Rotating Weekly Pill Dispenser

Vokus, Sydney (School: Roanoke Valley Governor's School for Science and Technology)
Stanley, Kierstyn (School: Roanoke Valley Governor's School for Science and Technology)

The purpose of the Rotating Weekly Pill Dispenser is to assist with medication compliance among older people and allow a caregiver to lock medication into organized compartments that automatically dispense throughout the week, providing the patient with more independence. The dispenser has three drawers representing morning, midday, and nighttime administrations. The caregiver may select for dispensing frequency using the three buttons mounted beside the LCD display. The time and date, along with instructional messages for the users, are continuously displayed on the LCD screen. A circular gear divided into seven interior compartments, representing each day of the week, is located inside each drawer, and attached to a smaller gear controlled by a servo. When it is time for pills to be dispensed, an alarm sounds to notify the patient and a servo in the designated drawer rotates the circular compartment to release pills only for that time and day of the week. The pills fall through the open slots of each drawer into a cup. When the patient is ready, they push a button which rotates a servo attached to a gear that exposes the medication in the cup. The patient will press the adjacent button to return the empty cup, and the process repeats at the next time set by the caregiver. This project successfully demonstrated all the listed steps and will, therefore, help older individuals safely maintain independence. In the future, a Wi-Fi chip may be added to create an app or Smart Home compatibility for the users.

Awards Won:
Third Award of $1,000