indexed. (http://www.nmafa.si.edu/collections/divqry1.asp?ClassificationID=13&ObjectTypeID=-1)

- Library of Congress resources: the online catalog of material, as well as many collections of American historical resources online. (http://catalog.loc.gov/cgi-bin/Pwebrecon.cgi?DB=local&PAGE=First)

The fantastic array of resources available from the various cultural institutions administered by the U.S. government represent a tremendous absence from the search engines used by the public.

Health and Human Services
A grandmother is upset that she is not being allowed to visit with her grandchildren. She begins her search by typing her question into a search engine: "I'm not allowed to visit with my grandchildren. What can I do?" Even though the Administration for Children & Families has a page in their frequently asked questions with exactly this question, the grandmother does not find it.

Search terms: "I'm not allowed to visit with my grandchildren. What can I do?"
What she can't find:

- Department of Health and Human Services: the frequently asked questions at the Administration for Children & Families. (http://faq.acf.hhs.gov/cgi-bin/acfrightnow.cfg/php/enduser/std_alp.php)

Many federal websites have a large collection of frequently asked questions that is entirely inaccessible to search.

Figure 1: A valuable government resource with ACF's answer to the frequently asked question "I'm not allowed to visit with my grandchildren. What can I do?"

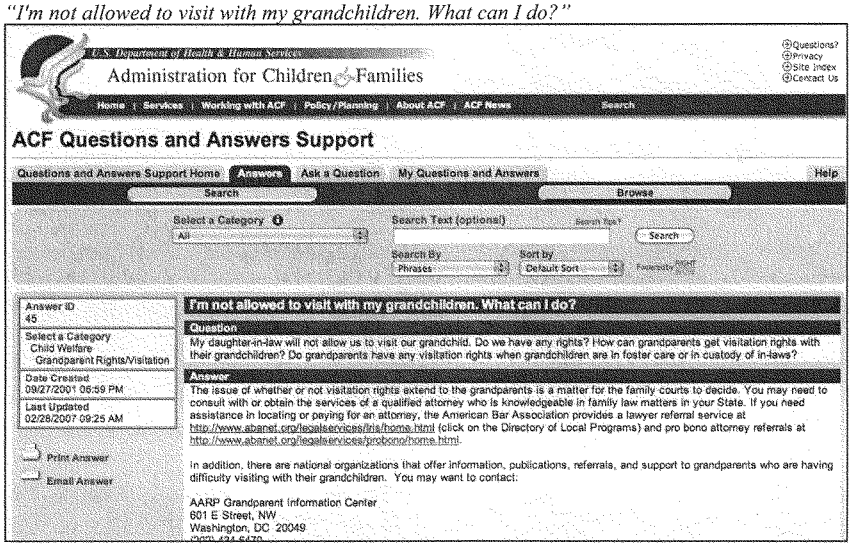


Figure 2:A search for "I'm not allowed to visit with my grandchildren. What can I do?" on Yahoo.com

USA.gov | GobiernoUSA.gov | Email USA.gov

USASearch.gov

Government Web | Images | News | More >>

I'm not allowed to visit with my grandchildren. What can I do? Search

Advanced Search
Search Tips
Búsqueda en español

Topics Agencies Sources

All Results (98)
I'm not sure (18)
Social Security (8)
Oral History (7)
I'm sorry (5)
Children And Grandchildren (5)
My wife (4)
County (4)
Grandparents Raising Grandchildren (3)
My name (3)
Nation (3)
More | All

Font size: A A A

Search portal by Vivisimo

98 results for "I'm" not allowed to visit with my "grandchildren." What can I "do?" out of at least 15,900 (Details)

Web results by Live Search

Grandparents Raising Grandchildren: Building Relationships Part 2 [new window] [preview]
Can I trust my grandchild to do what he is ready to do? ... a) Tell him while living with you, he is not allowed to ... example, a child's "I don't care," may mean "I'm ...
edis.ifas.ufl.edu/FY437 - Cached - More from edis.ifas.ufl.edu

DefenseLink News Transcript: Deputy Secretary Wolfowitz Briefing on ... [new window] [preview]
... subjects are tried, that they not be allowed the ... for the war, I said absolutely not. I'm going there, first of all, so that I can ... O I guess my point -- I'm sorry, sir. If you don ...
www.defenselink.mil/.../transcript.aspx?transcriptid=2872 - Cached - More from Department of Defense

Grandparents Raising Grandchildren [new window] [preview]
... I'm raising two grandchildren in my home, but not ... My grandchild's parent will not relinquish custody. What can I do? What is the process to get custody? I have custody but I'm ...
www.uwex.edu/ces/cnr/gandpa.html - Cached - More from uwex.edu

Livingston County, NY [new window] [preview]
... to do Whether it is for a snack, a walk or a ride I'm ready to go! I'm a 1-2 yr. old male beagle ... I'm not noisy and I have good house manners. Can't get ...
www.co.livingston.state.ny.us/dog.php - Cached - More from New York

President Participates in Discussion on the Global War on Terror [new window] [preview]
... if they want to be free and not allowed to ... believe it's a good thing, and I'm against it because all that, in my judgment, would do ... of a country where people can -- I'm not ...
www.whitehouse.gov/news/releases/2006/01/20060111-7.html - Cached - More from White House

President Discusses Creation of Military Commissions to Try Suspected ... [new window] [preview]
... it -- and I will not authorize it. Last year, my ... in Europe came to visit, one ... clear rules, so they can continue to do their jobs and protect our people. So today, I'm ...
www.whitehouse.gov/news/releases/2006/09/20060906-3.html - Cached - More from White House

Figure 3:A search for "I'm not allowed to visit with my grandchildren. What can I do?" on Yahoo.com

Web | Images | Video | Local | Shopping | more

I'm not allowed to visit with my grandchildren. What can I do? Search Options

YAHOO!

1-10 of 2,410,000 for I'm not allowed to visit with my grandchildren. What can I do ? (About) - 0.30 sec

1. Unbiased Travel Reviews - TripAdvisor
El Cid Castilla Beach Hotel, Mazatlan, Pacific Coast: Enjoyed our stay. - Visit TripAdvisor for 182 unbiased traveler reviews of El Cid Castilla Beach Hotel.
tripadvisor.com/ShowUserReviews-g150792-d219585-r2906775-El_Cid_Cas...

2. Family Forum, The Foundation For Grandparenting
sad story about not being allowed to visit with their grandchildren. There ... I'm stressed out all the time, I can't stand the feeling that they look at my ...
www.grandparenting.org/family_forum.htm - 42k - Cached

3. Amazon.com: 17 Things I'm Not Allowed to Do Anymore: Books: Jenny ...
Amazon.com: 17 Things I'm Not Allowed to Do Anymore: Books: Jenny Offill,Nancy Carpenter ... I ordered this to read to my young grandchildren. The ...
www.amazon.com/17-Things-Not-Allowed-Anymore/dp/0375835962 - 217k - Cached

4. Democratic Victory and Scientific Research by Science Genius Girl ...
With all the talk of Democratic victory, I'm sure that every political angle has, or will be examined - if not by the end of the day, then surely by the end of ...
www.gather.com/viewArticle.jsp?articleId=281474976834260 - 83k - Cached

5. Scott Dagostino: Ramblings
... not to allow the world's worst leaders" to develop "the world's worst weapons. ... I'd think that was a really cool idea, but since I'm neither, I don't. ...
webhome.idirect.com/.../08/do-as-i-say-not-as-i-do-in-his-latest.htm - 7k - Cached

6. Ten Ways to Be a Better Grandparent - September 1999 Issue of St ...
... do you bond with a grandchild who lives halfway across the country? How do you function as a grandparent to children of divorce when your child does not ...
www.americancatholic.org/Messenger/Sep1999/feature2.asp - 56k - Cached

7. Visit with Grandchildren | Joyful Reflections
We enjoyed it--but I'm not sure the kids enjoyed all of my "fancy" casseroles!!!! ha... I received about 11 pictures of my oldest grandchild's (Bey ...
www.lightblog.com/member/joshdee/?c=140 - 50k - Cached

Emergency Response Resources
A resident of Seattle, WA, is considering a move and is investigating what residential neighborhoods in Seattle are in a flood zone. He types "Seattle flood zone" into a search engine and doesn't find the Federal Emergency Management Agency's flood-mapping tool, Department of Homeland Security's data, or U.S. Geological Survey flooding resources.

Search terms: "Seattle flood zone"
What he can't find:

- Federal Emergency Management Agency: unable to access the Flood Map Modernization project at FEMA, which maps out flood hazards. (https://hazards.fema.gov/femaportal/wps/portal)

SEC Filings
A retiree is doing background research on some of the companies in which he has invested. He is trying to find the Securities and Exchange Commission filings of General Motors and types "SEC filing General Motors" into a search engine. He is unable to access the SEC's database of company filings.

Search terms: "SEC filing General Motors"
What he can't find:

- U.S. Securities and Exchange Commission: database of all company SEC filings, formal documents submitted to the SEC used by professionals, investors, and the public to gather information about companies. (http://www.sec.gov/edgar/searchedgar/companysearch.html)

Small Business Programs
An independent farmer in Nebraska is interested in applying for a small farm loan, and he types "small farm loan" into a search engine. He is unable to access data from the Small Business Administration or the Department of Agriculture's Farm Loan Programs.

Search terms: "small farm loan"
What he can't find:

- Small Business Administration: This uncrawlable page lists the contracts that are open in many agencies, but this information is not accessible on search engines. (http://fbo.gov/spg/)

- GovLoans.gov: This website has a collection of loans available from the government, but because it is not accessible to search engines, it does not appear in a search. (See Figure 1) (http://www.govloans.gov/)

Many agencies run loan programs, or provide other benefits, but these programs can be hard to find and therefore are hard to utilize.

Figure 1: A valuable resource listing agricultural loans on GovLoans.gov

Figure 2: A search on Live.com for "small farm loans"

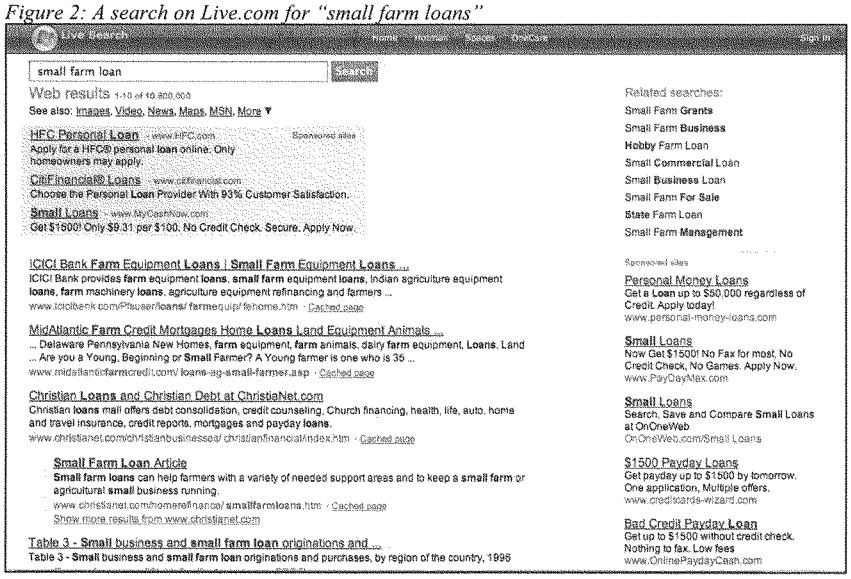


Figure 3: A search on Google.com for "small farm loan"

4. Web Crawlers
Search engines need to index the massive amount of content that exists online, so they use automated programs to crawl the World Wide Web. Web crawlers identify, analyze, and add information to search engine indexes.

Web crawlers are invaluable tools for indexing content on the Internet. However, they are not equipped to handle technical hurdles posed by dynamic databases and specialized interfaces. For example, databases provide answers based on the queries submitted by users. However, content that can't be accessed and indexed by search crawlers can't be found by search engines, and therefore, appears invisible to the typical search engine user.

With so many Americans using the major search engines as their main entry to Internet content, this is a critical obstacle to better, more complete information. The irony here is that these databases can be easily configured to make their content available to users through search engines.

5. Robots.txt Files
Site operators may mark some links so that they are ignored by Web crawlers – typically, for the purpose of keeping some section of a Web site invisible to casual searchers. The most common means of doing this is to create a file in a standard location, technically called a "robots.txt" file, that lists a set of locations or directories that the crawler is asked not to index. It is completely voluntary for companies to follow this protocol, but all of the major search engines do.

There are legitimate reasons to use a robots.txt file to stop information that, while available on the Web, may not be appropriate for wide distribution, or to prevent copyrighted material from being cached in search engines. A robots.txt file also can be used to prevent duplicate content from being crawled, or to protect non-robust applications used on the Web site. However, robots.txt can be misused, too, over-blocking content and preventing search engines from crawling the site. For instance, much has been said about the whitehouse.gov robots file[3] and other agencies such as ATF have added wide swaths of their websites to the list of hard to find information with just a few lines of code.

Federal government Web sites contain public information and resources that should be readily available. The widespread use of robots.txt on federal government Web sites is a questionable practice that serves to limit the availability of information, as shown in our previous examples.

6. Sitemapping
The Sitemap protocol is an open and freely available standard that can be used to create a document that allows search engines to effectively crawl and index Web sites. Sitemaps are, in some ways, the opposite of robot.txt files. Like robots.txt, the protocol uses a file in a well-known location. However, rather than listing locations that the crawlers should not index as

[3] "White House says blocking Iraq Web documents was 'mistake'," Declan McCullagh — http://www.news.com/8301-13578_3-9773721-38.html

found in robots.txt, sitemap.xml is a list of locations that the crawler should index, but might not find.

The leading search engines – Ask, Google, Microsoft Live, and Yahoo – have adopted the Sitemap protocol. Government agency implementation of the Sitemap protocol allows them to make exhaustive lists of content so that all participating search engines can easily find it.

The E-Government regulations have established the Web site at http://www.USA.gov as the portal for government information. The search engine used by USA.gov is provided by a major commercial search engine and, thus, is subject to the limitations of all search crawlers — it cannot access most government databases, because of the way that they have been implemented. While this is simply a complication for the commercial search engines, it is a major problem for the USA.gov search. USA.gov's tagline is "Government Made Easy," but in this case, it is just as hard to find this information on its search as others. With the implementation of the Sitemap protocol, agency Web sites can ensure that their resources are indexed by search engines and are available to the American public through USA.gov and most commercial search engines.

7. How Sitemaps work

The sitemap is merely a file that lists URLs, and simple information about the pages in XML. No new development of the Web site itself is necessary, nor is the development of a site map an onerous task. In the development of one federal Web site (http://www.plainlanguage.gov), it took only eight hours for the site's web manager to fully implement the Sitemap protocol.

The sitemap can communicate information about the location, importance, frequency of change, and last modification of a page. Using a sitemap, a search engine can optimize its indexing of any site in order to more effectively aggregate the content on the site; thus, the site can be accurately represented in search engine results.

Tools have been developed to ensure that the creation of a sitemap is relatively simple. Google and Yahoo both offer specific tools to help manage a Web site, and there are also open source scripts to help Webmasters create sitemaps.

For more information about the technical implementation of the Sitemap protocol, please see http://www.sitemaps.org/protocol.php.

8. Five Websites on the Right Track

Plain Language, www.plainlanguage.gov

This site promotes the use of 'plain English' to help citizens better understand the workings of the government. After installing a sitemap, their examples of 'plain' and 'obfuscated' language are now high results on Google, and the site is the top result for the "Plain Language" search. The site has seen an increase in traffic, and as new content is added, the sitemap is regenerated in order to reflect the new content.

Energy Department's Office of Science and Technology Information, www.osti.gov
OSTI makes available the research of the Department of Energy and cites sharing this information with the American people as central to its mission. When OSTI implemented the Sitemap protocol several years ago, the increase in traffic directed to the site was immediate. "The first day that Yahoo offered up our material for search, our traffic increased so much that we could not keep up with it," OSTI Director Walt Warnick said.

Education Department's National Center for Education Statistics, http://nces.ed.gov/
The NCES provides statistical information on educational facilities. The Webmaster created a sitemap for five previously uncrawlable databases. Search engines are now indexing NCES and sending their traffic to the latest statistical data, and users now find the original source of the information.

Library of Congress American Memory project, http://memory.loc.gov/
The Library of Congress' American Memory project is a vast collection of American historical sources and objects. Before implementing the Sitemap protocol, this powerful resource was not available to people using third-party search engines. Today, much of the collection is fully indexed and reachable via search engine queries.

State websites partnering with Google
The governments of Arizona, California, Utah, and Virginia have partnered with Google to make searching for their materials easier online using the Sitemap protocol. This has made a great deal of state government content available to the American public.

Many other sites are working toward making their content more accessible to search engines, and thus the general public. For example, USAJobs.gov just made available a feed of vacancy announcements,[4] giving major search engines access to this previously uncrawlable information. In this ongoing process, we applaud those agencies making their information available.

9. Policy on Access of Government Information
Adoption of information policies that would promote searchability is supported by the goals of government regulations and legislation, including the E-Government Act of 2002, the Paperwork Reduction Act, Electronic FOIA, and other federal materials regarding the management of public informational resources.

Paperwork Reduction Act/Circular A-130, 2000
Circular A-130 was published by OMB to establish policy and guide the management of the informational resources of federal agencies. This circular reinforces the importance of efficient management of information resources, including the "free flow of information" and the effective dissemination of government information to citizens.

Circular A-130 indicates that agencies should use techniques that reduce the burden on the public to access agency materials. Agencies are required to "[d]isseminate information in a

[4] "USAJOBS Connects with Major Search Engines," OPM News Release, December 5 2007. — http://www.opm.gov/news/usajobs-connects-with-major-search-engines,1346.aspx

manner that achieves the best balance between the goals of maximizing the usefulness of the information and minimizing the cost to the government and the public." Since the information is already distributed via agency Web sites, it would take very little effort to ensure that the information is widely accessible to the public via search engines.

While Circular A-130 delves deeply into the specifics of how to manage information resources, it is clear that at a higher level, it is a document that mandates and guides agencies in making government resources easily available. This includes making the agency resources and information available to the largest possible audience.

E-Government Act, Section 207, 2002
Section 207 of the 2002 E-Government Act seeks to improve the organization and accessibility of government information. The E-Government Act directed OMB to require that agencies use information technology and Internet-based technologies to improve citizens' ability to access government information and services.

Section 207 of the E-Government Act specifically mandates that each agency director be responsible for creating guidelines for their agency's Web site, with two of the goals being to speed the retrieval of search results and to improve the relevance of those results.

As President Bush said in his signing statement for the E-Government Act, "[t]he Act will also assist in expanding the use of the Internet and computer resources in order to deliver Government services, [...] for a citizen-centered, results-oriented, and market-based Government."

Electronic FOIA, 1996
The Freedom of Information Act (FOIA) was signed into law in 1966; a recent amendment in 1996 broadened FOIA to cover electronic records. The Act was created to "ensure an informed citizenry, vital to the functioning of a democratic society, needed to check against corruption and to hold the governors accountable to the governed." FOIA affirmed the public's right to know about the business of government as a central principle of our open society.

The 1996 amendments to FOIA were intended to simplify and expedite access to federal government records through the use of electronic communications media. The 1996 amendments received widespread bipartisan support.

Making this information available electronically is a step in the right direction. However, if this information is made available only through agency Web sites, many users searching for these resources will not find them. Now that so many resources have been made available in electronic form, it is relatively simple to ensure that they are easily accessible by using the Sitemap protocol.

10. How Policy Impacts Search

Agency policies can strongly affect the availability of information to ordinary users. If agencies take the step of making their information available online, then they should put in place policies to ensure the widest possible availability of that information. One simple way to do this is to use the Sitemap tools to ensure that users can find the information through their preferred search engine.

By allowing users their choice of search engines, rather than limiting them to using a single tool or Web site, agencies can ensure the broadest possible audience for their valuable information and resources.

Policy and legislation clearly outline the priorities for making government resources easy to find and use. They require agency Web sites create effective methods of sharing information with Internet users. The Sitemap protocol can help to make federal agency Web sites more accessible to search engine users with a minimal investment of resources.

11. Recommendations to Help Agencies Ensure Their Content Is Accessible to Search

- Congress should pass the E-Government reauthorization act, which would require OMB to create best practices to encourage searchability of federal Web sites.
- OMB should officially recognize the importance of commercial search to Internet users and work with the CIO Council to adopt policies to help users find information.
- Agencies should adopt an information policy that makes public accessibility of online content and resources a priority.
- Agencies should create Sitemaps of content on their sites, with special attention given to materials stored in databases and accessible only through drop-down menus. For example, many agencies have FAQ databases that are not accessible to search crawlers but contain very succinct and useful answers to common questions.
- Agencies should review their use of robots.txt files in order to ensure they are used in the least restrictive way possible. Every effort should be made to include, rather than exclude, materials from the website, whether materials were excluded purposefully or accidentally in the past.

Testimony of

Jimmy Wales

Founder
of the
Wikipedia and of the Wikimedia Foundation

Regarding

"E-Government 2.0: Improving Innovation, Collaboration, and Access"

Before

The U.S. Senate Committee on Homeland Security
And Governmental Affairs

December 11, 2007

My name is Jimmy Wales, and I am the founder of Wikipedia as well as the founder the nonprofit charity, the Wikimedia Foundation, which hosts the Wikipedia project and several other related projects. I'm grateful to be here today to testify about the potential for the Wikipedia model of collaboration and information sharing may be helpful to government operations and homeland security.

To introduce this potential, I'd like to talk first about our experience with Wikipedia. The original vision statement for Wikipedia was for all of us to imagine a world in which every single person on the planet is given free access to the sum of all human knowledge. That's what we are doing.

Wikipedia currently consists of more than nine million encyclopedia articles in more than 150 languages. While the English project is the largest, with over 2 million articles, this represents less than a fourth of the total work.

Wikipedia is currently increasingly important around the world, with more than half a million articles -- each -- in German and French, and more than 250,000 in several additional European languages, as well as more than 400,000 articles in Japanese.

Despite being blocked in the People's Republic of China for the past two years, the Chinese-language Wikipedia, which is primarily written by Chinese speakers in Hong Kong, Taiwan, and around the world, is a healthy community project with more than 150,000 articles and a strong growth rate.

At a time when the the United States has been increasingly criticized around the world, I believe that Wikipedia is an incredible carrier of traditional American values of generosity, hard work, and freedom of speech.

Now, I'd like to talk a bit about how open, collaborative media like wikis enable more efficient gathering and dissemination of useful information. Although it may be counterintuitive that opening up a wiki project leads to a more useful compendium of information, that is what our experience has been with Wikipedia, and I believe that can be the experience for government agencies and operations as well.

The method of production for Wikipedia is highly innovative, and in keeping with the old adage "necessity is the mother of invention", the story of how Wikipedia came to be is, I hope, both instructive and entertaining.

Wikipedia was born of the famous dot-com crash. In the early days of the project, we worked as a community with only a shoestring budget. If the financial climate had been better, then I would likely have turned to hiring employees to fill some critical functions. But because investment money and advertising revenue had completely dried up, we were pushed to find new solutions, solutions of community institutions to manage processes that would have traditionally been handled in a top down nature.

As a result, we pushed the limits of the new Internet medium to create a new kind of community and a new kind of encyclopedia... one controlled by volunteer administrators and editors, working together in a grand global conversation to create something new.

According to firms that measure Internet usage, Wikipedia is now the 8th most popular website in the world. And yet, despite competing in some sense with companies with billions of dollars to invest, Wikipedia survives on an incredibly modest budget. Last year we spent around $1 million, and although this year we are spending a bit more, our budget is still minuscule compared to that of most other tech enterprises -- even if you limit the

comparison to other top websites.

The First Amendment plays an important role in this project, as do traditional American ideals of individual responsibility. Under US law, everyone writing in Wikipedia takes responsibility for his or her own actions, just as is true everyone speaking in any public forum. The maintainer of this forum, the Wikimedia Foundation, has set down some fundamental codes of conduct, including but not limited to what Constitutional scholars call "time, place, and manner" restrictions, and I have personally imposed policies which strive toward respect for others, quality writing, and the citing of sources.

It is counter-intuitive to some that an open discussion with virtually no top-down command-and-control structures can generate a high quality encyclopedia. Nevertheless, it does.

To illustrate our success improving the quality of Wikipedia, we are currently celebrating a study published in the German weekly newsmagazine Stern. According to this study, Wikipedia scored higher in all but one category than a standard German encyclopedia, Brockhaus. (The one standard we fell a little short on was readability -- I promise, we're working on that one every day.)

Now, given that Wikipedia is a public enterprise, open to the entire public for collaboration and contribution, you may be wondering how wikis or the Wikimedia model may be useful to government. First of all, I want to note generally that there are other ways in which a wiki can be set up usefully, including setups that don't involve opening the wiki to the general public. You can control access, but a wiki might be useful to an agency that wants to facilitate sharing information up and down the hierarchy (increased vertical sharing). And controlled-access wikis could be used to set up inter-agency information sharing as well (increased horizontal sharing).

The main point here is no requirement of necessity for the tool of a wiki to be open to the general public in order for it to be useful.

The word "wiki" comes from a Hawaiian word "wiki wiki", meaning "quick". The concept of a wiki was originally created by a famous programmer named Ward Cunningham, who lives in Portland, Oregon. The basic idea of a wiki is "quick collaboration". When people need to work

together to produce some document, the only option in the old days would be to email around a text file or word processing document. The wiki represents a crucial innovation allowing for much greater speed.

The most basic idea of a wiki is "a website that can be easily edited by the readers" but modern wikis contain simple yet powerful features that allow for the users to control and improve the quality of the work.

Wikis maintain a history of prior versions of articles. Every version of every article is stored in the database. Wikis also provide a simple means to compare any two versions. These two simple ideas combined mean that users can quickly revert back to a prior version if a new change is not satisfactory, and users can also monitor the work of others by quickly comparing to a recent version. This tends to cause the quality of the work to improve over time, since any bad changes do not live very long.

Additionally, wikis can provide fine-grained control over who is able to access or edit various kinds of information, thus facilitating the possibility of inter-agency information sharing and collaboration.

Wikipedia represents the power of a wiki open to the general public, but I believe the same wiki technology that powers Wikipedia is also being widely adopted inside many enterprises, and I'll note here in passing a couple of examples of this innovative use, one in private enterprise and one in the U.S. government.

First, consider Best Buy. Recently, great companies such as Best Buy have been using wiki technology across the enterprise to foster faster information sharing and collaboration across the enterprise. To give one hypothetical example of how this works, imagine a car stereo installer at a Best Buy store in Florida who discovers a faster or easier way to install a particular brand of stereo. This information can now be shared directly, peer-to-peer to other stereo installers across the entire store network. In the past, this kind of local information discovery was lost or isolated.

One Harvard professor's research (and I've included notes in this written testimony[1] so you can read the article yourself) suggests that one key to

[1] See the following links: <http://www.socialtext.com/node/77> and <http://www.socialtext.com/node/70>.

successful use of new technologies is adoption. The tools must be easy to use and valuable in the day-to-day life of those using them.

Next, take a look at Intellipedia. I'm not an expert on intelligence gathering, so I'll simply quote a useful resource -- Wikipedia -- regarding Intellipedia:

> "The Intellipedia consists of three wikis that run on JWICS, SIPRNet, and Intelink-U. They are used by individuals with appropriate clearances from the 16 agencies of the United States intelligence community and other national-security related organizations, including Combatant Commands, and federal departments. The wikis are not open to the public.
>
> "Intellipedia is a project of the Office of the Director of National Intelligence (ODNI); DNI CIO Intelligence Community Enterprise Services (ICES) office headquartered in Fort Meade, Maryland. It includes information on the regions, people and issues of interest to those communities. Intellipedia uses MediaWiki, the same software used by the Wikipedia free-content encyclopedia project.[1] ODNI officials say that the project will change the culture of the U.S. intelligence community, widely blamed for failing to 'connect the dots' before the attacks of September 11, 2001."

Tom Fingar of the ODNI has gone on record describing one of Intellipedia's intelligence successes. Fingar told DefenseNews.com that a worldwide group of intelligence collectors and analysts used Intellipedia to describe how Iraqi insurgents are using chlorine in improvised explosive devices (IEDs).[2] "They developed it in a couple of days interacting in Intellipedia," Fingar said. "No bureaucracy, no mother-may-I, no convening meetings. They did it and it came out pretty good. That's going to continue to grow."

As you can see, just as the dotcom crash forced private industry to think about more efficient and effective ways to use digital technology, the attacks on the United States forced our intelligence community to explore innovative ways to share intelligence among agencies.

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[2] See U.S. Intel Agencies Modernize Info Sharing, DefenseNews.com, April 5, 2007, at <http://defensenews.com/story.php?F=2733832&C=america>

This brings us back to what might be called The Lesson of Wikipedia -- that an open platform, allowing many stakeholders to participate, can facilitate information sharing in an extremely cost-efficient manner, and it can take advantage of a wider range of knowledgeable people than traditional information-sharing processes do.

Good democratic governments strive to be responsive to the citizen's needs In order to do so, it is important that governments use technology wisely to communicate with the public, and also to allow the public to communicate with the government.

Electronic communications are rapidly developing, and innovations such a wiki point the way towards the kind of balance between openness and control that can make for successful outcomes.

The core lesson of Wikipedia is that an open platform, which allows stakeholders to easily and quickly participate, can facilitate information sharing in an extremely cost-efficient manner, and can take advantage of the knowledge of a much wider range of people than traditional methods made possible.

It is my belief that the government of the United States should be using wiki technology for both internal and public-facing projects. As with any large enterprise, internal communications problems are the cause of many inefficiencies and failures. Just as top corporations are finding wiki usage exploding, because the tool brings about new efficiencies, government agencies should be exploring these tools as well.

The U.S. Government has always been premised on responsiveness to citizens, and I think we all believe good government comes from broad open public dialog. I therefore also recommend that US agencies consider the use of wikis for public facing projects to gather information from citizens, and to seek new ways of effectively collaborating with the public to generate solutions to the problems that citizens face.

Thank you for inviting me to testify about the potential for applying the Wikipedia model to improve our government's ability to gather and share information for increased security, for increased governmental responsiveness in our open society, and for the preservation of democratic values.

Post-Hearing Questions for the Record
Submitted to Karen S. Evans
From Senator Joseph I. Lieberman

"E-Government 2.0: Improving Innovation, Collaboration, and Access"
December 11, 2007

Question:

1. Section 213 of the E-Government Act calls for the E-Government Administrator, working with federal agencies, to assist community technology centers, public libraries, and other institutions in providing computer and internet access to the public, including the contribution of funds, equipment, and training. This section was intended to address concerns that with the increase of government information and services, disparities in access to the internet could affect citizens' ability to interact with their government. A report that was released last year from Florida State University found that "public libraries are a key provider of e-government access and services in the United States" often requiring librarians to become de facto experts in complex forms such as Medicare Part D.

    a. Do you agree with the finding from this report that libraries are a "key provider" for e-government services?

    b. What is OMB doing to ensure that everyone has equal access to government material on the internet?

    c. Do you think there needs to be a more formal collaboration with libraries, perhaps including training and support, in order to make E-Government as successful as possible?

Response:

a. We agree libraries are becoming "key points of access," allowing connections to the internet which facilitates the use of E-Government services. This new role of access provider which libraries are taking on is more a reflection though of how information technology has affected society overall. A recently released survey by the Pew internet & American Life Project showed, in general, more than half of those visiting public libraries are utilizing public computers there to search for information on the internet.[1] Thus, the role of libraries is transforming as they no longer serve as simple repositories for books and reference materials, but as information access points where people can access a wide breadth of information in multiple formats. The changing roles of public libraries are reflective of the changing needs of the people utilizing them.

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[1] This survey is located at: http://www.pewinternet.org/PPF/r/231/report_display.asp.

b. Current policy is focused on providing equitable access to government information for everyone.

OMB Circular A-130 establishes policy for the management of Federal information resources and calls for agencies to disseminate Federal government information on equitable and timely terms. [2]

OMB Memorandum M-06-02, "Improving Public Access to and Dissemination of Government Information and Using the Federal Enterprise Architecture Data Reference Model," promotes greater access to government information by requiring agencies, when disseminating information to the public-at-large, to publish the information directly to the internet.[3]

OMB has worked with the General Services Administration to manage and promote USA.gov which serves as a centralized point of entry where the public can easily locate government information, benefits, and services.

OMB worked with the Department of Education who sponsored the Community Technology Centers (CTCs) program from 1999 to 2005 to provide grants to eligible applicants to create and expand CTCs providing residents of economically distressed urban and rural communities with access to information technology and related training.

In order to assist Americans with disabilities, agencies must disseminate information on equitable and timely terms, regardless of the type, medium and technology, to all members of the public including those with disabilities. Technical standards promulgated by the U.S. Access Board under Section 508 of the Rehabilitation Act are mandated requirements for all information systems, and several agencies include a Section 508 review as part of their capital planning and investment control process. On November 6, 2007, OMB's Office of Federal Procurement Policy and the Office of E-Government and Information Technology co-released a memo reminding agencies of their responsibility to ensure Section 508 compliance when procuring new information systems.[4]

c. We are always looking for ways to make E-Government more successful and more usable by citizens and encourage collaborative efforts between Federal agencies and institutions such as public libraries to assist with improving information dissemination. In the report to Congress on Section 213 of the E-Government Act, "Organizations Complementing Federal Agency Information Dissemination Programs," it was reported:[5]

- As public libraries expand their role in providing internet access, public libraries are providing formal internet training for the public. As of a 2002 study, 42 percent of public

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[2] OMB Circular A-130 can be found at: http://www.whitehouse.gov/omb/circulars/a130/a130trans4.html.
[3] OMB Memorandum M-06-02 can be found at: http://www.whitehouse.gov/omb/memoranda/fy2006/m06-02.pdf.
[4] This memo can be found at: http://www.whitehouse.gov/omb/procurement/508/electronic_info_technologies.pdf.
[5] This report on Section 213 can be found at: http://www.whitehouse.gov/OMB/inforeg/section_213_report_04-2005.pdf.

libraries were providing formal internet training. Libraries target training to specific audiences, in particular, seniors (49 percent), children and youth (33 percent), and non-senior adults (31 percent) are most frequent recipients of training. Training is also delivered to local businesses and local governments; and

- An equally important practice for delivering electronic information to the public is ensuring public library staff is skilled and knowledgeable. Formal staff training is offered at 44 percent of all public libraries.[6] Training is made available on how to use online web searching and internet, general computer software, online databases, and how to locate government information on the web.

Furthermore, to assist the general public overall in utilizing E-Government to its fullest potential, nine online tutorials were launched on December 4, 2007 on USA.gov. Each online tutorial or tool is specifically designed to teach visitors how to access government information and services on the internet. Each tutorial lasts just a few minutes and among the available tutorials are:

- Get It Done Online with Government – instructions on how to complete government tasks online;
- Shop Government Auctions and Sales – directions on shopping for real estate, cars, gifts, and other items available from government auctions or stores;
- Find Government Benefits and Grants – information on finding government money available through benefits, grants, loans, and financial aid;
- Locate In-Person Government Services Near You – instructions on finding contact information for local government offices; and
- Search Government Using USA Search – ways of using the search function to find information from government Web sites.

Question:

2. I understand that a number of agencies have initiated discussions with Google and other companies regarding digitization of federal government records. While it may well be that some form of joint venturing or partnering with a private organization will provide the most timely and economical avenue to getting government information into the public domain, it must be done carefully so that these kinds of agreements do not result in excessive limitations on access or unnecessary burdens on the government or the public.

    a. Is there a government-wide policy on these digitization agreements with private commercial entities on accessing, storing, cataloguing, or disseminating federal government information?

    b. Have any agencies entered into agreements to provide digitization of federal government records? If so, which agencies?

    c. Are any agencies presently engaged in discussions or other communications with private companies regarding digitization of federal government records? If so, which agencies?

[6] Bertot and McClure, 2002.

Response:

a. By digitizing what was once only available on hardcopy print, Federal government information becomes more accessible to Americans all across the country. Digitization of federal records is simply another form of dissemination and thus all relevant policies and laws governing dissemination are applicable.

On July 27, 2006, a message was sent out to the CIO Council from OMB reminding agencies of prevalent laws and policies when pursuing digitization agreements. In particular:

- The Paperwork Reduction Act of 1995;[7]
- The E-Government Act of 2002;[8]
- OMB Circular A-130, "Management of Federal Information Resources";
- OMB memorandum M-06-02, "Improving Public Access to and Dissemination of Government Information and Using the Federal Enterprise Architecture Data Reference Model," dated December 15, 2005; and
- OMB memorandum M-05-04, "Policies for Federal Agency Public Websites," dated December 17, 2004.[9]

In the message to the CIO Council agencies were also reminded of some key points to keep in mind when pursuing digitization agreements:

1. Consider the effects on and provide adequate notice to the public prior to beginning, modifying, or ending significant information dissemination products;
2. Disseminate information to the public on timely and equitable terms (including, but not limited to those with disabilities or without electronic access);
3. Avoid exclusive or restrictive distribution arrangements;
4. Not set fees higher than those needed to cover the costs of dissemination (e.g., cannot charge for information preparation);
5. Publish inventories, priorities, and schedules of all agency information dissemination products;
6. Ensure the quality of agency information and services, including continued availability;
7. Maintain online information in .gov, .mil, or Fed.us domains;
8. Describe dissemination activities in IRM strategic plans and publish plans on the agency's website; and
9. Maintain security and protect privacy according to Federal agency requirements

b & c. We understand a number of agencies are starting to engage in digitization agreements, which is consistent with our existing policy to bring greater accessibility of government information and services to the public. Two recent examples of agencies with current

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[7] Full text of the Paperwork Reduction Act of 1995 can be found at: http://www.archives.gov/federal-register/laws/paperwork-reduction/.
[8] Full text of the E-Government Act of 2002 can be found at: http://www.archives.gov/about/laws/egov-act-section-207.html.
[9] OMB Memorandum M-05-04 can be found at: http://www.whitehouse.gov/omb/memoranda/fy2005/m05-04.pdf.

digitization agreements are the National Archives and Records Administration (NARA) and the National Aeronautics and Space Administration (NASA).

- NARA has entered into several digitization partnerships to digitize and provide online access to a variety of NARA's archival holdings. For example, a nonexclusive agreement with Google Video will enable researchers and the general public to access a diverse collection of historic movies, documentaries and other films from the National Archives. Agreements with Footnote.com and the Genealogical Society of Utah will focus on digitizing textual holdings. [10]

- NASA and Internet Archive of San Francisco are partnering to scan, archive and manage the agency's vast collection of photographs, historic film and video. The imagery will be available through the Internet and free to the public, historians, scholars, students, and researchers.

Both of these are great instances of digitization agreements which will allow the American public much greater accessibility to historical Federal records in a non-exclusive manner while minimizing the cost to Federal agencies.

In regards to what other agencies are pursuing digitization agreements, in the E-Government reporting instructions this year, agencies were asked to identify partnerships with external entities to complement their information dissemination strategy. Digitization agreements with non-governmental partners were one of the agreements agencies identified. A full list of the links to each agencies' response where these dissemination agreements can be found are provided in the Fiscal Year 2007 Report to Congress on Implementation of the E-Government Act of 2002.[11]

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[10] More information on NARA digitization agreements can be found at: http://www.archives.gov/digitization/.
[11] The FY 2007 Report to Congress on Implementation of the E-Government Act will be published on March 1, 2008 and will be located at: http://www.whitehouse.gov/omb/reports/index.html. Section II of the report will contain links to each agencies' individual response where they provide a list of dissemination agreements with external entities.

The Nation Looks At New Orleans

A NATIONWIDE ONLINE SURVEY
BY THE UNO SURVEY RESEARCH CENTER

Dr. Robert T. Sims, Director
rsims@uno.edu

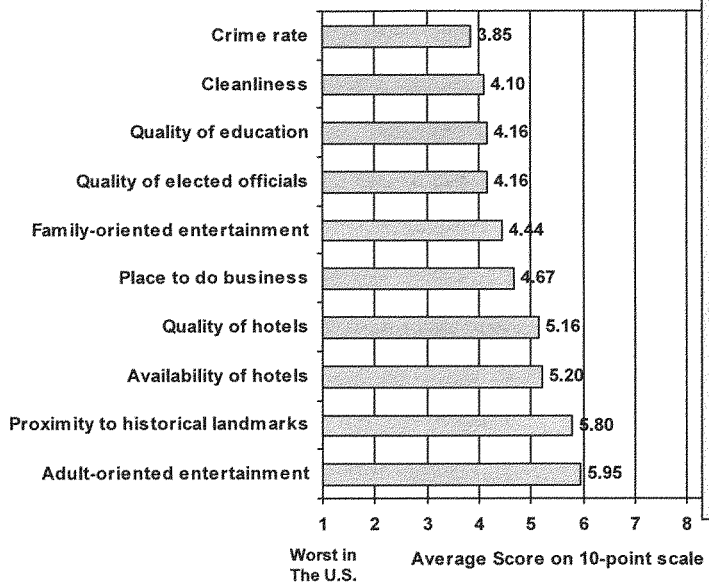
Alicia N. Jencik, M.A. – Research Associate
Hung-Chung (Joe) Wang, M.A. – Research Associate

December 10, 2007

Methodology

- Online survey of 775 U.S. residents NOT including Louisiana
- Margin of error = ± 3.6%
- Sample is representative of U.S. voting age population in terms of median income, gender and ethnicity
- Interviewing took place between November 29 and December 4, 2007.

How the Nation Views New Orleans



- At this time, the nation's opinion of New Orleans clearly tends toward the negative.
- The city's reputation as a high crime area has clearly permeated the nation's consciousness.
  - New Orleans is also thought of as relatively dirty, offering poor quality education, and guided by poor quality elected officials.
- The city's reputation as a tourist destination is a little better than its general reputation for quality of life.
  - However, even on factors such as the quality and availability of hotels, average ratings fall barely over the scale midpoint.

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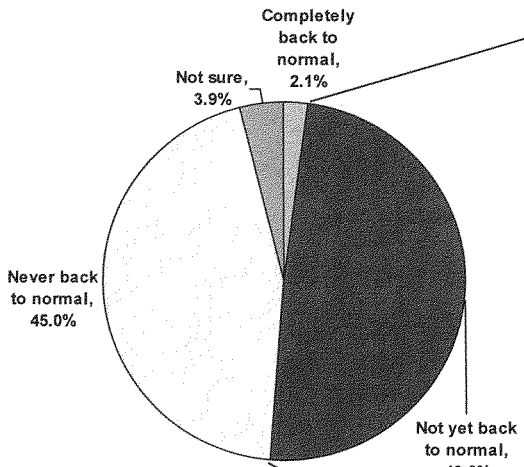
Question: Please rate the City of New Orleans, post-Katrina, on the following criteria . . .

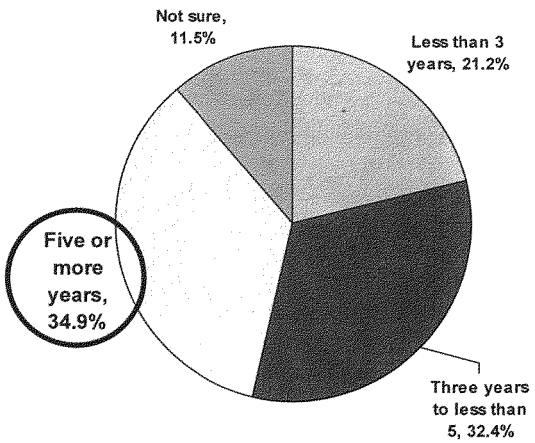
Perception of the Recovery

Question: Would you say things in New Orleans are now completely back to normal, are not yet back to normal, but will eventually be, or will never be back to normal?



•Nearly all respondents (94%) indicate a belief that New Orleans is not yet (49%) or will never be (45%) back to normal.

Question: How long do you think it will still take before things get back to normal for New Orleans?



n = 410

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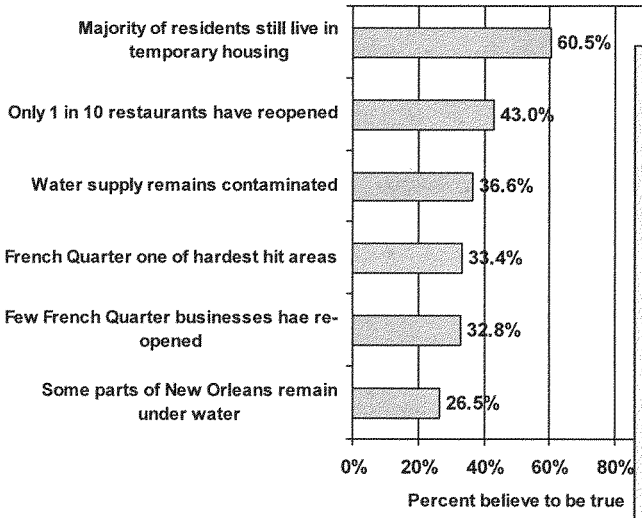
Perception of the Recovery



- An alarmingly high percentage of respondents maintain mistaken beliefs concerning post-Katrina New Orleans.
- For example, over 60% believe that the majority of New Orleans residents still live in temporary housing, while at least one-third believe that . . .
  - Only 1 in 10 area restaurants have reopened
  - The French Quarter was one of the hardest hit areas
  - Most French Quarter businesses remain closed
  - New Orleans residents must still drink bottled water because the water supply remains contaminated
  - Parts of New Orleans remain under water

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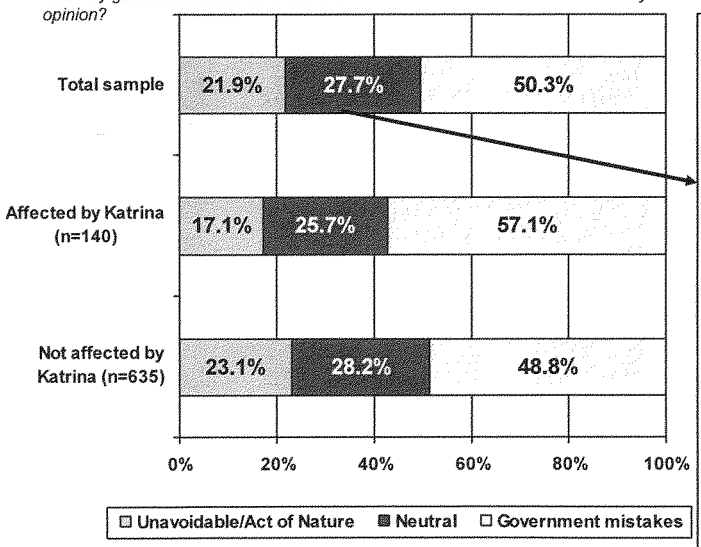
Question: Which of the following items do you believe to be true?

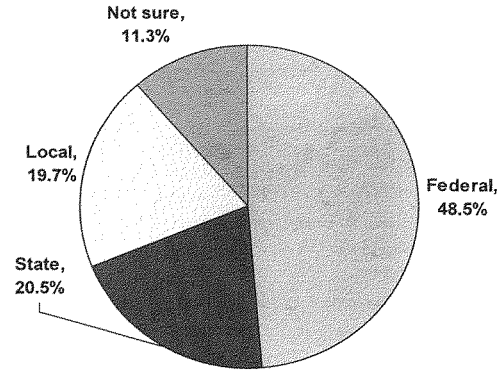
Perception of the Recovery

Question: Some people say that the devastating problems that New Orleans has faced since Hurricane Katrina are completely the result of an act of nature and could not have been avoided. Others say that, though some damage was inevitable, most of the problems that New Orleans has faced since Katrina are the result of mistakes made by government both before and after the storm. Which comes closer to your opinion?



•About half (48.5%) of respondents who felt that New Orleans' Katrina problems were caused by government say the Federal government is most to blame.

Question: Which level of government do you believe is or was most to blame for any problems that have been faced by New Orleans as a result of Hurricane Katrina?



n = 390

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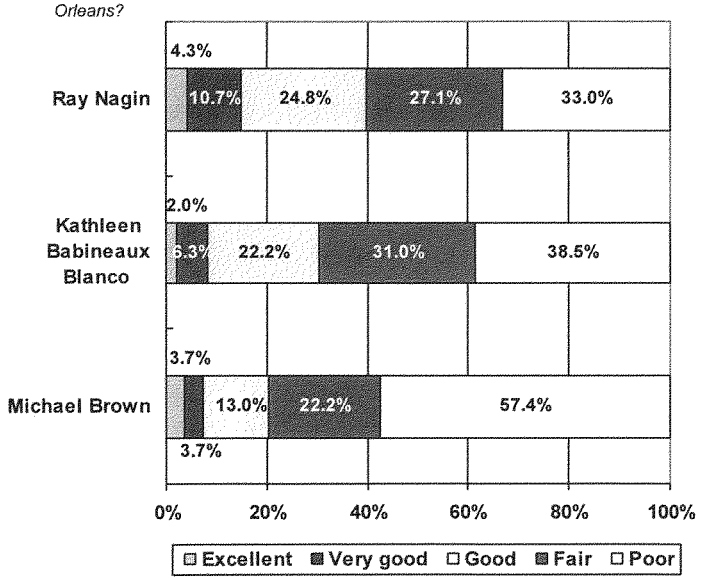
Leader Performance Ratings

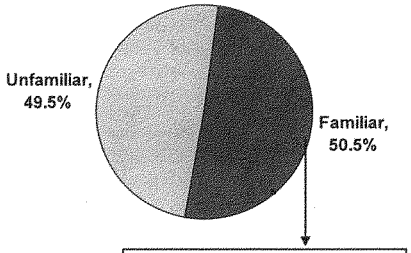
Question: Based on everything that you have read, heard or experienced since the time Hurricane Katrina hit, how would you rate the job that [NAME] has done with regard to the recovery of New Orleans?



- Though neither local, state nor Federal leaders rate high in terms of their handling of recovery in New Orleans, New Orleans Mayor Ray Nagin and Governor Kathleen Babineaux Blanco both rate substantially higher than Michael Brown who served as FEMA director at the time of Katrina and during its immediate aftermath.

- Well over half (60.1%) of respondents familiar with Nagin rated his performance "fair" or "poor."
  - Nearly 70% of Blanco's ratings fell into these categories, and 92% rated Brown's performance no better than "fair."
  - These results are consistent with the large percentage attributing blame to the Federal government presented in the previous section.

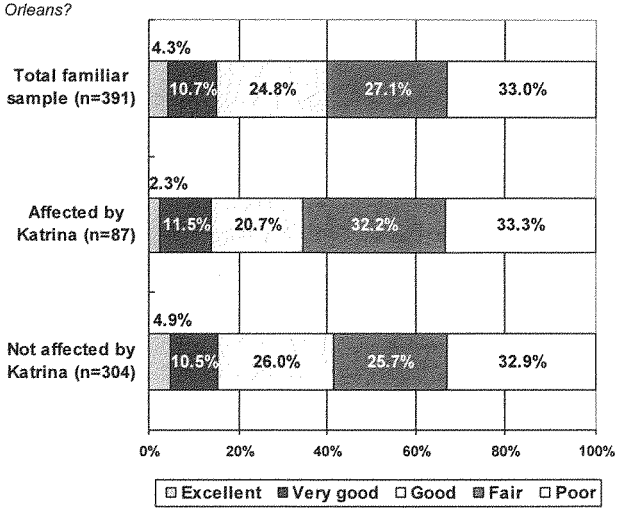
Leader Performance Ratings: Mayor Ray Nagin



Gulf South – 56.0%
Other South – 57.1%
Outside South – 46.2%

•Among respondents who indicated that they were familiar with Ray Nagin, 95% correctly identified him as Mayor of New Orleans.

Question: Based on everything that you have read, heard or experienced since the time Hurricane Katrina hit, how would you rate the job that Ray Nagin has done with regard to the recovery of New Orleans?



•Forty-one percent (41%) of Gulf South residents rated Nagin's performance as "poor."

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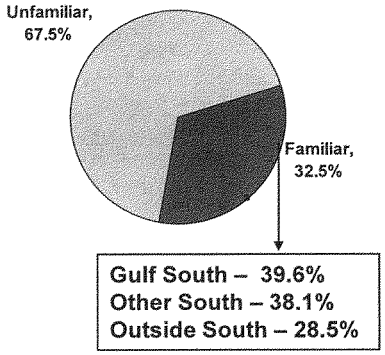
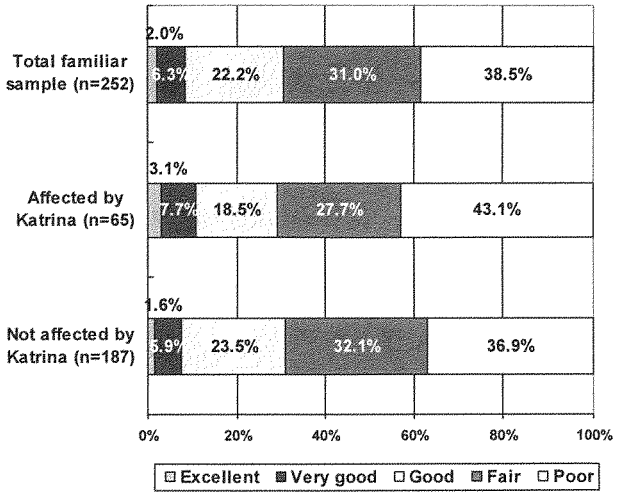
Leader Performance Ratings: Governor Kathleen Blanco



•Among respondents who indicated that they were familiar with Kathleen Babineaux Blanco, 92% correctly identified her as Governor of Louisiana.

Question: Based on everything that you have read, heard or experienced since the time Hurricane Katrina hit, how would you rate the job that Kathleen Babineaux Blanco has done with regard to the recovery of New Orleans?



•Nearly half (49%) of Gulf South residents rated Blanco's performance as "poor."

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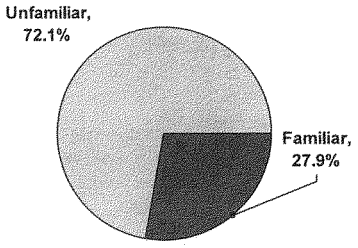
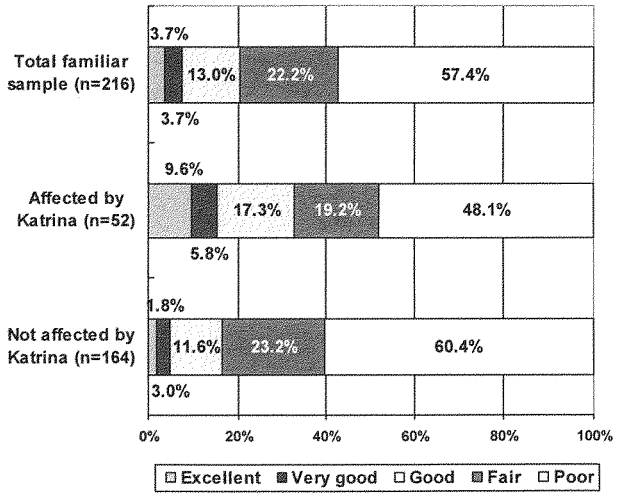
Leader Performance Ratings: Former FEMA Head Michael Brown



•Among respondents who indicated that they were familiar with Michael Brown, 81% correctly identified him as the Director of FEMA at the time of Katrina.

Question: Based on everything that you have read, heard or experienced since the time Hurricane Katrina hit, how would you rate the job that Michael Brown has done with regard to the recovery of New Orleans?



•Respondents who were affected by Katrina were somewhat more positive in their assessment of Brown than those not affected.

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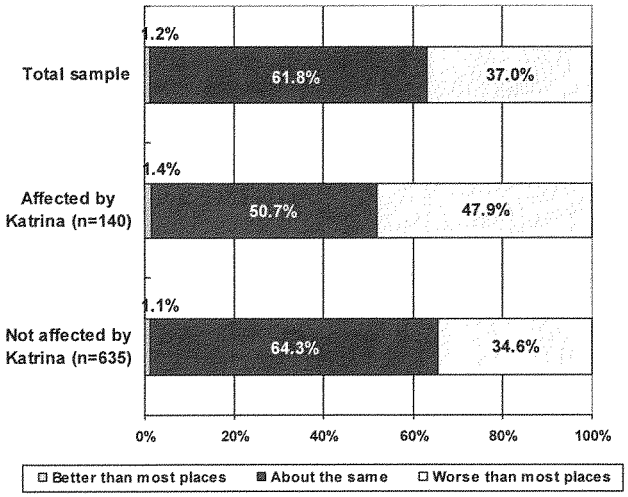
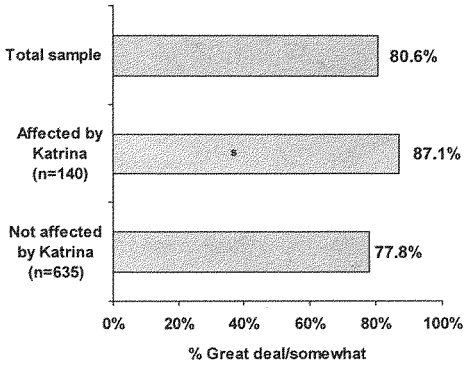
Leader Performance Ratings: Political Corruption

Question: Thinking about both the City of New Orleans and the State of Louisiana, in general, how would you describe the problem of political corruption in the area?



Question: Do you feel that political corruption in the State of Louisiana and City of New Orleans has impeded the post-Katrina recovery effort a great deal, somewhat, a little, not at all?



•Respondents who were affected by Katrina were most likely to consider political corruption worse in Louisiana than in other places around the country and to believe that corruption has impeded the recovery effort.

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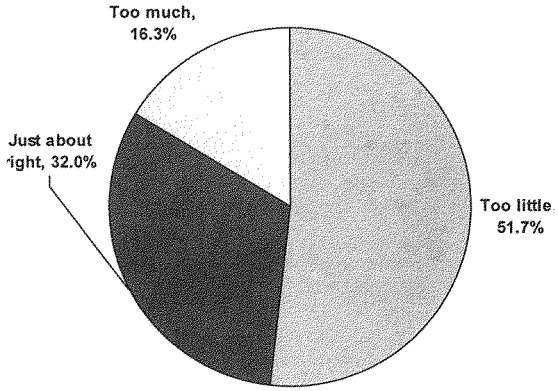
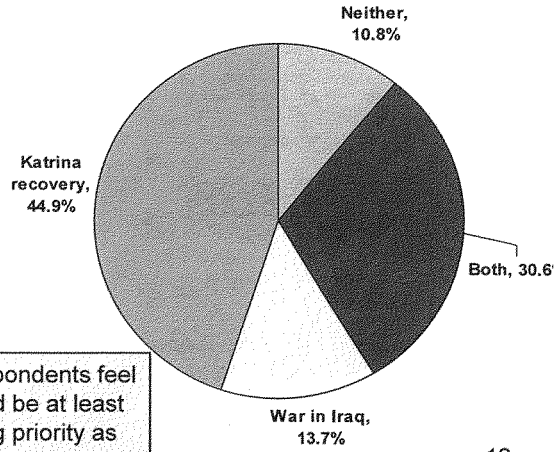
Following the Money

Question: Would you say that the amount of money and other support that the Federal Government has provided the City of New Orleans since Hurricane Katrina has been too much, too little, or just about right?



•The majority of respondents believe that the Federal government has spent too little in support of New Orleans' recovery.

Question: Which of the following should be a greater priority in terms of Federal spending?



•Over three-quarters of respondents feel that Katrina recovery should be at least as great a Federal spending priority as the war in Iraq.

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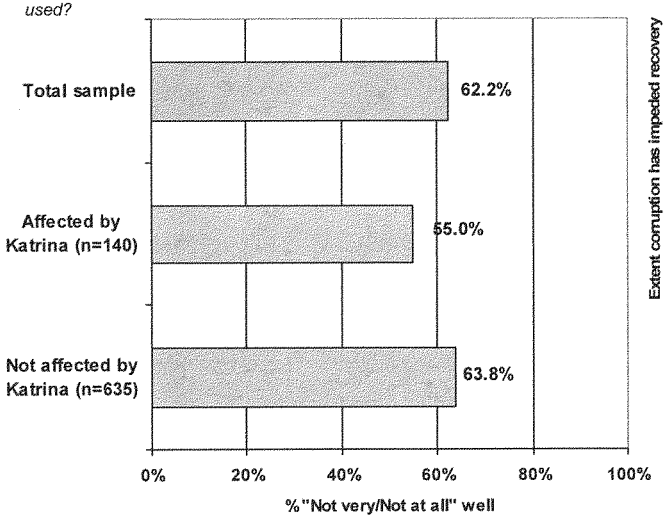
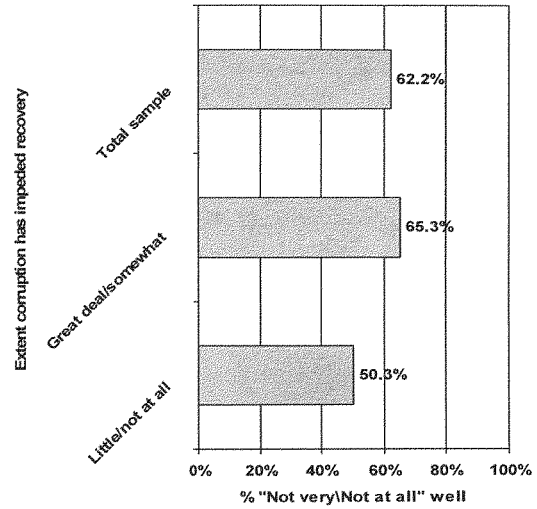
Following the Money

Question: Based on what you know or personally believe, how well do you think that the money that has been spent on Katrina recovery, whether by the Federal Government or private charities, has been used?





•Results suggest that corruption is, to some extent, blamed for poor use of resources devoted to Katrina recovery.

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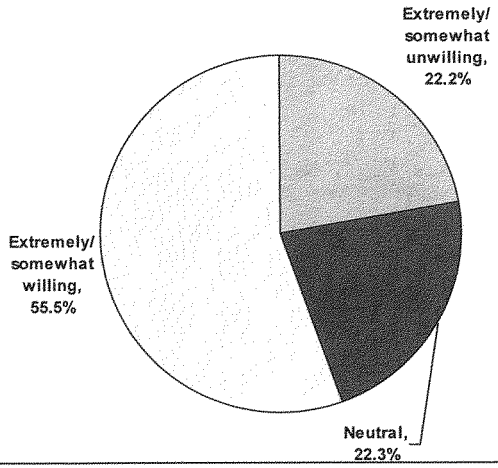
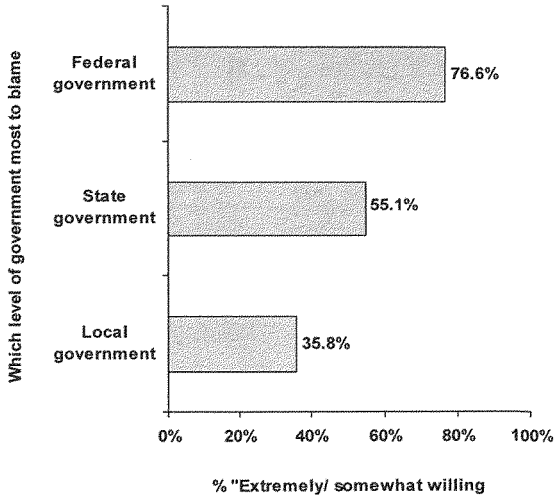
Following the Money

Question: Keeping in mind that all Federal aid involves the expenditure of tax dollars, how willing are you to have the Federal Government continue to provide New Orleans with financial aid aimed at post-Katrina recovery?



•The level of government that respondents feel was most to blame for Katrina problems has much to do with their willingness to continue to support recovery with tax dollars.



•Over half of respondents indicate a willingness to continue to support recovery through Federal tax dollars.

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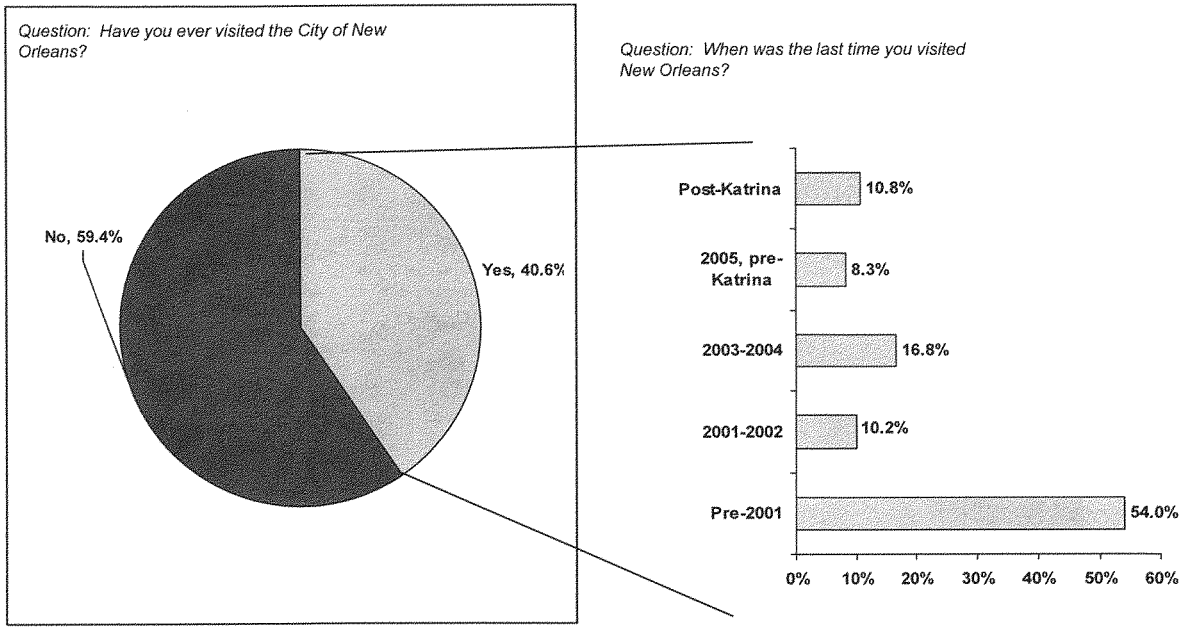
Tourism Prospects



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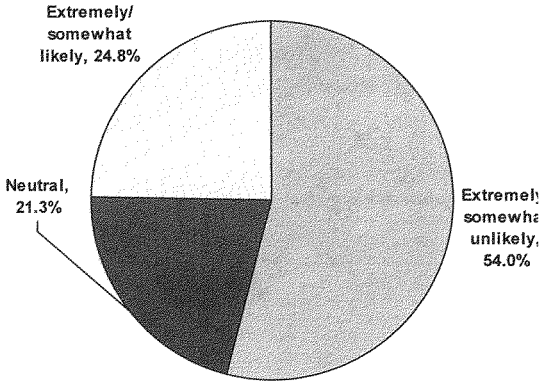
•About 41% of respondents have previously visited New Orleans, about 11% of these have visited since Katrina.

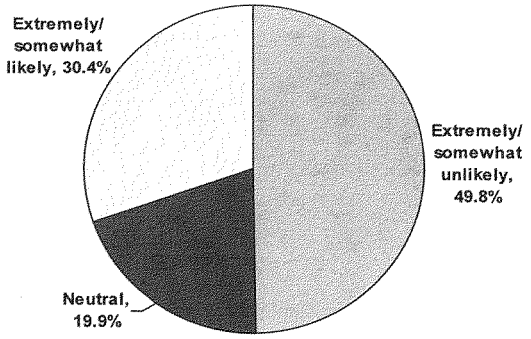
Tourism Prospects

Question: How likely do you think you will be to travel to New Orleans for either business or pleasure purposes over the next 2 years?



•Even among frequent travelers, less than one-third plan to travel to New Orleans over the next 2 years.

Frequent travelers (more than 2 trips per year)



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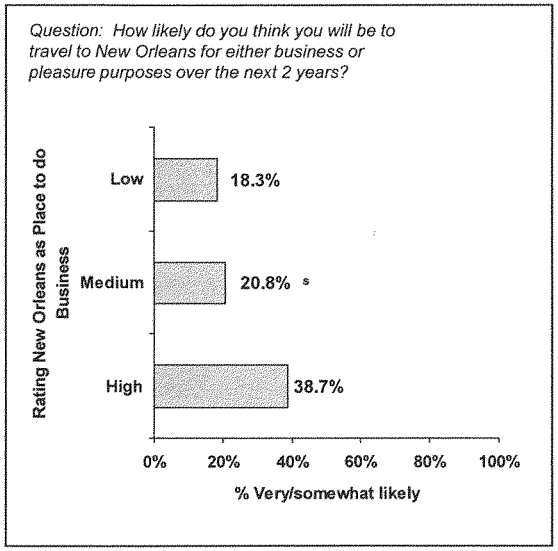
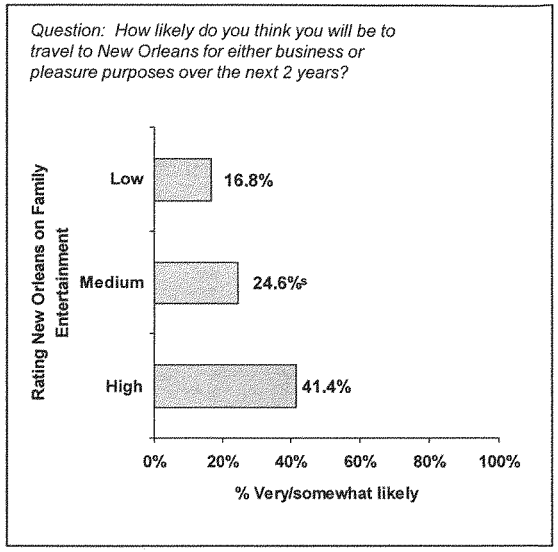
Tourism Prospects





•Respondents' ratings of New Orleans can materially impact their likelihood of visitation.

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Statement For the Record

By

The American Library Association

To

The U.S. Senate Committee on Homeland Security and Governmental Affairs

For the Hearing

"E-Government 2.0: Improving Innovation, Collaboration and Access"

December 11, 2007

Librarians working with and for the American public know first-hand, on a daily basis, the importance and impact that government information has on the health and lives of all Americans, on the economic well being of our Nation, and on the preservation of our democracy. Libraries support the *Electronic Government Act of 2002 ("E-Government Act")* that has enhanced access to government information; however, since the enactment of the *E-Government Act,* public libraries are often the *only* organizations that can help individuals interact with government agencies and access E-government services.[1] When government moves to save costs by E-Government, they pass the costs to public libraries, yet the library community has seen little collaboration or support from federal agencies for the significant increase in services public libraries provide on their behalf.[2]

Studies reflect that this increased reliance on public libraries for access to E-Government services has placed new pressures on public library's technology and personnel infrastructures. Public libraries are concerned that they will not be able to maintain the quality of public Internet access, especially the demands of the Web 2.0 environment.[3]

Public libraries serve over 97 percent of the total population. There are over 9,000 library systems and over 17,000 libraries including branches. Increasingly government agencies refer individuals specifically to their local public libraries for assistance and access to the Internet for citizen-government interactions. Yet public libraries are not considered members of the E-Government team. Libraries struggle with increasingly smaller budgets and expensive ever-

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[1] 73.1 percent respondents to a 2007 large-scale national study of public libraries indicated that their public library is the only provider of free public Internet access in the library's community. See "Public Libraries and the Internet 2007," Information Use Management and Policy Institute, College of Information, Florida State University, July 2007.

[2] The federal Library Services and Technology Act (LSTA) provides only one percent of overall public library operating budgets.

[3] John C. Bertot and others, "Public Libraries and the Internet 2007" (Information Use Management and Policy Institute, College of Information, Florida State University, July 2007), 8.

changing technology in order to assist thousands of Americans on a daily basis because the public relies on them.

The American Library Association has supported the *E-Government Act* since it was first introduced, and testified on the benefits of its purpose and goals. The *E-Government Act* was an important step in enhancing public access to government information and harnessing the power of the Internet. One of our stated concerns with the *E-Government Act* was disparities in access to the Internet—the Digital Divide. The availability of government services should not be diminished for those who lack access to the Internet. Since the *E-Government Act*, federal agencies have concentrated their focus on establishing their presence on the Internet, but true public access does not end there. There is still a need to provide public service in order for public access to work.

Libraries have a critical role in E-Government not only as portals to access, but also organizing and categorizing information and providing the necessary tools and expertise to provide community service. Librarians provide the front line reference service that informs the public how to access and evaluate government information through both physical and virtual collections and how to train people in the use of electronic resources. Libraries help the public become information literate.

Libraries have traditionally provided assistance to the public with government information; however, new formats and technologies, an influx of online social services, as well as a misconception that all individuals are information literate, has presented great and new challenges.

Public libraries are providing E-Government services to those without access to a computer and the Internet access as well as those lacking the requisite broadband needed to use today's Internet sites and services. Many of these users may be computer illiterate. Not only do these users require access to the Internet, but they require assistance in navigating the Internet as well as interpreting agency sites of which 56 percent are at a 12th grade reading level, higher than that of the average American's.[4] Public libraries are not only serving the disadvantaged and elderly, libraries are also assisting individuals that may be information literate, but want one-on-one assistance in maneuvering these complex government agency websites and forms.

A 2006 E-Government survey of public libraries in Florida found that 88.1 percent assist citizens in completing job applications, online training, and unemployment claims; 78.6 percent assist in locating or completing Medicaid registration or prescription drug forms; 67.9 percent assist in contacting immigration and naturalization service; and 86.9 percent assist in locating or completing social service forms.[5] Libraries in this study also reported that federal agencies had referred citizens to the library for services. Of the libraries surveyed, 78 percent said that

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[4] Darrell M. West, "State and Federal E-Government in the United States 2007" (Taubman Center for Public Policy, August 2007), 3.

[5] Charles E. McClure and others, "E-Government and Public Libraries: Current Status, Meeting Report, Findings, and Next Steps" (Information Use Management and Policy Institute, College of Information, Florida State University, January 2007).

completing social service forms was one of the two most time intensive services. For many of these forms, librarians have become unintended experts.

The study also found that 86 percent of the libraries provided public access computing used to access emergency relief services and benefits such as FEMA during times of disaster. Emergency services included communicated with family and friends; completing FEMA forms (only available online); searching for news about cities and towns; and searching for news about the condition of homes and offices. The role of libraries in emergency preparedness and response has not been fully recognized, and little has been done to assist public libraries.

A 2007 national study of public libraries and the Internet, reveals how E-Government, while reducing burdens on the government, is stressing public libraries' ability to provide Internet computing services.[6] According to the survey, public libraries have reached a plateau along two key infrastructure measures: Internet workstations and bandwidth.

The average number of public access Internet workstations at public libraries has not increased significantly since 2002. Libraries are stuck in a continual cycle of upgrades, enhancements, and replacements that connectivity and public access computers require. For example, 52.3 percent of public library branches indicate their connections speeds are inadequate, and 85 percent report having an insufficient number of workstations to meet the public demand some or all of the time. Rural public libraries have the fewest open hours, fewest public access workstations, little broadband, and are less likely to offer public access Internet workstations.

This information reflects that libraries will not be able to maintain the quality of public access now and into the future: ". . . [the] public library access infrastructure is increasingly unable to keep up with the demands of Web 2.0 environment – an environment that requires increasingly sophisticated workstations, substantial bandwidth, and a range of resources that libraries are beginning to indicate that they may not be able to support."[7]

The Office of Management and Budget's (OMB) report on section 213 of the *E-Government Act* examines pre-existing outlets for government information and recognizes that public libraries have played a long-time significant role in the dissemination of government information. The OMB report assumes that public libraries can take on the significant increase of serving the public's E-Government needs, without addressing the impact on the libraries infrastructure and systems that were not planned around the delivery of E-Government.[8] The OMB's report also discusses the Federal Depository Library Program that plays key role in the dissemination of the records of the government, but fails to observe that, in general, the public does not visit federal depository libraries, as they do public libraries, for access to the Internet and government programs and services.

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[6] John C. Bertot and others, "Public Libraries and the Internet 2007."

[7] Ibid., 8.

[8] Office of Management and Budget, "Section 213 of the E-Government Act Report to Congress: Organizations Complementing Federal Agency Information Dissemination Programs," April 2005.

The federal government provides only very limited direct technology support to public libraries; yet public libraries provide services that directly support numerous federal programs and services. The greatest challenges reported by public librarians include limited space, the cost of computers and technology, and staffing. The study also reflects that libraries are also concerned with privacy and liability, and librarians believe that better communications between public libraries and the federal government would help. [9]

The library community has identified some steps towards creating a partnership between public libraries and the government in order to improve E-Government delivery to citizens.

- Recognition by the federal government of the various E-Government roles, services, and activities being provided by public libraries.
- Information policy that supports the public library's role in E-government service provision, integrating the role of libraries and volunteer agencies into E-government process.
- Education and training by which public libraries can be more knowledgeable of E-government services and resources and education of government officials on impact of referrals and putting government services online
- Funding for public access stations. Only a small amount of funding to public libraries comes from federal and state government, approximately five to seven percent. E-rate discounts, though a federal program, are provided by telephone customers. Local communities provide 85 to 90 percent of public library funding.
- Better coordination between local, state, and federal governments and public libraries. While doing this, librarians also have the opportunity to report what is working well and what needs to be improved.
- The library community needs to better understanding and document the nature, extent, and cost for public libraries to successfully provide access to and use of E-government.

The OMB's report on Section 213 of the *E-Government Act* states "Citizens' benefit from the collaboration between Federal agencies and these programs [including libraries]."[10] Section 213 of the *E-Government Act* calls for the Administrator, working with federal agencies, to assist public libraries in providing computer and Internet access to the public, including the contribution of funds, equipment, and training. Yet the library community has seen little collaboration or support from federal agencies for the significant increase in services public libraries provide on their behalf.

Public libraries are part of the larger government fabric that deliver a range of E-Government services. Government information policy should recognize this and support the public library's role in E-government. Libraries need support to maintain and develop the technological infrastructure necessary to meet user needs, financial support, and education to better provide E-Government services. The library community is eager to work with the federal government in order to make E-Government as successful as possible.

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[9] 64 percent were concerned with issues regarding confidentiality and 48 percent concerned with issues regarding liability.

[10] Office of Management and Budget, "Section 213 of the E-Government Act Report to Congress," 20.

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STATEMENT FOR THE RECORD

Committee on Homeland Security and Governmental Affairs

E-Government 2.0: Improving Innovation, Collaboration, and Access

Thank you for inviting the National Academy of Public Administration (the National Academy) to submit a statement for the record on the topic of E-Government 2.0. The discussion of innovation, collaboration and access to information in the public sector is a timely one—the challenges facing government today are unprecedented and new approaches are required to solve our problems.

Much is being done to foster innovation. For example, the National Academy has documented many instances of virtual collaboration across federal, state and local governments. Joint authoring technologies, such as online editable text platforms known as wikis, provide opportunities for people across the world to collaborate on projects instantly. In addition, advances in search technology have provided us with new opportunities to make public data more accessible. However, the potential opportunity for the application of these tools is massive.

The Promise of Collaboration

Today's government relies on a broad network that includes the private sector, nonprofit organizations, community groups, and individual citizens. Moreover, there is an urgent need for Agencies to work effectively across boundaries, including:

- Internal silos;
- Cross-agency barriers; and
- Obstacles between levels of government (federal, state, local, tribal and international).

Collaborative technology enables government to reach more people, with diverse knowledge and perspectives, in disparate parts of the world, quickly and at low cost. This type of community enables government leaders to react with speed and flexibility when circumstances require.

We in the National Academy are convinced that collaborative technology has the potential to transform government in America—to tap into the expertise of people outside the hierarchy of any single agency or department, to make government more transparent, to open the door to a broader array of experts focused on solving a particular problem, and to citizens who want to contribute to making government work better.

The challenge will be to harness this significant potential and persuade leaders in government to embrace these tools. Because this technology—and the concept of broad collaboration it represents—goes against the natural hierarchy of government and the "operating silos" that hierarchy has created.

The Need for Agility

Increasingly, Americans are questioning the ability of governments to respond quickly and effectively when necessary. Collaborative technology brings agility to previously bureaucratic organizations, allowing government to be more responsive to employees, customers and stakeholders.

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Multi-agency collaboration is vital to emergency response to ensure public safety before, during, and after an event. Government failed to manage and share information at their disposal when the Gulf Coast was hit by Hurricane Katrina, which prevented the coordination of an effective response. However, a powerful grassroots effort—modeled from a similar effort after the tsunami in Indonesia—emerged immediately to reunite loved ones and aggregate data on fundraising efforts, refugee records, helpline numbers, volunteer opportunities, and government resources from various websites.

Combined, the *KatrinaHelp Wiki* and the *Katrina PeopleFinder Project* responded where the traditional government structure could not, taking advantage of a collaborative web-based network to produce one of the most quickly developed, comprehensive collections of information and online resources seen to date.[1]

Governments can learn from these efforts to form more agile intergovernmental emergency response networks to prepare for and respond more effectively in the event of a disaster. In an age of terrorist threats and mega-catastrophes, it is more important than ever to find ways to become as agile as the threat.

Reaching Beyond Agency Walls

Face-to-face communication, although rich, is also time-consuming and costly. Online networks, where people can engage anytime from anywhere in the world, enable large and diverse communities to form quickly around issues as they arise. Collaborative tools, created in open source code, leverage innovative software licensing schemes that encourage sharing of intellectual property in a neutral space. These tools have the capacity to help build public consensus.

The award winning *More Perfect.org* is an example of a site that enables direct public involvement in the creation of law and policy. Visitors to the site can propose a solution to any civic issue. *OpenCongress.org* combines access to official government data with news and blog coverage, providing in-depth information on bills before Congress.

These sites and others like them both engage citizens in shaping the public agenda and enable policy makers to involve a broader, more diverse audience in the policy discourse. Ultimately, this strengthens our democracy.

Driving Efficiency

Web-based collaborative tools provide an opportunity to tap into ideas, innovation, and expertise that lie outside agencies' office walls quickly and at low cost. Moreover, doing so can actually increase productivity, reduce costs and ultimately produce better results for America's taxpayers.

Government can learn from private sector entities such as Proctor & Gamble and Pfizer. Both have worked to break down hierarchical business models and replace them with collaborative networks that more effectively create value and save money.[2]

A good illustration is provided by Neighborhood Knowledge California, which plots real-time information such as tax problems, housing code violations, tenant complaints, and fire violations on city maps to enable citizens and public officials to take action. Previously, this data was available by request through government agencies, but was never aggregated and was rarely up-to-date.

By automating the aggregation of data and making it available online, efficiency gains have been realized. When multiple stakeholders contribute to data collection, share ideas, and continually edit the content, it

[1] http://katrinahelp.info/wiki/index.php/Main_Page
[2] http://www.wikinomics.com/

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speeds the flow of information and provides data that otherwise would be take much longer to publish.[3] The "publish-first, edit-later" concept, inherent in collaborative knowledge-sharing platforms allows data to be shared instantly, rather than having to wait months, and sometimes years, for official reports to be released.

Just as important, however, is the fact that enabling the interactive utilization of the data and incorporating a mapping element has provided members of the community and officials to take action in a concerted fashion, armed with a fuller understanding of the problem to be solved.

New opportunities also exist to improve upon the success of early collaboration initiatives. Feedback solicitation through the Federal Register is an example of citizen collaboration that has gone on for decades, but now, with the maturity of the web, there is an opportunity to eliminate many of the costs associated with coordinating that collaboration.

A Sense of Urgency

There will be a period of trial and error, experimentation, and feedback. There are real concerns about privacy, authenticity, security, and accountability that need to be addressed, but the opportunity is too important to ignore. Government leaders should not abandon more traditional networks, but must incorporate new ways of doing things to make the old ways better through new innovative tools. Success is possible if we are willing to start small and working together with others who share a common purpose.

If government leaders fail to take advantage of these tools now, they will scramble to adopt these technologies in the future. For several years, collaborative technologies have passed government leaders by; we can not wait any longer when there is so much at stake.

The National Academy of Public Administration is a non-profit, independent coalition of top public management and organizational leaders who tackle the nation's most critical and complex challenges. With a network of more than 600 distinguished Fellows and an experienced professional staff, the Academy is uniquely qualified and trusted across government to provide objective advice and practical solutions based on systematic research and expert analysis. Established in 1967 and chartered by Congress, the Academy continues to make a positive impact by helping federal, state and local governments respond effectively to current circumstances and changing conditions.

The National Academy of Public Administration's own work on collaborative technology involves both an internal wiki site and efforts to establish a Collaboration Community of Practice on collaborative technology that provides an independent forum for government leaders to work together to leverage collaborative technology's potential for innovative problem solving, information sharing and strategic planning.

[3] The Blogging Revolution: Government in the Age of Web 2.0 IBM Center for the Business of Government

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