

AUTOMATIC FOOD DISPENSER

ABSTRACT

Electronics revolutionize the world and simplify life. However, existing pet food dispensers provide minimal adaptability or user personalization. Despite their popularity, they lack functionality and have critical design flaws. Some continuously provide food by utilizing gravity. This results in overfeeding and, consequently, premature food depletion. Others prevent overfeeding by restricting the quantity dispensed per time period but lack any animal feedback. This risks waste and lacks adaptability.

The Automated Pet Food Dispenser (APFD) revolutionizes the pet industry and provides unprecedented food capacity and delivery capability, giving pet owners worry-free vacationing. Sensors and timers optimize functionality and reduce waste while improving reliability and usability. User-defined settings and customization gives the device adaptability to meet every customer's needs. Furthermore, a database is made where the device will send information concerning the food consumption after every month thereby allowing the user to know how much food is consumed thereby plan for future needs effectively.

REQUIREMENTS

In developing the APFD, the electronic components to be used are Ultrasonic ranging module, an LCD screen, servo motor and a microprocessor.

- At minimum, this device must deliver food to an animal automatically based on two primary factors: time and proximity. In practice, the device detects when the animal is near and waits for a specified time before delivering food again. After feeding the device also detects if the animal is still nearby, if more food is required
- The option to customize the duration of time between feedings.
- The option to customize the amount of food delivered
- The ability to display the following pertinent information:
 - a) Food remaining in the container
 - b) Time remaining until the next feeding
- Option to save and send overall information pertaining the feeding to a user database
- Finally, the product must be easily powered.