

## ABSTRAK

Saat ini banyak tersedia aplikasi layanan *video call* yang dapat digunakan, diantaranya aplikasi Skype dan WhatsApp. Para pengguna layanan pasti akan memilih aplikasi yang memiliki layanan *video call* yang bagus terutama di dalam ruangan yang sering terkendala sinyal akibat dari pengaruh *indoor environment*. Penilaian yang digunakan untuk mengukur kualitas layanan *video call* diantaranya dapat dinilai dari parameter *Quality of Service (QoS)* dan *Quality of Experience (QoE)*. Parameter *Quality of Service (QoS)* yang diteliti dalam penelitian ini adalah *packet loss*, dan *throughput*. Sedangkan parameter *Quality of Experience (QoE)* yang diteliti adalah *video delay* dan *video quality*. Penelitian ini fokus terhadap perbandingan kualitas *video call* Skype dan WhatsApp terhadap variasi *signal strength* dengan mencari jawaban dari pertanyaan berikut ini: 1) Bagaimana nilai *Quality of Service (QoS)* dan *Quality of Experience (QoE)* Skype dan Whatsapp terhadap perubahan *signal strength*? 2) Apa Penyebab *Packet Loss* pada proses transmisi video di dalam ruangan? Setelah dilakukan analisa data, hasilnya adalah aplikasi WhatsApp memiliki keunggulan dari sisi kestabilan mempertahankan nilai *throughput*, *video quality* dan *video delay* saat kondisi *signal strength* lemah. Sedangkan untuk *packet loss*, kedua aplikasi cenderung memiliki tren respon yang tidak mengikuti perubahan *signal strength*. *Packet loss* yang terjadi di dalam ruangan kemungkinan terpengaruh dari efek *multipath fading* dalam ruangan.

Kata Kunci : *Quality of Experience, Quality of Service, VideoCall, Skype, WhatsApp, throughput, packet loss, video delay, video quality*

## ABSTRACT

Nowadays, there are a lot of *video call* service application which can be used, some of them are Skype and WhatsApp. The users will definitely decide to choose the application that has a good *video call* service especially for indoor usage which sometimes having signal strength problem due to indoor environment. The rating indicators which used to measure the application service quality are *Quality of Service (QoS)* and *Quality of Experience (QoE)*. *Throughput* and *packet loss* parameters are used to determine the *Quality of Service* rating, while *video delay* and *video quality* are used to determine the *Quality of Experience* rating. This paper focus on the comparison of *video call* quality for both Skype and WhatsApp to *signal strength* variations by finding the answer of the following questions: 1) How is the value of *Quality of Service* and *Quality of Experience* of both Skype and WhatsApp to *signal strength* variations? 2) What is the cause of *video transmission packet loss* in indoor environment? After analyzing the data, the result is that WhatsApp has an advantage of maintain the stability of *throughput*, *video quality*, dan *video delay* value in a weak *signal strength* than Skype. In the other side, *packet loss* seems to have a trend responses which showing erratic value in correlation to *signal strength* variations for both applications. It may caused by *multipath fading* effect in indoor environment.

Keywords : *Quality of Experience, Quality of Service, VideoCall, Skype, WhatsApp, throughput, packet loss, video delay, video quality*