KeypadwithNFC

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Contents

1 File Index

1.1 File List

Here is a list of all files with brief descriptions:

2 File Documentation

2.1 TuerschlossNFC.ino File Reference

Doorlock with Keypad and NFC.

```
#include <Wire.h>
#include <SPI.h>
#include <Adafruit_PN532.h>
```

Macros

- #define button0 (2)
- #define button1 (10)
- #define button2 (0)
- #define button3 (11)
- #define button4 (7)
- #define button5 (8)
- #define button6 (9)
- #define button7 (4)
- #define button8 (5)
- #define button9 (6)
- #define buttonStar (1)
- #define buttonHash (3)
- #define ledOpen (12)
- #define ledClose (13)
- #define doorPin (A0)
- #define PN532_SCK (A1)
- #define PN532_MOSI (A2)
- #define PN532_SS (A3)
- #define PN532_MISO (A4)
- #define PN532_IRQ (A1)
- #define PN532_RESET (A2)

Functions

- Adafruit_PN532 nfc (PN532_SCK, PN532_MISO, PN532_MOSI, PN532_SS)
- void setup ()
- void loop ()
- _Bool checkid (double idcard)

  Check if ID is authorized.
- _Bool buttonPressed (int button)

  Check if Button is pressed.
- void checkCode (int p)

  Check if Code is correct.
- void accesgranted ()

  Open the Door.
- void accesdenied ()

  Leave the Door closed.
- void reset ()

  Reset Input-Array.

Variables

- const int maxIN = (10 + 1)
- char secretCode [ ] = {button1, button1, button1, button1}
- const int k = sizeof(secretCode) / sizeof(secretCode[0])
- char inputCode [maxIN]
- const long keypadTimeout = 8000

2.1.1 Detailed Description

Doorlock with Keypad and NFC.

Author

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Board: Arduino Leonardo
Library: https://github.com/adafruit/Adafruit-PN532
Item List will follow..

2.1.2 Macro Definition Documentation

2.1.2.1 #define button0 (2)

Keypad Nr. 0 Pin 2

2.1.2.2 #define button1 (10)

Keypad Nr. 1 Pin 10

2.1.2.3 #define button2 (0)

Keypad Nr. 2 Pin 0

2.1.2.4 #define button3 (11)

Keypad Nr. 3 Pin 11

2.1.2.5 #define button4 (7)

Keypad Nr. 4 Pin 7

2.1.2.6 #define button5 (8)

Keypad Nr. 5 Pin 8

2.1.2.7 #define button6 (9)

Keypad Nr. 6 Pin 9

2.1.2.8 #define button7 (4)

Keypad Nr. 7 Pin 4

2.1.2.9 #define button8 (5)

Keypad Nr. 8 Pin 5

2.1.2.10 #define button9 (6)

Keypad Nr. 9 Pin 6

2.1.2.11 #define buttonHash (3)

Keypad Nr. # Pin 3

2.1.2.12 #define buttonStar (1)

Keypad Nr. ∗ Pin 1

2.1.2.13 #define doorPin (A0)

Operates a 5V Relais Pin A0

2.1.2.14 #define ledClose (13)

Red LED Pin 13

2.1.2.15 #define ledOpen (12)

Green LED Pin 12

2.1.2.16 #define PN532_IRQ (A1)

NFC Interrupt Request Pin A1

2.1.2.17 #define PN532_MISO (A4)

NFC Master Input, Slave Output Pin A4

2.1.2.18 #define PN532_MOSI (A2)

NFC Master Output, Slave Input Pin A2

2.1.2.19 #define PN532_RESET (A2)

Not connected by default on the NFC Shield

2.1.2.20 #define PN532_SCK (A1)

NFC Serial Clock Pin A1

2.1.2.21 #define PN532_SS (A3)

NFC Slave Select Pin A3

2.1.3 Function Documentation

2.1.3.1 void accesdenied ( )

Leave the Door closed.

Set the Red LED to HIGH for 1 Sec.

Returns

Void.

2.1.3.2 void accesgranted ( )

Open the Door.

Set the Green Led to HIGH and open the Door for 2 Sec.

Returns

Void

2.1.3.3 _Bool buttonPressed (int *button*)

Check if Button is pressed.

Check if Button switch from High to Low and Back to High

Parameters

button	scanned Button

Returns

True if Pressed False if not

2.1.3.4 void checkCode (int *p*)

Check if Code is correct.

Check if input code is the same as the secret code

Parameters

p	Count of pressed Buttons

Returns

Void

2.1.3.5 _Bool checkid (double *idcard*)

Check if ID is authorized.

If the NFC ID from the scanned Card is saved in the authorized List
You need to Edit here, if you like to add your Card!

Parameters

idcard	NFC ID from the scanned Card

Returns

True if Authorized
False if not

2.1.3.6 void loop ( )

TODO:Fix Hardware Issue->switch to ledOpen when fixed

2.1.3.7 Adafruit_PN532 nfc (PN532_SCK , PN532_MISO , PN532_MOSI , PN532_SS)

Check Adafruit library for more Information https://github.com/adafruit/Adafruit-PN532

Parameters

PN532_SCK	Serial Clock
PN532_MISO	Master Input, Slave Outpu
PN532_MOSI	Master Output, Slave Input
PN532_SS	Slave Select

2.1.3.8 void reset ( )

Reset Input-Array.

Reset InputCode-array by filling with Zeros

Returns

Void

2.1.3.9 void setup ( )

2.1.4 Variable Documentation

2.1.4.1 char inputCode[maxIN]

Initialize a Array for the Inputs

2.1.4.2 const int k = sizeof(secretCode) / sizeof(secretCode[0])

Length of your SecretCode

2.1.4.3 const long keypadTimeout = 8000

Set a Timeout for the Keypad

2.1.4.4 const int maxIN = (10 + 1)

Max length of Input

2.1.4.5 char secretCode[ ] = {button1, button1, button1, button1}

customize your Code here