Data Management

Data management is a general term that covers a broad range of [data](https://techterms.com/definition/data) applications. It may refer to basic data management concepts or to specific technologies. Some notable applications include 1) data design, 2) data storage, and 3) data security.

1. **Data design**, or data architecture, refers to the way data is structured. For example, when creating a file format for an [application](https://techterms.com/definition/application), the developer must decide how to organize the data in the file. For some applications, it may make sense to store data in a text format, while other programs may benefit from a [binary](https://techterms.com/definition/binary) file format. Regardless of what format the developer uses, the data must be organized within the file in a structure that can be recognized by the associated program.
2. **Data storage** refers to the many different ways of storing data. This includes [hard drives](https://techterms.com/definition/harddrive), [flash memory](https://techterms.com/definition/flashmemory), [optical media](https://techterms.com/definition/opticalmedia), and temporary [RAM](https://techterms.com/definition/ram) storage. When selecting an appropriate data storage medium, concepts such as data access and data integrity are important to consider. For example, data that is accessed and modified on a regular basis should be stored on a hard drive or flash media. This is because these types of media provide quick access and allow the data to be moved or changed. Archived data, on the other hand, may be stored on optical media, such as CDs and DVDs, since the data does not need to be changed. Optical discs also maintain data integrity longer than hard drives, which makes them a good choice for archival purposes.
3. **Data security** involves protecting computer data. Many individuals and businesses store valuable data on computer systems. If you've ever felt like your life is stored on your computer, you understand how important data can be. Therefore, it is wise to take steps to protect the privacy and integrity of your data. Some steps include installing a [firewall](https://techterms.com/definition/firewall) to prevent unauthorized access to your computer and [encrypting](https://techterms.com/definition/encryption) personal data that is submitted online or shared with other users. It is also important to [backup](https://techterms.com/definition/backup) your data so that you will be able to recover your files in case your primary storage device fails.