tools of the trade

Garmin StreetPilot

Finding Your Way

The **Garmin StreetPilot** is a portable automotive GPS navigator that has a preloaded MapSource City Navigator. The hard drive on the unit can be preprogrammed with maps from North America or Europe and a database that will guide you to specific addresses or more than five million points of interest, such as lodging, restaurants, gas stations, or local attractions. The high-resolution touch-screen has voice-prompted turn-by-turn navigation. You can recalculate and redraw maps quickly, and there's an infrared remote control that permits control from a distance. The global positioning antenna is built in, and there's an external speaker with a 12/24-volt adapter cable. An integrated dash mounting system allows easy adjustments and quick release. Available this summer is the latest version of the StreetPilot,

the 2660, which has software upgrades that include multiple destinations, ability to specify areas and road segments to avoid, the ability to find the nearest route, and adjustable road class preferences. Go to www.garmin.com for more information.

Summer Reading List

Instead of just picking up the latest action novel featured at the airport bookstand, you might consider one or several of these alternatives.

Hackers & Painters: Big Ideas from the Computer Age by Paul Graham—published by O'Reilly & Associates. What kind of book might you expect from a professional programmer with a Ph.D. in computer science from Harvard who is also an artist who studied at the Rhode Island School of Design and Accademia di Belle Arti in Florence?

PAUL GRAHAM
HACKERS & PAINTERS
BIG IDEAS FROM THE COMPUTER AGE
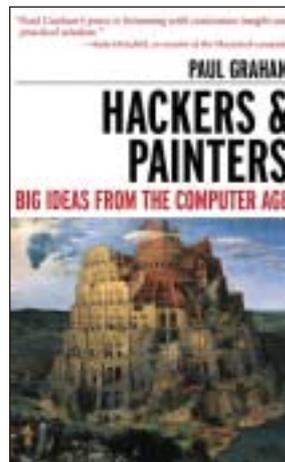
"Lucid and humorous," according to the guy who co-created the Macintosh. "A delightful ping-pong around the brain of a really smart guy," according to Chris Andersen of *Wired* magazine. Graham writes short, understandable chapters that make the world of programming and machines entertaining. Is it important to know what programmers are doing? Look around, and remember that all the machines (your computer, your car, your watch, your toaster) are getting their instructions from programmers. And with Graham, you get the per-

spective of an artist who also happens to be capable of designing programming languages. Each chapter is complete and self-contained, so you can start at Chapter 10 ("Programming Languages Explained") before you read "Why Nerds are Unpopular" (Chapter 1). Along the way, Graham deals with questions like: What programming language will people use 100 years from now? What do hackers and painters have in common? Why is industry best practice a recipe for failure in technology? See www.oreilly.com and www.paulgraham.com.

101 Killer Apps for your Palm Handheld by Dave Johnson and Rick Broida—published by McGraw-Hill/Osborne. Broida is the founder of *Handheld Computing* magazine, and Johnson is the former editor of *Mobility* magazine. Their book has no narrative line

# Is the Cat Still Your Password? ◆ Michael Castelluccio, Editor

■ WELL, FORGET THE DERISION YOU'VE SUFFERED from your co-workers and the annoying requests from IT. You can now use Mr. Jingles, and no one is going to crack your password—not even that kid down the street with the Star Trek medallion with bite marks all over it. You and the cat can lock up your PDA so no one but you can get in—not even the creator of the password system.

Hello Kitty

The reason that pet and other names (relatives or break-

fast cereals) are such poor passwords is that they are vulnerable to brute-force searches executed with crackers' dictionaries. If your password is a name or a common word, the dictionary just tries all of its list until it happens upon the word you chose. Spelling backwards, no matter how foreign "Selgnij" looks, won't help because it's the program checking the list. The human hacker can't help making judgments about letter combinations, but a dictionary program can spell just as rapidly backwards as forwards, and nothing looks strange to it—
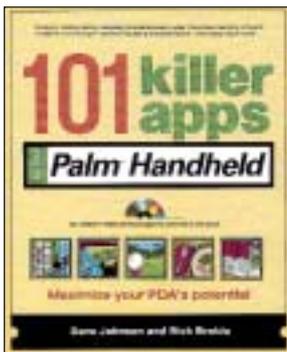
or thesis—it's actually more like a catalog of the greatest applications available for Palm handheld devices. The authors have selected 101 of the best programs that helped make the platform the success it is. There is freeware, with 20 or so of the most popular programs, but the basic commercial programs are the killer apps, which are covered in the text with short descriptions, screenshots, and tips on usage. There's also a CD with copies of the freeware apps, demos of many of the other pro-

grams, and links in the Appendix to the companies, along with current prices. The prices, incidentally, are another reason for Palm's success. The database classic MobileDB is still under $20, as is *Money* magazine's Financial Assistant; a great word processor, Documents to Go, is under $30; and there are other reasonably priced programs for everything from games to reading e-books, hand maps, foreign phrase books, crossword generators, and so on. The 101 applications barely scratch the surface of the programs available for the Palm platform, but it's the quality that distinguishes the book and CD that makes for very worthwhile "reading."
www.osborne.com

Instant Messaging Rules: A Business Guide to Manag-

ing Policies, Security, and Legal Issues for Safe IM Communication by Nancy Flynn—published by American Management Association. The book has quite a long title when you consider its subject—private, online chat conducted in real time. If IM hasn't made its way into your company, consider this from the book: "It's estimated that 90% of businesses already are engaging in some level of instant messaging. That includes some 25 million
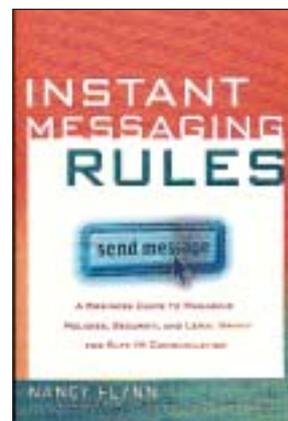
U.S. business users who, according to The Yankee Group, are instant messaging on a public network without management's knowledge or authorization." The time for policies and consideration of legal issues has come. The author presents the pros and cons, itemizing 10 reasons why IM belongs in your office alongside 10 reasons to steer clear of it. Instant messaging is like e-mail, but it's not e-mail even though it creates a written business record. Flynn's book presents a basic explanation of IM programs, methods, and tools and then sets out a list of basic rules to control its use in the workplace. Flynn includes sample instant messaging and e-mail policies along with a glossary of terms and list of IM vendors.
www.amacombooks.org

or normal for that matter—it just accepts or rejects patterns.

A dictionary-based system of passwords is actually limited, though it might not seem so. The keyboard has 26 letters, 10 numbers, and 32 symbols. You can recombine these symbols and marks to form your locks and keys. But as impressive as the weight of an unabridged dictionary can be, a hacker can load more than a quarter of a million words on a pair of 3.5 floppies. Imagine if he or she has a pocketable USB flash drive that holds over a gigabyte? You're going to be hard-pressed to find words, even foreign words, that aren't on the hacker's list.

Which leads to the next problem. Because good passwords aren't found in ordinary dictionaries, they are hard to keep in your head. Take ws#9q9e74t. That's a great password, but who but a savant could remember it?

Photographic Memory

To get back to your cat and a different source for passwords, look at the image to the right.

This is the screen that first appears when I turn on my Palm-based Clié PDA. It's actually a password system, and you can't get to anything else on the handheld until you get past this lock.

If you try to write on the screen with the stylus, say you're looking to guess the cat's name, you'll find you can't. You can throw out the brute-force dictionary disks—the system isn't word/symbol based. If you tap the screen once, the number 1 appears inside a black circle. Twice,

and a 2 appears, and so on until you reach 8. OK, so there are eight locations on the picture, and you probably have to find the eight places that the owner set up as some kind of keyed sequence. There are three blue buttons at the bottom of the screen, so you try those to see how they work. The check gives you a "Wrong Password" message, so it's there to check your sequence once you've tapped it on the picture. The other buttons don't seem to do anything, so you'll probably have to crack the code before you can dis-

Finally, an uncrackable cat password.

cover what they're for.

The picture is drawn on this screen with 320 pixels across and 320 pixels down. Multiplied, that's 102,400. You have to tap the right combination of up to eight taps somewhere on that very sizable map of dots. Actually, the mathematical odds of guessing the right key are

astronomical. A regular four-digit PIN yields about 10,000 possible combinations. The developer of this visKey password system points out that if you use four clicks to map your password on the cat here, that will give you more than 100,000,000 different combinations. That's with four clicks. For the truly paranoid, eight clicks will strengthen the key out into the atmosphere of mathematical possibilities.

But how does the owner remember the key? Well, look at the cat. There are obvious focal points—the eyes, nose, ears, mouth. Even if you choose the obvious, the intruder has to guess the points and the correct order of one to eight taps. The owner can set the input precision to be as small as five pixels wide or as generous as 40 pixels wide. With the latitude set at a default of 15 pixels, tapping the corner of the cat's eye, left or right, isn't the same as the pupil, top or bottom, or you can even set the two highlights reflected as white spots in the cat's right eye. There are countless easy combinations to set up and remember, and the cat's not your only choice. You can use your own JPEG picture, or the visKey company has a selection of images available on its website, along with a free tool called visMill that helps you create your own images.

The visKey system is available for Palm devices and Pocket PCs from SFR in Cologne, Germany (www.viskey.com). And not only is the system ingenious, it's inexpensive, and it even has an enterprise edition. ■