

ABSTARCT

E-learning is one form of learning method where the teaching and learning process will utilize internet technology where students can learn anywhere and anytime. One method that is often used is video conferencing. But to do a video conference must use internet access, so a local video conference based on Raspberry PI will be made as a server. Using Raspberry PI as a server will also be easy to do video conferencing anywhere because Rasberry Pi is mobile. In this study, QoS analysis was carried out using throughput, jitter, delay and packetloss parameters used TIPHON standart. The research is divided into 3 categories, namely off cam, on cam and on cam continuously. The throughput value for the off cam scenario with 5 users is 6.416 Kbps, 7 users is 9.862 Kbps and 10 users is 10.572 Kbps. For the on cam scenario at 5 users amounting to 775.924 Kbps, 7 users amounting to 871.921Kbps and 10 users amounting to 888.587 Kbps. for continuous on cam scenario 5 users amounting to 1130.873 Kbps, 7 users amounting to 1863.728 Kbps and 10 users amounting to 888.587 Kbps. delay value for off cam scenario with 5 users amounting to 145.6714436 ms, 7 users amounting to 114.2096966 ms and 10 users amounting to 112.5057116 ms. For the on cam scenario with 5 users of 3.634639072 ms, 7 users of 2.809287607 ms and 10 users of 3.003979061 ms. for the continuous on cam scenario with 5 users of 3.158460117 ms, 7 users of 2.361914318 ms and 10 users of 3.120240349 ms. For the throughput value at the time of on cam, it increased by 121 times with the most optimal throughput value at 7 users for the continuous on cam scenario with a throughput value of 1863.728 Kbps with indeks value 3. the value of delay and jitter at the time of on cam increased by 40 times with the most optimal delay and jitter value at 7 users for the continuous on cam scenario with a delay value of 2.361914318 ms with indeks value 4. For packet loss in each category is 0%. The optimal number is 10 users, if more will be prone to disconnection.

keyword :e-learning, server, raspberrry Pi, video conference