

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE**

**AND TECHNOLOGY**

**DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING**

**BSc Electrical and Electronic Engineering**

**PROJECT PROPOSAL**

**PROJECT TITLE:**

**AUTOMATED FOOD DISPENSER FOR PETS**

**Submitted by:**

**MUKONESI BERNICE – ENE211-0235/2016**

**PROJECT SUPERVISOR**

**MR. KIVUVA**

*A Final Year Project Proposal submitted to the Department of Electrical and*

*Electronic Engineering in partial fulfillment of the requirements for the award of a*

*Bachelor of Science Degree in Electronics and computer Engineering.*

**JULY 2021**

**DECLARATION**

This project proposal is my original work, except where due acknowledgement is made in the text, and to the best of my knowledge has not been previously submitted to Jomo Kenyatta University of Agriculture and Technology or any other institution for the Award of a degree or diploma.

SIGNATURE………………………………………… DATE ………………………………

**NAME: REG No.:**

**TITLE OF PROJECT: AUTOMATED FOOD DISPENSER FOR PETS**

**SUPERVISOR CONFIRMATION:**

This project proposal has been submitted to the Department of Electrical and Electronic Engineering, Jomo Kenyatta University of Agriculture and Technology, with my approval as the University supervisor:

**NAME OF SUPERVISOR……………………… ( )**

**SIGNATURE: ……………………………… DATE: ……………………………………….**

**ABSTRACT**

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**LIST OF ACRONYMS AND ABBREVIATIONS**

1. AFD – Automated Food Dispenser
2. APPA - American Pet Products Association

**CHAPTER ONE**

**1. INTRODUCTION**

**1.1. Background Information**

“If you want a friend in Washington, get a dog,” advised the former U.S President Harry S. Truman. Pets have been human friends for the longest time possible since the ancient times. A pet is an animal that is kept for one’s entertainment or company, and has no functional purpose [1]. From early suggestions in Archeology, humans began rearing dogs as pets around 12,000 years ago. The love for these animals would be seen by the ancient Romans and Greeks who could engrave the animals on tombstones to show that they were grieving their loss. In the British empire, people around the seventeenth to eighteenth century viewed pet keeping as a “rich-man’s” way of life. However, through the years, the keeping of pets has been embraced by everyone. The choice to live with a pet varied from one person to the other and the reasons included aesthetic appeal and simply personal fascination of the animal. A study by APPA National Pet Owners Survey, 2020-2021, revealed that more than 60% of the households in most developed countries have a pet, which leads to a pet population of more than 140million. It is evidently clear that pets have a huge significance in most families, with some families treating pets as part of the family [2].

The evolution of pets can be grouped into different categories [3], with the initial hypotheses stating that the keeping of pets is an activity that enhances some qualities like health and social well being of the owner. In this study people who owned pets and had heart attack issues were noted to have a one-year chance of survival. Further, the hypothesis reveals that stress levels were minimal among pet owners and that these people had a higher life span [4]. The second theory defined that caring for pets gave one the ability to have parental skills. According to the study women are attracted to men with pets as proven by Guegen and Ciccotti (2008) who carried out the experiment [5]. The third hypothesis was also much like the second and suggested that people who cared for pets had empathy and parental skills which would make them better care for human infants. Keeping pets is a nurturant behavior that has evolved to cultivate sustained care of human infants [6]. Pet keeping, Serpell (2003), was as a result of anthropomorphism which was the tendency of humans to project mental states onto non-human species, which was dated back to the *Homo Sapiens.* When humans were made lonely they were inclined to think about their pets anthropomorphically [7].

The pet industry has been and is still one of the most essential industries in the market. Pets are kept for various reasons including entertainment, their appearance, intelligence and others due to their personalities. In a pet survey carried out in Ontario, 1994, most people owned pets for the sole purpose of “companionship” then followed by “love and affection” and those families that did not own pets did so due to “lack of time to effectively care” for the pets. The relationship between humans and pets has increased over the years [8]. Pets offer great companionship and have been noted to have a great contribution to the social health, well-being and even physical health of their owners. A further analysis demonstrated that some health issues including high survival rates from myocardial problems, reduced risk of cardiovascular problems and a reduced risk to asthma have been accredited to people who have pets. Other advantages attached to owning pets include reducing the events that lead to stress and sicknesses related to anxiety, leading to recovery from certain illnesses like stroke and cancer and overall keeping the owners entertained [9]. In addition, pets like dogs provide security hence enhancing safety.

Having seen the significance of pets, it is clear that the health of these animals is of equal important as that of humans. How an owner treats a pet determines its growth and overall well-being. The feeding program is especially a crucial factor in the life of pets as different pets have feeding programs. In a present study, 79% of dogs and 90% of cats fed on conventional food. 64% dogs and 46% cats were offered homemade foods which included raw food [10]. Pets that were fed on raw foods were prone to various nutritional illnesses while pets that were fed commercial foods had a higher chance of survival. Unconventional feeding practices led to nutrient deficiency and associated conditions. This led to the evolution of pet feeders, and the Kum-Pet Feeding Device for Animals was among the initial feeders to receive a patent on February 1947.

Despite the need to ensure a healthy feeding program for pets, most pet owners are quite busy therefore posing a serious problem on how the pet is reared, and becomes a challenge when the owner is a very busy person or needs to take a vacation. The AFD for pets seeks to solve this problem by giving the owner the ability to provide sustainable and efficient way of feeding his/her pet while being able to carry out other important duties and enjoy vacations void of any anxieties.

**1.2. Problem Statement**

Humans have grown fond of pets over the recent years and this has led to an increase in population of pet owners. Pets serve the purpose of entertainment to most people and therefore as a pet owner one has to efficiently take care of them. However, most of the people lack the proper knowledge on how to keep the pet healthy and especially when it comes to the food given to the respective pets. For instance, giving raw foods to dogs and cats will eventually have detrimental effects on the pet. Pets that feed on commercial foods have been noted to have a stronger immune system and a higher life span. In addition, most pet owners still do not know how much a pet should feed thereby end up underfeeding or overfeeding the pet, which may lead to death of the animal. This problem is either due to a dearth of the relevant information or also due to financial status of the individual

To some owners who are financially capable, time spent feeding the pet becomes an issue as they are very busy. Some of them forget to feed their pets due to the huge loads of work. Sometimes one will need to take vacation and as a result leave the pet unattended to. These hurdles will lead to an irregular feeding pattern to the pet and overall effect to its health.

**1.3. Project Justification**

The

**1.4. OBJECTIVES**

**1.4.1. MAIN OBJECTIVES**

**1.4.2. SPECIFIC OBJECTIVES**

**CHAPTER TWO**

**2. LITERATURE REVIEW**

**2.1.**

**CHAPTER THREE**

**3. METHODOLOGY**

**3.1**

Methodology is supposed to help any person interested in your work to be able to reproduce the work by following the exact steps that you followed in the implementation. This being a proposal, it should guide one into implementing the project

For the proposal, things like a block diagram, flow chart are expected.

**CHAPTER FOUR**

**4. EXPECTED RESULTS**

**DIVISION OF ROLES**

**(This page only applies to those in joint project)**

|  |  |  |  |
| --- | --- | --- | --- |
| STUDENT 1 NAME AND REG NO | | STUDENT 2 NAME AMD REG NO | |
| Proposal | | | |
|  | |  | |
| Implementation | | | |
|  | |  | |
|  |  | |  |

**BUDGET**

**(sample)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Description | Quantity | Rate | Amount |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 |  |  |  |  |
| 7 |  |  |  |  |
| 8 |  |  |  |  |
| 9 |  |  |  |  |
| 10 |  |  |  |  |
| 11 |  |  |  |  |
|  |  |  |  |  |
| TOTAL | | | |  |

**TIME-PLAN**

**(sample)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ACTIVITIES** | **SEP** | **OCT** | **NOV** | **DEC** | **JAN** | **FEB** | **MAR** | **APR** |
| **Documentation** |  |  |  |  |  |  |  |  |
| **Proposal Writing** |  |  |  |  |  |  |  |  |
| **Literature Review** |  |  |  |  |  |  |  |  |
| **Proposal Presentation** |  |  |  |  |  |  |  |  |
| **Design and coding** |  |  |  |  |  |  |  |  |
| **Hardware**  **configuration, testing and adjustment** |  |  |  |  |  |  |  |  |
| **Final Report writing** |  |  |  |  |  |  |  |  |
| **Final Presentation** |  |  |  |  |  |  |  |  |

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