

***** RDM8800 *****

This vesion source code of RDM8800 firmware reads Singapore's EZLink cards. THEY USE 13.56MHZ RFID TAG TYPE ISO 14443 TYPE B[1] / CEPAS protocol. From the original source code written by Stan Lee (Lizq@iteadstudio.com). When a card is detected it returns as a comma seperated list of text fields. They are the card number, balance, number of days since 1995-01-01 to expire and number of days since 1995-01-01 created.

So for example:

Presenting a card will return:

1000130019390060,8.38,9107,6915

Which can be broken up into the following comma seperated fields:

Number: 1000130019390060

Balance: 8.38

Expire days: 9107

Created days: 6915

By Bill - bill@anantya.com 19/June/2014

*****/

```
#include <PN532Lib.h>
```

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

```
uint8_t cardDataIn[128];
```

```
uint8_t cardDataOut[] = {
  0x01, // target number (always 1)
  0x90, // command class
  0x32, // INS - read purse
  0x03, // purse #3
  0x00, // param 1
  0x00, // param 2
  0x00, // LC
  0x00 // ??
};
```

```
#define PN532_CS 10
PN532Lib nfc(PN532_CS);
```

```
void setup(void) {
  // setup serial at 9600 baud
  Serial.begin(9600);

  // startup the nfc card reader
  nfc.begin();
  nfc.SAMConfig();
}
```

```
void loop(void) {

  // look for EzLink cards
  uint32_t id = nfc.readPassiveTargetID(PN532_MIFARE_ISO14443B, PN532_CARDTYPEB);

  // if random tag id number then we have a card
  if (id != 0) {
    // now request the card data
    if ( nfc.dataExchange(cardDataOut, sizeof(cardDataOut), cardDataIn, sizeof(cardDataIn))
    ) {
      // send out the card number
      uint8_t i;
      for ( i = 0; i < 8; i ++ ) {
        Serial.print((cardDataIn[8 + i] >> 4) & 0x0F, HEX);
      }
    }
  }
}
```

```
    Serial.print(cardDataIn[8 + i] & 0x0F, HEX);
  }
  // send out the balance
  double balance = (cardDataIn[2] << 16 ) | (cardDataIn[3] << 8 ) | (cardDataIn[4] );
  Serial.print(",");
  Serial.print(balance / 100); // supprime les 2 derniers caracteres
  // send the end or record cr/lf
  Serial.println("");
}
}
// loop delay before the next read attempt
delay(100);
}
```

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