During last week, we were trying to find out which frequency range are we going to use for the second box and also trying to find the material for the flexiforce sensors.

During the lab time on Friday we built the circuit to test our sensors based on the excitation circuit provided to us, but instead of using the MC34071AP Op Amp, we used the TL072 one.

![Figure 1: TL072](image)

During our testing, we founded that one of the two inches sensors is broken so we had to call TEKSCAN and ask them to send us another one.

We also built the circuit to test the footswitches along with the labView program using the BNC 21-20 NI device in order for the computer to read the digital signals coming from the footswitches.

During last week we did purchase the insoles and the rubber material in order to implant the force sensitive resistors in the insoles. We had to use a hole puncher that they have in the machine shop so we could get the .9 cm diameter circle. These circles will be placed in the sensory part of
the force sensitive resistors in order to concentrate the
force in that part.
Another problem we faced was the size of two of the force
sensitive resistors so we couldn’t finish implanting the
FSR’s into all the insoles. We needed the two inches FSR’S
instead of the four inches one for the heel of the men’s
insoles so we had to call and ask for exchange.

Figure 2: Force Sensitive Resistors Implanted

We also found that the data coming out of the footswitches
are digital data that mean we do not need the
microprocessor for the footswitches. We could directly
connect the data to the transmitter.
After talking to electric circuit expert people, they
recommended not to test our transmitter/receiver on a proto
board or solderless breadboard because they result in
horrible RF performance. For prototyping they recommended
to use a special evaluation kit for that kind of
transmitter/receiver.
During our meeting on Tuesday, Bill suggested that we use
the UTS machine that we used in the biomechanic class
before. Using this machine will allow us to put pressure up
to 350lb in order to calibrate them.
Another thing we finished last week was the first schematic
for our circuit for one foot.

Future Work

Our next step is placing the order for the components that
we need for the circuit, also focus on finishing the
labView program for the footswitches in order to calculate all the parameters. Another thing is doing more research about the encoder and decoder that we are going to use along with the 916KH transmitter/receiver.

**Project Review**

Overall I think we are making more progress than before by putting more effort and hours into the project. I believe that we will get something accomplish by the due time, but maybe not the complete project.

**Hours Worked**

20 hours