Wireless Wonders

The world of wireless learning is liberating.

By Darin Hartley

MY COMPANY is distributing Blackberry handhelds to personnel who need them based on job roles and responsibilities. I got mine last week. As the inbound email indicator vibrates on my waist, the lyrics from Disney's animated classic Pinocchio popped into my head: "I've got no strings, to hold me down, to make me fret, or make me frown. I had strings, but now I'm free."

We live in a world of wireless wonders that are part of our work, play, and now...learning and performance. This article will provide some background on wireless technology, including some salient examples of wireless applications in multiple environments. It will also discuss the advantages and disadvantages of these wireless wonders.

People hate being tethered, both figuratively and literally. The ability to roam freely and move boundlessly to where the action is resonates with most people. People, like electrons, prefer the path of least resistance, and wireless technologies can minimize resistance brilliantly. The advent of wireless standards (especially in the 802.11 family) has revolutionized the way we connect with each other and has driven innovations that are nothing short of magical. Wireless "hot spots" could be renamed "sought spots" because people are constantly looking for access and connectivity at airports, coffee shops, schools, offices, and now even public and private transportation (airplanes and ferries). In fact, if you'd like to find a wireless hot spot near you, go to http://wi-fi.jiwire.com/ and enter your current location. There are even portable devices that can be used to "sniff" for wireless signals wherever you are.

Wireless wonders

The list of wireless wonders is long and grows longer every day as more wireless products enter the market and as more convergence of technology and products occurs.

The list includes

- wireless portable computers and wireless networks
- wireless phones (cellular and wireless handsets), including smart phones
- personal digital assistants (PDAs)
- RFID products and tools (these don't use the 802.11 standard, but clearly enable similar services for a variety of people)
- wireless headphones, remote controls using Infrared and wireless FM transmitters, etc.
- satellite-spawned technology (like global positioning systems, television, radio, and hybrid offerings like OnStar)
- remote-control devices that used to be "hard-wired."

Workplace connectivity

So what are some ways that wireless wonders drive the way we work? Many offices are using wireless access points and networks to drive a plethora of products and tools. Hundreds of employees can share a handful of networked wireless printers to print from anywhere within the bounds of the invisible network. I must admit that I am still amazed when I hit "print" on a wireless portable and retrieve the printed document from a printer 75 feet away.

Besides wireless networks for print- and file-sharing capabilities, the Internet is also more accessible through wireless computers (both portable and desktops) as well as wireless handheld devices. With wireless cellular and broadband networks, the work network expands exponentially for mobile professionals. Smart phones, PDAs, and other similar devices can combine the power of the cellular phone with the PDA, enabling the use of mobile personal task lists, calendars, contact list management, web browsing, and much more.

DualCor Technologies recently developed the DualCor cPC, a device that might be indicative of the convergence of future devices. It uses the Microsoft Windows XP Tablet PC Edition and Microsoft Windows Mobile 5.0 simultaneously for PC-like mobile performance. It has a five-inch screen that can run at 800x480 resolution, with a 40GB shared hard drive, 1GB DDR2 RAM, and 1GB of Flash memory. The battery can run for up to eight hours of continuous use, and it has a built-in speaker and microphone. It has external USB ports and a touch screen, plus it can run full-blown XP-compatible applications like Microsoft Office and Outlook, as well as enterprise applications. It has a similar form factor to the Sony PSP. Imagine being able to actually see spreadsheets and other application files, browse the web, and make phone calls on a device that fits into a coat pocket.

Other work-related wireless wonders include the use of RFID and other related, yet sometimes bundled, technologies. UPS delivered 3.6 billion packages in 2004 and leverages a phenomenal fleet of airplanes, vehicles, and technological systems to do what they do every day. Delivery information acquisition devices (DIADs) are critical tools for the UPS delivery fleet. They combine general packet radio service (GPRS), concert multithread architecture (CMA), bluetooth, RFID, modem, GPS, infrared and laser scanning, digital-signature capability, and a long-lasting battery. These handheld devices, used to scan a package and gain a signature, track that package from receipt and transit, through final delivery.

RFID tags and related systems are used in other businesses as well. They are often critical in inventory and supply chain management. These tags can help businesses know the status of their in-

ventory and where inventory is at any given time. Some companies are also starting to leverage this technology to help minimize inventory shrinkage. Many large retailers are still only doing this at the pallet level; however, others are have started to RFID tag at the unit level. For example, Nintendo is RFID-tagging its Game Cube and Game Boy products now.

RFID tags are also used to help organizations be more efficient. Vehicles use RFID tags to make it easier for them to pass through toll booths and open garage gates. Some gas stations are equipped with key fobs and other devices to streamline the gas purchase process. Drivers can just pass the fob over the gas tank to begin the credit card authorization process.

Many GM cars are now equipped with OnStar, the service that provides emergency services, directions, and other mobile concierge services, including hands-free calling. Emergency services include roadside assistance, notification of air-bag deployment, remote door unlock, and remote horns and lights. A large part of the OnStar offering is driven by wireless wonder technologies.

The world of play is immensely more enjoyable when it can be unwired. There are hundreds of examples of this, but I will focus on just a handful of them. Handheld GPS systems are used by families and teams to hold scavenger hunts (sometimes referred to as "geocaching"). Games can be downloaded onto cellular phones.

Gaming systems can use wireless controllers so that players don't have to hug the game monitor or TV. The Sony PSP actually has wireless functionality that allows multiple players to connect in different locations up to 500 feet apart.

Two major satellite radio companies, XM and Sirius, both have portable radios that can get satellite radio signals and play hundreds of commercial-free channels (assuming that one has antenna access to the respective satellites).

Workplace learning

There are many ways that wireless wonders are used for work and play, but how are wireless wonders used to enhance learning and performance?

There are wireless evaluation devices that are used for both classroom- and auditorium-learning to help attendees respond to questions, provide opinions, and rate activities. Learners get to participate using small handheld devices and can see the cumulative results of their submissions, often in real-time.

Seattle-based Playtime uses GPS and other wireless technologies for organizational team building. The advent of the wireless and handheld devices also means that Internet-based applications and functionality can be delivered to the smart phones, PDAs, and cell phones. This is important because this means that content typically delivered through a portable computer can now be pushed through the aforementioned devices. From a training perspective, this creates endless possibilities for delivery of learning and performance content. From a sales perspective, it is now possible to send out up-to-the-minute product and event updates. In fact, Salesforce.com offers a wireless version of its Client Relationship Manager (CRM) software that enables the sales professional to update and synchronize content wherever he is located.

Learning content can distributed to mobile devices additionally in the form of Real Simple Syndication (RSS) feeds, which are typically targeted for the end-user. In some instances, organizations use semi-permanent or permanent devices to act as access points for specific types of content. For example, imagine you are at a learning conference and want to get the entire conference schedule with summaries of the all of the sessions, plus some links to books that are featured during the conference. There are proximity services providers, such as www.wide ray.com, that can distribute content to mobile devices from distribution points. The wireless opportunities for learning are really only limited by our imaginations.

As with anything technical, there are advantages and disadvantages to wireless wonders. The advantages include

- access to information from practically anywhere, any time
- just-in-time data that can impact business and other decisions
- freedom from wires, cables, and limitations of distance
- smaller and sleeker devices with convergent functionality.

The disadvantages of wireless wonders include

- access to information from practically anywhere, any time (Yes. This is also a disadvantage. Think of the continuous interruptions that can occur with wireless wonders.)
- non-ubiquitous wireless devices
- sometimes difficult setup and use of wireless devices
- limited access to wireless (and related) technology. Wireless broadband is not available everywhere; satellite signals can be blocked if the receiver is not in clear sight of them. Also, wireless access often costs money.

I personally find wireless technology liberating, not only in the world of work and in my personal life, but also in the world of learning and performance. When we all can access the information we need, just before we need it, from anywhere we are, we will all be able to sing, "I've got no strings, to hold me down, to make me fret, or make me frown."

Darin E. Hartley is director for solutions development with Intrepid Learning Solutions in Seattle; dhartley@intrepidls.com.