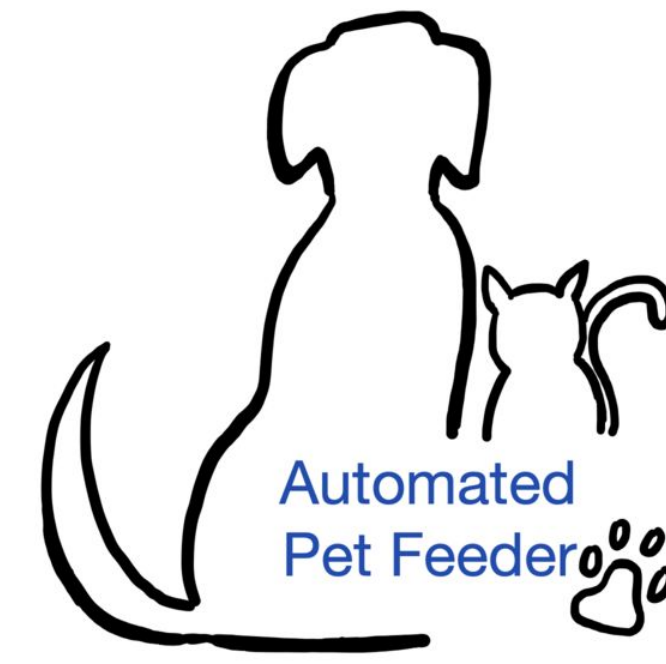
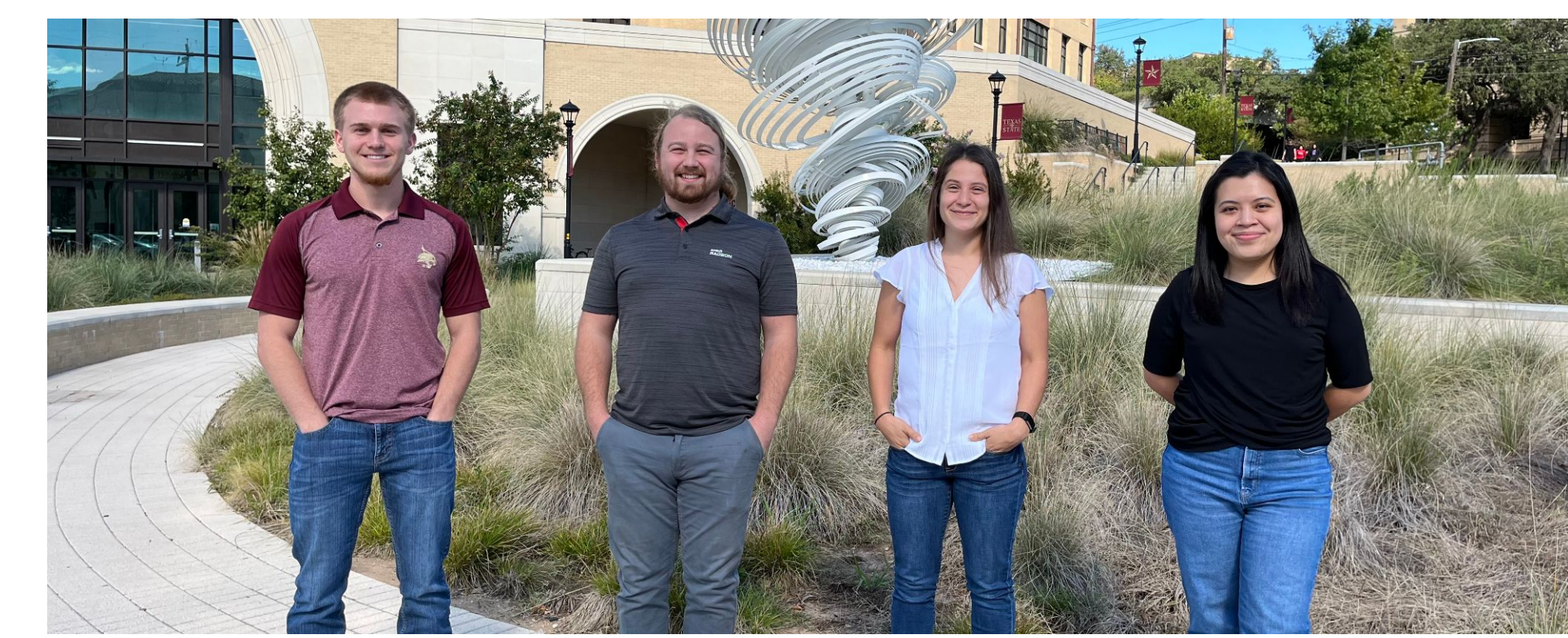


E1.04 - Automated Pet Feeder

PM: Nicolas Briggs
 Rosemary Perez



Victoria Ticheli
 Barton Maupin



Nicolas Barton Victoria Rosemary

Requirements

- Must distinguish between at least 2 pets and open appropriately
- Must be able to support at least 2 pets approaching at once
- System must alert user if food level drops below minimum level
- User must be able to adjust minimum food level in the reservoirs
- Must have a backup battery

Motivation

- To allow busy people to keep up with a feeding schedule for their pets
- To help prevent pet obesity by portioning food
- To allow for feeding more than 2 pets unlike many feeders on the market

Artist Rendering

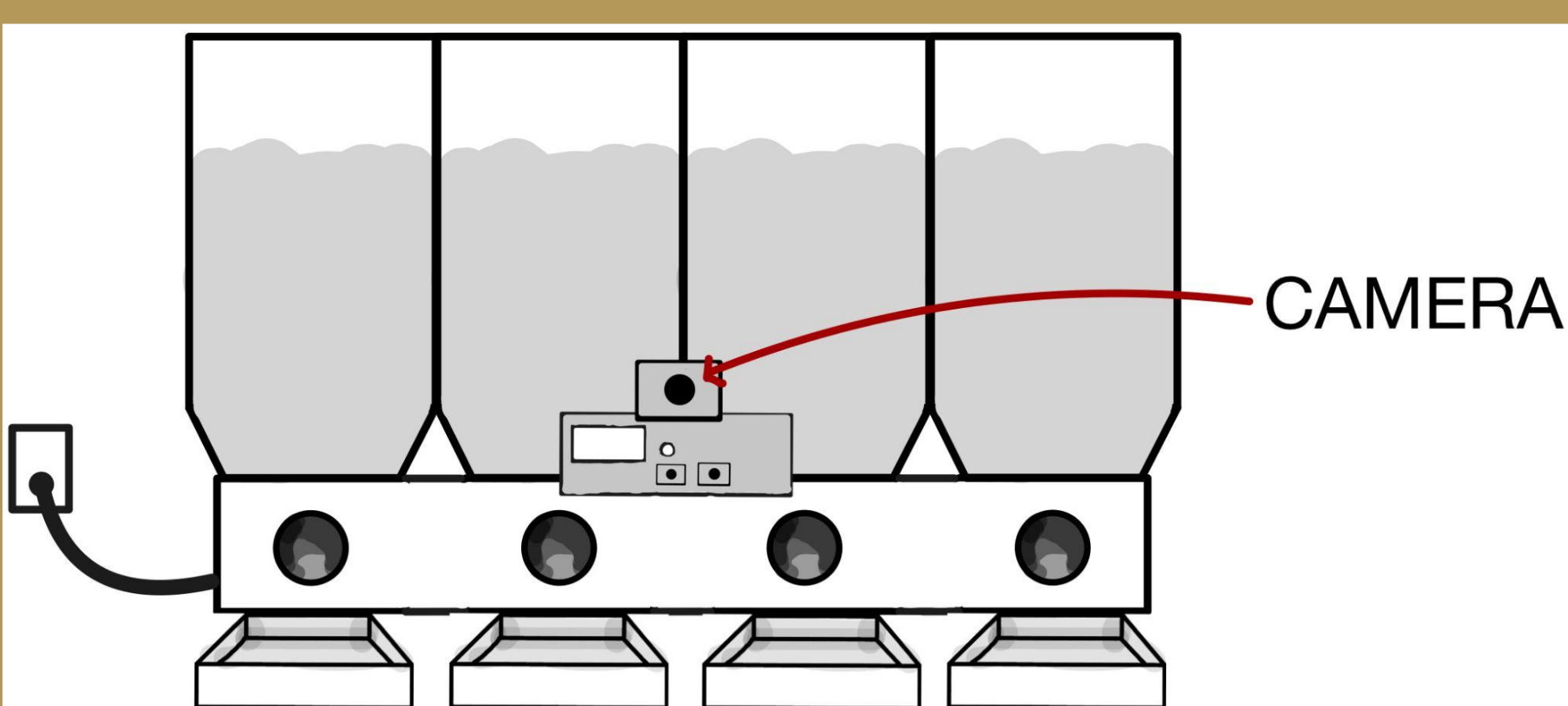


Figure 1: Initial proof of concept of the project

Design

Our project is an indoor automated pet feeder that will feed common household pets their food with specified controlled portions. The feeder will differentiate multiple pets in a single household. It will also record the time of each feeding along with current malfunctions and notify the user through SMS texts and emails. Automating monotonous tasks is important to our sponsor because of her busy lifestyle.

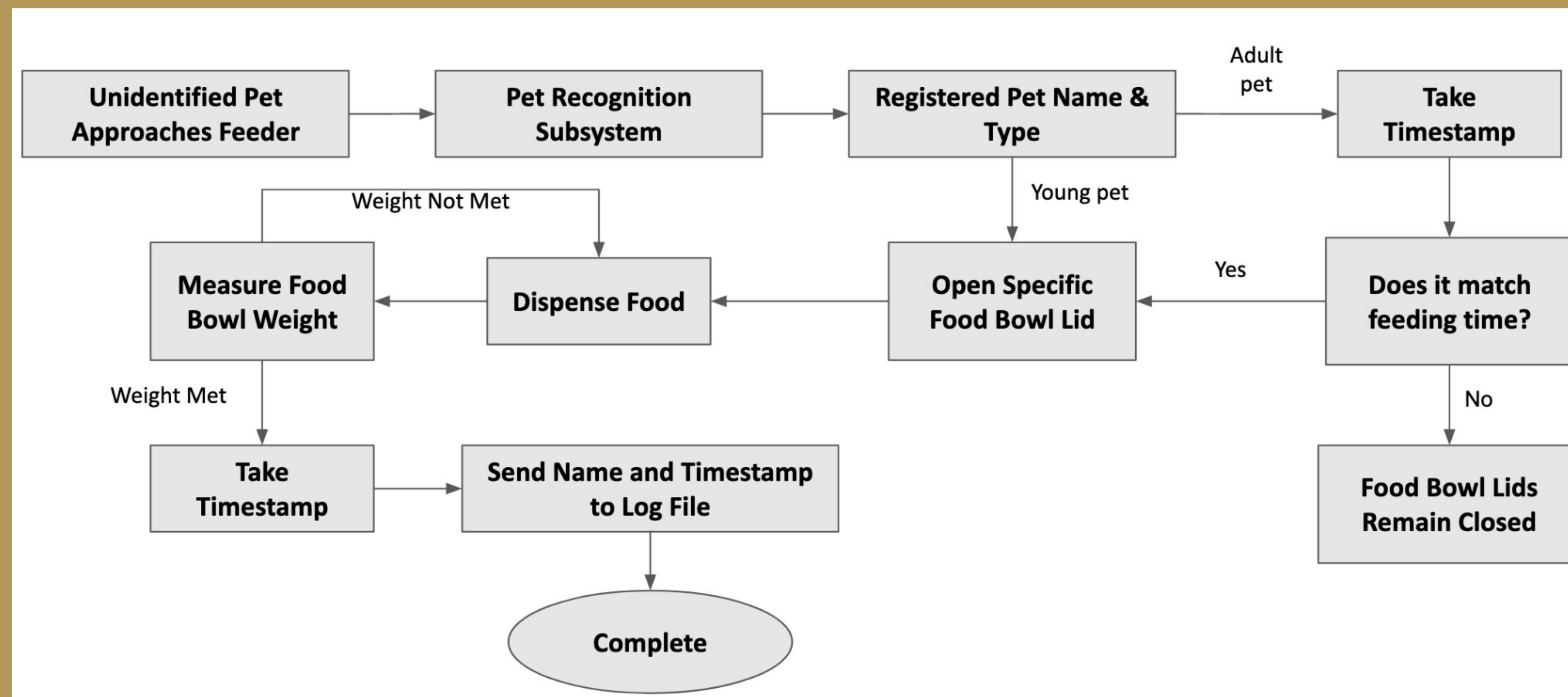


Figure 2: Shows a high level software flow of the entire project

Camera Recognition

- Camera vision to measure different facial structures
- TensorFlow libraries used to train models

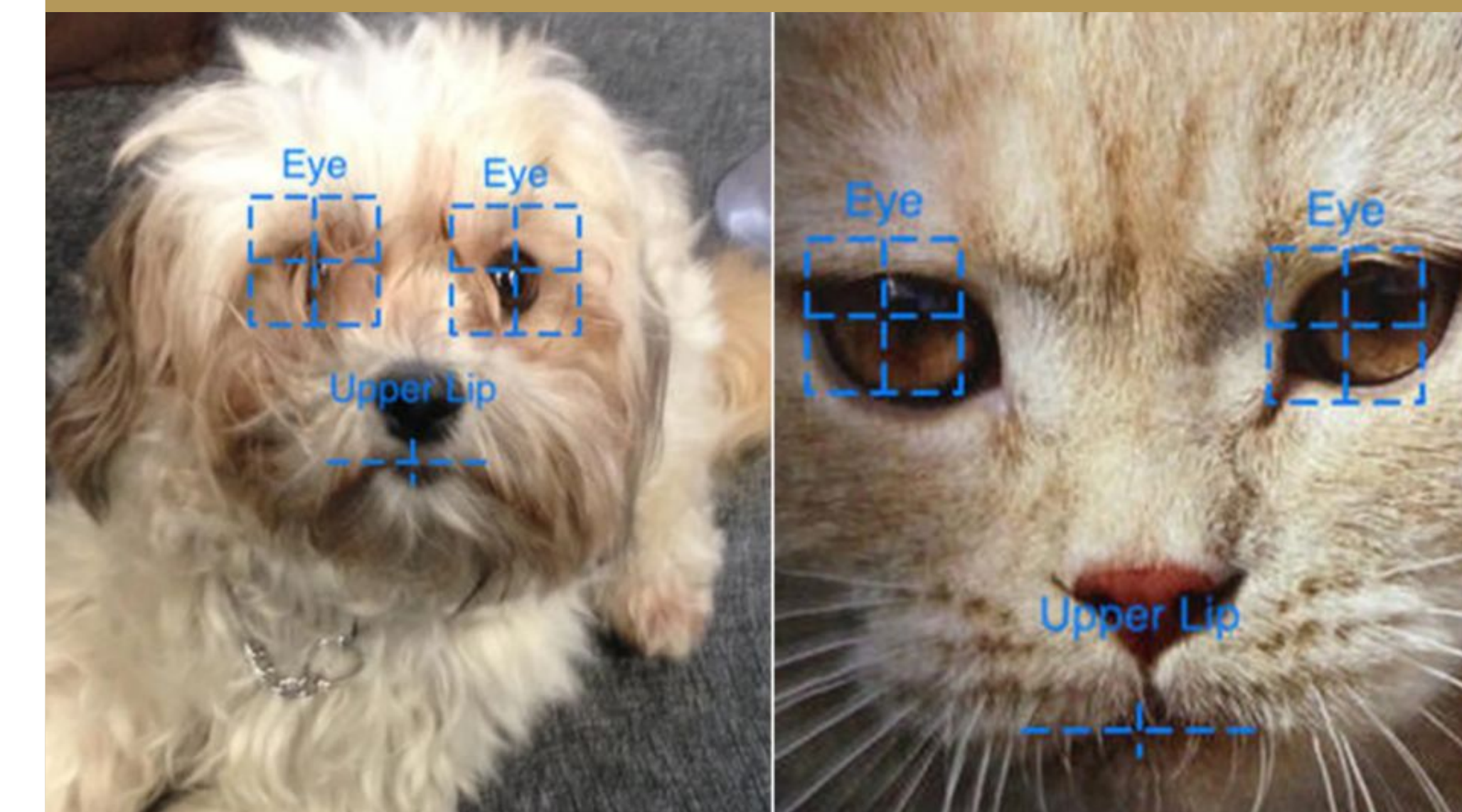


Figure 4: Nodal points used in facial recognition technology

Future Plans

- Unit testing of all individual subsystems
- System Integration Testing
- System Level Debugging
- Present to other seniors for the final design review
- Present a full working feeder to everyone at senior design day

Stretch Goals

- Measure how much food each pet has eaten
- Create 1 method of communication between user and system

Acknowledgements

- Instructor: Lee Hinkle
- Faculty Advisor: Mark Welker
- Sponsor: Diane Welker

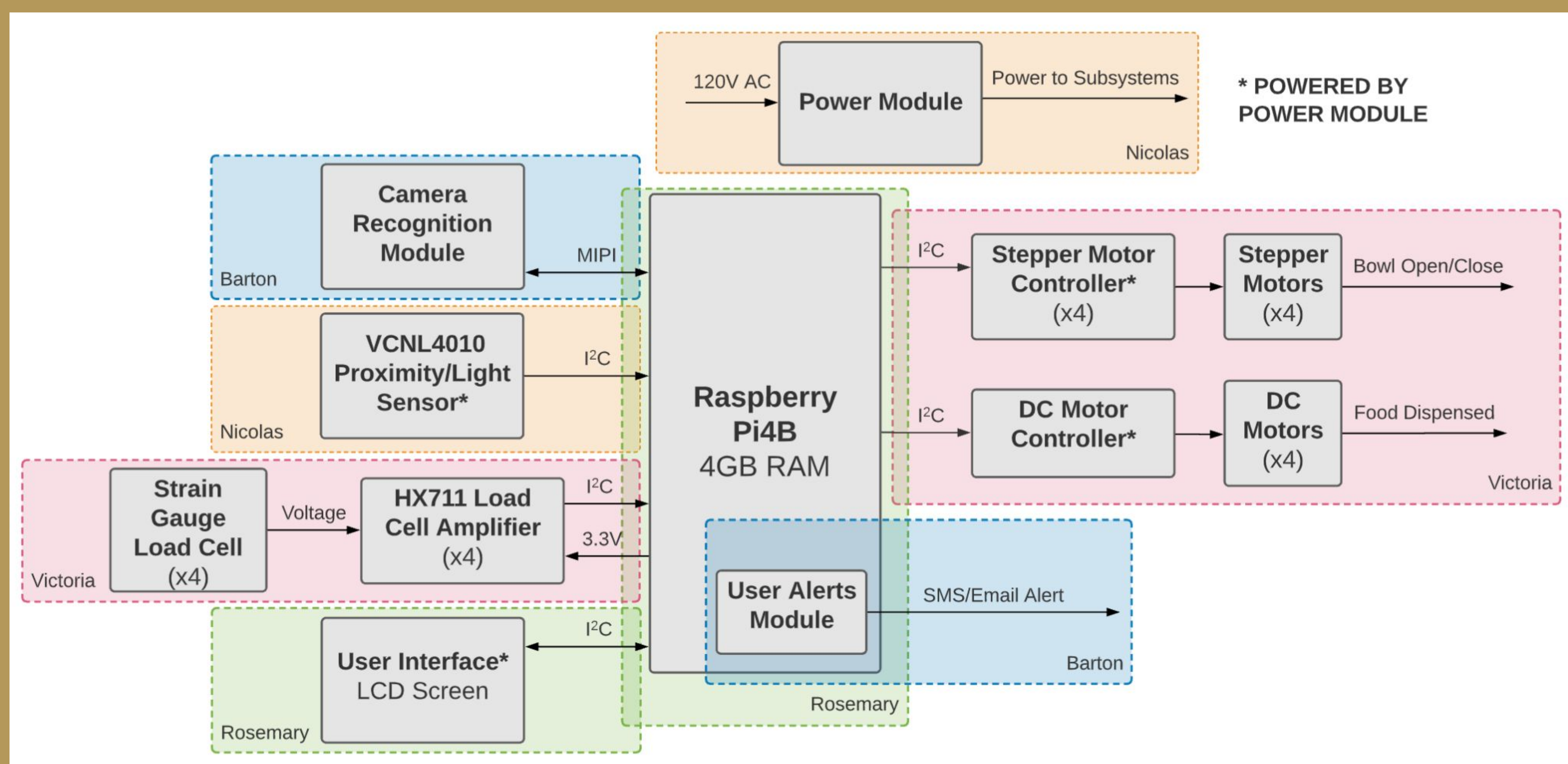


Figure 3: High level block diagram showing individual subsystems

