

Team 14 Contract Fulfillment

Project Goals: At the beginning of the semester, our team proposed to design and build an automatic feeder for outside dogs, that is solar powered and personalized by RFID communication and user input. Our goal for this project in particular, is to meet three essential high-level requirements: reliably dispense a pre-set amount of food on schedule, use an RFID tag to identify pet and control access, and consistently operate from battery bank and sustain through solar power. At this stage, we believe we are most likely to meet the first two high-level requirements as we have our RFID communication working over a reliable distance, and the stepper motor can also be driven on command with the microprocessor. However, we have not figured out solar power management.

Expectations: Our expectations stated in our team contract are to be prepared, participate, give feedback, be responsive to each other, be willing to work, and committed. Our team has strived to be prepared for the assignment deadlines and weekly TA meetings. All teammates have participated in the project design and completion of the assignments. We also provided each other with opinions, advice, and questions that aided in the improvement of our design. Our team has improved with responsiveness to one another, as communication was a brief issue due to other courses that interfered. Lastly, our team believes we were all committed to the completion of our project, therefore, willing to work and seek help if needed. In all, we have followed our expectations from the beginning of the project to now.

Roles: Throughout the semester, our roles evolved slightly based on our strengths and the project's needs. T'Andra continued to lead the programming and controls design, Kevin maintained his leadership role in PCB design and testing, and Lucas remained the lead for circuitry and mechanical design. While we didn't have a designated overall leader, we collaborated closely on key decisions. We tackled certain aspects individually for efficiency but always came together to ensure integration and coherence across all components. Individual tasks were assigned based on expertise, ensuring a more streamlined approach and leveraging each member's skills effectively.

Agenda: We made decisions through collaborative discussions considering each member's expertise. A lot of the goals were set forth during TA team meetings. Our main goals were focusing on functionality, and user-friendliness. We prioritized interfacing the nucleo dev board with the peripherals needed for the high-level requirements; So, when we complete soldering of the pcb it will be less difficult to troubleshoot if problems arise. We planned to fix things usually by group brainstorming.

Team Issues: There were not many team-related issues that our team encountered. As mentioned earlier, responsiveness was a brief issue from all teammates, caused by other courses and personal situations, such as illnesses. This interfered with our communication, meeting times, and caused some of the class assignments to not be completed to the best of our abilities. We followed our suggested process to handle a situation like this: talked with one another about improving our communication as the projects' completion time is limited. Our responsiveness to one another and the course' assignments has improved. Though, some things that could have been done differently are discussing our schedules and issues prior, so that we can plan ahead and stay on track of time.