Computer Maintenance & Repair

A short course by a Dummy

for other Dummies!

By

Darrell Flood

KF7QZA

My Wife says

I have 2 jobs

Driving & Tech Support!

A little about my credentials!

*I started using computers on a regular basis about 20 years ago.

*Shortly after I built my first computer, I got the bug to work on computers.

*I am almost completely self taught and have learned some of my biggest lessons from my biggest mistakes!

How do we use computers in everyday life?

Work	E-banking
Education	E-shopping
Research	Graphics and architectural designs
Medicine	Sharing of knowledge
Data Storage music, movies, pictures, memories	Day planners/organizers
Social Networking	Writing
Gaming	Publishing
Entertainment	**Communication**

How do we use computers in RADIO life?

Packet

RTTY

Satellite Tracking

Call Sign Lookup

Research our radios

Program our radios

Airmail

Software Defined Radio

Logging

EchoLink
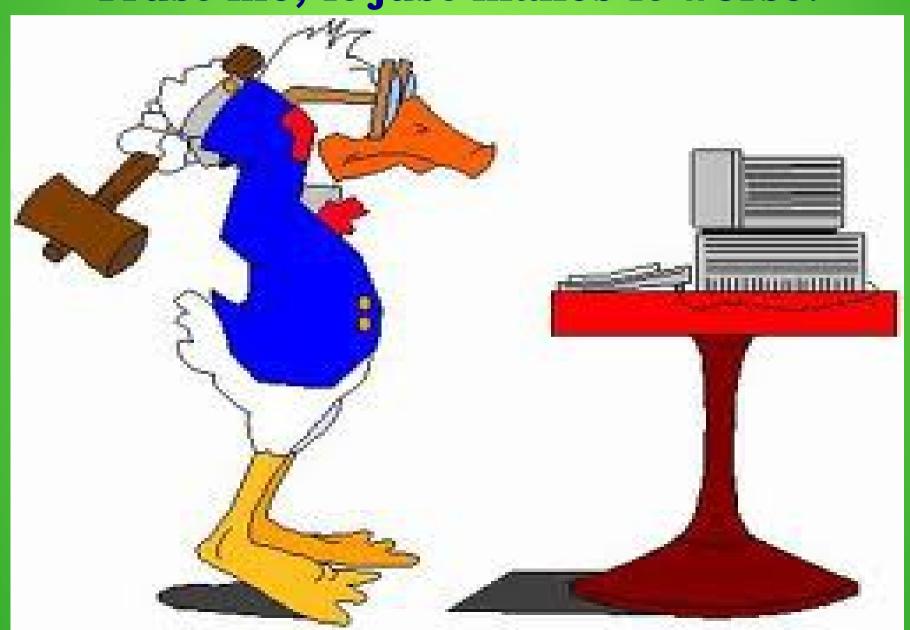
APRS

Amateur Television

AMateur Teleprinting Over Radio

Looks like we have a lot of reasons to maintain and repair our computers!

This is NOT how to fix your computer!
We have all been there, even me!
Trust me, it just makes it worse!

So what are the enemies of your computer?

You
Heat
Dust
Viruses
Malware

So, time for some Geek Terms!

You

The end user of your computer! The person that will click on just about anything on the Internet because it is there!

Heat

External case temperature should always be below 27*C (80*F), with the best temperatures around 18*C (65*F).

Dust

Consists of particles in the atmosphere that come from various sources such as soil dust lifted by weather, volcanic eruptions, and pollution. Dust in homes, offices, and other human environments contains small amounts of plant pollen, human and animal hairs, textile fibers, paper fibers, minerals from outdoor soil, human skin cells, burnt meteorite particles and many other materials which may be found in the local environment.

Computer Viruses

A computer virus is a computer program that can replicate itself and spread from one computer to another. The term "virus" is also commonly, but erroneously, used to refer to other types of malware, including but not limited to adware and spyware programs that do not have a reproductive ability.

Viruses are generally meant to DAMAGE your computer!

Malware

Computer worms, ransomware, trojan horses, key loggers, most rootkits, spyware, dishonest adware, malicious BHOs(Browser Helper Objects) and other malicious software. The majority of active malware threats are usually trojans or worms rather than viruses.

Malware is meant to get your information, hold you hostage, spy on you and generally annoy you!

So how do we fix these problems?

We'll take each one on its own!

You!

Information!
Information!
Information!

You are not infected until you click on the add that says you are INFECTED!

Which brings me to the first of four programs that I use to keep all of my computers running in tip top shape!
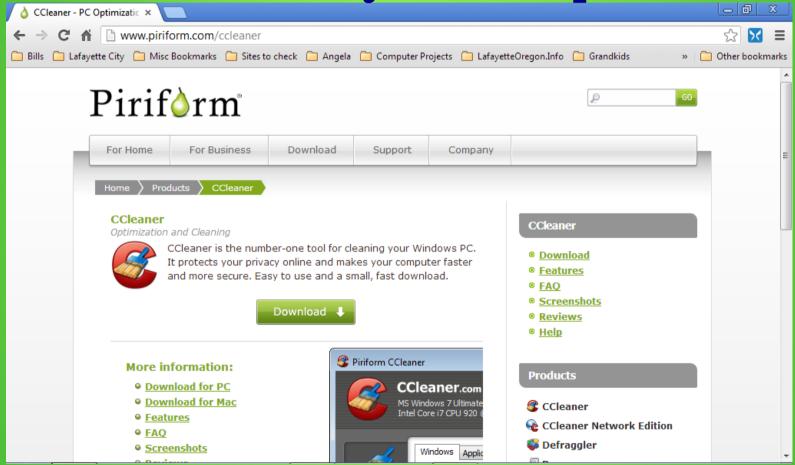
 Ccleaner

Ccleaner is free! They have a paid version. No I didn't spell it wrong. There are 2 C's for a reason. The first stands for CRAP!
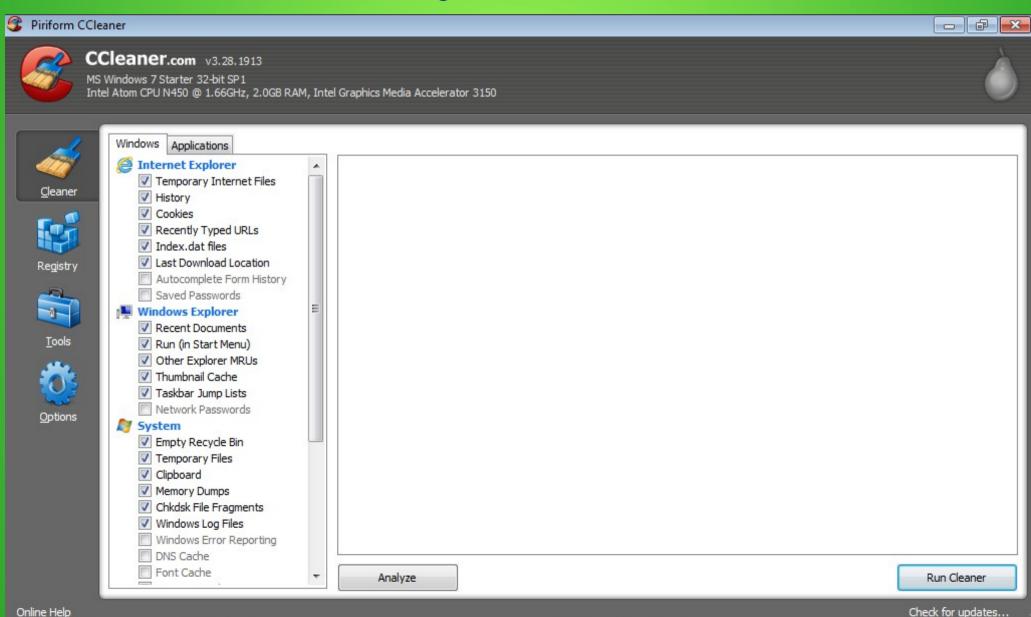(Crap, Stuff, Sh*T)
The stuff that is clogging your computers hard drive. Temp files, browser files, registry garbage.
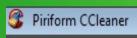
This is what Ccleaner looks like on your screen!

Piriform CCleaner

CCleaner.com v3.28.1913
MS Windows 7 Starter 32-bit SP1
Intel Atom CPU N450 @ 1.66GHz, 2.0GB RAM, Intel Graphics Media Accelerator 3150

This is information about your computer

Cleaner

Registry

Tools

Options

| Windows | Applications |

Internet Explorer
- ☑ Temporary Internet Files
- ☑ History
- ☑ Cookies
- ☑ Recently Typed URLs
- ☑ Index.dat files
- ☑ Last Download Location
- ☐ Autocomplete Form History
- ☐ Saved Passwords

Windows Explorer
- ☑ Recent Documents
- ☑ Run (in Start Menu)
- ☑ Other Explorer MRUs
- ☑ Thumbnail Cache
- ☑ Taskbar Jump Lists
- ☐ Network Passwords

System
- ☑ Empty Recycle Bin
- ☑ Temporary Files
- ☑ Clipboard
- ☑ Memory Dumps
- ☑ Chkdsk File Fragments
- ☑ Windows Log Files
- ☐ Windows Error Reporting
- ☐ DNS Cache
- ☐ Font Cache

Analyze

Run Cleaner

Online Help

Check for updates...

Piriform CCleaner

CCleaner.com v3.28.1913
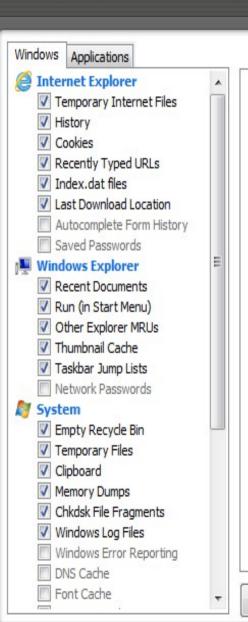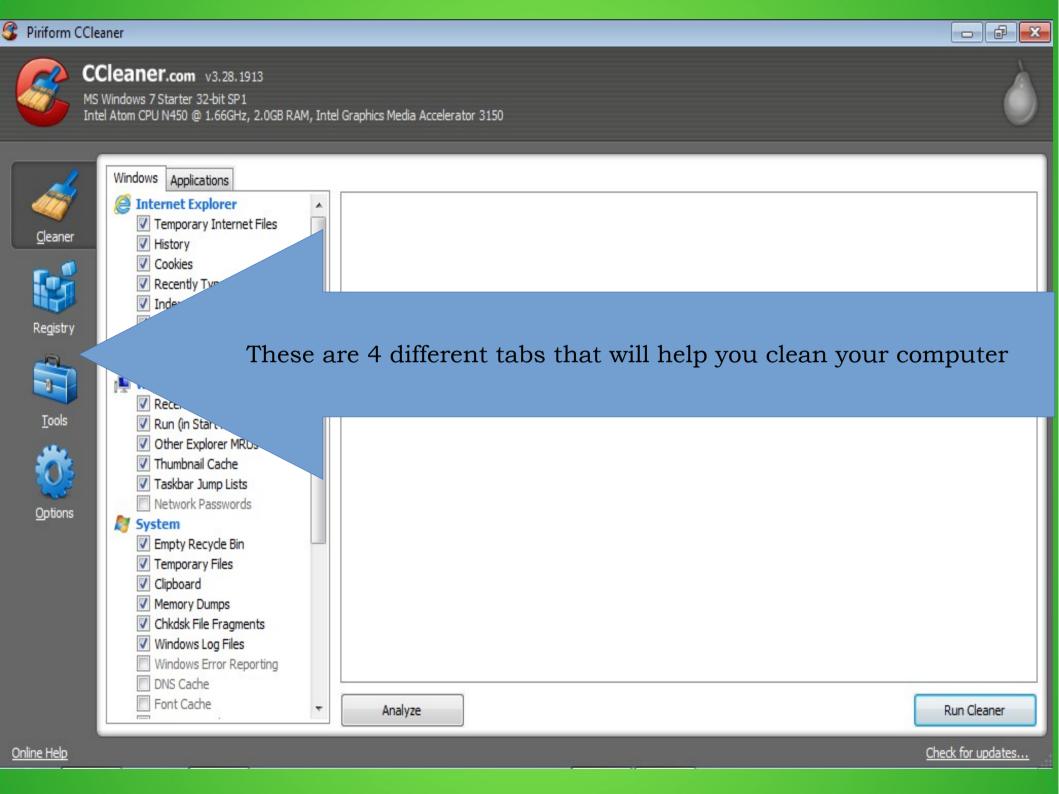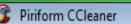MS Windows 7 Starter 32-bit SP1
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Cleaner

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- ☑ Windows Log Files
- ☐ Windows Error Reporting
- ☐ DNS Cache
- ☐ Font Cache

This process will permanently delete files from your system.

Are you sure you wish to proceed?

OK

Cancel

☐ Do not show me this message again

HELL YES!

Analyze

Run Cleaner

Online Help

Check for updates...

CCleaner.com v3.28.1913

MS Windows 7 Starter 32-bit SP1
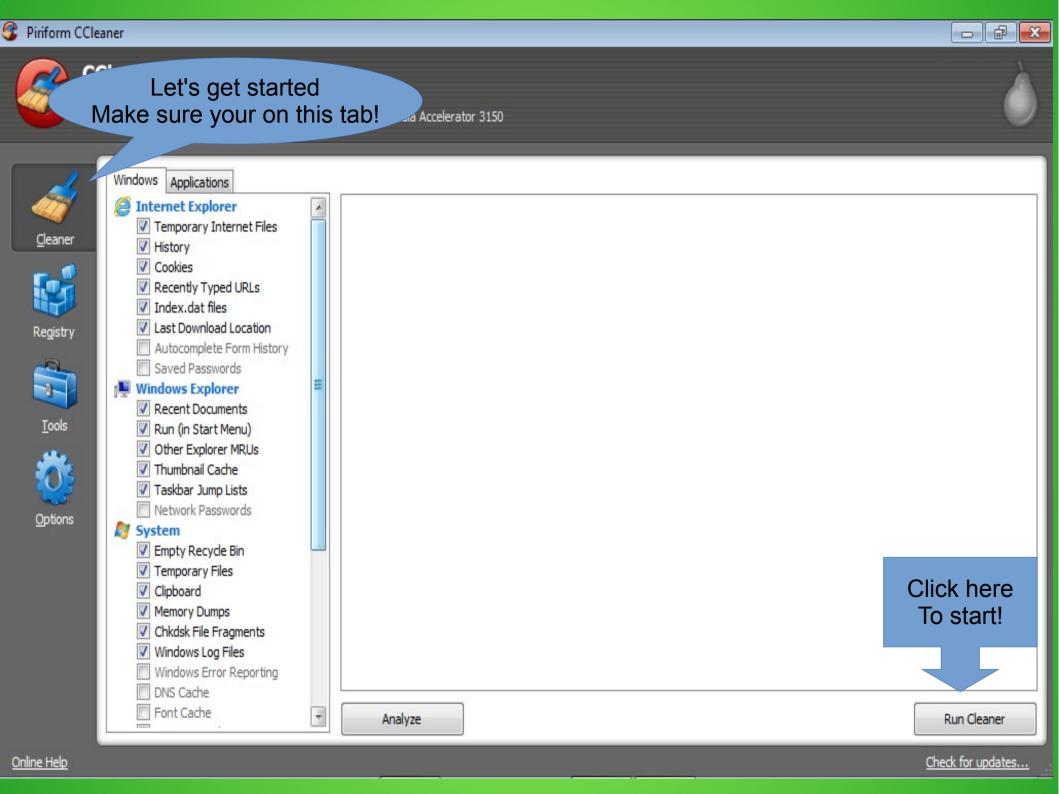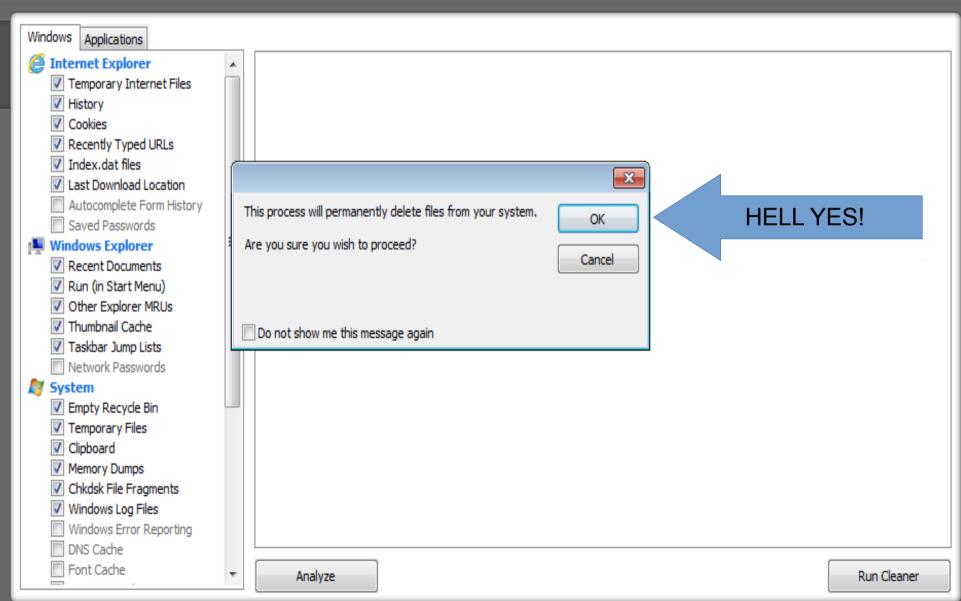Intel Atom CPU N450 @ 1.66GHz, 2.0GB RAM, Intel Graphics Media Accelerator 3150

Ccleaner is cleaning your system!

Cleaner

Registry

Tools

Options

| Windows | Applications |

46%

Internet Explorer
- ☑ Temporary Internet Files
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System
- ☑ Empty Recycle Bin
- ☑ Temporary Files
- ☑ Clipboard
- ☑ Memory Dumps
- ☑ Chkdsk File Fragments
- ☑ Windows Log Files
- ☐ Windows Error Reporting
- ☐ DNS Cache
- ☐ Font Cache

Google Chrome
Internet History
C:\Users\hawk\AppData\Local\Google\Chrome\User Data\Default\History Index 2013-03

Cancel

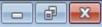Run Cleaner

Online Help

Check for updates...

Piriform CCleaner

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Intel Atom CPU N450 @ 1.66GHz, 2.0GB RAM, Intel Graphics Media Accelerator 3150

Cleaner

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☑ Windows Log Files
☐ Windows Error Reporting
☐ DNS Cache
☐ Font Cache

100%

CLEANING COMPLETE - (16.509 secs)

2.76 MB removed.

Details of files deleted

Windows Explorer - Recent Documents   2 KB   2 files
System - Windows Log Files   459 KB   1 files
Google Chrome - Internet Cache   926 KB   15 files
Google Chrome - Internet History   284 KB   12 files
Google Chrome - Session   4 KB   1 files
Utilities - Avast! Antivirus 5   74 KB   1 files
Utilities - Windows Defender   59 KB   3 files
Windows - MS Search   1,024 KB   1 files

This is all the crap
Ccleaner found.
If this is the first time you
have run this program
it will a lot more than this.

Ccleaner can take a couple
of minutes or an hour or
2 depending on amount of
CRAP!

Analyze

Run Cleaner

Online Help

Check for updates...

Piriform CCleaner

CCleaner.com v3.28.1913

MS Windows 7 Starter 32-bit SP1
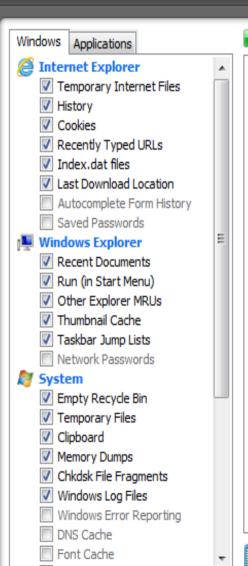Intel Atom CPU N450 @ 1.66GHz, 2.0GB RAM, Intel Graphics Media Accelerator 3150

Cleaner

Registry

Tools

Options

Registry Cleaner
- ☑ Missing Shared DLLs
- ☑ Unused File Extensions
- ☑ ActiveX and Class Issues
- ☑ Type Libraries
- ☑ Applications
- ☑ Fonts
- ☑ Application Paths
- ☑ Help Files
- ☑ Installer
- ☑ Obsolete Software
- ☑ Run At Startup
- ☑ Start Menu Ordering
- ☑ MUI Cache
- ☑ Sound Events
- ☑ Windows Services

100%

☑	Problem	Data	Registry Key
☑	Missing MUI Reference	C:\Program Files\Cool Timer\ct.exe	HKCU\Software\Classes\Local Settings\Software\Microsoft\Windows\Sh

Click here
To fix
Issues!

Scan for Issues

Fix selected issues...

Online Help

Check for updates...

Piriform CCleaner

Save As

Libraries ▸ Documents ▸

Search Documents

Organize ▾   New folder

Documents library
Includes: 2 locations

Arrange by: Folder ▾

★ Favorites
- 🖥 Desktop
- 📥 Downloads
- ☁ Google Drive
- 📋 Recent Places

📚 Libraries
- 📄 Documents
- 🎵 Music
- 🖼 Pictures
- 📁 Podcasts
- 🎬 Videos

Name	Date modified	Type
Adobe PDF	8/4/2010 3:40 PM	File fol
AVS4YOU	3/27/2011 12:57 PM	File fol
Documents on hawk's Smartphone	6/20/2011 8:04 PM	File fol
Insert	2/18/2011 1:36 AM	File fol
microsoft	12/4/2009 10:25 PM	File fol
My Albums	6/10/2011 3:24 PM	File fol
My Digital Editions	6/15/2012 9:18 PM	File fol

File name: cc_20130313_181415.reg

Save as type: Reg Files (*.reg)

Save   Cancel

Hide Folders

Registry Key

t.exe   HKCU\Software\Classes\Local Settings\Software\Microsoft\Windows\Sh

100%

See, told you so!

So save the file.
No need to change name
Includes date and time.

Scan fo

Fix selected issues...

Click Here

Online Help

Check for updates...

Ccleaner part 4

In the options tab under the Settings tab you can change Some options.

If you think you are having problems, Run Ccleaner when computer starts.

You can also change the Secure Deletion passes. I usually go with Complex Overwrite 7 passes!

I run Ccleaner at least once a week.

That's it for Ccleaner!

HEAT!
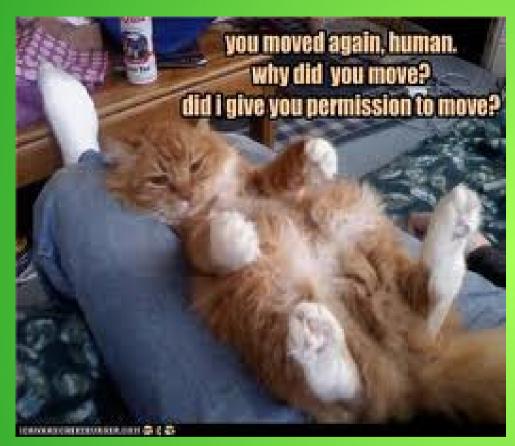
Desktop Computer   Laptop Computer

HEAT!

Desktop Computer

Desktop computers generally have fairly good ventilation. 3 to 4 fans including one in the power supply and one over the CPU. Keep in well ventilated area. You can also add fan to front during hot weather. If you are hot, so is your computer!

HEAT!

you moved again, human.
why did you move?
did i give you permission to move?

This is the ONLY laptop you should have on your lap top!!

Laptops only have ONE fan directly over the CPU! Limited Circulation! You'll notice that this kitty is doing it right. A flat, solid surface!

HEAT!

Desktop Computer

I leave Desktops on 24/7/365. About the only time they are shut down is power outage or cleaning. Turn off monitors and older printers.

Laptop Computer

I turn off Laptop Computers when I am done with them or when I go to bed.

DUST!

Vacuum

Can Air

Damp Soft Cloth

You can use any of the above items for cleaning your computer!

Make sure you have no power to the computer!

Go easy with all the above items!

Which brings me to the second of four programs that I use to keep all of my computers running in tip top shape!

 Avast!
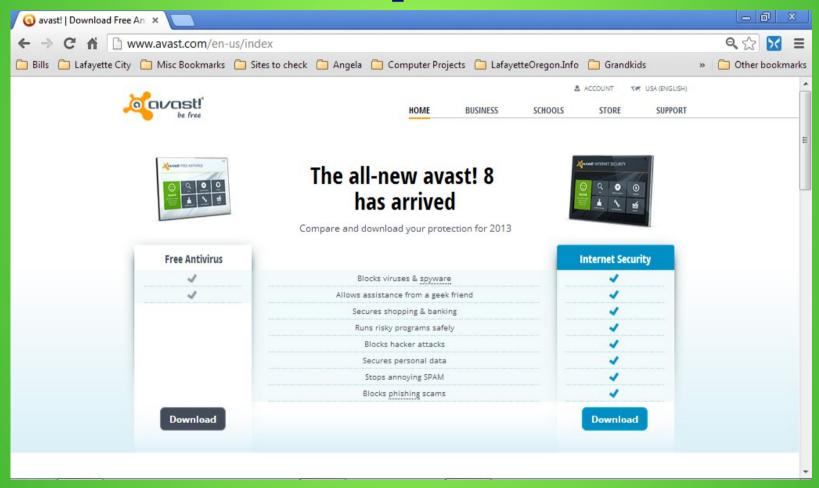
Avast anti-virus is free. They do have a paid version. I have been using the free version for a number of years. I have had very few problems.

Viruses!

Click on the picture to go to Avast's website. Download Avast Free and Install it on your computer!

Once you've installed the program go to the next slide!

You should have a screen that looks like this.

avast! FREE ANTIVIRUS UPGRADE

SECURITY **MAINTENANCE** MARKET RECOMMEND SUPPORT

Account Settings

MAINTENANCE

Update

Registration

Scan Logs

Virus Chest

Remote Assistance

About avast!

Your Registration

Please review the details relating to yo

CURRENT STATUS: **REGISTERED**

Click on the Registration tab!
Register your software.
It's free and good for one year.
If you don't the program will
STOP WORKING!!

REGISTRATION INFORMATION

Current registration will expire on: 6/10/2013 3:37:28 PM
Date of registration: 6/10/2012 3:37:28 PM
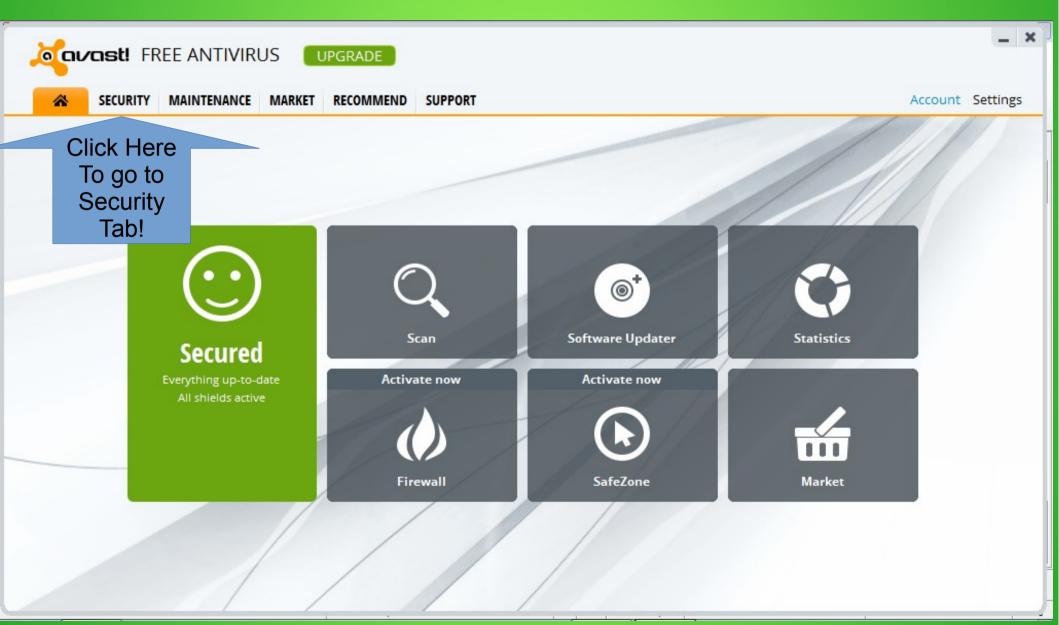
89 days remaining

Upgrade

If you have purchased an upgrade to an avast! paid product, please insert the license file you have received by clicking the button below.

Insert license file
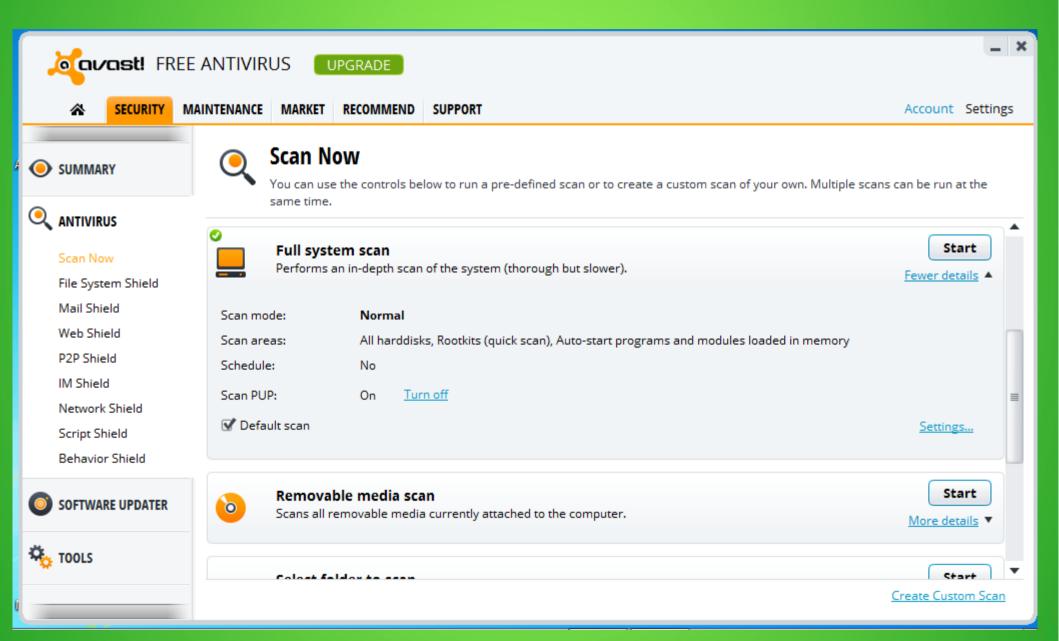
That is all you really have to do with this program. Avast runs in real time. As long as your computer is running so will it! There are a couple of things that I will cover.

avast! FREE ANTIVIRUS UPGRADE

SECURITY   MAINTENANCE   MARKET   RECOMMEND   SUPPORT

Account Settings

Click Here
To go to
Security
Tab!

Secured
Everything up-to-date
All shields active

Scan

Software Updater

Statistics

Activate now

Activate now

Firewall

SafeZone

Market
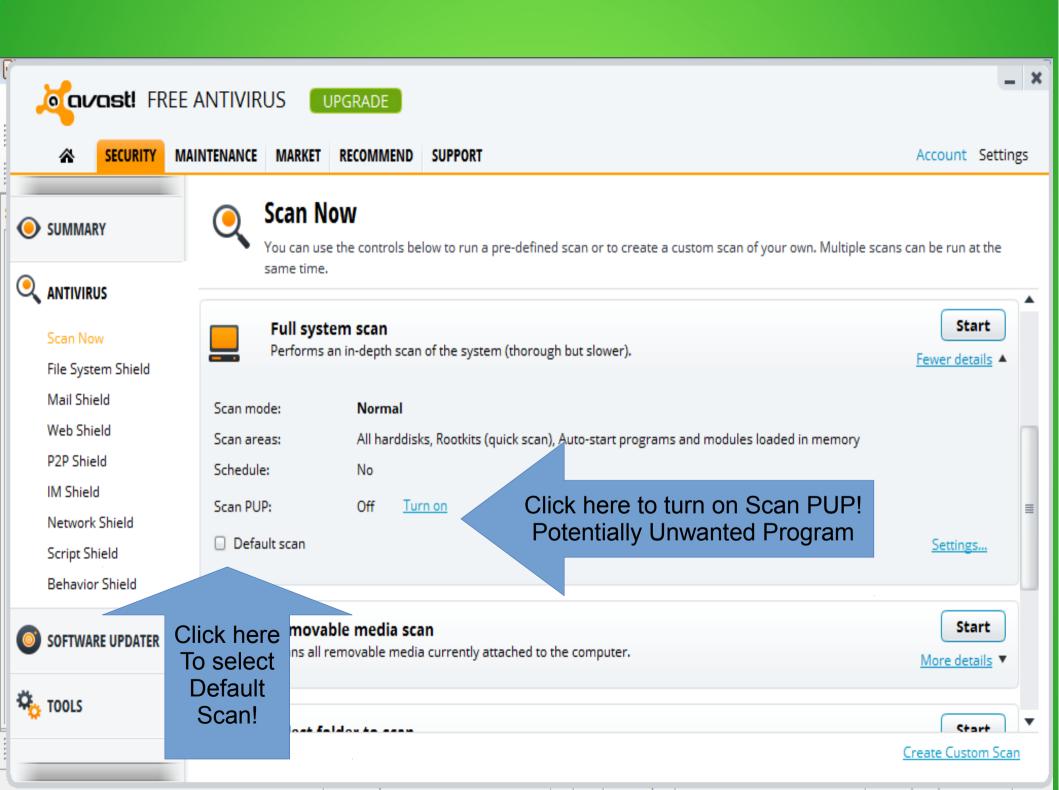
Next click on the Antivirus tab you should have a screen that looks like the next screen!

avast! FREE ANTIVIRUS UPGRADE

SECURITY MAINTENANCE MARKET RECOMMEND SUPPORT

Account Settings

SUMMARY

Current Status
Statistics

Click here

ANTIVIRUS

SOFTWARE UPDATE

TOOLS

Virus protection

List and status of all avast! shields.

| File System Shield 931 / 0 | Web Shield 360 / 0 | Mail Shield 0 / 0 | Network Shield 562 / 0 | P2P Shield 0 / 0 | IM Shield 0 / 0 | Behavior Shield 16 / 0 | Script Shield 169 / 0 |

Cloud Intelligence

avast! offers several hybrid cloud technologies.

REPUTATION SERVICES
Enabled

Connection established

STREAMING UPDATES
Enabled

Computer Maintenance and Repair .odp - LibreOffice Impress

We'll make of couple of changes.
First we will change the Default scan to Full system scan. So scroll down to Full system scan.

avast! FREE ANTIVIRUS [UPGRADE]

⌂ **SECURITY** **MAINTENANCE** **MARKET** **RECOMMEND** **SUPPORT**   Account Settings

🔘 **SUMMARY**

🔍 **ANTIVIRUS**

Scan Now
File System Shield
Mail Shield
Web Shield
P2P Shield
IM Shield
Network Shield
Script Shield
Behavior Shield

🎯 **SOFTWARE UPDATER**

⚙️ **TOOLS**

Scan Now

You can use the controls below to run a pre-defined scan or to create a custom scan of your own. Multiple scans can be run at the same time.

🖥️ **Full system scan**   **Start**
Performs an in-depth scan of the system (thorough but slower).   Fewer details ▲

Scan mode: **Normal**

Scan areas: All harddisks, Rootkits (quick scan), Auto-start programs and modules loaded in memory

Schedule: No

Scan PUP: Off   Turn on   Click here to turn on Scan PUP!
                                              Potentially Unwanted Program
☐ Default scan   Settings...

Click here
To select
Default
Scan!

movable media scan   **Start**
ns all removable media currently attached to the computer.   More details ▼

Start
Create Custom Scan

Your screen should look like this! Before we leave this screen scroll down to Boot-time scan!

If you believe that your computer may have a virus then you should schedule a Boot-time scan. This will load Avast and run before Windows starts. This is probably the best way to handle a computer with a probable virus. Now back to the home screen!

HOME

avast! FREE ANTIVIRUS   UPGRADE

MAINTENANCE   MARKET   RECOMMEND   SUPPORT   Account   Settings

SUMMARY

Scan Now
You can use the controls below to run a pre-defined scan or to create a custom scan of your own. Multiple scans can be run at the same time.

ANTIVIRUS

Scan Now

File System Shield

Mail Shield

Web Shield

P2P Shield

IM Shield

Network Shield

Script Shield

Behavior Shield

Removable media scan
Scans all removable media currently attached to the computer.   Start   More details ▼

Select folder to scan
Performs a full scan of a custom folder (to be selected when the scan is started).   Start   More details ▼

Click here to schedule now!

Boot-time scan
not scheduled   Schedule Now   Fewer details ▲

(after clicking the Schedule Now button, a boot-time scan will run automatically the next time the system is started)

Scan areas: All harddisks

Heuristics sensitivity: High

SOFTWARE UPDATER

TOOLS

Restart computer   Settings...

Create Custom Scan

Back on the home screen. Now if you click the scan button, Avast will do a full system scan! Regardless if I think I am having problems or not, I will run a Avast Full System Scan ONCE A MONTH! The scan can take a couple of hours depending on how large your hard drive is and the processing power of your system! That is about it for AVAST! MAKE SURE TO REGISTER!

Which brings me to the third of four programs that I use to keep all of my computers running in tip top shape!
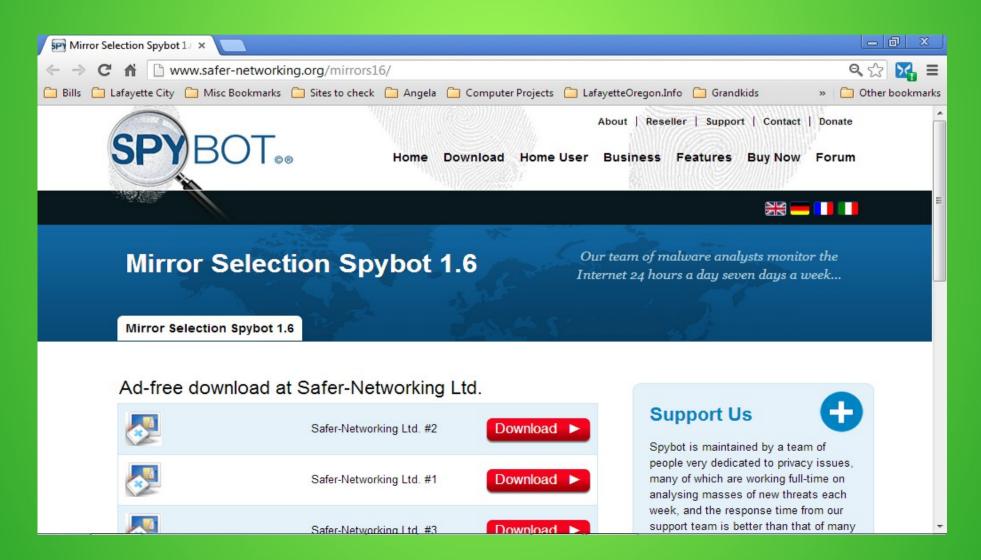
Spybot - Search & Destroy

Spybot is free. They also have a paid version. Spybot is used to find all sorts of Malware. Computer worms, ransomware, trojan horses, key loggers, most rootkits, spyware, dishonest adware, malicious BHOs(Browser Helper Objects) and other malicious software.

MALWARE!
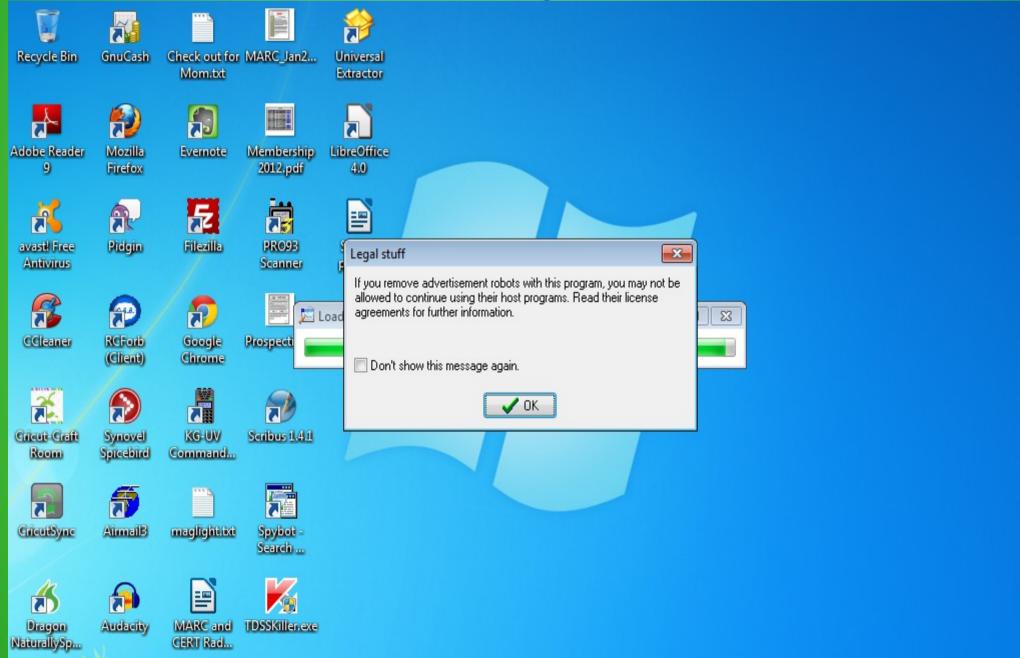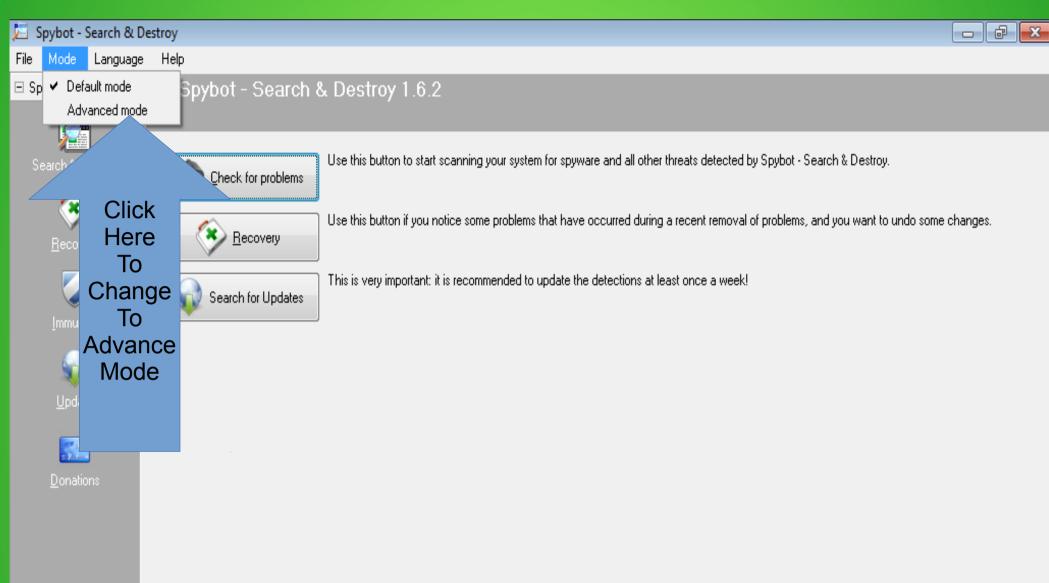
Click on the picture to go to Spybot's website. Download Spybot-Search & Destroyer and Install it on your computer! It will also install TeaTimer, which is Spybot's real time protection.
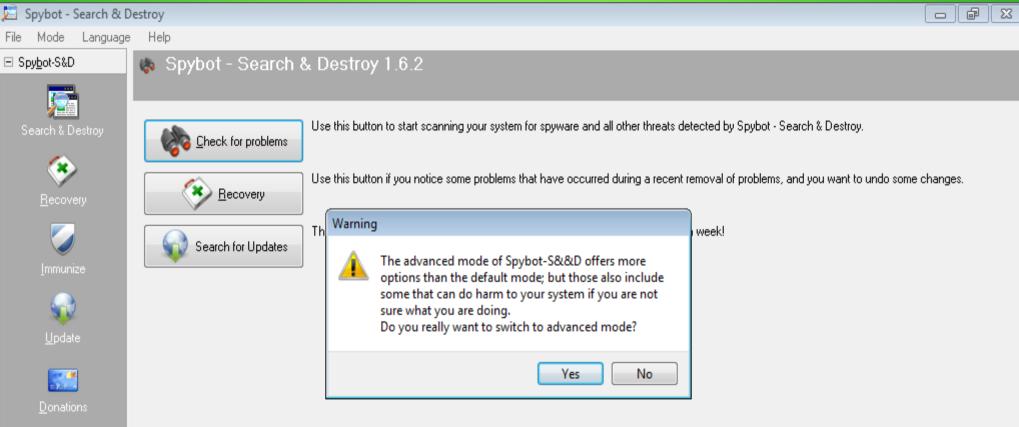
When Spybot starts it will show you this window! If Spybot removes a program you didn't want to use it anyway! I check the box, Don't show again!

Spybot - Search & Destroy

File Mode Language Help

□ Sp ✓ Default mode Spybot - Search & Destroy 1.6.2
   Advanced mode

Search Check for problems Use this button to start scanning your system for spyware and all other threats detected by Spybot - Search & Destroy.

Click
Here
To
Change
To
Advance
Mode

Reco Recovery Use this button if you notice some problems that have occurred during a recent removal of problems, and you want to undo some changes.

Immu

Search for Updates This is very important: it is recommended to update the detections at least once a week!

Upd

Donations

Spybot
Search&Destroy

They are serious! But there is a setting that I will show you later! Click yes!

Spybot is downloading your updates. Once it is done the download button will disappear. Click the Exit Button to return to Spybot!

Spybot - Search & Destroy

File   Mode   Language   Help

Spybot-S&D

- Spybot-S&D
  - Search & Destroy
  - Recovery
  - Immunize
  - Update

Check for problems
Use this button to start scanning your system for spyware and all other threats detected by Spybot - Search & Destroy.

Recovery
Use this button if you notice some problems that have occurred during a recent removal of problems, and you want to undo some changes.

Search for Updates
This is very important: it is recommended to update the detections at least once a week!

Spybot-S&D Updater

Please select the updates to download here.

Update	Info	Size	Date
Important Files			
☑ Detection rules: ...	!Most up-to-date detections	2 MB	2013-03-13
☑ Detection rules: ...	!Most up-to-date detections	904 KB	2013-03-13

Downloading Detection rules: Supplemental...

Back to mirror list   Download   Cancel   Exit

Exit Button

- Settings
- Tools
- Info & License

Spybot Search & Destroy

File Mode Language Help

Spybot-S&D

Spybot-S&D

Search & Destroy

Recovery

Immunize

Update

Check for problems   Use this button...   Click here to have Spybot scan your computer!

Recovery   Use this button if you notice some problems that have occurred during a recent removal of problems, and you want to undo some changes.

Search for Updates   This is very important: it is recommended to update the detections at least once a week!

Settings

Tools

Info & License

Spybot
Search&Destroy

Spybot is scanning your system. This can take a couple of hours depending on hard drive size, processor speed, and problems found!

Spybot - Search & Destroy

File Mode Language Help

☐ Spybot-S&D

Search & Destroy
Scan for problems and remove them.

Search & Destroy

🔍 Check for problems   🔧 Fix selected problems   🖨 Print   ❓ Help

Recovery

This is the main scan page of Spybot-S&D. Here you scan your ~~[...]~~ ms" button) and fix any problems found ("Fix selected problems" button). Hint: if you haven't done so yet, we recommend you read the tutorial (see Help menu) to learn how to deal with the scan results.

Immunize

Update

Problem | Kind

✓ **Congratulations!**
No immediate threats were found.

That's how we like it! No Problems Found!
If it did find problems, there will be a
Fix problems button. Click on it to fix
Problems. If that does not do it go to
The advance settings and do a boot scan.

Now for that advanced stuff. Click on Settings.

⊞ Settings
⊞ Tools
⊞ Info & License

0 problems found (26:24)

Spybot - Search & Destroy

File Mode Language Help

- ⊞ Spybot-S&D
- ⊟ Settings
  - ➕ Language
  - 📖 File Sets
  - ◆ Settings
  - 📁 Directories
  - 🎨 Skins
  - 🎯 Scheduler
  - 📁 Ignore products
  - 🍪 Ignore cookies
  - 📁 Ignore file extensi...
  - 📁 Ignore single entri...
  - 📱 Ignore System Int...

- ⊞ Tools
- ⊞ Info & License

◆ Settings
All the important settings.

🔙 Defaults   ☑ Wizard   ❓ Help

Here you can see many options to adjust Spybot-S&D to your preferences. ~~The~~ default settings are our recommendation, so if you notice some changes here did something you did not intend, but you don't remember which ones you ~~h~~ changed, please use the "Defaults" button.

- 📁 System start
  - ● No automation.
  - ○ Automatically run program at system startup.
  - ○ Run program once at next system startup.
  - ☐ Run check on program start.
  - ☐ Fix all problems on program start.
  - ☐ Wait a few minutes until starting the check.
  - ☐ Wait until specified programs have quit.
  - ☐ Wait a few seconds if something else than spies were found.
  - ☐ Close program if everything's O.K.
- 🌐 Web update
  - ☐ Search the web for new versions at each program start.
  - ☐ Remind me to look for updates at program start.
  - ☐ Display available beta versions.
  - ☐ Display updates for other languages.
  - ☐ Display new and updated skins.
  - ☐ Use proxy to connect to update server.
- 📄 Log file settings
  - ☑ Write complete check details to debug file Checks.txt
  - ☑ Write complete fixing details to debug file Fixes.txt

If you think your system is acting "funny"
Click on this to run Spybot on next system start
This will load Spybot before windows and do a
Through check!
That's it for advanced setting.
You can try different things.
But use CAUTION!

Which brings me to the last of four programs that I use to keep all of my computers running in tip top shape!
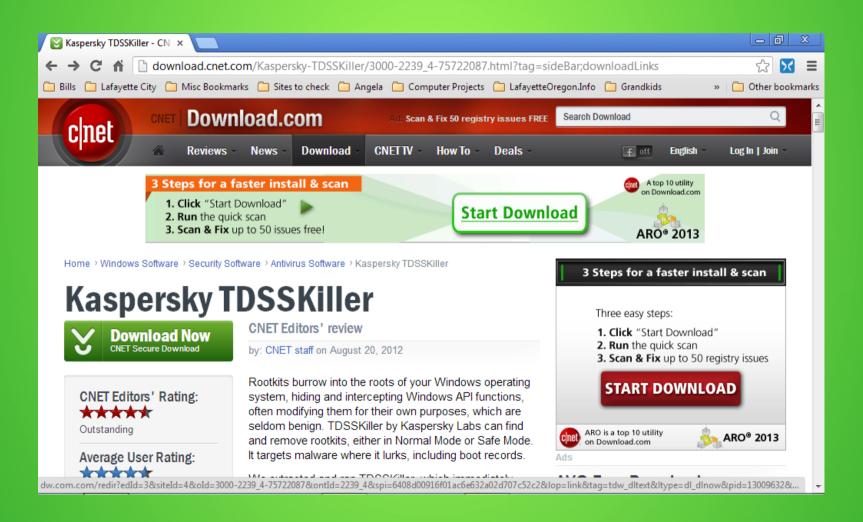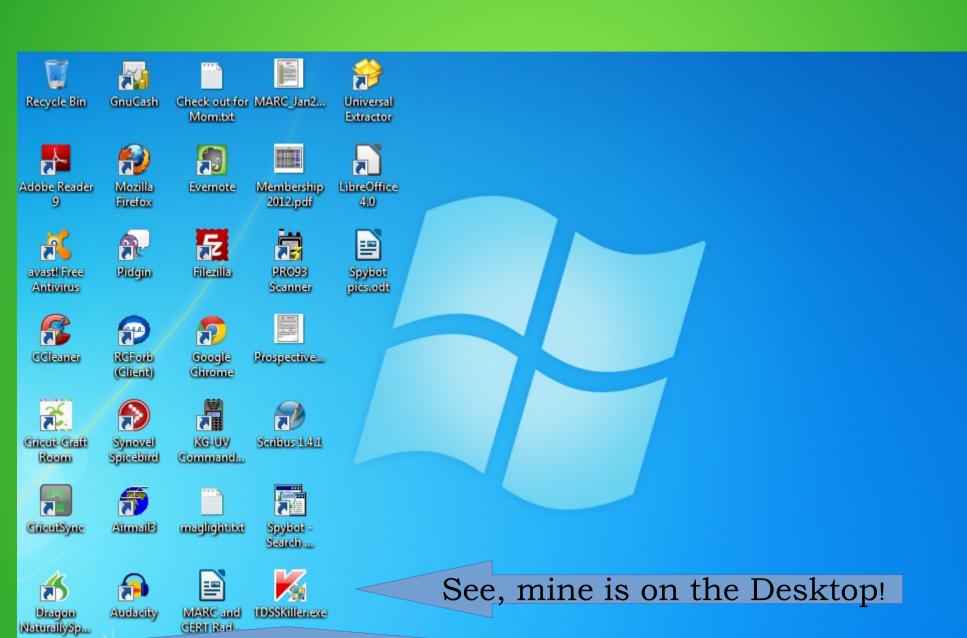

TDSSKILLER

TDSSKiller is free! TDSSKiller takes care of vicious rootkits! Although Spybot is supposed to take care of rootkits, I have recently run into some that Spybot was unable to handle.

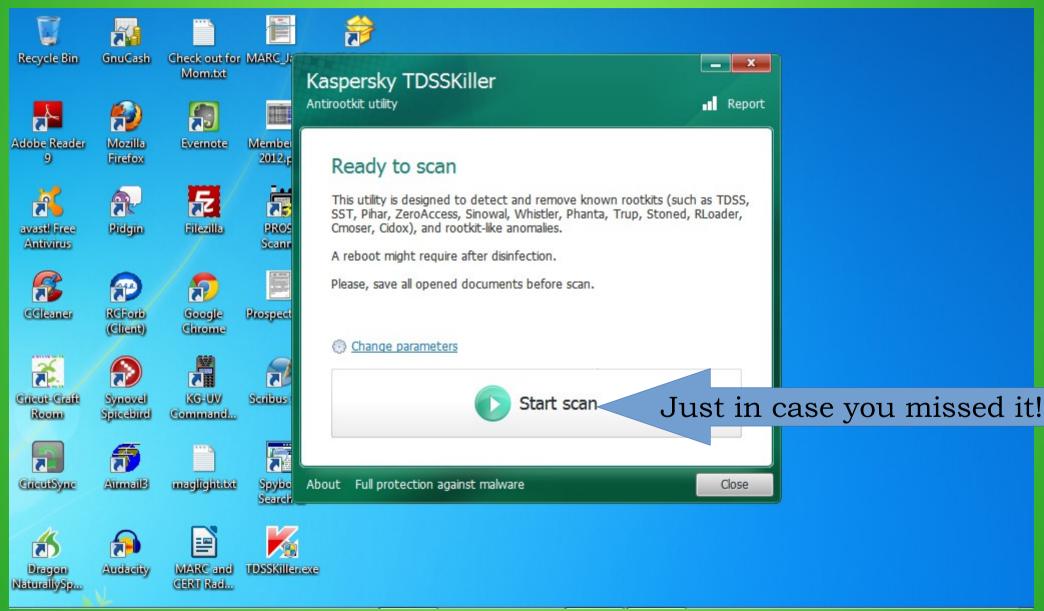# MALWARE!
Click on the picture to download TDSSKILLER.
Download TDSSKiller and Extract the file. You can put it on your desktop for easy access! TDSSKiller does not actually install on your computer!
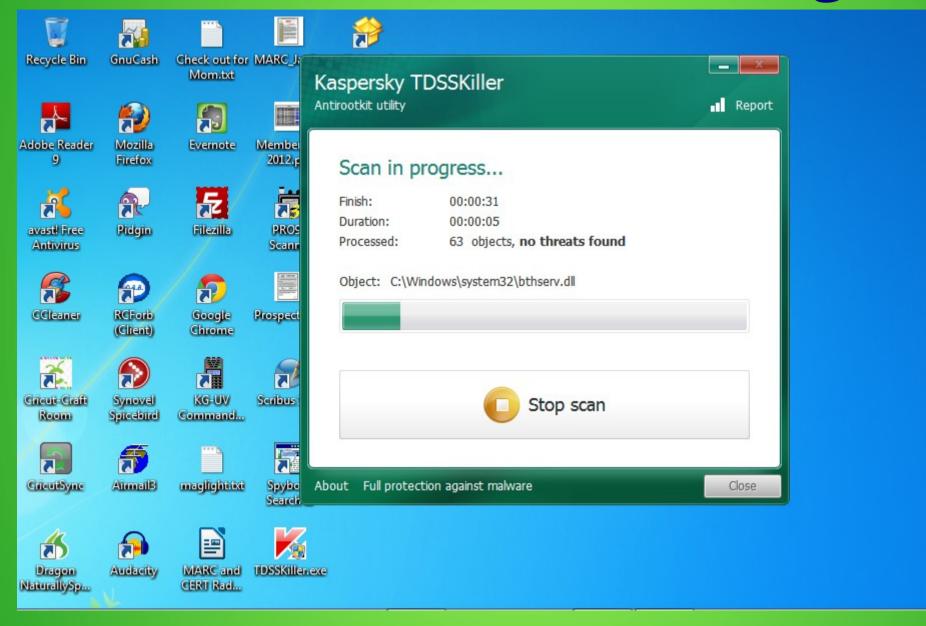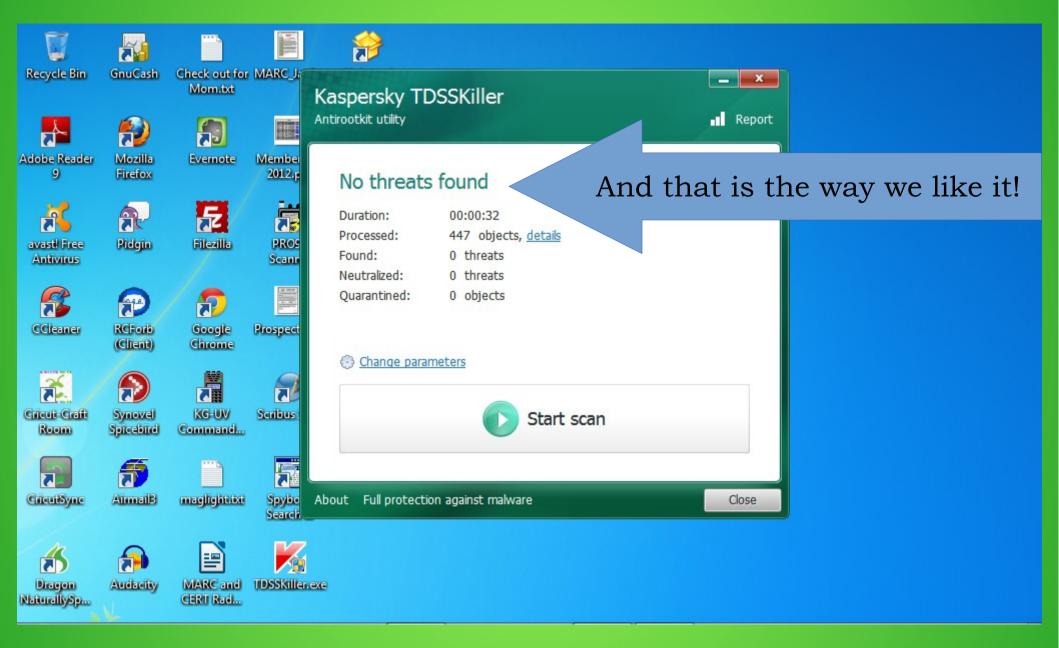
So this is what TDSSKiller looks like when opened up. There is only one thing to do! Click on the Start Scan Button!
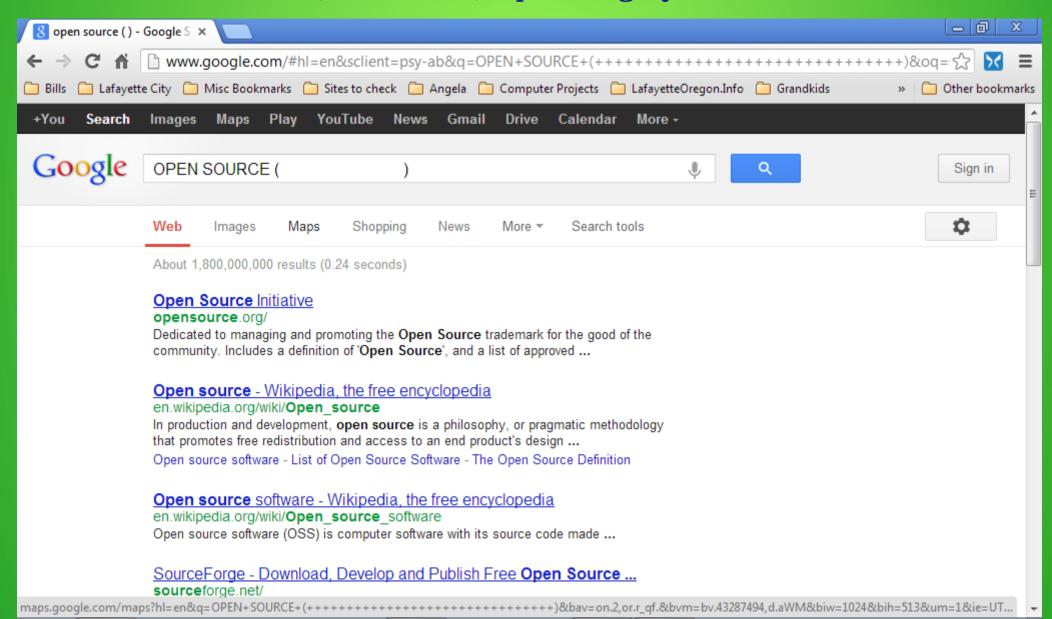
TDSSKiller is Running!

Now it is finished! It usually takes only a couple minutes!

Kaspersky TDSSKiller
Antirootkit utility

Report

No threats found

Duration:	00:00:32
Processed:	447 objects, details
Found:	0 threats
Neutralized:	0 threats
Quarantined:	0 objects

And that is the way we like it!

Change parameters

Start scan

About   Full protection against malware   Close

Desktop icons: Recycle Bin, GnuCash, Check out for Mom.txt, MARC_Ja..., Adobe Reader 9, Mozilla Firefox, Evernote, Member 2012.p..., avast! Free Antivirus, Pidgin, Filezilla, PROS Scanr, CCleaner, RCForb (Client), Google Chrome, Prospect, Cricut-Craft Room, Synovel Spicebird, KG-UV Command..., Scribus, CricutSync, AirmailB, maglight.txt, Spybo Search, Dragon NaturallySp..., Audacity, MARC and CERT Rad..., TDSSKiller.exe

I run this once a month, unless I think there is a problem!

I don't PAY for software! There is so much free and OPEN SOURCE software out there! Much of it is better than the paid versions! So if you are looking for a program, do a Google search for Open Source...Office, Publisher, Operating Systems or whatever!

Finally! The answer to your computer questions?