

# CD-ROM

Compact Disc, Read-Only Memory

- Offspring of videodisc technology from the early 70s.
- CD-ROM is digital data format built on top of CD audio standard. The audio standard provided a standard mechanism for reading a byte; CD-ROM added standard file system on top of that. This meant the cheap audio CD manufacturing technology could be used to manufacture CD-ROMs.
- Unfortunately, the CD was developed for audio applications, which meant high-storage capacity, moderate transfer rates, and poor seek performance. Average CD-ROM seek time is 500msec and can take over a second. Magnetic disks average seek time is around 25 msec.
- Information is encoded in the CD by burning pits into the surface. By choosing between burning a pit or not burning a pit ("lands"), we can encode 0s and 1s on the disc.
- We read a CD by shining a laser on it. The lands reflect the light while the pits scatter it. By observing whether the laser is reflected or not, we can read the information on the disc.