Operating Systems Lab 1

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1 What are the advantages and disadvantages of using the same system call interface

The main advantage of using systems calls is that it allows programmers to avoid writing everything in low-level languages in order to make calls in the operating system. This proves to be a difficult process because it is incredibly easy to make small mistakes since the code is barely legible. For example, writing everything in hexadecimal would be very cumbersome to debug when something goes wrong. On the other hand, writing in low-level languages are much faster than the system calls because they are directly working in the system. A system call calls the system's API and retrieving the appropriate data which leads to longer processing times. We could combine both approaches to get the best of both worlds. For example, on one of Apple's earlier computers, had the top 80 percent of the most commonly used applications were written using low level languages to decrease the processing time and space used while the other 20 percent still utilized system calls.

2 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 could develop a new command interpreter by creating their own custom programs in the OS. However, this process would be restrictive and tedious because the user can only program with whatever the operating system interprets as valid code.