

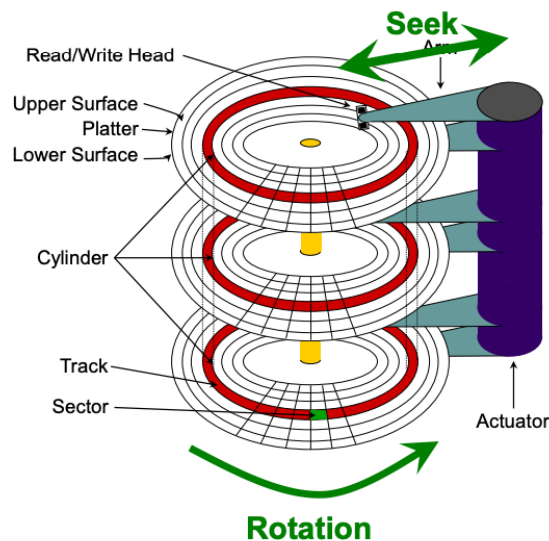
CSC369 Week 9 Notes

Hyungmo Gu

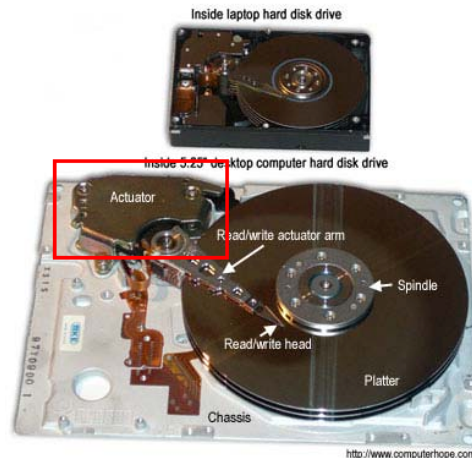
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1 Disk I/O

- File system implementation
 - Files and directories live on **secondary storage**
 - * Anything outside of “Primary memory”
 - * Is persistent (or non-volatile): Data survives loss of power
- Disk components



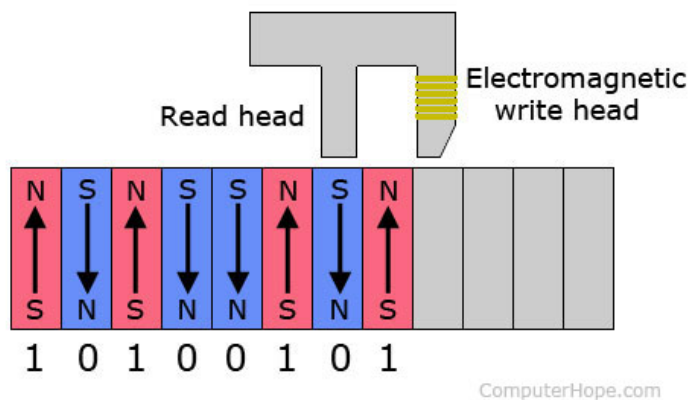
- **Actuator:**
 - * is an electronic device controlled by a motor that moves the hard drive head arm. ^[1]



– Read/Write Heads:

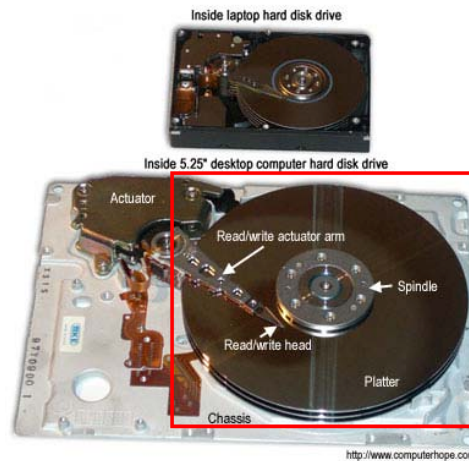
- * are the small parts of a hard drive which move above the disk platter and transform the platter's magnetic field into electric current ^[1]

Hard drive read/write head



– Platter:

- * One or more aluminum, glass, or ceramic disk that is coated in a magnetic media ^[1]
- * All modern drives use glass or glass-ceramic platters ^[2]



– **Cylinder:**

- * is any set of all tracks of equal diameter in a hard disk drive (HDD) [3]



– **Track:**

- * is a data storage ring on a computer hard drive that is capable of storing information.



– **Sector:**

- * A division of storage medium on a hard drive that is a wedge shaped section of one of the circular tracks.
- * Each arc is sector that usually holds 512 byte of data.



Refernces:

- 1) Computer Hope: Actuator, [link](#)
 - 2) Etty94. (2016, August 1). *Hard disk drive components*. Medium. [link](#)
 - 3) The Linux Information Project : Cylinder Definition, [link](#)
- OS \leftrightarrow disk interaction
 - Logical Block Addressing
 - Disk Scheduling
 - File System Implementation
 - Original Unix File System
 - FFS
 - Cylinder Groups
 - Log Structured File System (LSF)
 - NTFS (Windows)
 - MFT Record