

## ABSTRACT

In this time, internet is considered as one of the primary needs that can't be separated from our daily life. The internet user have grown so fast till today which causing a few mobile provider in Indonesia to start providing a digital service to their users. Unfortunately, for now the provider can only provide accesses to the digital service, which is social media and several communication service that uses VoIP. Without a service which is owned by mobile providers, they can't compete with service providers. In result, the user of said mobile provider will keep using service which isn't owned by said mobile provider.

In this final project, the designing of an SIP client application for *Android* using *Android Studio* is done in purpose to create an SIP client that capable to register the user automatically. When the user starts the application, at that time the user also registered and can use VoIP services. In which this application is quite fitting to be used for the mobile provider in Indonesia. This final project is also a continuation of Muhammad Hasan final project which titled “*ANALYSIS OF SIP BASED VoIP IMPLEMENTATION ON WIRELESS LAN NETWORK WITH AUTO AUTHENTICATION SERVICE*”. In that final project, the end result of the final project is an automated authentication system of a VoIP server. The problem which is encountered in that final project is there's no SIP client which is capable to register the user automatically. The SIP client which is designed in this final project is developed for *Android* platform and will be developed using *Android Studio* software.

From the experiment that has been done, the application that the writer developed have a QoS that is equal with another SIP client, which in this final project *Zoiper* is used as the comparison. Also, the automated registration that is used is capable to register the user when the application is started and user can use the VoIP service straightaway if compared with *Zoiper* which requires the user to register at the server first then use the information in *Zoiper* to be able to use the VoIP service.

**Keyword:** EAP-SIM, VoIP, SIP client, *Android*, JSON

