**Step 5: Test and Refine the Solution**

Test Scenarios and Expected Outcomes

| **Scenario** | **Test Inputs** | **Expected Outputs and Behavior** | **Possible Refinement** |
| --- | --- | --- | --- |
| Pet eats as expected | Food dispensed, weight decreases | Feeding recorded successfully, no alert | None |
| Pet does not eat | Food dispensed, weight unchanged 10 min after | Alert "Food not eaten" on LCD | Add notification system for staff |
| Food bin empty | Food level sensor signals empty | Feeding not activated, alert displayed | Add sensor calibration to reduce false alerts |
| Food not dispensed | Servo motor activated, weight unchanged | Alert "Food not dispensed" displayed | Check servo motor and sensor calibration |
| Multiple feedings | Feeding config set for 3 times/day | Dispenses food accurately at all scheduled times | Optimize power consumption |