

ABSTRACT

In this time, Cloud computing are generally used for various services. One of cloud computing services is Cloud Gaming, Gaming As A Service. Basically, all processing processes of computing systems, through the internet network that links one computer device to another at once and remote by client device. This technology makes the internet a central server to manage user data and applications. This cloud gaming concept is allowing a game that's not yet installed on the computer device that's playing it. This makes the device used by the user no longer needs to process resource. So, its will ease the gamers who want to play high-spec games on low-end computer device.

The author doing the implementation of cloud gaming on client devices and benchmarking evaluation and research between Gameqoo's performance with Google Cloud Platform is carried out which includes resource usage and quality of service from the cloud gaming concept which is applied to the client's computer devices using the game Homefront: The Revolution. The laptops used are Lenovo 81D5 (AMD A9- 9425, Core 2, 4 GB) and Compaq Presario CQ42 (Intel Pentium Dual Core T4500, Core 2, 2 GB).

Relying on the tests performed, it was concluded that games played through Gameqoo can run properly on both laptop devices used, are following the ITU-T G1010 standard, and performs better than the Google Cloud Platform. In the resource usage test, the maximum average is 56.73% for GPU usage. Then, the CPU usage value is 31.6%. Then, the RAM usage value is 15.75%. On top of that, the FPS obtained a value of 26.75 FPS. For QoS testing, the maximum average jitter is 0.0015 ms when the bandwidth is 2 Mbps. The average maximum delay is 15.73 ms when the bandwidth is 2 Mbps. The lower the bandwidth, the greater the jitter and delay generated. The resulting throughput value is in the range of 1847.52 Kbps to 3846.41 Kbps. The lower the bandwidth, the smaller the throughput.

Keywords: *Cloud Computing, Cloud Gaming, Game, Resource Usage, QoS, Gameqoo*