# Step 1: Understand and Define the Problem (Analyse)

**Problem Statement**

The problem is the need of automated pet feeder system for local animal shelter which should be lost cost, programmable automated pet feeder to reliably dispense food to cats and dogs at scheduled times, monitor the consumption of food and alert the working staff if there is any issue such as no food dispense or food not consumed by pets.

So, my task is to implement low-cost components like a servo motor and sensors to design and simulate the logic and behavior of the system.

**Required Features**

* Allocate the food at scheduled times (e.g.: 8:00 AM & 6:00 PM)
* Detect food consumption using sensors
* Send alert for malfunction

**Inputs**

* Scheduled feeding time
* Food level in bin (food level sensor)
* Bowl weight before and after (weight sensor)
* Check time

**Outputs**

* Servo motor control to dispense food
* Alert notification
* LED indicator (status)

**Assumptions**

* Clock is accurate and reliable
* Basic sensor available
* Limited power capacity for storing logs
* Food bowl is cleaned or emptied each feeding
* Only one type of pet food is dispensed at a time

**System Block Diagram**

**A diagram of a system

AI-generated content may be incorrect.**