

Not enough space: The dicey digital game of storing, backing up files

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Mercury News

Article Launched: 08/18/2008 04:47:53 AM PDT

About five years ago, a technical disaster struck Fernando Santos: His computer hard drive failed. The San Francisco resident lost everything on it and had to reformat his drive.

"I lost a lot of nice pictures," said Santos, 20.

Wade Mengel, a Milbrae resident and amateur photographer, has taken steps to make sure the same fate doesn't happen to him. He backs up his digital photo collection on an external hard drive and on duplicate DVDs.

But Mengel has his own digital storage issue. His photo collection is massive — about 1 terabyte worth. And with his new camera taking pictures that are about 5 megabytes each, there's no room left on his computer's hard drive to store them all.

"It really adds up quick," said Mengel, 32.

The experiences of Mengel and Santos point to the problems and perils of the digital age. As consumers replace CDs, videotapes and film with digital files, they must wrestle with managing potentially massive amounts of data. Most store that data and media on hard drives, which can be a risky choice, as Santos found out.

Unfortunately, the situation is likely to get worse before it gets any better. More people are creating or buying increasing amounts of digital media without any ideal solution on the horizon for safely housing all that data for the long term.

"There is a big question of, 'Where are you going to put this stuff?' and 'What's the fault tolerance (of the device you store it on)?" said Randy Giusto, an analyst who covers consumer technology for research firm IDC.

Consumers have a number of choices for storing and backing up their digital files, but none of them are ideal. Backing information up to external hard drives can be difficult and prone to the same failure rates as internal hard drives. Flash memory-based drives are considered to be more reliable, but are far more expensive.

Optical discs such as DVDs and CDs are cheap, but they hold relatively little data and can be ruined by scratches. Online backup can protect against local disasters, such as a fire, but Internet transfer rates tend to be dauntingly slow for large files.

Mengel's not alone in needing ever-increasing amounts of space to store his digital files. Parks Associates expects that by 2012, tech-savvy consumers with broadband connections in their homes will be storing some 900 gigabytes worth of data — whether that's television shows on their DVR, movies they've downloaded from the Internet, photos they've taken or digital songs they've bought. That's up from 180 gigabytes last year and just 50 gigabytes in 2005.

Consumers have turned to hard drives because the prices have fallen sharply over time and they are now relatively inexpensive. You can find a terabyte drive these days for less than \$200. Just a few years ago, that drive would have easily been \$1,000 or more.

A hard drive "is the cheapest place to put stuff, but it's far from the safest," said Rob Enderle, principal analyst with the Enderle Group, a technology consulting firm.

Indeed, while the hard-drive industry has touted the device's reliability, recent studies indicate that, on average, 2 percent to 4 percent of hard drives fail in a given year and some batches may be much less reliable than that.

"You're talking about an imperfect device that you're keeping your precious memories on," said Josh Martin, a senior analyst at the Yankee Group, a technology research and consulting firm. "It's like playing Russian roulette with your memories."

That risk threatens even the most conscientious users, those who back up their files regularly. And there aren't many of those. Parks Associates found that just 10 percent of households regularly back up their digital files. While Apple has incorporated backup software into its Mac OS and many external hard drive makers include the software with their drives, backing up data is still too complex a task for most consumers, analysts say. That's a problem, because that data could be fried by any kind of disaster, from a spilled Coke to an earthquake.

"Somebody needs to address this solution," said Giusto. "Consumers want to know that it's being backed up and want to forget about it."

But don't expect the situation to improve anytime soon. "I don't think there's a silver bullet that happens in the next year or two," said Mike McGuire, an analyst who covers digital media for Gartner.