RAINx API User Manual

2019-06-29

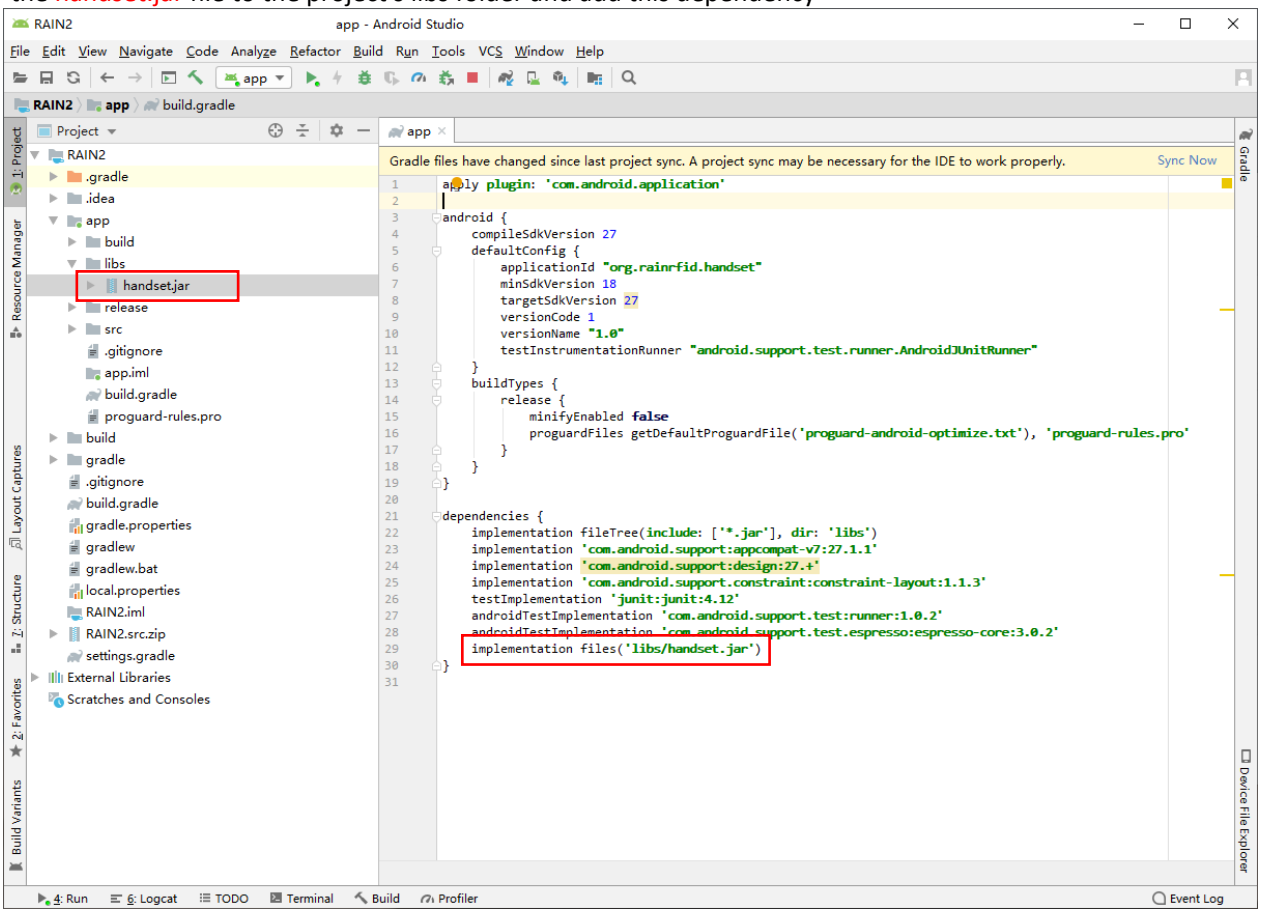
Version List

Version	Date	Description
v1.0	2019-05-06	The first release
v1.1	2019-05-13	Add select tag function
v1.2	2019-06-29	Add Anti-collision function

Catalogue

1、Add Library

Copy the handset.jar file to the project's libs folder and add this dependency



Add Permission

```
<uses-permission android:name="android.permission.BLUETOOTH" />
<uses-permission android:name="android.permission.BLUETOOTH_ADMIN" />
<uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION" />
<uses-permission android:name="android.permission.ACCESS_FINE_LOCATION" />
```

2、Listener

2.1 Connection Listener

Define

```
public interface OnConnectionListener {
    void onConnecting();
        void onConnected();
        void onDisconnected();
}
```

onConnecting	**Connecting**
onConnected	**Connection success**
onDisconnected	**Disconnect or connection failure**

Configuration method

```
Device.getInstance().setOnConnectionListener(new OnConnectionListener() {
   @ Override
      public void onConnecting(){}
   @ Override
      public void onConnected(){}
   @ Override
      public void onDisconnected(){}
});
```

2.2 BarcodeListener

Define

```
public interface OnBarcodeListener {
   void onBarcode(String barcode);
   void onFailed();
}
```

onBarcode	**Scan the code successfully, return the barcode value**
onFailed	**Scan failure**

Configuration method

```
Device.getInstance().setBarcodeListener(new OnBarcodeListener() {
      @Override
    public void onBarcode(String barcode) {}
      @Override
      public void onFailed() {}
});
```

2.3 UHFListener

Define

```
public interface OnUHFListener {
     void onStart();
     void onInventory(String pc, String epc, double rssi);
     void onStop();
}
```

onStart	Inventory Start
onInventory	Receive inventory data
onStop	Inventory Stop

Configuration method

```
Device.getInstance().setOnUHFListener(new OnUHFListener() {
        @ Override
        public void onStart(){}
        @ Override
        public void onInventory(String pc, String epc, double rssi){}
        @ Override
        public void onStop(){}
});
```

2.4 HandleListener

Define

```
public interface OnHandleListener {
   void onDown();
   void onUp();
}
```

onDown	Handle button press down
onUp	Handle button press up

Configuration method

```
Device.getInstance().setOnHandleListener(new OnHandleListener() {
      @Override
    public void onDown() {}
      @Override
      public void onUp() {}

});
```

3、Functions

3.1 connect

Function	boolean connect(final String address)
Description	Create connection
Parameter	address XXXXXXXXXXXX MAC address
Return	true : successfully receive the connection result by the listener false Failed

3.2 disconnect

Function	void disconnect()
Description	Close connection

3.3 getVersion

Function	String getVersion() throws Exception
Description	Get Version from hardware
Return	Version
Exception	Failed

3.4 uhfPowerOn

Function	void uhfPowerOn() throws Exception
Description	Turn on for the UHF module
Exception	Power on failed

3.5 uhfPowerOff

Function	void uhfPowerOff() throws Exception
Description	Turn off for the UHF module
Exception	Power off failed

3.6 barcodePowerOn

Function	void barcodePowerOn() throws Exception
Description	Turn on for the barcode module
Exception	Power on failed

3.7 barcodePowerOff

Function	void barcodePowerOff() throws Exception
Description	Turn off for the barcode module
Exception	Power off failed

3.8 scanBarcode

Function	void scanBarcode()
Description	Scan Code, receive the result by the barcode listener
Return	none

3.9 inventory

Function	void inventory
Description	Inventory receive the result by the UHF listener
Return	none

3.10 stopInventory

Function	void stopInventory()
Description	Inventory Stop receive the result by the UHF listener
Return	none

3.11 Select

Function	void select(int bank, int start, byte[] mask) throws Exception
Description	Select a tag, for access operation
Parameter	bank 0 reserve ,1 EPC,2 TID,3 User start offset of the select value mask: define the select value
Return	none
Exception	Select failed

3.12 deselect

Function	void deselect() throws Exception
Description	Select none
Return	none
Exception	deselect failed

3.13 getPower

Function	int getPower() throws Exception
Description	Get out power of UHF module
Return	power the unit is 1/10dBm
Exception	getPower failed

3.14 setPower

Function	void setPower(int power) throws Exception
Description	Set out power for UHF module
Parameter	power the unit is 1/10dBm
Return	none, successfully
Exception	setPower failed

3.15 getAntiCollision

Function	AntiCollision getAntiCollision() throws Exception
Description	Get Anti-collision configuration of UHF module
Return	Anti-collision configuration
Exception	getAntiCollision failed

3.16 setAntiCollision

Function	void setAntiCollision(AntiCollision antiCollision) throws Exception
Description	Set Anti-collision configuration for UHF module
Parameter	Anti-collision configuration

	Anti-collision struct: - mode: fixed Q(0x00), dynamic Q(0x01) - Q Start (8-bit) - Q Max (8-bit) - Q Min (8-bit)
Return	none successfully
Exception	setAntiCollision failed

3.17 getRegion

Function	int getRegion() throws Exception
Description	get regional standards of UHF module
Parameter	none
Return	0 Korea 1 USWide 2 USNarrow 3 Europe 4 Japan 5 China2 6 Brazil1
Exception	getRegion failed

3.18 setRegion

Function	void setRegion(int region) throws Exception
Description	set regional standards for UHF module
Parameter	region 0 Korea 1 USWide 2 USNarrow 3 Europe 4 Japan 5 China2 6 Brazil1
Return	none, successfully
Exception	setRegion failed

3.19 setChannel

Function	void setChannel(int channel) throws Exception
Description	set channel for UHF module
Parameter	channel
Return	none, successfully
Exception	setChannel failed

3.20 getChannel

Function	int getChannel() throws Exception
Description	get channel of UHF module
Return	Channel
Exception	getChannel failed

3.21 getQuery

Function	Query getQuery() throws Exception
Description	get query of UHF module
Return	Query
Exception	getQuery failed

3.22 setQuery

Function	void setQuery(Query query) throws Exception
Description	set query for UHF module
Parameter	query
Return	none, successfully
Exception	setQuery failed

3.23 updateRegistry

Function	void updateRegistry() throws Exception
Description	Save the parameters for UHF module, the UHF parameters will not be lost after the power off
Return	none, successfully
Exception	updateRegistry failed

3.24 readTag

Function	byte[] readTag(int bank, int start, int length, byte[] access_password) throws Exception
Description	Read tag data
Parameter	bank : 0 reserve ,1 EPC,2 TID,3 User start offset of the memory data length data length access_password : if target memory bank was password protected. Otherwise, set AP filled to 00000000 4 bytes
Return	memory data
Exception	readTag failed

3.25 writeTag

Function	void writeTag(int bank, int start, int length, byte[] access_password, byte[] data) throws Exception
Description	Write tag data
Parameter	bank : 0 reserve ,1 EPC,2 TID,3 User start offset of the memory data length data length access_password : if target memory bank was password protected. Otherwise, set AP filled to 00000000 4 bytes data memory data
Return	none, successfully
Exception	writeTag failed

3.26 lockTag

Function	void lockTag(byte[] access_password, byte[] epc, int area, int type) throws Exception
Description	Lock an indicated memory bank in the tag
Parameter	access_password : if target memory bank was password protected. Otherwise, set AP filled to 00000000 4 bytes epc : Target tag's EPC area : target type action
Return	none, successfully
Exception	lockTag failed

3.27 killTag

Function	void killTag(byte[] kill_password, byte[] epc) throws Exception
Description	Kill a Tag
Parameter	kill_password : Kill Password epc : Target tag's EPC
Return	none, successfully
Exception	killTag failed