ABSTRACT

Fiber optic networks have become necessary in today's technology to communicate over long distances. With the development of this technology, schools in Indonesia have started to establish vocational schools that teach about technology, especially fiber optic networks. Telkom Bandung Vocational School is a vocational school that teaches technology. In the network lab, there is a fiber optic network. However, the processing is still manual so it will be time consuming and inefficient. In this research, an application will be designed to register and delete ONT automatically based on a GUI using Python.

In this Final Project, it will be designed a fiber optic network automation application using Python in the Telkom Bandung Vocational School Network Lab to shorten configuration time and minimize input from users. The application is made with a GUI interface to make it easier for users. With this application, students are expected to understand more about fiber optic access networks.

The results of the registration speed test for all ONTs by testing 5 ONTs were 35.4 seconds while manually it was 155.54 seconds. With the same number of tests, deleting all registered ONTs took 20.62 seconds while manually taking 23.54 seconds. To register and delete one ONT takes 7.72 seconds and 12.21 seconds respectively, while manually it takes 32.56 seconds and 10.23 seconds respectively. To register ONT with PPPoE mode takes 10.02 seconds, while manually it takes 34.43 seconds.

Keywords: *Python, Automation, Fiber Optic, GUI.*