

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **1. Tools**

For data monitoring, using tools and sensors like temperature sensor DHT22, ESP8266, sensor PIR, weight sensor 100kg and HX711, breadboard, led and Arduino UNO. From these tools and sensors then assembled into a device(DHT22, ESP8266, sensor PIR, breadboard, led and Arduino UNO) and body weight sensor as a weight scale placed on the floor.

#### **2. Data Collecting**

As for data collecting is done in project room UNIKA to get the data of movement, temperature, and weight scale.

#### **3. Sensor Calibration, Movement Peer Sensor and Weight Scale Implementation**

The calibration process to measure is the weight sensor is accurate or not with the manual weight scale using 1 way, at the weight calibrating factor as weight measurement to calculate weight scale sensor and the temperature sensor is calibrated using digital room temperature thermometer and for PIR movement sensor is calibrated in the delay measurement.

#### **4. Database**

This project uses database MySQL that are used to store the monitoring data of room temperature, movement detection, and weight scale measurement.

#### **5. Testing**

After all the sensors are calibrated, the next step is to implement the accuracy of the weight scale with kilogram and temperature sensor of room temperature.

## 6. Project Report Writing

After implementation and data collecting, the Report of the project is written in the Project Report.

