

```

#include "ES_Configure.h"
#include "ES_Framework.h"
#include "ES_Events.h"
#include "ES_PostList.h"
#include "ES_ServiceHeaders.h"
#include "ES_Port.h"
#include "EventCheckers.h"
#include "Joystick.h"
#include "PIC32_SPI_Hal.h"
#include "PIC32_AD_Lib.h"
#include <math.h>

static uint32_t Joystick[2];
/*****
Function
  InitButtonStatus
Parameters
  void
Returns
  void
Description
  Initializes button status by reading port
*****/
void InitJoystickStatus(void)
{
    ADC_ConfigAutoScan(AD_CHANNEL, NUM_CHANNELS); //configure the A to D channels
}

/*****
Function
  Check4Joystick
Parameters
  void
Returns
  Joystick_t: contains the x and y movement
Description
  check if the state of the button has changed, posts event ES_BUTTON_DOWN if button
  has been let go
  or ES_BUTTON_UP if the button has been pressed
*****/
Joystick_t Check4Joystick(void)
{
    Joystick_t JoystickValues;
    ADC_MultiRead(Joystick); //read analog inputs

    JoystickValues.X = Joystick[1]/240 -2; //transform input to mvmt between 2 and -2
    JoystickValues.Y = Joystick[0]/240 -2; //transform input to mvmt between 2 and -2

    return JoystickValues;
}

```