**Step 2:** **Organise and Describe the Data**

**Input Types**

* **Real-time clock to keep track of current time.**
* **Food level sensor inside the dispenser to detect remaining food.**
* **Weight sensor under the bowl to monitor food consumption.**
* **Manual feed request input from user (e.g., button press).**

**Expected Outputs:**

* **Servo motor control to rotate and dispense food.**
* **Alert system (Buzzer) to notify low food levels or feeding errors.**
* **Display output to show food level status and next scheduled feeding time.**

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| --- | --- | --- | --- | --- |
| **Variable** | **Type** | **Units** | **Sample Values** | **Notes /Constraints** |
| **Feeding time** | **Input** | **Time** | **08:00, 12:00, 18:00, 21:00** | **Up to 4 scheduled feedings per day** |
| **Food level status** | **Input** | **Boolean** | **TRUE (means food available), FALSE** | **Alert if food level below 10%** |
| **Bowl weight**  **(weight sensor)** | **Input** | **Grams** | **0g to 300g** | **Detects if pet has eaten (weight increase)** |
| **Uneaten Food** | **Output** | **Buzzer** | **Buzzer sound** | **Triggers** **if no weight decrease after 10 min** |
| **Servo motor control** | **Output** | **ON/OFF** | **ON (will dispense food), OFF** | **Dispenses a fixed portion of food** |
| **Alert signal** | **Output** | **Buzzer** | **Buzzer sound** | **Triggers on low food or feeding error** |
| **Display info** | **Output** | **Text** | **“Food: 50% (Remaining food)”, “Next feed: 18:00(next feeding time)”** | **Updated in real-time** |