

Keep it Clean!

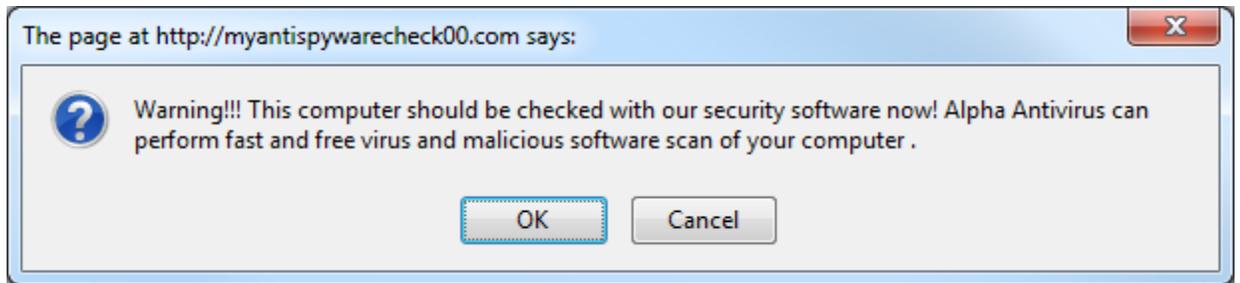
Routine maintenance of your computer

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Anti-malware programs

- Always keep your firewall, anti-virus, and anti-spyware products up to date!
- There are many good commercial products available, such as:
 - Norton
 - McAfee
 - Kaspersky
 - Vipre
- There are several free options as well, including:
 - Avast!
 - AVG
 - Microsoft Security Essentials (Win 7) and Windows Defender (Win 8 – 10)
- Make sure to run a full scan of your computer on a regular basis. Automatic scans usually can be set up.
- Pick your scheduled scan time when you do not usually perform “computing-intensive” tasks.
- Set your security software to download and install updates automatically. Choose how often update checks should be made.
- Firewall software also is a good idea, especially if you use your computer on the road a lot.
 - Firewall software prevents unwanted access to/from a network.

- Beware of insecurity software – you’re browsing along, and suddenly you see something like this:



- Clicking on buttons such as OK or Click here to fix the problems may load malware onto your computer; some of this malware may force purchase of the infiltrator’s product before it can be removed. (“Ransomware”)

Automatic updates

- Set your computer to download and install operating system updates automatically.
- This will assure that you have the latest security and performance fixes as soon as Microsoft or Apple releases them.

Disk space

- When your internal disk reaches 70% - 75% full, you may see performance begin to drop.
- One answer to this problem: Create more space!
 - Install a 2nd (or 3rd?) internal drive, and move your data files from your system drive to the new drive.
 - Installing a solid-state drive (SSD) will have the further advantage of speeding up your system.

- An easier solution: clear the clutter!
 - Uninstall programs that you no longer use.
 - This is done from the control panel in Windows. (Never just delete the app's folder.)
 - You can simply delete the app's folder in MacOS, for the most part.
 - Copy data files to an external drive, and then delete them from your internal disk. (See Mayfield's law #1.)
 - If you are using Outlook or some other non-Web email client, delete unneeded emails.

Disk Fragmentation

- Over time, hard disks become *fragmented*, which means that files are broken up into small pieces that are stored across the disk rather than being stored as a single unit.
- You can perform a *defrag* operation to get a little more speed.
- Be sure to back up your system before defragmenting!
- Defragmenting an external drive takes a lot of time.
- DO NOT defrag a SSD! They work differently than a hard drive.

Disk Organization

- Keep your files well-organized into folders and subfolders to make it easier to find what you want.
- Name your files in such a way that it is apparent what the file is, and so that you can search folders or drives using the tools built into your Windows or MacOS.

The desktop

- Windows and Mac OS run faster with uncluttered desktops.
- Have you ever spent too much time looking for a particular shortcut or file on a crowded desktop?

- Suggestions:
 - Move documents to the *Documents* folder or another logical location.
 - Pin frequently used apps to the *Start menu*, *Start page*, or put them on the *taskbar*.
 - Use the Windows search box or MacOS Spotlight to find apps and other files.

Web browsers

- There are a number of good browsers available:
 - Microsoft Edge
 - Mozilla Firefox
 - Google Chrome
 - Apple Safari
 - Opera
- You may find that you can navigate better/faster using a different browser than you currently are using.
- You can have multiple browsers installed on your computer simultaneously.
- Occasionally clearing out certain data from browsers may also improve browser performance. For example, in *Edge*:
 - Select the three dots at the upper-right corner of the browser.
 - Click on *Settings*.
 - Under *Clear Browsing Data*, click on *Choose what to clear*.
 - Choose the items you wish to clear; *cached data and files* is a good choice.
 - Click on the *Clear* button.
- Use a product such as *Delicious* or *Pinboard* to manage your bookmarks.
 - These products store your bookmarks in the cloud and permit you to access those bookmarks from any browser on any computer.

Startup programs

- Sometimes when you install an app, it puts items into the Startup folder.
- The apps that are located in that folder are executed automatically when Windows or MacOS starts.
- Check the folder from time to time to see if there are any items you can safely remove.
- When some apps are installed, they install other, “hidden” apps. These don’t appear in the Startup folder, but they also are run when Windows starts.
 - These apps tend to continue running once started, using up time and other resources on your computer.
 - Some of these programs are useful, but others are not, and they could even include spyware or other forms of malware.
- There is a utility named *msconfig* that can be run to look at and remove such apps. DO NOT RUN MSCONFIG UNLESS YOU ARE SURE OF ITS USE!

Power issues

- Always use a surge protector with your computer and related equipment.
- If you are concerned about power losses, consider purchasing an uninterruptable power supply (UPS).
 - Purchase a UPS with enough capacity to power your computer & monitor for a few minutes.
 - A UPS is not needed when using a laptop, unless your battery is bad.
- Change the power options (from the control panel) to put the monitor, hard disk, and computer into low-power modes during extended periods of inactivity.

Other suggestions

- Don't start too many applications at the same time.
- Don't just switch off your computer's power (unless it's really frozen). Shut it down instead.
- Occasionally use a registry cleaning app.
 - There are both commercial and freeware versions available.
 - Here is a list of 38 free registry cleaners:
<http://pcsupport.about.com/od/toolsofthetrade/tp/free-registry-cleaner-programs.htm>
 - Always back up your system before using a registry cleaner!
- Empty the recycle bin.

Some of Mayfield's Laws

1. If your data is important, keep a current backup.

Corollaries:

- Keep your current backup current.
- If your data is really important, keep two current backups.
- If you keep multiple backups, keep them in different locations.
- Rotate between at least two sets of backup media.

2. It's seldom a good idea to purchase leading-edge computer technology. Going back even one generation can save you big dollars.

- Besides, in three to six months, the leading-edge technology for which you paid extra no longer will be leading edge.