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//RokduinoConstants.h header file 2.0.0
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// 11/29/2015

#ifndef ROKDUINOCONSTANTS_H
#define ROKDUINOCONSTANTS_H


//============================== MOTOR DECLARATIONS
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//Define motor ctrl pins to uC

//H-bride directional pin mapped to digital pin 23.
#define MOTOR_1_DIR       23
//PWM output mapped to digital pin 11
#define MOTOR_1_SPEED     11
#define MOTOR_2_DIR       14
#define MOTOR_2_SPEED      6
#define MOTOR_3_DIR        4
#define MOTOR_3_SPEED      3
#define MOTOR_4_DIR       12
#define MOTOR_4_SPEED     13

#define CLOCKWISE 0
#define COUNTER_CLOCKWISE 1
#define GREEN CLOCKWISE
#define RED COUNTER_CLOCKWISE

//============================== LED CONTROL/SENSE DECLARATIONS
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#define LED_OFF     0
#define LED_ON      1
#define LED_TOGGLE  2
#define LED_LEFT    0
#define LED_RIGHT   1
#define LED_BOTH    2

//============================== SENSOR DECLARATIONS
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#define SENSOR_1    0   ///defined
#define SENSOR_2    1
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#define SENSOR_3    2
#define SENSOR_4   20   //analog A2
#define SENSOR_5    9   //analog A9
#define SENSOR_6   10   //analog A10
#define SENSOR_7   18   //analog A0
#define SENSOR_8   19   //analog A1

//============================ BATTERY READ
DECLARATIONS==============================//

//battery read scaling factor
#define BATT_SCALE_FACTOR  5.0/1023.0
//analog A8
#define BATT_READ_PIN      8

//========================== READ IR
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#define IR_RX_PIN     2     // maps to sensor port 3
#define BITS_IN       19

//========================== WRITE IR
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#define PULSE           107 // can try tuning this parameter for more
reliable messaging
#define START_BIT_ON    368-7
#define BIT_ON          105-7
#define BIT_0_OFF       211-7
#define BIT_1_OFF       399-7
#define STOP_BIT_ON     200-7
#define BITS_OUT        BITS_IN - 1

// commands
#define CMD_STOP 0x00

// directional pad
#define CMD_FORWARD 0x0F
#define CMD_FORWARD_RIGHT 0x3F
#define CMD_FORWARD_LEFT 0x37
#define CMD_BACKWARD 0x0E
#define CMD_BACKWARD_RIGHT 0x3E
#define CMD_BACKWARD_LEFT 0x36
#define CMD_SPIN_RIGHT 0x39
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#define CMD_SPIN_LEFT 0x31

// right forefinger button + directional pad
#define CMD_FORWARD_SLOW 0x0B
#define CMD_FORWARD_RIGHT_SLOW 0x3B
#define CMD_FORWARD_LEFT_SLOW 0x33
#define CMD_BACKWARD_SLOW 0x0A
#define CMD_BACKWARD_RIGHT_SLOW 0x3A
#define CMD_BACKWARD_LEFT_SLOW 0x32
#define CMD_SPIN_RIGHT_SLOW 0x3D
#define CMD_SPIN_LEFT_SLOW 0x35

// TODO: label which is X/Y and A/B, experiment w/controller
#define CMD_MOTOR_3_FORWARD 0x47
#define CMD_MOTOR_3_BACKWARD 0x46
#define CMD_MOTOR_3_STOP 0x44
#define CMD_MOTOR_4_FORWARD 0x4F
#define CMD_MOTOR_4_BACKWARD 0x4E
#define CMD_MOTOR_4_STOP 0x4C

#define CMD_TRIM_RIGHT 0x67     // left forefinger + right buttons
#define CMD_TRIM_LEFT 0x66      // left forefinger + left buttons
#define CMD_HORN 0x65           // what button combination?
#define CMD_CRUISE_CONTROL 0x64 // left forefinger + X buttons
#define CMD_FLASH_Y 0x63        // left forefinger + Y buttons
#define CMD_HORN_CHANGE 0x62    // left forefinger + A buttons
#define CMD_MUTE_TOGGLE 0x61    // left forefinger + B buttons
#define CMD_SIREN_TOGGLE 0x68   // button 1
#define CMD_SOUND_1 0x69        // button 2
#define CMD_SOUND_2 0x6B        // button 4 (?)
#define CMD_SOUND_3 0x6C        // left forefinger + button 1
#define CMD_SOUND_4 0x6D        // left forefinger + button 2
#define CMD_SOUND_5 0x6E        // left forefinger + button 3
#define CMD_SOUND_6 0x6F        // left forefinger + button 4

#define CMD_HEY_YOU 0x7F        // ROK star button

static const unsigned long ONE = 1;
const unsigned long CMD_TIMEOUT = 1000000; // microseconds, 1000000 =
1 sec

//=========================== SPEAKER
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#define SPEAKER_UP   15   //+SPEAKER Defines high pin for speaker
#define SPEAKER_DOWN 16       //-SPEAKER


#endif
```