ABSTRACT

Health is very important for people because it can affect daily productivity, because if the condition of the body decreases and is not in good condition, the daily life will be disrupted. Wearable devices are devices used in modern computers. The device is needed to monitor the user's condition, such as activities carried out daily, detecting heart rate, body temperature and environment, as well as the user's position.

In this Final Project, the author makes a clip on wearable device design that is implemented on the clothing in the body of the user. This device is made by utilizing an Arduino Nano microcontroller as a controller, several sensors such as the Altimeter sensor, GPS module, and ambient temperature as the input, as well as Lithium Polymer batteries as voltage sources. The resulting output is displaying the data on a smartphone with a bluetooth connection and sending it to the database.

Testing this tool generates a conclusion that the system can run properly. In testing the sensor readings, the results obtained in the form of an average difference for GPS sensors as far as 16 m, while for BME280 sensor air temperature of 3.78 ℃, humidity of 11.50 %, air pressure of 1.54 hPa, and an altitude of 15.01 m. For testing the height of each stair produces an average difference in the value of 0.32 m.

***Keyword** : health, wearable device, microcontroller, sensors, smartphone, database.*