

# 'Unconventional' thinking sometimes helps

Most of the time when I have a hardware problem that is too time consuming to troubleshoot I'll drop it off to Harper at Computer Helpers. Since they deal with that stuff all day everyday, they're quite cost effective.

Adding memory or swapping out hard drives is easy enough for me but running diagnostics for hours to find an intermittent motherboard problem is something else. With two guys working on a dozen computers at once they can fix numerous PC problems per hour.

It's a combination assembly line paired with a multitasking troubleshooting business model in a quantitative mode.

Between the Computer Helper guys, tech articles and almost three decades of dinking with computers, I have accumulated some hardware troubleshooting tricks you may find interesting. Let's go through a few of them that could help you one troubled day.

As I have said before, the hard drive is the heart and soul of the computer. If it is overheating, clocking errors or having fragmentation problems you will feel it immediately. Even though I have preached solid and consistent data backups for years, I still have to per-



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form data recovery projects on failing hard drives.

After I have extracted the hard drive from the downed computer I then connect it to a lab PC to start a recovery effort. One of my best tools is the DOS command CHKDSK that actually fixes bad spots on a computer hard drive.

To access this utility in Windows XP click on the Start button, Run, and then type in "cmd." On Vista and Windows 7 just click on the circular Windows icon button on the lower left and then type "cmd" in the search bar.

This will start up the good old DOS window that you type "CHKDSK drive: /r" into. The "drive:" letter will be something like E:, F:, or another alphabet character other than your C: drive.

The CHKDSK will run multiple passes and take anywhere from 10 minutes to 10 hours to complete depending on the shape the hard drive is in. Numerous times I have executed this procedure then return the repaired hard drive into the computer and have had it boot right up with all programs working and data accessible.

Most of the time as soon as the CHKDSK completes, I quickly copy all

the critical user files within My Documents under XP or all the folders within the specific User under Vista or Windows 7 to an external hard drive of mine. This is to salvage as many files as I can while I can.

If CHKDSK fails or gets permanently hung up due to the critical condition of the troubled hard drive, I then go into my bag of tricks and insert the hard drive into a ZipLock bag and stick it into the freezer for at least three hours. No, I have not lost my mind.

As the bad drive slowly freezes, the internal hardware components contract in size ever so slightly. Due to the physical nature of the drive's motor, spindle and reader head actuator, they all just may work better after the small decrease in size due to the lack of friction.

At least half the time when I freeze troubled hard drives, take them out, and quickly plug them into my lab PC I can actually read and recover the user's files. When this works it gives me a thrill and I feel like a Greek hero — I mean geek hero. You should see the look on my client's face when I tell him how I saved his files.

When the first iPhone came out 2½ years ago, I predicted that within a couple of years all smart phones will have the glass touch screen similar to Apple's innovative user interface. Since

then Blackberry, Palm and now Google have come out with touch screen smart phones.

Now that the price has come down on all those high-end phones, more people have them and unfortunately more people are getting them wet and ruining their portable computing and communications device. I've got a trick for that one too.

Fifteen years ago, when cell phones were just portable phones that could store maybe a dozen numbers, I dropped mine in the toilet at a nightclub. I stood there cussing and looking at it, wondering what to do. I flushed it and walked away.

If that happened now to my iPhone I'd grab it out no matter what and try to save my mobile window to the world. There is a procedure to salvage a phone from water, but first remember — back it up before this ever happens.

For iPhones backing up is done with iTunes by having all the sync options enabled to back up your contacts, calendars, music, videos, pictures, and applications. All other smart phone vendors have similar backup and sync capabilities so please enable and configure them before something bad happens to your phone.

Getting back to the water logged phone problem, do NOT try to power it up. If it is still on just after it got wet

then turn it off right away. All smart phone vendors have a water damage clause that voids the warranty if it gets wet and they'll know due to a color changing sensor that permanently turns red upon exposure to internal moisture.

Take that powered down wet phone, immediately wipe off outside wetness with a towel, and blow dry it with a hair drier from a safe distance so not to melt or get the case too hot. Next, put the phone into a ZipLock bag with a cup of fresh uncooked rice and seal it up.

Leave the phone sealed in the ZipLock bag of rice for at least three days which will allow the moisture to be drawn out of the phone and into the rice. After the third day, take it out, power it up and pray. Though I have not had to do this I have read numerous instances where this recovery procedure has worked.

Bottom line: When things go wrong and digital disasters strike, you may need some unconventional techniques to save those electronic treasures.

Next week's column: Debugging automobiles.

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