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ИКНК/ФизМех

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Active vocabulary: 34, Grammar structures: 4, Linkers: 10, Total: 670 words

Monologue on *OPERATING SYSTEMS (UNIT 3)*

Step 1. Introduction 1. Start with a hook sentence that will attract the listener's attention, a quote, a proverb, etc. 2. Lead your speech steadily to the main part of your talk. 3. The introduction may consist of 3-6 sentences.	"Technology is best when it brings people together." This quote by Matt Mullenweg perfectly encapsulates the role of operating systems (OS) in our digital lives. Imagine a world without an OS—computers would be lifeless machines, incapable of performing even the simplest tasks. An operating system is the backbone of every computer, enabling hardware and software to communicate seamlessly. Today, I will explore how computers work, the vital functions of an OS, its evolution, and even propose a creative idea for its future.
Step 2. How do computers work? 2.1. What is an OS? 2.2. Types of OS (GUI, Multi-user, Multiprocessing, Multithreading, Multitasking). What are they?	At the heart of every computer lies the operating system, a crucial piece of software on the hard drive that enables the computer hardware to communicate and operate with the computer software. Without it, hardware components like the processor or memory would remain idle. There are several types of OS, each designed for specific needs. For instance, a Graphical User Interface (GUI) operating system allows users to interact with graphics and icons using a computer mouse, making computing intuitive. In contrast, a multi-user operating system can allow for multiple users to use the same computer at the same time and at different times, ideal for servers. Advanced systems like a multiprocessing operating system support and utilize more than one computer processor, boosting performance. Similarly, a multitasking operating system can allow multiple software processes to run at the same time, while a multithreading operating system lets different parts of a software program run concurrently. These capabilities ensure efficiency and flexibility in modern computing.
Step 3. What do OS do? 3.1. Why is an OS one of the most important parts of a computer? 3.2. Speak about the tasks operating systems must accomplish.	The OS is one of the most critical components because it controls the computer's resources, ensuring everything runs efficiently and properly. One of its primary tasks is resource allocation, where it allocates enough of the processor's time to each process and application. This is vital when multiple applications and processes are running simultaneously. Memory management is another key function. The OS must ensure that each process has enough memory to execute while balancing the needs of each process with the different types of memory available, such as high-speed cache, main memory, and secondary memory. Additionally, it handles device management, translating electrical signals between software and hardware to manage input and output.

	Moreover, the OS provides a consistent application interface (API), allowing programs to interact with the application uniformly. This adaptability towards different uses makes computers versatile tools for work, education, and entertainment.
Step 4. History of OS 4.1. Speak about the generations of operating systems. 4.2. Compare two modern OS.	The journey of operating systems began with primitive methods like entering a program one bit at a time on rows of mechanical switches. Early computers relied on single-stream batch processing systems, which could only run one job at a time. However, as technology advanced, developers sought to take better advantage of the computer's resources. The introduction of multiprogramming allowed systems to run several jobs at once and switch from job to job as needed. This innovation paved the way for time-sharing techniques, enabling quick responses to user requests and improving user productivity. The spooling technique further optimized performance by managing high-speed and low-speed devices efficiently. Today, we have powerful third-generation OS like Windows and Linux. While Windows is known for its user-friendly GUI, Linux excels in customization and security. Both are compatible with a wide range of hardware, showcasing the evolution of OS from simple tools to complex systems.
Step 5. CREATIVE THINKING Introduce your own extra idea(s) on advertising that hasn't/haven't been mentioned before. Substantiate your choice.	Imagine an OS with built-in AI that predicts user needs. For instance, it could preload applications based on daily routines or optimize resource allocation dynamically. To advertise this, a campaign could showcase a busy professional whose OS anticipates their workflow, saving time and reducing stress. This idea leverages the adaptability towards different uses and modern AI trends, making it both innovative and practical.
Step 6. Conclusion Summarise the ideas of steps 2,3,4,5.	In summary, operating systems are the unsung heroes of computing. They enable hardware and software to communicate, manage resources, and evolve from batch processing to advanced multithreading systems. Whether through GUI or multi-user capabilities, they ensure efficiency and versatility. With future innovations like AI integration, OS will continue to shape our digital experiences. As technology advances, one thing remains clear: the OS will always be the bridge between humans and machines.