

CHAPTER 1

INTRODUCTION

1.1 Background

Many Indonesians chose dogs as friends to help them relax when they are exhausted. This behavior is quite typical in a frantic environment when individuals get bored and need something to keep them entertained. Cats and dogs are the most popular pets because their adorable behavior and soft fur make people believe that a cat or dog is the best choice for a pet.

Caring for animals is a difficult task. Of course, as an adopter, you must spend time to caring for your pet, especially since it is costly. The most basic but most crucial thing is to feed on a regular and portioned basis. If the pet's portion and feeding schedule are excessive, he or she will gain weight [1]. If the cat lacks, it will be malnourished and vulnerable to sickness. However, as adopters, we must also have other activities outside the home, which makes it difficult to handle pets at home, particularly if the adopter leaves the house within a few days, which will make it more difficult for adopters to control pets at home.

Because of the high activity level, an adopter may find it difficult to arrange pet feeding according to the portion and schedule. Feeding and serving schedules for various animals based on [1]. Feed the cat four times a day, starting in the morning, at intervals of several hours in cats aged 0 to four months. Feed cats aged 4 to 6 months up to three times each day. They can now sustain their nutritious levels for a longer period of time. Then, for cats 6 months and older, split their daily calories into 1-2 meals, or more, depending on the owner's and the pet's preferences.

The case of obesity in animals continues to increase due to the lack of knowledge of pet owners about the right portion of food for animals so overfeeding cases often occur and lead to obesity cases. Of course, this is no longer such a trivial problem when it comes to health problems in animals. Obesity in pets is one of the problems that are often experienced by pets who ignore their nutritional intake. Based on data obtained from Banfield Pet Hospital [1].

Therefore, through this tool, adopters no longer need to worry and be confused about how to provide food with a good pattern even though they have activities outside the home because this tool has been developed to regulate food portion weight and can fill animal food. lunch boxes according to a fixed schedule set

by the adopter so that pets can still eat according to portions and eating schedules without having to worry about bad things such as obesity or malnutrition in pets in the house.

The real-time clock functions as a pet feed control clock according to the clock set by the keeper. The servo motor acts as a valve opener so that the food in the storage falls onto the pet's food plate. Based on research [3], rotational motion using a servo motor is better than using other methods because it can avoid the possibility of food being caught in the container door. The use of Arduino UNO on this tool also functions as the main tool that controls the tool's work program. This tool is also equipped with an accumulator so that if the adopter leaves the house, the adopter does not have to worry anymore in the event of a power outage. This tool is designed to use a pet feeder accumulator that does not depend on PLN resources anymore.

The use of an accumulator in this tool is intended to handle a power cut, the pet feeder can still run according to its function, and if you want to leave the house when the electricity goes out to avoid the risk of fire, this pet feeder can still be appropriately applied.

Based on the problems above, the research entitled "AUTOMATIC CAT FEEDING MONITORING SYSTEM WITH ARDUINO MEGA 2560 - USING SENSOR HC-SR04 BASED ON THE INTERNET OF THING (IoT)" was obtained. With this research, it is expected to be able to schedule cat feeding using real hours in the hope of minimizing obesity cases in cat.

1.2 Problem Formulation

1. How to design and develop an Arduino Mega 2560 based on automatic feed tool?
2. How do automatic pet feeders work using a buzzer, a servo motor based on Arduino Mega 2560?
3. How does the automatic pet feeder system work using Arduino Mega 2560?

1.3 Objectives

1. To find out how to schedule a cat feeder using a real time clock(RTC).
2. To find out how to automatic cat feeders work using Hc-Sr04 ,a servo motor based on Arduino Mega 2560.

3. To find out how to design and develop an Arduino Mega 2560 based on automatic feed tool.

1.4 Scope of Works

1. Unlimited reading distance from the device to the application range while within internet coverage.
2. The software that controls the tool is called the blynk app.
3. Meal portions and time lag can be assigned to the owner.
4. Maximum pet food size 5mm.
5. For dry animal feed only, not intended for wet food.

1.5 Research Method

1. CHAPTER 1 : Introduction

This thesis discusses the background, problem formulation, problem boundaries and the objectives and systematics of final project writing.

2. . CHAPTER 2 :Basic Concept

This chapter contains an explanation of the basic theory, applications, and Tool.

3. CHAPTER 3 : System Method

This chapter contains the flowchart, algorithm, experimental diagram and the method.

4. CHAPTER 4 : Result and Analysis

This chapter contains work steps, test conducted, test result and analysis of the result of the test gained.

5. CHAPTER 5 : Conclusion and Suggestion

This chapter contains the conclusion and suggestion of this thesis.