Assignment 1: The Solving Problem Process

PART 1: On the solving problem process

Step 1: Understand and Define the Problem

Design a low cost automated pet feeder system that can dispense food for cats and dogs at a scheduled time, monitor food consumption and alert staff if there are any issues such as no food is dispensed or food is not eaten by animals.

Assumptions
1. One feeder serves one animal at a time
2. For indoor use only
3. Availability of power supply
4. Staff checks alert regularly
5. Pet should eat within 10 minutes after dispensing otherwise alert is raised

Limitations
1. Limited memory of a system which can store only last 100 events
2. If network is unavailable, alert will be in queue

Inputs/Outputs
1. Inputs
    a. Current time
    b. Feeding schedule
    c. Food level sensor
    d. Bowl weight sensor
    e. Manual Feed
2. Output
    a. Motor control
    b. Alert notification
    c. Status display