Step 2: Organise and Describe the Data

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| **Inputs** | **Operational Constraints** | **Outputs** | **Operational Constraints** |
| Feeding times | Max four times a day | Servo Motor Activation | Runs only if feeding conditions are met |
| Weight Sensors | Reads every five minutes after feeding | Alert notification | Sent in under fifteen minutes after the scheduled feeding |
| Food level Sensor | Minimum 15% required to start the machine | Display of feeding status | Updates every ten seconds |
| Pet Type | Must be set in system configuration | Log feeding events | Stored in daily log file |
| Real-time clock reading | Must sync daily |  |  |
| Manual feed command | Only if food level is low |  |  |

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| **Variables** | **Type of Variable** | **Example** | **Operational Constraints** |
| Time | Discrete | 12pm | Constantly updated |
| Bowl weight before feeding | Continuous | 90 grams | Reads before feeding time |
| Bowl weight after feeding | Continuous | 0 grams | Reads every five minutes after feeding |
| Feeding times | Discrete | 9am, 12pm | Max 4 times a day |
| Type of pet | Discrete | Cat, Dog | Must be set in system configuration |
| Food level | Discrete | Full, low, empty | Minimum 15% required to start the machine |
| Alert status | Discrete | Empty, Not Eaten, OK | Cleared after staff comes to check |
| Manual staff override | Boolean | True, False | Requires staff confirmation |
| Has pet eaten | Discrete | Completed | Pending, completed, error |