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Blurring Boundaries: Moving Beyond Rigid Input Modes to Enhance Interactions in Digital Environments

By:

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Digital environments, such as desktop computers, mobile devices and large surfaces depend on input mechanisms to engage user interaction. A key property of input devices is the mode under which they operate. For example, the mouse is an indirect input device that allows one to position a desktop cursor with relative displacements of the device. A tablet pen facilitates direct input and relies on absolute positioning to control the virtual cursor. Recently, researchers have recognized the need to transcend beyond such rigid definitions for effective interactions in novel environments.

In this presentation, I summarize our recent results that examine the benefits of blurring the rigid boundaries that have existed between different input modes. I demonstrate this through examples taken from our work in three different environments, large surfaces, mobile devices and the desktop computer. I provide some suggestions on how we can leverage these results to create efficient interactions and end with a model that could be used to guide future designs in this area.

Pourang Irani is an Associate Professor in the Department of Computer Science at the University of Manitoba. He received all his degrees at UNB. His research interests are in human-computer interaction and information visualization. More recently he has worked on auxiliary input methods, particularly for mobile devices and shared display environments.

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