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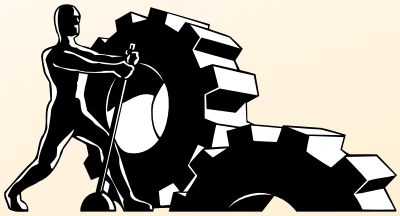

TidBITS Publishing Inc.

Take Control of v1.1

iPad Networking and Security

Glenn Fleishman

$15

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Table of Contents

Read Me First

Welcome to *Take Control of iPad Networking & Security,* version 1.1, published in June 2010 by TidBITS Publishing Inc. This book was written by Glenn Fleishman and edited by Tonya Engst.

This book covers how to use your iPad on a Wi-Fi or 3G network securely, making connections with ease while protecting your data and your device. It also covers other tasks that rely on a network, such as retrieving documents to read and remotely controlling computers from your iPad.

If you have an ebook version of this title, please note that if you want to share it with a friend, we ask that you do so as you would a physical book: "lend" it for a quick look, but ask your friend to buy a new copy to read it more carefully or to keep it for reference.

Discounted classroom and Mac user group copies are also available.

UPDATES AND MORE

You can access extras related to this ebook on the Web. Once you're on the ebook's Take Control Extras page, you can:

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BASICS

In reading this book, you may get stuck if you don't understand a few basic iPad-related facts or a few conventions that the Take Control series uses. Important things to know include:

- **iPad touchscreen:** I often mention tapping an item on the iPad screen, such as "tap the Join button." Occasionally, you may need to double tap, or even touch. *Touching* means putting your finger on the touchscreen and keeping it there until something happens. You may also need to swipe or drag your finger across the touchscreen.
- **iPad Settings app:** I frequently tell you to adjust options in the iPad's Settings app. By default, this app appears on the first page of the Home screen. To view the Home screen, press the round Home button on the edge of the iPad. To open the Settings app, tap its icon.
- **iPad navigation:** To describe moving around in the iPad's interface, I sometimes use a shortcut. For example, if I wanted to tell you to open the Settings app, tap the W-Fi option at the left, and then—in the right hand Wi-Fi Networks pane—tap Other, I might instead tell you to "tap Settings > Wi-Fi > Other."
- **Using an external, physical keyboard with an iPad:** Some directions assume you are using the iPad's onscreen keyboard. If you are using a physical keyboard, you may need to press the Return or Enter key to enter certain information, instead of tapping the Join or Search button that would otherwise appear on the onscreen keyboard.

More iPad information: *For lots more general information about the iPad, consult the free* Take Control of iPad Basics.

- **Desktop vs. mobile:** In this ebook, a *desktop device* is either a laptop or a traditional computer that would sit on a desk, typically running Mac OS X or Windows. A *mobile device* means a portable or handheld computer-like device such as an iPad, Kindle, or Blackberry.

  Mobile software or a *mobile operating system* refers to software running on a mobile device, such as the iPhone OS (which, despite

its name, is the iPad's current operating system) or the mobile version of Apple's *desktop* Safari Web browser, which is technically called *Mobile Safari,* even though Apple calls it "Safari" on the iPad's Home screen.

- **Menus:** To describe choosing a command from a menu in the menu bar on a desktop computer, I use an abbreviated description. For example, if I wanted to tell you to create a new playlist in iTunes, I could write "go to the File menu and choose New Playlist." Instead, I get to the point more quickly, by writing "choose File > New Playlist."

- **Radio types:** Both iPad models have Bluetooth and Wi-Fi radios. *Bluetooth* is a short-range wireless technology for linking audio headsets, wireless speakers, and keyboards and mice. *Wi-Fi* is a high-speed networking standard for moving data among computers and other devices on a local network.

  A cellular data version of the iPad, which I call the *3G iPad,* has two more radios: a *cellular modem,* which allows data communications on mobile networks, and a *GPS receiver* for calculating position based on satellite signals, just like with a standalone GPS navigator.

WHAT'S NEW IN VERSION 1.1

This updated version includes three changes.

- **AT&T U.S. data plans:** Let's start with the big one. The same day we released version 1.0 of this book, AT&T revised its pricing for 3G iPad service in the United States. Before June 7, AT&T offered an option for unlimited service for $29.99 per 30-day billing cycle, which could be canceled at any time, and which was automatically renewed at the end of each billing period until you canceled service. You could also resume service at any time.

  The replacement plan—made at the same time as an overhaul of AT&T's iPhone cellular data plans—offers just 2 GB of 3G data for $25 over a 30-day period. If you run out of data in a given billing period, you can buy another 2 GB and start the clock on 30 days again.

3G iPad users who signed up for unlimited service before June 7 and who do not cancel such service may continue to renew it indefinitely. See Pick a Plan (p. 41) for more details.

- **iPhone OS 4 is now named iOS 4:** The second change is that Apple renamed iPhone OS to iOS for the upcoming fourth release. iPhone OS works on the iPhone, iPad, and iPod touch, and a name change was overdue. The company will release iOS 4 for iPhone 3G and 3GS, and second- and third-generation iPod touch models, as well as preinstalled on the iPhone 4, in late June. The iPad version is slated for third quarter of 2010. For now, you can learn more in "Apple Previews Major New Features in iPhone OS 4," at http://db.tidbits.com/article/11176.
- **Dropbox support in Air Sharing HD:** Finally, Air Sharing HD has been updated to include Dropbox support within the program. I made a few small changes in the manuscript to include this information; see Air Sharing HD (p. 90).

Introduction

An argument against the iPad before its introduction was that it was just "a big iPod touch." In reality, it is not: the bigger screen makes it possible to use it in a different way altogether. But from the standpoint of networking and other communications, the iPad *is* like a giant iPod touch—with some iPhone features thrown in, too.

Like the iPod touch, the iPad cannot place phone calls via a cellular network, and it has Wi-Fi built in; like the iPhone, Apple offers an iPad model that sends and receives data over a 3G cellular network—but which can't handle cell phone calls. This combination of options—and the likelihood that you probably don't own both a Wi-Fi–only and a 3G iPad—has implications for the choices you make about how you connect and the security of those connections.

One of the most important ongoing decisions you'll make about your iPad is how to obtain a network connection. If you have a 3G iPad, you may choose each month whether to enable cellular data connectivity or not. Those with Wi-Fi–only iPads may spend a fair amount of time finding, connecting to, and interacting with Wi-Fi networks all over. There's plenty of advice in this title on both 3G and Wi-Fi connections and networks.

In this book, I guide you through how to make consistent and secure network connections, whether over Wi-Fi or 3G, and how to best protect your data and your iPad.

Calling: *Just to muddy the water even further, you can make phone calls from an iPad using voice over IP (VoIP) programs, like Skype, that connect calls between Skype users or to and from the public switched telephone network over the Internet.*

Information related to 3G iPads is highlighted: I use a special blue box to call out information particular to the 3G iPad.

Quick Start to Networking and Security

This book explains how to use an iPad safely on a network, including how to connect and customize a connection, and how to secure data that's on your iPad or that's passing over a network. You can read the ebook in order or skip to topics of particular interest.

To make a connection right away with a minimum of fuss, skip to an option in the "Make a connection fast" list, just below. For Wi-Fi connections, note that Connect to a Secure Wi-Fi Network (p. 29) explains security and password options and Wi-Fi Troubleshooting (p. 25) has advice for fixing problematic connections.

Also, if you have a Wi-Fi–only iPad and are wondering how you can make a 3G connection, don't miss Alternatives to Built-in 3G (p. 56).

Make a connection fast:

- Get on a Wi-Fi network without fuss. See Connect with Wi-Fi at Home or Work (p. 11)
- Connect to a Wi-Fi Hotspot while you are out and about (p. 14).
- Set up your iPad's 3G service plan, and connect to a cellular data network. See Connect with 3G (p. 16).
- Add Bluetooth devices to your iPad. See Set Up Bluetooth (p. 62).

Ensure you're secure:

- Set up a secure Wi-Fi connection. See Connect to a Secure Wi-Fi Network (p. 29).
- Prevent others from sniffing your passwords and data over wireless networks. See Transfer Data Securely (p. 118).
- Don't let your iPad's data fall into the wrong hands. See Keep Data Safe (p. 129).
- Find out what to do When Your iPad Goes Missing (p. 139).

Learn to use cellular data services:

- Discover the ins and outs of cellular data plans. See How to Use 3G (p. 39).
- Keep cellular data costs under control outside your home country. See Cross-Border 3G iPad Use (p. 54).
- Find alternatives for cellular access without buying a 3G iPad. See Alternatives to Built-in 3G (p. 56).

Discover other networked uses of an iPad:

- Control a computer's screen and input from an iPad. See Remote Access and Control (p. 72).
- Grab and view documents, images, and videos over a network or the Internet with apps. See Access Documents (p. 85).

Go under the hood, gain more control, and solve problems:

- Read Managing Wi-Fi Connections (p. 19) to learn the ins and outs of joining and forgetting hotspot networks, configuring your iPad to connect in complex scenarios, and work through problems with Wi-Fi Troubleshooting (p. 25).
- Find tips for setting up a residential Wi-Fi network to work well with iPads in Tweaking Your Home Network for Faster iPad Performance (p. 27).
- Get advice on setting up a secure wireless network in Connect to a Secure W-Fi Network (p. 29).
- Learn how to turn off the iPad's Wi-Fi and cellular radios in Airplane Mode (p. 70).

Quick Connection Guide

You have an iPad in your hands and you want to get on a network. Read this section to make a connection right away. Other parts of the book provide more detailed information about settings, cover less-common connection options, and discuss security.

Your iPad has Wi-Fi built in; all models do. You may have bought an iPad that also features 3G hardware. This section looks first at making a Wi-Fi connection in various situations. It then turns its focus to how to Connect with 3G (p. 16).

CONNECT WITH WI-FI AT HOME OR WORK

In this topic, I cover three common ways to connect any iPad to a home or work Wi-Fi network. (For help with how to Connect to a Wi-Fi Hotspot, perhaps at a café or airport, skip ahead a few pages.) There are three typical approaches for connecting an iPad to Wi-Fi at home or work:

- Simply tap the name of a network that requires neither a security key nor a password.
- Tap the name of a network that requires a security key or password, and then fill in the required details.
- Enter a network name for a *closed* network that doesn't appear in a list, with or without a key or password.

Let's look at each option in turn.

Connect by Name (No Password)

To connect your iPad to a Wi-Fi network that has a publicly available name and no security key, follow these steps:

1. Open the Settings app.
2. Tap Wi-Fi at the top of the Settings list.

In-Depth on Wi-Fi

Wi-Fi works quite simply on the iPad, but there's a lot of hidden detail. In this section, you will learn how to interpret the Wi-Fi Networks screen, handle automatic hotspot connections, manipulate custom network settings, and troubleshoot common problems.

I also explain how to configure a home or small office Wi-Fi network to best take advantage of the iPad's Wi-Fi adapter, which is substantially more advanced than that found in the iPhone or iPod touch.

MANAGING WI-FI CONNECTIONS

The iPad centralizes all its Wi-Fi management into the compact space of the Wi-Fi Networks pane. To reach it, open the Settings app and tap Wi-Fi.

The Wi-Fi Networks pane has three elements:

- The Wi-Fi On/Off switch, which is used to disable and enable the Wi-Fi radio.
- The list of Wi-Fi networks beneath the Choose a Network label. Each entry in the Choose a Network list has three or four elements:
  - The network name, which is also called the SSID (Service Set Identifier) in some of the geekier base station configuration tools. This is the name that a network uses to *advertise* itself to Wi-Fi adapters that are looking to make a connection.
  - A lock icon (optional). A lock indicates that there's some form of protection on the network.
  - A signal strength indicator. The three bars in the indicator are lit up in succession to indicate the strength of the signal being received by the iPad.
  - A detail  button. Tapping this—carefully, because it's such a tiny target—reveals technical details about the network, as well as an option to forget the network. For more about these

Connect to a Secure Wi-Fi Network

Most home networks are now secured, and nearly all businesses networks employ some way of keeping outsiders out. Connecting to these networks requires a little bit of knowledge and planning to avoid roadblocks. This section looks at how to connect an iPad to a network, and any problems you may come across.

Wi-Fi security divides out into three main types:

- **Simple network security:** Since 2003, the best option for a home or small office network is Wi-Fi Protected Access, which comes in WPA and WPA2 flavors. This what's now mainly used, due to Apple and Microsoft improving their operating systems, and wireless router makers improving their devices. See Connect with WPA/WPA Personal (next page).
- **Corporate/academic security:** Many companies and colleges rely on WPA/WPA2 Enterprise, a stronger method of security that's fully supported on the iPad. Read Connect with WPA2 Enterprise (p. 31).
- **Outdated, unreliable "security":** This category is where I put Wireless Equivalent Privacy (WEP), a Wi-Fi security method that was broken in 2003, but still is in use. It's also where I put MAC address filtering, in which unique adapter numbers are used to control access. Consult Wired Equivalent Privacy (WEP) (p. 33) and Mac Address Filtering (p. 35) to learn more.

Of course, I'd prefer you always made a secure connection, but you may not have control over how a network is protected.

Separate security on 3G networks: 3G networks have their own security methods, which are partly based on the Subscriber Identity Module (SIM). The SIM identifies a phone or data device to a network and is used to make sure that an account is active.

Work with 3G

The iPad with 3G is an odd beast. It can connect to 2G and 3G mobile broadband networks in order to access the Internet, but it doesn't have cellular voice calling built in. The 3G iPad can connect to the Internet with Wi-Fi instead of with a mobile broadband network, but you can sign up for a mobile plan if you need ubiquitous Internet access.

Because every 3G iPad has both Wi-Fi and 3G capabilities, you're often balancing the advantages of one versus the other. Let's look at the choices you can make and how to set them up.

At the end of this section, I discuss Alternatives to Built-in 3G (p. 56), to help you extend 3G service to any iPad, regardless of whether it has a 3G radio or an active 3G plan.

WHY USE 3G

If you bought a 3G iPad, you have already made the decision that ubiquitous Internet access is useful enough to warrant paying a higher price for the device. Or, perhaps, you wanted the GPS receiver that's in the 3G iPad and thought you might occasionally want mobile broadband access.

The primary reason to pay extra for a 3G iPad is flexibility. If you believe you'll use the iPad mainly within range of free Wi-Fi or Wi-Fi you've subscribed to, then you likely don't need the 3G iPad. But if you will travel with the iPad, and prefer to have access everywhere, whether in a park, hotel, conference center, airport, or restaurant, or as a passenger in a car, the 3G option makes sense. Using 3G, the iPad can transfer data at a raw rate up to 7.2 Mbps from the Internet, and up to 384 Kbps to the Internet.

Exactly how fast? *For a description of data rates, see* ***Table 1****, which explains indicators (p. 53).*

Set Up Bluetooth

Bluetooth wireless networking lets you connect peripherals like battery-powered headphones, keyboards, earpieces, and headsets to an iPad for listening to music, entering text, and handling voice over IP (VoIP) phone calls.

Read this section to learn how to set up and manage Bluetooth devices.

BLUETOOTH BASICS

The Bluetooth SIG, a trade group, certifies devices as Bluetooth compliant for particular *profiles,* which include things like text entry, stereo audio, file transfer, and modem access. The iPad seems to work correctly with any device that meets the Bluetooth spec for three profiles supported in the iPad: one for keyboard input and two others for stereo audio. Bluetooth hosts, like the iPad, aren't required to support all profiles. Apple documents iPhone OS device compatibility in a support note at http://support.apple.com/kb/HT3647.

When you connect with Bluetooth, the process is known as *pairing*. Some devices can be paired with several hosts (like computers or mobile devices); others forget which hosts they were associated with previously, and must be re-paired to switch. Bluetooth devices are *discoverable* when they are set to allow a pairing connection.

On the iPad, Bluetooth is generally handled from the Bluetooth pane, reached in Settings by tapping General > Bluetooth. This pane lets you turn Bluetooth on and off and displays a list of (under Devices) of Bluetooth peripherals. The list shows any devices that have been previously attached to the iPad and the current status of such device. The list also displays any discoverable devices in the vicinity.

Airplane Mode

Before you're flying so high with some guy in the sky, you need to disable radio communications from your iPad. The Airplane Mode switch makes this simple.

Contrary to urban myth, cellular phones don't cause planes to crash. That's good, because researchers empowered by a joint government-airport study group that sets standards for airworthiness found that at least one mobile phone is left on during nearly all flights. (They also found no cause for alarm; you can read the whole report at http://spectrum.ieee.org/aerospace/aviation/unsafe-at-any-airspeed/0.)

The reason that the FAA and worldwide flight authorities demand that most kinds of electronics that produce or receive radio signals be turned off during a flight, as well as all electronic devices while flying below 10,000 feet, is because of a slight potential for risk that hasn't entirely been teased out from the reality of risk.

All electronic devices produce some emissions, and it's thought from years and years of testing that certain *avionics*—aircraft electronics—may be susceptible to some radio signals that are otherwise benign. Under 10,000 feet, a particular reading being knocked for a loop could be extremely dangerous. Hence the desire to reduce such risks.

WHAT'S AIRPLANE MODE?

The Airplane Mode in iPhone OS, found in all iPhones and in the 3G iPad, is a simple way to set your iPad to a legally required quiet mode during flight. (See Turning Radios off Separately, next page, for advice for non-3G iPads.)

Saves battery life, too: *If you don't need to use any of the iPad radios for network access, peripherals, or location, Airplane Mode is an effective way to extend battery life, too.*

Remote Access and Control

If you told me in 2006 that I would regularly use a handheld communicator to control a remote computer, I would've assumed that you were talking about an expensive tablet PC (few of which ever sold), or I'd tell you that maybe in 2010 or so there would be the right combination of software, hardware, and network robustness to make that work. I was off by a few years.

Since Apple began allowing third-party developers to write software for the iPhone and iPod touch in 2008, there has been strong demand for apps that let you view or control a computer's screen from an iPhone, iPad, or iPod touch, but not vice-versa. In this section, I look at two remote access iPad apps:

- In iTeleport (Formerly Jaadu VNC) (next page), I look at how this app provides remote access and control with the Virtual Network Computer (VNC) protocol that's a standard across many platforms and built into Mac OS X.
- In LogMeIn Ignition (p. 79), I discuss how this app employs LogMeIn's proprietary system for remote access and control.

Both apps offer similar feature sets and performance, and each app does a reasonable job, especially if the iPad is connected to an external Bluetooth keyboard or keyboard dock. I've left my laptop behind on multiple trips since starting to use these programs, not only with my newer iPad, but also with my iPhone. If you are trying to decide which one to purchase, I suggest you read this entire section to get a feel for which one is right for you.

Mocha VNC?

The other major remote-access program for iPhone OS is Mocha VNC, a universal app by MochaSoft. It has similar functionality to iTeleport but costs $5.99 instead of iTeleport's $24.99 or LogMeIn Ignition's $29.99. Even though they cost more, I prefer both iTeleport and Ignition because they allow access to computers without publicly reachable Internet addresses, and they work easily with, or include by default, strong encryption.

Access Documents

No iPad is an island; each is part of the main—the main set of files you maintain all over the place. Many of us have multiple computers and storage locations. As a result, we use the iPad not so much as a file repository, but as a view into our file storage.

Several third-party apps and one Apple app make it possible to access and sometimes aggregate access to files stored all over.

In this section, I look at four programs that you might consider for handling these various kinds of storage: Air Sharing HD, GoodReader for iPad, Dropbox, and iDisk. Air Sharing HD and GoodReader can store documents across many sources and servers, and let you view (or play) certain stored files; Dropbox and iDisk are portals into one kind of storage with more limited viewing options.

WHAT KINDS OF STORAGE

Apps for the iPad give you access to four kinds of storage, with some apps handling more than one kind:

- **Over-the-air downloads:** In an app, you can view remote files and choose a file to download and optionally store in the app's local storage. The file is transferred via Wi-Fi or 3G from an email server, a file server, or other services. All four programs covered in this section can retrieve documents wirelessly.
- **Networked:** Air Sharing HD and GoodReader can act as WebDAV file servers while launched and allow other computers on the local network to use Bonjour or an IP address to access their file stores, and to transfer files to and from the iPad. (WebDAV is a popular method of accessing files from other servers; see What's WebDAV?, two pages ahead.)
- **iTunes file transfer:** With an iPad connected to a computer running iTunes, an app may expose its internal document storage list. You can manage files in that list, including dragging documents

Transfer Data Securely

Any networked mobile device, whether an iPad, laptop, Nintendo game player, or what have you, can be in constant communication with a network, which means that you could unintentionally reveal a lot about yourself—including passwords and private data—as it flows between a central hub and the device. With an iPad, that hub is either a Wi-Fi router or a 3G base station on a cell tower nearby.

On an open public network, such as the Wi-Fi found in hundreds of thousands of restaurants, cafés, and airports worldwide, anyone in your vicinity can use free, simple *sniffing* software to capture all the data passing by, extract passwords and personal information, and use it to wreak havoc, commit identity theft, and order goods and services for themselves. While it may sound paranoid, there's no built-in protection for some of your data, and you thus have to assume from the perspective of risk that someone is always trying steal your data.

Fortunately, it's easy to overcome this problem with a small amount of preparation and configuration. Here's what you need to know to stay protected while using local networks and the Internet.

EXPOSURE

To figure out how to respond to the risk of data being captured as you transfer it, let's first consider what precisely is at risk and not at risk.

Cellular data is far less risky: *Cellular data is encrypted by default, and cell networks have far less risk for use. See 2G and 3G Data Networks for more details, later in this section.*

What's at Risk?

When you're connected via Wi-Fi, the risk is both in data passing over the air from the iPad to the Wi-Fi router, and data passing between the Wi-Fi router and a broadband modem over Ethernet. Malicious software that's found its way onto a computer that's

Keep Data Safe

Someone using a completely unprotected iPad can access any precious information stored on it and access accounts related to apps and Web sites. You can prevent other people from having access to that data, whether you leave an iPad on your living room table or in your office cubicle and walk away for an hour, or if your iPad is stolen.

EXPOSURE

Let's start with your exposure. The iPad keeps relatively little data accessible; rather, what's at risk is access to resources. A person who uses your iPad without permission cannot, for instance, recover your email account password, but could use your email account to read your email and send email purporting to be from you, or view any document in a word-processing program and view your photos.

What's at Risk?

Here are examples of data that could be accessed by someone else:

- If you use programs like Air Sharing HD and GoodReader, a finder or thief could access—and potentially change or delete—files on any server you linked in to those programs for remote file access.
- Access to email accounts for sending and receiving email.
- Access to the content provided by apps that store passwords for access, such as Netflix (but not the passwords)
- Access to Web sites for which you have stored login information in Safari. (See The Danger of Safari's AutoFill, two pages ahead.)

In the above two cases, if you've set up those accounts using an email address that is also receiving email on the iPad, the person using your iPad could likely change your password. And, in some cases, that person could pretend to be you, a drama that you might not appreciate in your Facebook account.

When Your iPad Goes Missing

Your iPad will be a desirable item for thieves, and unlike an iPod or iPhone, it will be more obvious that you have one, and easier to grab from you—you won't have it clutched tightly in one hand or shoved in a pocket. You are also more likely to leave it sitting on a table in front of you while turning away; being smaller than a laptop, it'll thus still be easier to filch.

Without freaking you out about theft, I want to tell you how you can make it impossible for a thief to use your device, to protect your data when it's disappeared, and to track it down if it's stolen or lost.

SAFETY TIPS WHILE OUT AND ABOUT

The rest of this section looks at technology, but let me start with a few practical tips that may not be as obvious when you're carrying an iPad instead of a device like a mobile phone or a laptop:

- **Don't have an obvious computer bag:** A bag that can hold an iPad doesn't have to scream "I have a valuable computer inside!" Bags that look like they were designed to carry a computer are more likely to trigger untoward interest.
- **Don't pull out your iPad in public if you can be approached from behind:** I don't suggest always keeping your back to the wall, but if you're in a crowded railway station and whip out the unit, it would be easy work for someone to run by and snatch it.
- **Don't set it down and turn away:** The iPad is compact enough to hide and light enough to grab, so leaving it on a table at a café while you turn away to talk to someone could provide a thief with a good opportunity to relieve you of your iPad.
- **Lock your iPad when you're not using it:** The iPad is preset to keep its screen active for much longer than the iPhone and iPod touch. (You can tap Settings > General > Auto-Lock to change the

About This Book

Thank you for purchasing this Take Control book. We hope you find it both useful and enjoyable to read. We welcome your comments at tc-comments@tidbits.com. Keep reading in this section to learn more about the author, the Take Control series, and the publisher.

ABOUT THE AUTHOR

Glenn Fleishman started writing about technology in the late 1980s for his college newspaper, where he had a lot to do with setting up and running Macs using PageMaker 1.0. His professional career began with *Aldus Magazine* in 1994, with a feature about font management. Glenn writes about technology and its implication for people in publications like the *Economist* and the *Seattle Times*. He contributes how-to and how-it-works articles along with reviews to *Macworld*, *Popular Science*, *Ars Technica*, and many others.

Glenn has been an editor at TidBITS for umpty-ump years, and runs the back-end technology. He developed a content-management system used for TidBITS editors to publish articles and that feeds out content on its live site. Glenn also edits his own blog, *Wi-Fi Networking News,* and runs isbn.nu, a book price shopping engine.

Glenn lives in Seattle with his wife and two sons. He has more computers than he can count and has written more books than he can remember.

AUTHOR'S ACKNOWLEDGMENTS

I dedicate this book to my wife, Lynn, and sons, Ben and Rex. They keep me sane and happy, and keep me from spending my entire day thinking about and using digital devices. A big thank you also to the tireless Tonya Engst, the driver behind this set of Take Control books

about the iPad, who had the foresight to think about what we might write about months before we had actual hardware.

ABOUT THE PUBLISHER

Publishers Adam and Tonya Engst have been creating Apple-related content since they started the online newsletter *TidBITS,* in 1990. In *TidBITS*, you can find the latest Apple news, plus read reviews, opinions, and more (http://www.tidbits.com/).

Adam and Tonya are known in the Apple world as writers, editors, and speakers. They are also parents to Tristan, who thinks ebooks about clipper ships and castles would be cool.

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