Step 5: Test and Refine the Solution (Debug and verify)

Test Case 1 — Normal feed & pet eats

- Inputs: Bin=OK; pre bowl weight = 0 g; after dispense bowl weight = 80 g (target weight). After 30 mins, bowl=5 g (decrease 75 g).
- Expected: SUCCESS, later ATE_OK.
- Result: Pass.

Test Case 2 — Low bin

- Inputs: Bin=LOW.
- Expected: Do not run motor; LOW_BIN alert.
- Result: Pass.

Test Case 3 — Pet does not eat

- Inputs: pre=0 g; post=80 g; after 30 min bowl still ≈75–80 g.
- Expected: NOT_EATEN alert.
- Result: Pass; owner can investigate health or taste issues.

Improvements after testing

- Add battery/Power-loss alert.
- Add retry option for certain issues in the system.
- Add quiet hours to avoid noise at night.
- Allow system to check for motor jam and alert staff.
- Add log system to maintain logs and check later.