Arduino Documentation

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1.1 File List

Here is a list of all documented files with brief descriptions:

Chapter 2

File Documentation

2.1 Arduino Code/fullcounter.c File Reference

This class is the code that is run on the Arduino. This file sets up the lcd screen that is used to setup the box when it is deployed, and has the implementation for setting which lot is being recorded at deployment. But most importantly, it is the code that actually uses the sensor to record whether or not a car has passed the sensor. It sends this information to the Raspberry Pi which then sends the information to the database.

```
#include <Wire.h>
#include <LiquidCrystal_I2C.h>
```

Functions

- LiquidCrystal_I2C **lcd** (0x27, 2, 1, 0, 4, 5, 6, 7, 3, POSITIVE)
- void setup ()

  Setup function which initializes the LCD and sets the modes for all necessary pins.
- void loop ()

  Main loop function which either sets the lot number or reads from the sensors depending on the state of the switch.
- void readSensors ()

  This function reads from the sensors and sends a signal to the serial port for each entry/exit. LEDs for each sensor are activated when motion is detected.
- void setLotNum ()

  This function sets the parking lot number to be used in the database. It uses 2 buttons to set the lot number and a switch to set or "unset" the current lot.

Variables

- const int **button1Pin** = 4
- const int **button2Pin** = 5
- const int **switchPin** = 6
- int **btn1State** = 0
- int **btn2State** = 0
- int **prevBtn1** = 0
- int **prevBtn2** = 0
- int **switchState** = 0

- int **prevSwState** = 0
- int **lotNum** = 0
- int **tens** = 0
- int **ones** = 0
- char **lotNumBuf** [16]
- char **serialBuf** [10]
- int **ledPin** = 13
- int **ledPin2** = 12
- int **inputPin1** = 2
- int **inputPin2** = 3
- int **pirState** = LOW
- int **pirState2** = LOW
- int **val** = 0
- int **val2** = 0
- int **hit1** = 0
- int **hit2** = 0
- unsigned long **timeout**

2.1.1 Detailed Description

This class is the code that is run on the Arduino. This file sets up the lcd screen that is used to setup the box when it is deployed, and has the implementation for setting which lot is being recorded at deployment. But most importantly, it is the code that actually uses the sensor to record whether or not a car has passed the sensor. It sends this information to the Raspberry Pi which then sends the information to the database.

2.1.2 Function Documentation

2.1.2.1 void loop ( )

Main loop function which either sets the lot number or reads from the sensors depending on the state of the switch.

Returns

void

2.1.2.2 void readSensors ( )

This function reads from the sensors and sends a signal to the serial port for each entry/exit. LEDs for each sensor are activated when motion is detected.

Returns

void

2.1.2.3 void setLotNum ( )

This function sets the parking lot number to be used in the database. It uses 2 buttons to set the lot number and a switch to set or "unset" the current lot.

Returns

void

2.1.2.4 void setup ( )

Setup function which initializes the LCD and sets the modes for all necessary pins.

Returns

void

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