Due: Monday, November 13, 2017

From what you have learned from your “toy” device driver, it is now time to do the complete PCI-DAS08 A to D driver.

- It is a PCI device!
- Your /dev entry should be /dev/das0.
- It should allow only one process to open it at a time.
- You should have a default rate and channel that is reset on a new open().
- Read() should return an integral number of “samples”. (Each read should return a multiple of 4 bytes.) Each sample is returned as a 4 byte integer value. The most significant two bytes is a 16 bit integer representing the time offset from the interrupt for when the sample was taken. The value should be in units of $10^{-6}$ seconds. The least significant two bytes is the 12 bit data value. If no data is available and the driver is sampling, the user process should block until there is at least one sample available. It should return EOF (zero bytes read) when there is no more data in your driver’s buffer and the driver is not sampling.
- Write() returns ENODEV.
- Implement an ioctl call for ioctls in the file /home/phil/public/cs513/dasio.h. The rate in “set rate” and “get rate” is in units of $10^{-5}$ seconds. Channel numbers are from 0 to 7.
- The program /home/phil/public/cs513/osc.c will be used for demonstrating your driver.
- CSCI 513 students: Research and implement the select and poll support needed in a character device driver. Add a feature to the osc.c program to test these features. (50 points of the 400)

Please turn in a printed copy of your source code for your device driver plus a “diff -u” of any files you modified. Also, send me in e-mail all your sources for your das driver. Each student will make an appointment to demo their driver.
Thursday, November 16 is the best time to make the appointment to demo your driver. If you turn in your assignment on November 8, I will do appointments on November 9.