menu_complete_Senstek | Arduino 1.8.10

File Edit Sketch Tools Help

menu_complete_Senstek §

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This code is intended to be a menu interface for the Senstek Solid State Reader
which utilizes the Adafruit nRF52840 Feather, as well as the corresponding Adafruit FeatherWing OLED display.

This code creates a scrollable menu, which can be navigated through by using the 3 buttons on the OLED display
The top and bottom buttons are used as up and down buttons while the center button is used as a select button.

Currently the A2 pin is used as an output pin to drive an LED
and the A5 pin is used as an analog input.

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Functions:
    Sample Setting:
        This option allows uers to adjust how many times the nrf5280 should take a sample
        before taking the average of all samples.

        For example: By setting this value to 30, the nrf5280 will take a sample 30 times,
        sum all 30 samples, and divide that sum by 30 to get the average of all samples.
        It will then use that average value to the calculate the corresponding pH value.


    Alarm Setting:
        This option allows users to be notified when the reader senses a pH level below and/or above a certain threshold.


        For example: By setting the upper limit at pH 12.0 and the lower limit at 3.0, the code will toggle the
        A2 pin High and Low 3 times, and then keep it High.
        This pin can be connected to an auditory or visual element (buzzer, LED, etc)
        to alert the user that the pH level reached the threshold value.
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Sample Rate:

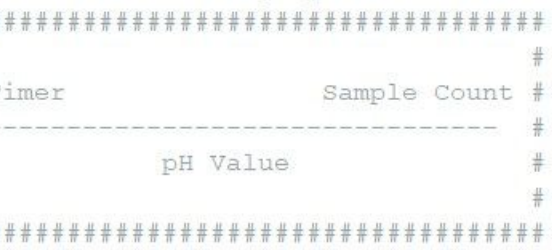
This option allows uers to adjust the time interval between each reading.

For example: By setting this value to 30, the reader will take samples every 30 seconds.

Go:

This starts the actual sampling.

This is what the display looks like



User can do two things in this part of the menu:

1. Hold down middle button (select button):
   This allows user to go back to the main menu, and also resets all the settings(Sample Size, Alarm Bounds, Sample Rate)

2. Hold down the top and bottom buttoms (up and down buttons):
   This allows user to view a separate screen which shows all of the setting values chosen (Sample Size, Alarm Bounds, Sample Rate)
   It also tells user the millivolt input and the corresponding pH value.

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by Akira Comia