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#include "ES_Configure.h"
#include "ES_Framework.h"
#include "ES_DeferRecall.h"
#include "ES_ShortTimer.h"

#include "inc/hw_memmap.h"
#include "inc/hw_types.h"
#include "inc/hw_gpio.h"
#include "inc/hw_sysctl.h"
#include "driverlib/sysctl.h"
#include "driverlib/pin_map.h"
#include "driverlib/gpio.h"

#include "FarmerMasterSM.h"
#include "Peripheral_ButtonDebounce.h"
#include "Constants.h"

static uint8_t MyPriority;
static P_DBState_t CurrentState;

bool InitP_ButtonDebounce(uint8_t Priority) {
    // Set service priority
    MyPriority=Priority;
    // Initialize the current state machine state
    CurrentState = P_Debouncing;
    // Initialize the debouncing timer
    ES_Timer_InitTimer(P_DEBOUNCE_TIMER, DEBOUNCE_TIME);
    // End Initialization
    ES_Event ThisEvent;
    ThisEvent.EventType = ES_INIT;
    return (ES_PostToService(MyPriority, ThisEvent));
}

bool PostP_ButtonDebounce(ES_Event ThisEvent) {
    return ES_PostToService(MyPriority, ThisEvent);
}

ES_Event RunP_ButtonDebounce(ES_Event ThisEvent) {
    ES_Event ReturnEvent;
    ReturnEvent.EventType = ES_NO_EVENT;

    switch (CurrentState)
    {
        case (P_Debouncing):
        {
            if ((ThisEvent.EventType == ES_TIMEOUT) && (ThisEvent.EventParam
== P_DEBOUNCE_TIMER))
            {
                CurrentState = P_Ready2Sample;
            }
            break;
        }

        case (P_Ready2Sample):
        {
            if (ThisEvent.EventType == ES_BUTTON_UP)
            {
                ES_Timer_InitTimer(P_DEBOUNCE_TIMER, DEBOUNCE_TIME);
                CurrentState = P_Debouncing;
                ES_Event Event2Post;
                Event2Post.EventType = ES_P_BUTTON_UP;
                PostFarmerMasterSM(Event2Post);
                printf("P Button Up\r\n");
            }
        }
    }
}

```

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else if (ThisEvent.EventType == ES_BUTTON_DOWN)
{
    ES_Timer_InitTimer(P_DEBOUNCE_TIMER, DEBOUNCE_TIME);
    CurrentState = P_Debouncing;
    ES_Event Event2Post;
    Event2Post.EventType = ES_P_BUTTON_DOWN;
    PostFarmerMasterSM(Event2Post);
    printf("P Button Down\r\n");
}
break;
}
}
return ReturnEvent;
}
```