Review

OQO POCKET-SIZED PC

Daniel F. Zucker

The OQO Model 01 (www.oqo.com) has the potential to usher in an entirely new class of mobile device. It’s a fully functional Windows XP PC that fits easily into a shirt pocket (the device measures 4.9 in. × 3.4 in. × 0.9 in. deep). The 800 × 400 W-VGA display slides up to reveal a small keypad (see Figure 1), which includes a TrackStick pointing device and compares to such devices as the Sharp Zaurus or RIM Blackberry. It has a digital pen for screen-based navigation, but I found the keyboard alone works fine. While I wouldn’t want to use the OQO’s tiny monitor and keypad for composing large documents, it’s perfectly usable in mobile environments. Its full VGA resolution monitor sidesteps the layout problems that often occur when a typical PDA displays content on a quarter VGA monitor.

The OQO has a 20-Gbyte hard drive (the same one as the iPod mini), but I wish a larger drive were available. It uses a 1-GHz Transmeta processor, has 256 Mbytes RAM, and has integrated Bluetooth and 802.11. Because of its diminutive size, the OQO doesn’t have many peripheral ports, but the included docking cable supports external video out (perfect for presentations on the go), Ethernet, USB, FireWire, and DC power. I hear that one of the first peripherals will be a laptop-sized docking station with monitor and keyboard. I wish it had a built-in cell phone, but it would be hard to fit one in the compact package. You can’t appreciate how compact the OQO is until you hold one in your hand.

I’ve seen other handheld Windows computers before, but none have had the combination of beautiful industrial design, compactness, and usability that I saw in the OQO. It’s more than just another PDA; it functions as a palm-sized data storage device for all of your desktop documents and software. I believe its primary use model will be in a docking station with external full-size peripherals, such as keyboard, monitor, and drives, functioning as your primary desktop PC. When you’re ready to change locations—whether heading home from a day at the office or hopping on a plane—you’d simply unplug your OQO and use it as your portable data store. When you arrived at home, you’d plug it into another docking station, and your desktop would be ready to go, complete with all your documents, preferences, and favorite installed software. I see OQO’s function as a data transport container as its main benefit. Your full Windows desktop (where I spend about 80 percent of my waking hours) is transported in its entirety wherever you go.

This is the first pocket-sized device that functions well as a complete Windows-based PC. When on the road, I can even use it as a device for watching movies or listening to music. The OQO Model 01 will be widely available in the fall at a planned price of less than US$2,000. I can’t wait until I can afford one!
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Technologies

GLOO DIGITAL CONVERGENCE TECHNOLOGY

GlooLabs (www.goolabs.com) is offering a Java-based open platform for creating applications that distribute multimedia content in a peer-to-peer fashion between devices on a network using TCP/IP. The company licenses the technology, called GLOO, to consumer-electronics vendors, computer manufacturers, and network-device manufacturers who develop products for the digital multimedia market.

GLOO provides open Java-based APIs and protocols and offers developers a means to deploy GLOO-based applications on these consumer devices. In addition, GlooLabs plans to make available the Java source to the development community. The first GLOO-enabled device on the market is Macsense’s HomePod (see Figure 2; www.macsense.com), which lets you use your wireless network to stream music files, stored on an appropriately configured computer, to the HomePod. GlooLabs sees future devices supporting remote controls, home-theater applications, video, photography, and other forms of digital media.

GLOO technology enables interoperability among three types of devices over a local area network: multimedia content libraries (such as a Linux- or Windows-based PC with an MP3 collection), GLOO-enabled hardware players that can output media content, and remote controls that manage content-sharing between content libraries and players (such as another PC, a PDA, or a network-enabled cell phone). The basis for this interoperability is the GLOO communication protocol. GlooLabs hosts a developer network, providing developers with software developer’s kits, documentation, GLOO source code, and a list of GlooLabs-sponsored projects.

THE SEMANTIC WEB BRIDGES DATA GAPS

The World Wide Web Consortium (www.w3.org) recently announced a second enabling framework for ubiquitous systems, namely final approval of two key technologies the Semantic Web needs: the revised Resource Description Framework and the Web Ontology Language. The Semantic Web’s goal is to provide a common framework that enables data to be shared and reused across application, enterprise, and community boundaries.

Although RDF and OWL aren’t products themselves, we expect they’ll form the basis of future ubiquitous software systems. RDF provides a standard for exchanging knowledge about resources, while OWL builds on RDF and provides a vocabulary for describing properties and classes, such as relations between classes (for example, disjointness), cardinality (for example, “exactly one”), equality, characteristics of properties (for example, symmetry), and enumerated classes.

Devices

USING LANDLINES FOR CELLULAR CALLS

Xcelis (www.xcelis.com) has developed an innovative product for coupling cell phones and landline handsets. The Pantheon (see Figure 3) plugs into a landline phone line and, using a Bluetooth connection, routes incoming and outgoing voice calls and data from users’ cell phones to their landline handsets.

The Pantheon indicates incoming mobile calls with a distinctive ring. While the mobile call is in progress, it doesn’t tie up the landline, meaning you can still receive landline calls through your other telephones. You need one device for each landline telephone that you want to multiplex. When making calls from your landline, you can choose whether to use your cell phone or landline account.

The Pantheon provides additional features, including conferencing a landline call and a mobile call, accessing a user’s mobile phonebook from a landline phone, and switching mid-call from a landline phone to a mobile phone. The Pantheon is also compatible with voice over IP handsets.
Xcelis is reportedly working with a partner to bring the Pantheon to market. This device is halfway between a traditional phone and Verizon’s limited-release ONE phone, a cellular phone that shares a phone number with a landline phone (see New Products, July–Sept. 2003).

**ROLLABLE DISPLAY**

Who hasn’t dreamt of a display that rolls up when not in use? Phillips took one step toward this dream on a commercial scale when it formed venture company Polymer Vision (http://polymervision.nl) in January 2004. Polymer Vision recently reported that it can make a flexible display with a 2 cm bending radius.

The display is an organics-based, QVGA (320 × 240 pixels) active-matrix display, 5 in. on the diagonal, and 85 dpi (see Figure 4). The display layers a 200-micron thick, reflective Electronic-Ink display from E Ink Corporation (www.eink.com) on top of a 25-micron thick, active-matrix plane. Polymer Vision can produce over 5,000 fully functional rollable-display samples per year, and it’s in the process of defining a pilot production line.

![Figure 4. Polymer Vision’s rollable display has a 2 cm bending radius and measures 5 in. on the diagonal. (photo courtesy of Phillips)](image)

IEEE Computer Society members work together to define standards like IEEE 802, 1003, 1394, 1284, and many more.

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