Jesel Reyes

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Professor Elhayboubi

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6-1 Assignment: Memory and Storage Management

The Draw It or Lose It, a multi-user game application, is considering expanding to different operating platforms besides Android. To effectively run such a game within different platforms such as a website or a gaming console, two important components need to be thought of before expanding: memory and storage management. These two components are the two pivotal factors that can affect gaming performance as well as user experience. To effectively manage memory, there are certain considerations to consider such as how much memory is there and the amount that is needed by the application to function without any problems. Knowing these two factors can be of benefit when it comes to managing memory. One of the specific approaches to manage memory is to pre-allocate memory space for the application. Pre-allocation of memory is a strategy to first save the amount of memory needed and never have to dynamically allocate memory during the game as you have taken up a block of memory that is needed for your application. One of the main drawbacks with this strategy is that it can be a bit complex to implement compared to dynamic allocation however since the Draw It or Lose It game is gathering images from a library, this strategy can be a good way to approach memory management.

Another consideration for the gaming application is storage management. Storage management is also a critical part of the gaming application as it will probably need some space to keep track of the 200 images needed for the game. For the game to run effectively and the images to be stored properly, one of the techniques to figure out how much storage is needed depends on the file format and size of the images as well as the way the images are being retrieved. One of the ways in which images can be retrieved is through asset bundling where certain related assets are bundled together during gameplay instead of all of them at once into memory. This dynamic way of accessing images can be useful for the performance of the gaming application as it can help with the storage fragmentation and loading times.

The main differences between memory and storage management are that memory is volatile meaning it can change, and storage is non-volatile. The memory part of the gaming applications is what is used to retrieve the images from the image library for the gaming application to use whereas the storage part of the application is used to store the images to be used for another gameplay. Both parts in tandem, play a huge role into the gaming application as it depends on the image library. In addition, memory can be thought of a process that is for easy access to files or images however it cannot keep track of all the files, only the ones it needs. In contrast, storage can be thought of the process where file and image can be found to be used later during the gameplay.

Works Cited

Noel. “Start Pre-Allocating and Stop Worrying.” *Games from Within*, 25 Oct. 2010, gamesfromwithin.com/start-pre-allocating-and-stop-worrying.