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CS-230 Module 6 Assignment

02/16/2025

**The Management of Memory and Storage**

Assuring software memory management in an application, particularly in a quiz game, requires attention to fundamental aspects such as user input handling, image storage, user account information, virtual memory implementation, garbage collection, and profiling and monitoring. Considering these factors, the application can achieve efficient and effective memory management, leading to improved performance and a satisfactory user experience. “The main visible advantage of this scheme is that programs can be larger than physical memory. Virtual memory serves two purposes. First, it allows us to extend the use of physical memory by using the disk. Second, it allows us to have memory protection, because each virtual address is translated to a physical address.” (Operating System - Virtual Memory - Tutorialspoint).

When we think about storage solutions for our clients, two principal options present themselves: cloud storage and local drive storage. Each has evident and distinct advantages and considerations that can significantly impact a client's decision one way or the other. Many organizations now prefer cloud storage to other options because of its flexibility and scalability. Consider these essential points like cost structure, scalability, performance, security, and accessibility. Local Drive Storage is another form of storage. Although local drive storage may appear attractive because of its one-time cost and the control it offers over data, it does not provide the same flexibility and features as cloud solutions. With local drives, you can run into problems with scalability and accessibility. To sum up, the cloud is your best candidate for customers wanting a solid, safe, and scalable storage solution. “In the cloud, companies can easily implement logical access control and user privileges for their stored data, ensuring that individuals can only access the data you want them to.” (Web Hosting UK Blog , Hard Drive Vs. Cloud Storage, Pros and Cons - Business Approach).

In contrast, long-term data retention components, like hard drives (HDD), solid-state drives (SSD), or cloud storage, are called storage. While data actively being used or processed by the game application is stored in memory (RAM), the game files, assets, and user data are kept in storage while the game is not running. “Some examples of such operations include editing a document, loading applications, and browsing the internet. The speed and performance of your system depends on the amount of memory installed on your computer.” (The Difference Between Memory and Storage in Computers). Storage refers to data that can be accessed on a long-term basis. “Usually, storage comes in the form of a solid-state drive or a hard drive.” (The Difference Between Memory and Storage in Computers). In terms of the game application, the term memory would be used when referring to the session because it is short-term and doesn’t need to be stored. The term storage would refer to something long-term, such as storing information on the user, such as usernames and passwords, etc.

**References:**

Operating System - Virtual Memory - Tutorialspoint. (n.d.). Tutorialspoint. Retrieved

February 14, 2021, from

<https://www.tutorialspoint.com/operating_system/os_virtual_memory.htm>

Web Hosting UK Blog. (2021, February 5). Hard Drive Vs Cloud Storage, Pros and

Cons - Business Approach | Web Hosting UK Blog. Web Hosting UK Blog | WHUK

Blog, Offering Rich Information on Web Hosting, Web Development, Security,

Marketing and SEO. https://www.webhosting.uk.com/blog/local-drive-vs-the-cloud-for-

data-storage-security-and-accessibility/

The Difference Between Memory and Storage in Computers. (n.d.). Kingston Technology

Company. Retrieved February 14, 2021, from

https://www.kingston.com/unitedstates/us/memory/difference-between-memory-storage