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## **Web 2.0 Needs to Include the User Experience Perspective**

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Web 2.0 technologies are enabling people to interact in ways that haven't been popular since the early days of the Internet. Prior to the development of Web 2.0, the Internet had become more corporate and less collaborative, straying away from its originally conceived purpose of sharing academic information among peers. Users were merely information consumers being sold ideas and products online. But the recent evolution of Web 2.0 tools – such as blogs and wikis – is changing the role of users again, away from simply information consumers to become contributors as well.

Many commercial website owners interested in moving from publishing to participation feel wary of implementing Web 2.0 tools. They are not certain which tools to implement and how to ensure their own or their users' success once the tools are implemented. The vast majority of the recommendations available to these website owners and stakeholders comes from the business strategy perspective. These recommendations primarily consist of Web 2.0 monetization advice and best practices written by independent business strategy and technology bloggers, as well as the O'Reilly Media group.

So while website owners' success is being addressed thoroughly, the end users' success and satisfaction with Web 2.0 tools is not being concentrated on to nearly the same extent. This lack of attention to the end user's experience is especially unfortunate because Web 2.0 technologies create a richer functional user space, resulting in more opportunities for users to make mistakes. Good usability of Web 2.0 tools is important so that users will have positive experiences with a website and want to return.

Unfortunately, it seems few user experience specialists have the knowledge or skills to address the new Web 2.0 tools yet, and those that do have not been forthcoming with useful guidance. Therefore, developers and users are often creating ad hoc design and interaction standards independently, sometimes without regard for creating a sound user experience.

The purpose of this white paper is to urge greater involvement by user experience professionals in the development of Web 2.0 tools. By evaluating and studying the common forms and emerging trends within Web 2.0 and collecting actual user data, they will be able to identify reasons for successful and failed implementations and start to develop more user-focused standards.

This white paper will explore the growth of Web 2.0 technologies and examine the business strategies that dominate the discussion about its implementation, as well as the problems with developers' ad hoc interaction standards. In this paper, our team will also discuss the few studies that have been done from the user's perspective and go on to pose some questions that need to be considered by user experience professionals as they perform analysis and work to create standards. For those who are seeking advice now, we have compiled a few recommendations from the end user's perspective to facilitate the adoption of Web 2.0 technologies.

## **Early Internet gains value from user experience research**

In the early life of the Internet, websites had one standard format – pages – to present information in all possible contexts. Generally, the end user's role was as a consumer of information. The user experience was varied based on the manipulation of this one format; however, developers were more focused on the content rather than the quality of the presentation. But as the Internet gained popularity, more and more people with less knowledge and skill joined the Internet. These users struggled until problems with the user experience reached critical mass. Getting information to users in digestible, clear ways became paramount as organizations expanded their presence online.

In order to address these issues, a number of user experience researchers set out to develop best practices and diagnose failures of websites. For example, researchers found that successful online communities clearly demonstrated the purposes of their sites and made their activities highly visible [2, 3]. From there, other researchers identified four components of usability they believed were most important for the sociability and success of online communities: dialog and social support, information display, navigation, and access [7, 8].

Because most websites relied on the same page-based communication, more general design standards were able to be developed from such studies. In the late 1990's and early 2000's, usability recommendations like these guided businesses and community web pages to follow consistent design guidelines and produced tangible results: less frustration and more usage.

## **Web 2.0 introduces new interactions**

In 2004, new technologies were introduced that strayed away from the single page-based user experience and allowed millions of users to connect to people in new ways. The tools that Tim O'Reilly dubbed 'Web 2.0' include blogs, wikis, and social networking sites like MySpace, Facebook, Twitter, YouTube, and Flickr [5]. These new technologies are creating a new human behavior model where the user is no longer just an information consumer but also a contributor. With the aid of Web 2.0, communication goes both ways.

The sheer popularity of these sites has tempted many organizations to jump on the Web 2.0 bandwagon to try and harness some of this community power for themselves. Unfortunately, the multitude of Web 2.0 tools with different capabilities has created a dense forest of interaction models of varying quality for an organization to choose from. As a result, owners of websites that were designed pre-Web 2.0 may be wary of implementing the wrong tools. In a recent survey of businesses who were considering implementing Web 2.0 technology, respondents said they were most concerned about appealing to their target audience, a meaningful ROI, development time, keeping some control over user-generated content, and brand credibility [10]. So, what resources or guides are available to help them make these decisions?

## **Strategy and technology dominate recommendations**

In a recent pursuit for best practices in implementing Web 2.0, our team sought and hoped to find methodical and comprehensive research, considering it has been almost four full years since the unveiling of Web 2.0 technologies. Disappointingly, the collected information was written almost exclusively from a business strategy or a technology-oriented perspective.

For example, opinions from independent blog writers seem to be a main resource for Web 2.0 guidelines. Many people with varying degrees of expertise in different industries are giving their ideas and strategies for how organizations can begin to implement these tools. For example, in 2006 Dion Hinchcliffe, an Enterprise Web 2.0 consultant, blogged about successful uses of Web 2.0 that show the technology can “drive genuine business value and significant competitive advantage” [1]. Sean O'Driscoll, an independent strategy consultant, has been blogging since

2007 about online community development for organizations. One blog post from 2007 discusses the need for businesses to focus on integrating new Web 2.0 tools with their existing systems and processes [4].

These expert bloggers' opinions are sometimes well worth reading, and blogs like these have begun to gain influence regarding web-based content. However, the diversity of the blogosphere may also make it difficult for organizations to find reliable information about developing tools for their public-facing websites. While they are often thought-provoking, blog posts by themselves are rarely authoritative enough to drive business decisions.

One dependable online authority is O'Reilly Media, which is trusted for its insights on emerging trends in technology. Since Tim O'Reilly coined the term 'Web 2.0,' O'Reilly Media has gone on to suggest the best practices for Web 2.0 implementation through reports and books which focus mainly on how an organization can succeed at making money and adding users.

One such book, written by business strategist Amy Shuen, is titled *Web 2.0: A Strategy Guide*. In this book, Shuen uses case studies to show how it is possible to monetize the networking effects of Web 2.0 technologies. At the end of each case study she gives lessons learned and strategic and tactical questions the reader should ask when implementing similar technologies in their own case [9]. While this book lacks specific how-to guidelines, it shows the extent to which business strategy has come in addressing Web 2.0 technologies.

### **User experience perspective is slow to address Web 2.0**

Since business strategy has begun to encompass Web 2.0 technologies, its perspective has been well represented in design guidelines for organizations. The user experience perspective has not been considered by organizations to nearly the same degree. However, the user's needs are at the core of any good site or product, and this is especially true for Web 2.0 tools.

Compared to pre-Web 2.0 Internet, Web 2.0 technologies create a more dynamic space where end users have control over highly-responsive interfaces, which make Web 2.0 tools more similar to stand-alone software applications than traditional websites. However, with users' new power comes the opportunity for more mistakes or unintended actions. For example, the consequences faced by a user's filling out a form incorrectly on a pre-Web 2.0 website are insignificant compared to the consequences of accidentally posting an embarrassing comment to a blog because of a confusing user interface.

The reason the user experience perspective is not currently being used to guide implementation of Web 2.0 technologies is largely due to the fact that there have only been a few user experience specialists to come forward with input or guidelines. Silva and Dix (2007) recently performed a usability evaluation of the very popular website YouTube, relying on established guidelines. Using this method, the researchers found the website wanting in many ways, including total task time, total number of clicks and total number of errors. However, the researchers suggested that YouTube users' spending extra time and clicks in pursuit of videos may be part of the appeal of the site because goal of the site is to have fun by exploring [11]. Still, there is a difference between exploring the website for interesting videos and exploring the website while struggling to figure out how to post a video. Additionally, YouTube only uses some Web 2.0 technology and is only one website. Organizations and developers who are trying to utilize different Web 2.0 tools may not find the YouTube evaluation valuable.

Pilgrim (2008) is also in the process of completing a study to assess the mental workload and disorientation caused by Web 2.0 tools that update information without a full page load. Because this study is still in progress, limited methodology has been given so far and initial findings have yet to be reported [6].

Based on this recent investigation for Web 2.0 standards, it seems that evaluations and studies have not yet covered enough ground to be meaningful guides for website owners trying to make decisions that will benefit their users. This presents a challenge for organizations and website owners who are in need of thorough Web 2.0 guidelines that include input from a variety of fields, rather than just developers and business strategists.

**Standards are developing independently of the user experience perspective**

In the meantime, Web 2.0 technologies aren't waiting for user experience guidelines to be developed. Instead, design and interaction standards are evolving organically by developers and users. For example, since sites like MySpace, Flickr and Wikipedia became popular, their forms of user interaction have become widely emulated and expected by users across websites. Consider the consistent formats used on most popular blogs or the familiar method of adding a person to one's contact list, as shown in Figure 1.

Unfortunately, the most popular sites do not always employ the most usable interaction models, as evidenced in the results of the YouTube evaluation. But in the absence of user experience professionals, there are limited means of correcting unusable interactions. Web 2.0 user-contributors are taking the opportunity to have more immediate input on the development process. While users are very adept at identifying problems, a single user tends to make suggestions that are idiosyncratic, relating only to their personal experiences. Because of this, individual comments should not be the only resource employed to improve Web 2.0 tools. A more studied approach is needed to ensure the most usable Web 2.0 interactions possible.



Figure 1: Similar methods of adding a contact across websites

**Design standards must include the user experience perspective**

User experience professionals are well positioned as experts in human behavior and conventional usability guidelines to refine Web 2.0 technology for organizational use, which makes current and thorough user experience guidelines especially necessary.

If user experience professionals were to begin influencing Web 2.0 design standards, what would they look like?

It is an admittedly daunting task to create these standards, because Web 2.0 technologies encompass a number of separate tools with unique forms of interaction. So is a universal set of standards even possible? Consider the example of microblogging, which allows users to send brief updates to an interested audience. Should its standards follow those of traditional blogs? Should guidelines be identical for sites like Twitter and Facebook, even if they are used from mobile devices? Or will the use of one standard model stifle users' and developers' creativity?

In order to grow with Web 2.0 technologies like microblogging, interaction standards may need to be dynamic and flexible. From a user performance perspective, having dynamic standards that change with adoption would be beneficial for end users. After they understand the basics, users

would be able to enjoy the benefits of interacting with many different tools without becoming confused by unusable details. The presence of established standards will also make it easier for developers to plan around standardized technologies and user interfaces.

The need for a dynamic set of standards nevertheless adds complexity for user experience professionals as they begin this process. Will the standards be task focused, like uploading a video or adding a friend? Or should they be created based on the functionality of the technology? The adaptive personalization functionality on sites such as Pandora, where songs are chosen based on an algorithm that learns from the user's regular feedback, may not be governed well by task-focused standards. It is unclear without further study which method is best, or if a combination should be used.

The good news is that user experience professionals don't need to reinvent the wheel and develop completely new interaction standards for Web 2.0 technologies. While Web 2.0 standards will need to be tailored to application and interaction types, user experience professionals may be able to simply pick and choose from existing standards and adapt them to Web 2.0 tools. There is a wide array of guidelines and heuristics available from the pre-Web 2.0 Internet, as well as traditional software applications and other interfaces. Not only will using accepted standards save in development costs, but users will also feel more comfortable with tools that follow patterns they are already familiar with.

### **User experience research is needed to guide standards**

Regardless of what the standards look like, user experience professionals need to evaluate and study the common forms and emerging trends within Web 2.0. They must identify successful and failed implementations and analyze the current interaction standards. Getting actual users' perspectives through studies is key: user reactions, task time, and frustrations should be documented to create an objective picture of the end user's side of the Web 2.0 experience. It is imperative that we understand what differentiates successes from failures and why, in order to help diagnose problems in current and future sites.

From here guidelines can be developed to guide successful implementation of the new technologies. This is especially important with interaction standards that haven't been solidified completely, since those are the ones that can benefit most from user experience professionals' insights. It is best to focus first on broad-range standards that can be universally applied. Then, guidelines tailored to industries, tool types, and regions should be produced.

Widespread implementation of Web 2.0 tools can be beneficial for users, developers, and organizations. But, because organizations are forced to rely on the natural evolution of unfinished and possibly unusable standards, this makes it more difficult for them to feel comfortable or confident investing in Web 2.0 technologies. By combining the advice already available from business strategists and technologists with the user experience perspective, success is more likely for organizations as they will feel more comfortable adopting Web 2.0 technologies in a lasting way.

### **A move towards user focused recommendations**

At this point, there is no one authority deciding what these Web 2.0 design standards will look like. However, while the much-needed research is being done, organizations will still be looking for user-focused advice for Web 2.0 implementation. With that in mind, our team has created a few general guidelines an organization should consider when implementing Web 2.0 technologies on an established website. This attempt is just a beginning and much discussion beyond this article is expected and encouraged.

The process of implementing of Web 2.0 technologies may take time, because bugs need to be worked out and communities have to grow naturally. It's best to start slow and introduce tools

one-by-one so that resources can be devoted to promoting each tool and excitement can build before debuting something new. A website owner might consider starting with a tool that is relatively easy to implement and easy for users to participate in (like a wiki) and expanding from there.

New Web 2.0 tools that are introduced into an existing website should engage users in a way that is aligned with their motivation to visit the website in the first place. This may mean that features of a few different standard Web 2.0 tools will need to be adapted and tailored so that they provide unique benefits to the website's user base. For example, a specialized website where users value their privacy (such as a health education website) may find value in adding elements that foster community. However, just because Facebook is a popular community building website doesn't mean it is appropriate to add an identical social networking tool to such a site. The website's ideal tool may only use the self identification abilities of social networking and instead add more emphasis to group discussions.

The successful implementation of Web 2.0 tools depends on the good will and active participation of users. Web 2.0 technologies have given users a new opportunity to directly identify what is unnecessary and unusable about a site. Since sincerity is paramount in the Web 2.0 environment, feedback should be accepted and concerns acknowledged. The trends seen in this kind of user feedback (as well as web analytics) can help to inform decisions, although user experience professionals should be involved in major changes to a website.

### **Usable standards will help organizations succeed**

In this white paper, our team has proven the need for user experience professionals to become involved in the development of Web 2.0 tools. Throughout the evolution of Internet technologies, user experience professionals have played a key role in the success of websites by creating usability standards and guides for user interaction. However, the new developments in Web 2.0 technology have independently evolved to the point where the risk of failure for organizations can be quite high. To avoid failure, user experience professionals need to utilize proven processes of evaluation, analysis and studies with end users and begin to create more usable interaction standards for Web 2.0. We look forward to the continuing dialogue among user experience and other professionals as we progress towards a usable and successful Web 2.0 experience.

## Resources

1. Hinchcliffe, D. (2006, February 22). Creating real business value with Web 2.0. Message posted to <http://blogs.zdnet.com/Hinchcliffe/index.php?p=14>.
2. Jung, Y. & Lee, A. (2000). Design of a social interaction environment for electronic marketplaces. *Proceedings of the 3rd conference on Designing interactive systems: processes, practices, methods, and techniques, New York City, New York, United States*, 129 – 136.
3. Maloney-Krichmar, D. & Preece, J. (2005). A multilevel analysis of sociability, usability and community dynamics in an online health community. *ACM Transactions on Computer-Human Interaction*, 12(2), 201–232.
4. O'Driscoll, S. (2007, July 25). What's the most important web 2.0 feature to implement next? Message posted to <http://communitygrouptherapy.com>
5. O'Reilly. What is Web 2.0 written 9/30/05. retrieved 10/27/08  
<http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>.
6. Pilgrim, C. (2008). Improving the Usability of Web 2.0 Applications. *Proceedings of the nineteenth ACM conference on Hypertext and hypermedia*, Pittsburgh, PA, USA, 239-240.
7. Preece, J. (2001). Sociability and usability: Twenty years of chatting online. *Behavior and Information Technology Journal*, 20(5), 347-356.
8. Preece, J. & Maloney-Krichmar, D. (2003). Online Communities. In J. Jacko and A. Sears, A. (Eds.) *Handbook of Human-Computer Interaction* (pp. 596-620). Lawrence. Mahwah, NJ: Erlbaum Associates Inc. Publishers.
9. Shuen, A. (2008). *Web 2.0: A Strategy Guide*. Sebastopol, CA: O'Reilly Media, Inc.
10. SIIA business survey: Business Use of Web 2.0 (n.d.) Retrieved October 3<sup>rd</sup>, 2008, from <http://siiia.net/content/>
11. Silva, P. & Dix, A. (2007). Usability – Not as we know it! *Volume 2, Proceedings of the 21st BCS HCI Group Conference HCI 2007, Lancaster University, UK*.