What Is the Mobile Internet?

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I have been asking myself this a lot lately. Like most of the online world, I am slowly becoming sucked into Facebook. But what is Facebook? On one level, it is no more than an aggregation of technologies that have been around before: email, IRC, interactive whiteboards—pah! For the users of Facebook, however, it is the Internet. The individual technologies that I (and other old-timers) cherished before are just achieving their full impact within the Facebook paradigm.

In fact, Facebook is starting to give me flashbacks to the early days of the Web, when I missed the point of that, as well. I mean, Mosaic was really just a Gopher and an FTP client rolled into one. At the time, I missed the significance of HTML, which allowed people to aggregate technologies and construct information into a form that was meaningful to them and which they could share with others. As with Facebook now, the Web paradigm in its time subsumed all previous technologies into a unified interface.

So what about those of us living in the develop-

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ing world, whose access to the Internet is through the portal of a mobile handset? Most users here have no idea about browsers, AJAX, Web 2.0, etc. However, they are highly motivated to use data services on their handsets, and certain Web services have a very high adoption rate.

Case in point: MXit (www.MXit.co.za), a South African startup that provides an IRC service for cellular handsets. Users download a client and can hold IRC-style sessions over the mobile Internet. Why bother? Well, the cost of sending a character of text over the data connection is one-tenthousandth the cost of sending a character via SMS. This is such a significant savings that about 10 percent of the entire South African population are active MXit users. Furthermore, MXit allows the embedding of hyperlinks, so it is possible to break out into the wider Internet and use MXit as your gateway to the Web. Thus, MXit has become a strange amalgamation of IRC and an early text-based Web browser like Lynx (lynx.browser.org).

Access to the wider Web is mediated through a browser running on a mobile handset. These browsers do their best to rerender desktop-size Web pages on the small screen. There are some clever solutions, such as the mini-Map [1], but all of these solutions are built on the assumption that the user is familiar with desktop browsing and wishes to have the same experience on the handset.

For some of the users we interviewed in Zambia, mobile access is the only way they have ever accessed the Internet. Someone had configured their handset for them, and they were exploring what was available. Most of these users felt the Internet was some sort of magazine or newspaper, as it allowed them to check soccer results and see television schedules. They loved the service, especially as newspapers seemed to arrive in the village several days after the "news" had occurred. In fact, it was a similar insight—the Internet could provide magazines on mobile devices—that proved to be one of the successes of iMode in Japan.

If you could access the Internet only through your handset, what would you access? How do you think your perception of the Web would change? You see, accessing the Internet on a mobile device is not only about accessing the Web on a reduced screen and keyboard. For many users without a computer, the handset experience is not a reduced experience—it *is* the experience!

If we were to accept that, like Facebook, the mobile handset is a completely new paradigm for understanding the Internet, then how do we go about creating interfaces geared to that experience?

The key step is surely breaking out of the browser mentality. There are signs of this already with the iPhone, as it provides access to information services outside the browser paradigm. Maps and the YouTube application spring to mind here, as both services could have been handled via the browser but were considered important enough to have their own dedicated application. Certainly, research on the use of mobile video shows that it is a data type that requires very different handling on the mobile platform [2]. Personally, I think that the mobile platform will be where OS widgets come of age. While they are an interesting distraction on desktop systems, having widgets on a handset displaying information in an appropriate (nonbrowser) way could prove invaluable. One is reminded of Norman's arguments around information appliances in this context [3].

Do not be fooled into thinking that these points apply only to developing-world users. As handsets become more powerful and more users see the mobile device as their primary access to the Internet, I think we can expect to see a new paradigm emerge across both developing- and developed-world users. As designers, we need to be working toward the "Facebook" of mobile interaction, aggregating the facilities we have today into something that transcends the browser and meets the paradigm of the mobile Internet user. ✦

REFERENCES **1.** Roto, V., Popescu, A., Koivisto, A. and E. Vartianen. "Minimap: A web page visualisation method for mobile phones" Proceedings of the SIGCHI conference on human factors in computing systems, San Jose, California (2007): 35-44. **2.** Kirk, D., Sellen, A., Harper, R. and K. Wood,. "Understanding Videowork" Proceedings of the SIGCHI conference on human factors in computing systems, San Jose, California (2007): 61-70. **3.** Norman, D. *The Invisible Computer* Cambridge, Mass: MIT Press, 1999.

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