**Automated Pet Feeder**

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

* Features: scheduled feeding times, an alert system, and monitoring food level in the pet bowl.
* Inputs: weight sensor, clock, food level sensor in the feeder (whether there is food in the feeder or not).
* Outputs: rotate servo motor, alert system to alert the staff, and logs to store data.
* Expected outputs: the feeder feeds the pet at the set time, and monitors the food weight in the pet bowl. If the weight did not change, it will alert the staff.
* Assumptions: only one type of pet food, limited memory, dry food only, limited food in the feeder.

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| --- | --- | --- |
| **Parameter** | **Type** | **Example value** |
| Is it Feeding Time? | Decision | 8:00 am or 18:00 pm |
| Is there a change in the weight of the bowl? | Decision | 0g or 500g. |
| Is there food in the feeder? | Decision | Full/sufficient/low. |
| Servo motor | Output | Rotate for 3 seconds. |
| Alert system | Output | Beep/flash. |

Inputs table:-

|  |  |  |  |
| --- | --- | --- | --- |
| **Input** | **type** | **Example value** | **Operational constraint** |
| Time | Continuous variable (clock) | 8:00 am or 18:00 pm | ±1 min accuracy; battery backup for time |
| Weight sensor | Continuous variable(Digital) | 0g or 500g | Range 0–5000 g; check every second; ±5 g accuracy. |
| Food level sensor | Continuous variable(Digital) | 0%(empty), 50%(half), 100%(full). | Range 0–100%; update every minute; low food <20%.. |

Outputs table:-

|  |  |  |  |
| --- | --- | --- | --- |
| **Output** | **type** | **Example value** | **Operational constraint** |
| Servo motor | Output | Rotate for 3 seconds | Rotate 3 seconds, stop if jammed. |
| Alert system | Output | Horn/buzzer/LED | Send within 1 min; retry if it fails. |
| Log/display | Output(Data entry) | “Fed at 8:00 am” | Save time, action, and result; store recent events. |