ComputorEdge™ Online — 11/05/10

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Digital Dave

“Digital Dave answers your tech questions.” by *Digital Dave*

A reader can't get his computer screen-to-TV setup working properly to download and watch Netflix movies; how can you turn your Windows 7 computer into a DVR?; copying text between Outlook and Excel has a reader flummoxed.

Dear Digital Dave,

I just hooked up an HDMI-to-DVI cable from an HP computer (Windows 7) to a Sharp TV, per a salesman's instructions. My desktop picture appears on the TV (without icons), so when I download Netflix instant movies I expect they would also appear on the TV. Wrong. Picture and sound are great on the computer monitor, but no change on TV. Help if you can.

Bob
Escondido, CA

Dear Bob,

You do have your television properly hooked up per the salesman's instructions. This is evident by the appearance of the desktop on the TV screen. The symptom that points to your problem is the lack of program icons on the second screen. What you are experiencing is an extended display where both monitors show a different part of the same desktop—one huge desktop. All of the icons are on the HP display because it is the primary section of the desktop, although you could move them to the television by dragging them—probably to the right—off the HP monitor onto the TV. (You can test this by merely dragging your cursor to the other screen.) You could also do this for any of the non-maximized windows—including Netflix in a browser. However, that is not the best solution for your situation, since it would not help with the sound problem.

You will want to change the settings on your HP to clone your HP screen on the television. Then everything that appears on the computer will be replicated on the television. (In Windows 7, the settings should be found in Control Panel/Appearance and Personalization/Display/Screen Resolution.) Both displays should appear on the list similar to Figure 1 along with the Multiple Displays dropdown list. (If both monitors do not appear, use the Detect button.)

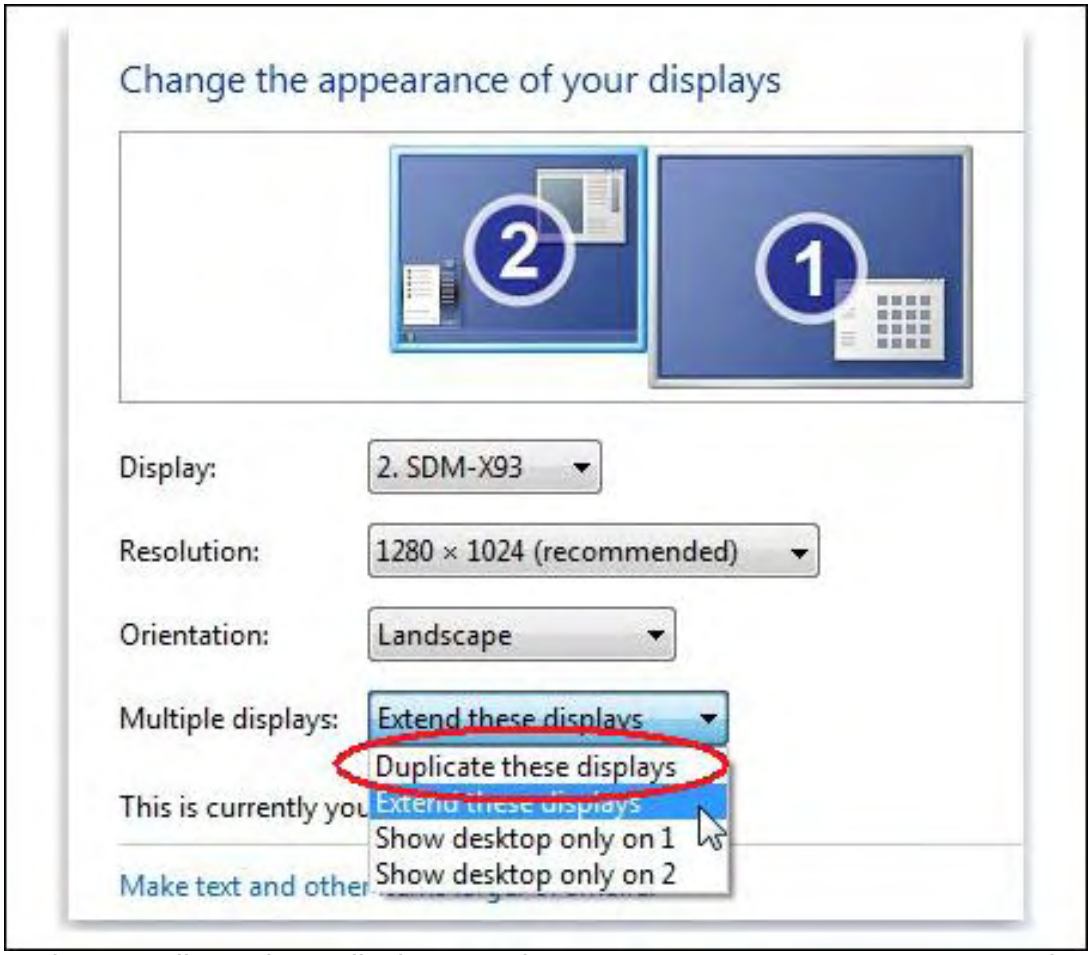

Figure 1. Select "Duplicate these displays" to clone your computer screen to a second monitor in Windows 7.

Select "Duplicate these displays" to clone your computer screen on the television. This should resolve your situation.

Another approach to making these changes in both Windows 7 and other versions of Windows is to work directly with the control panel for the video card(s). This can often be found by reviewing the options when right-clicking on the desktop, or using the advanced settings in the Display settings window. This approach will vary depending upon the type of video card(s) installed.

Digital Dave

Dear Digital Dave,

I have an Dell Inspiron with Windows 7 Home Premium and a dial-up connection. I understand that the computer can be used like a DVR to record TV programs, but I have not been able to find out how to do this.

Ray McCutcheon
Stagecoach Nevada

Dear Ray,

A Digital Video Recorder (DVR) is essentially a hard drive with special software that will record

television programming from a cable or broadcast television signal. Your computer has a hard drive, and Windows 7 (all versions except Basic) has the software to get it done. All you need is a way to get the signal to your computer.

In order to turn your Windows 7 computer into a DVR, your system needs a television receiver (or tuner). Some laptop computers are sold with built-in tuners, but most need to have them installed after purchase. For desktop computers, you can buy television receiver cards at most electronics stores or online for installation into your computer. They are installed the same way as any other computer expansion card and usually come with some type of DVR software.

Once installed, a television antenna or basic cable can be plugged directly into the computer. If using broadcast (over the airways) television, then antenna placement is critical. Signals that are encoded by the cable companies will not be viewable directly from the cable, so many cable channels may not be available unless they come from a cable box—which will defeat the purpose of the DVR, since only one channel will be available at a time.

Although most television cards come with DRV-type software, Windows 7 can do the job with Windows Media Center. With it you can download scheduling for your local area and set up your recording preferences for live television. To determine if your computer has a tuner installed, you can open Windows Media Center and go to TV/Live TV. If you get the message "No tuner available to satisfy the current request," then you will need to install one.

Digital Dave

Dear Digital Dave,

Here is the scenario. I see an address in Outlook that I block and copy with the Ctrl +C command, then I open Excel to drop the name into my database. I find that the clipboard flushes out when I open Excel and the block is no longer available for the transfer. It works fine if Excel is opened before Outlook. Is there a parameter to stop flushing out the clipboard between Outlook and Excel?

Don
San Diego

Dear Don,

This seems to be a fairly common problem with Microsoft Excel. In fact, there seems to be a number of issues that people have had with using the clipboard in Excel. However, I'm not an expert on Excel, so I will only address your apparent problem.

As far as I know, there is no parameter setting that would affect your problem. It's suggested that the clearing of the clipboard when opening Excel is most commonly caused by third-party add-ins, such as the Avery Label add-in, flushing the clipboard, thereby preventing the transfer to the Microsoft Office clipboard. You could test this by removing each add-in one at a time. But (unless someone else has a more elegant solution), it may be easier just to open Excel before you do your cut-and-paste operation. Then you won't need to deal with this annoyance—although in the back of your mind it will continue to haunt you.

Digital Dave

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The Right Kind of RAM

“Incompatibilities and outdated technology haunt RAM upgrades.**”** by Pete Choppin

> Computer memory can have a significant impact on the performance of your computer. While the "more is better" rule generally applies to RAM, it is important to know how to take full advantage of the memory you have.

I have seen on several discussion groups (*www.bleepingcomputer.com/forums/topic357968.html*) computer users constantly complaining that they have purchased RAM (Random Access Memory) that is not recognized at all by their computers, or the computer recognizes only half, or even a quarter of its actual capacity. Usually the RAM is not at fault, but rather is just incompatible with the computer's motherboard. The problem arises because new types of RAM modules are introduced, and the older motherboard chipsets are not designed to recognize them.

A particular motherboard will have been designed to run the range of RAM modules that were on the market when it was released, but its manufacturer cannot anticipate changes in technology in its design; consequently, the motherboard's manual will list only the types of RAM that the motherboard supports at the time it was made available. Unfortunately, very few motherboard manufacturers update their manuals to report incompatibilities with types of RAM modules that were not available when the motherboard was released.

So how do you determine what type of RAM to purchase? Let's take a look at some ways to find out, and also what to consider when purchasing a motherboard that will take full advantage of the RAM installed on it.

Which Type of RAM Do I Need?

The best way I have found to determine the type of RAM required for any given motherboard is to use something called a memory advisor. This will ensure that you don't purchase RAM that is not supported by your brand-name desktop or laptop computer or the computer's motherboard. Most major manufacturers of RAM have these. Go to Crucial (*www.crucial.com*) and check the Crucial Memory Advisor. All you will need to know is the manufacturer and model of your motherboard. A good practice before buying a new motherboard is to find out if it is listed by Crucial before you buy it; that way, you will know that you can match the correct RAM for that motherboard if you want to upgrade the memory.

Another favorite manufacturer of mine is Corsair. Its quality of RAM is excellent. In my opinion, it is slightly higher quality than Crucial. Corsair also has a similar memory search function; however, your computer must be from a major manufacturer, or you will not be on the company's list. For example, I have a computer where I work that was ordered from an online vendor. This does not mean you cannot use Corsair memory in your system, but the search will not find your custom-built computer, so you will need to know exactly what you are doing. One way to find the type of RAM you need from Corsair is to use the Crucial Memory Advisor, and then be sure to match the exact type with the Corsair RAM.

If you don't know the make and model of the motherboard installed in your computer, there is a free utility called Belarc Advisor (*www.belarc.com/*). It is found by going to the free download link. The Belarc Advisor creates an analysis of the hardware and software on a personal computer. It will provide tons of information about your computer.

DDR/DDR2/DDR3

Most of the current desktop PCs and laptop PCs have motherboards that use DDR or DDR2 memory. However, DDR3 memory is now available and, of course, more motherboards will be using it.

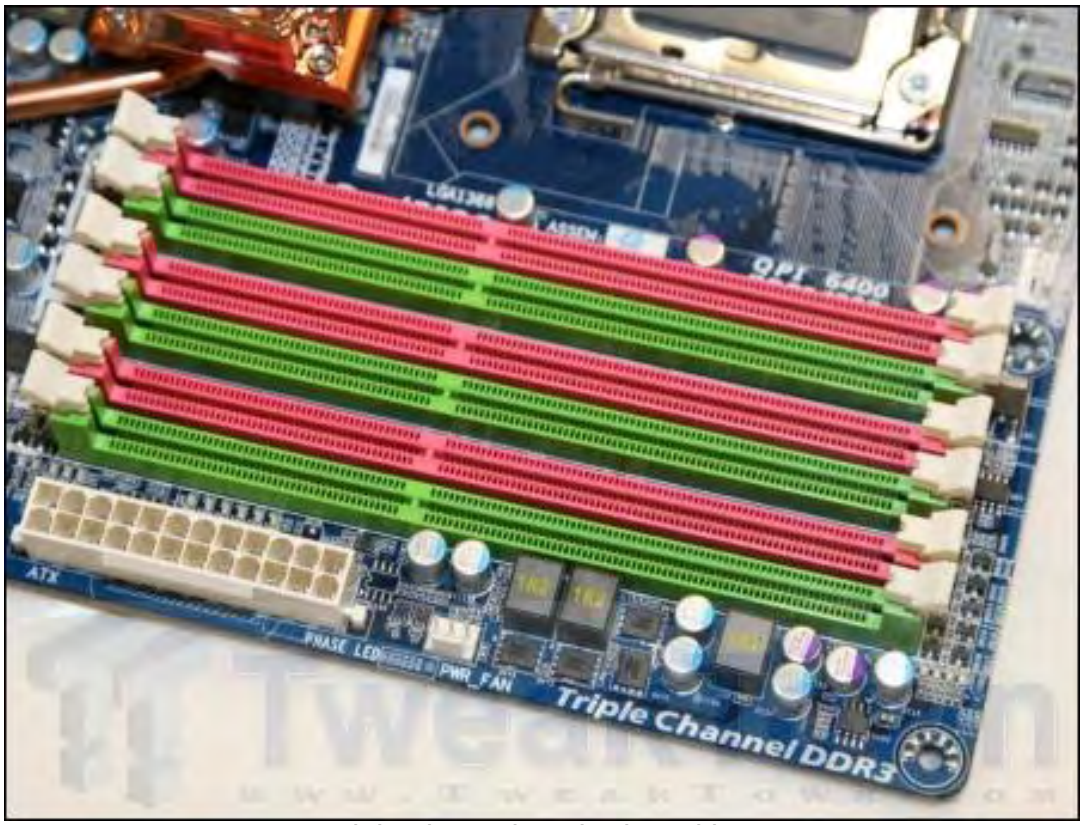
The latest Intel Socket LGA1366 quad-core Core i7 processors (CPUs) can run only on DDR3 memory (Socket LGA1366 motherboards require DDR3 memory and Core i7 processors can run only on Socket LGA1366 motherboards).

When upgrading memory, it is essential that you purchase the right type of memory module, because DDR, DDR2, and DDR3 memory are incompatible with each other. You cannot use a DDR2 module in a DDR DIMM slot, etc. However, some motherboards can have slots for both DDR/DDR2 or DDR2/DDR3 modules. No motherboards support all three types. A motherboard that supports DDR3 will not support DDR memory. It might, but not necessarily, support DDR2 memory. The motherboard's manual or the PC's user guide should provide the information required to be able to tell which type of slots are provided.

DIMM modules showing notch to prevent installation of the wrong memory module.

Triple-Channel Mode

Now, with the arrival of DDR3 memory and Intel's Core i7 processors that run on Socket LGA1366 motherboards, for the first time Intel has a range of processors with a built-in memory controller that can run memory in triple-channel mode (three memory modules that can be accessed at the same time as if a single module). DDR3 DIMM modules will soon be available in packs of three to make use of the six DIMM memory slots that Socket LGA1366 motherboards have in order to use triple-channel mode. If all six slots are filled with identical modules, you will have two sets of modules running in triple-channel mode. As with dual-channel mode, triple-channel mode provides a small gain in performance.



Triple-channel motherboard has six DIMM memory slots.

More Than Four Gigabytes of RAM

There is a hardware limit to the 32-bit architecture. This limitation put a halt on how much RAM could be used. That theoretical 32-bit limit is four gigabytes, although Windows machines will achieve only 3.0 to 3.5 gigabytes due to set-aside device addresses for video cards, etc. Just a few years ago, no one really cared about this limit (except maybe server administrators), because software did not require near this amount of memory. Pretty much anything over two gigabytes was a waste. Moreover, it was not cost effective to install any more than that. RAM prices were much higher at the time, and if it was just a waste, why buy it?

Things have changed. The 64-bit architecture is now increasing in popularity. New hardware and software are becoming more affordable and available. The demand for more RAM is rising.

If you want to install more than 4GB of RAM memory and have Windows support it, the computer must have a 64-bit motherboard and processor, which many new computers now have, and must also run a 64-bit version of the operating system that supports more than 4GB. To be a 64-bit system, a computer must be running a 64-bit operating system, such as the latest versions of Linux, or the 64-bit versions of Windows 7, Windows Vista, or Windows XP Professional. The table below shows the versions of Windows 7 and the RAM limits for each version.

Version	Limit in 32-bit Windows	Limit in 64-bit Windows
Windows 7 Starter	2.0GB	2.0GB
Windows 7 Home Basic	3.5GB	8.0GB
Windows 7 Home Premium	3.5GB	16.0GB
Windows 7 Professional	3.5GB	192.0GB
Windows 7 Enterprise	3.5GB	192.0GB
Windows 7 Ultimate	3.5GB	192.0GB

Memory limits Windows 7.

Computer memory can have a significant impact on the performance of your computer. The general rule is the more RAM, the better (although this is not always the case). It is important to know how to take full advantage of the memory you have installed because it is easy to make the wrong purchase and leave half your RAM inaccessible. Knowing how both your hardware and software works and uses RAM is crucial to the performance of your computer. (Did you like the pun?)

Pete Choppin has been an IT Professional for over 15 years. He currently works as a network and systems administrator for a company called Albion based in Clearfield, Utah. He has experience in all types of hardware, software, and networking technologies. He is proficient in many operating systems including Linux, Windows and Macintosh. His interests include cooking, sci-fi, computers and technology, and Web design—a semi-professional endeavor, having designed Web sites in the dental field, e-commerce businesses, and for the Boy Scouts of America.

Pete has been a devout reader of *ComputorEdge* since 1990 and contributes regularly to featured articles as well as the Linux Lessons section of *ComputorEdge*. He can be contacted at *pchoppin@comcast.net* but prefers to have comments on *ComputorEdge* articles submitted to the editor and posted for the benefit of all readers.

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The History of Memory

“Will the well of ever-increasing digital memory ever run dry?” by James Hartnett

In speed, processing power, and especially memory, modern-day computers outstrip their predecessors of yesteryear by orders of magnitude. And yet, the storage of information in electronic devices was not an obvious concept to early computer hardware pioneers.

It's commonplace that computers today are growing more and more powerful. In speed, processing power, and especially memory, modern day computers outstrip their predecessors of yesteryear by orders of magnitude.

And yet, the storage of information in electronic devices was not an obvious concept to early computer hardware pioneers. No one had conceived the idea of using computers to store and index knowledge, and the concept of Google was far beyond the imagination of even the most creative of those engineers and scientists.

The original designers of computers saw the devices the way we see pocket calculators. They were intended to solve math problems (specifically, the trajectories of artillery projectiles). The problems were being solved by people (the original "calculators") in vast warehouses of mathematicians using slide rules to solve tables of math problems. Sort of a purgatory for math nerds. Electronic computers were invented to end this drudgery and free the drones within.

But even the simple task of multiplying two numbers requires that someone remember three numbers, the two operands and their product. Thus the need for computer memory.

The Early Days

At first, memory needs were met with simple devices such as a relay—an electric component that moves around a hunk of iron with an electro-magnet. When the electro-magnet was on, the hunk of metal would get sucked toward it, completing another circuit. This was one bit. Changes in memory state could be detected by watching the chunk of iron move around.

Give engineers an inch, and they will want a yard. It was no different with memory; however much the hardware guys produced, it was never enough. This began a long battle between the hardware and the software engineers!

An Old Beast

When I was a young engineering student, I served as an intern at a place that made some scientific instruments. Now we would call it a manufacturing facility, but at the time it was a factory.

The factory built an important meteorological instrument for the National Weather Service: the instrument package that was launched with each weather balloon. Such instruments represent the perfect product to the makers of scientific instruments—

"I wish I could get a new memory module to install in Edward. He forgot our anniversary again."

products that are used just one time.

The production of the instrument package for the weather balloon was very interesting and educational to a young engineer, and I learned a lot there, including an important lesson about memory.

In the factory they had a very old computer: an IBM 7040. This machine came out in the '60s, and so it was 20 years old by the time I had to deal with it at the factory. This was a day and age in which Bill Gates had not yet succeeded in convincing everyone to throw out their computers every year, but even by the standards of the day a 20-year-old computer looked a little old-fashioned on the factory floor.

The venerable machine had been purchased by the company's owner in an uncharacteristic fit of optimistic spending. The owner (who still ran the place) had paid over a million dollars for that computer, and he was certainly not going to tolerate any talk of getting rid of it. So, year after year, it remained on the factory floor. The cost of the electricity used each month by this machine was probably enough to buy a replacement, but that was out of the question.

The Old Beast, as the factory workers had taken to calling it, had an important job to do: It ran the pressure chamber used to calibrate the little device that measured atmospheric pressure. These devices, each about the size of a silver dollar, were placed in the pressure chamber and the sequence of measurement began. The entire cycle took 14 minutes. But only half that time was used to measure the device—the other half was used to print up the results. And here is where I ran into the problems of memory.

The IBM machine had only a few kilobytes of memory. As I discussed it with the technicians, they would gesture to a particular cabinet in the Old Beast. Using the immunity from normal rules that applies to young engineers, I took out my screwdriver, took off the cover, and gazed at something I was never destined to see again—ferrite-core memory.

Computer Doughnuts

Ferrite-core memory was one of those oddities of early computing, a half-primitive, half-advanced component that was characteristic of the ingenuity of the engineers of the early days of electronic computers in the late '40s and early '50s. The cores referred to thousands of tiny magnetic doughnuts that made up the memory. Each little doughnut, as small as a sesame seed, held one bit.

Ferrite-core memory was the kind of computer technology you could look at and understand. Seeing those tiny little metal doughnuts, precisely laid out in their array of hair-thin wires, gave me a feel for memory addressing that sticks with me to this day. It was the last time I was ever to look upon my memory.

Down to the Really Small

Since then, memory has gone transistor. Instead of one magnetic doughnut, a set of six transistors maintains one of two stable states, giving them the ability to represent one bit of information. The six transistors can be made extremely small—far too small to see with the unaided eye.

It was the use of transistors that made modern electronics possible. You would not be able to carry around ferrite-core memory in your pocket. The transistor allowed millions of devices to be built on a silicon wafer the size of a fingernail.

Although the transistor was famously invented in the late '40s, it was not until the 1970s that it replaced ferrite-core memories. It was the release of the 110x series of Random Access Memory (RAM) chips by a small company called Intel that the end of ferrite-core was accepted. For a fraction of the price, the 1103 provided 1K of dynamic memory, the same amount provided by a large array of ferrite-cores.

The switch to the new technology also provided a better, sturdier package. With transistor-based memory, portable computers became possible.

Forty Years of Progress

In the 40 years since the first RAM chip was introduced, they have steadily grown in capacity and shrunk in both size and price. Our ever-hungry electronic culture has a seemingly endless appetite for more digital memory. It is, and has always been, one of the most efficient and economical ways to improve computer performance.

The cost of memory in the mid-'80s was still about $1,000 a megabyte. Today it's about one cent per megabyte. This five-orders-of-magnitude reduction in price is surely one of the most remarkable engineering and economic feats of all history. Only the incredible cheapness of our digital memory permits our iPhones, cameras, netbooks, laptops and supercomputers to function the way that they do.

We have created a whole digital culture around this technology. It is embedded within our society in deep and interesting ways, from the way that teenagers are always "connected" to the way that emergency medical professionals can now provide life-saving treatments that used to require a cardiac specialist to perform. And, in one way or another, it all depends on memory.

The Current Challenge

The problem with the silicon-based transistor technology that we use is that it is reaching the limits of smallness. Making the transistors much smaller puts them into the weird realm of the quantum world. The rules of the ultra-tiny quantum world are odd and disturbing, with ghostly movements of electrons from one part of the circuit to another. At this size, the laws that govern the transistors will break down. They can only be made so small, and we are approaching that limit.

When that limit is reached, the well of ever-increasing digital memory will run dry. We will be able to make more, but not make it smaller. Not until we develop a new, even tinier technology to store our collective memory.

James is a writer and software developer who has been with the free software movement from the beginning. He lives, writes, and programs in sunny Colorado.

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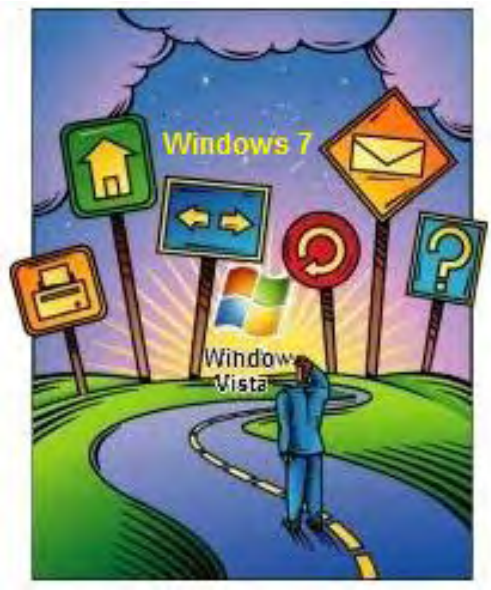

Windows Tips and Tricks

Windows Tips and Tricks

“Windows Performance Information and Tools**”**
by Jack Dunning

The Windows Performance Information and Tools feature is a good indicator of which components you should upgrade if your current configuration can't handle the load.

One of the difficult decisions when buying or upgrading a computer is how much power to load into your new machine and/or when to upgrade your old machine. In the first instance, unless you get the maximum amount of memory, the biggest hard drive, and the most powerful video graphics card, you will need to base your decision either on personal experience or the advice of others. But if you already own a Windows 7 or Vista computer, then there are built-in features that will help you decide if you need more in your computer. In both version of Windows, Performance Information and Tools is there to help you decide whether you need to upgrade any part of your system.

Performance Information and Tools can be found via the Control Panel, although it is much easier to find by typing "per" (short for "performance") into the search field of the Start Menu. In Windows 7, the program will be found under the Control Panel heading—under Programs for Vista. Once the Performance Information and Tools is loaded, you will see your computer's Windows Experience Index, which is a rating of how well your computer will perform based upon the installed hardware (see Figure 1). Base scores for Vista computers range from 1.0 to 5.9; for Windows 7 computers the range is from 1.0 to 7.9.

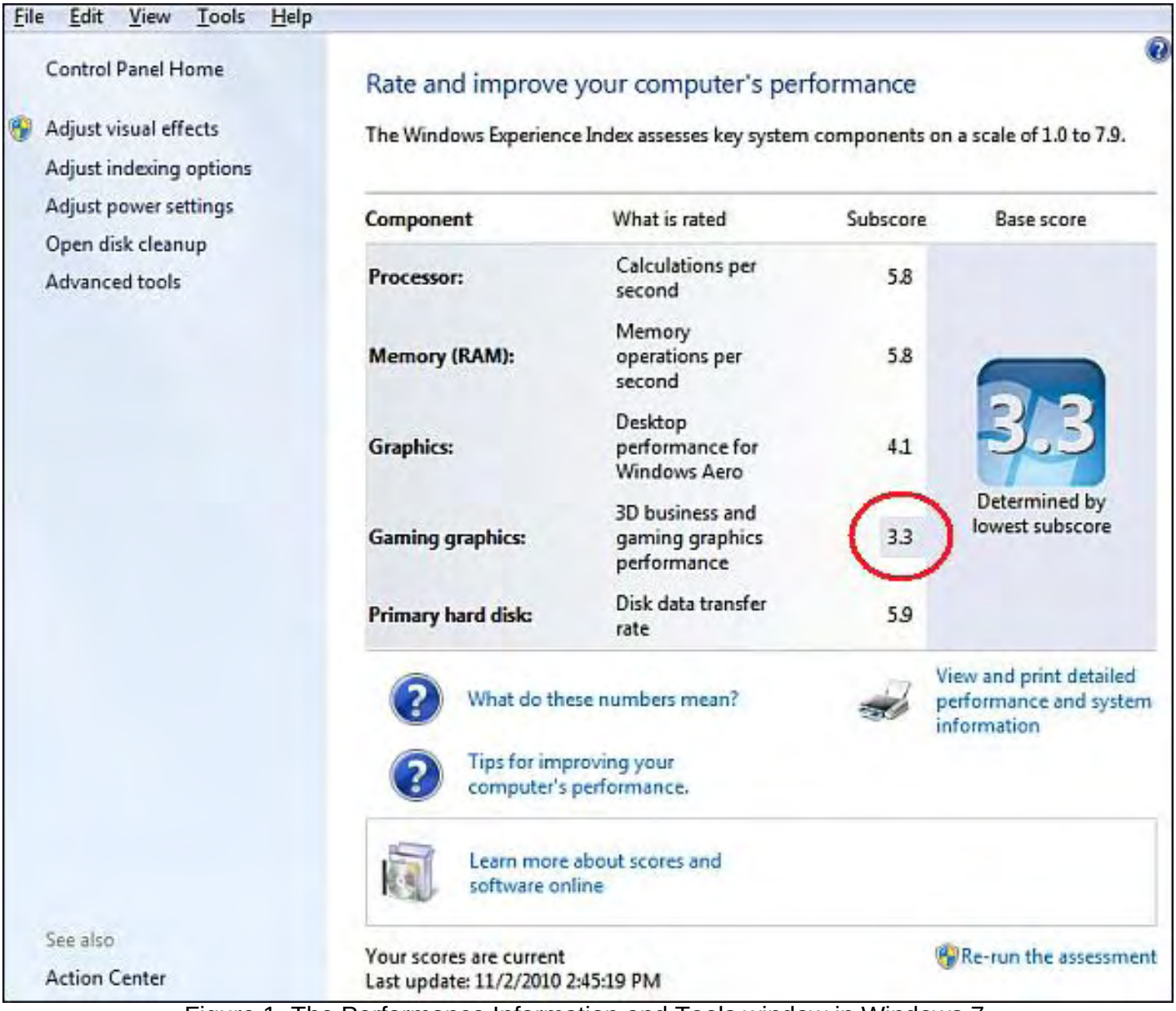

Figure 1. The Performance Information and Tools window in Windows 7.

The value shown in the square with the blue background represents the rating from the last assessment run. As can be noted, the rating is the same as the lowest sub-score for the listed components. This is because rather than calculating an optimum score for all the installed hardware, the rating is pointing to the system bottleneck (or weakest link) that may be hindering the performance of the Windows computer. This index should help you to determine whether you have enough oomph for your computer activities.

A base score of 2.0 means that your systems will handle some of the most common computer tasks, such as browsing the Internet and running common business applications. However, there are likely to be problems running Windows Aero and other advanced multimedia programs. If you don't care about Windows Aero and haven't experienced problems with any multimedia, then you have all you need.

If your computer's base score is 3.0, then you should be able to run Windows Aero and most of the Windows features without problem. However, you may encounter problems with screen

resolutions above 1280 x 1024 or running multiple monitors. You should be able to play digital television programs, but HDTV may have some issues.

A score of 4.0 or 5.0 means you should be able to run the vast majority of today's applications—multiple times at once.

The scores of 6.0 and 7.0 do not appear in Windows Vista, but for Windows 7 they reflect both the faster processors and memory, plus the speedier hard disks. Anything in the current high-end graphics arena should be possible.

As can be seen in Figure 1, this would be a screaming machine except for the graphics and gaming graphics categories listed under Component. The primary solution to bringing the system up to a 5.0 base score would be the installation of a more powerful video graphics card. Neither upgrading the processor, the memory, nor the hard drive would do any good since they each already score 5.8 or above. The other two items on the list point to the graphic card.

If your score happens to be low in the processor area or in memory (say 1.5), it's likely that you have installed Windows on an older computer. It may be difficult to find a processor or memory that will both fit the motherboard and pump the performance. The hard drive is one of the easiest components to replace, although it is rarely the primary drag on the Windows Experience Index.

If you've added new hardware, then clicking on "Re-run the assessment" (Windows 7) or "Update my score" (Window Vista) will run the tests and update the sub-scores and base score. This will tell you if the change has affected the potential capabilities of your computer.

While Performance Information and Tools in Windows 7 and Vista won't tell you exactly what your computer is capable of doing, it is a good indicator of which components you should upgrade if your current configuration can't handle the load. Check it out to see how your computer stacks up. If you've installed Windows 7 on one of your older machines, you may just decide that it's time to get a new motherboard, processor and memory.

Jack is the publisher of *ComputorEdge* Magazine. He's been with the magazine since first issue on May 16, 1983. Back then, it was called *The Byte Buyer*. His Web site is *www.computoredge.com*. He can be reached at *ceeditor@computoredge.com*

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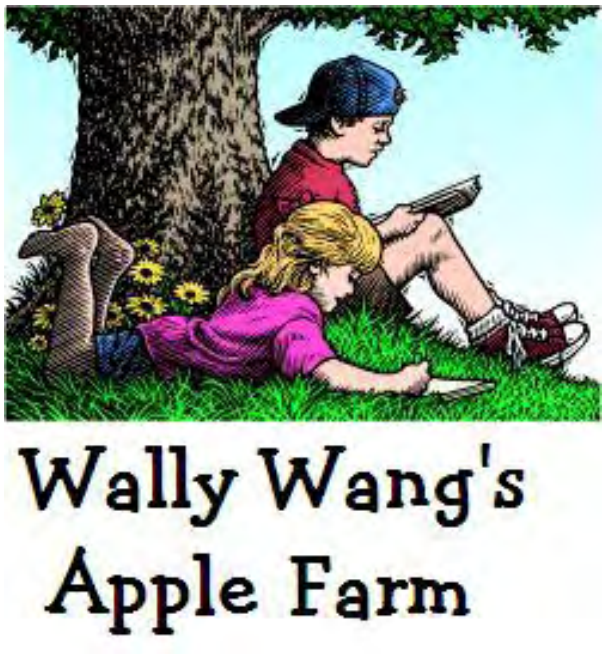

Wally Wang's Apple Farm

"Memory on the Mac" by Wally Wang

The amount of RAM determines how powerful and valuable your Mac can be, so don't be afraid to get more than what comes with your Mac. Also, Apple's quarterly revenue exceeds Microsoft's; enterprise customers are moving swiftly toward the iPad; Narrator speaks text out loud; financial engineering for computer programmers is a growing field; the CherryPad offers an iPad clone for much less; Apple profits in the mobile-phone market; and a tip on protecting your pictures from an iPhoto glitch.

When buying any Macintosh, it's usually best to buy it with as much memory as you think you'll need, because opening up your Macintosh and installing new memory later isn't a task that most people will want to do. Prying open a MacBook Air or Mac mini requires special tools, while adding more memory to certain iMac and MacBook models can be as simple as unscrewing a panel, yanking out the old memory chips, and plugging new ones in.

The bare minimum amount of RAM you should get is 2GB. Generally, if you buy extra RAM from Apple, it will charge you more than if you buy RAM and get a third party to install the RAM for you, such as MacMall (when you buy a new Mac) or any third-party Apple repair shop (to upgrade an existing Mac). Right now, 4GB of RAM should be sufficient for most people, but heavy-duty users might need up to 8GB for video or audio editing.

Check the prices of third-party shops that can install RAM. Sometimes it's cheaper to just pay the premium and let Apple install the extra RAM for you when you buy a new Mac. Other times it can be cheaper to buy a Mac, then pay for the extra RAM, tossing out the existing RAM chips.

Since people tend to keep their Macs around for several years, you may not need extra RAM now, but you could need it later. In this case, you could save money by buying a standard Mac today, and then upgrade your RAM two or three years later when RAM chips for that particular model will likely be much cheaper.

Macs tend to hold their value over time much better than generic PCs, so if you want to upgrade to a new model in the future, packing your old Mac with more RAM can boost its resale value. For a minimal cost, you could upgrade the RAM of an older Mac and sell it for a higher price than you could if you hadn't upgraded its RAM. Thus the cost of adding RAM could pay for itself.

The amount of RAM determines how powerful and valuable your Mac can be, so get just what you need and no more, but don't be afraid to get more than what comes with your Mac. The basic 2GB of RAM that comes with most new Macs may be enough, but you always have the option of adding more RAM now or later, whenever it's convenient and cost-effective for you.

Apple's Quarterly Revenue Exceeds Microsoft's

What should make any Microsoft supporter cautious is that Microsoft recently announced $16.2 billion in revenue for the last quarter (*www.marketwatch.com/story/microsoft-net-up-52-tops-estimates-2010-10-28*). That may sound impressive, but Apple posted $20.34 billion in revenue during the same quarter (*mashable.com/2010/10/18/apple-earnings-q4-2010/*). With its dominant Windows operating system and Microsoft Office suite leading the way, Microsoft is continuing to make a hefty profit, yet Apple still earned more in revenue.

Obviously the only way Apple could have earned more in revenue than Microsoft is because people are buying Apple's products. Apple doesn't have the benefit of a large customer base to draw upon through upgrades like Microsoft does with Windows and Office, so Apple has to earn its money the hard way—by producing products that are more compelling than its rivals. That alone is a major achievement, especially since Apple started with zero customers with the iPhone in a crowded smartphone market back in 2007, and zero customers in the previously moribund tablet category with the iPad starting in April 2010.

In the last quarter, Research in Motion (RIM, the makers of the BlackBerry), sold 12.3 million phones, but Apple sold 15.4 million iPhones (*news.cnet.com/8301-31021_3-20020466-260.html*). Not only is Apple threatening Microsoft in the tablet category, but it is also threatening RIM (*www.macworld.com/article/155268/2010/10/idc_smartphones_q32010.html*) in the smartphone category and Nintendo and Sony in the handheld gaming category (*www.bloomberg.com/news/2010-09-08/apple-eats-into-nintendo-sony-s-console-sales-as-iphone-plays-to-gamers.html*).

When one company can threaten multiple products from various companies in different categories, that one company must be doing something right whether people want to admit it or not.

The Slow (But Swift) Adoption of Technology by Enterprise Customers

Enterprise customers tend to be more conservative than consumers, which explains why so many enterprises are sticking with Windows XP (*www.computerworld.com/s/article/9194039/Enterprises_We_ll_run_Windows_XP_even_after_retirement*). Someone running a Windows program probably won't get more productive just by switching from Windows XP to Windows 7, so why bother with the additional upgrade cost, not to mention the additional hardware needed to run Windows 7 compared to Windows XP?

On the other hand, Enterprise customers are adopting the iPad (*www.computerworld.com/s/article/9194023/Enterprises_jazzed_about_iPad_says_analyst*) at a much faster rate. Ted Schadler, an analyst with Forester Research, discovered that, "The majority of firms see the iPad as a replacement for a traditional laptop, but the real impact will come from companies that substitute a tablet for a clipboard and paper, or as a technology tool where none was available previously."

Apple claims that 65 percent of Fortune 100 firms are already deploying the iPad or working on pilot projects.

"I don't know about you, but I've never seen an adoption like this in my life in enterprise," said

Apple Chief Operating Officer Tim Cook. "Enterprise is historically much slower moving on adoption."

Enterprise customers are slow at moving away from Windows XP, but swift in moving toward the iPad. Perhaps the real reason isn't that enterprise customers move slowly in adopting new technology, but that enterprise customers move slowly when new technology doesn't offer a drastically improved benefit in return for the expense. How will upgrading from Windows XP to Windows 7 make a salesperson dramatically more productive? It won't. However, eliminating clumsy notebooks and clipboards with an iPad *can* make a salesperson dramatically more productive.

Ted Schadler tells about one pharmaceutical company that is "thinking of issuing tablets and home PCs to its home-based sales teams," he said. "The logic is simple: You have three minutes to pitch a doctor on a new drug or device in a hallway between patient visits. Wouldn't it be nice to show her a video and a few slides on a tablet? Much better than heaving potentially out-of-date collateral at her."

Offer to sell enterprise customers technology that provides clear benefits in return for its costs, and enterprise customers will eagerly embrace it. Try to sell enterprise customers technology that can't offer such clear and immediate benefits, and it's no wonder why so many enterprise customers are still clinging to Windows XP. Did Microsoft sell 240 million licenses for Windows 7 (*techcrunch.com/2010/10/21/windows-7-sales/*) because people really wanted Windows 7, or did people really want a newer computer and Windows 7 just happened to come along with it?

Narrator Speaks Text Out Loud

For visually impaired users, or just for people who like the idea of hearing text rather than reading it themselves, Mac OS X includes a special speech synthesizer program that you can access by highlighting text, right-clicking, and choosing the Speech/Start Speaking command.

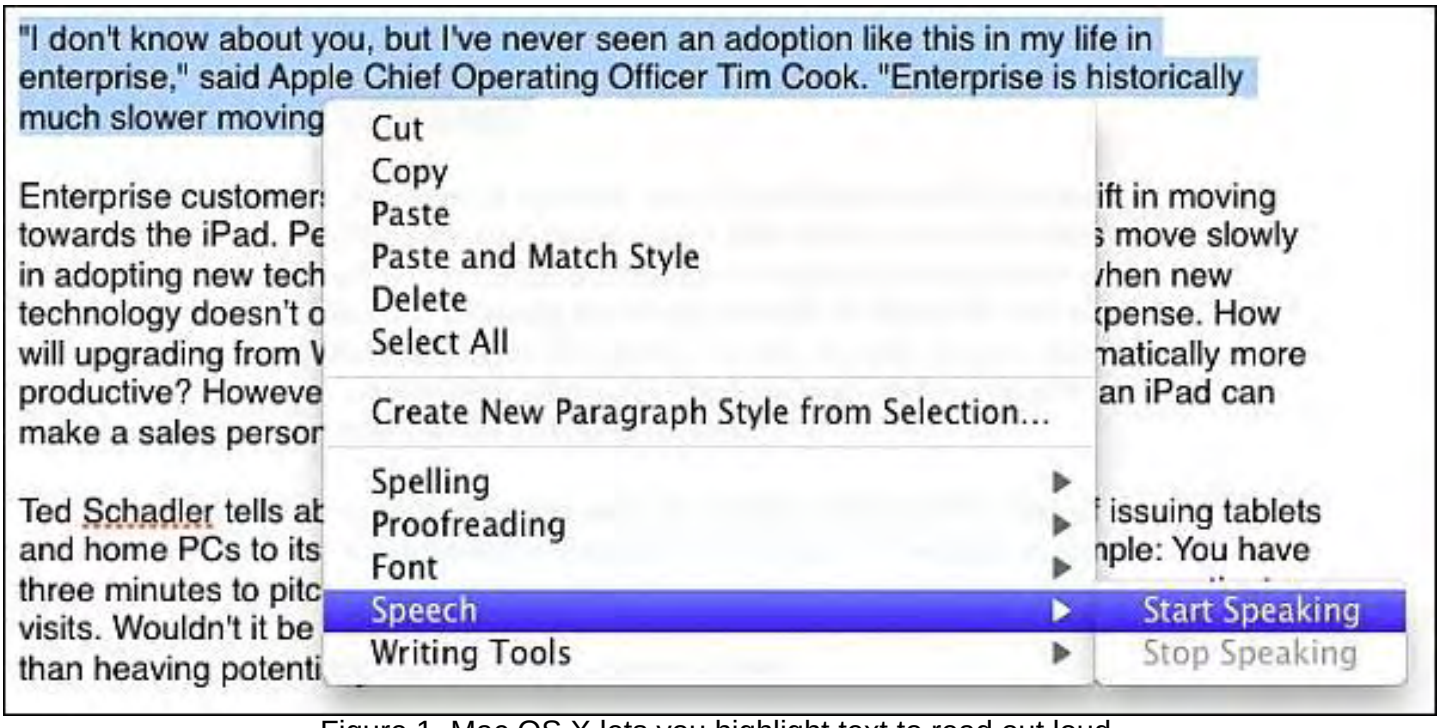

Figure 1. Mac OS X lets you highlight text to read out loud.

To customize the synthesized voice, just click the Apple menu and choose System Preferences. Within this System Preferences dialog, click the Speech icon and now you'll be able to modify the synthesized voice your Macintosh uses to speak text out loud.

Figure 2. The Speech icon lets you modify your computer's speech synthesizer.

While Mac OS X provides a variety of different types of synthesized voices, the greatest limitation of the Mac OS X speech synthesizer is that it can use only one type of synthetic voice at a time. If you want to hear a different voice, you'll need to switch to a different voice.

To avoid this hassle, you can use Mariner Software's $39.95 Narrator program (*www.marinersoftware.com/products/narrator/*). Just paste text into Narrator and you can assign multiple synthesized voices to read each line or paragraph. At the simplest level, this lets you hear different synthesized voices for variety. On a more sophisticated level, you can use Narrator as a story-writing tool.

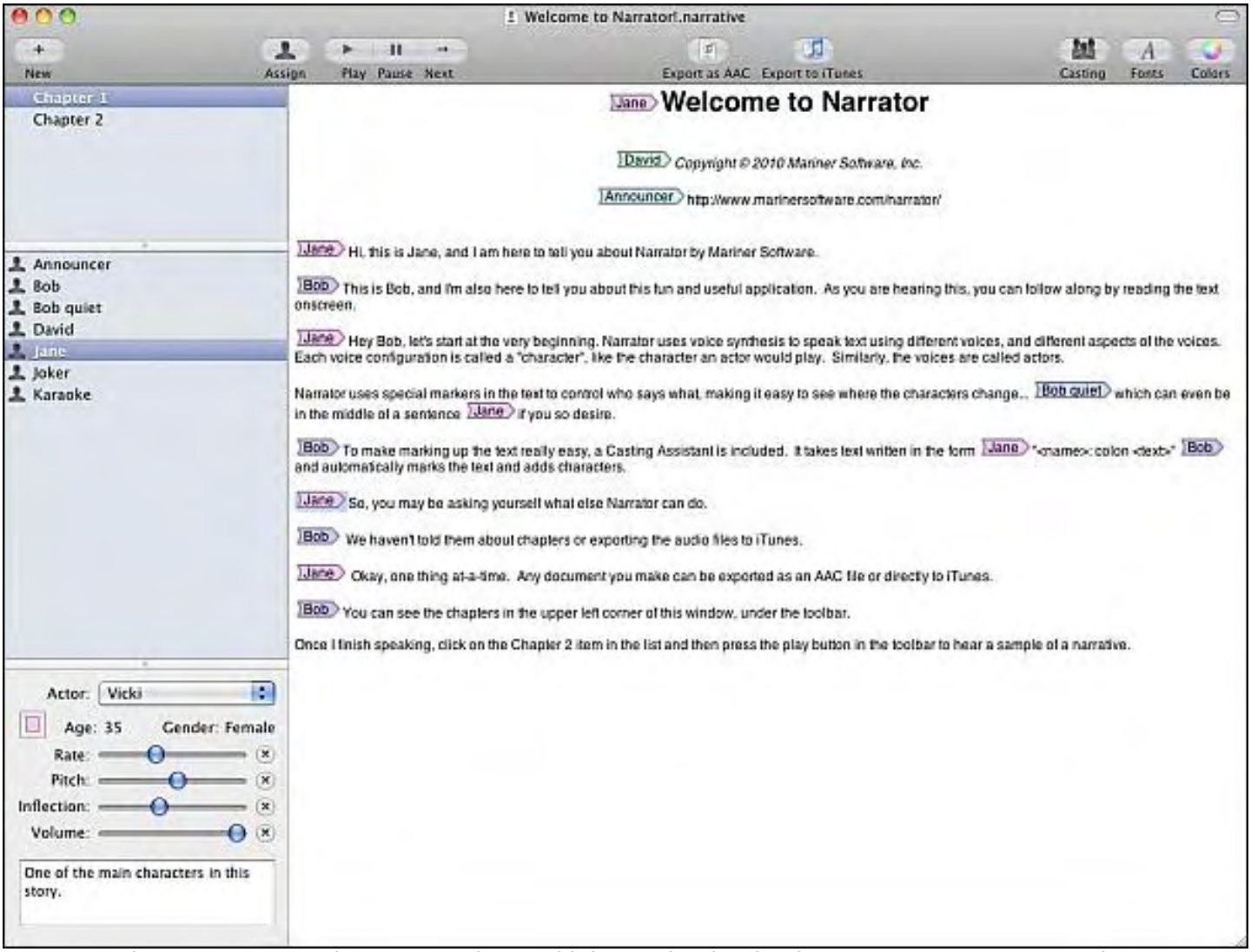

Figure 3. Narrator lets you assign multiple synthesized voices to separate paragraphs.

If you're writing a screenplay or stage play, assign different male or female synthesized voices and you can hear how your script sounds without rounding up a bunch of actors to read your writing out loud. The ability to change the rate, pitch and inflection of the synthesized voice gives you greater flexibility, so you can hear how an old lady might say a line compared to a young man.

For general use, you can find plenty of e-books that provide all sorts of information about Internet marketing, taking care of a hamster, or selling products on eBay. Rather than read these e-books, just copy and paste the text into Narrator and let your computer read this information so you can listen while doing something physical, such as exercising in your house.

For anyone who needs or wants to hear text spoken out loud, Narrator can create the illusion of an actual person speaking to you. You'll still hear the obvious tone of a computer-synthesized voice, but the convenience of having your computer read to you in a customized synthesized voice makes Narrator an interesting product that might meet your specific needs.

Financial Engineering for Computer Programmers

Most computer programmers graduate from school and get hired by some company to modify an existing program. While writing programs may be fun and interesting, there's an option that most

computer programmers overlook, and that's the field of financial engineering.

The main idea behind financial engineering, also called high-frequency or algorithmic trading, is to create computer programs to analyze current market conditions in real-time; identify opportunities offering the greatest chance for profit; and then automatically buy or sell stocks, currencies, or commodities without any human control whatsoever.

To learn about this idea of creating computer algorithms to maximize profit from the financial markets, read *Nerds on Wall Street (*www.amazon.com/gp/product/0471369462?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0471369462*)* by David Leinweber. To see an actual magazine devoted to algorithmic trading, visit the Advanced Trading magazine site (*www.advancedtrading.com/*) and browse through its list of job opportunities (*advancedtrading.thewallstreetwiki.com/jobs/*) for programmers familiar with financial engineering.

The majority of these programming jobs require knowledge of C, C++, C#, or Java under Windows or Linux. The typical salary range is $60,000-$100,000 with most jobs in New York, Boston, London, and other financial centers of the world. Oftentimes you'll get a bonus if your algorithms prove particularly adept at finding profit in different financial markets.

The financial market relies heavily on Windows with a minor share relying on Linux. Macintosh programmers will likely be extremely rare in the financial engineering market, but if someone needs a Mac OS X programmer, there won't be many people who can compete with you for that job. The main advantage of Mac OS X is that it's just as stable and reliable as Linux but more familiar to people, so the use of the Macintosh in financial markets could be a niche for financial engineering programmers to exploit.

By learning about the financial engineering world of algorithmic trading, you can apply your programming skills into making money literally. Financial engineering may not be for everyone, but it could be a fascinating career path for anyone with a knack for programming and an interest in the world of finances.

The $188 CherryPad

Many critics complain that Apple charges too much for its products, but there's a reason why. You basically get what you pay for. If you think the base price for an iPad ($499) is too expensive, take a look at the CherryPad (*www.cherrypal.com/home.htm*) for $188.

Figure 4. The CherryPad offers an iPad-clone for much less.

This Android-based, 7-inch tablet may look and behave like an iPad, but as this review (*hothardware.com/Reviews/CherryPad-7Inch-Android-Tablet-Video-Review/*) shows, the CherryPad's physical quality is cheaper and its responsiveness to touch gestures is lagging.

If you want to pay less, you'll get a much less engaging experience, which means you may not get your money's worth out of the CherryPad despite its low cost. After all, what good is it if it frustrates you while you try to use it, and it doesn't offer enough features to make it useful in the first place?

For anyone who thinks they can spend as little as possible and still get the same value as a higher-priced product, perhaps this quote might be relevant:

"It's unwise to pay too much, but it's worse to pay too little. When you pay too much, you lose a little money—that is all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do. The common law of business balance prohibits paying a little and getting a lot—it can't be done. If you deal with the lowest bidder, it is well to add something for the risk you run, and if you do that you will have enough to pay for something better."

-John Ruskin (1819-1900)

For an example of how artists are getting their money's worth from an iPhone and iPad, view this galley of images (*www.macworld.com/article/155162/2010/10/artfrommobileartcon.html*) from the MobileArtCon in New York City. Will we ever see similar artwork created on a CherryPad? Maybe, but don't hold your breath waiting for it.

Figure 5. One example of art created completely on an iPad.

Apple Profits in the Mobile Phone Market

Android phones are currently outselling the iPhone, which sounds impressive until you realize that Android phone manufacturers are dividing the profits among themselves, often giving one phone away for free with each purchase, and making far less on their phones than Apple does on the iPhone.

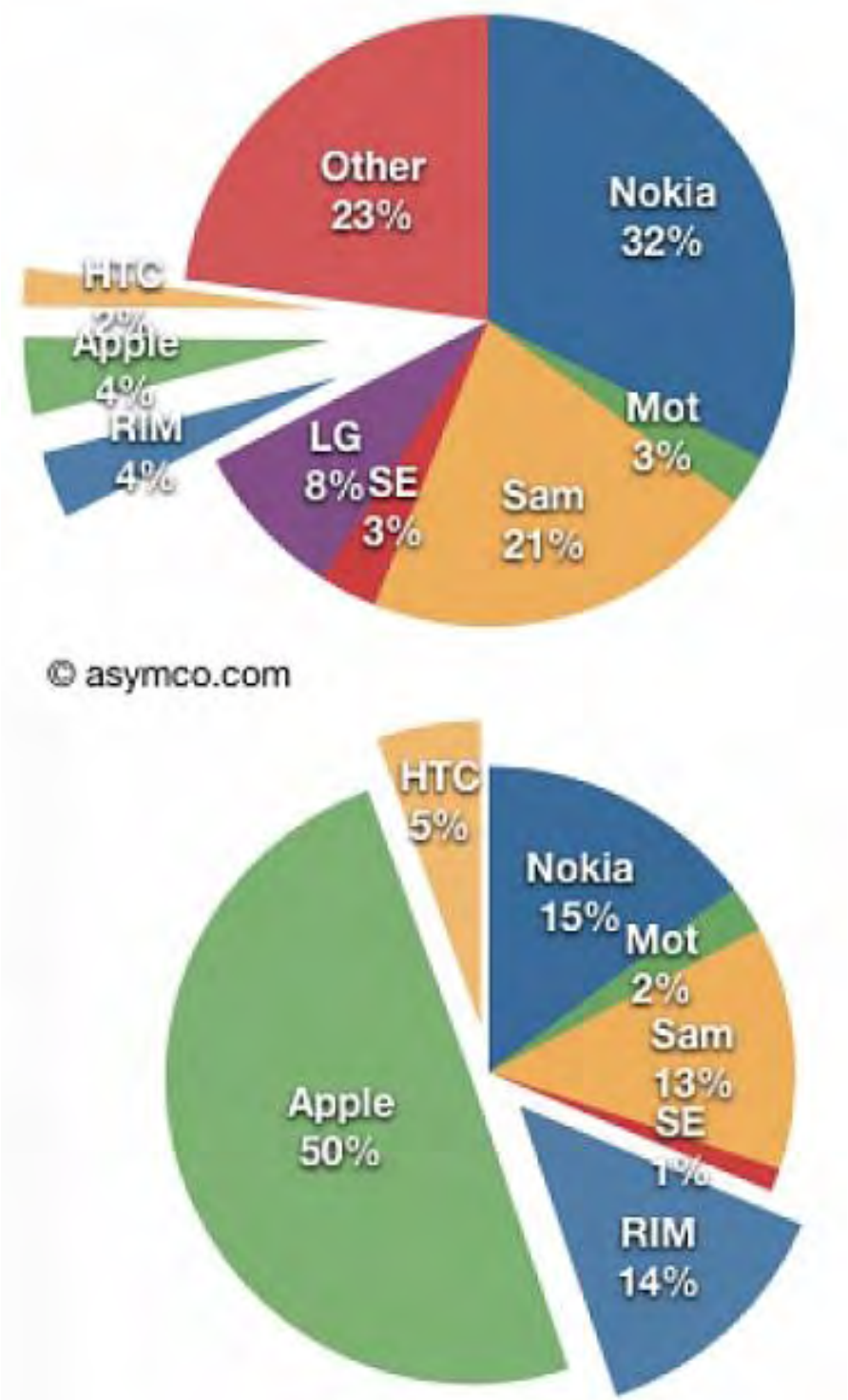

Figure 6. Apple's tiny four percent market share translates into 50 percent of the profits.

Apple may hold only four percent of the total mobile phone market, but that tiny market share delivers 50 percent of all mobile phone profits to Apple (*tech.fortune.cnn.com/2010/10/30/iphone-4-of-market-50-of-profit/*). That ratio will likely repeat itself when other companies start marketing Android-based tablet computers to compete against the iPad. Given a choice between market share or profitability, which side would you want to be on?

* * *

If you want the latest iLife '11, watch out. Some people have complained that the new iPhoto program accidentally deletes pictures during installation. To protect your pictures, you need to follow these steps:

1. Back up your existing iPhoto Library.
2. Install iLife '11 (which includes the iPhoto 9.0 upgrade).
3. Install the iPhoto 9.0.1 update from Apple. It should appear in Software Update.
4. Only after installing iPhoto 9.0.1 should you then launch iPhoto, which will then prompt you to upgrade your iPhoto library.

In the early days, before Wally became an Internationally renowned comedian, computer book writer, and generally cool guy, Wally Wang used to hang around The Byte Buyer dangling participles with Jack Dunning and go to the gym to pump iron with Dan Gookin.

Wally is responsible for the following books:

Microsoft Office 2010 for Dummies (*www.amazon.com/gp/product/0470489987?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470489987*),
Beginning Programming for Dummies (*www.amazon.com/gp/product/0470088702?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470088702*),
Beginning Programming All-in-One Reference for Dummies (*www.amazon.com/gp/product/0470108541?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470108541*),
Breaking Into Acting for Dummies with Larry Garrison (*www.amazon.com/gp/product/0764554468?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0764554468*),
Steal This Computer Book 4.0 (*www.amazon.com/gp/product/1593271050?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271050*),
My New Mac (*www.amazon.com/gp/product/1593271646?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271646*),
My New iPhone (*www.amazon.com/gp/product/1593271956?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271956*),
My New iPad (*www.amazon.com/gp/product/1593272758?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593272758*),
Strategic Entrepreneurism with Jon Fisher and Gerald Fisher (*www.amazon.com/gp/product/1590791894?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1590791894*),
How to Live With a Cat (When You Really Don't Want To) (*www.smashwords.com/books/view/18896*).

When not performing stand-up comedy or writing computer books, he likes to paper trade stocks with the video game Stock Reflex (*www.plimus.com/jsp/download_trial.jsp?contractId=1722712&referrer=wwang*), using the techniques he learned from a professional Wall Street day trader.

In his spare time, Wally likes blogging about movies and writing screenplays at his site "The 15 Minute Movie Method." (*www.15minutemoviemethod.com/*) Wally can be reached at *wally@computoredge.com*.

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Rob, The Computor Tutor

Rob, The ComputorTutor: Technology Solutions

"OpenOffice Database" by Rob Spahitz

This week we start our investigation of the Base tool from OpenOffice, a free competitor to Microsoft's Office suite. Base is the competition for Access.

This week we start our investigation of the Base tool from OpenOffice, a free competitor to Microsoft's Office suite. Base is the competition for Access. As a reminder, you can download the free OpenOffice applications from *www.OpenOffice.org*

I've worked with several databases over the years and found each to be rather different in the way they are used, so it will be interesting to me to see how OpenOffice decided to handle it. This will be my first time looking at this product so, as with the other products in this suite, I will share my concerns about how to use the product if you are coming from the Microsoft world.

First, a little aside. I had previously written articles about Microsoft Office 2010 Beta because it was a free version. I got a notice that the free period comes to an end on October 31, so by the time you read this it will be expired. I would have considered purchasing the product except for two things: (1) I already have Office 2007 and there are very few apparent differences between the two and (2) the cost for the package that includes the pieces I need/use most would run around $500 (for the Pro edition that includes Word, Excel, Outlook and Access) or $420 ($280 for the Home & Business edition without Outlook, then $140 for Access separately). Either way that seemed like a lot of money, so I started investigating OpenOffice since its price of *free* was significantly less than the $150 I would have considered paying.

Base

First, let's do a quick tutorial on databases, for those unfamiliar with what they are about. Unlike word processor, which most people understand are for writing documents, and spreadsheets, which many people can figure out once they realize that they are super calculators, databases are more complicated. For one thing, you don't get a ready-to-go screen when you first start (such as a blank page or blank spreadsheet). Instead, you have to create the structure needed to properly store your data.

Given that complexity, most people simply use a word processor or spreadsheet to store their data, and often that's enough. However, these have severe limitations when it comes to entering the data (although Excel and Calc have done a great job of offering features to improve that), and for reporting data back based on certain criteria or a subset of data (and again, Excel and Calc have made that easier). In addition, if you work with large amounts of data (like 10,000 pieces, which can accumulate faster than you might think), then a database is the right tool for the job. In the same way that you can use a Swiss Army knife for screwing in 1,000 screws, an electric screwdriver will handle the job more effectively, but might be too much for just one or two screws.

So let's begin. After you install OpenOffice and launch Base (or from the Writer or Calc tools, select menu File/New/Database), you get something like Figure 1.

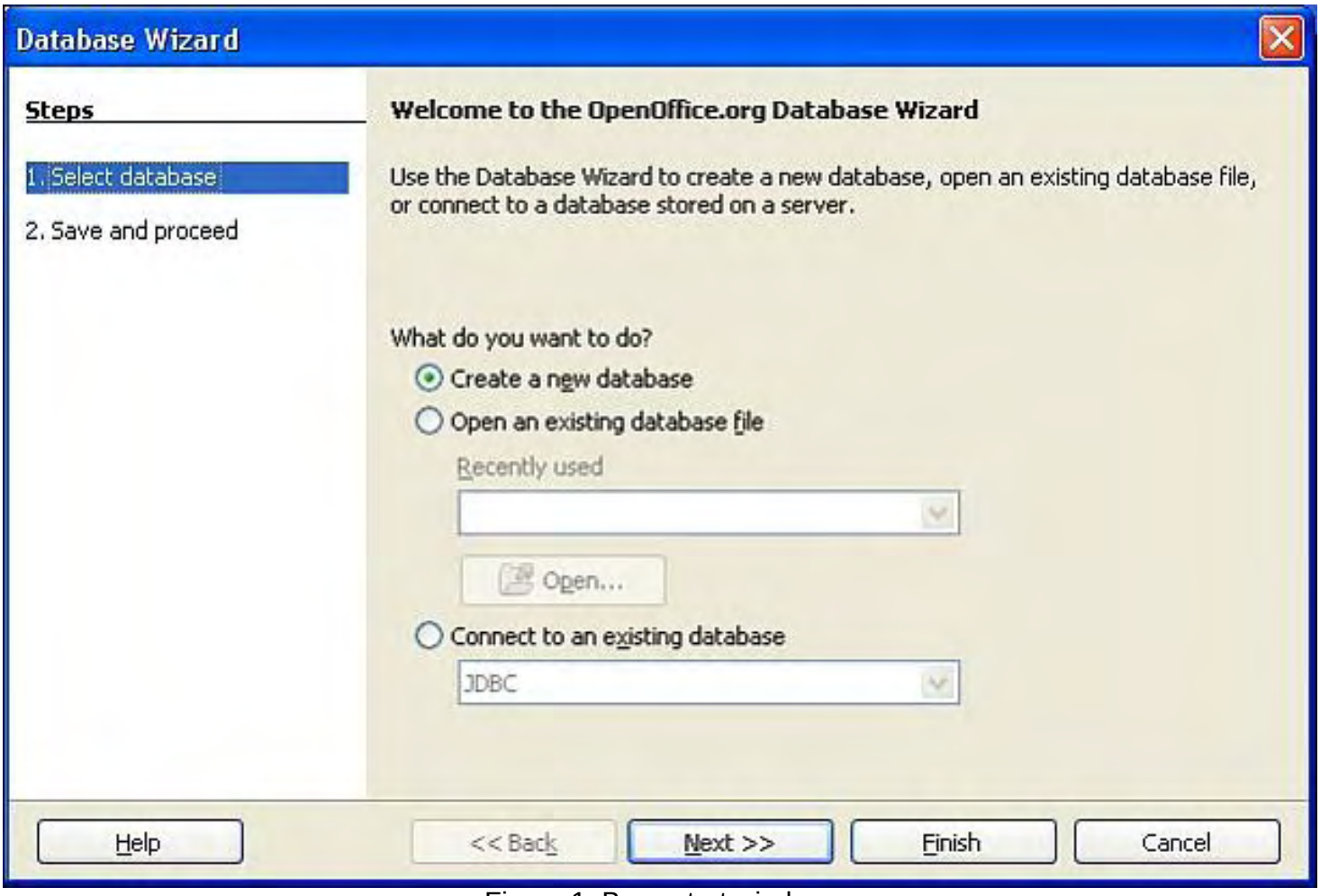

Figure 1. Base start window.

Obviously that doesn't look as simple as a blank page or spreadsheet. In fact, it wants to run you through a wizard before you can even start. This is not really unusual. The choices are similar to having a word processor; it starts by asking if you'd like to create a new document, open an existing document, or open a different document using this tool.

In this case, we see two panels. The panel on the left has two parts, representing the two parts that the wizard will navigate. The first one, Select Database, will let us create a new one since we don't have any from OpenOffice yet. The second part we'll get to shortly. The panel on the right shows the options for the current stage of the wizard. In this case we have three options: Create New, Open Existing, and Connect to some other database.

With a quick detour, if you select "Connect to an existing database," the corresponding drop-down list offers, among other things, the following: JDBC, Oracle JBDC, Microsoft Outlook Address Book, Thunder Address Book, Microsoft Access, dBase, Text, MySQL, and ODBC.

Some of these options may surprise you, like Outlook Address Book and Text. In fact, the address book in Outlook is a database, although Microsoft did a pretty nice job of hiding it from you and making a nice "user interface" to let you interact with the database without you knowing that it's there. (And that should be one of your goals when you work with databases.) And how can Text

be a database? Well, not all text files will be good candidates for being databases. This is primarily for CSV (Comma-Separated Value) files, or those organized to look something like a spreadsheet.

A few other options may be unfamiliar to you. You might recognize dBase and Oracle, but maybe not JDBC, ODBC, MySQL or Thunder. dBase was a very popular personal database in the 1990s and continues to be a popular format for certain applications. Oracle JDBC is apparently a way to talk to an Oracle database. JDBC and ODBC are Java/Open DataBase Connectivity, which follows a well-known generic standard for talking to databases. MySQL is a free database very commonly used behind the scenes on Web servers to supply data to a Web page. And Thunder is a free e-mail application that competes with MS Outlook, so you can also apparently access its address book.

But let's return to the New database. When you select that option and click on the Next button, the window seen in Figure 2 appears.

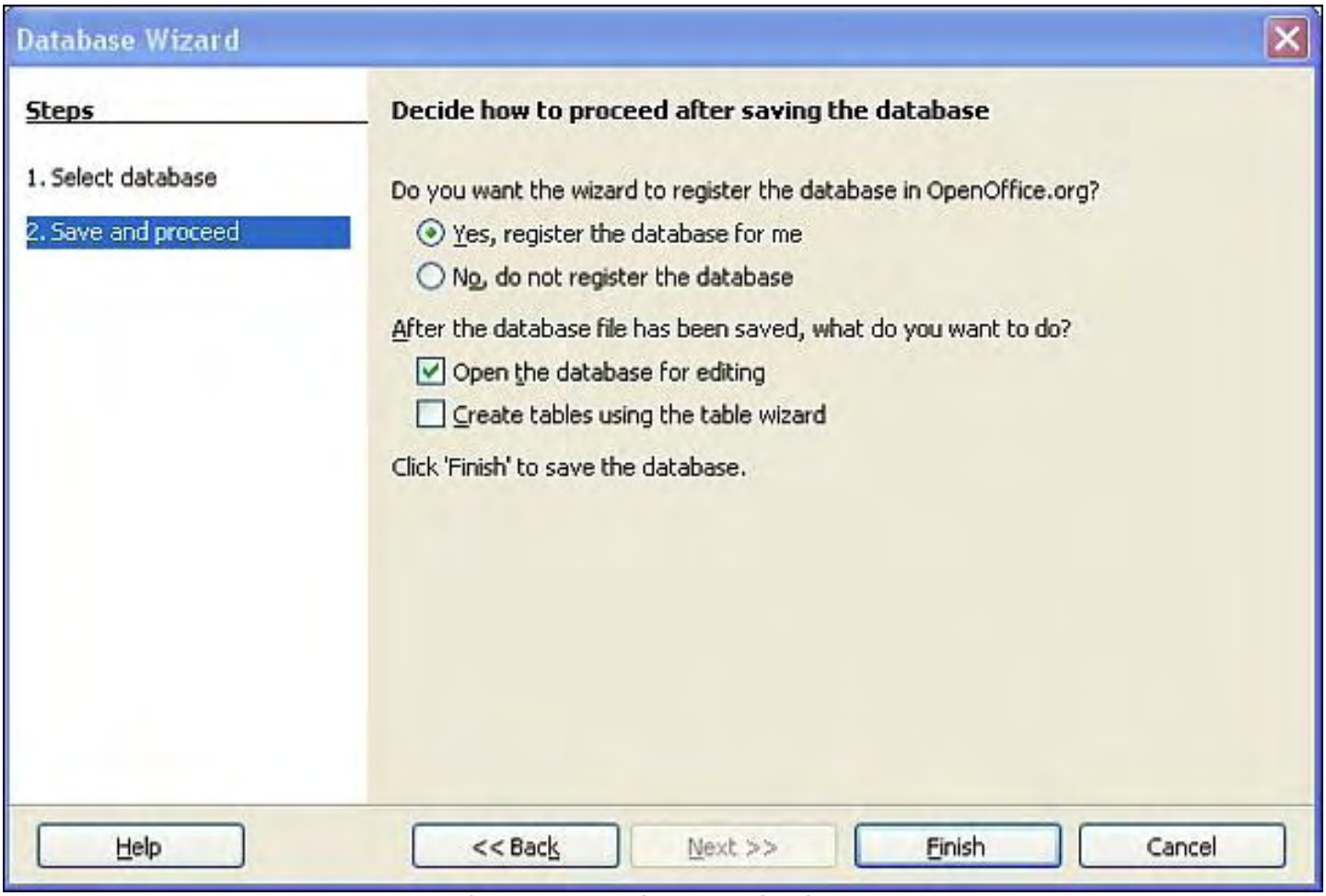

Figure 2. Creating your database.

There are three options here. The first is whether or not to register the database with OpenOffice.org. I really don't know what that offers, so I'll decline by selecting the No option. Beneath that you can open the database for editing, which is usually part of the database setup process before you can really use it. And, last, I will select the option to "Create tables using the table wizard" just to see what comes up next.

After clicking on the Finish button, a Windows dialog box opens asking for the name of the database you'd like to create. I'll simply enter Test, using the default ODF file format.

Table-Creation Wizard

Next, as expected, a wizard launches on top of the application that opened in the background. The wizard appears in Figure 3.

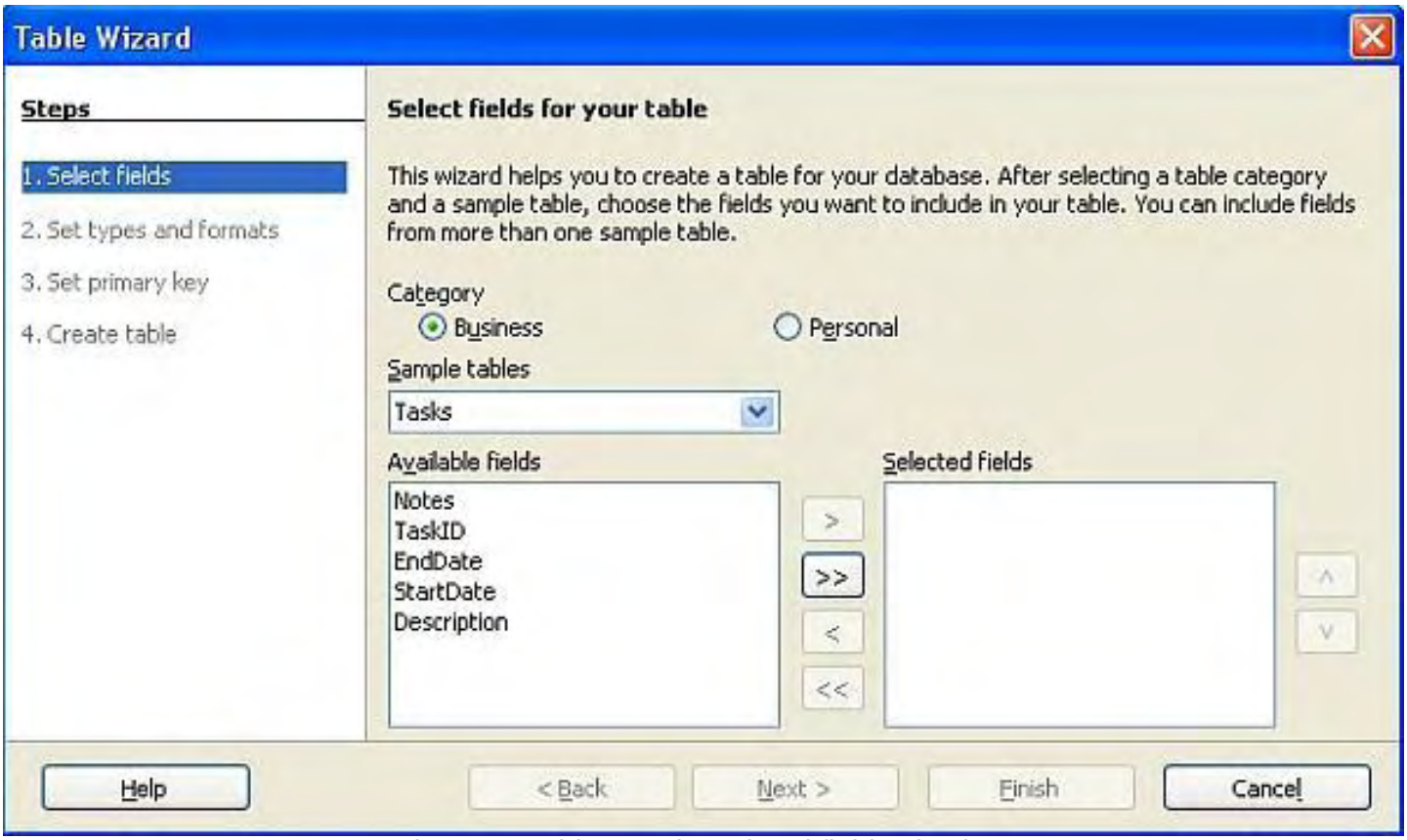

Figure 3. Table-creation wizard field selection.

It seems that this wizard gives you predefined parts that you can pick and choose to match what you'd like for your database.

Databases require that you know what you want to store, in the same way that a word processor requires you to know what kind of document you are trying to create (business letter, résumé, technical document, etc.).

For our database, we'll take the seemingly simple idea of a database of friends and their contact information. For this, in the first page of the wizard we should probably select the Personal option (rather than the default Business option).

After selecting Personal, the related drop-down list under "Sample tables" changes; open that and select Addresses, which seems to be the only choice related to contact information. By selecting this, the "Available fields" list box shows things like City, Address, LastName and Birthdate. So let's choose a few key parts for our database (double-click to add to the box on the right): FirstName, LastName, Address, City, StateOrProvince, PostalCode, Birthdate, PhoneNumber, EmailAddress. To remove one that you selected by mistake, select the item on the right side and

double-click it. When done, click on the Next button.

On the second page of the wizard, you can define how each of the parts (fields) will be configured, as seen in Figure 4. For example, the FirstName field is defined as Text, option (not required) and length 50. Maybe you want to require entry of the first name, or you feel that allowing 50 characters for a first name field is too much. If so, this is the place to change it. Select the field next to each and change as needed.

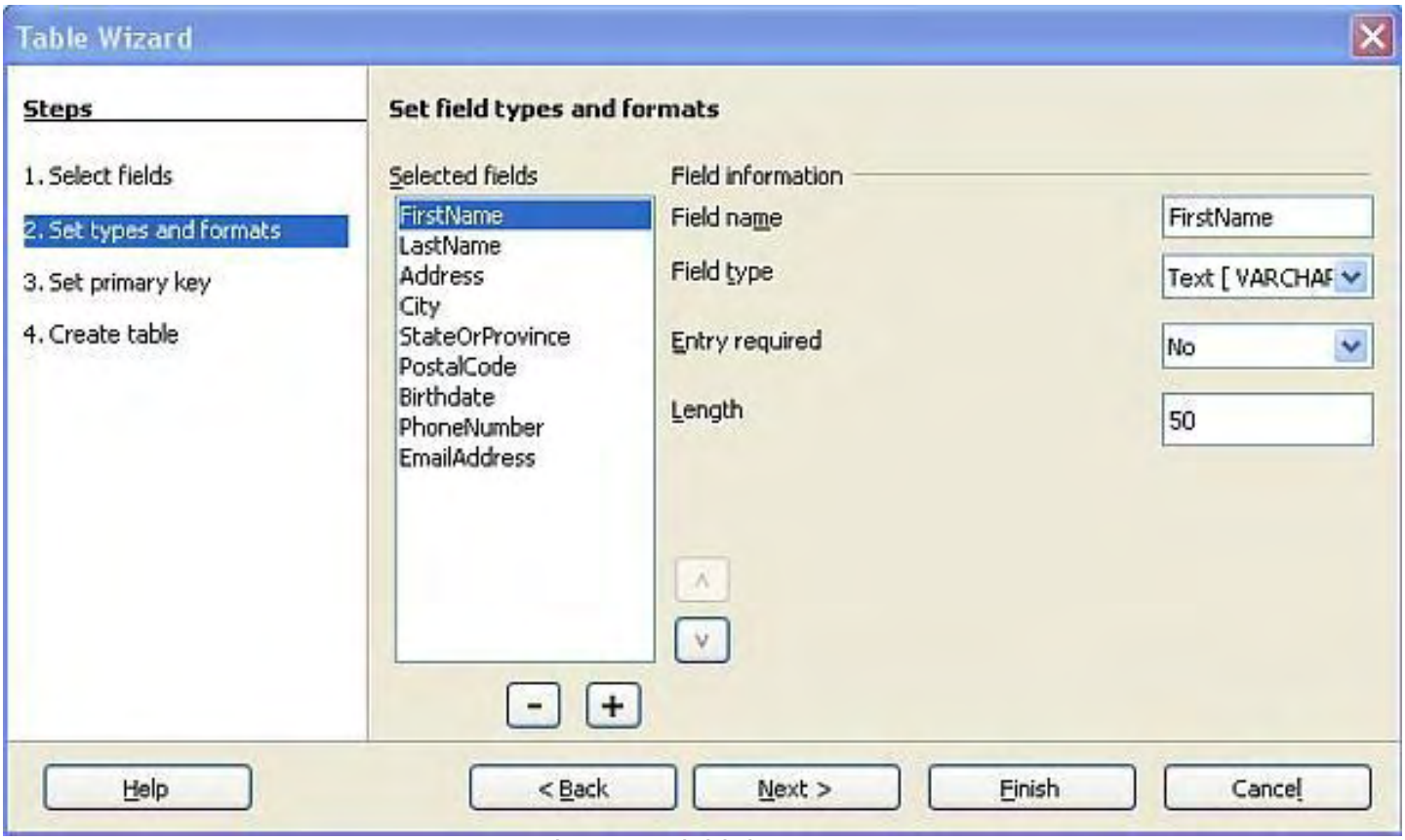

Figure 4. Field data type.

The Field name can be changed here if you don't like the predefined name. For example, you could change FirstName into First_Name or Fname.

The Field type defines how you expect the data to be stored. You actually have a lot of choices, although the most common are Text (also known here as VARCHAR, or VARiable-length CHARacters), Integers (which come in many varieties) and Dates. If you are unsure how to define a field, use Text and it can usually be converted to another type later.

"Entry required" lets you specify mandatory fields. As mentioned when I discussed this in my Access articles long ago, there are two camps when it comes to mandatory fields. One group suggests setting fields as mandatory whenever you know it is required. For example, what good is a database of names without the name? Similarly, if it's a list of e-mail addresses for friends, why would you not enter the e-mail address, so make that field mandatory.

The other group suggests never setting fields as mandatory. This may seem lazy, but in fact it is because most databases acquire data from several sources. And in many cases at least one source is unreliable. Taking a simple case, suppose that you are creating that same friends

database. If the first name is mandatory, what happens if you always call a person by a nickname, like Bubba? You could put that into the first name field, but that's not really where it belongs. And what about last name? That seems like it should be mandatory, but often people don't know the last names of casual friends. And e-mail address? As you build your list you may want to add all your friends, but you may not have all of their e-mail addresses handy. Leave it out and fill in the blanks later.

My suggestion is to leave these as optional unless you have a really good reason to go the other way.

Last is the Length portion of the field. In some cases, like Birthdate, this field does not appear or is non-editable. That's because many data types have predefined lengths. This field is primarily for defining the maximum length allowed in a text field. In the case of a VARCHAR, if the length of the data stored there is less, you save space. For example, if you store "Alice" in the FirstName field defined as VARCHAR-50, it stores less than 50 characters (although more than five because it stores the length of the text with each piece of data). Note: If all data fills the text field, like a two-character state code, a better choice is to define it as Text (fix).

Of the fields we selected, the only one I thought was worth changing was the EmailAddress. Most are less than the 50 characters allowed, but I've seen some big ones so I'll bump it up to 100 just to be safe.

Click the Next button to get to the "Set primary key" page, as seen in Figure 5.

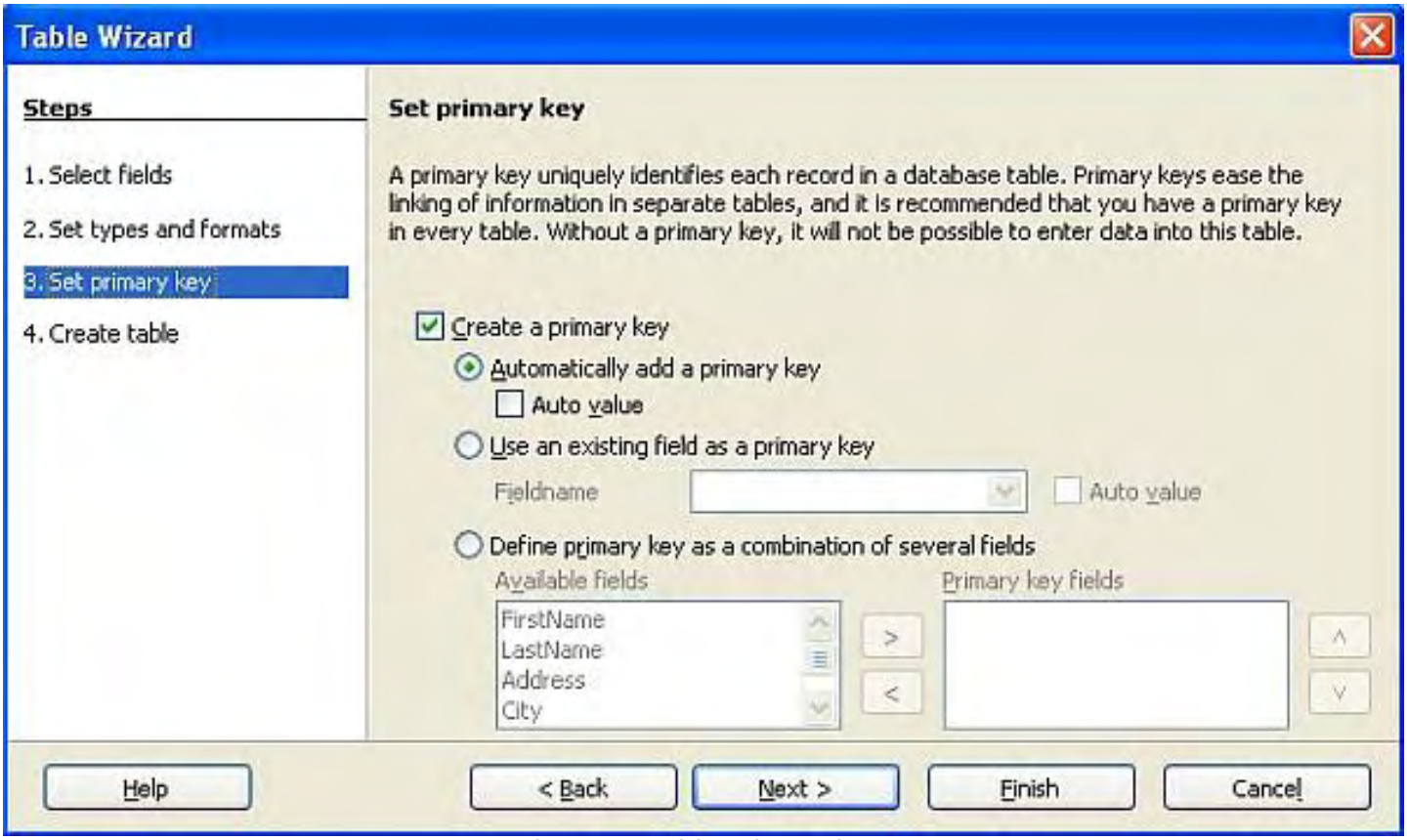

Figure 5. Table primary key.

Again, databases are a bit more complicated than word processors and spreadsheets. As you

organize your data, you will want to figure out how to identify the data. For example, you may identify your friends by first name. What if you have two friends with the same first name? How do you tell the computer which one you want to look at? The answer is to use a different identifier. Maybe last name? That may not work either, especially if you're friends with several people in the same family. Maybe both names? That's better, but you may one day have two friends named John Smith or George Bush. I guess there's always middle initial, or birthdate. Maybe address, or all of those pieces combined?

The idea is that the computer needs a unique identifier for everything it will store in the database. Then, to retrieve those pieces of information, simply supply that identifier (called a key) and the database will return the right pieces for review. This key, called the primary key (since it's the primary way to access the data), can be a single unique field or a combination of fields that together become unique. Since sometimes neither of these gives the unique quality you need, a good way to solve the problem is to add a new field with the sole purpose of being a unique identifier. This is the default setting.

Because a separate field used as the primary key is not directly related to your data, it can have any value, as long as it's unique. You could use letters of the alphabet. You could use the names of presidents or countries or planets. Or you could make up your own combination as the U.S. Postal system did to uniquely identify each of the 50 states, with their familiar two-letter codes. However, the more common system is to use numbers. The nice thing about numbers is that there is an infinite number available and, if you choose, there is a very simple progression available to remove any chance of duplicates. For example, start with the number 1 as an identifier and it's easy to find another unique identifier. Next try 2. And as long as you know the last identifier you created, a new unique identifier is as simple as adding 1 to that number. That's the idea behind the "Auto value" check-box shown in the above figure.

Since this setting is good, let's click the Next button. As seen in Figure 6, you can give the group of fields a name. This grouping of fields is called a table.

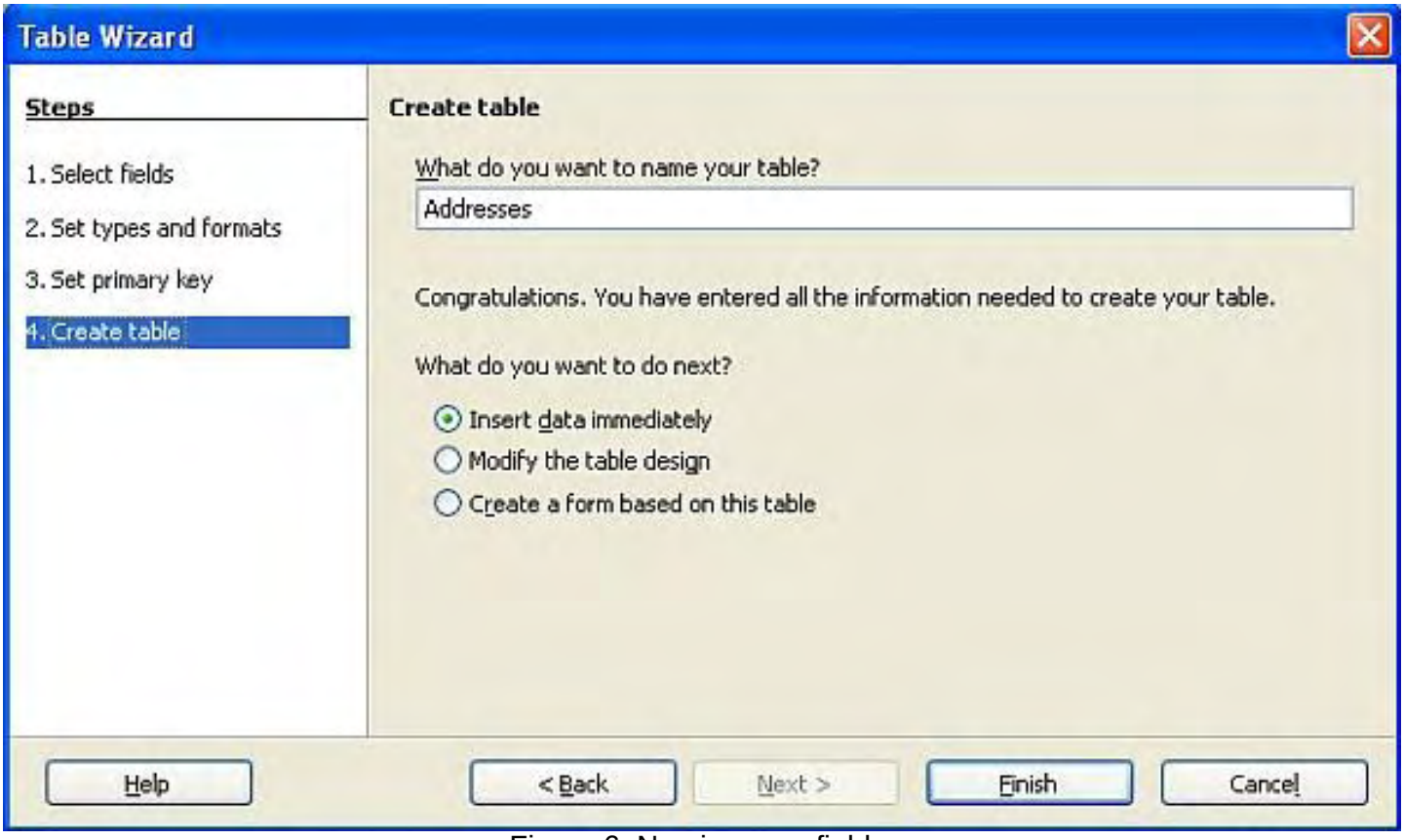

Figure 6. Naming your fields.

We'll talk about names next week. This is a bit odd because we're dealing with both names and addresses, so maybe the default name of Address should be something different, like Contacts. Below that, change the option to "Modify the table design" and click on the Finish button. Base will create the database with the fields and settings you specified.

Next week we'll explore more parts of database design and how Base lets us use them. For now, just close the two windows that remain open, and we'll take this up again then.

Rob has been in the computer industry for over 25 years and is currently a part-time teacher, offering classes in Excel, Access, Visual Basic, and a variety of other technical tools. He has loved *ComputorEdge* since 1990 and can be contacted at *RSpahitz@Dogopoly.com*.

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Worldwide News & Product Reviews

"The latest in tech news and hot product reviews." by Charles Carr

'America Recycles Day' Nov. 15—Sony Electronics will sponsor free public consumer electronics recycling events; Hazardous Waste Dumping in Developing Countries—The Basel Action Network calls for consumers to use only e-Stewards-qualified recyclers that will not export hazardous wastes to developing countries and will not utilize prisoner labor; The Internet in Italy—Joe Nuvolini checks in with tech tips for CE readers traveling abroad.

'America Recycles Day' Nov. 15

Sony Electronics will sponsor free public consumer electronics recycling events at six of its locations throughout the United States, including Carson, Calif.; San Diego and San Jose, Calif.; Itasca, Ill.; Ft. Myers, Fla.; and Park Ridge, N.J. All members of the community are invited to recycle unwanted household consumer electronics items for free.

For San Diego-area residents, drop-offs will be accepted from 8 a.m. to 2 p.m. on Monday, Nov. 15, 2010 at Sony Electronics, 16530 Via Esprillo, San Diego (parking area on North side of building, off Via Del Campo).

According to Sony: "More than a celebration, America Recycles Day is the only nationally recognized day dedicated to the promotion of recycling programs in the United States. One day to inform and educate. One day to get our neighbors, friends and community leaders excited about what can be accomplished when we all work together. One day to make recycling bigger and better—365 days a year. This year, that one day is Monday, November 15."

Sony's goal is to collect up to 30,000 pounds of electronic waste nationwide on Nov. 15. Recyclable household consumer electronic items, such as all brands of televisions, computer monitors/displays, stereos, computers, cell phones, etc., will be accepted.

The following will not be accepted: batteries, microwaves, humidifiers, thermometers, air conditioners, smoke/fire alarms/detectors and large household appliances such as dishwashers, refrigerators and washer/dryers.

Learn more about Sony Electronics' Take Back recycling program (*green.sel.sony.com/*). Learn more about America Recycles Day (*www.americarecyclesday.org*) .

Hazardous Waste Dumping in Developing Countries

According to an e-mail from the Basel Action Network (BAN):

Following the release of an investigation by the Department of Justice's inspector general revealing that federal prisons (operating under the trade name UNICOR) routinely exposed inmates to toxic heavy metals and exported hazardous wastes to developing countries ["Review of Federal Prison Industries' Electronic-Waste Recycling Program"], the Basel Action Network (BAN) calls for consumers large and small to only use e-Stewards-qualified recyclers that will not export hazardous wastes to developing countries and will not utilize prisoner labor for managing it.

BAN, together with the Electronic TakeBack Coalition of which it is a part, has long opposed the use of prison labor because it subjects vulnerable prison populations to hazardous substances, provides for an unfair taxpayer-funded subsidy that hurts the private-sector development of recycling infrastructure, and allows criminals to inappropriate access to sensitive private data found on hard drives and other data media.

"We have said all along that prisoners should not be managing toxic waste and the federal government should never allow the export of such wastes to developing countries," said Jim Puckett, executive director of the BAN. "Now we are finding out that not only did the federal government continue to allow it, they were doing it themselves and may still be doing it to this day."

The export of hazardous electronic waste to developing countries is contrary to decisions taken by the international community at the Basel Convention ... To date, though, the U.S. government has not ratified the Basel Convention and has failed to support the global decision to amend the Convention to forbid all exports of hazardous wastes to developing countries.

BAN urges passage of new House Bill 6252 ... which will ban the export of U.S. hazardous wastes to developing countries. And BAN urges all consumers of electronics, large and small, to be sure to only take their e-Wastes to e-Stewards recyclers who do not export the equipment to developing countries. You can find an e-Stewards recycler (*www.e-Stewards.org*) or a copy of the Department of Justice Report (*www.justice.gov/oig/reports/BOP/o1010.pdf*).

The Internet in Italy

Joe Nuvolini checks in with tech tips for CE readers traveling abroad:

Well, I'm a little late getting started on this report. I'm on my way home while sitting in the Rome airport overlooking the planes neatly lined up at the B gates. This is the third year I have reported on my Internet use during my annual trip to Italy. I must admit I had no need to use computers other than my Aspire One netbook, "Aspy," as wireless was available everywhere I went one way or the other. Therefore, I cannot report on the operating systems being used on the local cyber-room computers.

My guess, from past experience, is that most are still running Windows XP except for new computers purchased with windows Vista or Windows 7 on them. Surprisingly, wireless Internet was available free of charge at the Civita B&B in Civita Bagnoregio, a town with a population of 12. Host Franco Sala put it in last year after my last visit. It worked quite well. In Lucca, the Hotel Stipino had it, but the cost was excessive. I paid two euros for 20 minutes. On the bright side, the folks at the Iliaria gave me unlimited time even though I did not stay there. Paulo Barbieri, son of the owner, has been an acquaintance of mine for about 17 years.

Civita di Bagnoregio Population: 12 Wireless: Yes.

When I first started going in the early '90s, he was working at Gli Orte, a restaurant his father also owns. In any event, my Internet needs were well satisfied there. In Assisi, I had wireless Internet access in the bar at Albergo La Rocca. The cost was half a euro for 30 minutes or one euro for two hours. Naturally, I chose the latter in most cases. Interestingly, for some reason, their router had some port blocked that magicJack needed to work properly. Luckily, a young lady at a gift shop down the street had a hard-wired laptop she let me use free of charge, and I dropped in there daily to make my necessary calls.

Also, at La Rocca you could log on only one time per session, so if you logged off after 10 minutes, you lost the remainder of your time. I learned that the hard way. In Rome, the Mocenigo Vatican Suites had free wireless, so that took care of the Rome portion of my trip. I did have a major crash on my netbook on my second-to-last day. While trying to do too many things at once, it locked up and I had to force a shutdown holding the power button until it quit. When it ran chkdsk reboot, I noted that numerous files had been corrupted. When it finished rebooting, Outlook Express was trashed. I had no address book and could not create messages. Luckily, it could still receive messages and I could use Gmail for my outgoing traffic. I should point out here that I was able to repair Aspy by restoring an image of the C: drive I had made with Acronis True Image a few months ago, and all is well now. Chalk up another save for Acronis!

I also want to report that Skype and magicJack kept me in touch back home. I even gave my

committee report, using Skype, at our computer club's monthly meeting. I did note some bandwidth issues with Skype in most of the locations. Occasionally we would have to shut off the video and use just the audio side for portions of the calls.

Well, that's about it for this year's report. Hopefully I'll do another next year.

Contributed by Joe Nuvolini

In addition to being an editor and columnist for *ComputorEdge* and *ComputerScene* Magazines, where he has written hundreds of feature articles and cover stories over the past decade, Charles Carr has also penned well over 1,000 non-tech newspaper and magazine articles and columns for various publications, including two widely-read columns each week for San Diego's *North County Times* newspaper.

Carr has covered such diverse topics as pesticide use in area schools, invasive background checks for county volunteers, asthma awareness, the debate over standards-based grading, potential vulnerabilities in electronic voting machines, and Southern California's devastating 2003 and 2007 wildfires. He has also written many humorous pieces.

Carr has also edited dozens of stories and articles written by others which have appeared in major publications and web sites across the country.

He has been a contributor and technical advisor to *L.A. and San Diego Parent* magazines and receives dozens of requests a year to appear on Southern California television and radio stations to talk about important events in the tech world.

Carr has judged many writing competitions including San Diego Press Club and Time-Warner Communications contests and was sole judge for the national NAPPA Tech Toys awards for five years (which his kids really appreciated). He was recently a judge for the national "Poetry Out Loud" competition.

He has won many writing accolades, including Press Club awards for Best Column Writing, Consumer Writing and Best Arts and Entertainment, and has repeatedly taken top honors in San Diego Songwriter's Guild competitions for his original musical compositions.

Carr will soon publish his first book, *What a World*, a collection of his best writings.

Learn more at *www.charlescarr.com*.

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EdgeWord: A Note from the Publisher

"Internet Updates and the Silent Treatment" by Jack Dunning

Jack's experience with a self-healing Chrome/AJAX programming issue underscores how today's silent automatic Internet updates can resolve issues—even those you may not know you had.

AJAX (Asynchronous JavaScript and XML) is a form of Web programming. It is used to make a Web application act more like a program running directly from your computer—even though the updates are coming from a remote server. For example, in normal Web programming if you want to get the latest information from the Web server to appear on a Web page, it is necessary to reload (refresh) the page. This causes the entire page to go blank while it is being reloaded from the server. How long this takes depends upon bandwidth, traffic on the server, and the total size of the page. The delay is usually obvious, unless most of the components of the page have been cached on the local computer. This is not how a local computer program appears to the user.

With AJAX programs, rather than reloading the entire Web page when looking for an update from the server, only the portion of the page that will be affected is changed. The original page is not entirely reloaded. This gives the same effect that would be provided by most local applications and reduces the load on the Web server since only the new values need to be sent to the previously loaded Web page. It's great when it works.

The *ComputorEdge* site doesn't use any AJAX programming in the published part of the magazine. Using these techniques would add little to the value of this site, plus you must ensure that the implementation works with all the browsers in use. Not all browsers use the same code to produce AJAX programs. Therefore, we use AJAX with only some of our tools for editing and updating the site.

At one point Internet Explorer was the only browser that was working with our AJAX, but after debugging the basic routines we were able to get it running with Google Chrome and Firefox. That was a few years back.

I'm quite fond of Chrome, so it had become my primary browser. I used it for virtually everything except when a site required Internet Explorer. (Yes, there are still some sites—the type you need to log into—which require Internet Explorer. They have never resolved their issues with the other browsers. Actually, the issues are with IE.) That's why I was severely disappointed when out of the blue the AJAX in the *ComputorEdge* Web utility programs stopped working in Google Chrome. The programming continued to work in Internet Explorer, but who wanted to revert to that?

I tested the problem on all of the other computers with the same results, and finally came to the conclusion the something had changed in the Google Chrome browser. I was thinking that it might be time to debug my code again by consulting my programming expert, my son. We discussed the problem, but I never sent him the code to review. I continued on using both Chrome and IE to get the job done. I was procrastinating because I felt I might be opening a time-consuming bag of worms.

I never expected what actually happened. The problem went away. One day when I was working in Chrome, I clicked one of the AJAX activating buttons. To my surprise it worked. This was a rare occurrence indeed. Usually when there is a computer problem—software or hardware—it doesn't go away until you do something about it—or buy a new computer. It was obvious that the problem had been introduced into an earlier update of Chrome which was later resolved by a newer release. The updates had been automatic. The problem came and went over a period of about a month or two. By ignoring the problem I saved myself a great deal of work and aggravation.

I'm not suggesting that we can solve most of our computer problems by ignoring them. In fact, it is rare that the silent treatment will work on these types of technical issues. However, I will observe that automatic updates over the Internet have changed the playing field. There were a number of times when I was first installing Windows 7 on computers that issues that cropped up would often, in a matter of a few days, mysteriously disappear. It was as if someone had come in to fix my computer while I was sleeping. I know it all seems a little freaky, but it is happening.

There are times when the automatic Internet updates make the situation worse. This is why many people will turn off automatic updates. However, in the long run it is comforting to know that there are people working behind the scenes to resolve issues that you may not even know that you have—and they may be fixed on your computer before you ever encounter them.

Jack is the publisher of *ComputorEdge* Magazine. He's been with the magazine since first issue on May 16, 1983. Back then, it was called *The Byte Buyer*. His Web site is *www.computoredge.com*. He can be reached at *ceeditor@computoredge.com*

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Editor's Letters: Tips and Thoughts from Readers

"Computer and Internet tips, plus comments on the articles and columns." by ComputorEdge Staff

"Getting Started with Databases," "Get a Mac?," "Instant On/Off Computer," "Disk Defragmentation"

Getting Started with Databases

[Regarding Jack Dunning's October 15 article, "Database Programming: Is It for You?":]

Another free database development environment is Oracle XE. It includes Oracle Application Express, a declarative (you don't have to write code) development environment. You can get information at Oracle (*www.oracle.com/technetwork/database/express-edition/overview/index.html*). No, I do not work for Oracle, but have been working with Oracle products for years.

-Marcus, Alabama

If you're trying to address potential new database users, and you say you are, MySQL is not an appropriate starting point. Microsoft Access (Windows) and FileMaker Pro (Windows and Mac, and I notice their Web site says iPhone/iPad as well) are much better programs for someone trying to get started. You can learn a lot about tables and queries with Access and FileMaker without having to deal with raw SQL, and both of these programs are more than powerful enough for any personal uses.

As for using a database to manage a Web site, it's true and interesting to point out as an illustration of the power of databases, but I hope no newbie (and no seasoned programmer either) gets the idea that they should take on creating their own database-based Web site management platform. There are plenty of open source projects that already address that, including WordPress, a nice simple blog/content management platform; Joomla!, more versatile; and Drupal, fairly complicated to learn and set up, but extremely powerful. It would be madness to try to grow your own from scratch, except as a learning exercise.

MySQL is a great platform, and is at the heart of all three of the platforms I just mentioned, but it's not a place for someone to learn the general concepts of using a database.

-Steve Powell, San Diego

Get a Mac?

[Regarding the October 15 Digital Dave column:]

Dave, don't tell people with Windows machines to get a Mac. Trying to make the transition will drive them into an asylum.

-Jim, San Diego CA

Instant On/Off Computer

[Regarding the October 1 Digital Dave column:]

Appliances, cars, other items with processors appear to start and stop instantly to the user. Computers are ripe for improvements of on/off with ROM and EEROM available for some time, plus power failure instructions capable with built-in hardware. Patches are certainly capable via RAM. Think of the productive time lost currently awaiting ups and downs for troubleshooting problems alone. So why won't designs change to meet customer desires for appliance-type operations? Let's hope.

-Ed Brown, Denver, CO

Disk Defragmentation

[Regarding the October 15 Windows Tips and Tricks column:]

Thanks for this article. I have been using Win 7 for about a year now and have always been curious and sometimes mad about all of the disk activity that seemed to be going on in the background. I'm routinely up past midnight and sometimes when I hadn't used my PC for hours I'd still see the disk activity light churning away like someone was accessing a large database. Now I know, and I have stopped the process on drives that I don't use for anything except video or audio storage.

-Buck, El Cajon, CA

One of the best examples of your tech writing for novices. Thanks.

-Francis, San Diego, CA

I believe the "-w" switch for whole disk defrag has been removed in Windows 7, although it's still available in Vista.

-Ron Cerrato, San Diego, CA

ComputorEdge always wants to hear from you, our readers. If you have specific comments about one of our articles, please click the "Tell us what you think about this article!" link at the top or bottom of the article/column. Your comments will be attached to the column and may appear at a later time in the "Editor's Letters" section.

If you want to submit a short "ComputorQuick Review", or yell at us, please e-mail us at *ceeditor@computoredge.com*.

Send mail to *ceeditor@computoredge.com* with questions about editorial content.
Send mail to *cewebmaster@computoredge.com* with questions or comments about this Web site.

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