

# DESIGNING AND TESTING MOBILE-BASED SFIGMOMANOMETER AND THERMOMETER

**Oscar Muh Rizaldy**

*Computer Engineering Study Program, Faculty of Information Technology and Electro  
Universitas Teknologi Yogyakarta  
Jl. Ringroad Utara Jombor Sleman Yogyakarta  
E-mail : [oscarrzldy@gmail.com](mailto:oscarrzldy@gmail.com)*

## ABSTRAK

*Sfigmomanometer is a tool for measuring blood pressure that is often used in the medical world. Its function is very vital because it becomes the basis for doctors to diagnose the patient's health during a check-up. Sfigmomanometer is generally divided into two kinds, namely analog and digital. In modern times, Android smartphones have developed into very sophisticated features. Therefore, the researcher created a digital sfigmomanometer device that integrated with Android using the MCU node as a microcontroller. The method used was experiment. To be able to detect the value of blood pressure, an MPX5050dp sensor was used to convert the pressure value into voltage and the Ds18b20 sensor. Ds18b20 sensor is a sensor used to measure body temperature, then the value processed by the microcontroller to determine the systole and diastole values. After the systole and diastole values are obtained, the results were displayed on the 5110 LCD screen on the device and also sent to the smartphone to be displayed on the application screen via wireless through the MCU node. This research produces a tool to detect the patient's blood pressure and body temperature, which was produced with the output on the LCD screen 5110 and the patient's Android smartphone.*

**Keywords:** *smartphone, blood pressure, body temperature.*