MESQUITE BEAN HARVESTER

INTERNAL REVIEW

Senior Design 2 - Fall 2020

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Current Progress

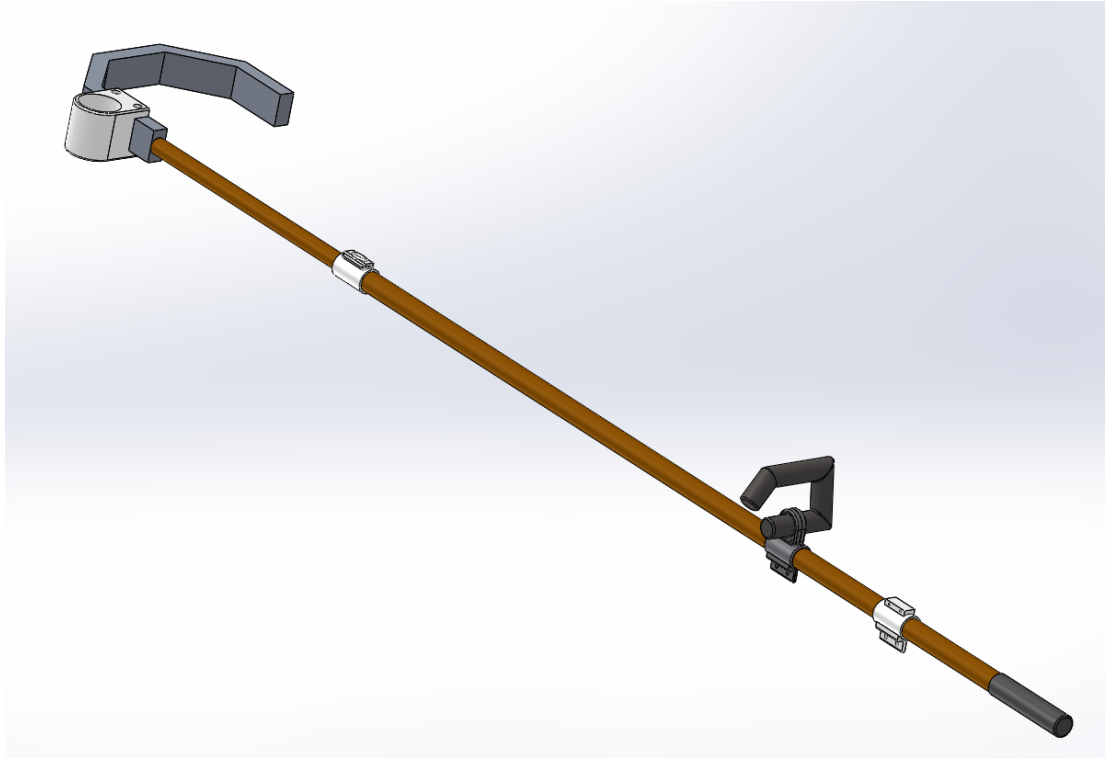
1. Solidworks Models and Blueprints

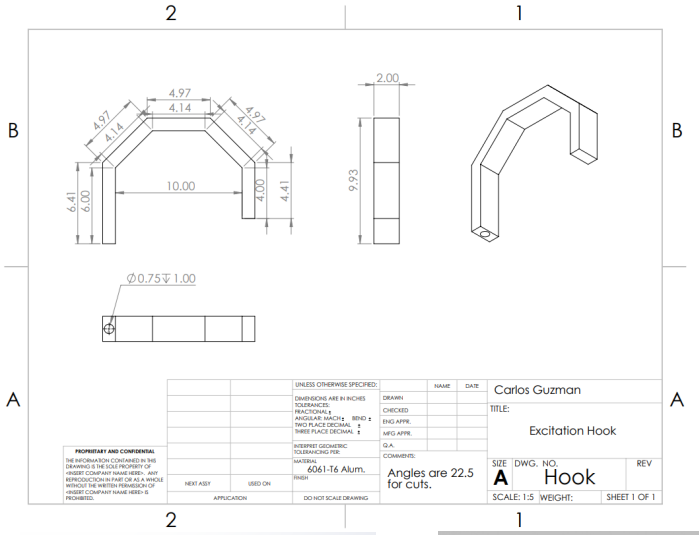
2. Prototype 1

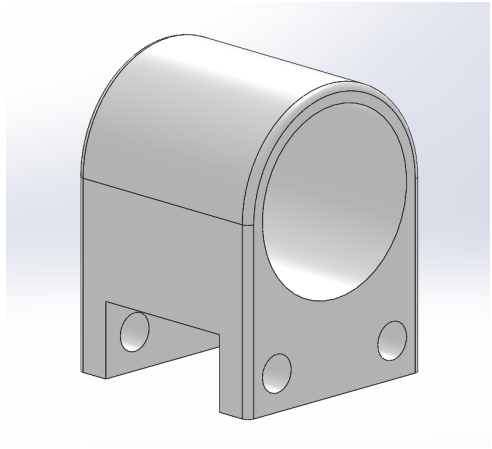
3. Preform first set of Experiments

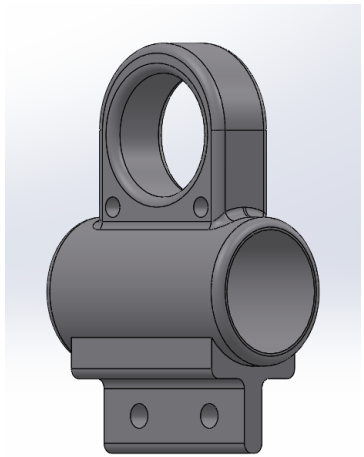
1. Solid Models and Blueprints

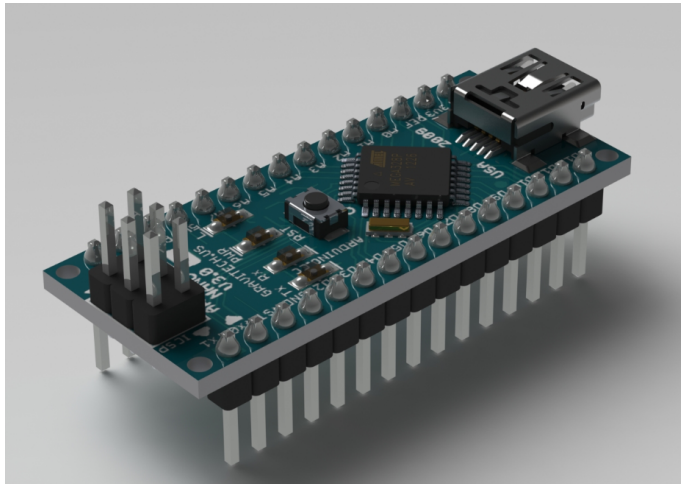
Excitation





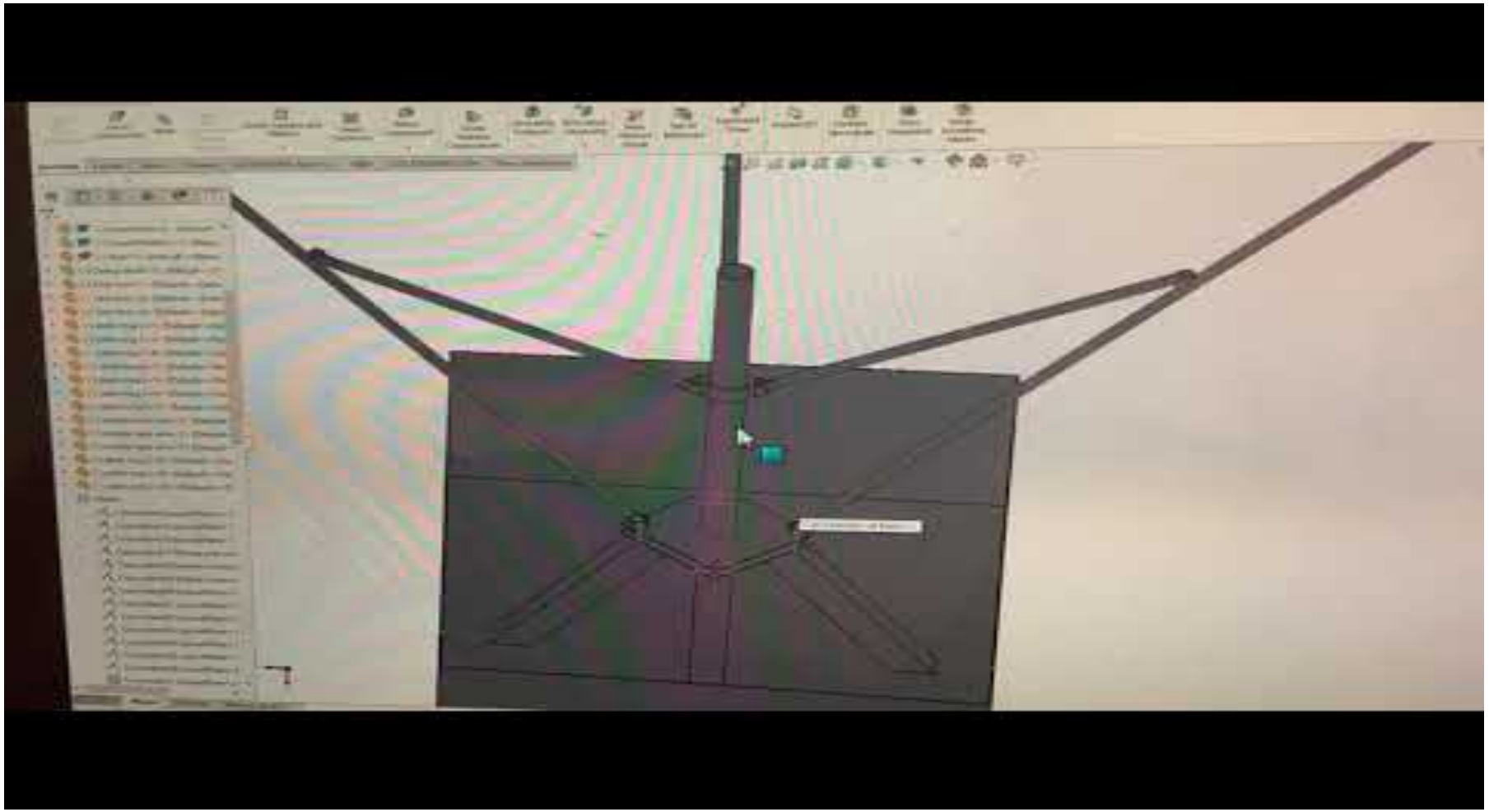






1. Solid Models and Blueprints

Collection

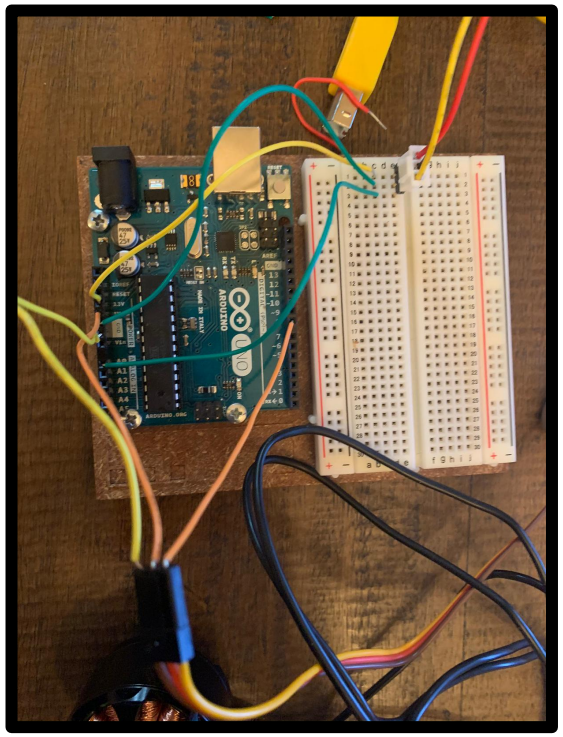


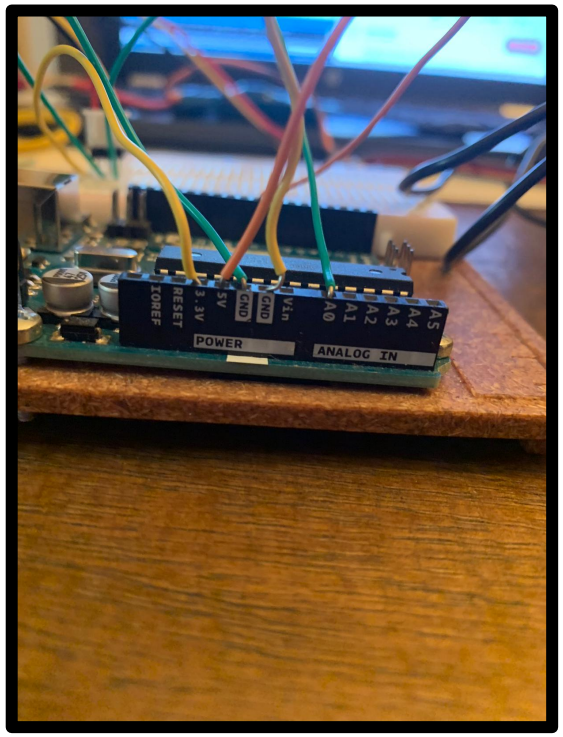
2. Prototype 1

Arduino Uno setup

Speed Control

Add offset mass to motor





Engineering Challenges and Potential Solutions

1. Welding

2. Season of Harvest

3. Organizing Two Projects

1. Welding

Welding experience is required to assemble our collection device.

Potential Solutions

Find someone to assist in the welding portion of the collection device.	Talk to Hector Arteaga, Mr. Jose Sanchez, or a peer with welding experience.

2. Harvesting Season

The harvesting season for Honey Mesquite quickly coming to an end. This season was crucial for prototype testing.

Potential Solutions

Prototyping the excitation system in parts by constructing the vibration circuit and exciting the branch before the season is over.	3-D print and create a branch and bean pod to simulate the excitation.

3. Organizing Two Projects

With a two-part project, Excitation and Collection, it seems nearly impossible to complete both designs within one semester.

Potential Solutions

Focus on excitation to get it done. If we have time, collection second.

Other Challenges and Potential Solutions

1. Missing Materials

2. Use of Machine Shop

3. Collaboration to Create

Within the Next Few Weeks...

- Creating second prototype that can attach to the tree
- Perform Experiment 1 and Collect All Data
- Begin production of excitation component