

# DIGIFORCE 2016

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## WHAT IS DATA RECOVERY?

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# Overview

We've all dealt with data loss, whether it was from a hard drive failure, data corruption or accidentally deleting a file. If you've ever experienced a major loss of data, you've probably wondered about data recovery — how does it work? How effective is it?

# What is data recovery?

- Data loss can take many forms — accidental deletion, hard drive failure, software bugs, data corruption, hacking, even a simple power failure can cause you to lose data. And, of course, there are more extreme cases, like when a hard drive is recovered from a plane crash; amazingly, some data recovery specialists can retrieve data from storage media that's been almost completely destroyed.
- If a piece of data used to be on your hard drive, solid-state drive, USB stick, RAID, or other storage media, you might be able to hire someone (or purchase some software) to perform data recovery. Data recovery is, simply, the salvaging and repair of data that has been lost. Retrieving deleted/inaccessible data from electronic storage media (hard drives, removable media, optical devices, etc...)

# Cases of Recovery



## FIRE

Found after a fire destroyed a 100 year old home – All data Recovered



## CRUSHED

A bus runs over a laptop  
– All data recovered



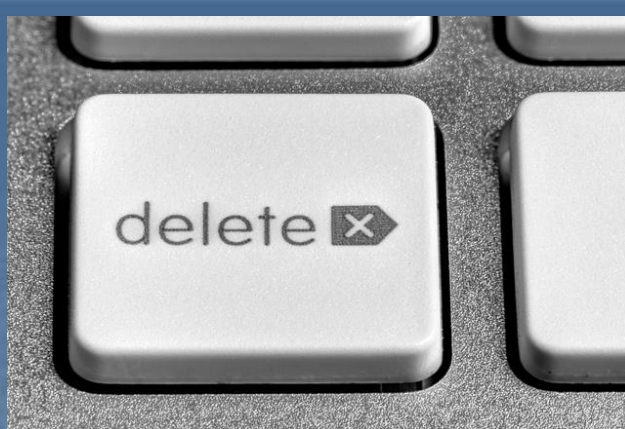
## SOAKED

PowerBook trapped underwater for two days – All data recovered

# How Does Data Recovery Work?

- The methods used to recover lost data depend on how the data was lost in the first place; let's take a look at some of the most common forms here.
  - File Deletion
  - File Corruption
  - Physical Drive Damage etc

# File Deletion

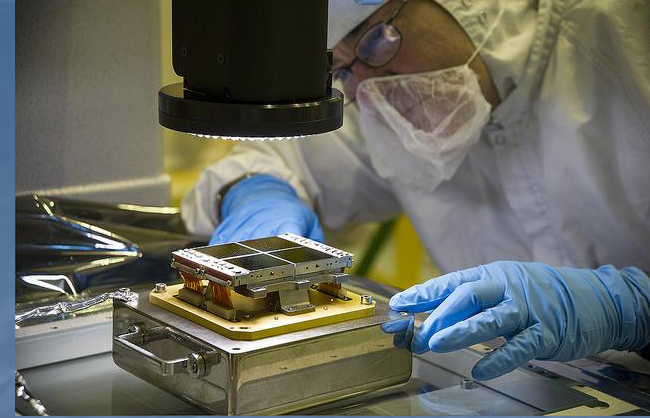


- Interestingly, any file that's deleted actually stays on your drive until it's overwritten with another file. This means that if you act fast, you actually have a pretty good chance of getting the file back. In the case of file deletion, you can use file recovery software like [TestDisk](#), which uses complex algorithms that look at pieces of information that's left on the hard drive in order to guess where the file was physically stored.

# File Corruption

If you've ever gotten one of the dreaded "corrupt hard drive" errors, you know how disheartening it can be. However, it's still possible that data could be recovered. If you attach the hard drive to another computer, you might find that only the operating system has been corrupted, and that the rest of your data is fine—in this case, it's just a matter of copying everything to another hard drive.

# Physical Drive Damage



- Recovering files that have been deleted or formatted is one thing — getting files off of a drive that's been damaged is another. While it doesn't take impressive technical skills to install and run recovery software, dealing with a heavily damaged drive is best left to the professionals, as it usually requires that the drive be taken apart. Taking a drive apart without damaging it is very difficult — the professionals only open them up in clean rooms, which are highly controlled environments that are free of almost all environmental pollutants.



# Uses of data recovery

- Average User:
  - Recover important lost files
  - Keep your private information private
- Law enforcement:
  - Locate illegal data
  - Restore deleted/overwritten information.
  - Prosecute criminals based on discovered data

# Your Best Bet: Don't Lose Your Data

- Data recovery software and specialists can do a great job of getting your data back, but it's risky, time-consuming, and expensive. The best measure you can take to prevent long-term data loss is the one we've been advocating for a long time: make lots of backups! Use a cloud backup provider, keep a backup hard drive in your home, and make sure you don't get caught out by a power surge or an accidental formatting. And take steps to prevent file corruption in the first place.

THANK YOU

QUESTIONS?

