Work Completed:

This week was productive for the whole group. Eva and I combined all our programs into one master program. I ended up altering all of the motor programs, even the basic servo motor program. We decided to use relays with our motors in order to utilize the digital lines. This way, we use a clock function to generate the square waves and eliminate the use of a DAQ assistant vi which slows the program down significantly. We also had to add in several Boolean controls in order to customize which motor would be run every time the basic program was included in the master program. Tests were run with 4 motors and accurate sequences were executed. The only thing that held us back from completing the program entirely was that our servo motors have not come in yet, which we need to input the duty cycles into the programs. The following are glimpses of the motor control programs.

Dispensing program: For each pill that is checked, there is a dispense case and an expired pill case.

Dispensing: We still need the constant duty cycles for the new servos and the variable duty cycles to put in the array.
I combined the subvis for retrieving and cutting a pill.

This is where the appropriate compartment spins to the cutter where the cut pills are dumped into it.
Motor Program: This is the building block of motor control. The motors are controlled by sending a certain number of signals to them, but only giving power to one motor at a time. The number of signals will be a general number than will move the motor the largest distance necessary.

Future Work:

This week we will complete the project. The major issue is getting LabVIEW to run on the PDA. The PDA came in last week, but we were unable to connect the PDA to the PC. As soon as the servo motors come in, we will rebuild the device to include them and find all the duty cycles we need. The duty cycles will be added to the program and all the testing will be done to make sure the device works correctly. If we can get the PDA running, we will do the same tests with it as we did with the PC. We then need to build the case. The aesthetics of the case are probably the least important thing since we need our device running by Friday and we have a lot to do.

Project Review:

Although we are down to the wire and have quite a bit of things left to do, we are in better shape than we thought we’d be a few weeks ago. We’ve overcome many hurdles, big and small, and if everything runs smoothly this week, we should be fine.

Hours Worked:

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