ABSTRACT

Game is a means of entertainment that is currently in demand and continues to grow. The use of virtual reality in games makes its own interest where players get an immersive experience by feeling the presence in the game being played. VR-based games have a fairly high minimum computer specification. By using cloud gaming technology, players can play games with high-end specifications with low-spec devices.

This final project research uses virtual reality Oculus Rift which is connected to the Microsoft Azure cloud server and uses Steam as a cloud gaming platform. Measurements taken include Resource usage, Quality of Service and Frame Rate on the client by limiting bandwidth to determine the best use.

The results of the implementation carried out in this Final Project can run well on computers with low specifications. CPU Usage on the client computer with an overall average value of 73% and 9% on the server. RAM Usage on the client computer with an average value of 3062 Mbps and an average value of 5882 Mbps on the server. Disk Usage on client and server computers is only 1%. GPU Usage on the client computer is 0% and 86% on the server computer. The output of the highest FPS is 80 FPS and the lowest is 64 FPS. The throughput value in the two test games has a slight difference of 400 Kbps – 60 Kbps. The highest delay value is 1108 ms at 10Mbps bandwidth. Jitter in both test games has a very small value with the highest value of 0.930 ms at 10 Mbps bandwidth.

Keywords: games, cloud gaming, virtual reality, Microsoft Azure, Steam.