

Microsoft looks to StepUI

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In the midst of this year's recent TechFest, an internal event where Microsoft demonstrated over 150 internal projects currently in development, the world's largest software company proved it could take a step in a new direction. Literally.

This year the company's research division has drawn attention to its StepUI project, which incorporates the idea of using foot movements in conjunction with a standard keyboard and mouse to control a computer. During a demonstration of the technology, an employee maneuvered through several programs via a floor-based dance pad controller similar to the one used for Konami's best-selling Dance Revolution movement game. From then on, he began to navigate through an e-mail program, stamping out unwanted spam mail before moving over to a customized photo program and beginning to organize a photo catalog via the dance pad.

A different approach to say the least, Microsoft seems to think this could be an important addition to a computer's user interface model and has pushed to incorporate the technology in its upcoming Windows Vista operating system.

"When you drive a car, play a piano or operate a sewing machine, you deftly use both your hands and your feet. Why don't we do that with a computer?" reads a StepUI project description. The project, which currently includes prototype e-mail and photo navigation software, has put forward the idea that while foot-based motions are certainly not more efficient than using a keyboard and mouse, they can supplement

the motions and increase efficiency.

Other side benefits of the technology could include a reduction in repetitive stress injuries such as carpal tunnel syndrome, increased accessibility for disabled users and a form of exercise for users who would otherwise be seated at a computer throughout the day.

"It is actually very comfortable, in most applications," said Kevin Schofield, general manager of strategy and communications at Microsoft Research. "It's not quite so sedentary and unhealthy to be at your desk."

Other potential uses for the technology include a kiosk function, which would allow for users to interact with a demonstration without having to use their hands. In a mall setting, a shopper could use his or her feet without having to place purchases and personal items off to a corner and leave them out of sight.

"The thing with a mouse is you get immediate feedback through hand/eye coordination," said Celeste Lyn Paul, a freelance senior interaction architect with a background in user interface design. "I'm not sure if there's enough coordination between the eyes and feet to make this work."

"Your feet have different levels of coordination -- you can't right-click with your feet, so you'd have to find a different way to do this." added Paul. "Your hands are meant to be highly coordinated. Your feet aren't. Maybe it'd work for a shortcut or something that only required a limited movement."

Paul then went on to add that this seemed to be a supplementary interface that could add additional input commands and not a dramatic reworking or substitution of the standard keyboard and mouse to which most computer users have become accustomed. Custom software would

also have to be written to take advantage of the StepUI technology, and current versions of Microsoft's flagship applications such as Word and Outlook probably wouldn't fit well with this.

Concerns were also expressed from computer users who regarded Microsoft's announcement with interest and some measure of trepidation, many online bulletin posters wondering about the increased dexterity an additional user interface technology would require.

"I could see someone inadvertently undoing an action or deleting something," commented Laura Bowser, 27, a senior security engineer for Gemini Security Solutions in Chantilly, Va.

Dramatic revisions to user interfaces aren't entirely original, despite the feedback they may receive. For its next-generation Nintendo Revolution video-game console, Nintendo has featured a wand and a horizontal controller that may replace the standard control pad to which users have long since become accustomed.

Still, change is continuous, especially in the world of interface design, and the best concepts become the ones that stay.

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