CHAPTER 3
RESEARCH METHODOLOGY

3.1. Studi literature

This research stage is followed by a literature review, namely the search for theoretical references and journals related to this research. Find information about the components used, such as sensors, actuators, and microcontrollers, so that this research runs as expected.

3.2. Component Selection

The author wants to use the weight sensor (HX711) as an analog input that is different from the existing series of journals and adds a rain sensor, temperature sensor (DHT11), and a light sensor, as analog inputs that are already widely available in a number of journals. Therefore the author wants to combine one sensor (HX711) with the three sensors (rain sensor, temperature sensor (DHT11), and light sensor) which will produce quality findings and be useful for many people. The output used is a servo motor (MG90S), using an Arduino uno microcontroller.

3.3. System Design Using Project Board

In this phase, all selected components are assembled on the project board to get readings of all sensors from Arduino Uno, servomotor movement, and the results are displayed by a serial monitor.

3.4. Hardware Design

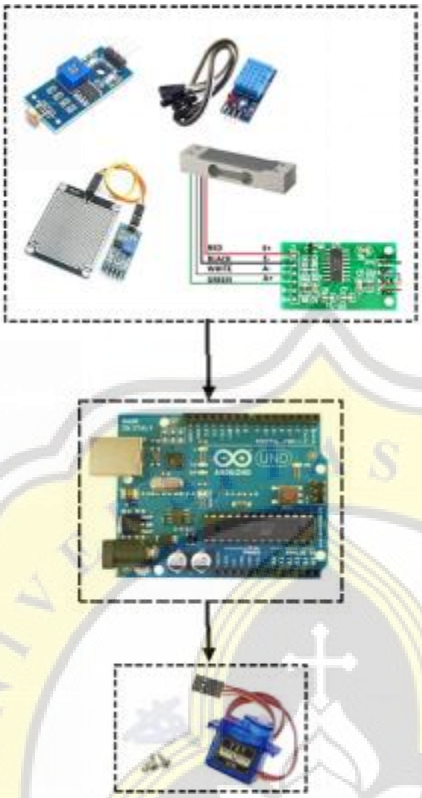

Figure 3.1 System design block diagram drawing

3.5. Software Design

The author uses fuzzy logic algorithms to group data income from the four into one income.

3.6. Testing and Analysis

System testing and analysis is carried out to ensure that the designed system fulfills its research objectives by collecting data during testing and analyzing the collected data. Tests performed on the system are:

a. Test device response to all sensors
b. Fuzzy logic decision test
c. Test collecting data transfer.

3.7. Conclusion

The final result of this prototype is expected that the weight sensor can affect the work of the clothesline