Gravi_Utils

1.0

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1.1 File List

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

Chapter 2

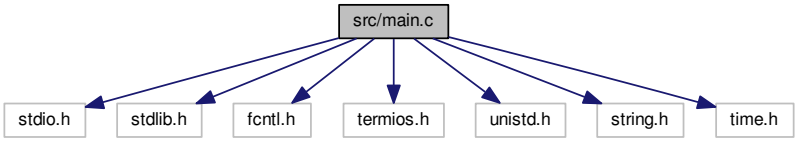
File Documentation

2.1 src/main.c File Reference

Program to interact with scales and solenoids.

```
#include <stdio.h>
#include <stdlib.h>
#include <fcntl.h>
#include <termios.h>
#include <unistd.h>
#include <string.h>
#include <time.h>
```

Include dependency graph for main.c:



Macros

- #define **WATERTIMEOUT** 100

Functions

- int get_balance (char *balance_port_id)

  Gets the balance of a particular port.
- int water_to_weight (char *balance_port_id, char *water_port_id, int target_weight)

  Waters to the target weight.
- int interact_with_port (char *port_id, char BW, char off_on)

  Reads/Sets the value of either a water solenoid or a balance.
- void deblank (char *input)

  Function to remove bad output from a string.
- int main (int argc, char *argv[])

  Main entry point for the program.

2.1.1 Detailed Description

Program to interact with scales and solenoids.

Author

Nathan Hughes

Date

25/8/2016 This program uses C to interact with the hardware in gravimetrics, using standard C commands that will compile on most systems, although aimed primarily for the Raspberry Pi

See also

https://support.plant-phenomics.ac.uk:8081/nah31/Gravi_Utils/

Bug No known issues

2.1.2 Function Documentation

2.1.2.1 void deblank (char * *input*)

Function to remove bad output from a string.

String given to this function should be just numbers, this function ensures that no garbage characters pollute the output of the scales

Parameters

input	char array pointer that needs cleaned up

2.1.2.2 int get_balance (char * *balance_port_id*)

Gets the balance of a particular port.

Parameters

Balance_port_id	the address of the port to examine

Returns

The weight in grams

2.1.2.3 int interact_with_port (char * *port_id,* char *BW,* char *off_on*)

Reads/Sets the value of either a water solenoid or a balance.

Making use of the params given it decides what it should do to a port address given this function will either apply a watering action or a weight reading action either way it returns a value which indicates the weight/exit code of its process

Parameters

port_id	the address of the port file
BW	an indication of whether to water or read balance
off_on	indication to write a high or low to the port (used for watering solenoids)

Returns

Either the exit code, or the value of a read balance

2.1.2.4 int main (int *argc,* char * *argv[ ]*)

Main entry point for the program.

Takes in a variable number of arguments that can be seen with the "help" command

Parameters

argc	the number of arguments given
argv	the strings passed as arguments details can be found by running Gravi_Utils help

Returns

exit code

2.1.2.5 int water_to_weight (char * *balance_port_id,* char * *water_port_id,* int *target_weight*)

Waters to the target weight.

This function waters a specific plant pot to the target weight given

Parameters

balance_port_id	
water_port_id	
target_weight	

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