



Troubleshooting
your Mac

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Gibbs

Basic troubleshooting techniques

- Interview the user if it's not your computer
- Check connections -- with computer off
- Start the computer from scratch and recreate the problem
- Check for viruses
- Eliminate variables until the problem is fixed.

end

The Variable Index

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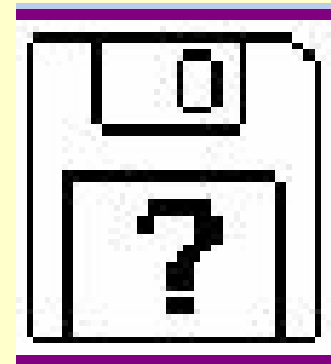
Hardware vs. software

- *Sad Mac*
 - Icon at startup and an arpeggio in G minor – Chimes of Doom, or breaking glass
 - could mean hardware problem
 - Rare
- *No Sad Mac, just Chimes*
 - = RAM
- *Happy Mac followed by Sad Mac*
 - = system file
- *Troubleshooting Techniques*
 - Check hardware components manually
 - **Boot from CD** = if it starts, problem is HD or software
 - Call an expert – it could be motherboard, processor, chipset



Flashing Question Mark

- *At bootup, can't find a valid startup disk with a valid System folder*
 - Boot from a CD
 - Make multiple copies of your bootable OS CD-ROM
 - You must resolve Flashing Q before further troubleshooting can begin.



Troubleshooting the Flashing Q:

- *1. try REBUILDING DESKTOP*
 - *⌘+Option at start-up*
- *2. Disk First Aid in Utilities Folder*
 - If it can't fix it, resort to 3rd party software
 - [Norton Utilities](#), [Disk Warrior](#), [TechTool Pro](#)
 - If Disk First Aid finds no problems and you still get FQM...

Troubleshooting the Flashing Q:

- *3. Install new HD drivers for your Apple HD from OS9*
 - CD >Utilities >Drive Setup >Functions>Update Driver
- *4. ZAP PRAM*
 - (Option + ⌘ + P + R)
 - To fix Control Panel if it loses settings, can't print, networking problems.
 - You'll need to reset your sound, mouse, monitor settings

Troubleshooting the Flashing Q:

- *5. SCSI tricks =*
 - unplug all SCSI peripherals
 - Terminate last item in chain; un-terminate it
 - Pass-through vs. Block terminators
 - Switch sequence of devices
 - Get SCSI devices with Digital Active Termination and put on at the end
 - SCSI ID = 0-6, hd is 0, internal cd is usually 3
- *6. Clean Install of System Folder*
- *7. Initialize the hd (reformat!) and do a clean install.*
- *8. = still FQM? Take it to the shop. Bad HD, other hardware failure, or all boot disks are defective*

Crashes Freezes

– Crash vs. Freeze

- Crash – Dialogue Box SYSTEM ERROR OCCURRED
- Freeze – mouse and/or keyboard and/or monitor stop functioning
 - *More of a problem than FQM, but usually less fatal*

Troubleshooting Techniques for freeze and crash

- *1. Force Quit:*
 - *⌘+Option+Escape (if it's a freeze)*
- *2. Warm reboot:*
 - *Control + ⌘+ On button*
- *3. Cold reboot; pull the plug even*
- *4. Give more memory to freezing application*

Troubleshooting Techniques for freeze and crash

- *5. Start without Extensions*
 - SHIFT at startup shuts off all but basic drivers
 - SPACE BAR opens Extension Manager
 - Activate half, then the other half, and narrow it down
- Tip—watch the icons across the bottom of screen. If you recognize the last one to appear before crash, you may have found your culprit

Troubleshooting Techniques for freeze and crash

- *Starting without Extensions...*
- *Change default sequence -- Extensions, Control Panels, Loose Icons*
 - Load first: To make a troublesome extension load first, add two spaces to the beginning of the file name and move it into the extensions folder
 - Load last: Add dots (option & 8) and move it out of ext and cp folders

Troubleshooting Techniques for freeze and crash

- *When you find a bad extension, delete it and any preferences*
 - System Folder>Preferences
 - Install a fresh copy from the original disk or the OS9 Install CD
- *(if this doesn't work, problem is with System or Finder – do clean reinstall)*

Troubleshooting Techniques for freeze and crash

- *6. Clean Install reinstalls all necessary files; Regular Install only installs what's missing*
 - Clean install makes folder called PREVIOUS SYSTEM FOLDER with all your original 3rd party extensions and control panel settings. Install them one at a time to find the culprit by dragging them to the new System Folder. Delete the old PREVIOUS folder asap
- *7. SCSI conflict*

Error Messages

- *Application not found*
 - you shouldn't be clicking that file
 - you don't have the correct application
 - Rebuild the Desktop
- *Type 1, 2, 3 Error*
 - Who knows? <http://www.appleerrorcodes.com/>
It's probably an extension
 - Do a cold or warm boot
- *You're running low on memory*
 - Allocate more memory to the program
- *Application has unexpectedly quit*
 - You are running low on memory

Error Messages

- *Out of Memory*
 - Buy more RAM
 - quit programs; to avoid RAM Fragmentation, quit all and restart
 - allocate more to certain programs
 - turn off unused extensions
 - reduce disk cache Apple>Control Panels>Memory
 - virtual memory (it can slow you down if you rely too heavily on it. Go Twice your actual RAM size)
- *Four notes – Chimes of Doom*
 - recent hardware install
 - SCSI
 - Take it to the shop

Preventative measures

- *Back up all your documents, favorites, bookmarks, email address books*
- *Keep several bootable disks handy*
- *Rebuild Desktop frequently*
- *Don't install suspect programs*
- *Buy 3rd party utilities like Norton or Disk Warrior*
- *Know where to turn for help on the Internet*

Transitions to OS X

What's new?

- *Column view*
- *The Dock*
- *OpenGL for 3-d graphics*
- *Built-in PDF maker*
- *Advanced fewer-step networking*
- *Mail*
- *Voice Chess*



Macintosh HD



Desktop (Mac OS 9)



Transitions to OS X

What's New?

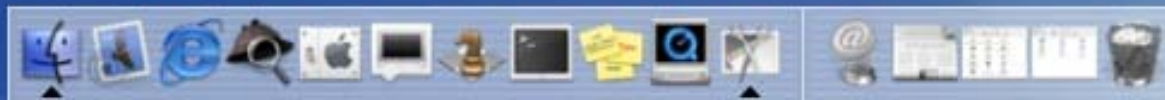
- *Improved Stickies*
- *Improved and improved Sherlock 3*
- *Apps are single icon – uninstall with trashcan*
- *Operate every menu in every program entirely from the keyboard*
- *Tighter Internet integration*
- *Terminal command-line interface*
- *Virtual memory*



Macintosh HD



Desktop (Mac OS 9)



Transitions to OS X

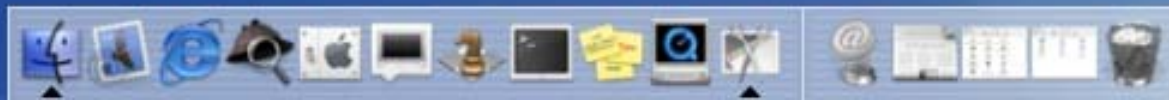


What's New?

- **iTools**
- **iDisk**
- **Mail**
- **Backup**
- **iSync**
- **iCal**

Open Source Options for software!!

<http://www.openoffice.org>



What's gone?

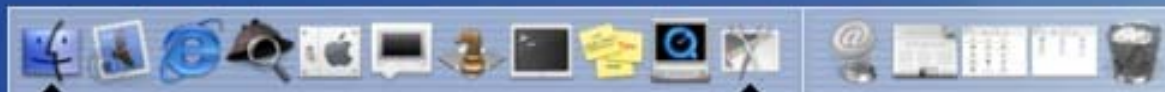
- *Extensions & their conflicts*
- *Control Panels*
- *Allocating memory to individual apps*
- *Balloon Help*
- *Rebuilding desktop*
- *Clean Install*
- *the lengthy Apple menu*
- *control strip*
- *Chooser*
- *File Exchange*
- *Put Away*
- *SimpleSound*
- *Special menu*
- *scrapbook*



Macintosh HD



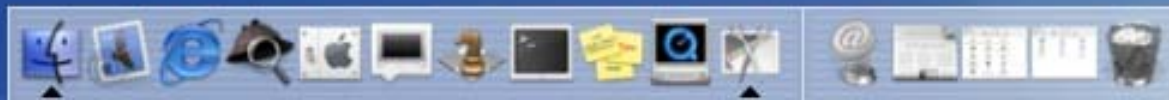
Desktop (Mac OS 9)



What's changed or moved?

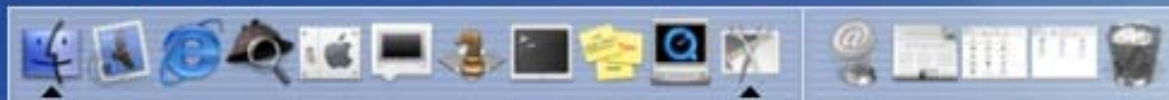


- *The new Mac operating system is based on good old-fashioned, stable, flexible **Unix**. Crashes of old are all but forgotten.*
- *System Folder = System (and files are untouchable)*
- *OS X and OS 9.1 co-exist until 2003*
 - Classic mode
 - **Classic, Carbon, and Cocoa**
- *OS X has protected memory*
- *Multitasking and multithreading*
- *Symmetric Multiprocessing (SMP)*



What's changed or moved?

- *Control Panels = System Preferences*
- *Apple System Profiler, Key Caps moved to Utilities*
- *AppleScript requires you to write code.*
 - >Applications
- *Application Menu & Launcher = Dock*
- *Disk First Aid = part of Disk Utility*
 - >Applications >Utilities
- *Get Info = Show Info and no memory panel!*



OS X Troubleshooting



- *Quit and restart the problem application*
- *2. Log out and log back in*
- *3. Restart computer*
- *4. Toss the Prefs file Home >Library >Preferences (log in under a different account first to test pref problems)*
 - types of problems—App won't open, the eternal bounce
- *5. Trash and reinstall the program*



OS X Troubleshooting

- 6. *SBOD and Force Quitting*

- file>quit in the app
- ⌘+OPT+ESC
- ctrl+click dock icon
- Apple menu>force quit
- Applications >Utilities >Process Viewer dbl-click
- Unix TOP and KILL commands in Terminal

<http://www.westwind.com/reference/os-x/commandline/> Unix Commands

<http://www.ee.surrey.ac.uk/Teaching/Unix/> Unix Tutorial for beginners



OS X Troubleshooting



- 7. *Creator codes and file extensions causing wrong apps to open*
 - Get WipeCreator from <http://www.missingmanuals.com> to remove creator codes
- 8. *Permissions problems moving, deleting, accessing other people's files and folders*
 - Boot into OS9
 - Option+Trashcan
 - Terminal: `rm filename`
 - Terminal: `sudo chown -R steve joe-folder`
 - Get SuperGetInfo from <http://www.missingmanuals.com> to change ownership

OS X Troubleshooting



- *Superuser vs. administrator*
 - Terminal: sudo
 - Root Account >Applications >utilities >NetInfo Manager & unlock padlock
 - Enter admin name and password,
 - Go to >Domain >Security >Enable Root User, create unique password, quit NetInfo
- You are now a superuser
 - In future, login as root & pw

OS X Troubleshooting



- *Program Icons Turn to Folders with .app extension often after a power failure*
 - 1. trash three prefs: LSApplications, LSClaimedTypes and LSSchemes and log out/log in (you lose file associations)
 - >Home >Library >Preferences
 - 2. Check disk using Disk Utility or Terminal: *fsck*
 - Can't check the disk you're on, so boot from CD or
 - Reboot with $\text{⌘}+S$ to go to Single User Console Mode or
 - >console login
 - In Console use logout or reboot to exit

OS X Troubleshooting



- *Startup Problems*
 - Kernel Panic
 - Startup freeze
 - check disk using
⌘+S at startup and type *fsck*
- *Clean Install is simple; no preferences or settings are changed*

END