Automatic Pet Feeder

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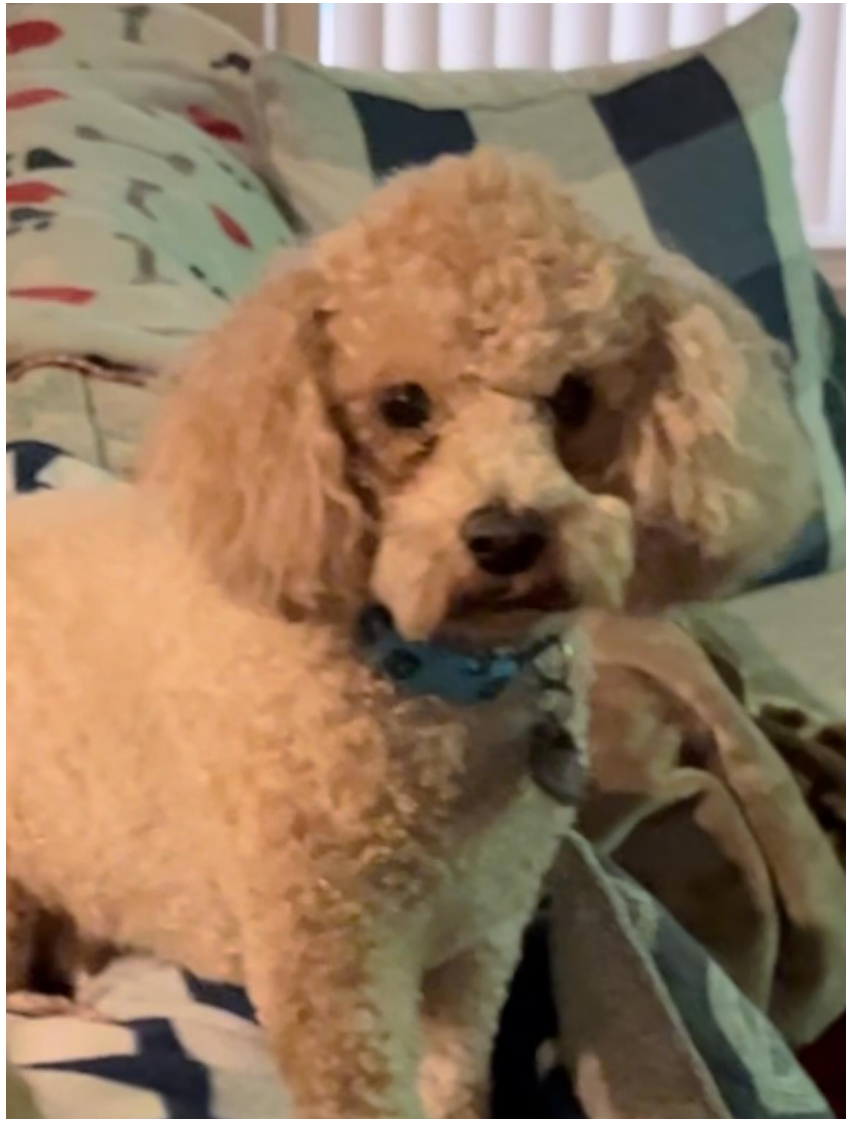
INTRODUCTION TO ELECTRICAL & COMPUTER ENGINEERING

The University of Texas Rio Grande Valley



1. Introduction

Our project is designed to address the problem of owners over/underfeeding pets due to being busy or forgetful. This problem can be prevalent in ordinary pet owners, animal shelters, and even zoos. An automatic pet feeder allows the owner to save time by setting the feeding time only once, then only needing to fill the feeder with food when necessary.

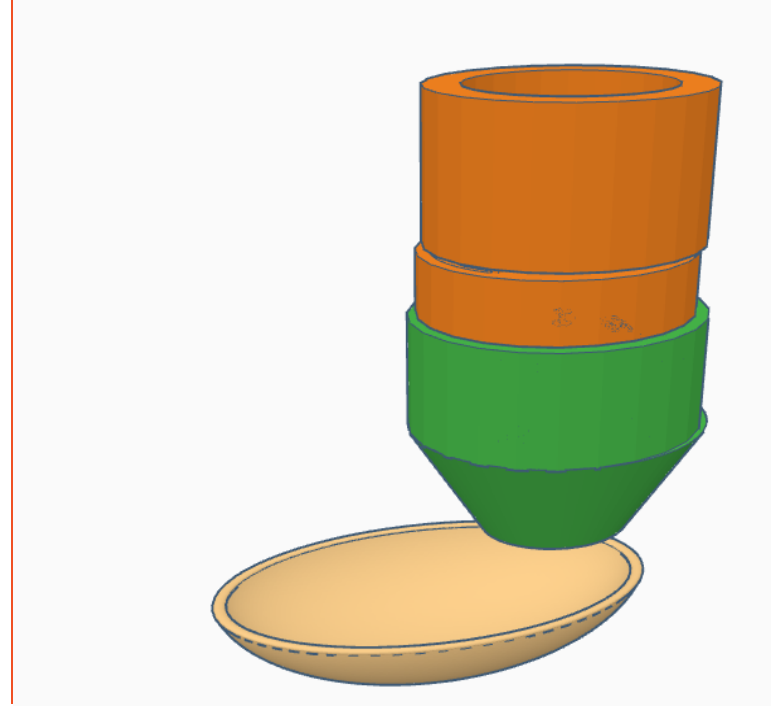
2. Description of the Product

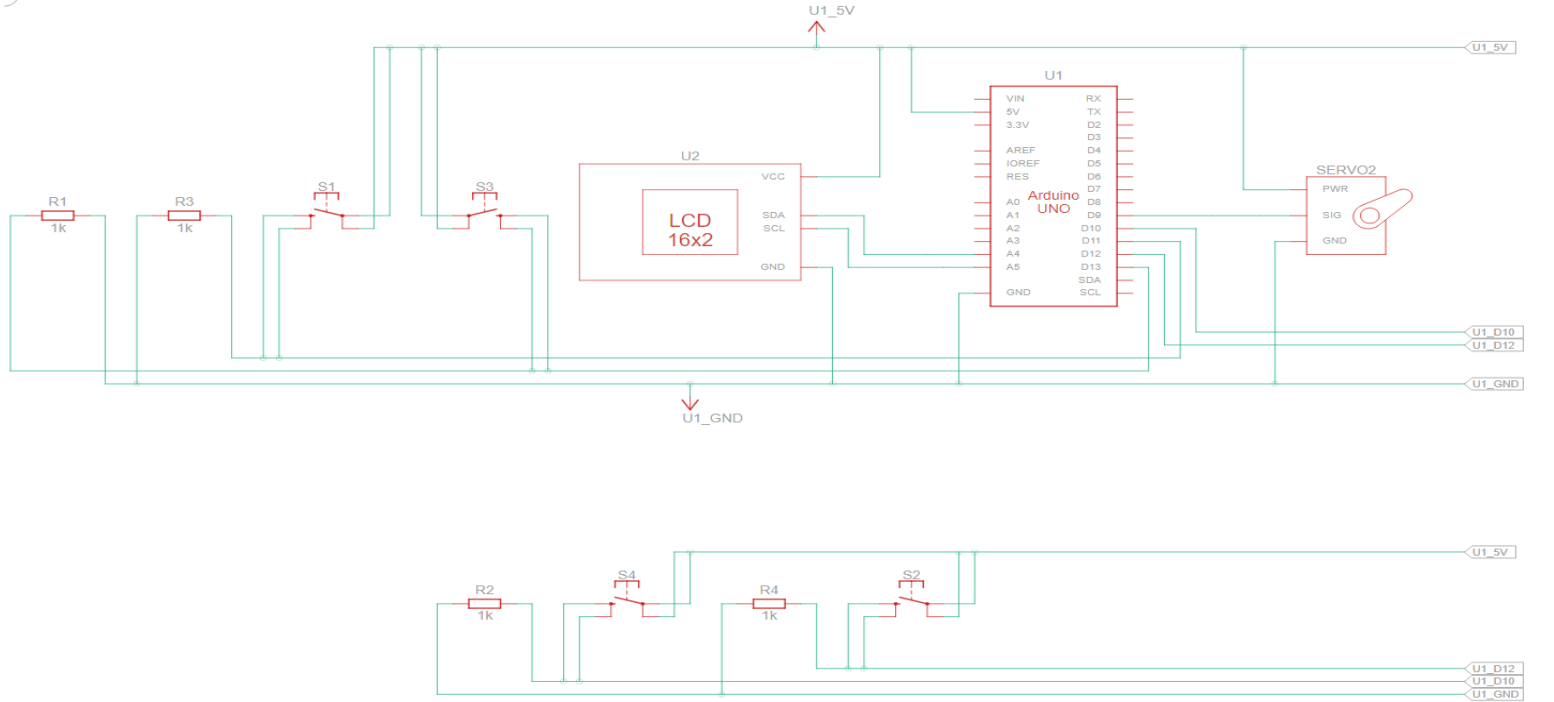
Our project is designed to produce results similar to current automatic pet feeders that are currently on the market for a fraction of the price. Our feeder has a screen that presents a menu allowing a pet owner to set a feeding time, how much food is dispensed from the pet feeder, and the current time. The servo acts as the mechanism that would spin internally in an automatic pet feeder, allowing food to drop as it spins. Utilizing the buttons as controls for the screen allows the pet owner to move throughout the menu.

3. Operation of the Product

The structure of the pet feeder is made up of 3 parts

- Top part acts as a hopper
- Middle part moves the food and acts as a collector and dispenser
- The bottom part acts as a dispense/funnel area.





4. Development

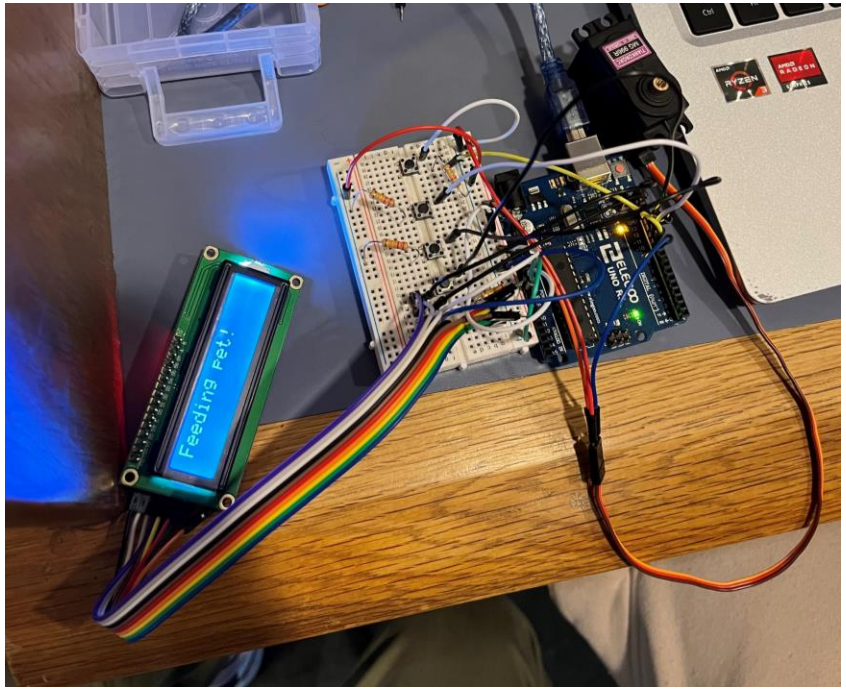
We initially evaluated solutions for our problem and opted for an automatic pet feeder. Following that decision, we identified and acquired the necessary components. Subsequently, we designed a circuit and wrote code to ensure the proper functionality of the chosen parts.

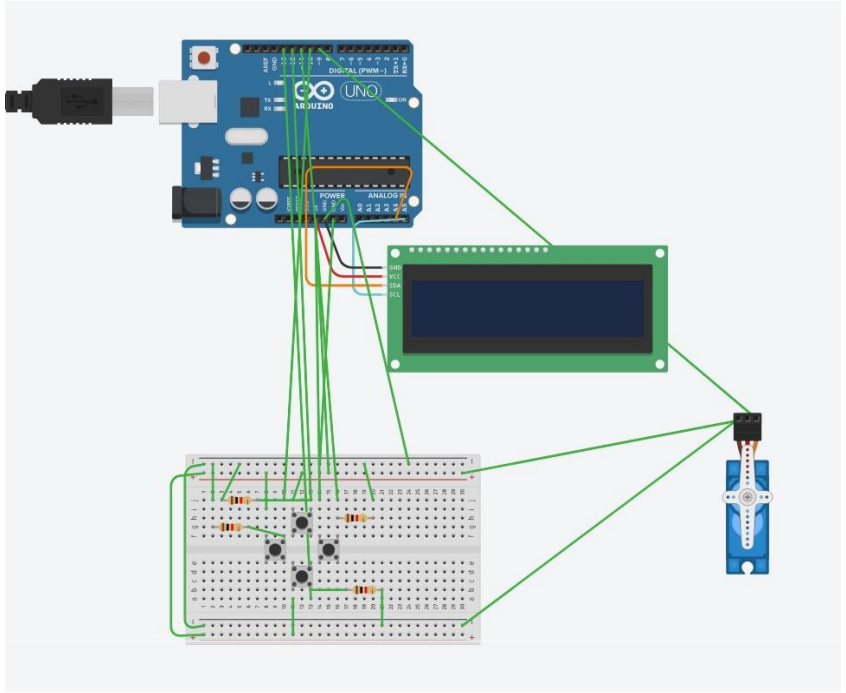
Issues

- The first large problem we had was that our LCD I2C wouldn't display anything.
- Another problem we ran into was implementing a joystick into the product.

Changes

- We changed the joystick into a button system that serves the same function and provides a more consistent result.





5. Results

In the final product, the project had every component functioning as intended using both the code and circuitry to create the automatic pet feeder. The working project will now be shown displaying our resulting work.

Questions and Answers