

CANINE FOOD DISPENSER

GÓNGORA-FERNANDEZ ESLI, LANDERO-CHAN ZAYRA, MARROQUIN-MORALES BAUILLO, PACHECO-FARFAN IVETTE
210204004@ITSESCARCEGA.EDU.MX, 210204014@ITSESCARCEGA.EDU.MX, 210204008@ITSESCARCEGA.EDU.MX, IPACHECO@ITSESCARCEGA.EDU.MX
TECNOLÓGICO NACIONAL DE MÉXICO/ITS DE ESCÁRCEGA



ABSTRACT

In this project, the proposal is generated for the development of a prototype for feeding small breed canines that allows precise and programmable administration of food with the objective of presenting a tool that supports the health and well-being of pets.

BACKGROUND

Proper nutrition for canines is essential to maintaining their health and well-being. Small breeds of canines have specific dietary needs due to their size and type of metabolism.

Owners often face challenges in feeding their small canines as most of them are kept busy with their work or student life and even when the owners go on trips.

GOALS

GENERAL

Develop a food sensor for small breed canines that allows for precise and programmable food delivery, thereby improving the health and well-being of pets.

SPECIFIC

1. Design a compact food dispenser suitable for small breed canines.

2. Apply a sensorization system that allows precise measurement of the amount of food dispensed.

3. Develop a friendly user interface for programming and controlling the dispenser.

METHODOLOGY

RESEARCH AND ANALYSIS

BIBLIOGRAPHIC REVIEW
MARKET ANALYSIS
CONSULT WITH EXPERTS

01

DESIGN AND PLANNING

DEFINITION OF REQUIREMENTS
DEVELOPMENT OF THE SENSORIZATION SYSTEM
USER INTERFACE DESIGN

02

PROTOTYPE DEVELOPMENT

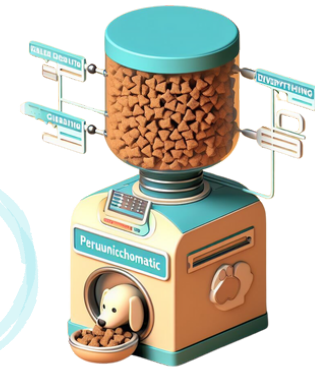
CONSTRUCTION PHASES
PROTOTYPE VALIDATION

03

IMPLEMENTATION AND EVALUATION

IMPLEMENTATION OF IMPROVEMENTS
EFFICACY EVALUATION

04



PRODUCT DEVELOPMENT

- **Functional Requirements:** Clear definition of essential functionalities for the food dispenser.
- **Dispenser Design:** Creation of a compact and stable design, considering accessibility for small breeds and storage capacity.
- **Sensorization System:** Implementation of precise technology to measure and dispense the exact amount of food.
- **User Interface:** Development of a friendly interface for programming and controlling the dispenser.
- **Construction Phases:** Sequential process from component selection to prototype integration and testing.
- **Prototype Validation:** Extensive testing to verify dispensing accuracy and compatibility with the nutritional needs of small breeds.

RESULTS

The expected result of this project is a functional prototype so that canines can feed in a simpler way and reduce dependence on the owner.

It is hoped to generate a marketable product through the creation of a small business whose mission is focused on offering a quality product at an affordable price to benefit the greatest number of canines.

CONCLUSION

In conclusion, the development of a food dispenser for small breeds involves careful consideration of multiple aspects: from the clear definition of functional requirements to the compact and stable design. Each phase of the construction process focuses on ensuring the efficiency and usability of the device. Implementing precise technology and creating a friendly user interface demonstrates a commitment to accuracy and accessibility. The construction phases involve from the selection of components to the validation of the prototype, giving the importance of a sequential and exhaustive approach. Ultimately, rigorous testing of the prototype not only verifies dispensing accuracy, but also its compatibility with the specific nutritional needs of small breeds, establishing a dispenser that meets the highest standards of functionality and user satisfaction.

REFERENCES

Eduardo, T. R. B. (2021, March 1). Design and construction of a prototype of an automatic food dispenser for canine or feline pets implementing sensors that allow an indicated amount of concentrate to be given. http://repositorio.uts.edu.co:8080/xmlui/handle/1234_56789/5481

Jiménez, D. L., Moreno, A., Perdomo, N. S. G., & Gómez, B. (2023). AUTOMATIC FOOD DISPENSER FOR SMALL BREED PETS. COLOMBIAN JOURNAL OF ADVANCED TECHNOLOGIES (RCTA), 2(38), 9-13. <https://doi.org/10.24054/rcta.v2i38.1271> Lucas, G. M. (2014). Implementation of a prototype of a food supply system for canines. <https://hdl.handle.net/11059/5622>

Stuart, C. R. L. (2022). Food and drink dispenser using the STM32 controller for canine pets. <http://dspace.ups.edu.ec/handle/123456789/23221>

Alexandra, V. T. E. (2019, October 2). Implementation of an automatic food dispenser prototype for domestic animals controlled by a mobile application. <http://repositorio.ug.edu.ec/handle/redug/45255>