**Step 2: Organizing and describing the data**

**Table 1: Inputs**

Here is the organized data table for the various inputs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.N. | Input | Type / Unit | Sample Value | Operational Constraints |
| 1. | Current Time | HH:MM (24hr) | 08:00 | Time zone is fixed |
| 2. | Feeding Schedule | List of times | [08:00, 18:00] | Configured by staff |
| 3. | Pet Type | {cat, dog} | Cat | Used to select portion size |
| 4. | Food Level Sensor | % (0-100) | 60% | Low threshold = 15% triggers alert |
| 5. | Bowl Weight Sensor | Grams | 320 g | Max 1000g |
| 6. | Manual Override Button | Boolean | 0 | Dispense once if pressed and bowl not empty |
| 7. | Reset / Acknowledge Input | Boolean | 0 | Clears current alerts |

**Table 2: Outputs**

Here is the organized data table for various outputs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.N. | Output | Type / Unit | Sample Value | Operational Constraints |
| 1. | Servo Motor Command | Degrees / Seconds | 90° rotation for 1 s | 1 portion per cycle |
| 2. | Alert Message | Text / Signal | “Pet not eating” | Sent after 10mins with no consumption |
| 3. | Low Food Alert | Text/Signal | “Bowl Low” | Triggered if bowl < 15% before feeding |
| 4. | Data Log Entry | Record | {time, pet, portion, status} | Saved locally or to cloud for review |

**Table 3: Operational Parameters**

Here is the organized data table for operational parameters.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S.N. | Parameter | Type / Unit | Default | Range | Notes |
| 1. | Portion Size (Cat) | Grams | 80g | 50-100g | 1 servo rotation may equal ~80g |
| 2. | Portion Size (Dog) | Grams | 100g | 80-200g | Larger dogs may require 2 rotations |
| 3. | Low Food Threshold | % | 15% | 5-30% | Triggers pre-feed alert |
| 4. | No-Eat Time Window | Minutes | 10min | 5-20min | Time allowed before sending “not eating” alert |
| 5. | Consumption Threshold (Cat) | Grams | 40 g | 20-70g | Difference between pre/post weight |
| 6. | Consumption Threshold (Dog) | Grams | 80g | 50-130g | Difference between pre/post weight |
| 7. | Max Dispense Retries | Count | 1 | 0-2 | Retry if dispense fails |
| 7. | Max Daily Feeds | Count | 2 | 1-4 | Safety limit per day |
| 8. | Bowl Capacity | Grams | 600g | 300-1200g | Prevents overflow |