

**SOFTWARE OPPORTUNITIES AND PROBLEMS POSED BY  
WIRELESS INFORMATION DEVICES  
(Abstract)**

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There are already more mobile phones in the world than PCs. It is conceivable that, within a few years, more people will access the Internet through evolved mobile phones than through PCs. This talk attempts to look a couple of years into the future, to discern some of the essential features of these new devices - variously called "Mobile Internet Devices" (MIDs) or "Wireless Information Devices" (WIDs). What software problems need to be solved in order for these devices to be successful, delivering utility and genuine benefit to the end user, instead of the fierce love-hate inspired by PCs?

For example, will these devices tend to be "thin clients", relying mainly on the processing power of huge servers, and rapid transmission of data over ever wider wireless bandwidth? Or will they tend to be "advanced clients", with increasingly sophisticated on-board software capabilities? Examples of thin clients are the phones that run WAP or (in Japan) the unexpectedly successful iMode.

Second, how important is it that these devices conform to a standard platform, in which the same add-on software works equally well on devices from different manufacturers? The success of PCs is connected with the establishment of such a platform, and the corresponding growth of an enormous community of third party software developers, but the conceivable variety of designs for Wireless Information Devices challenges the emergence of a similar all-pervasive platform for this new genre. In turn this places new requirements for how third party software developers should architect their products.

To be more specific, what role can we expect to be played by Java software on these devices? How feasible (and desirable) is its goal of "Write Once, Run Anywhere"? And will the success of Java mean that the underlying operating system becomes less significant?

By way of summary, the talk revisits the famous "technology life-cycle" as discussed by Geoffrey Moore in "Crossing the chasm", and locates the WID software industry relative to that life-cycle.

