To Predict ▶ To Design ▶ To Perform

College of Engineering
Department of Mechanical & Industrial Engineering

ME, ECE, BE Capstone Design Programs

Lightweight Automated Canned Pet Food Dispenser

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ExxonMobil

Objectives

- Lightweight → 25 lbs
- Large Capacity → 21 Cans
- Compatible with major can sizes
- Open can and dispense food
- Dispose of waste (food and cans)
- Provide a clean surface for each serving

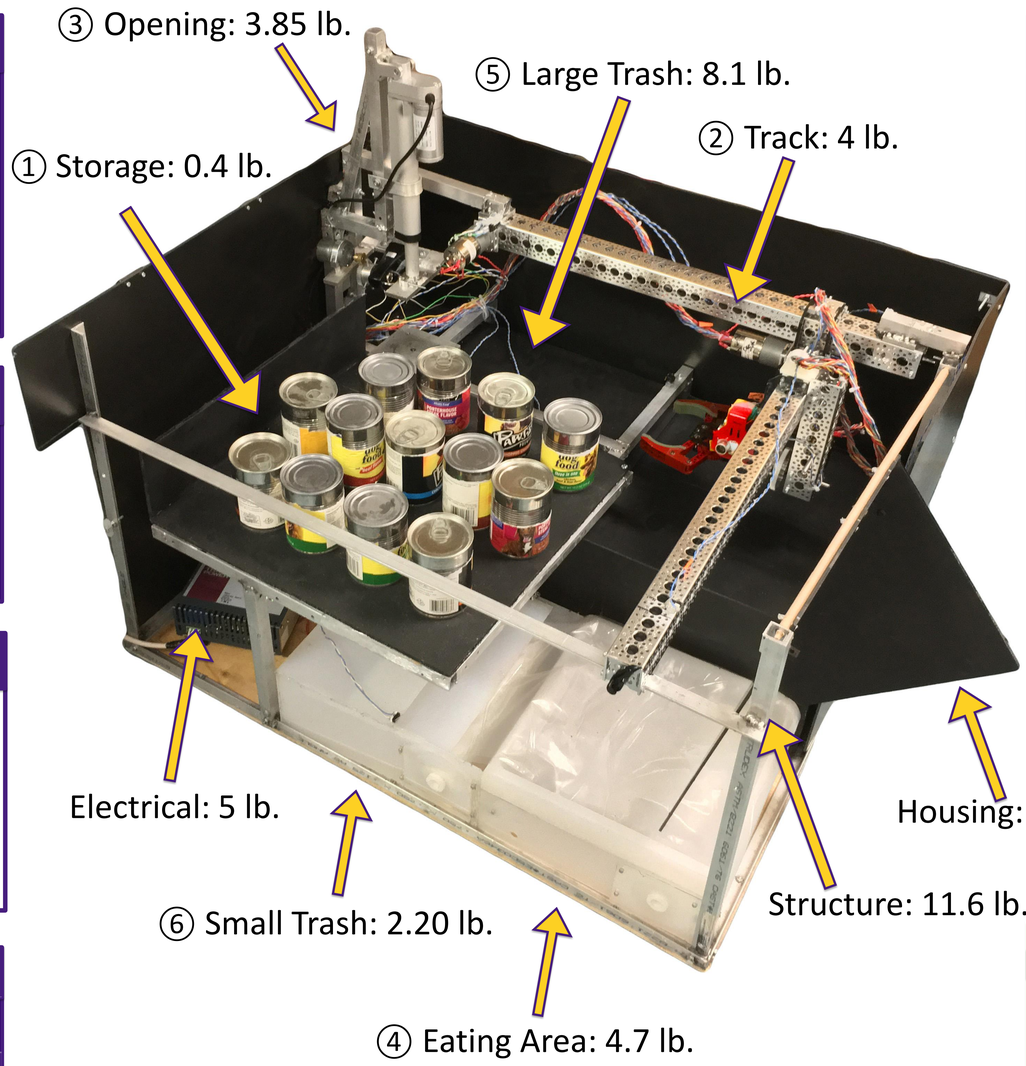
Engineering Specifications

- Puncturing force of 20lbs
- Arduino controlled
- Timer based functions
- Distance sensors

Safety

- Low center of gravity provides stability
- No access to moving parts by pet
- Limit switches to prevent stalling motors
- Overvoltage/overcurrent prevention
- Sanitary

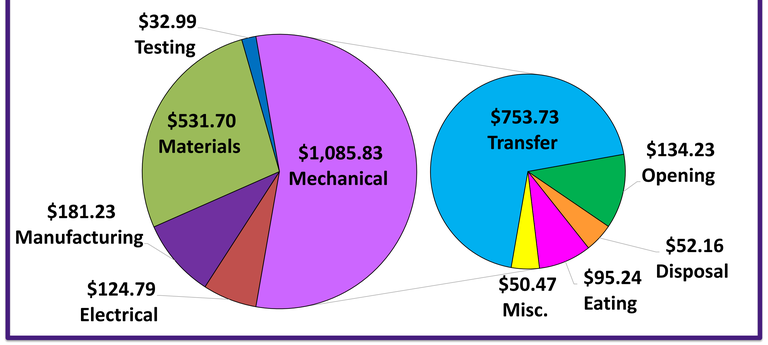
Comparison	2015	2016
Weight	187 lb	53.85 lb
Size (lwh) (ft)	3.3x3.1x2.8	2.9x2.4x2.5
Storage Capacity	7 cans	21 cans
Cycles	7 days	21 days
Efficiency	93.49%	98.23%



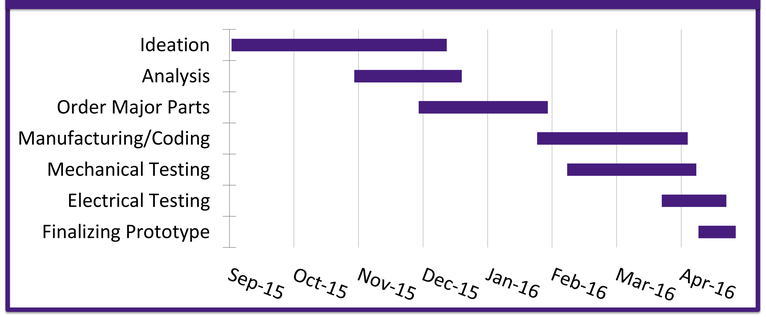
Testing Results

- Weight: 53.85 lbs.
- Compatible Can Sizes: 3 oz., 5.5 oz., 13 oz.
- Average Food Yield: 98.23%
- Full Cycle Success rate: 75%

Budget Breakdown



Timeline



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