

# TOOLS of the TRADE



## Nokia E7

Nokia is finally taking orders for what they are calling their ultimate business smartphone, the Nokia E7. The phone has a full keyboard and a four-inch touch display. Preinstalled productivity apps include Microsoft Exchange and Office Communicator Mobile for direct, secure access to e-mail, calendar, contacts, tasks, and the corporate directory. You can hold business meetings over the phone with multiparty conference calling. There's Vlingo voice recognition for hands-free texting, to find businesses, and for navigation. The E7 has QuickOffice to view and edit Word, Excel, and PowerPoint documents and also Adobe Reader for PDF files. F-Secure Anti-theft lets you remotely lock, wipe, and locate a misplaced or stolen phone. Memory includes 16GB mass

memory, 350MB internal, and RAM256. And there's video recording and playback, an FM radio, and a music player for MP3, WMA, and a number of other formats. There's free worldwide satellite car and walk navigation from Ovi Maps in 80 countries. The camera takes eight-megapixel stills and HD720p video—flash is dual LED. Battery life provides nine hours of talk time and 18 days' standby. Dimensions are 4.9 × 2.5 × .5-inches, and weight is 6.2 ounces. The E7 is available in five colors: dark gray, silver white, green, blue, and orange. Ovi Store apps include business as well as entertainment offerings like Bloomberg, Sports Tracker, and Angry Birds. [www.nokia.com](http://www.nokia.com)

## RingO iPad Mounting System

Most presentation covers for the iPad tablet are limited in how they function in display-stand mode, but the Vogel RingO Universal iPad Mounting System offers four ways to mount your iPad tablet anywhere—in your office, home, or even in your car. So why would you want to mount your iPad anywhere? In



the office, if you frequently run financial tracking apps like the CNBC Real Time stock indexes or other portfolio updaters, why not mount it on the wall next to your desk like a monitor? And you might want to play music at the same time you're following your investments, or you could open one of those clock apps. At home, put a wall mount near the stove if you're a big fan of Epicurious—The Cook's Companion app or in the living room as a photo slide viewer that runs as you charge the unit from a wall outlet. You get the idea. The RingO Mounting system is a beautifully designed system from the Netherlands that has several modular parts and is available in various combinations. The patented iPad holder snaps onto the back to serve as a base for the wall mount, table stand, or car mount. Then when you remove it from the stand or

mount, you can snap off the cover and attach the holder onto the front to protect the screen for travel. The connections are all solid, and the ring-shaped aluminum connector on the back of the holder accepts the wall mount, table stand bracket, and the car mount adapter that locks to front seat headrests. Also, there are the wall mount connector that screws into the wall, a flex mount that tilts and swivels (next to the desk), and an adhesive mount for boats, trailers, and on tiled kitchen walls. Videos that show the various combinations are at [www.ipadonthewall.com](http://www.ipadonthewall.com).

## ViewSonic ViewPad® 10

The ViewSonic ViewPad 10 tablet is a 10.1-inch tablet computer that offers a dual-boot system that runs Windows 7 and Google Android, combining

# TECH FORUM

## The Human/Machine Interface—Making Some Progress

By Michael Castelluccio, Editor



business productivity and entertainment platforms. The ViewPad has a high-speed Intel Atom 1.66GHz processor and built-in 2GB of memory. The capacitive multitouch 1,024 × 600 LED display provides a sharp 10-inch work and viewing screen. The Windows 7 is available in Home Premium or Windows 7 Professional, and both run Word, Excel, PowerPoint, and Adobe Acrobat for business file management. The Google Android 1.6 system runs on the same tablet for Web, Facebook, Twitter, and photo sharing. You can easily switch between the two systems. Connectivity includes Wi-Fi 802.11 and Bluetooth 2.1. There's a built-in 1.3 megapixel camera. Memory is expandable through a micro SD card slot, which will handle up to 32GB of additional storage. Visit [www.viewsonic.com](http://www.viewsonic.com) for information on the ViewPad 10 and the ViewPad 7, a seven-inch Android tablet.

### Kaspersky Anti-Virus 2011

Kaspersky Anti-Virus 2011 is designed for home and small office use. It makes modest use of your machine's resources,

working in the background to provide real-time protection against viruses, spyware, trojans, bots, rootkits, and more. It will scan the system and e-mails to locate and eliminate threats. The program has a Desktop Security Gadget that provides direct access to the program's settings. There's protection against phishing attacks, and a virtual keyboard to enter credit card and bank information prevents key-loggers from seeing your passwords or ID numbers. The program detects emerging threats, finds vulnerabilities in installed programs that haven't been properly updated, and it prevents rootkits from installing on your machine. Updates are frequent but small and can load in the background unnoticed, taking less than 1% away from your machine's processing power. [www.kaspersky.com](http://www.kaspersky.com)



In the early days of the Industrial Revolution, little thought was given to the importance of the human/machine interface. The less lethal was obviously the practical path, but often the end result was only marginally acceptable. Operating next to an open firebox manipulating controls that could sever digits and break limbs was just part of the bargain that put such awesome mechanical power within the operator's reach.

Today we sit safely in control rooms, and robotic arms replace humans on the assembly lines. But two of the more intimate face-to-face lock-ups of people and their machines—cars and computers—curiously still feature antique interfaces.

The cars that rolled off Henry Ford's epochal assembly line in 1908 offered a cabin with pedals and wheels to control the mechanized horsepower—same as today. And the computer monitor still stares at us, blankly waiting for instructions from the 48-year-old mouse or the 143-year-old keyboard. Are these interfaces so perfect that our century-long attachments to them are justified? Let's trace the relationship with computers to see how this has developed—or rather, failed to develop.

A computer offers an extension for a few of our more human capabilities. It does so primarily by manipulating mathematics, doing most of what it does juggling sets of instructions for only two numbers, 0 and 1. Or one number for those who say 0 isn't a natural number, just an "additive identity."

With those one or two numbers, computers help us compose our e-mail, analyze large collections of information, draw our animated feature films, synthesize our music, and Skype us into the distant homes of our friends. And all this is accomplished with the aid of a 143-year-old keyboard covered with wrist-twisting buttons that aren't even in alphabetical order.

*continued on next page*

### HOW DID WE GET HERE?

It isn't that no one has tried to make the computer interface more human and less mechanical. You'd think it wouldn't be that difficult. Keyboards are, after all, just crude replacements for writing and speech, and the mouse just extends our reach. So what's the problem? That last half-step, you would think, would only require getting the computer to pay attention to voices and to let our hands directly contact, move, and grab things without some plugged-in plastic half-potato under our palms sliding around on its own pad.

Well, here's the rub. A basic principle in user interface design involves a slavish devotion to consistency. The rule is, "Establish a consistent set of expectations and then meet those expectations." The Ctrl+P key combination should print in all your programs; Ctrl+N should open a new file or project. Right-click on a mouse should do the same predictable things in as many programs as possible.

And even though Emerson tried to make us all aware that "Consistency is the hobgoblin of little minds," we all share the blame for this backward thinking. If the developers of the latest version of some familiar program have the audacity to move a set of icons somewhere else on the screen or create a new path for completing a task, even though it might be more efficient, they can expect a howl from the established base.

Another name for this ossifying approach to the computer user interface is POLA. It stands for the "Principle of Least Astonishment." It's an effect so desired that software engineers have accepted it as some kind of commandment.

So what will it take to make some real progress in user interfaces? We need to prepare ourselves to be astonished—astonished right out of our comfort zone.

### SOME PROGRESS

Get a tablet computer, and prepare yourself to be dePOLA-ized. Not only is there no mouse in the box, but there are no other pointing devices. About this, Apple's Steve Jobs said, "If you see a stylus, they blew it."

Turn it on, and there's the screen. There's no mechanical intermediary. You use your hands for everything: You tap to click open and to close applications, to scroll pages, to move objects and even pages around on the screen, to zoom in and to zoom out. The controls literally are at your fingertips.

The glass on the iPad tablet is glossy, and there's no drag. It doesn't take long before turning pages and moving stuff

around feels natural—as natural as what you have been doing ever since you first grabbed your toes or pushed a plastic plate around on your highchair tray. In fact, a common occurrence when you get back to working on your laptop or desktop computers is to catch yourself reaching for the screen to move or choose something.

The "desktop" is much less a metaphor on a tablet. And there aren't a lot of maneuvers to master. Just touch, slide, tap, and pinch to zoom out—and move two fingers apart to zoom in. All, except perhaps the zoom controls, are eminently intuitive. Overall, the main difference is a sense of immediacy caused by the contact. You don't need anything to extend your reach into the machine, such as a wired mouse. You are holding only the tablet.

But don't expect a complete escape from the past. That century-old vestigial typing device, the keyboard, is still there. On the iPad, there are a couple of very good apps that can minimize your dependence on the built-in glass typing device. There's a version of Dragon Dictation from Nuance that works nicely, is simple to use, and is free. For note-taking, there's an app called Auditorium that records audio, for lectures or presentations, and allows text (keyboard) input and integration with that audio. All of this can be synced to your DropBox storage account in the cloud. Not a bad deal for \$7.99. But despite the workarounds, extensive text input still works best with the on-board or the external Bluetooth keyboards.

### DRAWING

There are hundreds of iPad drawing and painting apps as well as those that allow handwritten import. With these, drawing with your fingertip isn't always the best choice, and it's here that you find the exception to Jobs's no stylus rule.

A small 4<sup>1</sup>/<sub>2</sub>-inch soft-nosed stylus works very nicely for pencil/pen input. Boxwave has one version of this capacitive writer at [www.boxwave.com](http://www.boxwave.com). Recently released, there's an amazing soft-bristle paintbrush that works with iPad tablets from NomadBrush LLC. It looks like an ordinary seven-inch-long watercolor brush with conventional bristles, but they're actually conductive. When you use it with applications like ArtStudio or Inspire Pro, it looks and feels like you're laying down paints. Check [www.nomadbrush.com](http://www.nomadbrush.com) for a demo and a gallery.

The change in our interface relationship with the iPad tablet represents a good start. Now we need to devise a new way to humanize text input that works as well as the 1868 invention that's still creeping into all our hardware. **SF**