Addressing Medicine Adherence in Older Adults Through User-Friendly Medicine Dispensers

Ruiz, Maya (School: Americas High School)

Studies have shown that there are challenges with medication adherence among the elderly and that these challenges are further aggravated by having to take multiple medications. Problems are typically associated with the inability to open child proof medicine bottles or with taking the proper dosage. It has been documented that oftentimes, elderly people find labels or instructions confusing and will therefore take the wrong dosage. To address this problem, I have designed a machine to help dispense multiple medications with relative ease to increase the likelihood of accuracy and ability to access the medicine. The main problem being addressed in this project is elderly adult medicine adherence difficulties having to do with opening child-proof medicine bottles and keeping track of multiple medicines. The goal of this project is to create a medicine dispenser for multiple medications with ease in operating. In this project I had to make use of a trial and error coding process where I would write my code and test it out. It took multiple trials to successfully achieve the engineering goal. After having to alter the code and the model prototype multiple times, the servo motors were able to dispense the medicine successfully whenever the corresponding buttons were pressed and the engineering goal was reached. Based on the results of this project, using servo motors and pushbuttons in a medicine dispensing machine does help with dispensing multiple medications with relative ease to increase the likelihood of accuracy and ability to access the medicine.

Awards Won: