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Facebook vs. Reality: Who Needs to Get a Life?

I HAVE A Facebook problem. Specifically a Facebook Scrabble problem. I've loved the game since childhood, but after finding it on Facebook, I was drawn into a time-management vortex. I played constantly, memorized the "Q" words that don't require a "U," and dreamed about obscure seven-letter combos.

Since I have a life—with attendant obligations—I've worked to control my obsession. But while reading Christopher Null's "How to Live Your Entire Life Through Facebook" (page 88), I began to wonder: What if life isn't as good as Facebook?

So in the spirit of a *PC World* review, I decided to do a head-to-head comparison of the two.

GETTING DRESSED IN THE MORNING

Real life: Unless you're a nudist, clothing is mandatory.

Facebook: Clothing optional. Even the concept of morning loses its imperative when friends happen to be scattered across the globe.

Edge: Facebook

HYGIENE/GROOMING

Real life: Strongly recommended.

Facebook: Optional, except when you take your profile picture. Then again, you could use any image. Plus, someday a friend will post a picture of you when you were younger, thinner, and better looking—albeit with underwear on your head—and you can use that.

Edge: Facebook

PHYSICAL CONTACT

Real life: Unavoidable and potentially painful (think bone-crushing handshakes, hearty backslaps, and bear hugs) or even dangerous (achoo!).

Facebook: Keyboard pounders may break the occasional nail, but that's it.

Edge: Facebook, again

The folks at Facebook (and third parties) have created reasonable substitutes for most everyday human interactions.

MAKING FRIENDS

Real life: Tricky and time-consuming.

Facebook: Just click a button, *mon ami*.

Edge: Facebook, particularly if you cherish superficiality and raw numbers.



WORK

Real life: Sometimes rewarding; other times arduous and tedious.

Facebook: Work?

Edge: On Facebook every day is a holiday. Who can argue with that?

EATING AND DRINKING

Real life: Delicious, though prep takes effort and dining out is expensive.

Facebook: Your wine collection, as recorded in Bottlenotes, may impress your online friends, but it will merely leave you parched. Worse, posting status updates about food just makes me hungry. On the other hand, apps like Local Picks offer advice on where to go for great nonvirtual eats.

Edge: Real life, by a wide margin

FAMILY

Real life: Fraught with complications, obligations, and crises, though it also

tends to provide meaning, texture, and essential emotional connections.

Facebook: The We're Related app is nice, but family and Facebook shouldn't mix. Your "friend" requests mortify your kids, while you awkwardly juggle unrelated spheres of your life: "Co-workers, meet Aunt Caroline and her frighteningly cat-centric fashion sense."

Edge: Real life

SLEEP

Real life: Sheer bliss, especially at the end of a hard day.

Facebook: At best ignores and at worst prohibits adequate attention to this essential physical need.

Edge: Real life

MAKING CONVERSATION

Real life: Requires engagement, thought, and the occasional witty—or at least coherent—comment.

Facebook: U there? Yo, wassup? LOL. G2G. No need to strain the brain.

Edge: Facebook

LISTENING TO MUSIC

Real life: Live music often involves sweat and too much alcohol, though it may also have drawbacks. Grooving to your iPod is hard to beat.

Facebook: Not a strong suit, though iLike lets you play Rhapsody tunes.

Edge: Real life

And the Winner Is...

I admit that wasn't scientific—but by my count Facebook wins overall. Now pardon me while I go update my Facebook status. After all, I wouldn't want to keep my legion of friends waiting. ●

Steve Fox is editorial director of *PC World*.

Cut Internet Abuse to the Bone

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Sometimes a relatively short article draws vehement responses. Such was the case with a brief piece on dealing with e-mail while driving.

Though the article stressed a hands-free approach, some letter writers questioned the activity's safety. Post your thoughts on this topic at find.pcworld.com/62768.



No E-Mailing While Driving!

I have to take *PC World* to task for the *Here's How* article "Manage Your E-Mail Safely While Driving" in the April issue.

Statistics show that accidents caused by distracted drivers have skyrocketed over the past several years. I have personally watched drivers run red lights, swerve into other lanes, slam on brakes at the last second, barely avoid pedestrians, and actually hit other drivers—all because they were paying more attention to their phone call than to driving. Advising readers on how to "safely" manage e-mail while driving is condoning irresponsible driving habits.

Several Canadian provinces have already banned cell phone use by drivers while the vehicle is in motion. Other governments are following suit.

Dave Quinn, Guelph, Ontario

E-mailing or text messaging while driving is extremely dangerous. As a precaution while doing so, drivers tend to reduce speed to dangerously low levels. A few of them doing 20 mph can easily bring a six-lane highway to a crawl. For thousands of people, this can make the morning commute a nightmare.

No phone calls, no e-mail, period!

George Petrov, Gaithersburg, Maryland

Your full attention should be on the road, not on your cell phone! This is just plain old safety 101.

If you want to say in your defense, "Well, what about drinking, eating, smoking, tuning the radio, talking to passengers, and so on, while driving?" I agree that all of these distract from driving. But communicating in the manner this article describes is life threatening and has been proved to reduce reaction time to a level similar to that of a drunk person driving.

Jonathan Wells, Hong Kong

The human brain simply cannot multitask. It swaps tasks very rapidly when we are young and have nimble brains (so it *looks* like multitasking—sound familiar?), and more slowly as we age. The generation growing up thinking it *can* multitask is truly fooling itself.

And the tasks that we try to perform simultaneously are not given equal brain time. The task that interests the mind the most gets the most nanoseconds of focus: A juicy tale on the cell phone (or a murder mystery on an audiobook) will cause the mind to give less focus to the road and driving conditions. When people use the example of eating and driving to excuse phoning

and driving, they forget that many tasks, like eating, are almost rote and require very little brain time. Thus driving automatically gets the focus—until the ketchup drips on your coat...

Carol Ball, Kinnelon, New Jersey

Editor's response: Our article focused on "Web-based voice services [that] let you manage messages through spoken commands while you keep your hands on the wheel." At this writing, hands-free cell phone use remains legal in all 50 states. For a summary of cell phone laws throughout the United States, browse to find.pcworld.com/62766.

—Robert Strohmeier

Online Sales Taxes

The March *Forward* item "Online Sales Tax Survives Latest Legal Challenge" reported a New York judge's ruling that Amazon.com and Overstock.com, which aren't located in that state, must collect sales tax from New York residents.

Both Amazon.com and Overstock.com operate "affiliate programs" that pay people to refer business to them. The New York court ruled that because affiliates were located in New York, Amazon.com and Overstock.com had a "physical presence" in the state, and so must collect sales tax from residents.

This ruling does not change the 1992

You left out the green benefits of allowing telecommuting [see find.pcworld.com/62756]. Letting workers avoid the commute can drastically reduce CO₂ emissions.

AnnaJaeger, PCWorld.com comments

U.S. Supreme Court decision that a state cannot require online and mail-order businesses to collect sales tax if the businesses lack a "physical presence" in the state. The New York court's interpretation that the affiliate programs are a "physical presence" is what snared »

If you purchased an ATI graphics card, you could be entitled to benefits under a class action settlement.

A proposed settlement of a class action lawsuit may affect you if, while residing in the United States during the period January 1, 2003 to March 31, 2006, you purchased one of the ATI series of graphics cards listed below for your own personal use and not for resale:

Radeon® series 9550, 9800, x700, x800, x850, x1300, x1600, x1800 or x1900; All-in-Wonder® series 9800, 2006, x600, x800, x1800 or x1900; All FireGL® or All FireMV®.

To be eligible to submit a claim, you must have purchased one or more cards that were built by or for ATI, not by or for another company such as Asus, Diamond, Gigabyte, Palit, Sapphire, or VisionTek.

Please read this entire notice completely as it affects your legal rights. The Court authorized publication of this notice.

WHAT'S THIS ABOUT?

The plaintiffs in the lawsuit claim that ATI advertised or marketed the graphics cards listed above as being "HDCP ready," or otherwise conforming to High-bandwidth Digital Content Protection ("HDCP") specifications for transmission of HDCP content, an attribute they claim the cards did not or could not have possessed. ATI denies the allegations and has asserted many defenses. The Court has not made any findings on this issue and the settlement is not an admission of wrongdoing by any party.

WHAT DOES THE SETTLEMENT PROVIDE?

For each authorized claim you submit, you will receive one new Radeon® 4650 512MB PCI express graphics card (if 55,500 or fewer authorized claims are submitted); one new Radeon® 2400 256MB PCI express graphics card (if more than 55,500 and less than 71,501 authorized claims are submitted); or a pro-rata share of \$3 million if more than 71,500 authorized claims are submitted. For example, if there are 71,501 authorized claims, each authorized claimant will receive a check in the amount of \$41.95 for each authorized claim he or she submits.

WHAT ARE YOUR OPTIONS?

Remain in the Class and submit a claim: For a detailed notice and claim form package call toll free 1-888-309-9567 or go to ATIClassAction.com. Your claim must be postmarked on or before August 10, 2009. Claim Forms not mailed by this date will be rejected.

Object to all or any portion of the proposed settlement: The Court will hold a hearing on August 31, 2009, at 9:00 a.m. to consider (a) the fairness, reasonableness and adequacy of the proposed settlement; (b) the dismissal of the case with prejudice as to all defendants and the entry of a final judgment; and (c) whether an award of attorneys' fees, costs and expenses should be made to Class Counsel. You may appear at the hearing, but you don't have to. Any objections to the proposed settlement must be submitted to the Court and the parties no later than August 10, 2009. The detailed notice explains more fully how to object to the proposed settlement.

Opt out from the Class: If you want to be excluded from the Class and the proposed settlement, you must submit to Class Counsel a request to be excluded postmarked by August 10, 2009. If you exclude yourself from the Class, you will not receive any benefits of the settlement.

Do nothing: If you do nothing, you will still be bound by the terms of the proposed settlement and you won't be able to sue the defendants about the legal claims in this case.

This is only a summary notice. To obtain a detailed notice containing additional information on the proposed settlement and each of these options, please call toll free 1-888-309-9567 or go to ATIClassAction.com. You may also write to Plaintiffs' Counsel: Scott A. Kamber of KamberEdelson LLC, 11 Broadway, 22nd Floor, New York, NY 10004; or David C. Parisi, Parisi & Havens LLP, 15233 Valleyheart Drive, Sherman Oaks, CA 91403.

PCW Forum

Amazon.com and Overstock.com.

Most states already require residents to pay sales tax on online purchases; that is, buyers are legally obliged to pay sales tax on such purchases—not to the company selling the goods, but directly to the state where the buyer lives. Of course, few buyers follow their state's law, or even know about it.

The states, realizing the futility of trying to collect sales tax directly from buyers, continue to hunt for ways around the 1992 Supreme Court ruling. New York scored with the "affiliate program" case. Who knows what's next?

Bernard B. Kamoroff, Willits, California

A Really Big Screen...

I enjoyed "Downsize Your Tech Budget" [April], especially point 28, "Get a big picture without a big TV." I have two projection-based systems in my home.

Your article asked, "What would you say to a screen that's nearly five times larger but only half the price?" If you compare a 65-inch-diagonal TV screen to a 300-inch-diagonal projection image, the difference is actually a lot more than nearly five times larger. Here's why:

1. A 65-inch widescreen TV's display is 56.6 inches wide and 31.9 inches tall, or 1805.5 square inches.

2. A 300-inch widescreen projection's display is 261.4 inches wide and 147.1 inches tall, or 38,451.9 square inches.

That means the surface area of the projection image is nearly 22 times larger than the TV screen's!

Jack Rominski, Thief River Falls, Minnesota

...And a Hidden Cost

I appreciate the article on saving money, and specifically the item on using an Epson PowerLite Home Cinema 1080 Projector for a home theater. But you missed one huge point about using projectors: bulb replacement costs.

My father owns one of the first Benq high-def projectors for his home theater, and the bulbs set him back nearly \$400. The Epson's bulbs start at around \$300. If you're watching a movie and don't have a replacement bulb on hand,

you'll be sorely annoyed—and pained by the replacement's cost.

Ben Pearman, Colorado Springs, Colorado

Hard-Disk Connections

In regard to April's *Hands-On Advice* item in *Here's How*, "How to Install a New Internal Hard Drive in Your Desktop PC": With the relatively new SATA hard drives, you must be *extremely* careful with the connectors! Formerly, one could move the hard drive about while the cable was attached if, for instance, you needed to add a new drive in a spot obstructed by the old one. Let's just say I learned the hard way *not* to do that with a SATA cable attached!

Thomas Ogle, Surrey, British Columbia

What Is It With MP3s?

In "Downsize Your Tech Budget," writer Rick Broida states, "to my ears a 256-kbps MP3 sounds just as good as a CD."

Believe me, I'm no audiophile. I have a 20-year-old JVC receiver, to begin with. I played MP3 CDs in my car's player.

Last year, after this player was stolen, I reinstalled my old Sony cassette player. I put an old mix tape in the deck—and was immediately blown away by the improvement in sound. I began to weep as I thought of all I had missed.

MP3s are an abomination. Those missing bits are important. How did we ever accept such a step backward?

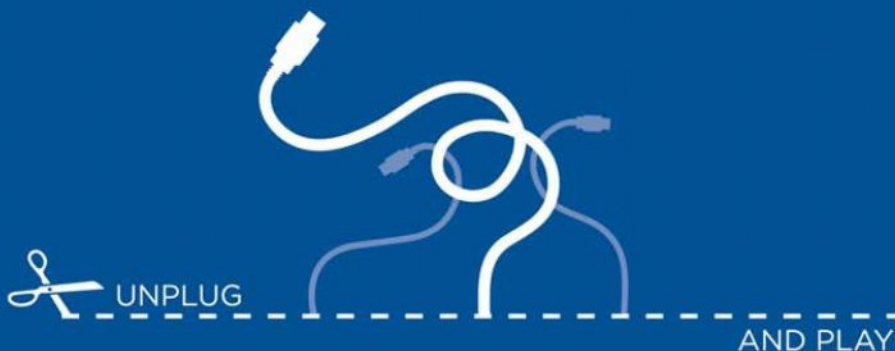
Carleton Sousa, Santa Clara, California

PC World welcomes your feedback. We reserve the right to edit for length and clarity. Share your thoughts in the Comments area under each story on our Web site, or visit our forums (find.pcworld.com/55165). Send e-mail to letters@pcworld.com. ●

CORRECTION

IN MARCH'S "NEW TV Technologies Taking It to the Living Room" (*Forward*), the Sony HDTV that we should have listed as a green or power-saving TV is the KDL-46VE5.

PC World regrets the error.



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Forward

People Search Engines Tell Your Secrets

Specialized search engines can unearth lots of details about you. What information is out there, and what can you do to protect yourself?

BY JR RAPHAEL

I KNOW THINGS about my lawyer that I wasn't meant to know. He's 55 years old, listens to music of the band Creed, and screams when riding roller coasters. He relaxes with New Age spa treatments and is considering buying an electronic nose hair trimmer. And that's just the start.

I've never spent a moment outside the office with this guy (and I'd rather not be privy to his personal grooming habits). I learned all of these details by tracking his social footprint across the Web—and he probably has no idea that he has left such a vivid trail behind.

These days, we expect some of our thoughts to become public. But as we gradually put more pieces of ourselves online, specialized search engines are making it easier



than ever to pull them together into a highly detailed (and potentially invasive) profile of our virtual lives.

The result isn't always pretty. Even if no rap sheet turns up, do you want the world to know that you look at bad-breath cures online or post awful *Star Trek* fan fiction?

Deep-Web Diving

A lot of terms get bounced around in describing this new breed of search engines. Some services call themselves “social search” utilities, while others prefer the

phrase “people search.” Many boast that they delve into the “Deep Web” that even Google doesn't touch.

“Though most people think the size of the Web is basically the Google crawl index, there's actually a lot of information that Google doesn't crawl,” says Harrison Tang, founder and CEO of Spokeo, which dubs itself a “social people search engine” service.

Like its competitors Pipl and CVGadget, Spokeo is designed to help you dig up information on friends, foes, and anyone in between. But

Spokeo goes a step farther than many of the other services, by importing your entire e-mail address book.

For a few bucks a month, it continually monitors your contacts and lets you know whenever anyone has done anything new, anywhere online. (The site's home page promises to help you “uncover personal photos, videos, and secrets,” including “juicy” and “mouth-watering news about friends and coworkers.”)

Each individual bit of information may seem insig-

nificant, but the cumulative effect of seeing it assembled in a neatly packaged portfolio is enough to give almost anyone pause.

"Aggregated identity is actually a new type of identity," Tang says, theorizing about why some people use the word "spooky" in describing his service. He adds, "A lot of people know that they have a public MySpace page; a lot of people know that they have a public Twitter album. But when combined, it's not one plus one equals two—you actually create a new identity."

How Spokeo Works

Spokeo's system uses your contacts' e-mail addresses to track their activity on services ranging from basic blogs and social networks to photo- and video-sharing sites. So random photos you posted on Flickr over the past decade will pop up right under your name, seconds after someone searches for you.

Less obvious sources such as Amazon Wish Lists, Pandora playlists, and movie rating sites provide colorful details—things like my lawyer's affinity for New Age jams and nasal maintenance.

I found Mr. Attorney's age on an old MySpace profile and his roller coaster behavior on a personal YouTube video; Pandora divulged his cravings for Creed and his suggested uses for the "Spa Radio" station he had created. As for the nose hair trimmer, he can thank his Amazon Wish List for sending that factoid my way.



SPOKEO'S GUARANTEE That it will uncover personal photos, videos, and secrets makes a selling point of the search service's ability to turn up "something juicy."

For Sale: Your Info

Other search services access the same data and then offer to sell the information under the banner of marketing research. One highly visible example is Rapleaf, a company that describes its services as "data and people look-up." Clients pay thousands of dollars to have detailed social profiles compiled of individuals in their own customer databases. Like the data that Spokeo assembles, the information is publicly available—Rapleaf merely brings it together. "Things that people have posted are out there for anyone to come and see," says Joel Jewitt, Rapleaf's vice president of business development. "As long as you're not going beyond that, that's within the privacy norms today."

Most of Rapleaf's clients, Jewitt says, are simply trying to understand how to use social media more effectively for marketing. A car manufacturer, for example, might want to know which models its customers are discussing on social Internet services. Using the company's list of customer e-mail addresses, Rapleaf would crawl the Web and track down the information, person by person.

"It's pretty standard Web spidering," Jewitt says of Rapleaf's methodology. "We re-create in an automatic way what someone from the general public would be able to do if they were looking."

Online Exposure

Whether they target businesses or individuals, the services have one thing in common: Unlike the public record-driven search tools of the past, the new people-tracking utilities build a highly detailed dossier about you solely from information that you published.

"What it does is make the ubiquity of the Internet and the sheer openness of the world tangible," says Internet privacy expert Kevin B. McDonald, executive vice president of Alvaka Net- ➤

PLUGGED IN STEVE FOX



NERDS DISSED: U. of Illinois study says "nerd" still has negative connotations. I'll bet haters would change their tune if they saw my amazing *Star Trek* action figures collection.



BIGGER BANNERS: Advertisers want to replace Web page banners with giant ads. Animated dancers, flashing pop-ups, and "You're a Winner" come-ons just aren't annoying enough.



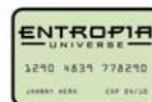
IPHONE GETS THE SHAKES: You can shake the new iPhone 3.0 to get it to perform an Undo or a Redo. Looks like Apple has given up on the lucrative heavy-drinker demographic.



MOZILLA SKIPS THREE: Firefox jumps three rev cycles, advancing from Firefox 3.1 to 3.5 overnight. Microsoft should counter by releasing Internet Explorer 17. That'll teach 'em.



BANKING ON GAMES: The game Entropia Universe was recently approved as a Swedish bank. And I hear that Citibank's stock ticker is being licensed as a roller coaster ride.



WOLFRAM ALPHA: New search engine claims that it can answer any fact-based question. Big deal! My Magic 8 Ball has done it for years; it can even predict hazy conditions.



works, a network management firm. "It makes the whole concept of the world sharing of information and the 'no-walls' approach that the Internet was designed for very real to people."

That reality can be chilling if the information is going to certain individuals—a curious client, say, or a boss big on background checks, or an obsessive ex. A recent UK study reported that half of all British Internet users surveyed said that they had used the Internet to look up information on a former flame.

"It is a little 'stalkery,'" says Marc Rotenberg, executive director of the Electronic Privacy Information Center. "If the information is distributed, that's actually a form of privacy. When it's



IT'S ALL ABOUT BENJAMIN: CVGadget's service presents its search results in categories based on the source where it found each result.

gathered up in one place, it creates some new risks."

Rotenberg is no fan of companies that have made assembling nuggets of personal but public information a for-profit business. "The fact that someone's made something public doesn't mean that someone else can sell it," he contends. "I would say even with affirma-

tive consent, if there's going to be a market for personal data, the user should get some percentage of whatever value the data has."

Taking Control

One important thing to bear in mind is that these services are not doing anything illegal. The information that they gather is information that

any person who knew where to look—and had time to do the looking—could find. Instead of ignoring the king-size file that may have been collected on you, Alvaka's McDonald suggests, you should try to use it as a tool to understand and control your online identity.

"I've come to the point where rather than be driven by the Internet, I intend to drive it to the degree that I can," McDonald says.

"All you can do is learn to live with it," he continues. "That's the confines of the world that we live in."

For suggestions on steps you can take to reduce your online exposure, see "People Search Engines: Limit the Information They Can Collect," below.

ONLINE PRIVACY

People Search Engines: Limit the Information They Can Collect

SPECIALIZED SEARCH ENGINES make it easy to assemble a highly detailed (and potentially invasive) profile of your virtual life.

One way to take control is to use the new services to search for information on yourself. Spokeo lets you see a limited amount of data without subscribing; Pipl and CVGadget are free; and Rapleaf offers an open tool to manage your Internet footprint. "You can come in and sign up and see all the things that we found about you," says Rapleaf's Joel Jewitt.



PERMANENTLY REMOVE YOUR data from Rapleaf's database, free of charge, by submitting a simple opt-out request to the service.

If you want to try to remove information about yourself that already exists online, here are some options to consider:

1. Rapleaf allows you to opt out of its services. By entering your e-mail address on Rapleaf's opt-out page and then responding to Rapleaf's confirmation message, you can have your data permanently deleted from Rapleaf's database. It's free.

2. Many services update their caches based on your external settings. Spokeo and other services work the way a standard search engine does: When content disappears from the Web, it also disappears from search results. Visit the individual sites connected to your e-mail address, and adjust the privacy settings in each one. In a week or so, the info will stop showing up in searches.

3. Most well-known sites give you the option of making your data private. People search engines glean material from a multitude of well-known sites, including Amazon.com, social networking sites such as Facebook, and music sites such as Pandora. Altering how these sites handle your data usually involves adjusting the privacy options in each site's account configuration pages. For specific advice on how to adjust the privacy level of your account information at Amazon, Facebook, MySpace, and Pandora, see our lengthier discussion at find.pcworld.com/62856.

Ultimately, the power to reclaim your privacy is in your hands. It's just a matter of switching off autopilot and taking control.

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Browser Speed Showdown: Chrome Is Golden

Browser makers like to say their product is the fastest. PC World did extensive testing to find out which one really is.

LAST FALL, Google claimed that its Chrome 2 Beta browser was “many times faster” than rival browsers at running JavaScript. In February, Apple asserted that its newly launched Safari 4 Beta was the fastest browser in the world. And this month, Microsoft started marketing Internet Explorer 8 with videos purporting to prove that it’s faster than its rivals.

They can’t all be right. To see how quickly those three browsers and Firefox 3.0.7 loaded a series of popular Web sites, *PC World* undertook detailed real-world tests. The results: Google Chrome 2 Beta finished with an average page-load speed for our nine test sites of 1.30 seconds—0.50 second faster than runner-up IE 8. Safari and Firefox tied for third with a 2.12-second average.

We saw the biggest differences in average page-load times with the home pages

of the English-language Wikipedia and of MySpace.

Chrome 2 Beta loaded Wikipedia in 1.12 seconds; IE 8 completed the task in 2.24 seconds; and Firefox 3.0.7 and Safari 4 Beta straggled in at 3.31 seconds and 3.38 seconds, respectively.

Likewise, Chrome 2 loaded the MySpace home page in just 1.43 seconds, versus IE 8’s 2.59 seconds, Firefox’s

and the beta of Safari 4. We loaded nine popular Web sites: Amazon, Apple, eBay, Microsoft, MySpace, PC World, Wikipedia, Yahoo, and YouTube. To ensure accurate measurements, we recorded our testing efforts on video for review later on.

We performed all of our tests on a Gateway P-7811FX laptop running a clean installation of Windows Vista

we threw out the two best and the two worst scores for each page-load test to reduce the influence of fluctuations for more-consistent results.

We didn’t base our determination of when a page was loaded on the browser’s opinion. Instead we waited until all visual elements of the page were loaded and ready to use. Thus, on Apple’s home page, we judged the page to be ready when all of its graphics and images were loaded and its custom search field was ready to use.



Meaningfully Faster?

Many users won’t notice any performance difference in the browsers we evaluated. With fast broadband service, you likely spend little time waiting for pages to load anyway, unless you’re stuck on a slow connection, which a fast browser can’t correct.

All four of the browsers we tested are pretty fast, so you should focus on which one seems most compatible. That said, it is encouraging to see browser vendors competing to deliver the fastest Web browsers they can.

—Nick Mediati

2.94 seconds, and Safari’s 4.20 unhurried seconds.

Safari’s results disappointed us, though it did load the Amazon home page fastest.

Our Test Methodology

In our speed comparisons, we pitted a near-final build of IE 8 against Firefox 3.0.7 (the current nonbeta version of Mozilla’s browser), the beta version of Chrome 2,

Service Pack 1, and we reinstalled the OS before testing each browser. For each test we cleared the browser’s cache and then loaded each page in our test suite, repeating the process ten times per site per browser to ensure accurate results, to factor out fluctuations in network traffic, and to build a sufficiently large sample size to identify trends. In addition,

Battle of the Browsers: Chrome 2 Wins Big

GOOGLE CHROME 2 Beta outpaced its competition in convincing fashion in our browser page-load testing.

BROWSER	Page load time									Average page load time
	amazon.com	apple.com	ebay.com	microsoft.com	myspace.com	pcworld.com	en.wikipedia.org	yahoo.com	youtube.com	
Chrome 2 Beta	2.61	0.98	0.83	1.30	1.43	1.36	1.12	1.00	1.09	1.30
Firefox 3.0.7	2.54	2.03	1.41	1.96	2.94	1.85	3.31	1.48	1.60	2.12
Internet Explorer 8	3.28	1.01	1.13	1.50	2.59	1.51	2.24	1.35	1.59	1.80
Safari 4 Beta	2.42	1.62	1.37	1.42	4.20	1.51	3.38	1.49	1.67	2.12

CHART NOTES: All times are in seconds. Bold text indicates the quickest load time for that site.

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MusicMonitor® establishes for us a new threshold in the accuracy of music reproduction. As Arlen Schweiger of *Electronic House* reports, "The folks at Bose really know how to shrink a product while maintain-

ing a big sound." It is the first time we have been able to produce sound quality like this with only two such small enclosures containing all the electronics and speakers.

Proprietary Bose technologies. The unexpected sound quality is made possible through a combination of unique Bose technologies, including our dual internal opposing passive radiators. This invention allows the

system to deliver faithful low note reproduction and musical accuracy, despite its small size. Dennis Barker says in *Digital TV DesignLine* that "after a listening test, I was quite impressed with this tiny pair of speakers."

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Listen risk free for 30 days. The best way to judge the performance of any sound system is in the unique acoustics of the environment where you'll use it. That's why we invite you to try the MusicMonitor® risk free for 30 days. Order now and you'll even receive a free Carrying Case – a \$59 value. Ask about using your own major credit card to make **12 easy payments**, with no interest charges from Bose.* Then listen, and discover why Bose is the most respected name in sound.



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New Chips for Ultrafast Lightweight Computing

HOW MUCH laptop power can fit in a small, lightweight chassis at a bargain price?

Recently Intel announced its second-generation Atom processor; Acer unveiled a slew of new netbooks based on nVidia's Ion platform; and HP began shipping a laptop (the Pavilion dv2, see page 52) equipped with AMD's Neo chipset—another first.

As vendors debut tweener laptops whose specs straddle the line between “netbook” and “ultraportable,” competition will only heat up. Here is what's in the pipeline.

The new Intel Atom Z550 (one of two Atom processors launched a year after the

first-gen Atom hit) is a 2GHz CPU that incorporates Intel's Hyperthreading technology for improved multitasking and graphics performance. We expect to see Atom Z550 products later this year.

Intel also expects all of its Atom processors to support at least two of the many Microsoft Windows 7 versions.

Acer's just-announced AspireRevo mini-desktop is the first product to use the nVidia Ion platform, which boasts superior graphics. The AspireRevo pairs a 1.6GHz Atom N230 CPU with nVidia's GeForce 9400M GPU and CUDA graphics technology to handle high-definition



1080p video and DirectX 10 graphics. Acer hopes to ship the PC by late this summer.

Meanwhile, AMD is positioning its Athlon Neo platform as a step up from first-generation Atom chips. The HP Pavilion dv2 ultraportable (with its 1.6GHz Athlon

THE ACER AspireRevo mini-desktop PC incorporates nVidia's new Ion graphics platform.

Neo MV-40 CPU) shows the computing potential of this latest AMD platform.

And as if the three-way battle shaping up among AMD, Intel, and nVidia weren't enough, Via—which claims a 10 to 15 percent share of the netbook market—is looking for a piece of the ultraportable pie, too. Via's 1.3GHz Nano CPU will provide the power for the soon-to-ship Samsung NC20, which features a 12.1-inch display and weighs just 3.3 pounds.

—Melissa J. Perenson

BETA WATCH

EDWARD N. ALBRO



Jinni: A Field Guide to Video

If you like Pandora's taxonomic method of classifying music, you'll love Jinni. This free video-recommendation service breaks down movies, TV shows, and online shorts into their component parts. The comedy *Groundhog Day*, for instance, is described this way: "Mood: Witty; Plot: Nothing Goes Right, Opposites Attract, Fall in Love ... Audience: Date Night" If you're a Netflix subscriber and the movie you're reading about is in Netflix's catalog (and really, what title isn't?), you can add it to your rental queue with one click—or start watching it if it's available for instant viewing. jinni.com



JINNI IS A video-recommendation service that classifies movies and TV shows by the characteristics of their plots, moods, and styles.

Producteev: Task Management Inside the Box

Producteev (free for a basic account, up to \$79 per month for 100 users) is a little bit to-do list, a little bit collaboration tool, and a little bit Twitter. Getting started in Producteev is easy. You create a new box for a new project, and then start filling it with tasks. To assign a task to a colleague, you drag it over the icon for that coworker. You can share files and send out quick status messages to colleagues. Applications can put Producteev information on your desktop or on your Windows Mobile or Nokia phone (iPhone and BlackBerry apps are in the works). My two worries: If you have a lot of projects to manage, the box approach could become unwieldy. And there's no way to assign a deadline to a task—a crucial omission, especially if you're assigning it to a coworker. producteev.com

PocketMeeting: Share Your Screen

Sometimes, you just want your colleague at the other end of the phone line to be able to see your computer screen. You have no wish to endure the hassle and expense of setting up a full-on Web conference. If sending your screen long-distance is worth \$5 to you, PocketMeeting could be a good option. For your Abraham Lincoln, you'll be able to share your screen with up to ten people for 24 hours. All the participants need to do is accept a Java applet. And if they come up with a great idea that they want to show off, you can reverse roles and start to view their screen. pocketmeeting.com

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Blockbuster Sets Up TiVo Streaming

IN ITS CONTINUING struggle to remain relevant against the behemoth that is Netflix, Blockbuster has announced a partnership with TiVo for video-on-demand. The new service will resemble TiVo's existing Netflix and Amazon Video On Demand streaming services, and will be available on TiVo's Series 2 and Series 3 DVRs starting in the second half of 2009.

Blockbuster plans to charge about \$4 for a 24-hour new-release rental, the same price as Amazon Video On Demand. The question is, why should customers choose Blockbuster over Amazon, given that their content and selection are so similar?

Blockbuster also plans to sell TiVo devices in its retail stores, a move that speaks volumes about the failure of Blockbuster's own instant-streaming set-top box to win approval among consumers.

Blockbuster has promised to spread its movies to many digital devices, as Netflix has done. But with bankruptcy rumors floating around, and Netflix's seemingly unerring ability to crush competition, the long-term future of Blockbuster remains in doubt.

—Brennon Slattery

GEEKTECH

A Wonderland of Sounds, Sights, and Scents

MUXTAPE (find.pcworld.com/62852) was originally conceived as a place where music hipsters could upload their favorite songs to create streaming playlists for their friends. No more. These online mix tapes paved the way for a fun platform where bands of all genres and styles can offer their music for listening and eventually sell tickets and merchandise through a minimalist Web interface. Nevertheless, I miss being able to fire up random playlists on the fly.

A new site dubbed MixTape.me (find.pcworld.com/62851) is trying to fill the Muxtape 1.0 void. Here's hoping it has a plan to counteract the RIAA's legal arguments, too—MixTape.me's features seem to invite conflict with the recording industry just as its predecessor's did.

Set up an account at the site, and you can start creating an online music library within seconds. You may interact with the service in two ways. If you want to populate your online playlist with your own content, you have to upload it somewhere on the Web and toss a link to MixTape.me, which finds the file and adds it to your playlist.

Alternatively, you can use MixTape.me's community features. Search for a song you want to listen to, and if someone has linked a version, you can drag and drop it right into your playlist.

PC-Building Made Easy

Some people can't learn to build a PC simply by reading about it, even from a comprehensive *PC World* article. Instead they need to see someone doing it.

But the details that you want help with may not be the same ones that stymie someone else. That's why we didn't merely create a YouTube video demonstrating how to construct a PC; we also split it into segments related to separate portions of the PC build. The result: You can guide yourself through the experience based on

MixTape mixes it up; an interactive guide to building a PC; and in space no one knows how you smell.

your own background with PC building. Visit find.pcworld.com/62826 to get started. Go for the full monty, or make your way piecemeal through your PC project at the pace you like!

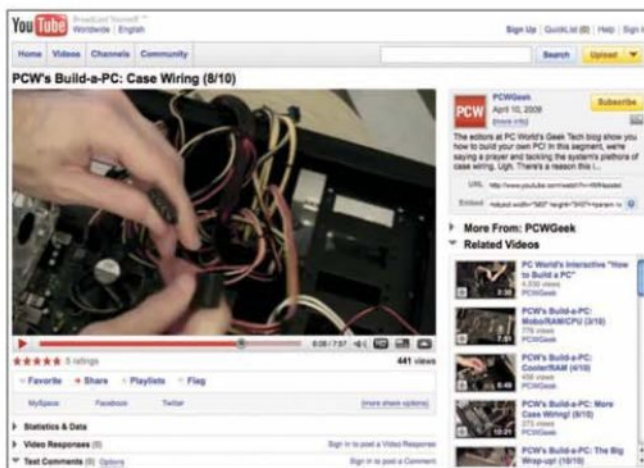
A Powerful Odor of Audacity

Space guys and gals: Ready to splash on something a little more alluring than Eau de HAL? Then you may be ready for Genki Wear's new line of old-school *Star Trek*-themed fragrances (find.pcworld.com/62853).

According to Trekmovie.com, the first scent, Tiberius, releases a medley of "sweet citron zest, black pepper, and cedar" followed by base notes of vanilla, white musk, and sandalwood. A provocatively glowering Captain James T. Kirk graces the Tiberius packaging—what, you thought the T stood for Tinkerbell?—above the legend "Boldly go." Is it an invitation to step inside or an order to leave the premises? You decide.

Other scents include Red Shirt (may be best for short-term relationships) and Pon Farr—a *parfum* for Vulcanettes, with the slogan "Leave logic behind." Genki Wear can only hope...

—David Murphy



IF WE CAN do it, you can do it! Follow *PC World*'s modular approach to building a PC by examining our step-by-step series of YouTube videos.



Now you don't have to choose between **protection** and **speed**.

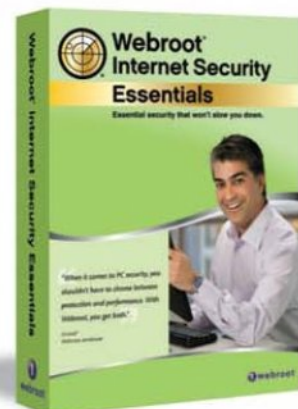
Most Internet security suites are designed to protect your computer and your files, but you have to sacrifice too much speed for that protection. That's why we created **Webroot® Internet Security Essentials**. It's everything you want, and nothing you don't.

With Webroot Internet Security Essentials you get antivirus, antispyware, and protection from hackers — plus it guards your privacy and automatically backs up your digital photos and other irreplaceable files. There are none of the confusing features that slow you down and do little to protect you against today's most common threats — which means you can move at the speed of the Internet and still stay safe.

Get the protection you need and the speed you demand. Start running **Webroot Internet Security Essentials** today. Visit www.webroot.com/wise or call **1.866.612.4268** today.



The Best Security
in an Unsecured World™



CTIA Wireless 2009: New Cell Phones for Spring

Widgets and touch-screens highlight the crop of cell phones announced at CTIA.

CTIA (aka the Wireless Association, aka the acronym that lost its underlying name) held its annual trade show and exhibition of wireless products

in early April in Las Vegas. As usual, great-looking handheld devices flooded the convention floor, and cell phones were at the center of the excitement. Here are seven of the coolest models we saw. (For more details, see find.pcworld.com/62864.)

—Ginny Mies



THE SAMSUNG MONDRI dazzled with a 4.3-inch LCD touchscreen, 4GB of on-board memory, a hardware QWERTY keyboard, and WiMax support. It runs Windows Mobile 6.1 and has a mounting kit for car use.



THE HTC SNAP'S headlining option is a new e-mail management feature called Inner Circle. The device also has 3G connectivity and a 2-megapixel camera.



LG ELECTRONICS' Xenon offers threaded messaging, a 2.8-inch touch display, a 2-megapixel camera, GPS integration, Bluetooth 2.0, and Wi-Fi connectivity.



THE SAMSUNG Instinct S30 has a slightly slimmer profile than its predecessor, comes preloaded with Calendar Sync and IM, and accepts 32GB of memory.



NOKIA'S E71X has a black steel finish. It supports 3G and Wi-Fi, carries a 3.2-megapixel camera and integrated A-GPS, and runs the Symbian S60 platform.



THE LG ELECTRONICS Neon employs a partial-touch display with a navigation toggle beneath. It incorporates a 2-megapixel camera, a microSD card slot, a music player, and stereo Bluetooth support.



EQUIPPED WITH THE first commercially available AMOLED (active-matrix organic light-emitting diode) screen, the Samsung Impression conserves energy despite offering a bright, 3.2-inch screen.



CAN YOU AFFORD TO LOSE YOUR DATA?

Financial records, business
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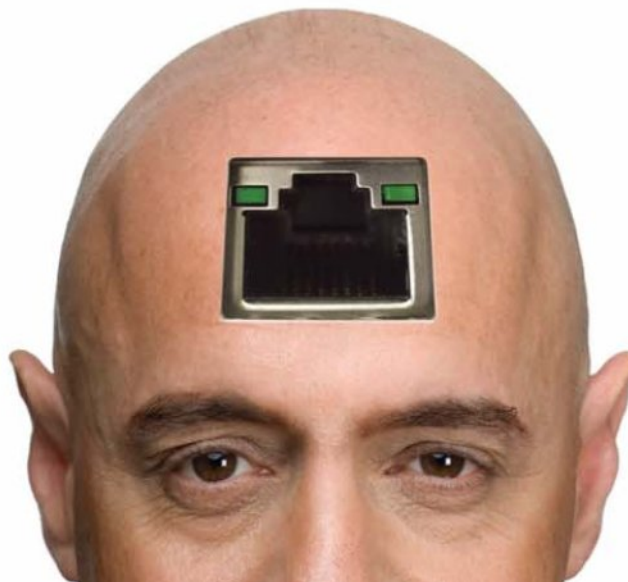


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Consumer Watch

Can You Trust iTunes App Store Reviews?

Apple's store isn't immune from the problems currently plaguing other user-review sites.

BY JEFF BERTOLUCCI

BROWSING APPLE'S APP Store in search of new applications for your iPhone or iPod Touch, you find an interesting program and start reading its user reviews. Many are overwhelmingly upbeat, their wording eerily similar.

Are they fake—written by the developer (and family and friends)? For other programs, you may see a lot of 1-star reviews that trash the app and laud a competitor. Were those penned by a rival?

With more than 25,000 programs in the App Store, at least some competitive shenanigans are bound to happen—and a few developers have already accused others of planting negative reviews.

Njection, the developer of the speed-trap-alert tool NMobile, has accused competitor Trapster of posting reviews that criticize NMobile and praise Trapster. When *PC World* contacted Trapster, a spokesperson, who asked not to be identified, e-mailed: "We don't have time to post petty slams against competitors, nor respond to accusations that we do."

Complaints are flying even over frivolous apps. Air-O-Matic, maker of Pull My Finger, claims that InfoMedia, which sells iFart Mobile, posted bogus comments. InfoMedia CEO Joel Comm says he sees nothing wrong with a developer's posting an anonymous review of a rival. "If people purchase the app, they can do whatever they want within the guidelines of the iTunes review system," Comm wrote via e-mail. "I see no reason to disclose that you are a competitor."

Reviews by Nonusers

Whether fake or biased app reviews are common is hard to ascertain. Verifying a review's legitimacy is nearly impossible, though we spotted more than a few suspicious items. We also found that visitors can easily review apps they haven't

used, despite Apple's recent efforts to curtail that practice. (Apple didn't respond to our inquiries for this story.)

Take Brick Breaker Revolution 3D, a \$6 game from Digital Chocolate. Within hours of its release, it had four 5-star reviews. No big deal. But one reviewer, "Snorkydog," had given 5 stars to six Digital Chocolate games, and just 2 stars to another developer's title (the only other game he or she had reviewed). So was Snorkydog a plant? Or just a fan?

"Many reviews are pretty idiotic or hilarious or biased in one direction or another," Digital Chocolate CEO Trip Hawkins wrote via e-mail. "It is like reading any forum or chat log." But fakes, pro or con, don't invalidate the system, he says. "The presence of these 'lover' votes only seems to be enough to offset the even more ridiculous hater votes."

Another review we found was by an employee of the company selling the app. Reid Carlberg, who works for Model Metrics, gave 5 stars to its Search2GO for Salesforce CRM. His original review didn't disclose his employment; he added that detail later, after we contacted him. He says that since he didn't hide his identity—his user name is "ReidCarlberg.com"—he wasn't trying to deceive. But readers likely would not have known that he worked for the company until he said so.

The 5-Star Nonreview

Many developers use the App Store review section to interact with users; they might, for example, announce upgrades or address gripes. And many use the system to pad their app's overall score. When Chris Meyer posted a rebuttal to a 2-star review of his AirPhones audio-streaming tool, he gave the app a 5-star rating. "Sure, I gave myself 5 stars, but that was in knowing that the average of mine and the other 2 star [review] would be reasonable," Meyer told *PC World* by e-mail.

"Also, I only have one opportunity to tout my app, so if there are dozens of comments, it won't matter much."

Meyer added that the app has several "harsh and unwarranted" 1-star ratings, some of which, he suspects, were >>



Though user reviews often provide insight, not all of them give real, reliable advice. See find.pcworld.com/62801 to learn how opinion sites try to keep reviews honest—and how you can spot a shill.



SKEPTICAL SHOPPER YARDENA ARAR

"intended to hurt the product." Still, he sees the review process as a "wonderful example of a democracy at work."

Recent news reports have said that some developers are offering to pay for positive reviews. In November 2008, *Wired* ran a screenshot of an ad on Amazon's Mechanical Turk job site (later removed) that promised \$4 to any App Store user who would post a 5-star review of the SantaLive app.

To find out if such a practice is common, I searched 560 review-related posts on Mechanical Turk. I saw only one App Store developer offering to pay for reviews. The fee: 30 cents for any review, good or bad. I also searched Craigslist posts for 25 U.S. cities, but I didn't spot a single instance there.

Still Too Easy to Cheat

Apple has taken steps to address the problems. Now, only users who download an app can review it. Earlier this year Apple deleted comments from customers who hadn't used the programs in question. And now reviews are sorted by version, so you have some context. While the measures have eliminated many suspicious reviews, they have not prevented users from reviewing apps they have not tried—visitors need only purchase and download the app.

For customers, a healthy dose of skepticism is a good thing. "I haven't put much stock in the reviews from the App Store," wrote blogger Nick Santilli in an e-mail interview with *PC World*. Santilli, who has written about questionable App Store reviews for TheAppleBlog, would rather hear about apps "from the Twitter cloud," or by speaking with developers or fellow bloggers.

Despite the system's flaws, App Store reviews still have value. "Reading reviews on some of the apps I've used personally, a random sampling seemed spot on and generally fair," wrote Santilli. "People are so used to Apple getting things right the first time...when every angle hasn't been considered right out of the gate, the frustration is made known from the rooftops."

Not All Free Credit Reports Are Created Equal

ONE OF THE TV ad campaigns I've noticed most this year—possibly a sign of the times—has been for FreeCreditReport.com. The commercials all feature a band in oddball costumes and a cute lead singer crooning catchy jingles urging you to look after your credit rating by obtaining reports from the site.

But FreeCreditReport.com isn't the place to go for the free reports that federal law entitles you to get once a year from each of the three major credit-reporting companies (Equifax, Experian, and TransUnion). AnnualCreditReport.com is. FreeCreditReport.com will send you the reports, but only after you sign up for a "free trial membership" in its \$15-a-month Triple Advantage Credit Monitoring service.

The service promises to alert you about activity related to your credit rating, including who has been checking on it. For most people, such a service is overkill. While you can avoid fees by canceling your membership within a week of enrolling, it's a hassle you don't need to endure just to get the reports AnnualCreditReport.com offers for free.

To be fair, FreeCreditReport.com (which is owned by an Experian subsidiary) acknowledges on its home page that it is not the government-mandated program, and the site even links to AnnualCreditReport.com. But the Federal Trade Commission has embarked on an education campaign that seeks to fight fire with fire, producing its own videos spoofing the ads.

The FTC videos have a singing band too, but in addition to recommending AnnualCreditReport.com, they take swipes at the competition. A sample: "Beware of the others, there's always a catch; they claim to be free, but strings are attached."

Because the feds don't have the budget

The FTC is producing video parodies to counter FreeCreditReport.com ads. It's pursuing credit-repair scam sites, too.

to put the parodies on TV, however, they simply upload the videos to YouTube. You can easily find them by doing a search.

Credit-Repair Rip-Offs

The FTC is also taking a hard look at companies that promise to help repair credit. Recently it filed charges in New Jersey federal court against seven related firms, alleging among other things that they charged up to \$2000 (including \$300 in advance) for credit-repair service.

The agency says promises to remove negative information (bankruptcies, liens, judgments, late payments) from a credit report may well be scams, especially if up-front fees are involved (it's illegal to charge for credit repair until it's performed).

The FTC has a page (find.pcworld.com/62796) that identifies scams and offers advice. Some "repair" tactics that scammers recommend could even land you in prison. If you think you have been victimized, file a complaint at ftc.gov or by calling 877/382-4357.

Without paying a dime, you can dispute mistakes or outdated items on your credit report by contacting the report issuer, as well as the company that provided the info. You can at least ask that a statement of your dispute be included in your file.

If you do use a credit-repair company, ask it to give you a copy of your rights (it must do so under federal law) and a written contract. At minimum the contract should specify the terms of payment, details on the services to be performed, how long the services will take, any guarantees made in marketing materials, and the firm's full name and business address.



ON YOUR SIDE GINNY MIES



LAST YEAR I purchased a Samsung CLP-300N color laser printer that came with a \$150 mail-in rebate offer. The Samsung Rebate Center verified receiving my rebate submission, but I've never received a check. They keep giving me the runaround, saying that they mailed the check at least twice. Now it has gotten harder for me to contact the rebate center, as the original phone number has been disconnected. I think that they're hoping that eventually I'll give up. Can you please help?

David Gertz, Hailey, Idaho

OYS responds: After Gertz contacted us, he got an e-mail from Samsung's claims department stating that the company that processed rebates for Samsung had filed for Chapter 11 bankruptcy protection.

Samsung confirmed that the company, Continental Promotion Group, had misled Samsung customers by telling them that checks were being sent out when in fact they were not. Many other retailers and manufacturers use CPG's services, including Adobe, Canon, Costco, Logitech, Newegg, Pentax, and Westinghouse Digital.

In a letter on its Web site (find.pcworld.com/62720), Samsung states that it is "working through the details to ensure that all customers who currently have a mail-in rebate claim for a printer will be paid in full." Any customer who has not received a rebate should send a message to claims@samsung.com. After we notified Samsung of Gertz's issue, representatives assured us that they would send him his rebate within a couple of weeks.

Facebook Recruitment

Kevin White of Willimantic, Connecticut, contacted us because he kept receiving friend requests from Facebook even though he doesn't have an account on the social networking site. Frustrated, he e-mailed the company to find out how it had obtained his address and how he could stop the messages from flooding his inbox. Facebook sent him an automated response instructing him to confirm that he was the owner of the account he referenced—even though he had explained that he didn't have an account.

A Facebook spokesperson confirmed our suspicion that the service probably got White's e-mail address through



Friend Finder, an application that scans a member's e-mail account for contacts who are either on Facebook or who haven't signed up yet. (Alternatively, the spokesperson said, White's friends were simply inviting him directly.) The representative says that if you get such notices, you can stop them by clicking the link in the disclaimer at the bottom of the e-mail, which states: "This e-mail may contain promotional materials. If you do not wish to receive future commercial mailings from Facebook, please opt out."

Acer Desktop Recall

Acer, in conjunction with the U.S. Consumer Product Safety Commission, has recalled approximately 215 Predator desktop gaming PCs (models ASG7200 and ASG7700) that are prone to overheating due to stripped or bent insulation on internal wiring. Acer has received two reports of PCs short-circuiting, resulting in melted internal components and external casing. Though no injuries have been reported, the computers pose a burn hazard. Consumers should immediately stop using the PCs and call Acer toll-free at 866/695-2237 to schedule a free repair.

Office Depot Service-Plan Scams Alleged

SOME OFFICE DEPOT managers encourage sales associates to misrepresent prices or stock availability in order to increase the percentage of sales that include lucrative optional service plans, an investigation has found.

The allegations surfaced in online articles by *Laptop* magazine (find.pcworld.com/62792). Based on interviews with current and former Office Depot employees, *Laptop* reported that some workers alter clearance-product prices (adding in the cost of the optional service plan) and that some routinely tell customers who decline a service plan that the product they want is out of stock, even if it isn't.

Sales associates are under pressure to sell service plans, which make a lot of money for the company. *Laptop* originally reported that some stores would rather forgo sales to customers who don't want service plans because those sales would bring down the store's average of upsells.

A subsequent article quoted staffers as saying that they would keep the price of a clearance item artificially high to make it cover the cost of a service plan (which they would tell the buyer was free of charge). *Laptop* said several employees verified that such tactics had the approval of store managers.

Office Depot has since issued an internal memo instructing employees not to lie about stock availability.

Other big-box stores have employed questionable tactics to inflate the bottom line. In 2007 *PC World* reported that some sales reps at Circuit City and Best Buy pressured PC buyers to pay extra for the stores to create recovery discs that the buyers could easily make themselves (find.pcworld.com/62797).

—JR Raphael ●





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Business Center

Easily Control a Remote PC From Anywhere

BY ZACK STERN

WANT TO CHECK up on a video file that you left exporting to a different format at work overnight? Need to help troubleshoot a distant employee's PC? Remote access lets you assume control of the remote system as if you were there. Your monitor shows a view of the far-away screen, and your mouse controls the remote pointer. I'll explain how to get started with tools built into Windows.

Enable Built-In Windows Remote Access on a Host PC

Windows Remote Access lets you connect to remote PCs without installing additional software, but there's a catch: The tool lets you create a host machine only in Windows XP Pro, Windows Vista Business, and Windows Vista Ultimate. Any version of Windows XP or Vista can connect as a client.

As an administrator in Windows XP, click *Start*, right-click *My Computer*, and select *Properties*; then click the *Remote* tab. Check the box next to *Allow users to connect remotely to this computer*. If you want to give people who aren't privy to this information access, select *Remote Users* and click *Add*. Enter the user name into the box, and click *OK*. Click *OK* again to get back to System Properties. Click *Apply*.

In Vista, click *Start*, right-click *Computer*, select *Properties*, and click *Remote settings* in the left pane. Click the radio button next to *Allow connections from computers running any version of Remote*

Use Windows Remote Access to monitor, control, and manage a distant PC—even one that uses a different OS—from your desktop.



Desktop. (If you're connecting exclusively between Vista PCs, click the final radio button for a more secure process.) You'll be able to connect from another computer that you administer. To give other people access, click *Select Users*•*Add*, enter the user name, and click *OK* to permit that access. Click *Apply* in System Properties.

Connect to a PC With Built-In Windows Remote Access

Any version of Windows XP or Vista can connect as a Remote Access client. Here's how to establish that connection (with limited security).

In XP, click the *Start* button and select *All Programs*•*Accessories*•*Communications*•*Remote Desktop Connection*. Enter the name of the computer (if it's listed on a local network) or its IP address (if it's in another location). Click *Connect*.

In Vista, click *Start* and then choose *All Programs*•*Accessories*•*Remote Desktop Connection*. On a local network, enter the name of the PC or browse for its listing. If you're reaching across the Internet, enter the complete URL or IP address for the remote system. Click *Connect*. Enter your log-in name and password, and click *OK*. If you're connecting to a Windows XP-based computer, you may see a warning; click *Yes* to connect. Once you are connected, the host PC will display its log-in screen, while the remote machine is under your control.

Your local screen, keyboard, and mouse will now behave as if they were connected to the remote PC. When you want to end the connection, click the X at the top of the screen. To regain control of the local PC temporarily, enter a windowed mode by clicking the frame icon (or click the minimize icon). »

ILLUSTRATION: JACK BLACK

PCWORLD.COM

The Windows Remote Access tool can salvage your sanity, but dealing with remote workers can drive you nuts. Learn how to manage telecommuters without losing your mind at find.pcworld.com/62817.

Set Wake-on-LAN

A PC has to be powered on to accept a remote connection, but you don't have to leave it running; Wake-on-LAN (a feature that nearly all recent PCs support in their ethernet hardware) listens for a certain network request to rouse a sleeping computer. Some systems can even boot from a mostly powered-off state. In either situation, the networking system uses less power than a wide-awake PC, but it does have to keep one eye open to be ready for reveille.

In Windows XP, click *Start*, right-click *My Network Places*, and select *Properties*. Right-click your network connection, choose *Properties*, and click *Configure*. In the Power Management tab, click *Allow this device to bring the computer out of standby*. Finish by clicking *OK*.

In Vista, open the Network and Sharing Control Panel and click *Manage network connections*. Right-click the connection that puts you online, and then select *Properties*. Click *Continue* followed by *Configure*. In the Power Management tab, click the check box next to *Allow this device to wake the computer*. Press *OK*.

You'll need the IP and MAC addresses of the sleeping computer to wake it up. You can easily get these off the PC, but that won't work if you need to access it remotely over the Internet and if a router stands between the PC and the outside world. In that case, you will need to know your router's IP and MAC addresses, found in its admin screen.

To locate your PC's IP and MAC addresses, click *Start*•*Run*, type *cmd*, and press *OK*. Type *ipconfig /all* and press *Enter*. Scan the results for an ethernet 'IP Address' listing and for a 'Physical Address' (aka MAC address) listing.

Once you have those addresses in hand, wake the remote PC with a visit to DSL Reports' Wake On LAN page (dslreports.com/wakeup). If this doesn't work with your router's addresses, consult the router's documentation for instructions on how to open port 9.

For more tech advice from Zack Stern, visit his blog at find.pcworld.com/62818.

NET WORK DAVID STROM



Protect Your Network With OpenDNS

IF YOU DON'T already use OpenDNS to protect your small-business network, you should take a few minutes now to set it up. The security benefits are well worth the time investment: OpenDNS is free, it has contributed significantly to combat against the Conficker worm, and it will protect you from any number of future attacks. As a bonus, it may help your network's users experience better browsing performance.

Before I describe how to do this, let's review what the Domain Name System is. Much as a phone book lets you look up people's phone numbers by looking up their names, the DNS provides a unique-address registry for computers: Type in 'google.com', and DNS translates that name into a sequence of four numbers called an IP address (for google.com, it's 72.14.207.99).

In the overall Internet infrastructure, various public, semipublic, and private providers maintain a series of master phone books, or DNS root servers, at strategic places around the world. The root servers talk to each other regularly to ensure that they remain in sync as users add new domains. If interested parties want to "poison" an entry or misdirect Internet traffic to a phony domain, they can do so with the right amount of subterfuge. Last year, for example, an Internet provider in Pakistan managed to block access to all of YouTube when it attempted to prevent Pakistani citizens from viewing a video it deemed offensive.

Here's where OpenDNS comes into play. Normally when you set up your network, you don't give your DNS settings another thought. If you have a cable or DSL modem, you hook it up and it automatically gets its DNS settings from the

Use the free service to strengthen your business network's defenses against the Conficker worm and other threats.

cable or phone company's DNS servers.

I recommend, however, that you change these settings to reflect the DNS servers at OpenDNS. This free service makes its money by serving ads when a user types in a domain that doesn't exist. The OpenDNS Web site provides instructions for altering your

DNS settings, based on the router that you use on your network. The whole process—from reading through the instructions to implementing the changes—should take you only a couple of minutes.

Using OpenDNS has several benefits. First, you can set it up to block objectionable domains, thereby protecting your business from lawsuits. Second, OpenDNS blocks known exploit domains, which helps you and your employees avoid getting trapped by some malicious hacker. You also get to enjoy superior DNS service thanks to OpenDNS's servers, which reportedly return OpenDNS domains faster than ones for the general Internet. And finally the service catches common typos in domains—a big plus for people who make more than their share of mistakes when typing domain names into their browsers.

Adopting OpenDNS is just the first step in fully securing your DNS resources. If you're interested in learning more about how to strengthen your defenses, a good place to start is with "Not a Guessing Game" by Paul Vixie (find.pcworld.com/62789). Vixie has helped author numerous requests for proposals (RFPs) and protocols. He is currently engaged in a major effort to create a new series of secure DNS protocol extensions, along with products to support those extensions.



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Expand Your Network With an Ethernet Switch

MOST HOME OFFICE networks start with a PC, a router, and a modem. But when a small single-user network grows into a larger multiuser network, your original Wi-Fi router can run out of free ethernet ports to connect various PCs, networkable printers, small-business servers, and other essential hardware. That's when a switch comes in handy.

An ethernet switch is a simple box that sits between your router and your networked devices to control traffic flow across your network. The devices come in two basic types: unmanaged and managed. With the former, you merely plug in your devices and get back to work. But managed switches provide advanced features that prioritize data, link ports for improved performance,

and enforce security policies on your network.

An appealing middle ground for small businesses is a manageable switch like Cisco's eight-port Linksys SLM2008 (find.pcworld.com/62811), which offers some of the robust trunking and data prioritization of a managed switch in a compact package with a Web-based control interface that novices can manage easily.

The SLM2008 measures just over 5 inches wide by 5 inches deep. Setting up the basic features via the Web-based interface takes only minutes, but there are enough advanced security and data-routing options to satisfy nearly any small-business need. Midrange small-



CISCO'S Linksys SLM2008 combines an unmanaged switch's simplicity with a managed switch's advanced features.

business switches like this one can be the perfect choice for small-office/home-office workers with robust VoIP and videoconferencing demands.

Managed and manageable switches often duplicate (or surpass) the port-forwarding and port-linking features of conventional Wi-Fi routers; you may have to disable the corresponding features in your router to avoid conflicts.

—Robert Strohmeier

Track Your Expenses While on the Go, With TextHog

WHEN YOU'RE on the road, tracking expenses can be a time-consuming hassle. And as the receipts pile up in your wallet, it gets harder and harder to remember how much you've spent, and on what. Enter TextHog, a free (for now) Web app designed to simplify tracking and analyzing business expenses while you're in transit.

Unlike most smartphone apps that track and report expenses, TextHog doesn't live on your phone. Instead, as you incur expenses, you text (or e-mail) them to a private address on TextHog. This generates a record of the transaction on your TextHog account, which you can later view, categorize, edit, and ultimately output as a CSV file with the other expenses from your trip.



TEXTHOG'S COMBINATION WEB app and record-keeping service lets you track expenses by sending simple text messages from your cell phone as you travel.

TextHog does a good job of logging transactions that you send to it, but if you don't format your message precisely (using commas after keywords and a decimal point even on transactions that have no pennies after them), it'll vanish into unknown crevices of the Internet.

Unfortunately, I inadvertently placed

the date of a purchase 40 years in the past—and found no obvious way to retrieve or re-edit it. Nor is there a 'show all' option to display all transactions, regardless of when they purportedly took place.

Date-editing blunders aside, it's pretty easy to view pie charts of your recent transactions to monitor your budget. You can also set custom budgets to help you spend more effectively as you go.

TextHog exports reports only as CSV files and lacks

a built-in way to transfer expenses to an accounting app like QuickBooks.

TextHog is no expense-tracking panacea. But it's a fairly convenient way to keep an eye on expenses as you cram receipts into your wallet during a trip. As long as it's free, it's well worth a try.

—Robert Strohmeier ●

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Security Alert

How Losing Your Phone Could Cost You

BY ROBERT VAMOSI

A LOST OR stolen smartphone is more than just an inconvenience. It can lead to identity fraud or corporate espionage, and even compromise the integrity of your medical records.

In March, Connecticut-based security vendor Credient

Technologies reported that 80 percent of users store on their phones information needed for identity fraud. Based on a survey of 600 commuters in London railway stations, the study also found that 24 percent of cell phone owners store PINs and passwords on a handset, 11 percent store personal identification info, and 10 percent store credit card numbers.

If your mobile phone is stolen, the thief can do a reverse lookup of your cell number to obtain your name and address. That and a stored credit card number can lead to “account takeover,” where the thief changes an existing account’s billing address. And unless your card issuer calls you, the absence of your monthly statement might go unnoticed.

With such info, a thief could also open new accounts using your name. As you often wouldn’t know these accounts are being opened, this problem can take much longer to resolve. And if you use your phone to access e-mail, a thief might too.

Put Your Phone on Lockdown

The best way to keep your e-mail accounts secure is to lock your mobile phone when you’re not using it—a password lock, that is. (The Credient survey found that some 40 percent

of users didn’t employ a password to lock their phones.)

For the iPhone, arguably the most popular mobile phone today, you’ll want to combine Auto-Lock, enabled by default to turn off the screen-based keypad after a preset amount of time, with Passcode Lock, to turn the phone on manually. To enable the latter, tap *Settings*, then *General*, then *Passcode Lock*.

Tap *Turn Passcode On*, and then enter a secure password.

For other phones, check the tools or settings section. On the LG Dare, for example, it’s under ‘Tools and Settings’, then Security. Once you set a password, practice locking and unlocking the phone until it becomes second nature.

Today’s mobile phones store a whole lot of your personal information. Here’s what you need to do to protect the data on your phone.



Protect Company Info

Many people also use mobile phones for remote access to their workplaces. Since nearly half of mobile phone users don’t lock or otherwise restrict access, thieves may use such a vulnerable stolen phone to gain access to an employer’s internal network.

Security vendors such as Lumension now offer businesses an application download (find.pcworld.com/62755) that allows your employer to

lock a lost phone or erase sensitive data remotely (currently available only for Windows Mobile); for the iPhone, Apple has a remote-wipe feature (find.pcworld.com/62757).

Another step to protect stored data is to disable Bluetooth. Although it’s a short-range signal, some malware uses Bluetooth to suck data from your phone surreptitiously.

Also, while most mobile phones use cellular connections to access the Internet, the iPhone has a Wi-Fi option for fast- ➤

ILLUSTRATION: JOHN RITTER

PCWORLD.COM

Could recycling your PC put your personal data at risk? Find out at find.pcworld.com/62754. Also, learn how to securely erase a hard drive you’re no longer using, at find.pcworld.com/62750 (video).

er, high-bandwidth applications like streaming video. That opens up the possibility of connecting to rogue Wi-Fi networks full of keylogging malware. To turn off Wi-Fi or set a prompt for each new connection, touch *iPhone Settings*•*Wi-Fi*; then select accordingly.

Stop Mobile Bank Heists

Have you recently started using mobile banking? The good news is that generally no personal banking data—such as your account information—is kept on the phone itself. However, a criminal can still use your phone to access your bank accounts directly.

Mobile banking sessions occur in one of three ways: You download an app to your phone; the bank exchanges encrypted SMS messages with your phone; or the bank uses your phone's mobile browser to show account information.

In any case, notify your bank—shortly after you notify your cellular carrier—of any lost or stolen phone. If the bank uses a client-side application, it can remotely disable it. If the bank uses the interchange of SMS or a mobile browser connection, its device ID service can block contact from the stolen phone.

Protect Your Health Records

The same safeguards apply to personal health information accessed via mobile phone. The American Recovery and Reinvestment Act of 2009 (aka “the stimulus bill”) includes a section on digitizing personal health information. Some hospitals are experimenting with providing patient information over a mobile phone, and the number doing so should grow by the end of this year. If you have such a service and your phone is lost or stolen, contact your health care provider right away so it can block fraudulent access.

Mobile phones are now miniature computers that manage our lives in ways we might not fully realize. Think of your cell phone as an electronic wallet. If you lose it, take the appropriate steps to contact your carrier and all of the parties that may be affected.

BUGS & FIXES ERIK LARKIN

IE 8: Its Security Is Worth the Download

MICROSOFT released Internet Explorer 8 in March, and whether to install it is likely

your biggest update decision right now.

The browser has plenty of new security features, such as expanded phishing-site blocking of known malware distributors. IE 8 also highlights the domain name in the URLs you visit, making it easier to recognize a phishing scam.

New as well are a private browsing mode (called InPrivate Browsing) and behind-the-scenes tuning to help neutralize attack code on poisoned Web sites. For more details on the enhanced security in IE 8, see find.pcworld.com/62743.

IE 8 isn't a silver bullet, but from a security standpoint the upgrade is a no-brainer. However, the new browser may not display all sites correctly—even in its compatibility (with IE 7) mode. If IE 8 can't handle a site you need to view, you can uninstall it (via Add or Remove Programs) and revert to the earlier browser. You can download IE 8 at find.pcworld.com/62744.

Firefox, Opera Fixes

Firefox 3.0.8 closes two security holes that could allow an attacker to use a poisoned Web site to take over a PC. Make sure you have the latest security plugs by clicking *Help*•*Check for Updates*, or by visiting getfirefox.com. More info on the flaws is at find.pcworld.com/62745.

The new Opera 9.64 fixes a number of problems, including one critical hole that

Plus: Fixes for Firefox and Opera, and new risks from poisoned pictures.

viewing a specially crafted JPEG image could open. Another fix closes a risk of browser plug-ins launching data-stealing cross-domain-scripting attacks. See the full list of changes at find.pcworld.com/62746. Click *Help*•*Check for Updates* to make sure you have the latest Opera version; if you don't, you must download and manually install the new version—an

annoyance, but a worthwhile one.

Microsoft has fixed a similar flaw in Windows. Viewing a malicious Windows Metafile (WMF) or Enhanced Metafile (EMF) image on a Web site or in an HTML e-mail could have let a bad guy run any command on a PC—a critical risk for Windows

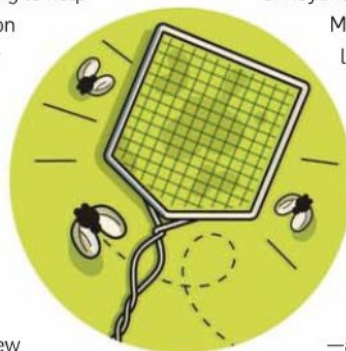
Vista, XP, 2000, Server 2003, and Server 2008. Get the fix via Automatic Updates or from find.pcworld.com/62747.

Adobe, Too

Crooks have actively targeted a hole in Adobe Reader and Acrobat that victims can trigger by opening a malicious .pdf file distributed as an e-mail attachment.

Reader 9.1 and Acrobat 9.1 fix the hole; updates for the Windows, Macintosh, and Unix versions of the software are available. Adobe also released updates for those stuck with older versions of the software—Acrobat and Reader version 8.1.4 and 7.1.1 contain the fix. Click the usual *Help*•*Check for Updates*, or download from find.pcworld.com/62748.

Foxit Reader, an alternative program for handling .pdf files, has its own vulnerabilities to malicious files. Version 3 users can pick up the patched Build 1506, and those on version 2.3 can get Build 3902, by clicking *Help*•*Check for Updates Now*, or by going to find.pcworld.com/62749.



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PRIVACY WATCH ERIK LARKIN

E-Mail Crooks Target Webmail Accounts

IMAGINE HAVING TO explain an e-mail message that asks your friends for money—a message sent from your Webmail account. (Webmail refers to any e-mail service you use via a Web browser rather than through an e-mail client.) That's exactly what's happening: Scammers are breaking into such accounts and, from those addresses, sending e-mail messages to the victims' entire contact list. The messages often tout a Web site (such as an e-commerce site), or even ask for money directly.

It's a new, dastardly twist on an old scam. Crooks have long used harvested addresses in the 'From:' field on junk e-mail to make messages look realistic. But because antispam measures have been getting better at blocking such spoofed spam, the bad guys are now breaking in and sending e-mail from actual accounts.

Maureen Arnold, a former CPA in Apache Junction, Arizona, was hit by such an attack. When she checked her MSN mail one day, she found several warnings about undeliverable messages sent from her account that she hadn't written, along with messages in her Sent box. The scam e-mail—touting a site selling electronic products—went out to her family and friends. Similar attacks have asked recipients to wire money to a particular account; some have even deleted an account's contact list afterward.

The attacks underscore an oft-ignored fact: Webmail accounts are a major target because they have value. The Anti-Phishing Working Group's latest report (find.pcworld.com/62742) says the most common types of log-ins stolen by keylogger malware are for financial Web sites, e-commerce sites, and Webmail.

A wicked e-mail scheme uses your Webmail address—and your contact list—for scams.

In addition to hijacking an e-mail account to send out messages, crooks can often glean information that helps them break into a victim's financial accounts.

So how do you keep your valuable Webmail account safe? The first step, of course, is to keep your PC clean of malware. But that isn't a complete solution: Maureen Arnold checked her PC with mul-



multiple security scanners after she discovered the break-in, and found nothing.

Another important step is to assume that any public or borrowed computer that you've used to check your Webmail account was infected with a keylogger,

and that your account log-in was stolen. Change your password as soon as you can on a trusted, secure computer.

Web security expert Jeremiah Grossman of WhiteHat Security identifies another point of entry: Crooks often lift Webmail account details after breaking into other sites. Many sites require your e-mail address for logging in, and many people use the same password, as well, for their log-ins to different sites.

Take two steps: First, use a unique password for your Webmail account. Free browser tools such as Password Hash (find.pcworld.com/62753) can consolidate passwords. Second, when signing up for new accounts, use a "disposable" e-mail address—something AddressGuard (find.pcworld.com/62751), a feature in the premium Yahoo Mail Plus service (\$20 per year), offers. Anonymizer's Nym service works with any e-mail account (find.pcworld.com/62752, \$20 per year). ●

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Reviews & Rankings

Top 10 Unlocked Phones

Buying an unlocked phone has numerous advantages. Find the right handset for your needs here.

PCW Test Center IN THE MARKET for a new cell phone, but unimpressed with the models your GSM carrier offers? Then consider buying an unlocked phone—a GSM phone not tied to a carrier. Such GSM phones may cost a bit more up front, but they can save you a bundle in the long run. Unlocked phones don't work on CDMA-based networks, like those operated by Sprint and Verizon, so, effectively, you must use AT&T Wireless or T-Mobile in the United States. All GSM phones have a small, swappable card, called a SIM (Subscriber Identity Module). If you have an unlocked phone, you can remove the SIM and insert it into another unlocked phone without losing your contacts or your subscriber data.



RIM'S BLACKBERRY BOLD takes first place on our chart.

Going unlocked has a number of advantages. You can switch between GSM carriers without having to buy a new handset—a boon if your carrier suddenly elects to raise its rates or change its coverage. You also have freedom in your choice of cell phone. Say you want a multimedia and business powerhouse such as the Sony Ericsson Xperia X1, or

a hip fashion phone like the LG Prada II: Both are sold unlocked (and are not offered by any U.S. carrier). If you're a world traveler, you can scoop up an unlocked phone that supports quad-band GSM (850, 900, 1800, and 1900 bands) and that will work in Europe, much of Asia, and Africa.

Perhaps the biggest drawback to unlocked phones is cost. Some of those in our Top 10 have manufacturer-suggested prices around \$800; some third-party retailers may offer prices that are lower but still higher than for a carrier-subsidized phone. Even so, unlocked units come at less of a premium now: The Nokia E63, for one, is close in price to some smartphones from carriers.

All the phones in our chart are quad-band GSM (the Samsung Innov8 doesn't support 3G bands for data). High-quality-camera phones and business and multimedia units are on our list too.

RIM BlackBerry Bold T-Mobile customers can experience the speed and sophistication of Research in Motion's BlackBerry Bold 9000 (\$400, unlocked), if they buy it from third-party vendors (AT&T sells the handset at a subsidized price). The Bold boasts a sleek design, a sharp display, high-speed connectivity, and



NOKIA'S E71 OFFERS a sleek design and lots of features.



52 HP PAVILION dv2



52 HP PAVILION dv3



56 SONY CYBER-SHOT
DSC-G3



57 NINTENDO DSi

the corporate e-mail and infrastructure-friendly characteristics the BlackBerry platform is known for. But it fails to impress in other areas, particularly its call quality (it produced a background hiss in calls to other cell phones) and its camera's image quality (partly owing to a poor flash). The Bold lacks a touchscreen, though that feature appears on the BlackBerry Storm (find.pcworld.com/62859). It does have a terrific keyboard and superior battery life. (In our tests, its battery provided 7 hours, 56 minutes of talk time.)

The phone supports 3G, tri-band HSDPA, and quad-band EDGE data connectivity. On AT&T's 3G network, Web pages loaded quickly.

Nokia E71

Nokia's first 3G phone with a full QWERTY keyboard, the \$422 E71 is an all-around improvement on its predecessor, the E61. The unit has not only a sleeker and more



THE NOKIA N85 has a great OLED display, but no QWERTY keyboard.

sophisticated design but also a multitude of features for business and personal use. It's remarkably slim at 0.4 inch thick and weighs a light 4.4 ounces.

In tests, the call quality on my end was very good, but some callers reported that my voice sounded tinny.

In the PC World Test Center's trials, the battery lasted 4 hours, 48 minutes—on a par with the battery life of other 3G smartphones.

Nokia has made the sometimes confusing Symbian S60 platform more user-friendly by including customizable shortcut keys and a standby screen. You can access your home page, calendar, address book, and e-mail from the keyboard's dedicated shortcut keys.

The Web browser loads quickly, and pages look sharp on the 2.3-inch screen.

Setting up personal e-mail

is a snap, but business e-mail requires your IT department's help.

The Nokia Maps 2.0 feature offers turn-by-turn pedestrian and car navigation, voice guidance, satellite maps, and multimedia city guides. The phone's 3.2-megapixel camera was a bit disappointing—pictures came out grainy and dark.

Nokia N85

The Nokia N85 (\$370, unlocked) comes with a gorgeous OLED display that suits the handset's excellent multimedia and camera features. You won't find a touchscreen or QWERTY keyboard, however, so navigation and messaging can be a pain. The plastic chassis feels a bit cheap and flimsy, but the N85 provided very good call quality when we used it over AT&T's 3G network. Voices sounded clear, with no static or hiss.

Like other N-series phones, the N85 has a dual-slider design: Sliding the OLED screen up reveals a numeric keypad, while sliding it



THE STYLISH LG Prada II has a QWERTY keyboard—but no GPS.

MORE ONLINE

For more news and in-depth reviews of cell phones, visit PCW's Phones Product Center at find.pcworld.com/62838.

down switches the display and button orientation to horizontal and uncovers four multimedia-playback buttons. In addition, the N85 is chock-full of great multimedia features, as its N-series siblings are. It supports numerous video formats, and the music player is equally impressive. The N85 also has an FM radio with a built-in transmitter.

The N85 has a 5-megapixel camera but only 78MB of internal memory; however, you get an 8GB microSD card in the box—not bad.

The handset comes preloaded with a variety of apps, many of them for productivity, and it supports SMTP and POP3 e-mail accounts, as well as MMS and SMS messaging.

I was disappointed with how difficult it was to navigate through content and messages. The N85 has neither a touchscreen nor a hardware QWERTY keyboard; navigation is via a five-way pad and softkeys.

LG Prada II

The LG Prada II (\$500, unlocked) offers a physical QWERTY keyboard, 3G network capability, and Wi-Fi support. It's packed with impressive specs, but it lacks a vital (and increasingly common) feature: GPS.

A 3-inch touchscreen occupies most of the face. The sturdy slide-out keyboard has backlit keys I found comfortable to type on, and the Prada II's responsive multitouch interface was a pleasure to use.

Like the Apple iPhone 3G, the Prada II allows you to



THE NOKIA E63 provides features for business travelers.

pinch to zoom in on a Web page, though the multitouch capability is limited to the browser, the image gallery, and the document viewer. Another nice addition in this handset is an accelerometer, which helped produce prompt, smooth transitions.

Setting up a POP3 or IMAP e-mail account is a breeze. The size limit for e-mail on the Prada II is 1MB, so you can't e-mail most of the pictures you take with its 5-megapixel camera. But the camera isn't all that impressive anyway (though its colors were good, some of my pictures looked fuzzy).

Though browsing the Web is simple, I had to pinch multiple times to zoom a page. Connectivity could be slow, too, over both AT&T's 3G network and Wi-Fi.

As fashion phones go, the Prada II has a great feature set and a user-friendly interface, but the lack of GPS is disappointing. The Sony Ericsson Xperia X1 is a more business-focused phone.

Nokia E63

The E63 lacks a GPS receiver and preinstalled games, and it has a downgraded camera from the E71's. But it has the same excellent e-mail and messaging capabilities as other members of the Nokia E-series, and it sells for just \$280 unlocked. The E63's 2.4-inch 320-by-240-pixel QVGA display occupies about half of the phone's landscape. The handset lacks a volume rocker; instead you must use the directional pad to adjust the volume during calls and media playback. Accessories are skimpy—you get no data cable or microSD Card in the package even though the unit has a slot for one.

Call quality (over AT&T's 3G network) sounded good for the most part. Setting up personal e-mail is a snap, but business e-mail requires IT-department assistance.

Web pages loaded quickly over both AT&T's 3G network and the phone's integrated Wi-Fi. Video quality was surprisingly good, but the 2-megapixel camera's photos were dark and grainy.

The E63 isn't suited for everyone. Consumers seek-

ing strong multimedia features are better off with a phone like the Nokia N96 (find.pcworld.com/62858).

Sony Ericsson Xperia X1

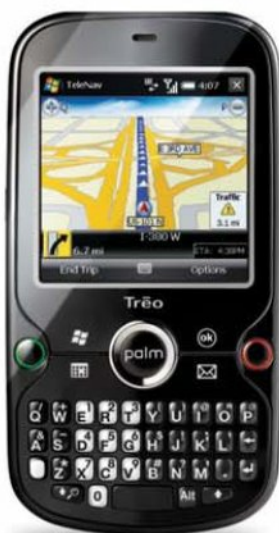
Sony Ericsson's first Windows Mobile device, the Xperia X1, garnered a lot of buzz last year for its slick and customizable software interface and stylish design. However, although the X1 is feature-packed, well designed, and an excellent performer, it doesn't warrant its sky-high price of \$800 (unlocked)—it can't compete with subsidized smartphones such as the T-Mobile G1 or Apple iPhone 3G, which offer the same features if not more.

Still, its assets include a brilliant 3-inch VGA touchscreen that takes up most of the face. It also offers apps like the Microsoft Mobile Office Suite, Internet Explorer, and Opera Mobile. I browsed the Web on AT&T's 3G network and via the integrated Wi-Fi; the speed was fine over both connections.

Call quality, at both ends, was consistently good over AT&T's 3G network.



SONY ERICSSON'S Xperia X1 is also business-oriented but pricey.



PALM'S TREO PRO offers Windows Mobile, Wi-Fi, and GPS.

My biggest issue with the X1's Windows Mobile 6.1 interface was its sluggishness. The phone never froze up or crashed, however.

The X1's multimedia player supports many video and music formats and has an FM radio, a streaming media player, and podcast support.

The 3.2-megapixel camera has a few advanced features (autofocus) and good image quality. But I expected better specs for the price.

Palm Treo Pro

This smartphone will please Windows Mobile fans with its sleek design and business-friendly features. Sprint customers seeking more multimedia might want to hold off, though, since the much-anticipated Palm Pre is expected to launch soon (find.pcworld.com/62857).

The unlocked Treo Pro (\$549) has essentially the same specs as Sprint's version: It runs on Windows Mobile Professional 6.1 and offers Wi-Fi connectivity and GPS. A quad-band world GSM phone, it has a trans-

flective touchscreen and a physical QWERTY keyboard.

At 1.7 inches, the display is large enough for viewing a long message comfortably, but with video it felt a bit cramped. The keyboard takes some design cues from the Palm Centro, as the keys have a plastic veneer that prevents finger slippage. I found the keyboard's keys a bit too small for my liking; I kept pressing the wrong one accidentally. Typing out long messages could be somewhat arduous—not ideal for a business-oriented phone.

Call quality over AT&T's 3G network was good, though a hiss occurred during most of my calls.

The Treo Pro supports Microsoft's Direct Push Technology for real-time e-mail delivery and automatic syncing with Outlook. You can also set up POP3 and IMAP e-mail accounts.

The handset comes with Windows Media Player 10 Mobile. The 2-megapixel camera is mediocre.



THE HTC TOUCH CRUISE comes with an attractive user interface.

HTC Touch Cruise

The HTC Touch Cruise (\$550, unlocked) has both an eye-catching look and a beautifully designed touch interface, but like the other HTC phones we've tested, the Cruise suffers from sluggish performance—a common problem with Windows Mobile touchscreen phones.

The Touch Cruise is thin and lightweight, tipping the scales at a featherlight 3.6

6.1 operating system.

HTC preinstalls both Internet Explorer Mobile and Opera Mobile, plus Outlook, Microsoft Office, and Adobe Acrobat capabilities.

HTC S740

The HTC S740 (\$550, unlocked) holds appeal for those who prefer a physical keyboard to a touchscreen. Slim and eye-catching, it has a clean interface, and the



THE HTC S740 carries one of the best hardware keyboards.

ounces. A generous 2.8-inch touchscreen with a gorgeous, bright 240-by-320-pixel resolution dominates the face of the phone. Sitting below the display is a cluster of navigational buttons, consisting of four flush buttons and a four-way navigational pad encircled by a navi-wheel. The navi-wheel moves smoothly, and its rubber coating makes it comfortable to use.

Over T-Mobile's 3G network, call quality was disappointing, due to an echo on my end. But called parties had no problem.

The Touch Cruise sports the improved TouchFLO 3D interface, an HTC overlay that runs atop the Windows

keyboard is spacious, making it one of the best Windows Mobile devices I've used. But call quality and camera quality were both disappointing.

The S740 runs Windows Mobile 6.1 Standard. Navigating the interface was straightforward. Standard Windows Mobile apps, including Microsoft Office Mobile and Windows Media Player, are preloaded on the S740. I found the phone responsive and didn't experience much sluggishness, even while multitasking. Also, the S740's keyboard has some useful shortcut keys for SMS/MMS, e-mail, and Internet Explorer.

Surfing the Web was ade-

quate in the phone's default browser, Internet Explorer Mobile. The S740 supports POP3 and IMAP e-mail as well as Exchange push e-mail. The 3.2-megapixel camera is decent.

Samsung Innov8

The Samsung Innov8 (\$930, unlocked) innovates in several ways—most notably with its 8-megapixel camera, which has advanced photo editing capabilities and delivers terrific image quality. And the phone has versatile



THE SAMSUNG INNOV8 delivers great, 8-megapixel photos.

multimedia features as well as an easy-to-use interface.

The Innov8 has 16GB of on-board storage. Video quality was good, though I noticed some pixelation.

The S60 Web browser is easy to use, and pages loaded quickly and correctly. In the States, Web access is only via Wi-Fi (the unit supports the European 3G bands for data).

On T-Mobile's 3G network, I occasionally heard a background hiss just loud enough to be distracting.

—Ginny Mies

PC WORLD TOP 10 UNLOCKED CELL PHONES

MODEL	PCWRating	Performance	Features and specifications
1 BEST BUY RIM BlackBerry Bold (unlocked) \$400 find.pcworld.com/61894	82 VERY GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 7:56 Battery life score: Very Good Overall design: Very Good 	<ul style="list-style-type: none"> Form factor: Candy bar Weight: 4.8 ounces Camera resolution: 2.0 megapixels
BOTTOM LINE: The BlackBerry Bold has a stunning design, but its call quality and camera could be better.			
2 Nokia E71 \$422 find.pcworld.com/61831	80 VERY GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 4:48 Battery life score: Poor Overall design: Very Good 	<ul style="list-style-type: none"> Form factor: Candy bar Weight: 4.4 ounces Camera resolution: 3.2 megapixels
BOTTOM LINE: The Nokia E71's sleek design and multitude of useful features make it ideal for both personal and business use.			
3 Nokia N85 \$370 find.pcworld.com/62844	80 VERY GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 4:40 Battery life score: Poor Overall design: Very Good 	<ul style="list-style-type: none"> Form factor: Slide Weight: 4.5 ounces Camera resolution: 5.0 megapixels
BOTTOM LINE: The N85 has great multimedia features; navigation can be tricky with no QWERTY keyboard or touchscreen.			
4 LG Prada II \$500 find.pcworld.com/62845	79 GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 8:00 Battery life score: Very Good Overall design: Very Good 	<ul style="list-style-type: none"> Form factor: Slide Weight: 4.5 ounces Camera resolution: 5.0 megapixels
BOTTOM LINE: Though the stylish LG Prada II is a significant upgrade from its predecessor, it still lacks some key features.			
5 Nokia E63 \$280 find.pcworld.com/62846	78 GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 4:46 Battery life score: Poor Overall design: Good 	<ul style="list-style-type: none"> Form factor: Candy bar Weight: 4.4 ounces Camera resolution: 2.0 megapixels
BOTTOM LINE: The E63 has excellent business capabilities, but skimps on multimedia and has no GPS function.			
6 Sony Ericsson Xperia X1 \$800 find.pcworld.com/62847	76 GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 7:56 Battery life score: Very Good Overall design: Very Good 	<ul style="list-style-type: none"> Form factor: Candy bar Weight: 5.6 ounces Camera resolution: 3.2 megapixels
BOTTOM LINE: Though the Xperia X1 is stylish and feature-packed, it can't compete with some less-expensive smartphones.			
7 Palm Treo Pro \$549 find.pcworld.com/61728	74 GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 4:25 Battery life score: Poor Overall design: Very Good 	<ul style="list-style-type: none"> Form factor: Candy bar Weight: 4.7 ounces Camera resolution: 2.0 megapixels
BOTTOM LINE: Palm's sleek and well-connected Windows Mobile Treo is business-oriented but a little pricey.			
8 HTC Touch Cruise \$550 find.pcworld.com/62848	73 GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 8:00 Battery life score: Very Good Overall design: Very Good 	<ul style="list-style-type: none"> Form factor: Candy bar Weight: 3.8 ounces Camera resolution: 3.2 megapixels
BOTTOM LINE: The HTC Touch Cruise has a featherlight design and an attractive user interface; its performance can be slow.			
9 HTC S740 \$550 find.pcworld.com/62849	72 GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 8:00 Battery life score: Very Good Overall design: Good 	<ul style="list-style-type: none"> Form factor: Slide Weight: 4.9 ounces Camera resolution: 3.2 megapixels
BOTTOM LINE: The HTC S740 has one of the best hardware keyboards we've seen, but uneven call quality holds it back.			
10 Samsung Innov8 \$930 find.pcworld.com/62850	71 GOOD	<ul style="list-style-type: none"> Battery life (hours:minutes): 8:00 Battery life score: Very Good Overall design: Good 	<ul style="list-style-type: none"> Form factor: Slide Weight: 4.8 ounces Camera resolution: 8.0 megapixels
BOTTOM LINE: The Samsung Innov8 delivers high-caliber photos; however, its call quality can be unreliable.			
CHART NOTE: Prices and ratings are as of 4/9/09.			

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(3) 2MB Cache, 1.33GHz (FSB)			
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New Blu-ray Players Pack in Features, Cost Less

PCW Test Center THE LATEST BLU-RAY Disc players deliver a lot for the money. We recently tested models from Panasonic, Philips, and Samsung. All offer BD-Live support, and two stream Internet content. We found much to like in these new models, along with some missteps.

Panasonic DMP-BD60K

Panasonic's DMP-BD60K costs about \$50 more than other top-tier 2009 Blu-ray Disc players, but it combines terrific design, an array of features, and stellar images.

In our tests, the Panasonic handled everything smoothly, from bright colors in animations to subtle shades of gray in black-and-white scenes. The player even upscaled regular DVDs reasonably well.

The DMP-BD60K is shallow, sleek, attractive to look at, and quite compact. The Power and Eject buttons are large, well placed, and easy to hit when you need them.

The remote isn't backlit, but its playback buttons are blue and thus stand out.

This player needed just over a minute of prep time before it began playing a disc. Once the disc was going, skipping chapters produced a noticeable but unobjectionable lag. Pausing seemed immediate.

87

VERY GOOD

DMP-BD60K | Panasonic

Superb image quality and intelligent design justify its higher price.

Street: \$300

find.pcworld.com/62830



COMPACT AND FEATURE-RICH, the latest Blu-ray Disc players have a lot to offer video enthusiasts. Shown top to bottom: the Samsung BD-P1600, the Panasonic DMP-BD60K, and the Philips BDP5010.

On all counts, the Panasonic DMP-BD60K ranks as one of the best Blu-ray players you can buy today.

Philips BDP5010

The Philips BDP5010 is fairly typical of a brand-name Blu-ray player. But you can find better models at its price.

In our image-quality tests, the BDP5010 often scored just below our reference Sony PlayStation 3. It did a poor job of upconverting standard DVDs, yielding images that looked soft and lost detail. Even Blu-ray discs were disappointing for a high-definition rendering.

The setup menu has a clean, legible design, but some of its on-screen explanations are hardly models of clarity.

74

GOOD

BDP5010 | Philips

Middle-of-the-road player is hobbled by mediocre image quality.

Street: \$250

find.pcworld.com/62833

On the remote, buttons you're likely to use often are sensibly placed but small, making them difficult to press. The remote is neither backlit nor programmable.

The BDP5010 took a leisurely 77 seconds to start playing a disc. Once a film began playing, it paused without discernible lag, and it delayed only slightly when skipping chapters.

The Philips BDP5010 is an okay player with a moderate price—but it's no bargain.

Samsung BD-P1600

Though it delivers handsome Blu-ray playback and a host of multimedia goodies, the Samsung BD-P1600 makes some avoidable mistakes.

When used to play Blu-ray

discs, it produced very good high-def images, regularly besting our reference PlayStation 3 by a slim margin.

The BD-P1600 fared less well in upconverting regular DVDs to 1080p. Images were softer and less detailed on it than on the PS3.

The unit has a USB 2.0 port for accepting a 1GB flash drive, playing MP3 music, and displaying JPEG photos.

Regrettably, Samsung put a big flap over the front panel of the player. The flap swings open when you eject the tray—and poses a scrape hazard until you close it.

The BD-P1600 gets a disc up and running in just 42 seconds. You have to wait briefly when skipping chapters, but not when pausing.

The programmable remote isn't backlit, but a few essential buttons glow in the dark.

The Samsung BD-P1600 produces very good images swiftly (by Blu-ray standards). But upscaling problems and a few unwise design decisions keep it from greatness.

—Lincoln Spector

81

VERY GOOD

BD-P1600 | Samsung

A solid player for the price, despite a few bone-headed design choices.

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Bluetooth Headsets Let You Roam in Stereo

PCW Test Center LOOKING FOR a luxurious set of wireless stereo headphones that fit your ears perfectly, provide intuitive controls and astounding audio quality, and permit seamless switching between music and calls? Dream on. Our tests of the latest crop of products show that stereo Bluetooth headsets have lots of room for improvement.

Wireless headsets of this kind generally come in two styles: earbud-oriented units, in which a narrow-gauge wire connects the two buds, and headphone-style units, in which a band or stiffer cord connects the earpieces. All of the units on our chart

are worn with the cord or band behind the head.

I integrated each of these stereo headphones into my daily life, testing each for its audio quality, range performance, comfort and fit, layout and button design, and control intuitiveness. Every

product excelled in one or two areas, but not in all. For example, the \$80 LG Electronics HBS-250 earpads felt cushy on my ears, but the small controls were tricky to access. And though I greatly enjoyed the rich music that played through Motorola's

MotoRokr S9-HD headphones (\$130), the device's headband and earpiece design felt awkward after a while. Even the superlight, top-rated Sony Ericsson HBH-IS800 headset came up short—it lacks volume controls and track skipping despite costing a hefty \$200.

Before you buy, make sure that the stereo Bluetooth headphones you're considering are compatible with your Bluetooth cell phone. Your phone must support the Advanced Audio Distribution Profile (A2DP) and the Audio/Video Remote Control Profile (AVRCP). The A2DP Bluetooth profile enables your music source and the Bluetooth headset to stream music wirelessly in stereo; the AVRCP Bluetooth profile enables your Bluetooth headset to wirelessly control your music source. Most stereo Bluetooth headphones also support the Handsfree and Headset profiles, permitting you to make and receive phone calls with your stereo Bluetooth headphones.

—Aoife M. McEvoy




STEREO BLUETOOTH HEADSETS from (left to right) Altec Lansing, Motorola, Samsung, and Sony Ericsson.

PC WORLD TOP 5 STEREO BLUETOOTH HEADSETS

MODEL	PCW Rating	Performance	Features and specifications
1 BEST BUY Sony Ericsson Wireless Stereo Headphones HBH-IS800 \$200 find.pcworld.com/62724	81 VERY GOOD	<ul style="list-style-type: none"> • Music quality/call quality: Very Good/Very Good • Comfort: Good • Style: Superior 	<ul style="list-style-type: none"> • 0.45 ounce • Music/talk/standby time: 4 hours/5 hours/270 hours • No music player adapter
BOTTOM LINE: Tiny, ultradainty stereo Bluetooth headphones are expensive but deliver very good sound for tunes and calls.			
2 LG Electronics HBS-250 \$80 find.pcworld.com/62725	79 GOOD	<ul style="list-style-type: none"> • Music quality/call quality: Good/Fair • Comfort: Very Good • Style: Good 	<ul style="list-style-type: none"> • 1.4 ounces • Music/talk/standby time: 10 hours/10 hours/320+ hours • No music player adapter
BOTTOM LINE: The earpads—no earbuds—on LG's headphones feel comfy and relatively secure, and music sounds good, too.			
3 Motorola MotoRokr S9-HD Wireless Stereo Headphones \$120 find.pcworld.com/62726	78 GOOD	<ul style="list-style-type: none"> • Music quality/call quality: Superior/Good • Comfort: Fair • Style: Fair 	<ul style="list-style-type: none"> • Less than 1 ounce • Music/talk/standby time: 6 hours/7 hours/6 days • Music player adapter
BOTTOM LINE: Motorola's S9-HD bundle includes a Bluetooth adapter for your iPod. Music quality was superb in our tests.			
4 Altec Lansing BackBeat 906 \$130 find.pcworld.com/62727	77 GOOD	<ul style="list-style-type: none"> • Music quality/call quality: Good/Good • Comfort: Fair • Style: Fair 	<ul style="list-style-type: none"> • 1.2 ounces • Music/talk/standby time: 7 hours/7 hours/7 days • Music player adapter
BOTTOM LINE: If your music player lacks Bluetooth support, use the BackBeat 906's handy dongle for wire-free listening.			
5 Samsung Stereo Headset SBH700 \$100 find.pcworld.com/62728	69 FAIR?	<ul style="list-style-type: none"> • Music quality/call quality: Good/Good • Comfort: Poor • Style: Fair 	<ul style="list-style-type: none"> • 1.35 ounces • Music/talk/standby time: 7 hours/9 hours/140 hours • No music player adapter
BOTTOM LINE: You'll get decent audio quality, but these headphones lag behind the competition in comfort and usability.			
CHART NOTES: Prices and ratings are as of 3/22/09. Music-time, talk-time, and standby-time figures are manufacturer-reported maximums.			

MORE ONLINE Visit find.pcworld.com/62828 for in-depth reviews, full test results, and detailed specs for all stereo Bluetooth headsets.



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New HP Laptop Models: Loaded Versus Light

HEWLETT-PACKARD'S

PCW Test Center

Pavilion dv2 and dv3 aren't as similar as their names might suggest. The dv3 is a loaded, all-purpose laptop, while the dv2 is a lean-and-mean ultraportable/netbook hybrid. The price difference between the two is only about \$140, though, so don't let money affect your choice between ultrathin-and-light style and and do-everything flexibility.

HP Pavilion dv2

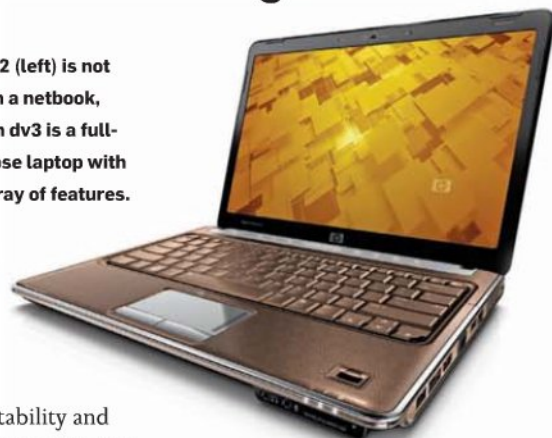
The Pavilion dv2 defies simple categorization. Its combination of processor, price (\$749), and small size splits the difference between a netbook and a full-fledged ultraportable model. It's also the first laptop we've seen that uses AMD's inexpensive Athlon Neo 1.6GHz MV-40 processor (formerly code-named Yukon).

The dv2 carries a 12.1-inch display, a 320GB 5400-rpm SATA hard drive, 4GB of RAM, and a discrete ATI Radeon HD 3410 GPU with 512MB of video memory, yet it weighs just 3.8 pounds.

Video streamed from Hulu looked crisp and clear. In addition, I tried copying a high-definition recording of a half-hour (3.36GB) TV show from a Media Center



THE PAVILION dv2 (left) is not much bigger than a netbook, while the Pavilion dv3 is a full-fledged all-purpose laptop with an impressive array of features.



PC and playing it back on the dv2 at full screen. The show took a few seconds to get up and running, but it looked great once it kicked into gear.

The dv2 uses a 92-percent-of-full-size keyboard, with comfortably flat, wide keys. Still, HP could have made the keys—especially the function keys—even bigger.

Meanwhile, the smooth, responsive, mirrored touchpad allows uncramped desktop navigation and comes with long, wide, well-placed selection buttons.

The Pavilion dv2's 1280-by-800-pixel, LED-backlit widescreen display looks good. Its glossy coating makes images pop but also invites glare in sunlight.

The 11.5-by-9.45-by-1.29-inch unit has HDMI and VGA video outputs, three USB 2.0 ports, a PC Express Card slot, a flash-card reader, ethernet, and 802.11n Wi-Fi.

For ultraportability and reasonable performance (45 on WorldBench 6), the HP Pavilion dv2 isn't a bad bet.

HP Pavilion dv3

The \$888 Pavilion dv3 laptop ships with AMD's 2.3GHz Turion X2 Ultra Dual-Core Mobile ZM-84 CPU plus 4GB of RAM. It earned a mark of 68 on WorldBench 6, running 64-bit Windows Vista Home Premium.

The laptop showed good stamina, lasting an impressive 5 hours, 24 minutes on a single battery charge. Our review unit's 9-cell battery created a wedge underneath that propped the notebook at an ergonomic angle.

Like the dv2, the dv3 can support a resolution of 1280 by 800 pixels; and it, too, has a glossy coating that enlivens images and invites sunlight-induced glare.

Features include HDMI and VGA video outputs, two USB 2.0 ports, a hybrid USB and eSATA port (perfect for high-speed data jockeys), a PC Express Card slot, a flash-card reader, ethernet, Bluetooth, and Wi-Fi 802.11a/b/g/n on board. Yet it has a fairly slim 12.2-by-9-by-1-inch profile and weighs 3.8 pounds.

The keyboard is great to type on, thanks to a special coating that helped my fingers feel as if they were dancing over the supple keys. You get touch-inductive shortcut buttons, too. But as on the dv2, the diminutive function keys are barely there.

The dv3's touchpad is quite another story. In my hands-on testing, it kept trying to second-guess my moves, sorely tempting me to dig into the drivers and try to disable them or shut off the built-in mouse altogether.

The front-firing speakers from Altec-Lansing sounded better than what you get from many other low-cost laptops, but hardly great.

Though the Pavilion dv3's performance seems lackluster on paper, I didn't experience any major holdups in everyday use. Instead, what got on my nerves was the laptop's seemingly possessed touchpad. The dv3 gets enough things right to make it an option worth considering, but I strongly recommend that you go to the store and lay hands on it yourself before buying.

—Darren Gladstone

77

GOOD

Pavilion dv2 | Hewlett-Packard

Part ultraportable, part netbook has fair power for a moderate price.

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82

VERY GOOD

Pavilion dv3 | Hewlett-Packard

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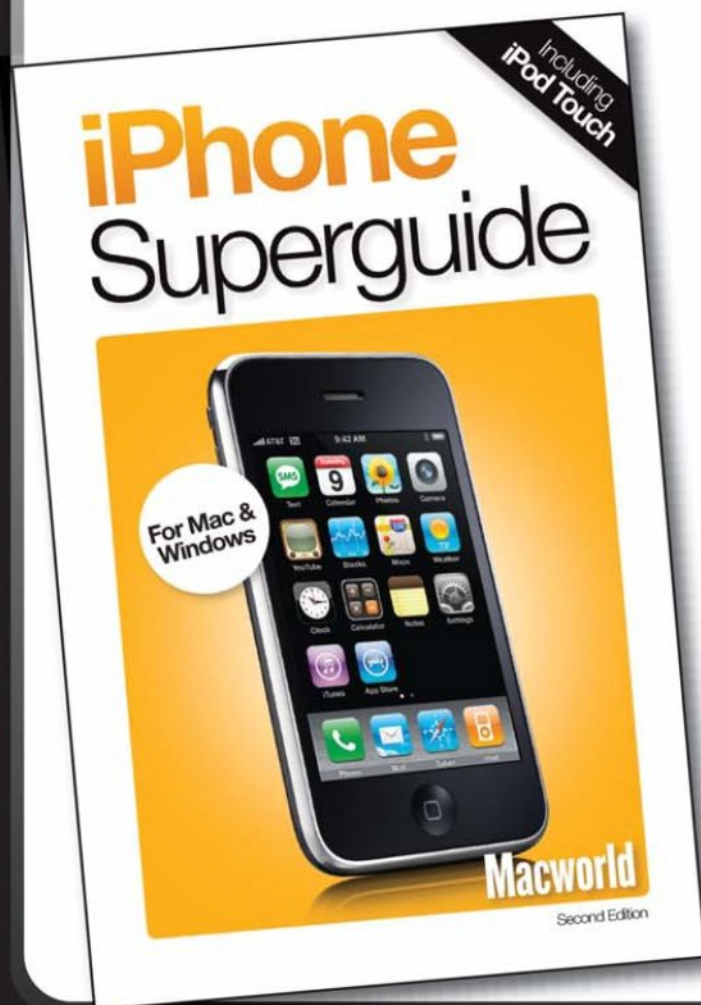
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Buying Guide: Make Movies With a Digital Camcorder

DIGITAL CAMCORDERS make shooting and editing video a snap. And you can output movies to tape or DVD, or post them online.

MiniDV tape models are growing scarce, but (for now) they have the best video quality, allow easy editing, and usually cost less than other types. DVD and hard-drive models are more common. You can pop a Mini-DVD disc into a DVD player; but if your laptop has a slot-loading drive, these smaller discs might not fit. With a hard-drive or flash-storage model, you'll need plenty of PC storage space to offload video. Consider a camcorder that accepts SD Card or SDHC; you can then view your video easily on HDTVs, digital photo frames, and entertainment components with SD/SDHC slots.

High-Def or Standard?

Though high-definition video is gorgeous, HD camcorders are pricey, and not all editing software accepts HD footage. Codecs are another issue: Storage-based HD models often use AVCHD (Advanced Video Codec High Definition), which doesn't work with all editing apps. HD miniDV units normally use the more-compatible HDV. Both formats require a powerful PC to decode files, and take hours to render. Also,

even if your editing program handles HD, it might burn only a standard-def disc.

Key Features

Screen: An LCD lets you more easily see your subject and preview footage. Some LCDs don't work well in bright sunlight, however, and a larger screen will take a toll on battery life—so most camcorders also have a view-

PANASONIC'S HIGH-DEF HDC-TM300 has a widescreen LCD for viewing footage.



finder, giving you an option.

Widescreen shooting: Some models can shoot in the 16:9 aspect ratio (which HDTVs use), even for standard-def video. In such camcorders, the CCD may have a native 16:9 orientation or a traditional 4:3 orientation; in the latter case the camcorder uses only a portion of the CCD for widescreen video.

Lens: All camcorders have a zoom lens, but vendors don't always distinguish between optical and digital zoom. The maximum *optical* zoom is the highest zoom the camcorder can achieve by moving its lens elements. Generally, a 10X optical zoom is more than adequate. A *digital* zoom magnifies after the optical zoom is fully extended; the

camcorder enlarges part of the image to fill the screen. This method leads to grainy and pixelated footage.

Image stabilization: Worried about jittery video caused by shaky hands? With *optical* stabilization, the lens mechanism moves to compensate for external movement. With *electronic* stabilization, the captured image "floats" on the CCD, and internal cir-

camcorder we've tested has provided the same amount of control or the same image quality as a still camera.

Low-light modes: Many camcorders can film in low light, whether with the help of an infrared light, a slow-shutter mode that makes the most of ambient lighting, or illumination from one or more built-in LEDs. Some offer all three. These modes can be helpful, but the video won't be as good as footage taken in well-lit settings.

Ports: Most MiniDV camcorders have FireWire for sending video to a PC; some models will transfer video via USB 2.0, as well. Almost all models have S-Video-out and/or composite-out for viewing footage on a TV; but some also have S-Video-in and composite-in ports, allowing you to record from other sources such as older analog camcorders.

cuitry interprets the video. Optical stabilization usually provides better results.

Batteries: Most camcorders should be able to record for at least an hour with the included battery. Higher-capacity batteries typically cost from \$50 to \$100.

Microphone: Front-mounted mics tend to produce better sound than those positioned on top. Some camcorders have zoom mics that emphasize the subject's voice when the zoom lens is used, and some models let you plug in an external microphone.

Still photography: Many camcorders can save still images to memory card or tape. Some can save images at the same resolution as a 5-megapixel camera. But no

A Note About Weight

While a big LCD and lots of extra features are worth a higher price, ease of use and overall size are also critical.

Weight may be an important enough concern to justify trade-offs. A camcorder's weight affects whether you carry it along on outings. But weight also affects the price: Small models (consumer ones, at least) often cost more. And frequently a small camcorder has a less-capable lens, fewer features, and harder-to-use controls. (Web-friendly pocket camcorders, however, are a growing niche; see page 81.)

—PC World Staff

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For the latest camcorder news, reviews, and how-tos, visit our Camcorders Product Center at find.pcworld.com/62827.

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Sony's DSC-G3 Offers Web Browsing and Wi-Fi

PCW Test Center THE 10-MEGAPIXEL Sony Cyber-shot DSC-G3 (\$500) is the first camera with a Web browser, quick Wi-Fi photo uploads, and 4GB of flash storage (plus a Memory Stick slot).

You can upload shots to Daily Motion, Photobucket,

Picasa, and Shutterfly, as well as post videos to YouTube, via dedicated menu icons. You can access other such sites via the browser, as well; but I found it limited in several ways (its clumsy interface is a big hindrance).

The 3.5-inch touch screen really shines when you enable the camera's slide-show feature. The storage comes in handy if you want your tunes to accompany images.

Other features include face detection, a smile-triggered shutter, and scene-mode options. You can modify the flash's power, too, and select



white balance, ISO, and exposure compensation.

In the PC World Test Center, the DSC-G3 earned an overall image-quality score of Good, with color accuracy and low levels of distortion being its strongest suits. Battery life left much to be desired: It fired off 200 shots on a battery charge, far short of the 400-plus-shot result from many point-and-shoots.

The DSC-G3 also captures

THE FRONT OF the DSC-G3 slides to reveal the flash, focus-assist strobe, and lens.

video, and allows zooming throughout. Videos I made during the day were good, but, as is common with point-and-shoot video, the camera faltered when filming indoors under incandescent and fluorescent lighting.

—Kathleen Cullen

73
GOOD

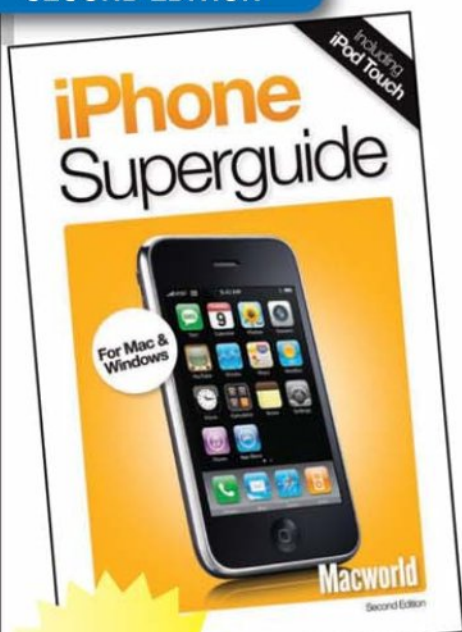
Cyber-shot DSC-G3 | Sony

Web- and Wi-Fi-enabled camera still has some kinks to work out. Street: \$500

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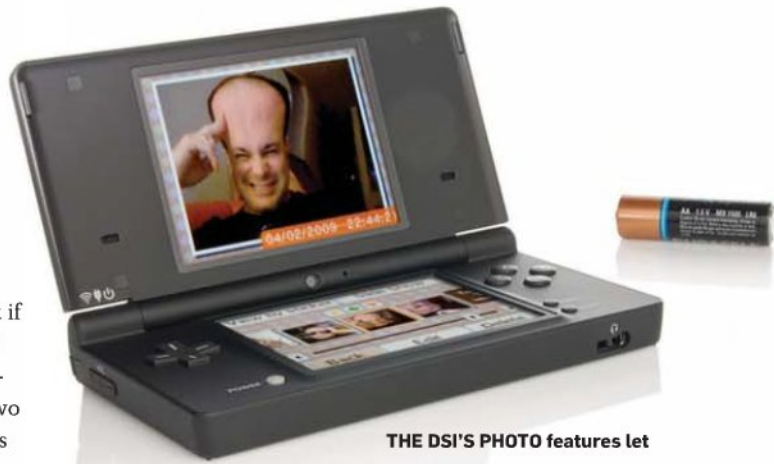
Nintendo Takes the DSi Beyond Video Games

THE \$170 NINTENDO DSi tacks on extras while slimming down. It keeps roughly the same dimensions as the DS Lite while slightly increasing the screen size (to 1.96 by 2.59 inches). Inside is (a meager) 256MB of storage for saving games, plus

support for SDHC cards.

It can play AAC files, but if you're a budding DJ you'll really like the basic recording and mixing features. Two tiny 0.3-megapixel cameras (one facing outward, one pointing at the user) can take pictures, and software lets you add effects and edit images. The cameras do a serviceable job, though the lenses on \$100 cell phones have better resolution.

Nintendo's download store for games, the DSi Shop Channel, is accessible on the device through any wireless Internet connection.



THE DSi'S PHOTO features let you make creative tweaks.

However, games you buy and download are linked to your DSi, not to an account. And should you back up such software to an SD Card, it will work only with that one DSi.

Another drawback is the battery life: Informal testing shows that the DSi can hang on for roughly 4 hours at the highest brightness (almost 3 hours less than the DS Lite

can). And unfortunately, you can kiss backward compatibility good-bye: The Game-Boy Advance slot is gone.

Nintendo is definitely on the right track, but its work on the DSi feels like a series of half-steps. The way I see it, the DSi is one big system update shy of greatness.

—Darren Gladstone



DSi | Nintendo

Svelte game handheld gains media features but loses some battery life. List: \$170

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Reviews

Skype for iPhone Offers Solid VoIP Calling

AT LONG LAST, Skype has made it to the iPhone. And based on my tests, it was, I'm glad to say, worth the wait. Skype for iPhone looks good, is easy to use, and offers excellent voice quality.

Skype for iPhone has features similar to those in the service's other mobile versions. It lets you see when your Skype contacts are online and available; make free Skype-to-Skype calls; use SkypeOut to call landlines and cell phones; send instant messages to Skype contacts; and receive incoming calls via a SkypeIn number. You can't make video calls or conference calls, as you can with the desktop version; but you can, reportedly, accept an incoming conference call (we weren't able to test this feature).

Skype for iPhone requires Wi-Fi to make voice calls. Skype-to-Skype calls were loud and clear, with better quality than that of an average cell phone call. SkypeOut calls to landlines and cell phones weren't quite as sharp, but they were still very good, comparable to a decent cell call. One time I heard a noticeable and distracting echo, but it lasted



SKYPE FOR IPHONE'S interface is clean and straightforward.

less than a minute. The existing SkypeOut rates, which start at 2.1 cents per minute, are the same on the iPhone.

Skype for iPhone is not without flaws, though. It showed one of my contacts as offline, even though he was connected. (His status changed only after he called me.) And the app was occasionally slow to respond to taps on the touchscreen.

You won't find a whole lot of iPhone-only features. You can use your iPhone camera to take a picture for your profile, or you can upload one from your photo roll, but that's about it. Still, if you need a solid mobile VoIP service for your iPhone, I heartily recommend Skype. Sure, rivals have some features that it lacks—such as the ability to chat via third-party IM services like AIM and Yahooo Messenger. But Skype wins the call-quality battle easily.

—Liane Cassavoy

89
VERY GOOD

Skype for iPhone | Skype

This mobile VoIP application for iPhones delivers good voice quality. Free (basic service)
find.pcworld.com/62784

Kubota Add-Ons Enhance Photos With Pro Effects

PROFESSIONAL photofinishing usually involves lots of time-consuming Adobe Photoshop work. But photographer Kevin Kubota has learned to cut such effort by taking advantage of Photoshop's Actions—the ability

to program macros that turn multistep processes into one-click, automated applications. Kubota Artistic Tools (\$179 each) give the rest of us the power and creative brilliance of his customized Actions, adding a professional gloss to even average photos. At present, KIT offers four Artistic Tools “paks.” We tried Artistic Tools 3.

Installation of the add-on is not intuitive, requiring that you find the correct Photoshop folder on your computer. A readme file helps reduce the confusion.

The key component is the



KUBOTA ARTISTIC TOOLS streamline multistep editing processes.

Dashboard, where you can access all the KIT tools you have purchased (plus see the ones you don't yet have). Each of the effects initiates an Action on either your whole photo or a portion, applying numerous editing steps (such as a selection, color or exposure change, or special effect); reeditable layers build up on your picture as a result. Some tools

also let you brush on an effect to specific parts. For instance, with some of the blurring tools you can restore areas of sharpness, such as on the eyes of a portrait.

Once you use one Kubota Artistic Tools set, you're sure to want to grab the others. They're valuable shortcuts to pro-level photofinishing.

—Sally Wiener Grotta
and Daniel Grotta

86
VERY GOOD

Kubota Artistic Tools 3 Kubota Image Tools

Photoshop add-on simplifies applying sophisticated effects to images.

List: \$179

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Xmarks Enhances Firefox Browsing

XMARKS IS THE latest iteration of the Firefox add-on Foxmarks, which syncs bookmarks and passwords across computers running Firefox—even those on a different operating system.

But Xmarks does far more. When you do a Web search, many sites in the results list will have an Xmarks icon. Click it, and you'll see a pop-up with a thumbnail, a brief description, the site's popularity among Xmarks users, and reviews. (Only sites bookmarked and reviewed by Xmarks users get the icon.) You can click *Get Site Info* for further details.

In addition, when you bookmark a site in Firefox, you'll see a comprehensive list of suggested tags, which can make searching through your bookmarks easier.

You still can install Xmarks if you already have Foxmarks (it will upgrade your existing version). The add-on will continue to sync and back up your bookmarks and passwords, even with PCs that use only Foxmarks.

—Preston Gralla

92
SUPERIOR

Xmarks | Xmarks

Bookmark-sync add-on now offers site reviews and useful tags, too.

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Tools to Help Save Money, Time, and Lost Data

EVERYBODY LIKES TO save, and these three freebies can help. First we have a recovery utility that can rescue your lost data. Next is a tool that harnesses your mouse to save you the fuss of extra typing. Finally, we tried a Firefox add-on that shields you from advertising networks on the Web. Since all of these programs are free, you'll save a pretty penny. That said, if you like the applications, you might consider donating to the authors and saving the day for them.

DiskDigger

DiskDigger is more than the usual undelete utility offered gratis. This convenient tool recovers lost data on a sector-by-sector basis from hard drives, USB thumb drives, and so on. (Think of sectors as little boxes containing data that are arranged in tracks or circles on your hard drive.)

DiskDigger couldn't be easier to use: Just select a drive, choose the types of files to be recovered (JPEG, MP3, documents, and the like), and then click *Next*. I actually had a brand-new, partition-trashed hard drive on hand to test DiskDigger with—and to be honest, I wasn't expecting a free program to even recognize the hard drive, let alone recover data from it. My bad. This is one mean utility. I tested DiskDigger inside a VMWare virtual machine, and though it didn't recognize the virtual hard drives, it did find the trashed drive. What's more, it found files—and promptly recovered them. find.pcworld.com/62812

—Jon L. Jacobi

MouseWrangler

MouseWrangler ropes your mouse into taking on some of the work that your keyboard normally does. With this small, free utility, you can do things like open a particular program or enter keystrokes (such as <Ctrl>-C) by holding the right mouse button and moving the mouse.

You might already be familiar with using mouse gestures within the Opera Web browser or the Fire Gestures add-on for Firefox. MouseWrangler works much the same way. In the program's configuration, you can (for example)

set it to start Internet Explorer when you hold down the right mouse button and move the mouse left, then right. You can set up gestures that work with any application, and you can also create a gesture that will function with a specific program only.

Using mouse gestures can make working in Windows a good deal faster, and MouseWrangler is a nice, no-cost way to use them for all of your programs. find.pcworld.com/62815

—Erik Larkin



THE TACO FIREFOX add-on fights advertising-network cookies with its own cookies.

TACO

If you're like most people, you're not fond of the idea that advertising networks may track your travels across the Web and potentially build a profile of your likes and dislikes. This free Firefox add-on keeps many such networks at bay. Targeted Advertising Cookie Opt-Out (TACO) adds cookies to your hard drive that stop 28 different ad networks from collecting information about you. As a result, advertisers won't be able to monitor your Internet activity.

Don't expect to see an interface for this add-on—just install the software, and it will place its cookies on your hard drive. If you're a Firefox user, TACO is worth a try: In this cookies-versus-cookies battle, the TACO-flavored ones are on your side. find.pcworld.com/62814

—Preston Gralla ●

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DESKTOP PC!



BY ZACK STERN ✱ ILLUSTRATION BY TAVIS COBURN

Do you often wish that your hardware had superpowers or that you could transform ordinary gear into something really great—possibly for free? With our amazing instructions, you can!

On the following pages are simple tips on getting the most out of hardware you may already own. Many of the useful features we describe are undocumented; others you can enable with an extra tweak.

We'll show you how to transform your netbook into an e-book reader, how to use body warmth to squeeze out one more message from a dead cell phone battery, how to use a game controller instead of a mouse to run your PC, and much more! »

Run Mac OS X on Your Netbook!

In spite of fans' pleas, Apple hasn't yet produced a miniature MacBook. But a tiny fashion-oriented laptop would certainly seem even more stylish if it could run the sleek Mac OS X. Good news: Many of the newer netbooks can.

The upside is that you get a trendy OS X netbook that's perfect for Web browsing, light e-mail, and other simple, portable tasks. The downside? Certain hardware features might not work, the installation ranges from annoying to harrowing, and by making the switch you could possibly void your warranty. Plus, you're wading into legal and ethical issues.

First of all, accepting Apple's EULA (end-user license agreement) means that you agree to use OS X only on Mac hardware. You break that agreement as soon as you install Apple's

You can put OS X on Dell's Mini 9 with the help of a bootloader.



software on a non-Apple netbook.

Additionally, many of the netbook installation methods discussed on the Internet rely on a pirated, hacked version of Apple's OS with updated hardware drivers. It's illegal to

download OS X for this project—so don't do it. Also, you should be uncomfortable with the potential for surprises lurking within pirated software. What's to stop a nefarious hacker from inserting code to log your passwords?

Using the Apple disc and a little minor trickery, I was able to get my legally purchased copy of OS X to run on a Dell Mini 9 netbook whose original operating system was Ubuntu Linux. The general process, explained in detail at find.pcworld.com/62759, depends on a bootloader disc or USB drive. The bootloader primes the system to recognize the OS X installer, which runs from an external USB or DVD drive.

Depending on your specific netbook, the setup can be finicky. In attempting the OS X-disc installation, I experienced the most success with the Dell Mini 9, which does okay as long as it has 8GB of memory. Most other netbooks, however, would work only with the pirated download. Even after a successful installation, Wi-Fi, ethernet, audio-in/-out, sleep, and certain other features might not work properly. (You may want—or need—to replace certain netbook parts to enable those features.) Consult the chart at find.pcworld.com/62760 for additional details on specific hardware-compatibility issues.

All told, the installation process, not to mention the uncertain results, are quite un-Mac-like. But the lure of forbidden fruit is hard to ignore.

Use Your Smartphone to Transport Files Among Your PCs!

You know that you can play music on your smartphone, or even on many generic handsets. But did you know that if a phone has a storage area for music, you likely can use that memory to stow PC files too? If your phone has a microSD slot—included on nearly all music-playing devices—and a mini-USB port, this trick should work.

First, insert a flash-memory microSD card; the slot may be behind the battery or otherwise hard to access.

Hook the phone to a PC with a mini-USB cable. The phone might ask to enter the USB disk mode; approve that, and the card will show up on the PC as a drive. Some devices, such as BlackBerry phones with built-in memory, will mount as two

drives if a card is inserted; otherwise the device memory will mount as the only drive.

Just copy your files to the new drive. Unplug the phone, and when you get to work or to another PC, repeat the connection process to move your files to their destination.

If your cell phone can take microSD cards, you might store data on it.

Tricks You Didn't Know Your Software Could Do!

Don't let the fun stop with hardware tips. In our software tricks story, you'll learn the secret code that will show

you only your unread Gmail messages. You'll also discover the formula for keyboard shortcuts that let you zoom around Gmail, and how to skip opening Gmail altogether by bookmarking specific messages for one-click access.

PLUS: You can delve into Google Maps to calculate the distance of walks or runs, estimate taxi fees before you get in a cab, and locate a park or shop in an unfamiliar neighborhood. Read all this and more at find.pcworld.com/62837.

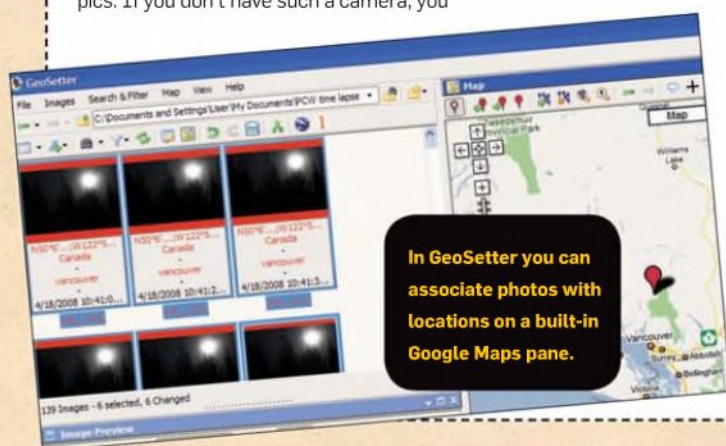
Geotag Your Photos Even If Your Camera Can't!

These days, you can document your travels by sorting your digital photos by location. Many cell phones and a few specialty cameras can geotag your location, embedding the data in your pics. If you don't have such a camera, you

can use a GPS imaging accessory, like Sony's \$150 GPS-CS3KA (find.pcworld.com/62764), to add location info after the fact.

If you don't have a GPS device, you can manually enter location details at your PC with the free GeoSetter (find.pcworld.com/62765). After you do, the application shows your images as pins in a Google Maps pane built into the program. The process updates the EXIF (exchangeable image file format) details so that locations will appear in other apps. Geotag data is stored in your pictures for you to browse in GeoSetter or other tools, including Flickr, SmugMug, and Picasa.

• **Removing EXIF data:** If you upload your images to the Web, the geotag data usually stays intact. To protect your privacy, you can strip the data out. GeoSetter and many photo editors can modify or erase EXIF details, but a specialized utility can do so more quickly. I like Exif Farm (find.pcworld.com/62767) because it's accessible via the right-click menu; the demo is free, but batch processing is available only in the \$20 paid app. Note that clearing the EXIF profile erases all potentially identifying data, including your camera model, the date, and the time.



Transform Any XP Netbook Into an E-Book Reader!

Among e-readers, the Kindle attracts the most attention due to its connection to Amazon and its easy-on-the-eyes E-Ink screen. But if you're already packing an XP-based netbook, you can get much of the same functionality without toting another device around.

You'll need e-books and an e-reader application. Amazon's titles are readable only on the Kindle and on the iPhone; and at some other stores, the types of e-books can be limited. eBooks.com and the newly launched Shortcovers.com, however, sell many current titles, their selections resembling those sold in a real bookstore or offered digitally on Amazon.

Project Gutenberg (www.gutenberg.org), a public-domain site, has a treasure trove of classics available for free downloading. The titles are saved in several unprotected formats, including PDF, HTML, and plain text. After

you download a book, you can read it in a Web browser, Acrobat Reader, a text editor, or any other application.

To read copy-protected books, use either Microsoft Reader (www.microsoft.com/reader) or Adobe Digital Editions (find.pcworld.com/62762), both free.

Now wouldn't it be great if you could peruse the pages vertically instead of scanning a squat, horizontal screen?

You can. Most netbooks have the Intel GMA Driver for Mobile Control Panel. If yours does, click the *Display Settings* tab, check *Enable Rotation*, and click the 270° radio button. Click *Apply*. You may be able to press <Ctrl>-<Alt>-<Right Arrow> or <Ctrl>-<Alt>-<Up Arrow> to toggle between the two orientations.

If you don't have that control panel or if the key shortcuts don't work—they

didn't on my Acer Aspire One—grab EeeRotate (find.pcworld.com/62763). This free tool toggles between portrait and landscape orientations, via those same key shortcuts.

In the free Adobe Reader (get.adobe.com/reader) you can have your PC read aloud titles saved as PDFs. The voice is a bit mechanical and it occasionally stumbles over less common words; you're limited to public-domain material, too. Still it's pretty effective. »



Play Internet Radio on a BlackBerry, 4 Different Ways!

iPhones don't need to have all the fun: Your BlackBerry can tune in to many sources of Internet radio. Just be sure you have an unlimited data plan.

1 XM Radio Mobile on BlackBerry: The mobile XM satellite radio offers 18 music and 2 comedy channels, for which you must pay \$8 a month. Not all BlackBerry models are supported; check the list at find.pcworld.com/62774.

2 Slacker Portable Radio App: A hybrid of streaming and caching, this free app (www.slacker.com/mobile/blackberry) not only can stream tunes but also can save gigabytes of music to a microSD card inserted in your BlackBerry. You can store favorite stations on the card so that you still have music when a network connection is limited or nonexistent, such as on airplanes or in tunnels.



Streaming services can make your BlackBerry a music machine.

3 Pandora Radio: The free Pandora (www.pandora.com/blackberry) gently introduces you to unfamiliar music

with similarities to your favorite songs. You can rate favorites and skip disappointing picks to help the service fine-tune its recommendations.

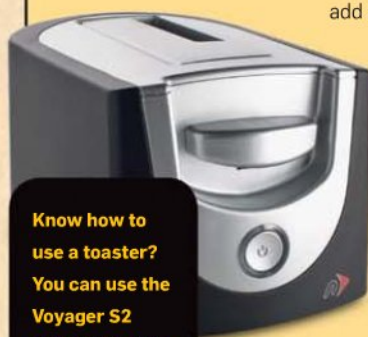
4 FlyCast: The wide range of music genres and talk stations available on the free FlyCast (find.pcworld.com/62777) echoes what you'd get with a regular radio—if your radio could tune in to stations from around the world.

Use Old Internal Drives for Free Storage!

Have an unused internal hard drive sitting around? You can immediately put a laptop or desktop internal drive back to work as extra, free storage.

• **Inside a desktop PC:** 2.5-inch laptop and 3.5-inch desktop PC SATA drives use identical connections. If you want to install a laptop drive in a desktop, position it so that the airflow is unimpeded—stick it against the inside of the case or in a free drive bay. Secure it with zip-ties or removable double-sided tape. Of course, you won't have such trouble with a 3.5-inch SATA drive, which will fit in the regular screw mounts.

Connect the drive to a free SATA port on the motherboard (you'll likely need a SATA cable) and to a plug leading from the power supply. You can add an adapter if the only free plugs are older and are



Know how to use a toaster? You can use the Voyager S2 docking station.

too large to fit the SATA power port. If you have no free power cables, add a Y-splitter to branch off from an existing cable. All of these parts are available for a few dollars.

An older ATA drive also will work. You might have to adjust a jumper pin on both the extra and current drives; check your PC's instructions or browse online for help. A 2.5-inch ATA laptop drive needs a \$10 adapter to attach to a 3.5-inch drive's cable. Connect the

drive to a free power and data cable. If all the ATA interfaces are filled, connect it in place of a floppy drive if that's an option.

• **Outside any PC:** To use an old drive as temporary storage, try a universal docking station like the Voyager S2 from NewerTechnology (find.pcworld.com/62772).

Another easy option is to place the drive in an external case—as a bonus, you'll then be able to tote the drive between PCs to ferry large files or to add storage to a laptop. Match the physical size and interface (ATA or SATA) of the drive with the case's specifications. Double-check, as well, that the case matches your drive size in gigabytes; an old case might not recognize all of the available storage in a newer drive. Again, a SATA drive should work automatically, but you might have to adjust the jumper pin on an ATA drive. The drive case instructions should show you how.

Lock Your PC With a Hard-Drive Password!

A user-account password is important, but it's useless if your PC is lost or stolen: A thief could just install your drive in another PC. To block access, add a hard-disk password. This process is simpler than encrypting the drive, but it can't match that level of protection. Think of it as adding another strong lock.

When prompted at boot, press the key to enter your PC's BIOS (often it's

<Esc> or a function key). The BIOS menus and names will vary, but the process will be similar. In the Phoenix BIOS, use the arrow keys to navigate to the *Security* tab. Highlight *HDD Password*, and press <Enter>. Input the password, remembering it or storing it in a password utility. (If you lose it, recovering the data could cost a lot.)

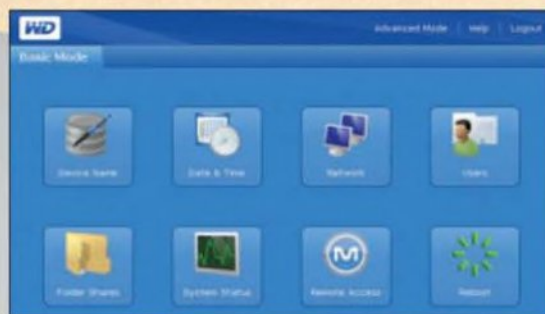
Exit and save the changes. Now any time you start the PC, it will prompt you for the HDD Password. If you want to remove the password later, return to the BIOS HDD Password setting; just type the current password and leave the new-password field blank.

Make Info on Your Home NAS Available Anywhere!

Network-attached storage is great for sharing files between connected PCs. But most NAS devices let you access your files over the Internet, as well. Some NAS devices use FTP for this purpose; others rely on a proprietary Web service. And many offer both. A Web service is simpler to set up and use; you download files through a designated Web site connected to the NAS. Check your documentation for help with this method; you'll likely need only to turn it on and make a log-in account.

Setting up an FTP server requires you to know networking basics, but anyone can connect through FTP to make the disk

You can access a newer Western Digital NAS over the Web.



appear within the Windows desktop. First, make sure that your NAS hardware is running; if it isn't, follow its standard setup process.

You'll be accessing the NAS in a browser, so you need to know its IP address. If you know it, type it as a

URL, as in "http://192.168.0.100", into the

browser. If you don't know it, visit your router's configuration page by entering the router's IP address as a URL into the browser. If you are unsure of that URL too, open your PC's Network

Connections control panel. Double-click the current connection, and click the *Support* tab. Your router's IP address is the same as the Default Gateway.

In the router-configuration page, look for a table of attached-device IP addresses. (For a Belkin N1 Vision, for example, it's in the DHCP Client List tab.) Enter the NAS IP address into a new browser window. In the NAS-configuration page, you have to enable the FTP server. Consult your documentation; on a Buffalo Link Station, I found the setting on the Network tab.

Back on the router page, configure it to reserve the same address for the NAS drive. Many routers allow you to view a table of connected devices and click a button there to reserve the address. In my case, I clicked *Lan Setup*•*Lan Settings* and set the Lease Time to *Forever*. (Even with a dozen devices on my network and occasional visitors, I have ample free addresses.)

Now you need to set port forwarding. On the Belkin router I used, port forwarding was under *Firewall*•*Virtual Servers*. FTP forwarding is a common preset; I selected *FTP Server* from a drop-down menu and entered the NAS internal IP address. When an Internet PC tries to make an FTP connection to the router's IP address, the router will send it to the NAS device.

When you're outside your network, use the home router's IP address to connect. Open *Start*•*My Network Places*. Select *Add a network place*. Click *Next*, and select *Choose another network location*. Click *Next*. Enter the home network's IP address, in the format "ftp://ftp.xxx.xxx.xxx.xxx". Finish the rest of the wizard's settings, including your FTP log-in and password, which you can configure on the NAS device. Note: You'll be making these connections without any encryption, so be careful about what you transmit. »

Control 7 Devices With an iPhone!

Perhaps you didn't know that your iPhone or iPod Touch can act as a Wi-Fi remote for many hardware devices. You simply connect the iPhone through Wi-Fi to the same local network, though in many cases you'll also have to install a PC utility (provided by the app developer) that listens for instructions from your iPhone over the Wi-Fi network. Here are my favorite tools for controlling PCs and other devices.

- **DVR Remote** (\$3; find.pcworld.com/62769) lets the iPhone command a Series 3 TiVo, with access to all of the buttons and features of the innovative DVR. Best of all, you can tap text in with the iPhone keyboard instead of pecking at the on-screen alphabet with the arrow buttons.

- **i-Clickr PowerPoint Remote** (\$10; www.senstic.com) manages presentations, even displaying your speaking notes or upcoming slides on the iPhone. It's a great counterpoint to the remote available for Apple's Mac-only Keynote tool in iWork.

- You can control many music devices, too. Sonos owners should get the free **Sonos Controller for iPhone** (www.sonos.com) for slick remote functionality. Roku Soundbridge fans with should try the \$3 **Roku Remote** (find.pcworld.com/62770). And if you have a Logitech Squeezebox device, try running it with the \$10 **iPeng** (find.pcworld.com/62773).

- Switching to the topic of PC controllers, **Air Mouse Pro** (\$6; www.mobileairmouse.com) acts as a computer keyboard and mouse, so you can command your system from across the room. Air Mouse Pro's clean design and application-specific functions make this utility stand out among a crowd of App Store competitors.

- The App Store also sells many VNC (virtual network computing) clients, which let your iPhone see and control the PC screen. Look to those if you already have VNC server software running on your PC (see find.pcworld.com/62803 for more on VNC). Otherwise, I like the \$30 **LogMeIn Ignition** (find.pcworld.com/62842) for its easy setup and interface with LogMeIn remote-access software.

Get High-Def, Time-Lapse Video From a Lowly Point-and-Shoot!

Time-lapse video can create beautiful scenes that condense hours or days into mere seconds. Shadows drift across skyscrapers at sunset, the moon rises and sets, and morning crowds cross a street en masse.

You could speed up video footage for similar results—but don't accept that substitute. Camcorder scenes are limited to the length of a full tape, and they lack much of the aesthetic charm you

can create with a well-placed still camera.

First, pick a subject and plan the shot. Consider different scenarios: flowers opening, ice melting, a construction project rising. Such examples will look fluid, but you might also consider scenes without any beginning or ending, like cars alternating at an intersection, children running in a playground, or a snow-

PhotoLapse 3 creates time-lapse video from still images.



storm swirling outside your window.

You'll shoot each frame of the video, so use some simple math to make a plan. It's a bit involved, but worthwhile.

For smooth motion, aim to capture 30 frames per second. Think about how long you want the final shot to last, and factor in the length of the event. For example, if you want a 10-second video at 30 frames per second, you'll need to take 300 frames. If the real-world scene lasts 20 minutes, divide 20 minutes into 300 frames to get the shooting rate (in this case one photo per 0.066 minute). Multiply by 60 to turn that rate into one photo every 4 seconds.

Many cameras have a time-lapse mode that shoots automatically on an interval. Alternatively, you can manually fire the shutter yourself. Just be sure to mount the camera on a tripod, and position it out of the way of the action that you're photographing—you don't ever want to have to move your camera during the process. To save effort later, set the camera to shoot JPEGs at a resolution of about 1024 by 768 pixels.

Import the digital images to your computer, and store them in a single folder. Next, download and run the free PhotoLapse 3 (find.pcworld.com/62778), which creates .avi movies from collections of .jpg files. Select your folder, and click *Load files from current folder*. After the app finishes, set the FPS (frame rate) to 30, and click *Create Movie*.

At the Video Compression prompt, leave the setting at *Full Frames (Uncompressed)* if you're going to import the video into an editing program. Otherwise, you can reduce the final file here. Click *OK*. Depending on the number of frames and their sizes, the process could take a few minutes to complete.

PHOTOGRAPH: ROBERT CARDIN

Induce a Cold, Dead Cell Phone Battery to Send One Last Text Message!

Since many ski and snowboard mountains are covered by mobile networks, your phone can be a handy communications tool on the slopes. I like sending text messages to coordinate plans with friends. If you forget to charge your handset and it runs out of juice, you still may be able to revive it and send one last text.

Frigid weather reduces a battery's charge. If your phone shut itself off due to the cold, warm it up. Pop off the battery and put it next to any warm part of your skin (against your head, under your arm). Once the battery is warmer, try powering the phone back up; it might have just enough juice for you to send a quick text.



Navigate Your TiVo With 5 Quick Tricks!

Your TiVo hardware is full of shortcuts—the 30-second commercial skip is just the beginning. (But be sure to enable that time-saver on your box; see find.pcworld.com/62779.) Remember that changes you make through the remote should not affect your warranty, but they may vanish after a restart or after your DVR gets a software upgrade.

You probably know to push the **TiVo** button to vault to the home screen. The next button you press, however, will lead to other destinations. Push the **TiVo** button again to jump to Now Playing. Press the **2** to see the recording To Do List. Push the **8** to see TiVo's Suggestions.

You can flip through TiVo menu lists one page at a time with the **Channel Up/Down** button. Toggle between the beginning and the end of most lists with the **Advance** button (the one with an arrow pointing to a vertical line).

When surfing live TV, press **Enter** to go to the previously viewed channel. And to delete a recording from Now Playing instantly, use **Clear**.

Calling on an iPod Touch requires headphones with a built-in mic, plus Skype.



Make Free Phone Calls From an iPod Touch!

You're now able to make free phone calls via the Internet on Apple's iPhone using a new Skype application (see page 58 for our review). But if you own a second-generation iPod Touch,

you can also make free calls, even though the Touch technically isn't a phone.

Skype's iPhone app will function with any second-gen Touch as long as you use a set of headphones with a microphone built into the earphone cord. (Unfortunately, the original Touch has no audio-in capability.) Other than that, you'll need just a Wi-Fi network. The application allows you to make free calls to other Skype users and paid calls to non-Skype users. I like Skype's ubiquity and audio quality, but it has competitors; if you want to experiment, you might try Truphone (www.truphone.com) instead.

Sling Files to Other PCs Over Bluetooth!

If your laptop has built-in Wi-Fi, it can probably network through Bluetooth as well. Wi-Fi and ethernet transfer files more quickly, and they're better for recurring connections (such as in an office). But Bluetooth is my secret winner for slinging small files directly—and almost instantly—between any two desktops or laptops that have Bluetooth technology. If a PC you use doesn't have Bluetooth built in, you can add the feature by way of a USB dongle.

On the recipient PC, open the Bluetooth Devices control panel. Choose the *Options* tab, and click *Turn discovery on*. Click *OK*.

On the sending PC, right-click the file you want to transfer. Select *Send to Bluetooth device*. Click *Browse* if needed, and select the recipient PC. Click *OK*. If you're sending something private, click *Use a passkey* and type a password. Click *Next*.

The recipient PC will prompt you to enter the password (if necessary) and accept the transfer. Keep transfers to a couple of megabytes or less, since files of even that size can take several minutes to transfer.

Use Your Nintendo Wii Remote Without the Wii!

Nintendo's Wii Remote contains some sophisticated hardware. The accelerometers sense motion on several axes, and the infrared camera sensors see IR light and can interface with a PC in complicated ways. Here are two nongame uses for the device, one simple and one more advanced.

• **PC control:** The Wii Remote can be a general PC input device. On your PC, download the free GlovePIE application at find.pcworld.com/62780 and install it. Open the Bluetooth control panel, click *Add*, and hold the 1 and 2 buttons on the Wii Remote. Follow the on-screen commands to search for a new device. Select the Wii Remote, and don't use a passkey. Release the 1 and 2 buttons only after completing the connection.

In GlovePIE, you use scripts, which translate controller movements into PC commands. Click *File•Open*, pick a script, and click *Run*. You can get scripts at find.pcworld.com/62781.

To write a script, select the *GUI* tab, click *Choose Manually*, and pick a function. Click *Detect Input*, and press a button on the connected Wii Remote. Alternatively you can click *Edit Manually*, select *Wiimote* from the Input Device menu, and then choose a function from the 'Part of device, or a numeric value, or expression' menu.

• **Create a cheap interactive whiteboard:** You can make a computer-interface whiteboard using your PC, a projector, and a homemade light pen (a ball-point-pen case quickly hacked with an IR LED and a battery). Johnny Chung Lee explains the process at find.pcworld.com/62782. Basically, you build the pen, turn on Bluetooth (as described earlier on this page), and connect the Wii Remote to your PC. Next you install Lee's free utility and position the Wii Remote to point at your PC's display projected on a wall or a projector screen. The Wii Remote can then follow how you write with the LED pen on the projection. The pen also lets you manipulate the PC interface on the "whiteboard."



Program an iPod to Ditch iTunes!

Many programs besides iTunes can manage an iPod. If you like the iPod but your taste for Apple ends there, consider a switch. Maybe you prefer Windows organization or you're seeking missing features, such as automatic video conversion or the ability to pull music from a foreign iPod to a PC. iTunes alternatives can be the answer.

I like Mediafour's \$30 XPlay 3 (find.pcworld.com/62783) because the software doesn't require you to reformat a Mac iPod for a PC, it shows iPod files in Windows Explorer, and it reads files from an iPhone or iPod Touch. (Other, similar software tends to be incompatible with those devices.) Just install XPlay and attach an iPod; the device mounts like a hard disk.

As for free choices, consider Floola and Winamp. Floola (www.floola.com) can convert videos for iPod playback, while the venerable Winamp (www.winamp.com) offers a complete music application alternative, even importing CDs.



iTunes Lyrics Importer can get lyrics for specific songs or your whole library.

Put Song Lyrics in iTunes and on iPods!

iTunes can display song lyrics for music files, but it doesn't automatically slurp in that data in the same way as it does album art. To grab lyrics, download the free iTunes Lyrics Importer (find.pcworld.com/62785). Close iTunes first, and then install and launch Lyrics Importer. iTunes will also open.

You can obtain lyrics for specific tunes by selecting one or many songs and then clicking the *Get Lyrics* button. Preview the details if you want, and click *Update*.

You can also update your full library in one swoop, without verifying each track. Select the iTunes window, and select all music by pressing **<Ctrl>-A**. In the iTunes Lyrics Importer window, click the *Update Automatically* check box, and then click *Get Lyrics*. The utility will churn through your library, taking several seconds per track (which can add up for big libraries). Click *OK* when it finishes.

The program stores the lyrics within the song file. To see them so you can sing along, right-click a track, select *Get Info*, and choose the *Lyrics* tab. On an iPod, press the center button several times to cycle to the lyrics screen. On an iPhone or an iPod Touch, just tap the screen while the device is playing the song.



iTunes Sync can bring your iTunes playlist to your non-Apple device.

Make a Generic MP3 Player Cooperate With iTunes!

Love iTunes but hate the iPod? The free iTunes Sync application (find.pcworld.com/62776) can connect most non-Apple media players (other than the Microsoft Zune) to iTunes by taking advantage of the devices' mass-storage modes. The program will work even with music phones that mount as a disk.

Download and install the tool, and then open iTunes. Attach your media player. Right-click the iTunes Sync taskbar icon, and pick *Configure MP3 Players*. Click *Add*. Type a name for your own reference, and navigate to the music folder in the second field. Select an option in the iTunes Playlist menu; this is the playlist that the software will sync. (Create a new one in iTunes first if necessary.) Click *OK*.

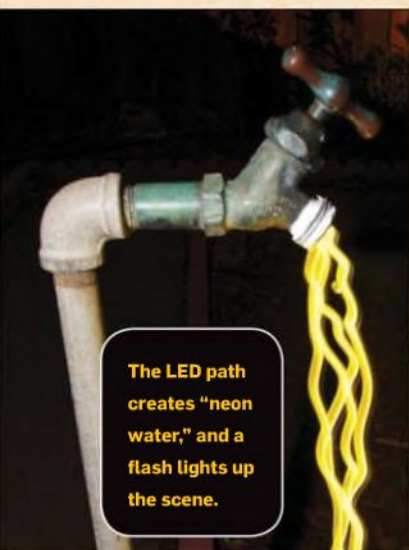
Right-click the iTunes Sync taskbar icon again, and choose *Synchronize MP3 Player*. Select the device in the drop-down menu if necessary. Otherwise, simply click *Sync MP3 Player*, and the program will update your player's music files.

Drive Your PC With an Xbox 360 Controller!

Many PC games originated on the Xbox 360; their controls are often designed for a gamepad, not a keyboard. By using your Xbox 360 controller with your computer, you can have fun the way the game designers intended.

If you have a wired Xbox 360 controller, just plug it into the PC. Follow prompts to install software if needed. The wireless version of the controller requires another step: You need to set up a USB wireless adapter to receive commands from the controller. The adapter (find.pcworld.com/62787) is sold separately for \$20, and in a \$60 bundle with a new PC-branded Xbox 360 controller. One adapter can support up to four controllers; to sync, hold down the connection button on the adapter and on your controller for a moment.

Draw Messages With Light on Live Photographs!



The LED path creates "neon water," and a flash lights up the scene.

If your digital camera offers a manual shutter speed, you can use LEDs (light-emitting diodes) to write messages in a long exposure. The whimsical results have more personality than Photoshop tricks, and you can share them instantly from the camera.

Because LEDs shine very brightly, yet in a concentrated area, they work better for this trick than other light sources—such as ordinary flashlights or a cell phone.

Use a small LED flashlight or buy LEDs from Radio-Shack and attach them to

3-volt disc batteries. Mount your camera on a tripod or a steady table, and set it for a long exposure. Play with the settings: I got good results at $f/20$, with exposure times of 20 seconds or more. If there isn't much ambient light, don't worry about leaving the shutter open too long; those lengths just give you more time to draw. While the shutter is open, sketch through the air with the LEDs. You can even fire the camera's flash—or shoot with another flash, such as on a different camera—to illuminate people in the foreground.

Use Long Exposures for Crazy Camera Effects!

Stop shooting pictures that all look the same. You can set a longer shutter time to control a photograph's final look.



The man stays in focus as a photographer moves with him.

• **Nature scenes:** Try this trick when you're shooting a waterfall, an ocean beach, or even rustling leaves. Mount the camera on a tripod or set it on a stable surface. Put it in shutter-priority mode, and try a time of about 2 to 5 seconds. (Shutter priority is often abbreviated with Tv—literally, "time value"—or S on a

camera mode dial. Check your camera's manual.) Use a remote to press the shutter button to avoid shaking the camera, or rely on the self-timer feature. Water, leaves, and other moving objects will gently blur together.

• **People or animals in motion:** In another trick, try a handheld shot of a moving person or animal with a slightly longer shutter speed than normal. If you can match the subject by pivoting or walking alongside them, the background will blur, as shown in the photo, but the foreground will stay in focus. Use shutter-priority mode again, and try a shutter speed of about $1/20$ of a second. Mix in a burst of the flash—even in daylight—to further sharpen the foreground subject.

Troubleshoot Your Stereo With a Digital Camera!

You're mashing buttons on your remote control, but the stereo ignores you. You replace the batteries. Still no action. So which is malfunctioning: The remote control or the stereo?

Believe it or not, your digital camera can tell you the answer. Most models can see well into the infrared spectrum, which is the region where your remote control operates. To troubleshoot, point your remote control into your camera lens and then push some buttons.

Now look at the camera's LCD screen (not at the optical viewfinder). If the remote works, you'll see a flashing light where the remote's infrared emitter is. —Dave Johnson





This is a bare bones advertisement for TriSpecs Eyewear.



Some companies spend their money on marketing and design
Some companies spend their money on marketing and technology
We thought, why not spend our money on technology and design?

This is a bare bones ad for a product which is anything but.

We spent our money on research and development; producing a great looking pair of shades that let you wirelessly stream music from your phone or MP3 player and make hands-free phone calls using **Bluetooth™** technology.

Hear the difference for yourself...

A radically new noise cancellation system featuring TWO microphones.

To learn more visit our online store at www.TriSpecs.com
Enter in the code **PCW** with purchase for a **free gift**, while supplies last.



Retractable earbuds



Traveling? JFK, ATL, CLT

Color Laser MFPs: Versatile and AFFORDABLE

PCW Test
Center

Priced as low as \$599, these office workhorses print, scan, copy, and (often) fax. And toner cartridges are cheaper than the inkjet option in the long run. »

BY MELISSA RIOFRIO AND SUSAN SILVIUS



A color laser

multifunction device may seem like a big investment, but it can greatly improve your office's print output. Need to make professional-looking brochures or flyers in-house? Need to scan documents for sending or archiving? A laser MFP can do all that—and toner cartridges are a better deal per page than most inkjet cartridges. Read on as we appraise our favorite color laser models.

Brother MFC-9450CDN



Pros: Fast; low cost; has autoduplexing
Cons: Pale, yellowish color prints;

color scans lack detail

One of two color laser MFPs from Brother at the top of our chart, the MFC-9450CDN adroitly juggles speed, features, print quality, and design. A fine choice for most small offices, it is likely to disappoint you only if you need sophisticated color imaging.

This \$650 unit printed perfect-looking black-and-white text at 20.4 pages per minute, but its color graphics performance was much slower at 4.9 ppm, and print quality wasn't great: On plain paper, test photos looked washed-out and blurry; on special paper with optimized settings, they had a yellow cast and exhibited moiré patterns. Scans and copies were a bit dark at times.

Among the MFC-9450CDN's pluses are an automatic duplexer and a USB/PictBridge port. A 250-sheet main input tray and a 50-sheet multipurpose tray augment the unit's 35-sheet automatic document feeder (ADF) for scan and copy input. An optional 500-sheet paper tray costs \$250. Buttons for fax, scan, and copy functions aren't grouped on the control panel, but are clearly labeled.

Standard-size 2500-page black toner cartridges cost \$60 (2.4 cents per page), and 1500-page color cartridges—cyan, magenta, and yellow—cost \$70 each (4.7 cents per color per page), or 16.4 cents per four-color



THE BROTHER MFC-9450CDN produces beautiful text pages fast; replacement toner cartridges are very reasonably priced.



THE BROTHER MFC-9440CN is best suited for an office that does lots of text printing and occasional graphics.

page. High-yield 5000-page black cartridges are \$93 (1.9 cents per page); 4000-page color cartridges run \$130 (3.2 cents per color per page), or 12 cents for a full-color page.

Even with clear instructions, replacing toner cartridges is a chore. And since the bays are not keyed, you might insert the wrong color cartridge in the wrong bay.

The MFC-9450CDN's speed, features, economy, and minor shortcomings make it well worth considering for a small office that doesn't need high-quality color graphics.

Brother MFC-9440CN

Pros: Text prints quickly and looks great

Cons: Yellowish, grainy photos; hefty toner rack

Brother's \$600 MFC-9440CN incorporates some compromises in design and print quality, but it's a solid MFP overall.

The unit excels at printing text, churning out 20.6 ppm in our tests and displaying flawlessly crisp, black letters. Its graphics printing topped out at 4.8 ppm, with jaundiced and grainy color images, while gray-scale images were bluish and dark. Copy and scan quality were good overall.

The machine has a 250-sheet input tray and a 50-sheet multipurpose tray, plus a 35-sheet ADF. The scanner unit sits so low over the 150-sheet output tray that you have to lift it for easy access. An optional 500-sheet input tray costs \$250. The driver can step you through manual duplexing, but no automated method is available.

Control-panel buttons are grouped by function. A two-line monochrome LCD shows the status and menu listings, and you use the arrow buttons to navigate.

Like the MFC-9450CDN, this unit ships with a 2500-page standard-size black cartridge and three 1500-page color cartridges. It also uses the same high-yield replacement cartridges. To change toner, you must lift and pull hard on a handle to slide out a rack.

The setup guide offers detailed instructions and helpful illustrations. Brother provides its own scan and fax utilities, as well as voluminous documentation for the unit.

Mainstream office users probably won't mind the MFC-9440CN's grainy photo quality; people seeking finer results might consider one of the Xerox units here.

HP Color LaserJet CM2320nf

Pros: Low sticker price; easy maintenance

Cons: Expensive black toner, inconsistent scans

HP's compact, well-designed Color LaserJet CM2320nf would be a good choice for a small office with a light workload. Its main drawback is its high-priced black toner.

This \$599 MFP carries a 250-sheet main input tray and a 50-sheet multipurpose tray; a 550-sheet extra tray costs \$150. The ADF holds 50 sheets for copying or scanning. The



HP'S COLOR LaserJet CM2320nf is hurt by high black toner costs.

unit has no automatic duplexing, but on-screen prompts walk you through the manual process. Buttons are clearly labeled and grouped, and a 2.4-inch, tiltable color LCD shows menu options and status messages.

In our tests, this MFP printed text pages at a pedestrian 17 ppm and color graphics at 4.1 ppm. Text output was outstanding: Ornate fonts stood out sharply even when printed at small point sizes. Color prints often look oversaturated, though flesh tones were realistic; color scans varied in satura- ➤

Brothers Are Best Overall; Xeroxes Win for Print Quality

MODEL	PCWRating	Performance	Features and specifications ¹	Bottom line
BEST BUY Brother MFC-9450CDN \$650 NEW find.pcworld.com/62437	85 VERY GOOD	<ul style="list-style-type: none"> Text quality: Superior Graphics quality: Fair Tested speed: 20.4 ppm text/4.9 ppm graphics 	<ul style="list-style-type: none"> • 21 ppm text • 21 ppm graphics • 2400-by-600-dpi maximum true color resolution 	Fairly good speed and reasonable costs make this model a good small-office deal, assuming that your color needs are basic.
Brother MFC-9440CN \$600 find.pcworld.com/59859	83 VERY GOOD	<ul style="list-style-type: none"> Text quality: Superior Graphics quality: Fair Tested speed: 20.6 ppm text/4.8 ppm graphics 	<ul style="list-style-type: none"> • 21 ppm text • 21 ppm graphics • 2400-by-600-dpi maximum true color resolution 	Though it offers marginal quality for photo prints, this efficient printer is a solid choice for adding a little color to work documents.
HP Color LaserJet CM2320nf \$599 NEW find.pcworld.com/62301	83 VERY GOOD	<ul style="list-style-type: none"> Text quality: Superior Graphics quality: Good Tested speed: 17 ppm text/4.1 ppm graphics 	<ul style="list-style-type: none"> • 21 ppm text • 21 ppm graphics • 600-by-600-dpi maximum true color resolution 	The low-hassle design is nice; but if you print a lot, you should look for a model with cheaper black toner.
Dell Multifunction Color Laser Printer 3115cn \$899 find.pcworld.com/59860	80 VERY GOOD	<ul style="list-style-type: none"> Text quality: Superior Graphics quality: Fair Tested speed: 24.2 ppm text/5.4 ppm graphics 	<ul style="list-style-type: none"> • 31 ppm text • 17 ppm graphics • 600-by-600-dpi maximum true color resolution 	Speed and expandability are this model's strengths, largely making up for its subpar photos and design quirks.
Xerox Phaser 6128MFP \$599 NEW find.pcworld.com/62455	78 GOOD	<ul style="list-style-type: none"> Text quality: Superior Graphics quality: Very Good Tested speed: 12.9 ppm text/3.5 ppm graphics 	<ul style="list-style-type: none"> • 16 ppm text • 12 ppm graphics • 600-by-600-dpi maximum true color resolution 	The print quality that this MFP sustains is great, but toner is expensive, and the feature set is somewhat limited.
Xerox Phaser 6180MFP \$999 find.pcworld.com/59861	76 GOOD	<ul style="list-style-type: none"> Text quality: Superior Graphics quality: Good Tested speed: 28.3 ppm text/1.7 ppm graphics 	<ul style="list-style-type: none"> • 31 ppm text • 20 ppm graphics • 600-by-600-dpi maximum true color resolution 	This high-end unit offers good performance and features, but its price tag means that it's not suitable for the budget-conscious.
Konica Minolta Magicolor 4695MF \$1299 NEW find.pcworld.com/62440	76 GOOD	<ul style="list-style-type: none"> Text quality: Very Good Graphics quality: Very Good Tested speed: 20.9 ppm text/3.4 ppm graphics 	<ul style="list-style-type: none"> • 25 ppm text • 25 ppm graphics • 9600-by-600-dpi maximum true color resolution 	This tanklike multifunction printer can take a beating, but it's rough around the edges, especially when used to handle scanning.
Lexmark X543dn \$599 NEW find.pcworld.com/62436	75 GOOD	<ul style="list-style-type: none"> Text quality: Very Good Graphics quality: Very Good Tested speed: 19.4 ppm text/2.7 ppm graphics 	<ul style="list-style-type: none"> • 21 ppm text • 21 ppm graphics • 1200-by-1200-dpi maximum true color resolution 	Lexmark's color laser MFP performs pretty well for the most part, but its high toner costs are an ongoing drawback.
Ricoh Aficio SP C232SF \$799 NEW find.pcworld.com/62438	75 GOOD	<ul style="list-style-type: none"> Text quality: Very Good Graphics quality: Good Tested speed: 16.8 ppm text/2.8 ppm graphics 	<ul style="list-style-type: none"> • 21 ppm text • 21 ppm graphics • 2400-by-600-dpi maximum true color resolution 	Despite so-so speed and less-than-great output quality, this average-priced MFP wins on design and consumables costs.
Oki Printing Solutions C3530n \$599 find.pcworld.com/59863	74 GOOD	<ul style="list-style-type: none"> Text quality: Very Good Graphics quality: Fair Tested speed: 20.3 ppm text/4.5 ppm graphics 	<ul style="list-style-type: none"> • 20 ppm text • 16 ppm graphics • 1200-by-1200-dpi maximum true color resolution 	An office with low-volume print needs may tolerate the pricey toner, but this MFP's design could be a lot better.

CHART NOTES: Prices are as of 4/6/09. ppm = pages per minute; dpi = dots per inch. FOOTNOTE: ¹ Vendor-supplied specifications.

tion, and scans and copies of monochrome graphics struggled with fine details.

Black toner costs \$123 for a 3500-page cartridge (3.5 cents per page). Each 2800-page color cartridge costs \$121 (4.3 cents per page), so a typical four-color page costs 16.5 cents. And since the MFP ships with 1200-page starter cartridges, you'll need to buy replacements sooner rather than later.

The HP Color LaserJet CM2320nf could fit well in a small office with relatively light printing and copying requirements.

Dell Multifunction Color Laser Printer 3115cn

Pros: Fast; very crisp text printing; good standard paper handling and options

Cons: Expensive; photos look oversaturated

Priced at \$899, this model costs \$100 less than the similar Xerox Phaser 6180MFP. Though it delivers on speed and features, its design and print quality fall a bit short. The 3115cn printed text pages at a swift 24.2 ppm, and it produced finely drawn letterforms. Its graphics speed of 5.4 ppm was first-rate, too. Unfortunately, photos appeared oversaturated and dark. Copy and scan quality were quite good overall.

Tall (nearly 29 inches with the scanner closed) and bulky, the 3115cn has a generous standard feature set and room to grow. Complementing the 250-sheet input tray and 150-sheet multipurpose tray is a 250-sheet output tray. Even the 50-sheet ADF is roomy. Options include a 550-sheet input tray (\$229) and a duplexer (\$199).

Navigation buttons on the control panel move through menus shown on the four-line monochrome LCD, but you can't scroll forward to the beginning of the main menu.

The toner cartridges are easy to insert and remove, but to reach them you must open a large panel (to reveal the multipurpose tray) and an even larger panel behind that one.

High-capacity, 8000-page toner cartridges cost \$110 for black (1.4 cents per page) and \$215 for each color (2.7 cents per page per color). The unit comes with a 5000-page black cartridge and 4000-page color ones.

Well designed for a busy small office, this Dell MFP is a solid buy in most ways.



THE DELL
Multifunction Color
Laser printed graphics
faster than any other
MFP on our chart.



XEROX'S PHASER
6128MFP produced
clean, crisp text and
beautiful graphics, but at
a rather slow pace.

Xerox Phaser 6128MFP

Pros: High print quality; competitive price

Cons: Very slow at printing text; pricey toner

This MFP will appeal to low-volume users who have exacting color needs. It sells for \$599 and produces high-quality output, but slowly and at a high consumables cost.

The Phaser 6128MFP produced attractive scans and copies. Anything that used black toner alone looked great: Printed text and line art were perfectly formed, and a black-and-white photo showed depth and good shading. Color images were accurate, with realistic textures, contours, and details. But when printing a straight edge in color—the side of a photograph or just a plain bar of color—our unit made the edge wavy. Xerox advised us to run a series of recalibrations, which did reduce the problem.

In our speed tests, the impressively quiet Phaser 6128MFP managed 12.9 ppm for text and 3.5 ppm for graphics. Copy and scan speeds were slower than average, too.

The main paper tray is limited (250-sheet capacity) and feels slightly flimsy when extended for legal paper. Instead of a multi-purpose tray, you get a manual-feed slot. Duplexing is manual, too. The ADF can hold up to 35 pages for copying or scanning.

The control panel has a four-line monochrome LCD, but buttons aren't segregated by function. The toner cartridges come out in a single, weighty stack that you must lift over the exposed transfer belt.

The Phaser 6128MFP ships with rather puny, 1000-page starter cartridges for black and colors. A 3100-page black replacement cartridge costs \$100 (3.2 cents per page), and the 2500-page color cartridges cost \$110 each (4.4 cents per color per page), so a four-color page costs about 16.4 cents.

No color laser MFP in this model's price range can match its excellent output and quiet operation, but its toner is expensive.

Xerox Phaser 6180MFP

Pros: Very fast text printing; good print quality

Cons: Expensive; slow at printing graphics

Xerox's Phaser 6180MFP beats the similar Dell Multifunction Color Laser Printer 3115cn in overall design, text printing speed, and graphics quality. On the other hand, it

also costs more to purchase and maintain.

The Phaser 6180MFP's text speed in our tests was a blistering 28.3 ppm, and the results were lovely: deep black and precise. The unit also copies and scans quickly, with very nice output. On a high-resolution color photo, this MFP printed at just 1.7 ppm—but the output was excellent: Colors remained fairly true, and background patterns (which often develop when a laser tries to mix colors) were fairly unobtrusive.

The MFP packs a 250-sheet input tray, a 300-sheet output tray, a 150-sheet multi-purpose tray, and a 50-sheet ADF. A 550-sheet optional tray (\$499) includes a pedestal base so the entire assemblage can stand on the floor. A duplexer costs \$199 more.

The layout and the control panel generally make sense. A four-line monochrome LCD shows toner levels, menu items, and status.

The Phaser 6180MFP's standard-size 3000-page black cartridge and 2000-page color ones cost \$90 apiece, or about 3 cents per page for black and 4.5 cents per page for each color. A higher-yield 8000-page black cartridge costs \$190 (2.3 cents per page); 6000-page color cartridges cost \$186 each (3.3 cents per page per color).

The Phaser 6180MFP is well-designed but has a few shortcomings. Its best fit would be with an office that needs to generate a moderate volume of high-quality graphics.

Konica Minolta Magicolor 4695MF

Pros: Nice print quality; built for heavy use

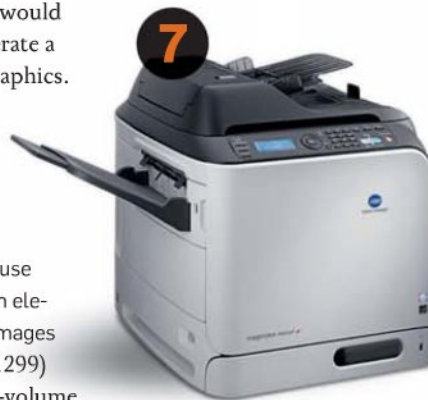
Cons: Expensive; some awkward design elements; Scanner struggles with some images

The expandable but expensive (\$1299) Magicolor 4695MF is built for high-volume use. The unit occupies roughly 2 cubic feet of space and weighs over 120 pounds. Its protruding 250-sheet output tray increases the unit's footprint, as does the 100-sheet multipurpose tray. The main paper tray holds 250 sheets of standard-size paper; an optional 500-sheet paper tray (\$299) accepts both letter- and legal-size paper.

In our tests, the Magicolor 4695MF printed at 20.9 ppm (text) and 3.4 ppm (graphics). Per Konica Minolta, we used the Post-



THE XEROX Phaser 6180MFP printed text pages twice as fast as its sibling, the Phaser 6128MFP, but graphics pages much more slowly.



KONICA MINOLTA'S Magicolor 4695MF is big and expensive, but well designed for the needs of a busy office.

Script driver; the Printer Control Language (PCL) driver might yield speedier results.

Output quality was very good except for scans. Black text was crisp but lacked delicacy. Color prints looked realistic—slightly pinkish on flesh tones, slightly yellowish otherwise. Copies looked fine. Scans came out speedily, but the images' colors (especially flesh tones) looked strangely murky.

The Magicolor 4695MF's printed guide to hardware installation mixes wordless, sometimes puzzling illustrations with a few written instructions. The rest of the documentation is thorough and well done.

Konica Minolta is generous with toner. The starter sizes promise 3000 pages each, and replacements are cheap: 4000-page cartridges cost \$90 for black (2.2 cents per page) and \$130 for each color (3.2 cents per color per page). High-yield, 8000-page supplies cost \$109 for black (1.4 cents per page) and \$169 for each color (2.7 cents per color per page). A four-color page costs 12 cents with standard-size toner cartridges or just 8.4 cents with high-yield sizes.

The Konica Minolta Magicolor 4695MF goes big in price, size, expandability, and toner savings. If you have the money, the need, and the space, it's worth a look.

Lexmark X543dn

Pros: Low purchase price; has an autoduplexer

Cons: Pricey toner; cartoonish scanner output

Lexmark's color laser MFP offers budget-strapped small offices or workgroups a few nice features at a tempting starting price (\$599). Unfortunately, its expensive toner makes it suitable for light-volume use only.

Pluses include an intuitive control panel, automatic two-sided printing, and a versatile main input tray that holds 250 sheets of letter- or legal-size plain paper, or heavier stock. A single-sheet manual feed slot occupies the bottom of the main paper tray.

Lexmark sells a combination 550-sheet input tray and 100-sheet multipurpose feeder as a \$199 option. The standard 150-sheet output tray is a vertical plastic paper catch that hooks onto the back of the unit and snaps off when touched lightly.

In our tests, the X543dn's strongest suit was its print quality. Plain, black text was »

legible but lacked refinement in narrower lines and curves. Color images were generally good, though Lexmark's own photo paper yielded a grainy, orange-tinged image. Text pages exited at a rate of 19.4 ppm, while graphics crawled at just 2.7 ppm. The X543dn was especially slow to complete our scan tests, and its scan output lacked sharpness, depth, and color complexity.

The X543dn's toner prices are steep. High-yield, return-program toner is \$70 for a 2500-page black cartridge (2.8 cents per page) and \$83 for a 2000-page color cartridge (4.2 cents per color per page), for a four-color page cost of 15.3 cents. Standard replacement cartridges cost even more: 4.5 cents per page for black text and 22.2 cents per page for four-color output.

Lexmark's X543dn has a low enough price to appeal to small offices and workgroups. But beware of its toner costs.

Ricoh Aficio SP C232SF

Pros: Economical high-yield toner; easy setup

Cons: Slow; pricey standard-size black toner; grainy color prints; variable scan quality

Ricoh's MFP isn't notably fast or skillful, and its price (\$799) is fairly high. But this no-hassle unit is inexpensive to run.

The Aficio SP C232SF ships with skimpy, 1000-page black and color toner cartridges; but a high-yield, 6500-page black replacement cartridge is \$126 (1.9 cents per page), and 6000-page color supplies cost \$163 apiece (2.7 cents per color per page). That brings the price of a four-color page to a dirt-cheap 10.1 cents. For standard-size, 2500-page toner supplies, black costs \$83.50 (3.3 cents per page), but each color costs \$108.50 (4.3 cents per color per page). A four-color page would cost 16.4 cents.

The Aficio SP C232SF's control panel is uncluttered and easy to understand. The toner cartridges occupy the center of the unit (accessible through the output tray), and each cartridge slot is keyed by color. The scanner unit slides back a bit to make pulling printed pages from the output tray easier.

The automatic duplexer is a great feature. But the 250-sheet main input tray flexes a bit; has hard-to-read, stamped-plastic instructions; and offers only a manual feed



THE LEXMARK X543dn did a nice job with text pages; its low purchase price is undone by high toner costs.



RICOH'S AFICIO SP C232SF has an automatic duplexer, a friendly design, and moderate consumables costs.



OKI'S C3530n has a low sticker price but uses relatively small (and costly) toner cartridges.

slot (no multipurpose tray). You can buy an additional 500-sheet input for \$149.

In our tests, the SP C232SF printed text at 16.8 ppm and graphics at 2.8 ppm. Scan and copy speeds were below average, too. Printed text wasn't especially crisp; and color prints sometimes showed graininess or moiré patterns. Black-and-white images tended to look dark. Scans and copies had better color accuracy than precision, too.

What this color laser MFP lacks in pizzazz, it makes up for in design and economy.

Oki C3530n

Pros: Reasonably fast; very inexpensive to buy

Cons: Confusing controls; extremely costly toner

Oki's C3530n juggles the same responsibilities as its competitors do, but it drops more of the balls. It has a low sticker price but expensive consumables. It prints fairly quickly, but with subpar print quality. Its construction didn't impress us much, either.

The control buttons lack word labels, instead depending on potentially ambiguous icons. Few cues help you navigate the menus via the monochrome five-line LCD.

The design has other limitations, too. The 250-sheet main input tray feels flimsy, and the tray in our unit squeaked horribly when we moved it. No additional input trays are available, nor is duplexing. The 50-sheet ADF is roomy, however, and has a clever, sealed feeder mechanism that may reduce the risk of a jam on the scanner platen.

A 1500-page black cartridge and three 1000-page color cartridges ship with the MFP. Oki charges \$49 for a black replacement cartridge (3.2 cents per page) and \$57 for each color (5.7 cents per page). A 2500-page black cartridge costs \$70 (2.8 cents per page); 2000-page color cartridges cost \$100 (5 cents per page) each.

In our lab tests, the C3530n printed text pages at 20.3 ppm, and graphics at 4.5 ppm. All of the output suffered from distractingly shiny toner. Text output looked pretty good anyway, but photos printed on either plain or special paper seemed dark and slightly grainy. Scanned images suffered from a foggy cast; copies looked faint.

The C3530n's hidden consumables costs make it less of a bargain than it seems. ●

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Pocket HD Camcorders:

Should You Skip the Flip?

BY TIM MOYNIHAN AND NICK MEDIATI • PHOTOGRAPHS BY ROBERT CARDIN

Pure Digital's Flip was a breakthrough product, but now it has company. We tested four other YouTube-friendly pocket camcorders—from Creative, Kodak, and Sony—against the Flip, and found a new champion. »

They may be tiny, but pocket camcorders are a gigantic force to be reckoned with, thanks to the rapid growth in popularity of Pure Digital's Flip line of video cameras. Nearly 1 million Flip cams were sold in 2007, according to IDC Research, and an NPD Research report named Pure Digital's Flip Ultra the top-selling camcorder in the country last June.

Big-name companies are taking notice—Cisco acquired Pure Digital for \$590 million in stock in March, and major players are trotting out small, cell-phone-size pocket camcorders to chip away at the Flip's throne, armed with the same dead-simple operation, easy sharing features, and cross-generational appeal as Pure Digital's pioneering moviemaking device.

These ultraportable camcorders make uploading and sharing videos very simple, usually with flip-out USB connectors and on-board software. Though the clips lose a lot of quality once uploaded to the Web, the pocket camcorders tested here are all high-definition models. That gives you greater flexibility with the source video—you can choose to view it on an HDTV or upload it to an HD-friendly Web service.

None of these models can replace a full-on, \$1000 HD video



PURE DIGITAL'S PIONEERING Flip MinoHD is still great for many.

camera (see our camcorder buying guide on page 54). But you don't have to read a manual to use one, and all are built for quick-and-easy video sharing, are in the \$200 price range, and are small enough to tuck into a bag, pocket, or purse.

So can any of them beat the Flip Mino HD at its own game? We tested competing high-definition pocket camcorders from Creative Labs, Kodak, and Sony against the Flip to see which offered the best video quality, the most cinematic footage, the nicest feature set, and the most colorful clips.

Pocket Camcorders: Creative's Vado HD Is King

MODEL	PCW Rating	Performance	Key specifications	Bottom line
1 BEST BUY Creative Vado HD \$230 find.pcworld.com/62819	89 VERY GOOD	<ul style="list-style-type: none"> • Video quality: Superior • Low-light video: Fair • Audio: Fair 	<ul style="list-style-type: none"> • 8GB flash drive • Integrated USB connector • HDMI-out 	The Vado HD offers the best pocket-camcorder footage we've seen; its microphone and low-light performance are weak spots, however.
2 Pure Digital Flip MinoHD \$230 find.pcworld.com/62816	88 VERY GOOD	<ul style="list-style-type: none"> • Video quality: Very Good • Low-light video: Superior • Audio: Good 	<ul style="list-style-type: none"> • 4GB flash drive • Integrated USB connector • No replaceable battery 	For cinematic video, low-light performance, and absolute ease of use, the pioneering Flip MinoHD is still the one to beat.
3 Sony Webbie HD MHS-PM1 \$170 find.pcworld.com/62821	83 VERY GOOD	<ul style="list-style-type: none"> • Video quality: Good • Low-light video: Fair • Audio: Very Good 	<ul style="list-style-type: none"> • Memory Stick card • Separate USB cable • Swiveling lens 	The sexy Webbie HD has great features, but the microphone can be oversensitive to movement, and its low-light video disappoints.
4 Kodak Zi6 Pocket Video Camera \$160 find.pcworld.com/62822	83 VERY GOOD	<ul style="list-style-type: none"> • Video quality: Good • Low-light video: Good • Audio: Superior 	<ul style="list-style-type: none"> • SDHC card • Integrated USB connector • 30-fps and 60-fps frame-rate modes 	A great microphone and solid frame-rate options partly make up for the Zi6's tendency to oversaturate colors in its footage.
5 Kodak Zx1 Pocket Video Camera \$150 find.pcworld.com/62823	82 VERY GOOD	<ul style="list-style-type: none"> • Video quality: Good • Low-light video: Good • Audio: Poor 	<ul style="list-style-type: none"> • SDHC card • Separate USB cable • 30-fps and 60-fps frame-rate modes 	The rugged Zx1 comes with useful accessories and is the best option for outdoorsy types, but the subpar microphone is a drawback.

CHART NOTE: Prices and ratings are as of 4/17/09.

In video quality, the Creative Vado HD outshone the competition, and its wider-angle lens is a great touch; but its microphone is one of the weakest. Flip's MinoHD is a great low-light performer and captures filmlike footage, albeit with a yellow tint; its rigid flip-out connector may not play well with your PC's USB-port arrangement. Sony's Webbie HD MHS-PM1 has the best feature set—for a great price, too—but its video quality is middling. Kodak's Zi6 and Zx1 offer the best frame-rate options, but the Zi6 often produced oversaturated colors, and the Zx1 has a weak microphone.

Visit find.pcworld.com/62854 to see side-by-side clips from each camcorder to gauge each one's performance for yourself.

Best Video Quality: Creative Vado HD

Creative Labs' Vado HD, a \$230 pocket camcorder that records 720p high-def video, earns our Best Buy award thanks chiefly to its solid video quality and wide-angle lens. The design may be somewhat pedestrian, but this camera has a lot to like. It's just a hair larger than the Flip MinoHD, and the 2-inch-diagonal display does a great job of previewing video, though images can be a bit hard to see in sunlight.

The killer feature is the Vado HD's wide-angle lens. It captures more of the scene than the lenses of the other pocket camcorders we evaluated for this roundup, and its white balance avoids a yellow tint. In well-lit scenes, the Vado HD handles moving between different lighting conditions nicely, adjusting in less than a second.

The Vado HD's low-light performance, though, was among the worst of the group; and, like most of its competition, it has a choppy, unremarkable 2X digital zoom. But, like the Kodak Zx1, the unit can output directly to an HDTV via HDMI—it comes with an HDMI cable (no RCA cable, however). It has an integrated USB connector for offloading footage and recharging.

Seven buttons control recording and playback; they're all physical buttons, unlike the Flip MinoHD's touch-sensitive controls. The four-way rocker button can be unresponsive.

The Vado HD records AVI video using the H.264 codec. The camcorder works with Windows XP and Vista, and with Mac OS X 10.4.11 or later. The integrated 8GB of storage holds up to 2 hours of 720p high-def video in HD+ mode (a higher bit rate), up to 4 hours of footage in HD mode (still 720p video, but at a lower bit rate), and up to 8 hours of standard-definition VGA (640 by 480 resolution) video. While the 2-hour battery life is a bit short considering the Vado HD's recording capacity, the battery is user-replaceable.

Creative bundles its VadoCentral application for transfer-

ring and managing your videos, but the software is only for Windows. Mac users must drag videos off the camcorder and onto a hard drive manually, and must download a codec pack for QuickTime to actually watch videos in AVI format.

Offering best-in-show video quality, a user-replaceable battery, and other niceties, the Vado HD is our top pick.

Best Low-Light Video: Pure Digital Flip MinoHD

The \$230 Flip MinoHD shoots 720p-resolution HD video. A "shortcoming" is that colors are a bit subdued and washed out, with a noticeable yellowish tint, but clips shot with the Flip MinoHD do have a filmlike quality. The camcorder also captured the smoothest footage we saw in this roundup, and its low-light performance was at the head of the pack.

Using the MinoHD is ridiculously simple. Seven buttons control it: Record, Play/Pause, Delete Video, Volume up/



CREATIVE'S VADO HD, with top video quality, is our new leader in pocket camcorders.

Zoom in, Volume down/Zoom out, Previous, and Next. Except for Record, the buttons aren't really "buttons" but touch-sensitive divots that can sometimes be too easy to press accidentally. Luckily, you can lock the keys to prevent accidental navigation. Also on board: integrated speakers, a tripod mount, and a 1.5-inch display (the smallest here).

Because of that small screen, the MinoHD is the most compact model in this batch: 4 inches tall by 2 inches wide by 0.62 inches thick. Its plastic shell is a fingerprint magnet and may be prone to scratches, but Pure Digital includes a soft microfiber pouch. The camcorder comes in glossy black, and you can create your own custom design at the Flip Web site.

The Flip is called that for a reason: Flip a slider on the »

unit's side, and out pops the USB connector, switchblade-style. The connector is for charging the battery and offloading clips to your PC. That can be a very convenient touch, but the layout of the USB ports on some computers may foil those uses a bit. Because the flip-out USB connector is a rigid, hard-plastic piece, it works best with laptops that have horizontal USB ports on their sides. Otherwise, the camera can dangle awkwardly off the computer when connected, or it may block other ports.

Additionally, the MinoHD can output to a television; it comes with a cable for linking to a TV's composite video and audio jacks.

The Flip MinoHD stores up to 4GB of video, which is enough for about 1 hour of recording. It has no media card slot, so you can't add more storage. The lithium ion battery will power about 2 hours of use, according to Pure Digital. (Unfortunately, users can't replace the battery themselves.)

The camcorder handles low-light and indoor situations well, shooting smooth video. But, as with other pocket units, its 2X zoom is weak, sometimes jumping between zoom points.

The MinoHD comes bundled with FlipShare, an app for managing clips, making basic edits, and transferring videos to your computer; plugging the camera into your Windows or Mac OS X machine launches FlipShare automatically.

When it works, the FlipShare software is easy to use, but



SONY'S WEBBIE HD MHS-PM1 offers a well-rounded assortment of features.

we sometimes had trouble launching it in our informal tests. For Intel-based machines, updating the video drivers to the latest versions (at find.pcworld.com/62825) should fix the problems. You can also drag and drop videos from your Flip to your hard drive without using FlipShare at all.

For a simple interface, good low-light performance, and smooth, cinematic footage, the nod goes to the Flip MinoHD. If you like to tweak settings as you shoot, look elsewhere.

They Call This High-Def? When Small Means Less

NOT ALL HD footage is created equal. High-definition pocket camcorders make compromises in video quality to shrink the cameras' cost and size. Here's a rundown of the major limitations.

Lower-quality lenses: Tiny, simple lenses grab less light and provide less light control than lenses on bigger HD camcorders.

Tiny imaging chips: Light gathered by the lens hits a single, tiny (typically 1/4.5-inch) CMOS chip that packs many photosite sensors into a small area. Bigger HD camcorders usually have bigger and/or multiple imaging chips. On pocket HD camcorders, fewer photons hit each photosite sensor, resulting in compromised images in low-light situations and other tricky conditions.

Fewer pixels: Pocket HD camcorders typically generate 1280-by-720-pixel images; the Sony Webbie HD can create 1440-by-1080-pixel images. Full-size HD models can capture 1920-by-1080-pixel footage, and those higher-resolution source images generate better final images, even when delivered at lower resolutions.

Weaker image processing: Bigger camcorders are built with intricate image-processing systems to control colors, reduce

noise, and improve image quality under varying lighting conditions. The image processors in pocket HD camcorders, on the other hand, come with much more limited processing power.

More (and coarser) compression: Creating great-looking video with the H.264 codec requires more processing and a higher bit rate than minicamcorders can provide; most pocketable models compress video at about a 9-MBps bit rate. Larger HD camcorders use AVCHD compression (also a form of H.264), which provides better, lighter compression. Their bit rates (and file sizes) can be two to three times those of pocket HD camcorders.

Tough shooting conditions: The more complex the scene, the greater the difference in image quality between pocketable and full-size HD camcorders. Pocket models struggle to create good video in conditions of low light, high contrast, and fast or extensive motion (including motion that is introduced by unsteady hands).

When recording a well-lit scene without too much contrast or movement, however, pocket HD camcorders generate decent video.

—Jim Fedy

Best Feature Set: Sony Webbie HD MHS-PM1

The flashy, well-priced Sony Webbie HD MHS-PM1 (\$170) may resemble a teen-oriented toy, but don't let its basic looks and controls fool you. For a pocket camcorder, the Webbie has the most well-rounded feature set we've seen.

The PM1's collection of features is head and shoulders above the competition (aside from its slightly larger cousin, the Webbie HD MHS-CM1, which adds a 5X optical zoom lens for \$30 more), and it sells at a recession-friendly price—both the Flip MinoHD and the Creative Vado HD cost \$60 more.

The Webbie HD MHS-PM1 offers five different shooting modes (Auto, Backlight, Low-Light, Sports, and Landscape). You can choose from three resolution settings: VGA, 720p, and 1440 by 1080, all in MPEG-4 format with the H.264 codec. It also shoots decent 5-megapixel stills, complete with a self-timer and an on-screen histogram.

The unit's standard features—a choppy 2X digital zoom, a rechargeable lithium ion battery, and a tripod mount—match the competition's. The nifty swiveling lens is a nice touch.

The Webbie HD does have its drawbacks: It lacks an integrated USB connector (you must attach the included USB cable to transfer clips to your computer). Its low-light performance was among the worst of the pocket camcorders we tested. Footage is very bright, but colors seem more muted than they do with the Creative Vado HD and the Kodak Zi6, and it lacks the cinematic look of the MinoHD's video.

You must remove the battery to charge it, and you must buy, separately, Sony's proprietary Memory Stick card to store footage (the PM1 has no on-board storage). Its small navigation joystick may be too tiny for some people.

The Webbie HD's microphone is sensitive almost to a fault: It's excellent when the camcorder is on a tripod or held still, but moving your hand on the chassis creates loud noises in your recording. On the plus side, the microphone does a great job at picking up audio from a distance.

Besides the upload-to-YouTube option, you can output your footage directly from the Webbie HD to an HDTV. Flipping up a cover on the side reveals the USB port, a component A/V port for connecting the camcorder to an HDTV (you can switch between NTSC and PAL output in the camera's menus, as well), and a DC power port.

Operating the camera is simple. Rotating the 270-degree swivel lens turns the camcorder on (a dedicated power button is on the side, also). Buttons for accessing the menu and camcorder settings sit beneath the power button.

The 1.8-inch LCD screen on the back of the Webbie HD looks great, but as with every pocket camcorder, footage appears much better on the LCD than it does on your PC or on YouTube. The LCD is larger than the Flip MinoHD's 1.5-inch screen, and a bit smaller than the Vado HD's 2-inch screen.

The included Picture Motion Browser software—installed via CD—is an XP- and Vista-only application; you can, however, drag and drop video and image files from the Webbie HD to a Mac.

The Sony Webbie HD MHS-PM1 is, on paper, the most versatile of these pocket camcorders, but we were disappointed in its low-

light mode. Still, for a good price you get nice control over your footage, decent still-photo quality, a swiveling lens, and even some fashionable looks.

Best Microphone: Kodak Zi6

The Zi6 offers a flip-out USB connector, dead-easy controls, and relatively good video quality. A few extra tricks, namely the best audio recording of the bunch, an ability to toggle between macro and landscape modes, three video frame-rate settings, a still-photo mode, and the biggest LCD screen of the group, give it a mark of distinction.

The three video modes all record as H.264 .mov files. You can choose a 60-frames-per-second HD mode (720p), a 30-fps HD mode (also



KODAK'S Zi6 HAS three video modes; it also provides the best audio recording in this group.

720p), or a standard-definition VGA mode that takes lower-resolution clips with a smaller file size. In still mode, the Zi6 captures 3-megapixel images with its CMOS sensor.

The Zi6 is slightly bigger than the other camcorders reviewed here, but it is still pocketable. Though its body is all plastic, it feels durable in the hand. All the ports, covers, and doors on the device mean that it could be a bit more susceptible to damage when it's dropped, however.

In tests the Zi6 produced vibrant colors, but sometimes they were oversaturated and the clips looked dark. White balance

was off, with a bluish hue cast over some white backgrounds. Noise was visible when the player window was maximized.

In landscape-mode shooting with the Zi6, subjects closer to the lens appeared a bit blurrier and more out-of-focus than they were with the Flip MinoHD. Switching to macro mode helped somewhat. But the Zi6 didn't have the cleanest focus for subjects situated between macro range and a few feet away. Switching to 60 fps in HD mode improved matters a little.

You must store footage not in the camera but in a bring-your-own SDHC card (an appropriate slot is on the side of

How We Tested Each Camcorder

TO EVALUATE EACH pocket HD camcorder, we shot four rounds of sample footage and compared them: a wide-angle test to show how much of an image each model captured from the same tripod location, a standard indoor-lighting test, a low-light test, and an audio test.



THE FLIP MINOHD muted colors a bit, but video looked very smooth.



THE FLIP MINOHD took home top honors in our low-light test.



THE VADO HD had the widest-angle lens and the best video overall.



THE SONY WEBBIE HD captured some of the brightest video.



THE KODAK ZI6 produced vivid colors, but with some oversaturation.



KODAK'S RUGGED ZX1 had more-accurate colors, but weak audio.

the camcorder). An SDHC card can store up to 32GB of video, but you should factor in the cost of purchasing such a high-capacity card if you don't have one already.

A four-way minijoystick under the LCD screen on the back activates various functions, such as the 2X zoom. A playback button sits to the right of the joystick, and a delete button sits to the left of it.

The top of the Zi6 houses the power switch, while the left side of the device has the landscape/macro switch, a covered SDHC slot, and the door to the battery compartment. On the right is the flip-out USB connector, plus composite and component ports to enable viewing high-def and standard footage on your HDTV. The bottom has both a tripod connector and a place to attach an included wrist strap.

The Zi6 runs on two AA-size batteries; two rechargeable nickel-metal hydride batteries and a charger (a bulky wall-socket unit) come with the videocam. You must take out the batteries to recharge.

The Zi6's 2.4-inch-diagonal LCD screen makes framing your shots and playing them back a more pleasurable experience. Every other pocket camcorder we've tried has a noticeably smaller screen. The Zi6's bigger display is bright and crisp enough to see straight-on in bright sunlight.

The Kodak Zi6 is a good option for people who want more control over their video than what the Flip offers, as well as those who like using removable storage. While it is cheaper than the Flip or the Vado HD, you should remember to consider the cost of a high-capacity SDHC card, as well.

Toughest Pocket Camcorder: Kodak Zx1

The \$150 Kodak Zx1 is a pocketable HD camcorder for the snowboarder set, with a slick, durable design to go along with its decent performance. It offers a lot of what we like about its Zi6 sibling: It can shoot 720p high-def video at either 30 or 60 frames per second, can take 3-megapixel stills, provides an SDHC card slot, and can switch between those 30-fps and 60-fps rates. It records video as H.264-encoded .mov files, and feels comfortable in the hand.

Missing is the Zi6's flip-out USB connector (it would probably break off in your first snowboarding wipeout, anyway). You must attach an included USB cable to offload videos onto your computer. Also absent is the toggle for switching between landscape and macro modes.

One bright addition is the Zx1's HDMI-out port and cable. Also, the Zx1 has better white balance than the Zi6, and in this model Kodak seems to have fixed the color-oversaturation problems we sometimes saw in the Zi6. Still, video shot with



KODAK'S ZX1 IS a durable minicamcorder that's built for the outdoors.

the Zx1 wasn't as sharp as with the Creative Vado HD, and footage looked a bit darker than that produced by most other pocket HD camcorders. The Zx1 performed better in low light than the Zi6 did, but its footage wasn't as smooth.

The Zx1 offers the same not-so-wide-angle lens as the Zi6 and rivals such as the Flip MinoHD, but falls well short of the comparatively super-wide-angle Creative Vado HD.

Probably the most noticeable difference when compared with the Zi6—and with every other pocket camcorder—is the Zx1's weak microphone. The mic had trouble picking up softer sounds in our standardized audio testing, perhaps because it's on the top of the device rather than on the front.

The Zx1 is far less bulky than the Zi6, with a hard plastic front and a slick, brushed-metal back. (You can buy the Zx1 in red, blue, pink, yellow, or black.) Under its 2-inch LCD screen (which handled all lighting conditions well) are control buttons: a record button in the center, a four-way directional pad for its 2X digital zoom and frame-rate options, and four dedicated buttons for deleting clips, starting and stopping playback, and returning to recording mode.

What's more, you can swap out the Zx1's faceplate with a second "designer" battery cover included with the camcorder. Also in the box are several accessories: an HDMI cable, a USB cable for offloading your clips to a computer, a plug-in battery charger (with two rechargeable AA Ni-MH batteries), a wrist strap, and a soft carrying pouch.

At \$150, the Zx1 is a worthy sub-\$200 competitor to the Sony Webbie HD MHS-PM1 and Kodak's own Zi6—and it makes a nice option for outdoorsy videographers. ●

Here's How

How to Live Your Entire Life Through Facebook

With these 13 apps for Facebook, you can do just about anything—for work or play—without ever logging out of your favorite social site.

BY CHRISTOPHER NULL

WE'LL CONCEDE THAT the average Facebook user is doing nothing productive with their day, likely burning hours on end playing Mob Wars or agonizing over the finer points of a "25 More Things You Didn't Know About Me" note. Or perhaps goading colleagues into frittering away precious time in endless rounds of online Scrabble.

But it turns out that the überpopular social networking site is good for more than just fooling around. In

fact, many Facebook applications can be so surprisingly productive and useful that you might not ever have to leave its environs during your Web-browsing day. Dare we suggest you might even be able to get honest-to-goodness work done using Facebook? Here are some of our favorite Facebook apps for those of you who are truly obsessed.

Zoho Online Office

This is about as close as you can get to doing actual work using Facebook. Zoho has ported a hefty chunk of its popular Web-based Zoho Online Office application suite (find.pcworld.com/62729) to work within the networking site. When you sign up, you can link your Facebook account with an existing Zoho log-in (or you can set



LOOKING FOR A good place to eat? The Local Picks app gives you customer reviews of hundreds of thousands of restaurants.

one up on the fly), and you'll find all of your saved and shared documents available for browsing—and for sharing with other Facebook-plus-Zoho users. Editing files opens a new window on the Zoho site (they're not hosted within the Facebook app directly, unlike what happens with the other apps here); but rest assured, you can hustle back to your safe zone once work is done.

Local Picks

Just because you're a shut-in who never logs off of Facebook doesn't mean you don't need to eat once in a while. The TripAdvisor-developed Local Picks app (find.pcworld.com/62731) has more than 530,000 restau-

rants covered in its recommendation utility for Facebook; you can read millions of reviews and add your own. An easy map-and-zoom system helps you locate the noshes nearest your intersection. You can also compare your ratings with those of friends—and find out who among your Facebook circle has a "dining compatibility" that's similar to yours.

Bottlenotes

Nothing else quite goes with the Facebook experience as drinking copious amounts of wine. And true to form, several Facebook apps are designed to appeal to your inner wino. Bottlenotes (find.pcworld.com/62730) is largely self-explanatory: It



THE WEB-BASED ZOHO Online Office application suite allows you to share your business documents with your colleagues on Facebook.

Bottlenotes® The Culture of Wine Redefined.

Home My Cellar My Taste Profile Friends' Cellars Featured

Personal Taste Profile

Edit

REDS		WHITES	
Fresh, Fruity	<div><div></div></div>	Crisp, Light, Delicate	<div><div></div></div>
Smooth, Elegant	<div><div></div></div>	Tangy, Zesty	<div><div></div></div>
Earthy	<div><div></div></div>	Floral, Aromatic	<div><div></div></div>
Jammy	<div><div></div></div>	Full, Lush	<div><div></div></div>
Spicy	<div><div></div></div>		
Big, Powerful	<div><div></div></div>		

Recommended Wines



Rimon Dry Wine - 2005
average rating ★★★★★

Made using traditional dry wine producing methods, the fruit for this wine is harvested at the peak of ripeness, crushed for its sweet juices, fermented at low temperatures to preserve the fruit flavors, and then aged in French oak barrels for nine months. It is an

WITH BOTTLENOTES, YOU can track your wine collection while you chat with online pals, and compare notes with other connoisseurs.

lets you archive personal tasting notes and opinions regarding everything you drink. Just type in the name of the wine, some comments, and a star rating, and Bottlenotes archives the memo for posterity. Naturally, you can compare notes with friends and also add a “wish list” of wines that you’d like to buy (or receive as a gift—hint, hint).

Meetup

What’s going on in the real world? These days, “meet-ups” (find.pcworld.com/62733) are becoming an increasingly popular way for like-minded folks to get together and expound on their love for beer, board games, President Obama, or just about anything else. Attending a meetup does require leaving your house, so if that’s too much trouble, you can just browse the application to see exactly how far out some of the meetups can be. It turns out that people will meet in real life to talk about anything—but some of us knew that already.

Dynamite Webcam

No need to deal with a stand-alone video messaging client to get your live pic up on your Facebook page. Dynamite Webcam (find.pcworld.com/62734) can pull in any Webcam feed and populate your profile with the latest picture you’ve snapped. The setup process isn’t the easiest, but generally it works as advertised. If none of your friends are updating their cam pics, just browse the gallery and get a peek at the rest of the world. Don’t be



THE ULTIMATE GENEALOGY program for Facebook, **We're Related** allows you to connect directly with your family members online.

Find the Meetup for you! Add the Meetup application...

Log In Find Meetups

Find Meetups near you!

I want to find a Meetup about: Zip Code: Not in USA?

*fields are required

name	location	Meetup size	rating
 SF Debate Political Discussion Meetup The SF Debate Meetup is an open forum for discussion on the events of our time. We have three goals UNDERSTAND OTHER POINTS OF VIEW With so much news available to us, it is easy to fall into...	San Francisco, CA	332 open minded people	Rating: ★★★★★
 Bay Area Liberty on the Rocks Group Bay Area Liberty on the Rocks is an informal social group whose purpose is to connect all liberty-lovers in the nine county Bay Area through social activities such as drinking at bars/other fine estab...	Lafayette, CA	26 Liberty on the Rocks'ers	Rating: ★★★★★
 Commonwealth Club / World Affairs Council Two wonderful public affairs forums that are close to where I work in SF. These two are the real deal. Heads of state wander into the Commonwealth Club (http://www.commonwealthclub.org) as do dign...	San Francisco, CA	202 People to Discuss Current Issues	Rating: No recent ratings

MEETUP ON FACEBOOK helps like-minded people get together to share their interests. (You’ll have to leave the house—or just browse.)

surprised, though, if most people you see are sitting at their desks looking unfathomably bored, like you.

Web Presence

Web Presence (find.pcworld.com/62735) can be a great help for your legions of fans and friends. It’s a blogroll of sorts, all about you: Just punch in the URLs for your Flickr, LinkedIn, MySpace, Twitter, YouTube, and other social networking accounts, and Web Presence gathers them all up, adding the

appropriate icon for each site into its convenient box. You aren’t limited to the major social networking sites, either; you can add links to your own blog or to any Web site, making the app not only a handy directory of your Web presence, but a place to drop your favorite bookmarks, too.

Simplaris Blogcast

What a pain: After you spend all your time writing a blog post, you still have to manually add it as a link in your feed using Facebook’s “Post Link” feature. Automate the job by using Simplaris Blogcast (find.pcworld.com/62736). You simply paste in the URL for your blog’s XML or RSS feed; then, like an RSS reader, Blogcast pulls in the most recent headlines and a digest (you decide how long) once a day (or immediately, depending on your blogging software). The URL doesn’t even have to be that of your own blog: Blogcast works with any feed you give it. Alas, you can bring in only one feed at a time. »

Here's How

We're Related

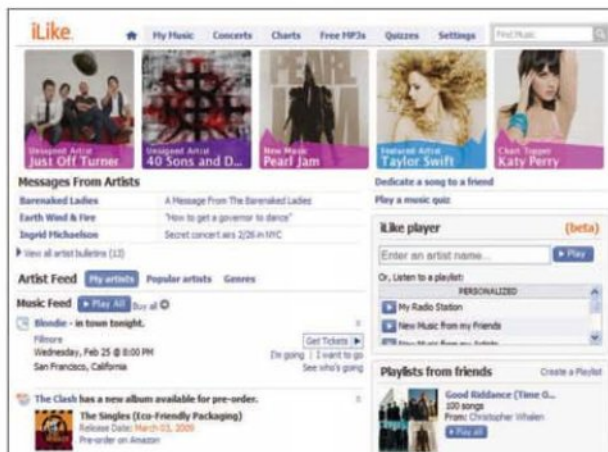
Social networks should be heaven for maniacal genealogists. Here they can combine their need to document the name and whereabouts of every relative they have with their love of status updates and SuperPokes. Family-Link.com's We're Related application (find.pcworld.com/62732) is probably the best ancestry tool currently available for Facebook. With this app, you can add your Facebookin' relatives to an easily navigable tree or list view.

With more and more older users getting into the Facebook game, such genealogical trees are expanding more rapidly than you might expect. Even if you can't convince Grandpa Walter's ghost to register for the site, you can still add his info (and that of other Facebookless heathens) manually.

Picnik

Everyone dumps their photo library into Facebook, but then what happens? Aside from pithy comments about your hairline or your 'do from your so-called friends, basically nothing. Picnik (find.pcworld.com/62737) puts a full-featured photo editor at your disposal so you can turn a lifeless shot into something far more interesting.

It has all the usual tools—a red-eye zapper, a color tweaker, an exposure adjuster, and an edge sharpener, as well as resize, crop, and rotate capabilities. You can even add stickers and speech bubbles, all without ever leaving your Facebook profile. A premium version (\$25 per year) adds extra goodies.



IMPORT YOUR ENTIRE iTunes collection into Facebook with iLike.

iLike

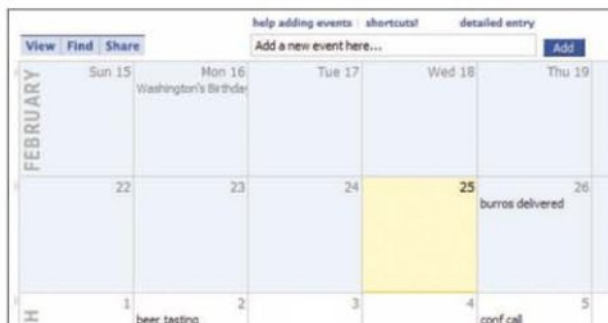
The Internet isn't exactly desperate for more music-focused applications, but if you're on Facebook, your options here are actually rather limited. Probably the best way to spin tunes within the site is through iLike (find.pcworld.com/62739). This music app has a partnership with Rhapsody that lets you play up to 25 complete songs, not just clips, directly from Facebook, and if you use the iTunes plug-in (available on the ilike.com Web site), you can automatically import your entire music library, complete with playlists, to the service.

Additional social networking features enable you to share all of this with your friends; plus, you get upcoming album info, concert

dates, top-track charts, and quizzes...enough, really, to eat up your entire day in a Blondie-fueled haze.

Calendar

Keeping your schedule together is a critical part of the life any well-tempered computer user, and the bluntly named Calendar (find.pcworld.com/62738), from 30 Boxes, is the best tool for that purpose available on Facebook. Click the self-explanatory calendar boxes for the upcoming days, and type in what you have to do. The system defaults to "all day" events; click again, and you can set start and end times and invite other people to group meetings (you will need a 30boxes.com account to do the latter). All superhandy, and you can



FACEBOOK QUICKLY BECOMES a much more practical site when you can use it to track your schedule via the Calendar application.

drop a digested version onto your profile page. But we remain at a loss to explain why the app won't accept events that begin with the word "malt" (no joke).

My del.icio.us

What to do about all the bookmarks that you've archived on Delicious.com (formerly del.icio.us)? Bring 'em into Facebook in a box of their own. Several apps related to Delicious are available, but the one we've found that works best is My del.icio.us (find.pcworld.com/62741), which lets you import up to 25 of your most recent bookmarks, complete with notes and tags. You can also limit the app to show only the links with a tag you specify (say, "facebook"). The box automatically updates every 30 to 45 minutes, pulling in your latest picks for all your friends to see.

YouTube+

Yo, dawg, I heard you like Web videos, so I put a Web video viewer in your Facebook page so you can watch videos while you do your Facebooking!

That's right, this app, called YouTube+ (find.pcworld.com/62740), shrinks down not just YouTube but Revver and Metacafe too, bringing you just about all of the features of those sites right inside Facebook's environment. Search for clips and watch and rate videos—you can do it all without having to leave your Facebook session. And whenever you mark a video as a favorite, the application automatically adds a link to the video to your profile feed.

Buy Music Unfettered by Digital Rights Management

BY ZACK STERN

DIGITAL RIGHTS management (DRM) music restrictions are finally on their way out. Apple, which accounts for most U.S. music sales, released its 10-million-track catalog from those limitations in April (see find.pcworld.com/62793). DRM constraints have restricted the number of PCs that can play songs and even the kinds of devices that can read the files. With the restrictions lifted, you can buy music for use however you want.

Millions of DRM-free files are available from Amazon, eMusic, Napster, Rhapsody, and Zune, as well as from iTunes. But each store varies in its pricing, file quality, selection, and other quirks. Here's how they stack up.

iTunes

Apple's music store (find.pcworld.com/62794) requires you to shop through iTunes software and is designed to work with iPods, but you can move purchased songs into Windows Media Player,

Although restrictions are easing, DRM can still be problematic for digital music lovers. Here's where and how to buy unrestricted tunes.



AT THE ITUNES Store, you can discover music through many points of entry, but the search bar takes you directly to results, too.

with a caveat: iTunes doesn't actually sell MP3 files.

Its iTunes Plus tracks—the DRM-free ones—are AAC (advanced audio codec) files. Aside from playing on iPods, DRM-free AAC tracks work on nearly all music players, including the Zune and even many mobile phones. Just be sure to buy the iTunes Plus songs and not the Apple-only DRM tracks until the transition is finalized.

You can upgrade previously purchased restricted songs to open files for 30 cents per track or \$3 per album. Apple says that all of its DRM-free AAC tracks are encoded at 256 kbps at a variable bit rate. Although AAC is very widespread, MP3 is still more-commonly supported.

The strong iTunes store interface is an easy pick if you use Apple's iPod or iPhone. Previously, Apple charged

\$0.99 per song; however, the company is now introducing \$0.69 and \$1.29 prices for some tracks. Album pricing will vary more, too, although \$9.99 will remain typical.

Amazon MP3 Store

Amazon (find.pcworld.com/62411) regularly offers sale prices—and is now undercutting iTunes on some top-selling music. (Nonsale prices are about \$9 apiece for new albums; less for older titles.)

You can sort offerings by price, genre, and other standards, and Amazon's recommendations bounce you to new songs you might like.

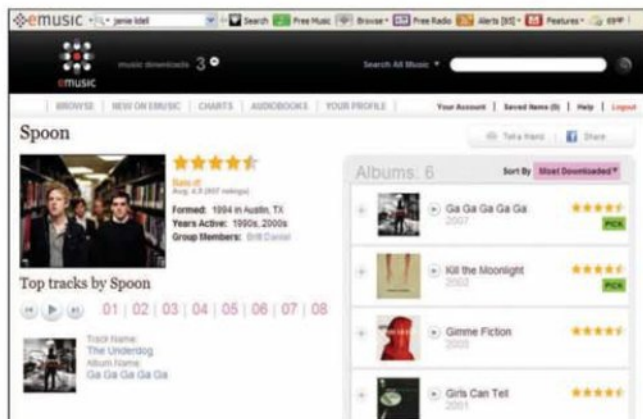
For single tracks, you won't have to install additional software. Album purchases require Amazon's download utility. Most of the music Amazon offers is encoded as 256-kbps MP3 files. Its 7 million songs are aimed at a mainstream, pop audience. Tracks cost \$0.79 to \$0.99.

eMusic

eMusic (emusic.com) mixes DRM-free MP3 downloads with a subscription service. »



AMAZON'S SIMPLE MP3 Downloader utility for albums from its music store usually runs unobtrusively in the background.



EMUSIC'S OPTIONAL TOOLBAR adds more ways to search for tracks and hear new music; the site itself offers lots of help to music fans.

Here's How

A monthly fee brings a fixed number of tracks. Often, you'll end up with a few credits to spend one track at a time, instead of on a whole album. Low prices offset these annoyances. Monthly plans vary, but one option is a 100-song, \$25 plan where songs cost \$0.25 each.

eMusic's 5 million tracks are 192-kbps, variable-bit-rate MP3s—not quite as good as most competitors' content, but okay. eMusic's catalog favors smaller, more-independent record labels rather than the big names.

Lots of editorial content helps subscribers navigate the lesser-known music. Top-selling and theme-based lists aid beginners. Social networking features allow you to see what songs other, similar users or friends like.

Napster

The current Napster (napster.com) invites you to choose between a DRM-restricted subscription and DRM-free MP3 downloads, so look for the MP3 icon before buying.

A big catalog of 7 million MP3 tracks gives Napster a wide reach. A spokesperson



NAPSTER SOFTWARE MANAGES and plays your tracks, but it offers few features beyond the similar-looking Napster Web interface.

for Napster reports that the "vast majority" of tracks are variable-bit-rate at 256 kbps, while a "handful" are sold at 128 kbps. (The shopping card says which one you'll get just before you buy.)

The Web interface feels clunky and is best suited to finding music you already want, not for making new discoveries. Its optional software works slightly better, though the look is nearly the same. And you can't see prices until you're almost ready to buy, which makes bargain hunting difficult.

Rhapsody

Rhapsody has a Web-only interface for browsing its 7 million songs (rhapsody.com). The service is split between

subscription and DRM-free MP3s, so surf the MP3 list to get the DRM-free songs.

The weak interface forces users to browse by searching. You have little power to resort lists, and sometimes the store sells albums only as \$0.99 individual tracks—annoying if they have many short songs. Album prices are often about \$10 or less.

Rhapsody's strong preview system lets you sample the full track before buying. But unless you purchase the DRM-laden, unlimited service, you can hear only 25 tracks each month. Its 256-kbps MP3 files have good quality, and you can download tracks as zip files if you don't want to install Rhapsody's download utility.

Zune

Before downloading from the Zune marketplace (zune.net), you'll need Microsoft's Zune marketplace software (a stand-alone download). The tool serves mostly as a Zune-oriented replacement for Windows Media Player. But if you use a different MP3 device, the software plays nicely with WMP.

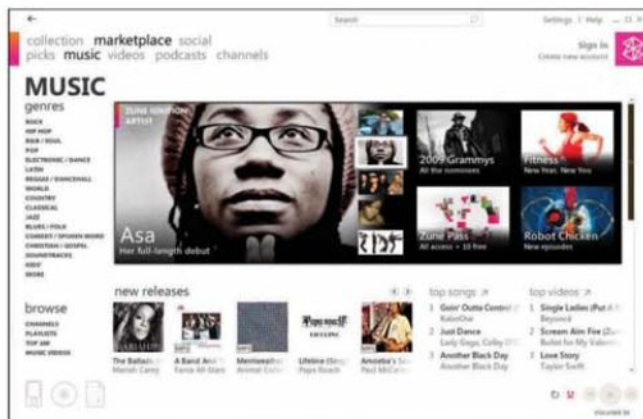
The catalog offers a mixture of DRM-free MP3 tracks and DRM-restricted songs (you may find a restricted track on an otherwise open-MP3 album). Look for the MP3 icon.

The 5 million tracks cover most mainstream favorites. They usually cost \$0.99 each, but you have to buy with Microsoft's points currency, common on the Xbox 360. Music is encoded at either 256 kbps for the major record labels or an impressive 320 kbps for the indie labels.

For Zune users, Microsoft offers an all-you-can-download monthly service with typical DRM restrictions for \$15. But each month, you can also download and keep ten DRM-free tracks as MP3 files for use anywhere.



RHAPSODY'S SPARSE INTERFACE may look like a placeholder—you have to browse by searching—but it lets you preview full tracks.



A WELL-DESIGNED, all-in-one music app, Microsoft's Zune software manages your tunes even if you don't own the Zune MP3 player.

Convert YouTube Music Videos to MP3 Files

OKAY, I MIGHT as well confess: I'm an avid fan of Brit-pop superstar Lily Allen.

Recently, Allen performed a nifty acoustic cover of Britney Spears's "Womanizer." Alas, Allen's version is not available on iTunes, AmazonMP3, or any other online store that I'm aware of (see "Buy Music Unfettered by Digital Rights Management" on page 91). The only place to hear the track is YouTube.

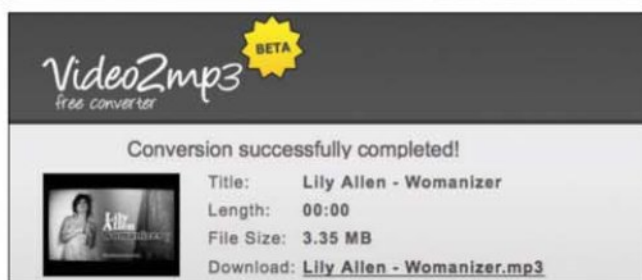
That doesn't suit my mobile, iPhone-driven lifestyle. So until Lily's people see fit to let me buy the track, I'm "borrowing" it from YouTube. The site that makes this possible? Video2mp3 (video2mp3.net), which converts any video into an MP3

file (the service, its home page says, is still in beta).

Just copy and paste the URL from the video's YouTube page to Video2mp3 and click *Convert*. Then be prepared to wait a few minutes. Resist the urge to click that big, inviting Download button while you're waiting; it's part of an advertisement for a different product.

When Video2mp3 is done with the conversion, you'll see a link to the file. Right-click it and choose the appropriate download option for your browser. Then add the MP3 to iTunes or your music manager of choice.

Note to Firefox users: A handy Video2mp3 extension (find.pcworld.com/62790) called



COPY ANY VIDEO'S URL from the original YouTube page and paste it into Video2mp3's Convert field to save the MP3 to your hard drive.

YouTube 2 MP3 adds a download link to each YouTube video page, so you don't have to copy and paste the URL.

And a final, extremely important note for everyone:

Be aware that this little trick is legally dubious and could get you into trouble with the RIAA. This means that you try it at your own risk.

—Rick Broida

ANSWER LINE

? Now that my TV has gone digital, how do I get more channels?

—Jo Meininger, via e-mail

YOUR CONVERTER BOX needs to scan for channels in order to determine what it can get. Check the box's instructions and scan. (In fact, rescan every few months—especially during the transition.)

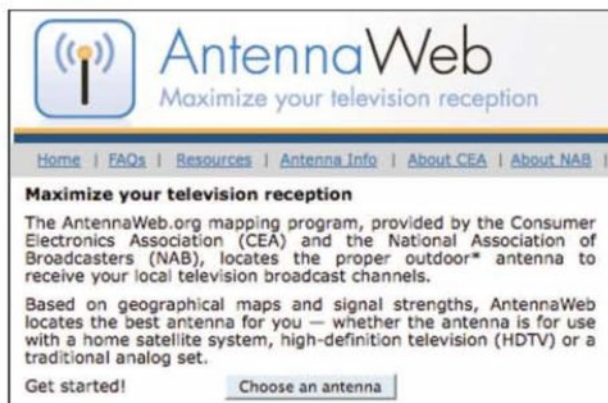
Also, make sure your antenna supports UHF. TV broadcasts come in VHF (channels 2 to 13) and UHF (14 and above). Your antenna needs to pick up both. On rabbit-ear antennas, the two rods that inspire the name are the VHF antenna; the UHF antenna is a circle.

Digital broadcast signals are more directional than analog ones. Try moving the antenna around—or raising it—then scanning again.

If you're still not satisfied with the available channels, you'll probably have to buy a new antenna. Here are some guidelines:

- Go outdoors, if possible. Outdoor antennas greatly improve your odds of getting more stations. They're higher, and the signal doesn't have to contend with your home's walls and electronics.
- Bigger is usually better.
- In any antenna you're considering, check the spec for gain, expressed in dB (for decibels). The higher this number, the better. A gain of 13dB, for example, is much better than a gain of 6dB.

ASK YOUR QUESTION AT FORUMS.PCWORLD.COM



ANTENNAWEB.ORG IS AN excellent resource for choosing a digital antenna, with tips on how to get the best reception in your location.

One other option: Sit still and keep your fingers crossed. Some stations may boost their digital strength after the transition.

Finally, visit AntennaWeb.org to see what stations you could be getting. Enter your address, and the site will list your local stations, give you their compass direction (remember, digital broadcasts are more directional), and tell you how far away they are.

—Lincoln Spector

Make Photos Jump Off the Page With Drop Shadows

IF YOUR PHOTOS live mainly on your computer, you might not traffic much in real frames anymore. But the virtual frame of a *drop shadow*—that is, the hint of a “shadow” under your image—can add an interesting touch to pictures that you share online. And in Adobe Photoshop Elements 6 or later, you can introduce this effect with only a few clicks.

To get started, open a photo in Elements. Because the drop-shadow effect is designed to work on a layer, you need to promote your photo to layer status. Find the Layers palette—it's on the right-hand side of the screen—and double-click the image, which should be identified as “Background.” The New Layer dialog box will appear. Click **OK**.



CHOOSE 'LAYER STYLES' and then 'Drop Shadows' from the Effects palette to add the subtle but attractive touch of a drop shadow to your picture.

Notice that your image is now a layer, as indicated by the name Layer 0 in the Layers palette. (You can change the name of the layer if you want to, but since Layer 0 is the only layer you'll be working with in this project, that step is really not necessary.)

You're almost ready to add

drop shadows. But before you do that, you need to expand the canvas around the edges of the photo. Otherwise, your drop shadow will have nowhere to go.

In the menu, click **Image • Resize • Canvas Size**. You'll want to make the canvas a little bigger—by 10 percent,

say. Just switch the unit of measure from inches to percent, and then enter **110** for both height and width. Click **OK**.

You should see that the canvas has expanded by 10 percent, and there should be a transparent border around the edges of your photo.

Now it's time to experiment with drop shadows. In the Effects palette located on the right side of the screen, click the **Layer Styles** button and then choose **Drop Shadows** from the menu. You can drag any of the drop-shadow presets from the palette to your photo. If you don't like the one you dragged, simply replace it with another.

When you find a preset that suits your image, save your finished product.

—Dave Johnson

ANSWER LINE

ASK YOUR QUESTION AT FORUMS.PCWORLD.COM

Why doesn't my PC see my new hard drive?

—Bobby, via the forums

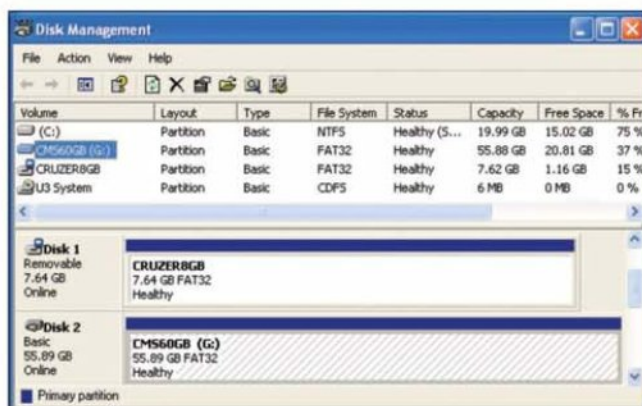
CHANCES ARE YOUR new drive hasn't been formatted. That situation is easy to fix by taking the following steps:

Select **Start • Run** (in Vista, just click **Start**). Type **diskmgmt.msc** and press **<ENTER>** for the Disk Management tool. You'll find a square that represents the new drive. Right-click it and select **Format**. The rest of the procedure is pretty obvious from there.

If you don't find the drive in Disk Management, you may need to make an adjustment in your hardware settings (aka your BIOS). Reboot your computer and look for a message (it should be one of the first things that comes up on your screen) saying something like 'Press XX key for setup'. Immediately press whatever key it tells you to, and then search the menus for hard-drive options.

Alternatively, the hard drive may not be properly installed. Open up your PC again and check the connections.

Note: Don't use an internal hard drive for backup. That leaves your data vulnerable to problems a backup is supposed to protect



THE WINDOWS Disk Management utility should show you any drives that are connected to your PC, even if the drive's data is unreadable.

against in the first place, including malware, fire, and simple theft.

Thanks to PC World Forum members ARock84, crazy4laptops, and rgreen4 (see forums.pcwORLD.com/message/184947).

—Lincoln Spector



RICK BROIDA'S HASSLE-FREE PC

Smooth the Move to Office 2007 With These Annoyance Busters

IF YOU ARE a recent convert to Microsoft Office 2007, you've probably discovered that learning your way around the interface can take a while. Obviously the biggest change involves the Ribbon, which can be daunting at first but has some genuine benefits. It's really just a smarter way of organizing various features. This month I have several tips for customizing Office 2007—namely, making additions to the Quick Access Toolbar, getting rid of the annoying Mini Toolbar, and setting up Outlook's spelling checker.

Add Features to the Quick Access Toolbar

I miss certain icons from the old Office 2003 toolbar, such as Print and Open—icons that I used constantly. Office 2007 instead forces me to click the big Office button to access such basic functions. That's one whole extra click!

But it's easy to add just about any Office feature to the Quick Access Toolbar, at the top of the screen next to the Office button. By default, the toolbar sports Save, Undo, and Redo icons, but you can customize it as you see fit. (I'm thinking specifically of Word 2007; the process, however, is the same for Excel and PowerPoint.)

For starters, click the little down arrow on the right edge of the toolbar. You'll see a list of popular commands such as Open, Quick Print, and Spelling & Grammar. Click any of them to add the corresponding icon to the Quick Access Toolbar. (Likewise, click any already-checked item to remove it from the toolbar.)

What if you want to add a feature that doesn't appear on this list? Simple: You can right-click almost any icon on the Ribbon (or in the Office menu) and choose *Add to Quick Access Toolbar*. Also, to remove one of these custom jobs, just right-click its icon and choose *Remove from Quick Access Toolbar*.

Kick Word 2007's Mini Toolbar to the Curb

As much as I like Office 2007 (for the most part), a few of its features seem hell-bent on annoying me. One of them is Word 2007's little on-the-spot editing toolbar, which is officially known as the Mini Toolbar. Perhaps you've encountered it: The darn thing ap-

Access favorite features quickly; ban an irritating toolbar; make Outlook check your spelling.

pears when you highlight some text and then move your mouse up.

Admittedly, this new feature is a handy addition, but as someone who has literally spent 20 years mousing his way to the top of the screen for font selection, highlighting tools, and the like, the Mini Toolbar strikes me as a Maxi Annoyance.

If you agree with me, it's easy, fortunately, to turn off:

1. Click the *Office* button and then choose *Word Options*.
2. Clear the check box for *Show Mini Toolbar on selection*.
3. Click *OK*, and you're done.

To restore the toolbar, you just recheck that check box. (But you didn't need me to tell you that, did you?)

Make Outlook Automatically Check the Spelling in Your E-Mail Before You Send It

I'm kind of a spelling snob. I take pains to make sure that I spell everything correctly in my messages, so it bugs me a little bit when I see that others haven't done the same (their e-mail contains spelling mistakes—sometimes egregious ones).

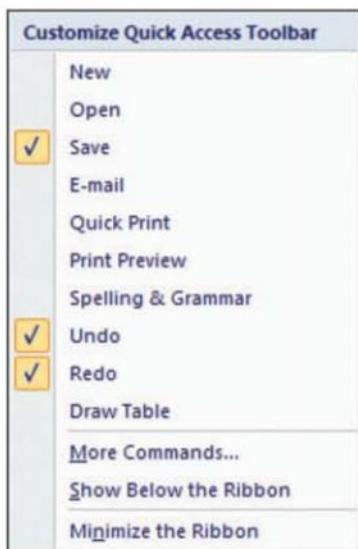
Well, okay, I cheat a little: I use Outlook 2007's spelling checker to give my outbound mail the once-over before sending. You can do the same—without having to remember to click the Spelling button every time—by tweaking Outlook's checker. Here's how:

1. Select *Tools>Options*.
2. Choose the *Spelling* tab.
3. Tick the box marked *Always check spelling before sending*.
4. Click *OK*.

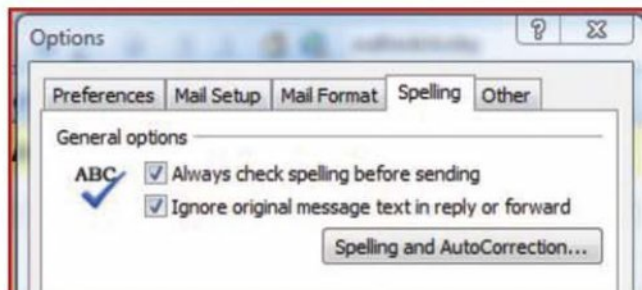
Now, when you click *Send*, Outlook's spelling checker will immediately appear, giving you an opportunity to fix those "Hey, Rick, you are so stoopid" kinds of mistakes.

Of course, by default, Outlook uses squiggly red lines to indicate misspellings as you type—giving you the chance to pause and make corrections—but I know many folks who prefer to just bang away at the keys and only afterward fix the errors.

Read all my *Hassle-Free PC* posts at find.pcworld.com/62802.



ADD FEATURES TO the Quick Access Toolbar by checking those commands—Quick Print, say—that you would always like to have at the ready.



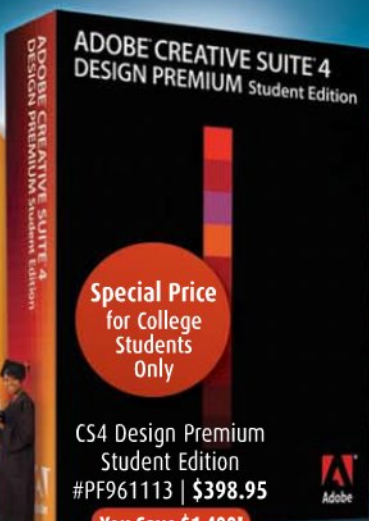
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You are a member of the class the Court has certified in this Action if you resided in the United States of America during the period of time from and including December 5, 2001 up to and including April 11, 2008, and within this period purchased online a Symantec Subscription Product with a Stock Keeping Unit that designates the product as an upgrade, the installation of which resulted in the uninstallation of another Symantec Subscription Product prior to the expiration of that product's subscription. Symantec Subscription Product means any antivirus, internet security, internet safety and other software product sold by or on behalf of Symantec with a subscription for protection updates, content updates and/or other updates, including Norton AntiVirus, Norton Internet Security, Norton Personal Firewall, Norton SystemWorks, Norton Confidential and Norton 360. Excluded from the class are all persons and entities who purchased upgrades through Symantec's Online Store. Also excluded are defendant, its agents and affiliates, any government entities, and any persons and entities for whom Symantec added back the subscription time upon request.

Under the terms of the settlement, Settlement Class Members who submit by mail a valid claim form before the deadline will receive either a fifteen dollar (\$15.00) certificate, redeemable for one (1) year, towards the purchase of any product(s) or services available at the Symantec Online Store or a \$2.50 cash payment. You are not a member of the Plaintiff Settlement Class if you have previously opted-out (i.e. excluded yourself) from this Action. *Please see the complete notice and Claim Form at www.heverly-nortoncase.com for details regarding the settlement, the requirements for submitting a claim, and how to submit a claim. If you wish to submit a claim, you must do so by mail by September 9, 2009.*

If the settlement is approved, certain settlement class representatives will apply for an incentive award of \$5,000 each and plaintiffs' counsel will apply for an award of fees and expenses in the sum of \$2,275,000. Neither award will reduce the relief available to Settlement Class Members. If the settlement is approved, all claims of the Settlement Class Members which were or could have been asserted in the Action, based upon the facts alleged in the Action, will be released.

If you wish to remain in the Plaintiff Settlement Class you need not do anything. However, if you wish to receive the certificate or cash payment described above, you must submit a claim by mail. If you do not wish to remain in the Plaintiff Settlement Class, you must exclude yourself by mailing an exclusion request to the Settlement Administrator at: Heverly-Norton Settlement Administrator, c/o Rust Consulting, Inc., P.O. Box 1181, Minneapolis, MN 55440-1181. If you exclude yourself, you may pursue an individual claim, but you will not receive any of the benefits of the class settlement, and cannot object to the settlement. If you wish to object to the settlement, you must mail your objection to the Court for filing at the following address: Clerk of the Court, Superior Court of the State of California, Santa Clara County, 191 N. First Street, San Jose, CA 95113, and serve it by mail on the parties' counsel: Gary Graifman, Kantrowitz Goldhamer & Graifman, 210 Summit Ave., Montvale, NJ 07645 and Robert B. Hawk, Hogan & Hartson LLP, 525 University Avenue, 4th Floor, Palo Alto, CA 94301. If you wish to intervene, you must mail a request to intervene to the Court at the above address and serve it by mail on the parties' counsel. To properly exclude yourself, object or request to intervene, you must follow the instructions set forth in the Long Form Settlement Notice and the Settlement Agreement available at www.heverly-nortoncase.com.

All requests for exclusion must be mailed to the Settlement Administrator and all objections and requests to intervene must be mailed to the Court and the parties' counsel no later than July 27, 2009.

The Court will hold a hearing to consider whether to approve the settlement on August 28, 2009 at 9 a.m., before Judge Jack Komar, Department 17 of the Superior Court of the State of California, Santa Clara County. The hearing will be held at 191 N. First Street, San Jose, CA 95113.

DO NOT CONTACT THE COURT OR SYMANTEC CONCERNING THIS NOTICE OR THE LAWSUIT. If you would like more information about this notice or this case, you may view this notice, the complete Long Form Settlement Notice, the Settlement Agreement, the Court's order granting Preliminary Approval and the Claim Form at www.heverly-nortoncase.com. If you do not have internet access and you desire printed copies, contact Heverly-Norton Settlement Administrator, c/o Rust Consulting, Inc., P.O. Box 1181, Minneapolis, MN 55440-1181.

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PARTS LIST



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