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/*****
Module
    ES_Configure.h
Description
    This file contains macro definitions that are edited by the user to
    adapt the Events and Services framework to a particular application.
Notes

History
When          Who          What/Why
-----
12/19/16 20:19  jec          removed EVENT_CHECK_HEADER definition. This goes with
                    the V2.3 move to a single wrapper for event checking
                    headers
    10/11/15 18:00  jec          added new event type ES_SHORT_TIMEOUT
    10/21/13 20:54  jec          lots of added entries to bring the number of timers
                    and services up to 16 each
    08/06/13 14:10  jec          removed PostKeyFunc stuff since we are moving that
                    functionality out of the framework and putting it
                    explicitly into the event checking functions
    01/15/12 10:03  jec          started coding
*****/

#ifndef ES_CONFIGURE_H
#define ES_CONFIGURE_H

/*****/
// The maximum number of services sets an upper bound on the number of
// services that the framework will handle. Reasonable values are 8 and 16
// corresponding to an 8-bit(uint8_t) and 16-bit(uint16_t) Ready variable size
#define MAX_NUM_SERVICES 16

/*****/
// This macro determines that nuber of services that are *actually* used in
// a particular application. It will vary in value from 1 to MAX_NUM_SERVICES
#define NUM_SERVICES 7

/*****/
// These are the definitions for Service 0, the lowest priority service.
// Every Events and Services application must have a Service 0. Further
// services are added in numeric sequence (1,2,3,...) with increasing
// priorities
// the header file with the public function prototypes
#define SERV_0_HEADER "GameService.h"
// the name of the Init function
#define SERV_0_INIT InitGameService
// the name of the run function
#define SERV_0_RUN RunGameService
// How big should this services Queue be?
#define SERV_0_QUEUE_SIZE 7

/*****/
// The following sections are used to define the parameters for each of the
// services. You only need to fill out as many as the number of services
// defined by NUM_SERVICES
/*****/
// These are the definitions for Service 1
#if NUM_SERVICES > 1
// the header file with the public function prototypes
#define SERV_1_HEADER "CelebService.h"
// the name of the Init function
#define SERV_1_INIT InitCelebService
// the name of the run function
#define SERV_1_RUN RunCelebService

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// How big should this services Queue be?
#define SERV_1_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 2
#if NUM_SERVICES > 2
// the header file with the public function prototypes
#define SERV_2_HEADER "WaterService.h"
// the name of the Init function
#define SERV_2_INIT InitWaterService
// the name of the run function
#define SERV_2_RUN RunWaterService
// How big should this services Queue be?
#define SERV_2_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 3
#if NUM_SERVICES > 3
// the header file with the public function prototypes
#define SERV_3_HEADER "LightService.h"
// the name of the Init function
#define SERV_3_INIT InitLightService
// the name of the run function
#define SERV_3_RUN RunLightService
// How big should this services Queue be?
#define SERV_3_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 4
#if NUM_SERVICES > 4
// the header file with the public function prototypes
#define SERV_4_HEADER "HarvestButtonService.h"
// the name of the Init function
#define SERV_4_INIT InitHarvestButtonService
// the name of the run function
#define SERV_4_RUN RunHarvestButtonService
// How big should this services Queue be?
#define SERV_4_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 5
#if NUM_SERVICES > 5
// the header file with the public function prototypes
#define SERV_5_HEADER "NeedleService.h"
// the name of the Init function
#define SERV_5_INIT InitNeedleService
// the name of the run function
#define SERV_5_RUN RunNeedleService
// How big should this services Queue be?
#define SERV_5_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 6
#if NUM_SERVICES > 6
// the header file with the public function prototypes
#define SERV_6_HEADER "LEDWriteService.h"
// the name of the Init function
#define SERV_6_INIT InitLEDWriteService
// the name of the run function

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#define SERV_6_RUN RunLEDWriteService
// How big should this services Queue be?
#define SERV_6_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 7
#if NUM_SERVICES > 7
// the header file with the public function prototypes
#define SERV_7_HEADER " TestHarnessService7.h"
// the name of the Init function
#define SERV_7_INIT InitTestHarnessService7
// the name of the run function
#define SERV_7_RUN RunTestHarnessService7
// How big should this services Queue be?
#define SERV_7_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 8
#if NUM_SERVICES > 8
// the header file with the public function prototypes
#define SERV_8_HEADER "TestHarnessService8.h"
// the name of the Init function
#define SERV_8_INIT InitTestHarnessService8
// the name of the run function
#define SERV_8_RUN RunTestHarnessService8
// How big should this services Queue be?
#define SERV_8_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 9
#if NUM_SERVICES > 9
// the header file with the public function prototypes
#define SERV_9_HEADER "TestHarnessService9.h"
// the name of the Init function
#define SERV_9_INIT InitTestHarnessService9
// the name of the run function
#define SERV_9_RUN RunTestHarnessService9
// How big should this services Queue be?
#define SERV_9_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 10
#if NUM_SERVICES > 10
// the header file with the public function prototypes
#define SERV_10_HEADER "TestHarnessService10.h"
// the name of the Init function
#define SERV_10_INIT InitTestHarnessService10
// the name of the run function
#define SERV_10_RUN RunTestHarnessService10
// How big should this services Queue be?
#define SERV_10_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 11
#if NUM_SERVICES > 11
// the header file with the public function prototypes
#define SERV_11_HEADER "TestHarnessService11.h"
// the name of the Init function
#define SERV_11_INIT InitTestHarnessService11

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// the name of the run function
#define SERV_11_RUN RunTestHarnessService11
// How big should this services Queue be?
#define SERV_11_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 12
#if NUM_SERVICES > 12
// the header file with the public function prototypes
#define SERV_12_HEADER "TestHarnessService12.h"
// the name of the Init function
#define SERV_12_INIT InitTestHarnessService12
// the name of the run function
#define SERV_12_RUN RunTestHarnessService12
// How big should this services Queue be?
#define SERV_12_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 13
#if NUM_SERVICES > 13
// the header file with the public function prototypes
#define SERV_13_HEADER "TestHarnessService13.h"
// the name of the Init function
#define SERV_13_INIT InitTestHarnessService13
// the name of the run function
#define SERV_13_RUN RunTestHarnessService13
// How big should this services Queue be?
#define SERV_13_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 14
#if NUM_SERVICES > 14
// the header file with the public function prototypes
#define SERV_14_HEADER "TestHarnessService14.h"
// the name of the Init function
#define SERV_14_INIT InitTestHarnessService14
// the name of the run function
#define SERV_14_RUN RunTestHarnessService14
// How big should this services Queue be?
#define SERV_14_QUEUE_SIZE 3
#endif

/*****/
// These are the definitions for Service 15
#if NUM_SERVICES > 15
// the header file with the public function prototypes
#define SERV_15_HEADER "TestHarnessService15.h"
// the name of the Init function
#define SERV_15_INIT InitTestHarnessService15
// the name of the run function
#define SERV_15_RUN RunTestHarnessService15
// How big should this services Queue be?
#define SERV_15_QUEUE_SIZE 3
#endif

/*****/
// Name/define the events of interest
// Universal events occupy the lowest entries, followed by user-defined events
typedef enum {
    ES_NO_EVENT = 0,
    ES_ERROR, /* used to indicate an error from the service */

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ES_INIT,                /* used to transition from initial pseudo-state */
ES_TIMEOUT,            /* signals that the timer has expired */
ES_SHORT_TIMEOUT,      /* signals that a short timer has expired */
/* User-defined events start here */
GAME_START,
BUTTON_PRESSED,
WATER_START,
CORRECT_TRI,
IR_RISE,
WATER_CMD,
INCORRECT_TRI,
LIGHT_START,
POT_CHANGED,
CORRECT_POT_VAL_DETECTED,
CELEB_START,
NEEDLE_START,
LIGHT_CMD,
    HEALTH_CMD,
ALL_ON,
ALL_OFF,
ES_LCD_PUTCHAR,
    ES_NEW_KEY,          /* signals a new key received from terminal */
ES_LOCK,
ES_UNLOCK
} ES_EventType_t;

/*****
// These are the definitions for the Distribution lists. Each definition
// should be a comma separated list of post functions to indicate which
// services are on that distribution list.
#define NUM_DIST_LISTS 0
#if NUM_DIST_LISTS > 0
#define DIST_LIST0 PostTestHarnessService0, PostTestHarnessService0
#endif
#if NUM_DIST_LISTS > 1
#define DIST_LIST1 PostTestHarnessService1, PostTestHarnessService1
#endif
#if NUM_DIST_LISTS > 2
#define DIST_LIST2 PostTemplateFSM
#endif
#if NUM_DIST_LISTS > 3
#define DIST_LIST3 PostTemplateFSM
#endif
#if NUM_DIST_LISTS > 4
#define DIST_LIST4 PostTemplateFSM
#endif
#if NUM_DIST_LISTS > 5
#define DIST_LIST5 PostTemplateFSM
#endif
#if NUM_DIST_LISTS > 6
#define DIST_LIST6 PostTemplateFSM
#endif
#if NUM_DIST_LISTS > 7
#define DIST_LIST7 PostTemplateFSM
#endif

/*****
// This is the list of event checking functions
#define EVENT_CHECK_LIST Check4Keystroke, Check4GameStart, Check4ButtonDown,
Check4IRRIse, Check4PotChange

/*****
// These are the definitions for the post functions to be executed when the
// corresponding timer expires. All 16 must be defined. If you are not using

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// a timer, then you should use TIMER_UNUSED
// Unlike services, any combination of timers may be used and there is no
// priority in servicing them

#define TIMER_UNUSED ((pPostFunc)0)
#define TIMER0_RESP_FUNC PostWaterService
#define TIMER1_RESP_FUNC PostLightService
#define TIMER2_RESP_FUNC PostGameService
#define TIMER3_RESP_FUNC PostCelebService
#define TIMER4_RESP_FUNC PostCelebService
#define TIMER5_RESP_FUNC PostWaterService
#define TIMER6_RESP_FUNC PostLightService
#define TIMER7_RESP_FUNC PostWaterService
#define TIMER8_RESP_FUNC PostGameService
#define TIMER9_RESP_FUNC PostLightService
#define TIMER10_RESP_FUNC PostGameService
#define TIMER11_RESP_FUNC PostNeedleService
#define TIMER12_RESP_FUNC PostLightService
#define TIMER13_RESP_FUNC PostHarvestButtonService
#define TIMER14_RESP_FUNC TIMER_UNUSED
#define TIMER15_RESP_FUNC TIMER_UNUSED

#define WATER_TIMER 0
#define LIGHT_TIMER 1
#define HARVEST_TIMER 2
#define CELEB_TIMER 3
#define BOB_TIMER 4
#define WATER_FLASH_TIMER 5
#define LIGHT_FB_TIMER 6
#define BUZZER_TIMER 7
#define WELCOME_TIMER 8
#define POT_TIMER 9
#define BTN_WAIT_TIMER 10
#define NEEDLE_TIMER 11
#define POT_DEBOUNCE_TIMER 12
#define DEBOUNCE_BUTTON_TIMER 13

/*****/
// Give the timer numbers symbolic names to make it easier to move them
// to different timers if the need arises. Keep these definitions close to the
// definitions for the response functions to make it easier to check that
// the timer number matches where the timer event will be routed
// These symbolic names should be changed to be relevant to your application
#define SERVICE0_TIMER 15
#define WATER_TIMER 0
#define LIGHT_TIMER 1
#define HARVEST_TIMER 2
#define CELEB_TIMER 3
#define BOB_TIMER 4
#define DEBOUNCE_TIMER 5
#define LIGHT_FB_TIMER 6
#define BUZZ_TIMER 7
#define WELCOME_TIMER 8
#define POT_TIMER 9
#define BTN_WAIT_TIMER 10
#define NEEDLE_TIMER 11
#define POT_DEBOUNCE_TIMER 12
#define DEBOUNCE_BUTTON_TIMER 13

/*****/
// uncomment this line to get some basic framework operation debugging on
// PF1 & PF2
// #define _INCLUDE_BASIC_FRAMEWORK_DEBUG_

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#ifndef _INCLUDE_BASIC_FRAMEWORK_DEBUG_
/*****
// uncomment the next line to get byte-wide debugging on the '595
// uses PF1, PF2 & PF3
#define _INCLUDE_BYTE_DEBUG_

#endif /* _INCLUDE_BASIC_FRAMEWORK_DEBUG_ */

#endif /* ES_CONFIGURE_H */
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