

Date Submitted: 11/16/2018

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#include <unistd.h>
#include <stdint.h>
#include <stddef.h>

/* Driver Header files */
#include <ti/drivers/GPIO.h>
#include <ti/drivers/ADC.h>
#include <ti/display/Display.h>
// #include <ti/drivers/I2C.h>
// #include <ti/drivers/SDSPI.h>
// #include <ti/drivers/SPI.h>
// #include <ti/drivers/UART.h>
// #include <ti/drivers/Watchdog.h>

/* Board Header file */
#include "Board.h"

/* global variables FOR GUI COMPOSER */
uint16_t adcValue = 0;
uint16_t threshold = 100;
uint16_t trigger = 0;

/*
 * ===== mainThread =====
 */

void *mainThread(void *arg0)
{
    /* ~10 loops/second */
    uint32_t time = 100000; // update ~10/second

    /* Call driver init functions */
    GPIO_init();
    ADC_init();
    // I2C_init();
    // SDSPI_init();
    // SPI_init();
    // UART_init();
    // Watchdog_init();

    /* Open ADC Driver */
```

```

ADC_Handle adc;
ADC_Params params;
ADC_Params_init(&params);
adc = ADC_open(Board_ADC0, &params);
if (adc == NULL) {
    // Error initializing ADC channel 0
    while (1);
}

/* Open Display Driver */
Display_Handle displayHandle;
Display_Params displayParams;
Display_Params_init(&displayParams);
displayHandle = Display_open(Display_Type_UART, NULL);

while (1) {
    int_fast16_t res;
    res = ADC_convert(adc, &adcValue);
    if (res == ADC_STATUS_SUCCESS) {
        Display_printf(displayHandle, 1, 0, "ADC Reading %d",
adcValue);

        if(adcValue >= threshold){
            GPIO_write(Board_GPIO_LED0, Board_GPIO_LED_ON);
            trigger = 1;
        } else{
            GPIO_write(Board_GPIO_LED0, Board_GPIO_LED_OFF);
            trigger = 0;
        }
    }

    usleep(time);
}
}

```