owdy. Welcome to the September edition of A Spider Speaks. Each month, as the title graphic says, I try to provide you with useful tips, tricks, and tidbits. I'm always looking for some good ideas and constructive criticism, so send some my way at erik@applewizards.net .

This month we'll be talking about memory management, "Get Info" memory settings, and announcing the release of a shareware tool that Aaron (of Shop Talk) and I have developed.

o Things Backwards

How much RAM do you waste? I'm not asking how many control panels and extensions you have (I'm hardly one to criticize anyone there). I'm asking how much RAM you waste by opening and closing applications in the wrong order. "What's this?" you ask. "What does that matter?" Well, it matters greatly.

For the purpose of this article, think of your RAM as a big stack, MB on top of MB. The System Heap itself takes up the bottom of the stack, and grows upwards as you use various system libraries (like QuickTime, networking features, etc.). This is part of the reason why the Mac OS can consume more RAM as you use your computer.

Applications, conversely, load into RAM from the top — this allows the System Heap to grow as needed. First, extensions (like Folder Actions, Time Synchronizer, and other background applications) grab RAM at startup. Next, the Finder grabs some RAM, and finally, any applications you launch take their RAM. For example, suppose you launch your email application, a graphics program, QuickTime Player, and then BBEdit. They'd occupy RAM

in that order, from the top on down (using our relative concept).

However, this can lead to problems. Let's imagine that you quit QuickTime Player and now want to launch Internet Explorer the RAM Hog (that is its official name) to check the website you've been working on in BBEdit. Uh oh, you don't have enough RAM! You check your About this Macintosh window, and it reports only 9.6 MB free, but by your calculations, you should have over 15 MB free! That's plenty to launch your "browser of choice," which asks for 12 MB (let's suppose).

he problem lies in the fact that you quit QuickTime Player — an application that sat in the middle of the RAM stack. Have a look at the graphic at right. Look to the space marked "Free*." This is the RAM previously occupied by QuickTime Player. See the faint blue area which covers the Free* and BBEdit regions? This represents the amount of RAM needed to launch Internet Explorer. About this Macintosh reports the largest amount of contiguous free space — 9.6 MB (the Free space between BBEdit and the System heap, in this example).

The problem? Applications, at least in the Mac OS as we now know it, need contiguous blocks of RAM. Though you do have 15.1 MB free, BBEdit is cutting it into two pieces — 5.5 MB and 9.6 MB — so you don't have enough RAM to launch Internet Explorer. Unless…

There are two solutions:
1. Quit BBEdit, which will release the RAM and create one big block of contiguous free RAM, then launch your browser (and BBEdit again, if you still need it).
2. Plan ahead! Launch applications in the opposite order in which you intend to quit them. In this case, you should have launched QuickTime Player last, because you quit it first. This would have saved you the trouble of resorting to the first solution. :-)

In this case, I do practice what I preach. When I start up my Mac, I launch my email, messaging clients (ICQ and AIM), and browser first, because they're always open. Only after they're open do I launch applications I plan to quit soon after launching them.

ome RAM Happy Tools

These tools will greatly aid your quest for clean, contiguous RAM and a happier computing experience.

About This Computer/Macintosh (ATM)
It's right there in your Apple menu, and though rudimentary, it does offer a basic look at how much RAM your applications are sucking up and how much you've got left.

Memory Mapper
The graphic used in the section above is a hacked-up screenshot from Memory Mapper. This tool will show you where your applications are (including background applications) in RAM, and how much space they're taking up. Get it at http://macfixit.com/library/tul/MemMapper.sit.hqx .

More About This Macintosh (MATM)
If the standard ATM is not enough for you, try MATM. It can, at a glance, tell you how well you're using your system: look at the Free Memory and Largest Unused Block in the image below? If they're the same, great! As you can see, information on Volumes and System Info is also available. Find MATM at http://home.earthlink.net/~albtrssp/Matm.html .

eek-a-Boo
Peek-a-Boo does a lot of things, one of which is display a memory graph (though its is horizontal and not nearly as informative as Memory Mapper's). Additionally, you can monitor CPU usage, prioritize your tasks (with the help of an extension), monitor the misbehavings of Internet Explorer, and more. Find Peek-a-Boo, by Clarkwood Software, at http://www.clarkwoodsoftware.com/peekaboo/ .

imme More, Gimme More!

How much RAM does an application decide to take anyway? That depends. If you select an application and "Get Info" on it (through the File menu, or with the keyboard shortcut "command-I"), you can choose to look at the memory settings. Below is a shot of Photoshop's memory settings.

here are three main areas, two of which you can modify. First, the Suggested Size, is hard-coded into the application. This is the minimum amount of RAM that the programmer suggests you use. Oftentimes, as in this case, the number is a bit too low, so use it as a guideline only, not as a hard-and-fast rule.

The Minimum Size is the smallest (contiguous) portion of RAM in which this application will launch. If I had only 19340 k free, in this example, Photoshop would refuse to launch.

If possible, the application will take up the Preferred Size when it's launched. In this case, that's 100 MB. If I have 100 MB free, Photoshop will take it. If I have 35 MB free, Photoshop will still launch, because 35 MB is larger than the Minimum Size.

You can change both the Minimum and Preferred Sizes, but keep three things in mind:
1. You can't change an application's memory requirements while it is running. You must first quit the application, then change them.
2. The Minimum Size must be smaller than or equal to the Preferred Size.
3. Don't set RAM requirements too high or too low. Both can cause problems.

Pretty simple, right? Well then, get to it! But wait, there might be a better

way for you power users, and it's called RAMp...

AMp It Up!

Time for a bit of a self-plug here, I imagine. Aaron Linville and I have been developing a utility to eliminate the burden of manually changing an application's RAM requirements. We realize that sometimes you may want to give Photoshop 20 MB for "Lite" work, and other times you may want to give it 200, for "Beast"ly work. We also realize it's a major pain in the butt to "Get Info" each time.

With that in mind, we've developed RAMp, which lets you choose between a "Lite" and a "Beast" configuration at launch time. Set the "Lite" and "Beast" RAM settings once, and switch on the fly — RAMp prompts you with "Lite" and "Beast" buttons at application launch, so you never have to Get Info again. Changing your Lite and Beast settings is as easy as opening a text file. And best yet? RAMp is not a control panel or extension, so it won't cause conflicts or suck up RAM itself.

RAMp will be available as shareware ($10 — less than the price of a night on the town), and we'll maintain a home page for it at the Apple Wizards Warehouse, http://warehouse.applewizards.net/ .We plan to release RAMp 1.0 at the same time we release this issue, so be sure to check the Warehouse today!

Special Bonus!

though I

fixed the

replacing

own.

great Erik,

I've put

One day I realized I had nine hard drive partitions even

only needed seven. So I reformatted a hard drive and

problem. But then, alas, my icons were gone! Instead of

them with cartoony ones like I normally use, I made my

Here you can see the fruits of my labor. "Yeah that's

way to rub it in my face" you're saying. But no! I'm not.

these icons on the Apple Wizards site for you to

download. That's right, for the lowly fee of $0.00 you too can own Sandra and Shania icons! Grab these hotties at http://applewizards.net/xyz/hotties.sit while supplies last! The file's only 9k and the icons work with Mac OS 8.x and earlier.

If I get enough feedback, and if someone finds a way to make the days 28 hours long, I'll create an entire icon set (of about 50 icons) featuring Julia Roberts, Jennifer Lopez, and other gorgeous women. Sorry ladies — I really don't want to make Brad Pitt icons... So email me! :-)

URLs From this Article:

erik@applewizards.net

http://macfixit.com/library/tul/MemMapper.sit.hqx

http://home.earthlink.net/~albtrssp/Matm.html

http://www.clarkwoodsoftware.com/peekaboo/

http://warehouse.applewizards.net/

http://applewizards.net/xyz/hotties.sit

Erik J. Barzeski

erik@applewizards.net