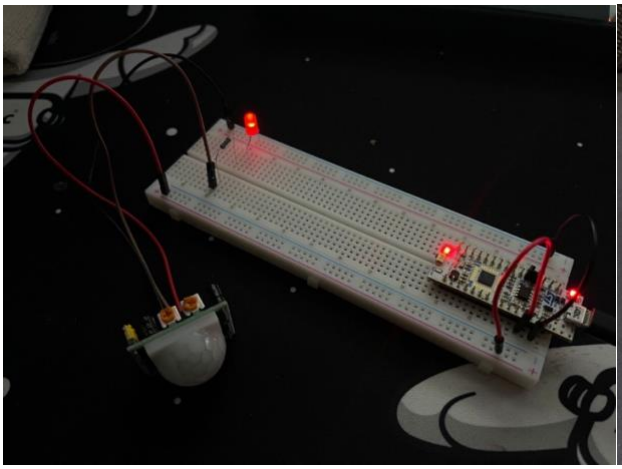
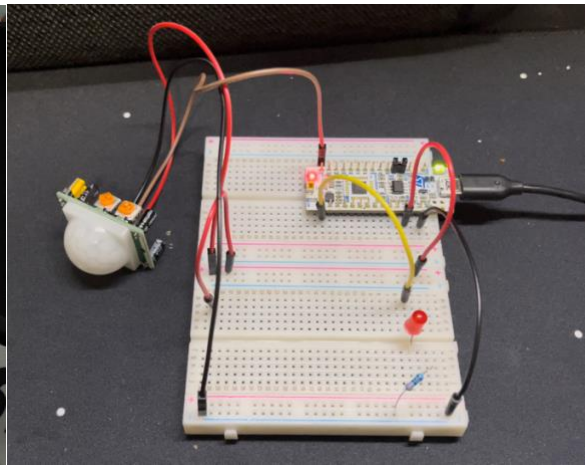
Laboratory 07 – Area of Interest
PIR MOTION SENSOR

Here is the screenshot of the actual board testing the PIR Motion Sensor (left) and the whole project for PIR Motion Sensor with the use of STM32 UART (right) shown below.





Here is the code for this laboratory modified:

```
/* Initialize all configured peripherals */
MX_GPIO_Init();
MX_USART2_UART_Init();
/* USER CODE BEGIN 2 */
char msg[128];

/* USER CODE END 2 */

/* Infinite loop */
/* USER CODE BEGIN WHILE */
while (1)
{
  /* USER CODE END WHILE */

  /* USER CODE BEGIN 3 */
    if(HAL_GPIO_ReadPin(GPIOB, MotionSensor_Pin)) {
        HAL_GPIO_WritePin(GPIOB, Red_LED_Pin, GPIO_PIN_SET);
        sprintf(msg, "WARNING! MOTION DETECTED!\r\n");
        HAL_UART_Transmit(&huart2, (uint8_t*) msg, strlen(msg), HAL_MAX_DELAY);
        HAL_Delay(500);
    }
    else {
        HAL_GPIO_WritePin(GPIOB, Red_LED_Pin, GPIO_PIN_RESET);
        sprintf(msg, "NO MOTION\r\n");
        HAL_UART_Transmit(&huart2, (uint8_t*) msg, strlen(msg), HAL_MAX_DELAY);
        HAL_Delay(500);
    }

}
/* USER CODE END 3 */
}
```

Here is the snippet of the output:

```
NO MOTION
NO MOTION
NO MOTION
NO MOTION
NO MOTION
WARNING! MOTION DETECTED!
WARNING! MOTION DETECTED!
WARNING! MOTION DETECTED!
NO MOTION
NO MOTION
NO MOTION
```

For full demonstration, here is the video link: https://youtu.be/SVd2kT9HhAg