What does Mobile Mean?

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ABSTRACT

This article presents a perspective on what it really means to be mobile - why being mobile is different. It looks at the technological and physical implications, but really considers the broader issues: the social implications, the impact that data on the move can have on people, and the use of mobile devices as sensors that can drive intelligent, contextual systems that provide a much more effective experience for the user than existing systems do. [Article copies are available for purchase from InfoSci-on-Demand.com]

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MOBILE DEVICES AND MOBILITY

When we talk about mobile computing, what do we really mean? There are many devices that claim to be for mobile computing, ranging from laptops through tablets and personal digital assistants (PDAs) to mobile phones. Some of the larger ‘laptops’ require quite impressive feats of strength from their owners, requiring them to carry awkward, bulky and sometimes heavy loads: in return they offer tremendous computing power and an experience not dissimilar to sitting at a highly-specified desktop machine. These do provide great functionality to their owners; they essentially give them their office, wherever they happen to be—they allow one to move locations, but really require one sets them in a specific location and then work with them. They are more migratory than mobile, allowing one to move to a new location, and then work from there for a reasonable period. Tablet PC’s are more portable than this—but they still have a relatively large form factor so that carrying them is a significant action: not an issue when stock-taking, or collecting data in the field, but a problem for activities in which interacting with the device is not a major focus of the task. The
relatively new ultra-portable netbooks and mini-laptops offer much increased portability, some being pocket-sized, especially if you are of the age where wearing cargo pants is common—they trade reduced power and display size for their compact dimensions, but this allows them to be taken to more places and used in occasional moments. Ideal for when a users’ task is not based on the technology, but having sporadic access to it is useful, they are finding roles in supporting travellers on planes and trains, journalists in the field, and photographers on safari. The smaller screen height when open also presents less of a social barrier to visual communication with other parties, making them seem somewhat more acceptable for use in meetings and other such settings (at least, this is my impression based only on personal experience, observation, and discussion with other users). Other devices are much more portable: the PDA offers pocket sized assistance with notes, reminders, documents and support, but has recently been superseded by the latest generation of smart mobile phones, that offer all the capabilities of the PDA coupled with integrated data connectivity and voice communications as well. As phones become every more powerful, they are increasingly provided with more and more applications to increase their functionality: indeed, Apple’s AppStore, which is an e-commerce site for Apple and 3rd party add-on software for the iPhone, is used as one of the strong selling points of the device itself.

However, all these characterizations of these devices are technology-centric: they define mobile in terms of how portable the devices are: the more portable the device, the more mobile. And hence this has defined the way mobile applications are created; they are created for small, portable devices and designed to the limitations of such devices. However, my contention is that the real issue is not the ‘mobility’ of the devices, but the mobility of their users. Mobile computing is not, in my view, about computing on small portable devices; instead, it is about computing for users who are not in a single location, but are moving around. They may be migratory, moving from one place to another but spending much of their time in a known location, or they may be much more active, being truly mobile and out and about, moving from location to location far more frequently, and computing whilst on the go as well as when at their destinations.

For example, the European-funded Mobilearn project looked at the issues involved in mobile learning. It developed a context-aware architecture (Beale & Lonsdale, 2004; Lonsdale et al., 2004) that utilised location, user interest, and previous activities to determine the information and activities that the user would most likely want next, and provided that information to them. The intention was to make the usage experience as seamless as possible, so that the user rarely had to interact directly with the device in order to move through material or navigate
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