Step 2: Organize and Describe the Data

Category	Type	Sample value	Constraints
Real time clock (RTC)	Inputs	08:00, 11:00, 14:00	Battery dependent, may drift ±2 sec/day, requires reset after power failure
Weight sensor	Inputs	Dispensed: 150 g, Remaining after 30 min: 0 g	Accuracy ±2 g, max capacity 2 kg, sensitive to vibration & environmental factors
Feeding schedule(pre-programmed)	Inputs	Cat: 80 g at 08:00, Dog: 200 g at 11:00	Limited schedule slots in low-cost microcontroller memory
Network Connectivity (Wi-Fi/GSM)	Inputs	Connected, Disconnected	May fail in weak signal areas, delays in notification
Motor Control	Outputs	Motor ON for 3 sec → Dispenses 80 g	Jammed if run >5 sec without change in weight
Display/LED indicators	Outputs	Green = Feeding OK, Red = Error, Yellow = Low Food	Limited LED codes (only 3–4 conditions can be shown)
Alerts (App/Buzzer)	Outputs	Push msg: *"08:00 feed not dispensed"*	Delays if network unstable, buzzer may disturb animals
Data Logger	Outputs	08:00 → 80 g dispensed → 80 g eaten	Limited memory (e.g., last 30 days only), requires overwrite policy