

This project was done, because many elderly people or people with physical problems find it difficult to feed their dog and in the correct amount. This product is here to help.

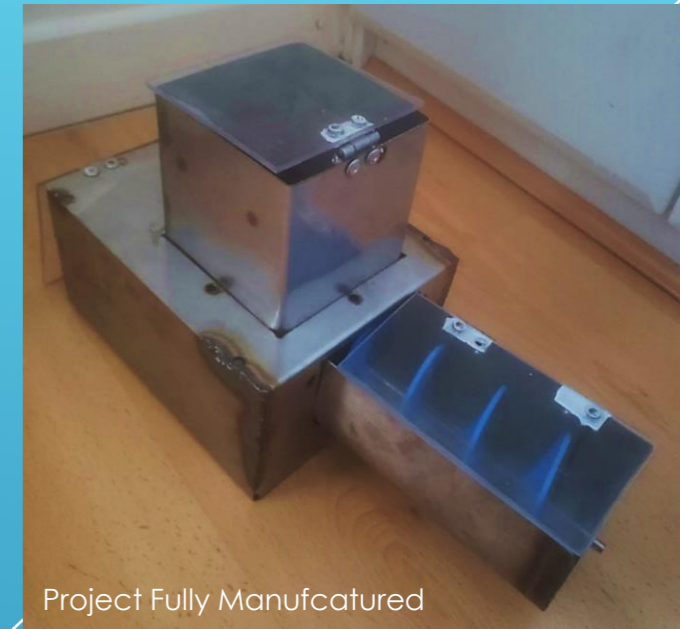
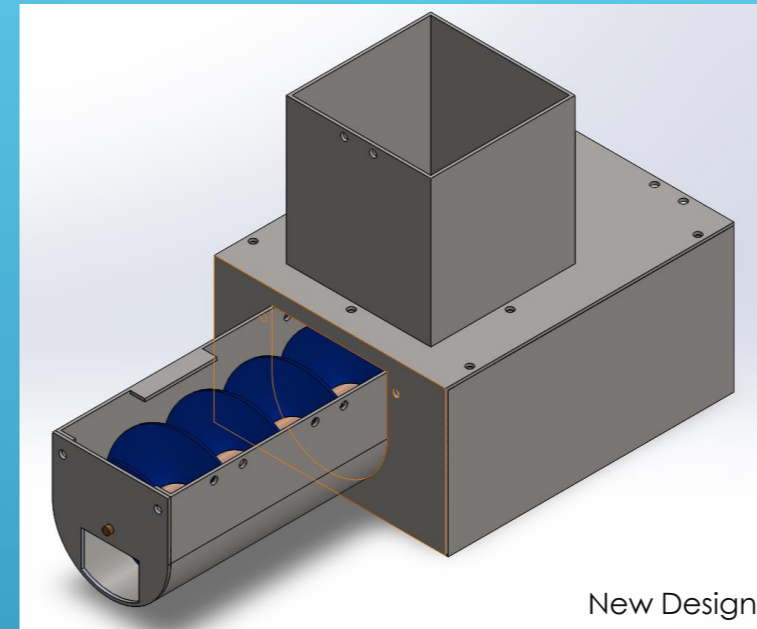
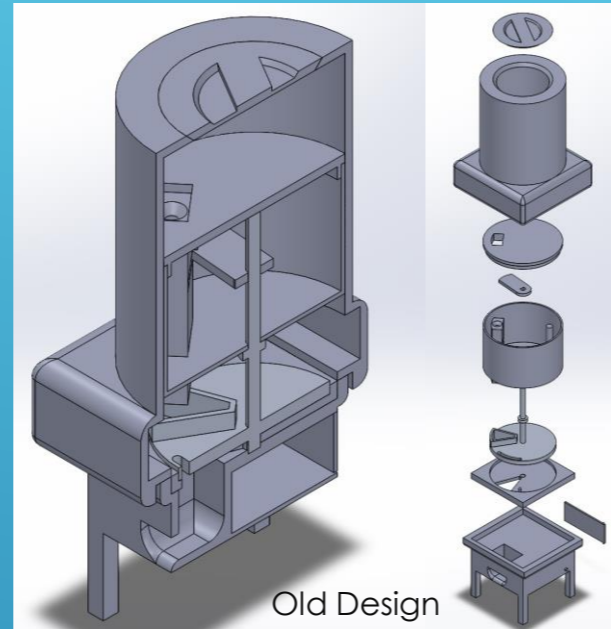
# Automatic Dog Feeder

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## Objectives

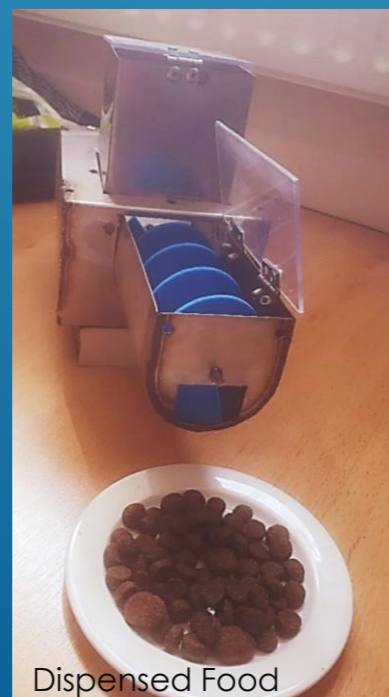
- Researched existing technology and related products
- Created a product design specification
- Created a concept design that is unique and has never been seen before
- Conducted a detailed design of the project in Solidworks
- Manufactured and order required parts
- Assembled all components together
- Created an Arduino controlled system
- Perform tests on the mechanism



## Testing

The testing ended up being done manually, as the circuit in the end was not working. The test was to see how many rotations is needed to dispense 42.5 grams of food. This was done over 10 times as some food was getting stuck in the front. The average of the test is 3.7 rotations. This will give a constant result of the food needed for the dog.

Test	How many 360° rotations?
Test 1	3.75
Test 2	3.00
Test 3	3.00
Test 4	2.75
Test 5	4.00
Test 6	3.75
Test 7	4.50
Test 8	3.50
Test 9	4.50
Test 10	4.00



## Design

The design went through many changes. The first design was very complex to manufacture, therefore it did not go ahead after spending a few months of creating the 3D model. The next design was made to be focused on ease of manufacture. This resulted in building a design that is simplistic looking yet still complex to manufacture.

## Manufacturing

The material that the project is made from is Mild Steel. This was picked as it is a strong material and does not snap when bent, like aluminum. The material was cut out using a plasma cutter, the edges were welded together using a TIG welder and the auger was 3D printed based on a few tests that were done, checking if it will fit in the chamber of the project.

