UNIVERSITI TEKNOLOGI MARA

DESIGN, FABRICATION AND ANALYSIS OF AUTOMATIC CAT FEEDER

NUR FATIHAH BINTI MOHD ZAINUDDIN

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ABSTRACT

Automatic cat feeder is a project that target is to owner who has cats. People enjoy providing food and water to cats, but they frequently leave it on the floor or on the road. It appears to be done manually. Food and water become unsafe for cats to eat because of bug or contaminated environments. Cats are exposed to numerous infections because of abandoned food in this situation. Sometimes, the cat's owner is busy with their work and do not have at home. The objectives to design an auto cat feeder with several function such as a bowl to put in food and glass bowl with pump and injector to put in water. Next, to analyze how an automatic cat feeder functions in the daytime with timer. Automatic cat feeder will fabricate wall and door using aluminum composite panel (ACP) and acrylic board. It has 3 parts which is food part, wire part and drink part. The total size is 600mm x 800mm x 200mm. In the food part, it has food bottle made from plastic and container from ACP. In the wire part it has motor and timer. Finally, in the drink part it has water bowl (stainless steel) and injector (straw rode). The rotation is made from impraboard.. The expected result for this product is an automatic cat feeder can function well automatically. Lastly, the product provides a chance to cat lovers or people out there to give food and drinks to cats in a sterile environment.

Automatic cat feeder is a product that contains food and drink for cats. It has 3 parts which is food part, wire part and drink part. The material used to make this product is ACP, stainless steel, plastic. The total size is 600mm x 800mm x 200mm. It is use timer, motor and pump. Due to the cat's owner who is busy with their works and does not have so much times to feed their cat, can use this auto cat feeder to save their times. The uses of timer can arrange their times by setting up while the pump is used to moves fluids. It is done by converted electrical energy inti hydraulic energy. The drink part is looking like water fountain for cats while the food part use rotation that can rotate the food within the setup timer. This project intends to design, analysis and fabricate auto cat feeder that consume less power, food, water and time than feed the cat manually. This product expected can function well automatically. Lastly, the product provides a chance to cat lovers or people out there to give food and drinks to cats in a sterile environment.

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CHAPTER ONE
INTRODUCTION

1.1 Background of Study

People like to give cats food and water but oftentimes they just put it on the floor or road resulting in inefficiency and the food may become hazardous and messy if it is left unattended. Based on the analysis that has been made; suggest designing and fabricating an automatic cat feeder with a water tank to make it easy and safe to use. Otherwise, This product has a timer that allows it to work as an automatic food dispenser.

Automatic pet food dispensers and containers come in a variety of forms. Some are simple dishes with various feeding sections and coverings that retract, pull up, or otherwise release on a timer to allow cats access to the food. Others are larger tubs, jars, or canisters of food that will be released into a bowl in predetermined amounts on a predetermined timetable to feed the pet. A third type is a pet-operated dispenser, which cats can activate by pawing or nosing into the bowl, releasing more food or goodies[1]

This product has 2 parts which is the inner and outer part. The inner part is divided into 3 spaces which are food, drink, and an electrical or mechanical part. The food part that is categorized as the inner part uses the mechanical engineering concept which is rotation in dynamic. Next, it is used as an actuator like an electrical component such as a motor and timer to set the food out automatically within the set timer. Improved sensitivity during data gathering, practically lossless transmission, and continuous, real-time analysis are all advantages of timer. Processes are active and executed optimally thanks to real-time feedback and data analytics services[2]

Timer technology has evolved throughout time, resulting in today's smart and intelligent timer. Smart timer, unlike traditional analogue timer that have no active components, have electrical circuits that allow them to take measurements and output values as digital data. It can adjust open loop and close loop These timer have a variety of timing devices mounted atop a signal converter, as well as embedded Multiprocessor units[2]