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Citizen to commercialize IBM's wristwatch computer

By Paul Kallender 10.11.2001 0

TOKYO Citizen Watch Co. will work with IBM Research to commercialize IBM's wristwatch PC, a first step in the development of wearable computers, the companies said Thursday (Oct. 11).

IBM's Watchpad prototype weighs 43 grams and includes a 32-bit microprocessor backed by 8 Mbytes of DRAM and 16 Mbytes of flash. The unit runs on standard lithium ion watch batteries or AA batteries.

Yuzo Shirazaki, director of Citizen's watch movement division, said the Watchpad platform will enable new human-machine applications. The watch features a 320 x 240-dot monochrome VGA display, Bluetooth wireless connectivity, an IrDA wireless link, plus speaker, microphone and fingerprint-sensor functions.

Watchpad wearers could use the unit's Bluetooth functions to remotely control other devices, such as a PC during presentations, for example, Shirazaki said. The fingerprint sensor function could be used to identify the watch's owner, replacing the need for a password, he said.

Shirazaki called the arrangement with IBM a big step forward for Citizen, which wants to leverage IBM's integration, software and networking expertise to transform standard watches into wearable PDA alternatives.

"Our first priority is to make an information tool that is wearable and we believe with IBM we have made a huge advance. We wanted to do something much more than make watches," he told reporters.

The two companies started collaborating last summer. IBM agreed to the deal because it fits with the company's strategy of developing pervasive computing, said Yoichi Takao, director of IBM Research's Tokyo Research Lab.

"This project is about developing pervasive computing for the post-PC era," Takao said. "We needed to create a new form factor. This is not only a consumer product, this is an embedded technology."

The Watchpad prototype uses Linux version 2.4 as its operating system, Microwindows as its graphic user interface, and an IBM Bluetooth software stack. The watch consumes "several milliwatts" in normal operation and less than a milliwatt in standby mode, but "Bluetooth guzzles power," Takao said, or about 100 milliwatts when in use.

IBM wants to push ahead with the Linux OS as the base for a next-generation network populated by Watchpad's commercialized successors, as well as more traditional servers, PCs and PDAs, said Takao.

"Linux does not require a license fee, so it is cheap. Linux has the top programmers and is an extremely reliable and secure OS," he said.

Watchpad does not yet have Internet connectivity.

IBM is considering weather to break out the watch's source code to make it an open platform. Executives from both companies declined to say how soon a consumer product could hit the market or what features it would have.

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