```
1 /*
2  * simonControl.h
3  *
4  *  Created on: Jun 11, 2015
5  *      Author: Taylor Cowley
6  */
7
8 #ifndef SIMONCONTROL_H_
9 #define SIMONCONTROL_H_
10
11 #include <stdio.h>
12 #include "intervalTimer.h"
13 #include "supportFiles/display.h"
14 #include "globals.h"
15 #include "flashSequence.h"
16 #include "verifySequence.h"
17
18 //Timer 1 will be the timer for the random seed
19 #define SIMONCONTROL_RAND_TIMER 1
20 //For testing purposes (or maybe gameplay), we can only have this many possible sequences
21 #define SIMONCONTROL_TOTAL_POSSIBLE_SEQUENCES 10
22 //The level that we start on. Can get higher.
23 #define SIMONCONTROL_START_LEVEL 4
24 //I suppose this could be changed to have a different number of buttons...
25 #define SIMONCONTROL_NUM_BUTTONS 4
26
27 #define SIMONCONTROL_TITLE_SIZE 6          //Size of the big text for simon
28 #define SIMONCONTROL_STATUS_TEXT_SIZE 3    //Size of the small text for simon
29
30 #define SIMONCONTROL_SUCCESS_DELAY 200;      //how many ticks to display the success
31 #define SIMONCONTROL_TOUCH_NEW_LEVEL 200;    //how many ticks to display this option
32 #define SIMONCONTROL_LONGEST_RUN_DELAY 300;  //how many ticks to tell them how long they got
33 #define SIMONCONTROL_FAILURE_DELAY 200;      //how many ticks to tell the user they failed
34
35 #define SIMONCONTROL_UPPER_HEIGHT display_height()/4     //where the title gets displayed
36 #define SIMONCONTROL_LOWER_HEIGHT display_height() * 3 / 4  //where the subtitles get displayed
37 #define SIMONCONTROL_DISPLAY_SCREEN_MAX_LENGTH 20
38
39 enum simonControl_st_t{
40     simonControl_init_st,          //Init everything (like the screen)
41     start_wait_for_touch_st,       //start when they touch
42     start_wait_for_release_st,     //I lied. start when they release
43     flash_sequence_st,             //show the user the current sequence
44     validate_sequence_st,          //Let the user try
45     success_st,                    //You beat the level!
46     touch_for_new_level_st,        //Display "touch for a new level"
47     failure_st,                    //Display of failure
48     longest_run_st,                //we have ended the verify sequence
49 };
50
51
52 //This is the only function that needs to be called from the outside.
53 //it runs the game as long as all of the state machines are ticking.
54 void simonControl_tick();
55
56 //Starts the timer that we use for the rand seed
57 void simonControl_start_rand_timer();
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58
59 //Stops the timer that we use for the rand seed
60 void simonControl_stop_rand_timer();
61
62 //Turns the timer that we use for the rand seed into a random sequence for our game.
63 void simonControl_create_random_sequence(uint16_t length);
64
65 //This is the starting splash screen
66 void simonControl_display_splash();
67
68 //This is the "touch for new level" screen
69 void simonControl_display_touch_for_new_level();
70
71 //This is the success screen
72 void simonControl_display_success();
73
74 //This is the failure screen
75 void simonControl_display_failure();
76
77 //This is the best run screen
78 void simonControl_display_best_run(uint16_t best_score);
79
80 #endif /* SIMONCONTROL_H_ */
81
```