CHAPTER 3
RESEARCH METHODOLOGY

3.1. Literature Study

In this study, the author uses the MLX90614 sensor (temperature), pulse sensor, and the HC-SR04 sensor (distance) as analog inputs based on a series of journals with a health theme. This study has one output, namely 16x2 LCD i2c as output to display the object's health condition. This research uses zero order sugeno fuzzy logic with two inputs, one output and one input and one output as the action. The author has three categories in determining health: Sehat, Kurang Sehat, and Sakit. When the body temperature is normal and the pulse is normal, the object is in a Sehat condition, if the body temperature is low and the pulse is fast, the object is in a Sakit condition, other than the above conditions, the object is in Kurang Sehat.

3.2. Collecting Data

This study includes data from various health conditions, including testing with body temperature and pulse rate, as well as optimal and accurate testing. The purpose of this test is to see if the tool/sensor is operating properly.

3.3. Implementation Programs

Sensors used: MLX90614(temperature), pulse sensor, ultrasonic(distance).

References :

1. Standard human body temperature.
2. Standard human pulse rate.

Programs are created and uploaded using Arduino Uno. MLX90614 sensor (temperature), pulse sensor (pulse rate) as input to detect the object's health condition in accordance with what has been determined through body temperature and pulse rate, then the input data will be processed using a fuzzy algorithm with 9 rules to detect a person's health condition through parameters of body temperature and pulse rate.

3.4. Testing

To obtain data for this study, the following and sensors were tested:

1. Test the body temperature sensor.
2. Test the pulse sensor.
3. Testing automatic hand sanitizer.
4. Health monitoring system testing.

3.5. Analysis

In a study entitled MONITORING OF HEALTH CONDITIONS USING A FUZZY ALGORITHM, researchers looked at a person's health condition through the parameters of body temperature and pulse rate.