Lab One

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1 Question One

What are the advantages and disadvantages of using the same system call interface for manipulating both files and devices?

Being able to utilize the same system call interface for files and devices can provide further simplicity for novice users who simply need to accomplish some task without being bothered by more intricate knowledge of the operating system. Considering that some of the file & device management system calls behave similarly (request & release for devices, open & close for files), it makes sense to pair these up under the same interface (Pages 63-64).

However, there are disadvantages to novelty. One being that files & devices can appear to be indistinguishable; alike both in representation (how the user is mentally interpreting them) and how they are handled, even though the underlying system calls performed are different (Page 65). This could be at the disadvantage to the user if attempting to replicate their file/device management on a different operating system (since operating system interfaces vary). Thus, the core concept of what **exactly** is going on is misguided.

2 Question Two

Would it be possible for the user to develop a new command interpreter using the system call interface provided by the operating system? How?

Yes, the user can achieve this. It can be done by creating their own shell program, and within it, have files named after its specific commands such as 'rm' or 'cp' UNIX commands that will run when the user inputs such values into the CLI. So long as the user-created command interpreter "communicates properly" with the OS's system call interface (follow its set rules/patterns), its functionality should work (Page 52).