WORK COMPLETED

During this week our efforts have focused on learning how to program the PDA and begin the wiring of the motors. With the arrival of the microstepping driver with translator, we could begin to wire the motor of the cutter assembly which moves the platform horizontally. A protoboard was used to test the wiring before it is placed on a circuit board.

Adjustments were also made to the vacuum pump, since concerns were raised over the flow provided in the tubing not being sufficient to lift a pill. As a result other pumps had to be ordered, only would is believed to be necessary but two were purchased in case the flow rate is still insufficient, and to save on the price of shipping and handling. Efforts were also made to begin the programming portion of the project. Since the computers still need to be hooked up to the network, I focused on learning how to program a DAQ, the PDA, and the stepper and servo motors. This involved taking several tutorials on the National Instruments webpage as well as reading each of the manuals. More adjustments to the cutter assembly were made as well. The size of the swing arm of the original design as adjusted but when tested this design did not function properly, therefore Kevin developed a new design shown below:
FUTURE WORK

This week, now that I have some ideas on how to begin the program, I will begin the programming. I would also like to complete the cutter assembly, now that the swing arm is of the right dimensions. The blade would also have to be made attached to another servo motor to complete the cutter assembly. The wiring of the motors on the protoboard will also continue throughout this week and next.

The work will remain divided so that Kevin focuses on the mechanical portion, specifically the vacuum pump and motors. Jackie will assist Kevin with some of the wiring but also begin work on programming the stepper and servo motors, while I begin the overall LabVIEW program which will incorporate the vi’s Jackie will create for each of the motors.
PROJECT REVIEW

Several adjustments were needed to the existing mechanical components; therefore completing the mechanical portion of the project within the next couple of weeks does not seem likely. The most difficult portion of this project I believe will be the LabVIEW program. I am anticipating that several hours of more research will be needed to build a successful program that will be followed by several hours of modifications. Therefore the LabVIEW programming must begin this week if the project it to be completed by the deadline.

HOURS WORKED

Eva Marie: 5 hours
Jackie: 8 hours
Kevin: 10 hours