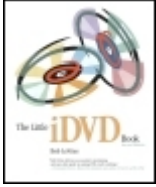
 Add to Project



[Little iDVD Book, Second Edition, The](#)

By Bob LeVitus

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Part 1. Basic Training

Chapter 1. In the Beginning

When I was just a pup there was no such thing as a DVD. Heck, back then the "VHS vs. Beta wars" hadn't even been fought yet, much less won by the technically inferior format backed by a coalition of slightly-less-greedy-than-Sony hardware manufacturers. Instant photography meant a Polaroid camera, expensive film, and a smelly goop stick for "fixing" the pictures. And the audiocassette was considered the biggest breakthrough in music technology since the 8-track tape.

Today DVD is poised to surpass the compact disc as the dominant medium of exchange for digital data. Most Macs (and many other computers) can now read DVDs, and computers equipped with a DVD-R drive (like the Apple SuperDrive) can burn video or more than 4 GB of data on blank discs that cost about \$3 each. Best of all, the video DVDs you create can be viewed on most set-top DVD players, which are becoming common in American homes, and the data discs can be read by any Mac (or PC) with a DVD player.

We've come a long way, baby.

In this, our first chapter together, we'll start out nice and easy with a bit of background on the technologies that make the whole thing—video, audio, editing, and disc-burning—work: QuickTime, FireWire, and SuperDrive (and, of course, a Macintosh). Then we'll have a brief overview, from beginning to end, of the process of making a DVD, so you have some idea of what it takes to produce a disc. Finally, we'll take a quick peek at the object of our newfound affection, iDVD itself.

A (Tiny) Bit of Background

I won't spend much time on this, but before you embark on this journey—making your own video DVDs containing high-quality digital video, animated menus, and more—I feel you should have some idea of how things were in the old days. I think it'll help you understand why burning your own DVDs is so cool.

The Mac has been the tool of creative thinkers since its introduction in 1984. In fact, one of the first and most popular non-business, non-game Mac programs in those early days was a brilliant little program called VideoWorks from an eccentric little company called MacroMind.



VideoWorks grew into Director, MacroMind grew into the publicly held Macromedia, and MacroMind co-founder Marc Canter grew larger, louder, and richer.



Of course, in spite of its name, VideoWorks wasn't "real" video—it was more like "CartoonWorks." And though it was fun, and neat, it couldn't make the same stuff as you saw on TV.

Back then, when Macintosh SEs and Mac Pluses ruled the Earth, Macs were pretty much incapable of working with video. They lacked expansion, hard disk capacity, RAM, internal bus bandwidth (a *bus* is a pathway for data inside your computer), and any type of high-speed data bus, to mention a few.

NuBus slots and SCSI ports, introduced in the early '90s, were a step in the right direction, but Macs (and indeed, most personal computers) still lacked sufficient horsepower to process video efficiently or effectively.



Does anyone remember VideoSpigot? It was the first cheap (\$200) NuBus video capture card. In the early days of QuickTime, everyone I knew bought one and made lots of great little postage-stamp-size movies (using Premiere 1.0, no less).

The point is that until recently, video production and postproduction were still the exclusive domain of the million-dollar editing suites I mentioned in the introduction, and far out of the reach of the common computer user.

The Titanic Triumvirate

Then, a Titanic trio of technologies reached critical mass simultaneously. The result of that convergence, as they say, is history.

Yes, friends, I'm going on the record as saying that this whole "edit professional-quality video for under three grand" idea exists almost exclusively because of three all-important technologies (two of them invented by Apple Computer and the third merely popularized by Apple).

QuickTime, FireWire, and SuperDrive are these three technological marvels. The combination of the three, mixed as only Apple could mix them, is the special sauce that lets us create pro-quality (more or less) DVDs on inexpensive iMacs.

And without them? Let's just say you might not be making DVDs; I wouldn't be writing this book; iMovie, iDVD, iPhoto, and iTunes might not exist (they rely on QuickTime or FireWire or both); and Apple might not be in business today. That's how important I believe these technologies are to Apple and to "video for the masses."

Here's how these parts fit together.

QuickTime

Reduced to the lowest common denominator, QuickTime is a file format. More technically (or at least according to that revered arbiter of the technical, the Apple Web site), QuickTime is software that allows Mac (and Windows) users to play back audio and video on their computers. But taking a deeper look, QuickTime is many things: a file format, an environment for media authoring, and a suite of applications that includes QuickTime Player, QuickTime Pro, the

QuickTime browser plug-in, and more.



The current version of QuickTime at this writing is version 6. So when I say "QuickTime," assume the version I'm talking about is version 6 even if a new version (7?) is available by the time you read this.

So QuickTime isn't just a format or single program, it's a suite of programs, underlying technologies, architectures, and file format(s).

QuickTime's function is a bit easier to define. It's the part of the Mac OS that lets you create, save, manage, manipulate, and deliver rich-media documents. As a format, it's extremely flexible. QuickTime documents can include any combination of video, audio, interactivity, text, HTML, logic, and still pictures, to name just a few.

QuickTime has been under constant development at Apple for more than 10 years and has become a standard in both video and interactive media authoring and production. And its extensible architecture ensures that QuickTime will still be around 10 years from now—it's designed to accommodate future media types and file formats, even ones that haven't been invented yet.

FireWire

If QuickTime is the production facility for authoring rich media, FireWire is the truck that brings raw materials in and takes finished goods out.



FireWire is sometimes called IEEE 1394 or i.Link (mostly by vendors too cheap to pay Apple for use of the official FireWire trademark). Many FireWire peripherals (mostly scanners and storage devices, including the iPod) don't need AC power as long as they are connected to a Mac by FireWire. One distinguishing characteristic of i.Link is that it uses a four-pin connector, rather than the six-pin connector on your Mac. The missing two pins carry power to the device, so i.Link devices (mostly camcorders) can't take their power off the FireWire bus.

FireWire is a registered trademark of Apple Computer.



In simple terms, FireWire is a cable that lets you connect to your Macintosh things that need a fast connection—like DV camcorders, scanners, hard disks, and DVD burners.

More technically (again, according to Apple), FireWire is "a high-speed serial input/output technology for connecting digital devices such as digital camcorders and cameras to desktop and portable computers."



Apple's recently introduced new and improved FireWire 800 on its high-end G4 Power



Mac and PowerBook systems. It's named for its speed—800 megabits per second—which is twice as fast as original FireWire.

I've yet to try it, so here's the party line, (again, direct from the mother ship in Cupertino, California):

FireWire 800 doubles the throughput of the original technology, dramatically increases the maximum distance of FireWire connections—up to 100 meters—and supports many new types of cabling, making it indispensable for transferring massive data files and for working with uncompressed high-definition (HD) video and multiple standard-definition (SD) video streams. And it's way faster than USB 2.0.

Before FireWire, the Mac high-speed interface standard was SCSI (short for "small computer systems interface"; pronounced "skuzzy"), an exceptionally temperamental bus that became exponentially more cranky as you added more SCSI devices. And each device had to be assigned a special SCSI ID number and there were all kinds of SCSI conflicts and...

Just trust me on this: FireWire is a walk in the park compared to SCSI. I have at least half-a-dozen external FireWire hard disks and they've mostly been reliable, blazing-fast, and trouble-free.

After SCSI came USB (short for "universal serial bus"), which was slow (fast enough for keyboards, mice, speakers, and such, but slow if used for storage) and much better-tempered, but not without its quirks. Soon after, FireWire arrived, and it moves data at up to 400 megabits per second (Mbps), up to 30 times faster than USB. Furthermore, unlike SCSI devices, most FireWire devices can be "hot swapped." That means you don't have to shut down or restart to add or remove most FireWire devices.

Just plug them in and they work. It's like magic. And you can connect up to 63 of them at a time on a single FireWire bus!



USB devices are supposed to be hot-swappable too, but USB hot-swapping doesn't always work.



A new and improved USB called "USB 2.0" is available now, but Apple has (thus far) chosen not to provide it as standard equipment on Macs and few Mac developers offer it. From all indications it's a loser. So ignore it unless you have a particular need for it.

There are PCI cards for Power Macs and PC cards for PowerBooks that offer USB 2.0 ports. But be aware that Mac OS X doesn't support USB 2.0 natively, so you'll need appropriate USB 2.0 driver software in addition to a card.

All of this taken together is probably why FireWire has become the interface of choice for today's digital audio and video devices, as well as for external hard drives and other high-speed peripherals.



Not all FireWire devices are happy with hot-swapping. Since there's no way for me to know what kind of device you have, all I'm going to tell you is to read the manual for your device to learn the correct procedure for connecting and disconnecting it.



FireWire is standard on every single Mac built today and is also built into almost every single digital video camera ever made. In just a few short years it's become the de facto standard for the video industry and is a big part of the reason Macintosh remains the platform of choice for anyone creating rich media, audio, or video.



To find out more about *QuickTime* and *FireWire*—and there's lots more to find out—visit www.apple.com/quicktime and www.apple.com/firewire, respectively.

DVD-R

Last but not least, we mustn't overlook the contribution of DVD technology (it stands for "digital versatile disc" or "digital video disc," depending upon whom you ask). With inexpensive set-top DVD players sold on every corner, Apple driving the price of blank DVD-R discs down to \$3, and many computers offering at least DVD playback, if not both playback and recording, it's no wonder that DVD is becoming the standard for digital media as well as for data storage and backup.

But in addition to being a big, fat, cheap storage medium, there's this: DVD is the first consumer medium to offer interactivity that *isn't* tied to a computer or a Web connection. With DVD, your interactive work, with its menus and buttons, can be played by anyone, using almost any cheap DVD player and TV.

So there you have it—QuickTime, FireWire, and SuperDrive DVD-R—the titanic triumverate. Now let's look at the actual process of making a DVD.

How to Make a DVD: The Short Version

Since this whole book is, more or less, about how to make a DVD, for now I'll give you the overview from 35,000 feet of the DVD-making process from start to finish.

When I first got iDVD and a SuperDrive, I took this free Apple online seminar called *DVD Authoring Made Simple*, seen in [Figure 1.1](#).

Figure 1.1. Apple's DVD seminar online and its five step process...

Apple - Seminars Online - DVD Authoring Made Simple, p.4

http://www.seminars.apple.com/seminarsonline

Store Switch .Mac QuickTime Support Mac OS

Hot News Hardware Software Made4Mac Education Creative SmallBiz Developer Where to Buy

Seminars & Events: Seminars Online

DVD Authoring Made Simple

1. Plan → 2. Create → 3. Encode → 4. Author → 5. Record

4. The DVD Authoring Process

Apple offers two DVD authoring solutions that open the door to your creativity whether you are a professional or a beginner. iDVD makes authoring simple and fun for anyone. DVD Studio Pro integrates easily into existing workflows. Here's an overview of the DVD creation process.

1. Plan
The first step of any project is to make a plan. Consider the options for both presenting and structuring your final project. Begin by imagining yourself as the viewer and work backward. Where will the DVD be viewed — at home or in a conference room? Will your DVD be primarily viewed on a consumer DVD player, on a computer, a kiosk, or both? Remember your intended audience and think about what additional elements (backgrounds, sound, music, etc.) might give your DVD greater impact. You don't need all the answers at the beginning, but you need a plan.

2. Create
The next step is to gather and edit all the materials that will go on the DVD. Your materials can come from a variety of sources, including raw digital video from a camcorder, digital photos and other graphics, and audio tracks. In this step, you can use familiar tools, such as Adobe Photoshop, to create menu graphics and icons. If you are a beginner you will enjoy how easy it is to edit video with iMovie 3 or Final Cut Express. If you want a professional tool, Final Cut Pro is designed to meet the needs of the most demanding video editors.

Seminar Chapter Index

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The online tutorial was awesome—I had worked with video a lot in the past but didn't have much experience with interactivity. And it's been revised and updated since I first saw it, so it's even better now.

I've always thought Apple's five-step process made sense and I've followed it for almost every DVD project I've undertaken since.



You'll find the online seminar at <http://seminars.apple.com/seminarsonline>.

Let's take a brief look at those five steps.

Step 1: Plan

Well duh. Of course the first step is to plan. But since very few of us have ever actually made a DVD, what are some of the things that need planning?

Here's a partial list to get you started:

- **Who is the viewer?** Develop appropriate material for the target audience.
- **What is the project's purpose?** What are you trying to accomplish? Sell something? Entertain? Evoke emotions? Nailing it now will benefit you later.
- **What video, audio, still graphic, and other assets need to be created or assembled?** Some of this will have to wait until after Step 2, but it's a good idea to start this list early and consult it often. You don't want to get to the end of a project and discover you forgot to cover a key shot.
- **Budget** Now is the time to determine out-of-pocket costs (if any). Then triple them.
- **End date** The final due date or deadline. All other milestones are figured out backward from here.
- **Milestones** Milestones I use include storyboard and script approval, all assets in-house, all editing completed, rough cut (of DVD), and end date.



Keep in mind that this is the list for making a DVD. There is (or at least there should be) a similar list for actually shooting your video, which is a whole nother subject and one you could write a book on. And, in fact, Michael Rubin has done just that. If you want to know more about the video-making process, check out his Little Digital Video Book, also from Peachpit.

You should probably storyboard the DVD itself, as well as each individual video segment (this is highly recommended; see [Chapter 2](#)). And now is a good time to start developing the script, as well.

Many people skip the planning phase or gloss over it. That's a bad idea. Planning may be the most important part of the process. I can promise that the time you spend planning will be repaid to you in abundance when you finish your project on time and without having to redo much (if any) of it.

Step 2: Create

This is the part where you make or find all the different media pieces that will eventually be part of your DVD. In this phase you'll

- Write a script
- Shoot and edit video
- Create art
- Create titles
- Create the soundtrack
- Create navigational elements



This step tends to be the most time-consuming, so after you determine how many hours you think all your content creation is going to take, double or triple it.

Step 3: Encode

Before you can make a DVD, you need to convert all of the elements into a format DVD players understand—MPEG 2 for video and AIFF or AC3 for audio. The good news is that with iDVD and QuickTime on your team, you don't have to do much. Just create your DVD project using QuickTime-compatible files (that includes a lot of different file formats, by the way). Then work with those files until your masterpiece is complete. When you click Burn, iDVD handles all of the encoding to MPEG 2, AIFF, or AC3 for every element in your project, all behind the scenes and without your having to lift a finger.



The downside is that you don't have control over data rates or image quality in iDVD. Its defaults will probably be fine for 95 percent of what you want to do. If you need more horsepower, Apple's professional DVD authoring tool, DVD Studio Pro, lets you encode video at any data rate and author media for a wide variety of DVD formats. It's discussed in [Appendix A](#).

Step 4: Author

In hip multimedia parlance, *authoring* means the creative melding of video, audio, and graphics into an interactive DVD with menus, buttons, soundtrack(s), and subtitles or alternative language.

This is where iDVD comes in. It's a DVD-grinder (well, officially, it's known as a *DVD authoring program*). Just pour in your raw ingredients—video, sound, pictures, menus, buttons, and so on—add a little elbow grease, and out pops a fully formed video DVD with all the bells and whistles, that can be played on almost any cheap DVD player.



If you were conscientious about Steps 1 and 2, Step 4 will be painless and fun. If you weren't, it won't.

Indeed, iDVD is the easiest, fastest, most intuitive program you can use to author a DVD. But you knew that.

Step 5: Burn

Preview and adjust your magnum opus in iDVD, and when you're happy with everything about it, there's just one thing left to do—click Burn. And iDVD does the rest.



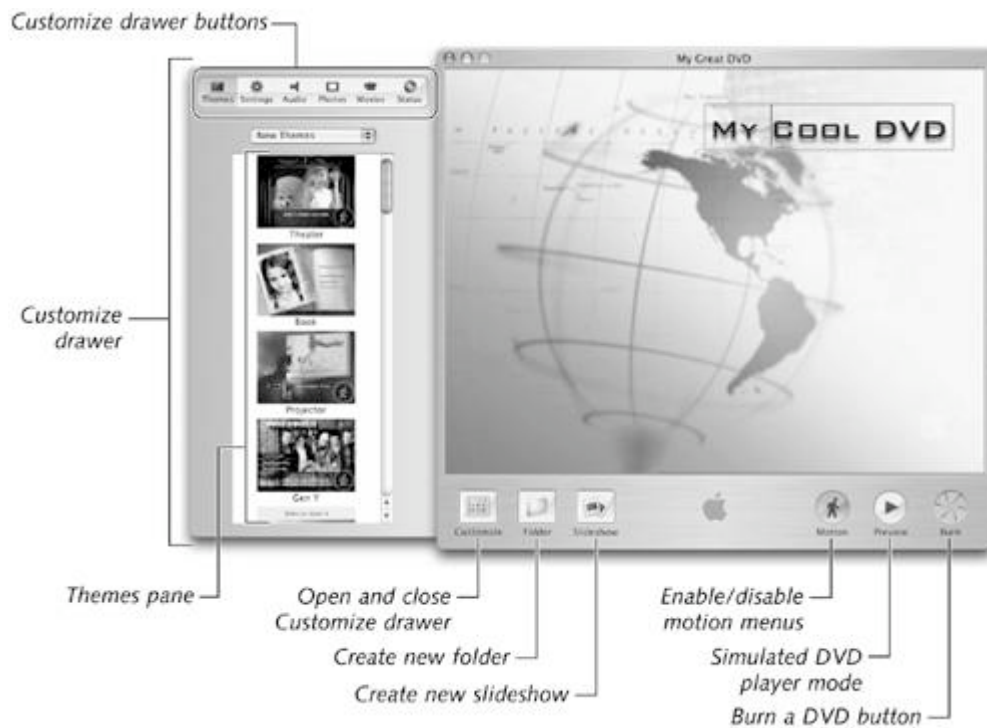
I know it sounds simple, but this may be the scariest step of all. If you make a mistake in any of the other steps, as long as you catch it before you burn, it won't cost you a penny. But make a mistake here and you're out \$3 (but you will have a shiny new \$3 coaster you can use to protect your furniture from unsightly stains and rings).

A Short Pictorial

Since the parts of this book that aren't about how to make a DVD are about how to use iDVD, in this section I'll give you an overview of what iDVD looks like and what some of its parts do. This time I'll do it using pictures, which I hope are worth several thousand words each.

Figure 1.2 is a big picture of the Big Picture.

Figure 1.2. This, my friends, is iDVD.



One of the first things you'll do when you begin working with iDVD is import video and other elements into your project. This being a Macintosh and all, while there is an Import item in the File menu, it's even easier to just drag your media files onto iDVD, as shown in **Figure 1.3**.

Figure 1.3. Getting movies into iDVD is as easy as dragging and dropping.



One of iDVD's greatest strengths is the ease of changing the look and feel of your DVD project by selecting a different theme in the Themes pane, as shown in [Figure 1.4](#).

Figure 1.4. The joy of themes—one click gets you a whole new look.



Another simple pleasure is that iDVD lets you make a slideshow out of digital still photos, as shown in [Figure 1.5](#).

Figure 1.5. Making a slideshow part of your DVD is a cinch.



Before you commit to burning a \$3 disc, use iDVD's preview mode (complete with a cute little remote control) to check your work, as shown in [Figure 1.6](#).

Figure 1.6. Clever how they simulate a remote control on the screen, don't you think?



OK. That'll be about enough of that. We're going to get back to this fun stuff shortly, but first there are things you need to know before you even think about burning a DVD. Which happens to be the title of [Chapter 2](#).