CHAPTER 1
INTRODUCTION

1.1. Background

The rapid development of technology in the current era of globalization has brought many benefits continuously in various aspects of social life. The use of technology by humans to help get things done easily and quickly is a big need in life. The development of this technology is very promising or useful for today's life which we often call digital technology. What is meant by a tool that no longer uses human labor manually, but a system that works automatically with a computer system.

Manual human labor is housewives drying clothes in the hot sun. With this they are happy because the clothes dry quickly. But in this changing weather, they are very worried because the clothes don't dry quickly and are exposed to rain. Sometimes they also forget to take out their clothes even though they are away or have other activities, so that their clothes are exposed to rain and wet again. To maximize the use of this technology, the author makes a tool to hang clothes automatically with a computer system without fear of rain. In this final project, the author proposes a solution to the above problems through the application of a fuzzy logic algorithm by utilizing a temperature sensor (DHT11), a rain sensor (raindrop), a light sensor (LDR module) and a weight sensor (HX711) which are used to detect rain and also do not forget use servo for the roof. The machine is managed by the Arduino Uno microcontroller as the main controller. Installation of this tool is packaged in a small panel measuring 30x50.

1.2. Problem Formulation

Based on the background described previously, the problems to be discussed in this study are:

1. Whether the tool can detect temperature, weight, light and rain perfectly.
2. How does the roof respond if it rains.
3. How to determine an effective fuzzy algorithm for the system.

1.3. Scope

The limitations of the problem applied to this research so that this research becomes more focused are :

1. Using Arduino uno microcontroller as sensor data processing and controlling all sensors.
2. Using a servo motor as the driving force for the roof of the clothesline.
3. Using a light sensor (LDR) as a sensor to detect light, a rain sensor (raindrop) detecting rain, a temperature sensor (DHT11) measuring temperature, a weight sensor (HX711) measuring the weight of wet or dry clothes.
4. Programming the system using Arduino IDE software.

1.4. Objective

The purpose of making this final project is to produce a prototype automatic clothesline using 4 sensors.