Pet Feeder Design Project

In today's society animal shelters are being put under a lot of pressure from unwanted pets. Some animals need a lot of care and manual feeding and care is becoming more labour intensive meeting animals dietary requirements and mistakes can be made impacting animals health and well being. To address this inefficiency an animal shelter has requested our service to design a low cost yet effective feeding mechanism that automates the feeding system tailored to the shelter's needs.

The primary goal of the project is to critically analyse the shelters needs and problem solve the concept and blueprint a design for a pet feeder. The system will be a digitally designed system that automates the food and weighs the food to meet the animals requirements and the consumption of food and alert staff when there is an error.

The report will consist of an analysis of the shelters needs and the pet feeder, design of how the pet feeder will operate and testing and further refining of the systems logic. Included will be a comprehensive flowchart and word code on the design of the pet feeder. The final design will test how reliable the pet feeder would be to meet the animal shelters needs.

PART 1

Problem Analysis

- Problem statement
- A local animal shelter is looking for a low-cost, programmable automated pet feeder that can:
- Dispense food for cats and dogs at scheduled times.
- Monitor whether food has been consumed or the amount of food that has been consumed.
- Alert staff if there's an issue (e.g., no food dispensed, food not eaten).

- Assumptions

Assume that at this shelter there is only cats and dogs
They all get fed at the same time
They all get fed the same amount of food and dietary requirements
There is staff on call 24 hours a day seven days a week

- Inputs and outputs
- **Inputs**
  - **Food**
  - **Sensor**
  - **Motor**
- **OutPut**

    - **Alarm data/information**
    - **Motor Board**
    - **Power Supply**
    - **Dashboard Menu**
- Simple sketch
- Block diagram