Project Name: Pill Dispenser  
Sponsor: Quality of Life Plus (QL+)  
Created by: Team Pharmhouse  

Project Overview

Team Pharmhouse designed and manufactured a pill dispenser that is able to distribute a desired amount of medication pills to their respective days in both weekly and monthly pill organizers, including am and pm weekly containers. The dispenser also is able to be compatible with pills of a variety of shapes and sizes, as it is common for users to take multiple unique pills per day. The design will accommodate users with impairments such as arthritis, color-blindness, and various upper extremity issues. Simple, intuitive operations in conjunction with durability make this device the perfect solution. Lighter and smaller than similar products make transportation even easier.

Team Members

Chandler Meziere  
Team Leader

Jeff Smith  
Systems Engineer

Sean Myers  
Manufacturing Engineer

Tony Nguyen  
Software Engineer

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Design Engineer

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Software Engineer

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Procurement Engineer

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Systems Engineer

Micah Spence  
Quality Engineer

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Manufactured Product

CAD Design

Counter Subsystem - Exploded View  
Separator Subsystem - Exploded View  
Complete System - Collapsed View

Specifications

Size Envelope: 11.9" x 9.8" x 8.9"  
Power Required: 12V 60Hz AC  
Weight: 12.8 lbs.  
Transport Method: (2) 2" Nylon Straps

Main Components:
- FDA Approved Food-Safe Materials  
- Arduino MEGA  
- Raspberry Pi 3B+  
- IR Break Beam Sensors

- Micro Precision Servo Actuator  
- Nema 17 Stepper Motor  
- SD90 Servo Motors  
- 7" LCD Screen  
- 12V Power Supply

System Level Diagram

Electronic Connections Diagram

Spring 2021