ABSTRACT

Hypertension is one of the deadliest diseases with high mortality. National hypertension prevalence based on Riskesdas 2013 was 25.8%, and from this data, only 1/3 were diagnosed, the remaining 2/3 were undiagnosed. This shows that most hypertensive sufferers are unaware of suffering from hypertension or getting treatment. Patients with hypertension who are unaware of suffering from hypertension are generally caused by a lack of awareness to check because they are busy or far away from health services.

In this Final Project, cardiology and human body temperature measurement system designed using the ESP8266 wireless module as a microcontroller that is connected to three sensors, including the MPX4250AP sensor connected with cuff cuffs and DC *air pump* motors*, heart pulse sensors, and DS18B20 sensors. This measuring device serves to measure blood pressure in the form of systole and diastole, heart rate, and body temperature which will be displayed on an OLED display that is connected also to the ESP8266 wireless module.*

Based on the results of testing the tool, obtained a percentage of error for blood pressure in the form of systole of 7% and diastole of 17%, heart rate of 15%, and body temperature of 3%.

***Keywords**: Hypertension, Systole, Diastol, ESP8266, MPX4250AP.*