**ABSTRACT**

As technology advances, different monitoring system or data logger has now been widely used wherein it obliterated the tiresome routine of gathering data. This project is constructed to demonstrate a two way communicating system between mobile sensor nodes and a stationary receiver node capable of communicating in both single node or multimode using the CC1101 433Mhz transceiver. With a sensor node attached near the ear canal of a person, it is capable of gathering temperature and pulse rate data through the use of MLX90614 infrared thermometer and Grove Ear-clip Heart Rate Sensor with a dynamic data gathering interval rate based on the user’s configuration.