Lab One

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1 Question 1

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

The advantages of using the same system call for manipulating both files and devices include making devices more accessible as each device can be accessed as though it was a file within the system through the same call. Through using the same system call, a new device driver can be easily added to support the interface by implementing hardware-specific code. This will make the development and implementation of user program code and device driver code more efficient as they can be written to access devices and files in the same manner, implementing one set of code to support a well-defined API instead of using two different sets. However, a disadvantage of using the same interface is that capturing the functionality of certain devices may be difficult within the context of the file access API. This could either lead to a loss of functionality or loss of performance for the API.

2 Question 2

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

The command interpreter allows an user to create and control within a operating system, as well as how the system communicates with its devices. Therefore, it is possible for an user to develop a new command-line interpreter using the system call interface provided by the operating system because the functionality of the command interpreter can be accessed through system calls by an user-level program thereby allowing the user to develop a new one.