Managing Linux Systems from the Embedded Perspective: Ex 2

Part 1

Now is time to do the ever famous Blinky. Blinky is analogous to the traditional Hello World! first program in non embedded programming.

You will need the following:

a. 1 x LED

b. 1 x Resistor (Calculate an appropriate resistor value)

c. 1 x Breadboard (Available in the PSoC Programmer kit from the Library)

d. Some cable to connect to the Pi

You should write a simple C program that blinks an LED connected to the pin of the Raspberry Pi at a 1Hz rate.

Part 2

Now we will do the famous Hello World, but we will need to utilize the LCD screen that came with the PSoC Programmer kit from the library

You will need the following:

a. 1 x LCD screen

b. 1 x potentiometer (To control screen contrast)

c. Cables for connecting the screen to the Pi

We will now write C code to print "Hello World!" on the top line of the LCD screen. (A good portion of you have the document from Keijo on how to connect an LCD screen.) Please work together with each other and share your experience and information.

Part 3

Now that you know how to interface and use the LCD screen, we need to do something useful with it. Let's display the IP address of our Pi on the LCD screen. Once you are able to successfully display it, make sure that youe pi will display the IP as soon as it is obtained upon boot.

You will need the following:

a. 1 x LCD screen

b. 1 x potentiometer (To control screen contrast)

c. Cables for connecting the screen to the Pi

The idea is that you are able to display your IP address without having to connect you raspi to a monitor. This will help us with being able to SSH in for access to this device.

Save your applications and demonstrate them by 1.2.2019 to get full points