

CSC369 Week 9 Notes

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1 Disk I/O

- File system implementation
- Disk components
- Disk service time
- Mixing workloads can be tricky
- Components of disk access time
- Disk are Slow
- OS design principles
- Disks are messy
- OS \leftrightarrow disk interaction
- Logical Block Addressing
- Disk Scheduling
- Back to Files and Directories
- Disk Layout Strategies
- Indexed Allocation: Unix Inodes
- Unix Inodes and Path Search
- File System Implementation
- Original Unix File System
- Data and Inode Placement
- FFS

- Cylinder Groups
- Space Allocation in Cylinder Groups
- More FFS Solutions
- FFS: Consistency Issues
- FFS Observation 1
- FFS Observation 2
- Log Structured File System (LSF)
- NTFS (Windows)
- MFT Record
- MFT Record for a Small Directory
- Better I/O performance through parallelism
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