CHAPTER 1
INTRODUCTION

1.1. Background

According to the news on internet written by Silmi Nurul Utami [1], Human life is inseparable from the existence of waste. Plastic bags, food and beverage wrappers, used clothes, damaged furniture, as well as leftovers or spoiled food are all waste. Reporting from the World Bank Group, Indonesia produces 175,000 tons of waste every day and 20% of it ends up in rivers and beaches. Not only in Indonesia, all countries in the world also produce waste every day. Organic waste such as paper, food scraps, and wood can be degraded in not too long. However, plastic waste is very difficult to degrade in the lifespan of up to hundreds of years!

Waste reduction is carried out intensively, for example from supermarkets which now do not provide plastic bags so buyers bring their own bags. The accumulation of garbage in a place is of course related to environmental quality. Garbage that accumulates irregularly will reduce the quality of the cleanliness of an environment However, if the waste management in an environment is carried out properly, it will improve the quality of the environment, for example a decrease in the number of victims affected by diseases caused by garbage. Because according to the article written by Mitra Tarigan [2] from gaya.tempo.co, the bad effects of littering are diseases such as tetanus, hepatitis A, intestinal worms, dengue fever, food poisoning, skin infections, trachoma. There are also salmonella infections, shigellosis, gastroenteritis. Diseases such as hepatitis A and dengue fever are highly contagious.

The smart waste that I designed here will certainly improve the quality of waste management in an area. With this automatic trash lid opener, of course, there will be direct contact between the trash can and humans. Why avoid direct contact with trash? By touching any part of the waste, of course, there will be bacteria or germs attached, because the garbage is a nest for these objects. In addition, if we can monitor the fullness of our trash cans, the

trash will be more useful and the trash will not be scattered everywhere. Pear sensor will help me in dealing with people who come close to the smart trash I make.

I'll also be using the monitoring feature to help create this smart trash can. If we know our trash is full, then we'll throw it in the next trash can. What I often encounter is that when people see that the trash can is full and want to take out the trash, they will still throw the trash in the lid or around the trash, which causes a decrease in the cleanliness level of an environment. Therefore the monitoring feature here will be useful to complement this smart trash can.

1.2. Problem Formulation

Based on the above background, the formulation of the problem can be described as follows:

1. Can Fuzzy Mamdani help this tool in generating output with 2 parameters?
2. How accurate is the system in detecting the fullness level of this smart trash can?

1.3. Scope

1. Can be monitored accurately at any time.

2. Fuzzy logic can help this tool in giving a decision or an output value

1.4. Objective

Create automatic trash can open and monitor it remotely to improve waste management in the environment.