

Tackling WEB 2.0 – the Era of User-Participatory Services

Over these past few years, the Internet has been undergoing a transformation. One of the key shifts has been increasing opportunities for anyone to become an originator of content on the worldwide web. As a consequence, users are tapping into the increased benefits of services that provide new web access, experiences and enjoyment and re-discovering the novelty of well-established services enhanced with new value. The innovative application of such services and added value is also penetrating B-to-C and internal corporate activities.

In this issue, we would like to provide a broad overview of how NEC Group companies are meeting the challenge of user-participatory web services and systems.

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1 The World of the Web Is Constantly Evolving.

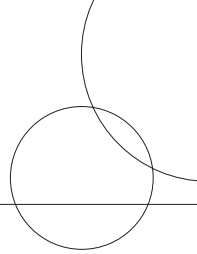
Since the bursting of the Net Bubble in 2001, the Internet has undergone a remarkable change – the emergence of the web content prosumer. Previously the content providers and content consumers were polarized into two clearly separate groups with information recipients playing a static and passive role on the receiving end of a one-way stream of information. However, driven by advances in technology and the evolving environment, the division is disappearing as the information consumer is also assuming the role of provider. We are rapidly entering an era in which anyone can be both a consumer and provider of content on the Internet. Tim O’Reilly coined the phrase “WEB 2.0” to describe this phenomenon, and O’Reilly Media held the first of several conferences with this phrase as its title in autumn 2004.

WEB 2.0 technologies are already being packaged in a way that enables users not only to receive and to consciously and expressly respond to services, but also generate and distribute new content. Today even the relatively “passive” act of reception is also recorded as user participation in the world of the Internet that is eventually distilled into anonymous data. The penetration of web services that implicitly process and utilize

these data are just another example of the constantly evolving technologies related to the worldwide web.

2 Making a Transition from an Archival Role to Supporting the Fields of Experience, Work and Empathy.

Since prior to the turn of the millennium, we have been able to compose and transmit e-mail using software that operates on the personal computer platform, and to create webpages and upload them to Internet host servers using website production software that runs on personal computers. In contrast, the age of WEB 2.0 offers the service functionality of information transmission tools such as web mail, blogs, SNS, etc., all provided by Internet web servers. With these tools and a browser, we can easily access information and services available on the Internet, compose new information, and then immediately publish and distribute it. Even without having dedicated software installed on the personal computer, it has become possible to enjoy the same services provided by a web server. This is called SaaS (Software as a Service), and represents a promising new direction in the future development of the web. Every little action on web servers, from amusement and leisure to work-related operations, can be found and recorded there. The opportunity to publish and exchange information in this very broad sense is



naturally made possible by a system that provides both secure and rational administration and features an enhanced operational rationale.

In the world of WEB 2.0, as the number of users increases, we begin to see an ascending spiral in the quantity and quality of content and in the quality and diversity of services available to users. From the footprint produced by the gathering of users and the synergy of action-reaction arising from information/content distribution, word-of-mouth communication, archives and reports, we are witnessing the evolution of the web into a planet-sized brain.

This issue puts the spotlight on how the new wave of user participation is driving the sophistication and diversification of web services and our ability to better enjoy this value, and introduces how we at NEC Group are leading the way with the development of user-participatory web services.

Specifically this introduction will cover an explanation of the overall technology that serves as the foundation for our services as well as describe the objectives and customer value of services that NEC Group is already providing customers both inside and outside our company. Compared to the scale of previous years, the quantity of information and content produced in a WEB 2.0 environment, in which anyone can collaborate on the web, has made a remarkable leap. We will present our approach to the platform technologies that support this advance and, in particular, promote interaction and collaboration among users.

One aspect that is attracting an especially high degree of attention is Consumer Generated Media (CGM), which is produced both consciously and unconsciously as a result of service participation. The reason for this interest is that CGM is reflection of the behavior and minds of the users. An understanding of this knowledge holds the key to the incorporation of new added value in existing web services and the creation of services that had never existed before. Here too, NEC Group is aggressively tackling the analysis of CGM content and utilization of resulting insights. The cutting-edge technology and some case studies will also be presented in detail in this issue.

3 Expanding the Breadth and Depth of Web Space through Both Conscious and Unconscious Collaboration on the Internet.

Blogs, SNS, P2P (BitTorrent) and Google are just a few of the typical WEB 2.0 services that boast enhanced value as a result of user participation. The advent of “mashups”, which are the innovative integration of various services running on a server or new recombinations of content (content repurposing) has introduced a variety of conveniences to users. The moment a mashup is created and loaded in a web server, anyone can immediately utilize it. As a result, service access is promoted, and it becomes

possible to promote the recording and cataloging of all the user’s intellectual production activities and accompanying results on the network side.

The significance of the “user participatory model” is that anyone can effortlessly consult and apply the knowledge and experience of other individuals wherever they may be connected to the Internet. That knowledge and experience can be put to the practical use and the direct benefit of participating individuals to enhance their enjoyment, education, financial lifestyle, work-related problem solving and search for business ideas. Also the aspect of indirectly making available the user’s footprint as anonymous data (user access or participation in specific services, pages, topics) for the benefit of individuals or organizations that require such information is generating increasing interest. These are indeed trends that would never have become reality in a web world where there is a clear separation between those that transmit content and those who receive it.

4 Speed of Web Expansion Presages the Arrival of New Dimensions of Experience.

Resembling the structure between neurons and synapses, information hyperlinks have given us the web-like form of the Internet and its nickname. In only 15 years, it has grown at a dizzying pace into an inexhaustible source of both knowledge and entertainment. In the early 1990s, it had been comprised of relatively few pages and links, but as of the last half of 2006, the total number of accessible pages exploded to 85 billion (source: Wayback Machine - a service that allows people to visit archived versions of Web sites and is provided by the Internet Archive, a USA-based NPO.) To put this in context, the human brain is said to have tens of billions of cells, yet in no time at all, the Internet has overtaken this huge quantity. Moreover, this number does not include all the ever-increasing pages, messages, and content generated by WEB 2.0 such as blogs, SNS services and video sharing sites. Looking at only Japan, there were only about 1,000 blogs in December 2003, but today the total exceeds 8 million and is growing (source: Internet Survey, DRECOM Co., Ltd.)

In order to deliver concrete services that harness the awesome scale of this user productivity and the limitless potential of leveraging that power into the hands of our customers, NEC Group is endeavoring to realize technological innovation and services for the age of WEB 2.0.