

Naming Magic

Bootstrapping

Root directory always inode #2 (0 and 1 historically reserved)

Special names

- Root directory : "/"
- Current directory : "."
- Parent directory : ".."

Some special names are provided by shell, not FS

- User's home directory : "~"
- Globing : "foo.*" (expands to all files starting "foo.")

Using the given names, only need two operations to navigate the entire name space

- `cd name` : move into (change context to) directory name
- `ls` : enumerate all names in current directory (context)

Unix inodes and path search

Unix inodes are not directories

- Inodes describe where on the disk the blocks for a file are placed
- Directories are files, so inodes also describe where the blocks for directories are placed on the disk

Directory entries map file names to inodes

1. To open `"/one"`, use Master Block to find inode for `"/"` on disk
2. Open `"/"`, look for entry for `"one"`
3. This entry gives the disk block number for the inode for `"one"`
4. Read the inode for `"one"` into memory
5. The inode says where first data block is on disk
6. Read that block into memory to access the data in the file