RFID_R6 API SPECIFICATION with ISO14443A Ultralight C

This document is about how to use CLRC663 RFID reader to work with ISO14443A/MIFARE(R) Ultralight protocol. This document describe how to use all native func in java source file which is locate in the path of /src/com/geomobile/rc663/Mifare_ultralight.java. Customs can use these func to develop application layer program, but not all types of card support all instructions. All native func will print debug message, if func run failed, please use eclipse or adb to check debug message, this will help you to fix problems.

1 FUNC PROTOTYPE：**int init_dev();**

FUNC DESCRIPTION：Init reader device.

PARAM DESCRIPTION：none

RETURN VALUE：Return -1 means failed; return 0 means init device ok.

2 FUNC PROTOTYPE：**void release_dev();**

FUNC DESCRIPTION：Close reader device.

PARAM DESCRIPTION：none

RETURN VALUE：none

3 FUNC PROTOTYPE：**byte[] search_card();**

FUNC DESCRIPTION：Search card, deal with collision then select card, finally return the SN of card which is selected.

PARAM DESCRIPTION：none。

RETURN VALUE：If search failed, will return **null**; if success, will return a byte array. It's content is the selected card's SN.

4 FUNC PROTOTYPE：**int halt_card();**

FUNC DESCRIPTION：Make the current selected card to halt status. It will not be searched again.

PARAM DESCRIPTION：none

RETURN VALUE：Return -1 means failed; return 0 means halt card ok.

5 FUNC PROTOTYPE：**int active_card(byte[] cid);**

FUNC DESCRIPTION：If a card was halted, it will not be search and selected again. Use this func will active the halted card which has the SN store in param cid.

PARAM DESCRIPTION：

PARAM **cid**：The SN of the card want to active.

RETURN VALUE：Return -1 means failed; return 0 means active card ok.

6 FUNC PROTOTYPE：**byte[] read_block(int block);**

FUNC DESCRIPTION：Read a block's raw data.

PARAM DESCRIPTION：

PARAM **block**：The block number want to read（A total of 16 blocks）.

RETURN VALUE：When failed, will return **null**; when success, return a byte array which contain the raw data of block. For Mifare ultralight C card, a block has the size of 16 bytes.

7 FUNC PROTOTYPE：**int write_block(int block, byte[] data);**

FUNC DESCRIPTION：Write raw data to block. Before use this, need to authenticate the block with key which offer the write permission success.

PARAM DESCRIPTION：

PARAM **block**：The block number want to write（A total of 16 blocks）.

PARAM **data**：The data want to write. For Mifare ultralight C card, the size of block is 4bytes. So data param should has the size of 4 bytes.

RETURN VALUE：Return -1 means failed; return 0 means write card ok.

8 FUNC PROTOTYPE：**int** `compatibility_write` **(int block, byte[] data);**

FUNC DESCRIPTION：Write raw data to block. Even though 16 bytes are tr ansferred to the MF0 IC U1, only the least significant 4 bytes (bytes 0 to 3) will be written to the specified address. It is recommended to set the
remaining bytes 4 to 15 to all ‘0’.

PARAM DESCRIPTION：

PARAM **block**：The block number want to write（A total of 16 blocks）.

PARAM **data**：The data want to write. For Mifare ultralight C card, the size of block is 4 bytes. So data param should has the size of 16 bytes.

RETURN VALUE：Return -1 means failed; return 0 means write card ok.