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System and Tools Activity

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# Various Features

1. File Explorer
   1. When using file explorer, clicking on a folder that has more files/folders involves reading from the C drive (or whichever drive they are on) to view them. Since those files are located on hardware, I think it would require the use of Kernel mode to read.
2. Opening an Application (like Visual Studio)
   1. Since the application displays on screen, it would require the use of the GPU which would require a system call. Since VS is an IDE, it would require the same (ish) steps as file explorer, with reading and writing changes to file(s).
3. OS Shutdown
   1. No idea how the computer tells its hardware to shut off, but I think it would have somewhat similar steps to safely ejecting a USB. If I have applications open, files opened, etc, it gives me a popup to save and close changes to these files. So, I think the computer saves its state and then turns off.
4. Wired/Wireless Connect
   1. Since the ethernet slot is on the motherboard, and the motherboard is hardware, I think all applications would need to go through the kernel to connect and use the internet (if they need to). This would involve all the context switching steps, but other than that I have no idea.
5. Task Manager (specifically terminating a task)
   1. My first guess would be that since the “target task” is using hardware, task manager would need to do the same to shut down the said task.

# File Explorer Screenshot

A screenshot of a computer

Description automatically generated

# Opening Application (for this example, Word)

A screenshot of a computer

Description automatically generated

# OS Shutdown

I failed to get a screenshot of my computer shutting down

# Wired/Wireless Internet Connection

This doesn’t show much

A screenshot of a computer

Description automatically generated

# Task Manager

A screenshot of a computer

Description automatically generated

On a side note, I do not know how task manager gets on the info, like memory usage, power usage, CPU/GPU usage, etc. First guess would that it reads it directly from the hardware.

# Availability of Linux

A screenshot of a computer

Description automatically generated

# Successful Compile and Run of HelloWorld.c

A screenshot of a computer

Description automatically generated