**Assignment 1: The Solving Problem Process**

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Unit: Introduction to Information Technology (8936)

## **Step 5: Test and Refine the Solution (Debug and Verify)**

Assumptions:

Feeding time is 6am and 8pm.

Food level is okay if food inside dispenser is >300g.

Food weight per meal for dogs is 200g.

Food weight per meal for cats is 120g.

Pet feeder for dogs is separated from pet feeder for cats.

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| **Test #** | **Scenario** | **Logic** | **System Refinements** |
| 1 | Pet eats as expected | The system will not wait for the next feeding time, and it won’t send any alerts to the staff. (Feeding time is okay, food level is okay, weight of food is correctly dispensed, pet has eaten within 10 mins). | The system may dispense to a limited number of bowls to feed not only 1 pet. |
| 2 | Pet does not eat | The system will send an alert to the staff if the initial weight of food is equal to the current weight of food. (Feeding time and food level is okay, weight of food is correctly dispensed, but pet has not eaten within 10 mins). | Can increase the waiting time and a button may be added for manual dispensing of food if pet is asleep during feeding time. |
| 3 | Food bin is empty | The system will send an alert to the staff if the Food level sensor checks that the food bin is empty. (Feeding time is okay, but if food level is below 300g, an alert will be sent to the staff to refill the feeder.) | The system should have a feature to check food level in bin before the feeding times of the pets. |
| 4 | Pet partially ate food | The system will send an alert to the staff with the amount of food eaten by the pet. (Feeding time and food level is okay, weight of food is correctly dispensed, but pet did not finish food.) | The system can be refined to dispense the amount of food needed based on what is left on the pet food bowl. |
| 5 | Weight of food dispensed is incorrect | The system will send and alert to the staff that the weight of food dispensed is incorrect. (Feeding time and food level is correct but wrong weight of food dispensed so an alert will be sent). | To add a feature to manually retry to dispense the food. |