

## ABSTRACT

The most rapid development of technology is in the Information Technology (IT) sector. Internet of Things (IoT) comes with a concept that aims to expand the benefits and connectivity of the Internet are connected to each other.

In this research, a system design that can be used to open garage automatically using microcontroller which has been integrated with wireless chip. This system creates remote controlling technology with internet network as a liaison between server and client using MQTT and HTTP protocol. By using this system, the driver does not need to get out of the car just to to open the garage in order to reduce the occurrence of crime.

From the one way delay measurement to the system used, MQTT protocol has better performance compared to HTTP protocol. There is a difference of 74.5% for OFF - ON system condition and there is a difference of 102% ON - OFF system condition. In the parameter throughput there is a difference of 6.84% At the measurement of system response time, MQTT protocol has better response time value than HTTP protocol. The difference between the two is very significant. Both on the condition of the system OFF - ON and ON – OFF.

**Keywords :** IoT, NodeMCU, *Wireless, Microcontroller, Instant Messaging*