

## ABSTRACT

Mobile communications are very important now. There are many devices that offer services and facility for user to communicate each other or global communication infrastructure such as internet.

Bluetooth technology using short range radio communication that can replace connectivity between one device to another which usually using wire to get connected. Bluetooth also enables *ad hoc* networking with the devices. In this case the devices are able to form a network without an existing infrastructure. On Bluetooth system, the devices can communicate each other and make *piconet*. Then *piconets* get connected and make wider network, its called *scatternet*. Bluetooth devices can also mobile from one *piconet* to other *piconet* and even from one *scatternet* to other *scatternet*. For that, needed an algorithm to make *scatternet* formation which is the device is mobile.

Now a day's many method has been found to make *scatternet* formation on Bluetooth technology where is devices move dynamically. The purpose of this final project is to analyze and compare the performance of *scatternet* formation that resulted from MTSF (*Mesh Topology Scatternet Formation*) and TSF (*Tree Scatternet Formation*) *scatternet* algorithm.

The result using two algorithm hopes can make an efficient *scatternet* network topology although there are free nodes on the *scatternet*. So that can make a new network with bigger capacity and better shortest path on the larger number of nodes.