Troubleshooting 101: Help Yourself Help Your Computer

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Troubleshooting computer problems can often be time consuming and frustrating, but thinking about your computer troubles in an organized way will sometimes help you to diagnose and fix the problem quickly and easily.

Think of yourself as Dr. Computer. As you answer the three critical questions listed below, you will lead yourself to a healthy computer or you will be better prepared to consult a specialist.
1. Evaluation: What are the symptoms of the problem?
2. Diagnosis: What problems do those symptoms point to?
3. Treatment: What treatments will help to alleviate the problem?
4. Follow-up: Did the treatment fix the problem? If not, is the treatment wrong or is the diagnosis wrong?

Evaluation: What are the symptoms of the problem?
If a patient came to a medical doctor and said, "I don't feel good!" the doctor would not really know any more about that patient's illness. Similarly, if someone were to approach Dr. Computer and say, "My computer is broken!" she or he would not have a clue about how to fix that computer and would not even know where to begin.
Be specific about the symptoms of your computer problem…

What **exactly** is happening?
Are there any error messages? What are they?
What were you doing before the problem occurred (even if it seems irrelevant)?
Has the problem occurred before? When? How often? (Keeping a log or journal can help.)
What did you do after the problem occurred (if anything)?
Are there any other problems that might be related to the current problem?

Diagnosis: What problems do those symptoms point to?
Now that you have gathered all of the symptoms, it is time to diagnose the problem. This step is the most difficult one; if you have not collected all of the information, it will be an impossible one. For proper diagnosis, you need understanding and practice. Understanding of the basics of how things work will help you to know why the problem is happening. Practice will help you know how to diagnose a problem more quickly; if you have seen the exact symptoms before and had a successful treatment, you can more easily treat the new problem. Until you get practice, you will often find that you come up with the wrong diagnosis or the wrong treatment. Try not to get frustrated; the more mistakes you make, the closer you get to a successful treatment (fortunately with computers you have more than one try to get it right). On this step, you may need to bring your gathered information from step one to someone with more experience for a consultation. If you are interested in knowing how to diagnose the problem yourself next time, be sure to ask lots of questions of you consulting computer "doctor".
While practice takes some time, today, let's try to get a better understanding of how things work. There are a variety of problems that can strike a computer some of which include:

Is everything plugged in securely? Are the cords in working order?

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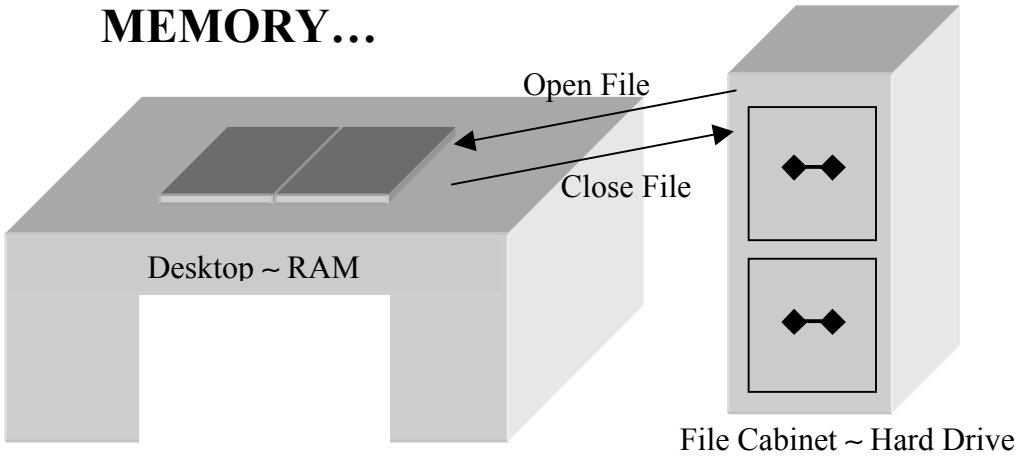
Has human error contributed to the problem (forgotten password, CAPS LOCK, etc.)?
Is there a network problem?
Is there a memory problem?
Is there a printer problem?
Is there a problem with the Operating System? Is something preventing the computer from even starting up?
Is it my problem or somebody else's problem?
Is your desktop protection/firewall/virus protection creating the problem?
Is it an inside network problem or an outside network problem? Can you see any office or company servers? Can you access the Internet? Can you access email?
Have you tried a simple restart? (Sometimes the best medicine is a good night's rest.)

You might be wondering, "How the heck should I know if it's a memory problem?" The diagram below is meant to help you understand the different kinds of memory that your computer uses.



As the diagram shows, there are generally two types of memory: RAM and Hard Drive Memory. RAM these days on personal computers generally comes in sizes like 256MB (MegaByte), 512 MB or sometimes 1GB (GigaByte). Hard Drives on personal computers generally range from 10-80 GB. As you might know, 1GigaByte is 1000 MegaBytes, so you can see that Hard Drives generally have much more memory space than RAM does. It follows then that the *Hard Drive* is for *file storage* like a *filing cabinet*, and *RAM* is for *file use* like the *top of your desk* in your office. You'd never try to take everything out of your filing cabinet and put it out on your desk; you'd run out of room in no time. Similarly, you'd never throw away a bunch of stuff in your filing cabinet because there was no room left on your desk; instead you would put something on your desk back into the filing cabinet so that there was more room on your desk for another file. So, when you get a memory error on your computer, think about the filing cabinet/desktop analogy. If you try to open a file, and you are told you are out of memory….you are probably out of desk space, not filing cabinet space, so try closing some other files to make some RAM available for the new file. If you try to save a file, and you are told you are out of memory….you are probably out of filing cabinet space, so putting some old un-needed files in the trash to make room on the Hard Drive for another saved file.

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What is an Operating System? It is the program that allows you to access the basic functions of your computer. It is the minimum software required to run a program. Windows 98, Windows 2000, Windows XP, Mac OS X, and LINUX are examples of Operating Systems.

Why would desktop protection/firewall/virus protection cause a problem? Because it's there to prevent unauthorized people/programs from messing around where they shouldn't be. Sometimes you are trying to do something that your protective program thinks is a bad idea. You may want to reconsider this course of action or, if you are sure what you are doing is a good move, you can try temporarily disabling your protective program at your own risk.

Treatment: What treatments will help to alleviate the problem?
You've done the hard part; now you just have to take the steps to fix the problem that you've identified. Often the Internet is a great resource for finding the treatment to a known problem. Typing in an error message or problem description into a search engine can often result in a bunch of links where others have encountered and solved your problem. Be sure to read many of the resulting links before following any one person's advice. You want to make sure that research all of the treatments before deciding the best one for your situation.

Follow-up: Did the treatment fix the problem? If not, is the treatment wrong or is the diagnosis wrong?
If the treatment worked, good for you! Remember that treatment for the next time you see those symptoms! If the treatment didn't work, don't get discouraged! Try again, learn from your mistakes, and don't forget that everyone needs to ask for help sometimes. Even the best doctors need to consult specialists; no one person can possibly know everything there is to know about fixing computers. If you've tried your best and you're still stuck…

-Is your machine/software/hardware still under warranty (usually less than a year old)? If so, call the company who makes your product and ask them questions! The maker of the product will be the specialist on your products ailments. They have a deep understanding and lots of practice to help them diagnose and treat your problem. If the support is free, use it! Don't be afraid to ask "stupid" questions. Try to understand how they fix the problem so that you can fix it next time.

-Would a friend or coworker know how to answer your question/address your problem? Perhaps he or she would have encountered the problem before and can provide insight on the problem. It is worth a shot to ask.

-Is there a local expert who can help you? Don't forget to provide that expert with all the great information you evaluated, what you diagnosed, what worked/didn't work, or any other important information.

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