Automated Pet Feeder System

Background:

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).

Step 1: Understand and Define the Problem

The animal shelter requires a low-cost, programmable automated pet feeder system that can dispense food to cats and dogs at scheduled times, monitor whether the food is dispensed and consumed, and alert staff in case of any issues. The system should be designed logically so it can be simulated first and eventually implemented using simple components like servo motors and sensors.

Step 2: Organise and Describe the Data

- Features : Scheduled Feeding, Consumption Monitoring, Issue Alerts, Logging

- Input : Feeding schedule, Food quantity, Dispense Sensor, Consumption Sensor, Pet type

- Output : Motor Control signal, Alert notification, Feeding log

- Assumption: Feeding interval, Maximum food per feeding, Sensor monitoring Period, Alert response time

- Sketch: Start system → Check current time → Feeding time →verify dispensing → Monitor consumption → End