

## ABSTRACT

The rapid development of mobile phone technology, with the presence of Operating System Android on mobile phones, mobile phone users are able to access and manage services and features on the Operating System freely. Mobile phone also works not only as a communication tool, but with the existence of various multimedia services, mobile phone users can play games with a more enjoyable experience, then the need for such technology will also be great especially in the field of mobile cloud gaming. Mobile cloud gaming is a development of infrastructure as a model of cloud computing services. With a cloud gaming server service using open-source GamingAnyWhere, mobile phone devices with android operating system working as a client are able to access servers that run a game over the wireless network online. The server captures the audio frame and video frame and then encoded and sent to the client. After the client gets the A / V frame, the client will decode the received frames so that the user can play and perform the input control. To get the performance results of the cloud gaming system implemented, tested with three parameters namely resource requirements, Quality of Service, and Quality of Experience.

With the cloud gaming server service, the gameplay experience on mobile phones with cloud gaming feels lighter and with better graphics. This is evidenced by the need for a client resource that uses only 6.2% cpu usage, 20.6 MB RAM for Neverball games and 3.6% cpu usage, 11.9 MB RAM for Deadpool games. FPS client value is 29.1 for Neverball and 14.5 for Deadpool, this value is small due to less than the maximum server rendering capability. For the total system delay is quite satisfactory that is worth 0.19 seconds for Neverball on the local network and 0.35 seconds on the online network. While 0.13 seconds for Deadpool with local network and 0.19 seconds for online network at 5 Mbps bandwidth.

**Keywords** : Cloud Gaming, Mobile Cloud Gaming, GamingAnyWhere, Cloud Computing.