CHAPTER 1
INTRODUCTION

1.1   Background

Fires often occur in nearby communities and are an undesirable disaster. Fires caused by electrical short circuit that can occur at any time, often too late to be handled immediately because they are not immediately known. Like the incident at two kiosks on Simongan Raya Street on Sunday, September 10, 2017 that was burned by electric short circuit (metrosemarang.com). Not only that. in the city of Semarang there are only five firefighters only, namely in West Semarang District, District Ngaliyan, District Genuk, District Banyumanik, and District Pedurungan. Disadvantages of firefighting posts resulted in the large number of people not yet knowing, making it difficult to carry out reporting in case of fire so that there are often delays in handling. (Cholifatunisa, 2015)

Internet of Things or IoT can transfer data to the network without any interaction between people. While Arduino is a micro-controller that is open-source. Internet of Things and Arduino are often used for projects such as water cleaning checks, gas leak detection, automatic door openers, and more (hackster.io). Arduino itself has a sensor that is fire sensors to detect fire quickly because the sensitive level can be arranged. Then GPS to send home location of the fire by using SMS to the nearest fire brigade.

With the detection of fire using the Internet of Things and GPS is expected to reduce the occurrence of fire because it has been quickly addressed because of the sensitivity level of fire sensors and the accuracy of the GPS module that knows the location of the house and then send SMS to the nearest fire brigade so the fire department can act quickly.

1.2   Scope

Scope of this project:

1. The role of Arduino and Internet of Things by using ThingSpeak.

2. Store GPS data and fire sensor for monitoring.

3. Counting GPS latitude and longitude into kilometers.

4. Search the closest distance using GPS.

    Sending SMS using SMS Gateway Gammu.

1.3   Objective

The purpose of this project can quickly find out the occurrence of fire because the fire sensors that sensitive level can be arranged. Then a useful GPS to provide the location of a disaster home using SMS to the nearest fire brigade with the location of the house.