

Leveraging Web 2.0 Technology in Government

A new genre of Web-based applications has gained a lot of popularity in last few years. Applications such as Facebook, YouTube, MySpace, Twitter, once a tool of tech savvy youngsters have gained a lot of popularity and acceptance across much wider spread of demography. Social-networking Web site, such as Facebook alone has more than 350 million active users worldwide. These applications have evolved around the concept of the user as a producer of content such as Blogs, Wikipedia, Flickr, YouTube etc. ; of goods such as eBay, ; of contacts such as Face book, MySpace, LinkedIn of relevance and reputation such as eBay, TripAdvisor etc.



Neeta Verma
Senior Technical Director, NIC
neeta@nic.in

Collectively known as Web 2.0, these applications though launched with very little investment had phenomenal success in terms of take up. They have made the profound impact on the social life of people, as well as on industries such as advertising and media. What distinguishes Web 2.0 technologies from previous technologies is the high degree of participation they require to be effective. Unlike earlier applications, where most users either simply process information in the form of reports or use the technology to execute transactions. Web 2.0 technologies are interactive and require users to generate new information and content or to edit the work of others. Further, Induction of new technology in an organisation involves a lot of resources in times of time, money and skilled manpower. But the Web 2.0 technologies and tools are different. While they are inherently disruptive and often challenge the culture of the organization they are not technically complex to implement. In most of the cases they can be implemented using the existing infrastructure and do not necessarily require complex migration and integration exercise.

Web 2.0 Applications in Government

Fundamental principle of Web 2.0 technologies finds resonance with the objectives of good governance. Public participation & Empowerment of Citizens are the key tenets of governance and Web 2.0 technologies are striving in the same direction by enabling users to not only have easy access the relevant information but also empower them

to generate content, participate in opinion building to even building of sophisticated information products. Wikipedia, Flickr, You tube are live examples of the same. Realising the potential of Web 2.0 technologies, governments world over are exploring the ways in which they can leverage upon these technologies. Lot of initiatives are also being taken. Some of those are highlighted in following section.



Ideas for CM

(<http://www.ideasformcm.in>): An endeavour by Madhya Pradesh state government to develop a citizen participatory model for governance so as to enable the top levels of government, to reach out to those whom they may not have chance to meet in person in spite of their best intentions to do so. Citizens can participate through this web based platform in the whole process of development of government policies from formulation to implementation. The facility for tracking the status of contribution provided to the citizen through the portal gives him a sense of involvement, belongingness and responsiveness.

Web 2.0 Spectrum of Technologies & Applications

RSS & Atom: Rich Site Summary or Really Simple Syndication (RSS) is a format for delivering regularly changing web content. RSS feeds benefit publishers by letting them syndicate content automatically. They also benefit readers who want to access regular updates from certain set of websites/blogs without visiting them regularly. The Atom Syndication Format is an XML language used for Web feeds which allows software programs to check for updates published on a website. Atom format was developed as an alternative to RSS.



AJAX: AJAX (Asynchronous JavaScript and XML) is a group of interrelated web development techniques used on the client-side to create interactive web applications. With Ajax, web applications can retrieve data from the server asynchronously in the background without interfering with the display and behavior of the existing page.

SOA & REST: A web service is traditionally defined by the W3C as "a software system designed to support interoperable machine-to-machine interaction over a network. Service Oriented Architecture (SOA) & Representational State Transfer (REST) are styles of deploying web services.

Mashup: A Mashup is a lightweight tactical integration of multisource applications or content into a single offering. An example of a mashup is the use of cartographic data to add location information of a government office or service centre.

Blog is a type of website, usually maintained by an individual with regular entries of thoughts, observations or opinions posted as well as other material such as graphics or video. Entries are commonly displayed in reverse-chronological order. Organisations also create corporate blogs to communicate, share information and foster discussions around their domain of activities. There are many different types of blogs, differing not only in the type of content, but also in the way that content is delivered or written.

Wiki is a simple, text-based collaborative system for creating and maintaining hyperlinked collections of Web pages in many different languages. Wikipedia's 14 million articles have been written collaboratively by volunteers around the world, and almost all of its articles can be edited by anyone with access to the site.

Podcast is a series of digital media files (either audio or video) that are released episodically and downloaded through web syndication. Special client software known as Podcatchers such as iTunes can automatically identify and download new files in the series when they are released.

Content or Service Rating refers to the ability to provide unfiltered feedback on a specific piece of information or online service, through a form-based interaction that requires a user to rate the content or service on a simple scale.

Social bookmarking is a method for Internet users to store, organize, search and manage bookmarks of Web pages with the help of metadata. Users label or "tag" these bookmarks using relevant descriptions and share these bookmarks and tags with others.

Tag Cloud (or weighted list in visual design) is a visual depiction of user-generated tags, used typically to describe the content of web sites. The tags are usually hyperlinks leading to a collection of items that are associated with a tag.

User Tagging is a way to obtain user-created metadata via Web sites. **Folksonomy** also known as social tagging is a system of classification derived from the practice and method of collaboratively creating and managing tags to annotate and categorize content.

Peer to Patent (<http://www.peertopatent.org>): The Peer-to-Patent project also known as the Community Patent Review is an initiative towards reforming the patent system by gathering public input in a structured, productive manner. Peer-to-Patent seeks to improve the quality of patents issued by connecting the United States Patent and Trademark Office (USPTO) to an open network of experts online. Peer-to-Patent is the first social-software project directly linked to decision-making by the federal government.



Political participation: Politicians world over are using Web 2.0 applications for a more direct contact with the electorate. White house has a presence on a large number of social networking sites. It also has a blog associated with it. President Obama had also used Web 2.0 technologies extensively to connect with the citizens of America during presidential elections. In many European countries, politicians have blogs and they also



White House on Facebook

participate in social networking websites. In some countries they are also using micro blogging format such as twitter extensively to connect with the electorate.

Intellipedia: Intellipedia is a project of the Office of the Director of National Intelligence, U.S. It is a wiki-based platform which enables the direct collaborative drafting of intelligence reports by analysts from 16 different intelligence agencies in United States. This Wikipedia-like software allows analysts from different agencies to produce joint reports, which are more robust as they also include dissenting voices. Intellipedia is currently supposed to have 30,000 articles and reports produced collaboratively.

Potential Benefits of Web 2.0 technologies:

- Citizen centric government
- Enhanced quality of content
- Improvement in service delivery
- Enhanced engagement with citizens
- Increased usage of online services
- Better Inter & Intra department collaboration
- Easier integration of government services
- Leverage unused/unexploited data for Mashups.

Sanjog Helpline (<http://www.sanjoghelpline.in>): An initiative of State Government of Orissa provides a



Homepage of Sanjog Helpline

forum to the government to be in touch with the scheme beneficiaries and allows the citizen to register and address their grievances, via 5 different modes namely Internet, Toll free number, e-Mail, Fax and Letter. The citizens can also assess the status of their grievances through a ticket number provided to them. The system has an inbuilt intimation and escalation process, which allows registered grievances to reach the right people in the right place at the right time.

Patient Opinion (<http://www.nhs.uk>): Patient Opinion is a service that was launched by a General Practitioner in order to improve the National Health Service in UK. Patients can comment, review and rate the services they have received at healthcare facilities and can see the reviews of other patients. It is similar to the service provided by "Tripadvisor" for reviewing hotels. Feedback is both quantitative and qualitative. Comments are moderated and edited by the moderators to ensure privacy and respect.

Conclusion

Public Communication through social media sites such as Facebook, MySpace, Twitter, Engagement of Politicians with their electorate, Public consultation in formulation of policies, are some of the commonly exploited domains. Web2.0 technologies however, have far more potential.



Governments are constantly challenged for better delivery of citizen services. Web 2.0 technologies can be

used in getting direct feedback from citizens on various government programmes and services. Citizens can rate the services delivered by government, directly engage with government and influence the service delivery at times to make it more effective & citizen centric. Citizens could also collaborate in co production of content and services.



Governments can also engage citizens in getting direct feedback on implementation of various government schemes on the ground. Deployed systemically these input from citizens as well as other stakeholders could be very effectively utilized in improving the effectiveness of the schemes, help them meet their intended objectives of social development.

Web 2.0 technologies can also support better analysis and identification of problems which in turn can improve processes and service to citizens. For example, Mashups can provide greater location information about where the need for a particular social service programme is more based on various parameters. Information from programme databases can be displayed on a map giving policymakers and community members a much more complete picture of their community and its needs.

Government should therefore identify the domains where potential of Web 2.0 Technologies could be harnessed the best and also work out a strategy to create awareness, enabling empowerment of government departments to use these technologies. **i**