# 

DEBUG AND VERIFY

### **Step 5 — Test & Refine (Debug and Verify)**

#### **Scenario 1: Pet Eats as Expected**

**Assumptions:**

* Dispenser functioning correctly
* Scheduled feeding at 08:00, current time 08:00
* Food level OK
* Pet eats within 20 minutes
* Current bowl weight: 78 g

**Test Output:**

* Start device, verify dispenser operation → working
* Display current time and food level → 08:00, 500 g
* Scheduled feeding time matches → proceed
* Check food level → sufficient
* Dispense 10 g → bowl weight reaches 98 g
* Start 20-minute timer → bowl weight drops below 75 g → log event
* Loop to next feeding cycle

**Logic Discussion:**

* Verify dispenser, feeding schedule, and food level
* Dispense correct portion to avoid overfill
* Monitor consumption → log if eaten
* Loop back for next scheduled cycle

#### **Scenario 2: Pet Does Not Eat**

**Assumptions:**

* Same as Scenario 1
* Pet does not consume food, bowl weight remains 88 g

**Test Output:**

* Steps 1–5 same as above
* Wait 20 minutes → bowl weight >75 g → alert: “Food not consumed”

**Logic Discussion:**

* Monitor consumption; if uneaten → trigger alert
* Ensure logs capture failed consumption for review

#### **Scenario 3: Food Bin Empty**

**Assumptions:**

* Dispenser functioning
* Scheduled feeding at 08:00, current time 08:00
* Bin empty

**Test Output:**

* Start device, verify dispenser → working
* Display time and food level → 08:00, 0 g
* Check bin → empty → alert: “Food level low/empty”
* End process

**Logic Discussion:**

* Verify dispenser and schedule
* Check bin level; alert immediately to prevent underfeeding

### **Additional Features & Refinements**

* Estimate remaining meals: total\_food\_g / portion\_g
* Alerts via push notifications, SMS, or email
* Store logs on cloud for long-term access
* Enable sleep mode when idle to save battery
* Retry dispensing once if partial feed detected
* Hygiene timer for removal of uneaten food

### **Comparing Expected vs Actual Outcomes**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Expected Outcome** | **Actual Outcome** |
| Pet eats | Food eaten, logged, next feeding | Food eaten, logged, next feeding |
| Pet does not eat | Alert after timeout | Alert sent after 20 min |
| Food bin empty | Immediate alert | Alert sent immediately |
| Partial dispense/jam | Alert | Alert sent |