DEVELOPMENT OF A LOW-COST PET MONITORING SMART DEVICE

THESIS

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ABSTRACT

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A study was conducted to develop a low-cost pet monitoring smart device. Specifically, it aimed to design and configure the pet monitoring smart device; develop an Android application to control the pet monitoring smart device; test and evaluate the performance of the pet monitoring smart device in collaboration with the Android application; and conduct a cost computation.

The study focused on providing an alternative way for pet owners to take care of his pet in his absence. The design greatly considered the use of an Android app for monitoring and automated feeding.

The design project was composed of Arduino Mega, wireless IP camera, router, ESP8266 WiFi module, load cell, override switch, ultrasonic sensor, sound sensor, capacitive proximity sensor, servo motor, mini mp3 module and speaker powered by a 5V DC 7A 35W power supply. The microcontroller board acted as the brain of the whole system which was capable of reading, interpreting and instructing commands.

The design project was subjected to technical, user and pet evaluation to determine its overall functionality, accuracy, responsiveness, dependability and user interaction with the developed Android app. Based on the results of the evaluation, the device was able to receive and send data and instructions as well as perform the tasks successfully. The Android application evaluation met the expected objectives. According to the participants,

the system is user-friendly, functional, reliable and accurate. The project was found effective since the pet was kept healthy and able to cope with his owner's absence.

The most significant recommendation was to design and construct a feeder that allows flexible portions to be delivered to prevent the pet from eating too much. The project cost was P 8,912.00.

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DEVELOPMENT OF A LOW-COST PET MONITORING SMART DEVICE

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INTRODUCTION

Pets or companion animals are animals that are kept primarily for a person's company or protection, as opposed to working animals, sport animals, livestock, and laboratory animals, which are kept primarily for performance, agricultural value, or research. People most commonly get pets for companionship, to protect a home or property, or because of the beauty or attractiveness of the animals.

Pets provide their owners physical and emotional benefits. Having a pet may also help people achieve health goals, such as lowered blood pressure, or mental goals, such as decreased stress. In addition to providing health benefits for their owners, pets also impact the social lives of their owners and their connection to their community.

Having a pet is rewarding, but it can be hard work as well. They depend on their owners for everything, such as nourishment, medical attention, exercise and safety.