CPE4390

USB Lab

Try as many of these as you can during the lab. You may do them in any order after doing 1.

1. Plug the PIC18F47J53 PIM into the board. Leave all the jumpers as they are. Clone this repository. Create a project for the PIC18F47J53. Add all the .c files to the project. There should be nine .c files in your project. Build and program the PIC. Plug a USB cable (the one from the PICkit 3 will work) into the PIM and try out the mouse demo.
2. Change the string descriptor for the device description to a new value. Confirm it works by checking the device in Devices and Printers.
3. Change the mouse so it works on the vertical axis instead of the horizontal axis.
4. Add a left button to the mouse. You will need to read one of the buttons. PORTBbits.RB0 is the usual button on the Explorer board. PORTBbits.RB2 is the button on the PIM. They are already initialized as inputs.
5. Change the interval for the interrupt endpoint to a much higher value. How does this affect the mouse function?
6. Modify the firmware to simulate a two button mouse.
7. Modify the firmware to simulate a two axis mouse (like an Etch-a-Sketch.) Use one of the buttons to switch between x-axis and y-axis.