Step-5 (Test and Debug)

Let’s assume some tests using the step-4 solution:

1) If there is no food in the servo motor

Some assumptions

Let feeding time be 7 am or 5pm

START

Read the feeding time

If (Feeding time == 7 am or 5pm)

Read bowl weight

If (bowl weight >0)

Alert “Food is already in the bowl”

Else

Check the servo motor

Display “servo motor is Empty”

Alert “there is no food in the servo motor”

ENDIF

ENDIF

END

2) If the food was not eaten by the pets

Some assumptions

Let feeding time be 7 am or 5 pm,

eating period be 7 minutes,

fixed food amount be 85 grams

START

Read feeding time

If (Feeding time == 7 am or 5 pm)

Read bowl weight

If (bowl weight >0)

Alert “Food is already in the bowl”

Else

Check the Servo motor

Display “there is food in the servo motor”

Rotate Servo motor “Dispense 85 grams of food in the bowl”

Wait for 7 minutes

Check the bowl status and food level

If (bowl weight == 85 grams and food level == high)

Alert “the food was not eaten by the pets”

ENDIF

ENDIF

ENDIF

END

3) If the food was eaten by the pets

Some assumptions

Let feeding time be 7 am or 5 pm,

eating period be 7 minutes,

fixed food amount be 85 grams

START

Read feeding time

If (Feeding time == 7am or 5 pm)

Read bowl weight

If (bowl weight >0)

Alert “Food is already in the bowl”

Else

Check the servo motor

Display “there is food in the Servo motor”

Rotate the servo motor “Dispense 85 grams of food in the bowl”

Wait for 7 minutes

Check the bowl status

If (bowl weight << 85 grams and food level == low)

Display “the pet food has been eaten”

Store the data in the storage log

END

The above test shows the different scenarios where the pet eats the food or if it doesn’t, and the malfunction in the system if there is no food available to be dispensed. This idea helps us to visualize an automatic machine for dispensing food and overall keeping track of the pets. Also, some additional refinements that can be done to this system, like for e.g.:

* A manual button to dispense food should be added in case of any internal malfunction in the servo motor.
* A more detailed feature to check if a pet is sick by looking at their eating behaviour in the storage log and, alert the staff accordingly.

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