

CHAPTER 1

INTRODUCTION

1.1 Background

Fire is one of the disaster factors in the community environment that has taken many victims, such as forest fires, house fires and many more. How can that problem occur and cannot be prevented so that it does not take lives? There are a lot of first hand countermeasures in the context of fires such as summoning firefighters and efforts to extinguish fires with makeshift tools.

Therefore we need prevention tools that can be controlled and recorded through a sensor that can later be analyzed and studied, about where the fire comes from, how much temperature is produced and how to study it so that similar things do not happen again. In the next process is to combine all sensors into Arduino, display it and records it in every wave of fire and temperature emitted by the wind and can explore the results obtained.

The following is a solution to make sustainable fire prevention using fire, temperature and humidity detection sensors from Arduino, so that the results can later be developed back into graphics, so that it can analyze each fire that arises and where the fire was when recorded, so that the results can display on the LCD screen, and at the same time record all the temperature and humidity that will later be saved into a file. After that complete we can open the file using card reader so that it can load all the data stored.

1.2 Problem Formulation

In this section we respond to how tools work for long periods of time? This all has to do periodic maintenance such as replacing damaged parts, resetting the storage system so that the data returned is new and also checking every day so that when there is a temperature or a higher temperature we can prevent and record data so that it can be analyzed and evaluated. And needed LCD to display

data from sensor dht11 and flame sensor, which later after displaying the data and stored in a file that is of the history to load all recorded data.

How can the accuracy of a sensor detect fire from various directions? In this section we can place or direct the sensor to the part that can be signaled as a source of fire, and also when flame sensor detectors can be disturbed because the wind direction is always changing so as to get an analog value that can be change. Like with temperature and humidity sensors whose range is very limited so it is recommended to put the sensor must be close to

the fire, so that when using the dht11 sensor more leverage when applied in conditions when there is a fire starting to enlarge.

1.3 Scope

Because the sensor have not fully cover a certain distance, detection distance limitations still do not meet adequate standards, therefore it very necessary tools that meet the required standards which can later be implemented in open or closed place, so it is not affected by reach of ordinary sensors which are only a few hundred centimeters. So the impact is less maximizing the existing sensors.

1.4 Objective

The aim of this project is to minimize the number of fire victims in Indonesian today, so that various forms of fire can be prevented earlier and can reduce the number of victims affected by fire. And also can evaluate from various records that have been received so that it will not be the same problem, and make

this tool can be implemented immediately so as to reduce the number of existing human victims.

