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

To effectively manage the memory for the draw it or lose it app one consideration would be how many users are inputting data during a single game. We would also need to plan how the photos would be stored in the files. Another important consideration would be if Draw It or Lose it plans to continue adding picture to the program thereby making more than two hundred photos, or if the plan to delete old ones and change them. Possible storing both the pictures and the user information in a stack would be best because it can store multiple items such as objects, files, and data. To make the game seem fast and working consistently we would also want to use virtual memory. The game design must take into account all the different types of memory that can be used.

**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?**

One of the first considerations when picking a storage type would be cloud storage options. Cloud storage solutions are expensive however using your own hardware can also be expensive and it is not as fluid. For example, if Draw It Or Lose it wanted to triple the amount of photos available they can easily call the service provider and request more storage easily. Also,

when a hardware fails the potential is to lose all of the data. Cloud solutions are well managed with proper back up systems to ensure that the data is safe, while this can be replicated using home hardware it takes a lot of knowledge.

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

Memory and storage are two different things, memory is where code is executed and storage is where the game files are held to be accessed by the memory. When a computer turns off all memory is gone, however storage stays intact. Another type of storage is cache, which is a guess by the computer of data that will be needed to be accessed quickly by the user. Cache should be available to allow for fast game flow.

It is best to have strong ram such as DDR4, large amount of cache memory and graphics to give the best processing speed that doesn’t lag.