This week we established communication with a GE sales representative, who has working knowledge of the GE Marquette Solar 8000i. In the first email, we received a layout of what hardware is required to directly communicate with the Solar 8000i. In particular, we need a RS 232 adapter to USB converter due to the lack of serial ports on today’s laptops. Later he insured us that we had to specify what patient to obtain data from by sending request packets. However, I have to determine whether or not this communication method will be the same when attempting through the isolated network.

Additionally, I began decoding the program used to acquire data from the Marquette Tramscope. The program was based off of the manual but it is clear this developer has a programming background. Initially the program states the communication port. Next the parameters for the data request are outlined exactly as in figure 1.

```c
Mid$(Packet, DestAddr) = Chc$(64)  ' The first byte must be 4DH
Mid$(Packet, FunCode) = Chc$(202)  ' FunCode must be FC_READ = 202
Mid$(Packet, SubCode) = Chc$(35)   ' SubCode must be SC_POLLED_PARAMETER_REQUEST = 35
```

**Figure 1**: Parameters for the request packet in C code.

This code shows how they implemented commands from the manual into code. The next step is to translate them into LabView. Currently I am investigating whether there is a C code script I can use to copy this program into LabView. Inside of a while loop there is code to synchronize the data stream before sending the request. Then if no data is returned the code ends the loop and has a user input to decide if the program should continue sending request packets. This code provides helpful comments however due to a lack of a programming background there are still questions. I will further investigate these questions while trying to implement them into LabView.

I found a LabView program that passively listens to networks. I tested this on the Uconn network and was able to see all communications on the network. However it runs in parallel with a program called WinPcap. The VI calls on the WinPcap and is then able to capture data, parse the header and provide the IP address of the source and destination computer.
Future Work

Observe all data transmissions on the isolated network using the program acquired off of the NI website. This program works in parallel with an executable file called WinPcap. During the same visit of “sniffing” the isolated network we will directly connect to the Solar8000i using a RS 232 to USB converter and obtain sample data via a LabView program or the TRAMSCOPE.EXE. Our current goal for communicating with the equipment is to obtain sample data so we can continue with our design project and analyze and display this sample data. If time permits we will continue working on communicating with the equipment.

Project Review

Our project is still going slow, however the network listener may provide what Dr. McLsaac is looking for. Last week we researched what the LCD screen needs to run and Toshiba employees only passed me around to different departments. Finally they provide me with a number that to a company who works on Toshiba products and hopefully they will be able to provide us with the information to get the LCD to work.

Hours Worked

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