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CS-230

6-1 Assignment: Memory and Storage Management

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**Memory Management**

**What considerations and specific approaches would it take to ensure that memory is effectively managed in the software application, Draw It or Lose It?**

With the game Draw It or Lose It, in terms of client-side system requirements, I would take into consideration the system RAM capabilities for each device as well as the secondary storage device and capacity (Virtual RAM). RAM is limited but secondary storage is inexpensive. The most effective memory management technique is Swapping which is the process of temporarily “swapping out and swapping in- processes from main memory (RAM) to a backing store (HDD, SSD, or Virtual RAM). This process ensures efficient memory allocation for the process(es).

**Storage Management**

**What considerations and specific approaches would you take to determine how much storage is needed and how to manage storage for your client’s application, Draw It or Lose It?**

In terms of storage needs for the Draw It or Lose It game, a consideration needed to manage the client’s application would be to determine the RAM requirements to fully render the 200+ images needed for the game. This is dependent on the way the application is built and the architecture that is used to retrieve data. The serverless architecture provides for much more flexibility in terms of focusing on application development (front-end). The back-end services are the responsibility of the cloud service provider. The only drawback is that there is limited control and other functions could hog up resources causing some latency.

**Comparison**

**What are the differences in how memory and storage are used in terms of the game application functionality?**

In terms of the game application, the processes will consume main memory and should the processes exceed the main memory requirements, virtual memory is then utilized. If the capability for caching data is available, then it would certainly improve the user experience. The data will be accessible locally rather than making a request to the server.

Storage on the server is reserved for the images and business logic. Caching data such as user credentials will ensure that users can retrieve saved game data that is stored locally as well as pre-loading images.