

Print development guide

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table of Contents

Print development guide.....	1
1. Introduction.....	5
2. Precautions.....	5
2.1 configure android development environment.....	5
2.2 Basic printing process	6
3.Interface	6
3.1.1 Printer status	6
3.1.2 Print language.....	7
3.1.3 Print density	7
3.1.4 Printer code.....	7
3.1.5 Emphasis mode	8
3.1.6 Font size	8
3.1.7 Multi-line wrapping.....	8
3.1.8 Single line wrap	9
3.1.9 Blank printing.....	9
3.2.1 Print text.....	9
3.2.2 Alignment.....	10
3.2.3 Left margin	10
3.2.4 Title text	10
3.2.5 Enable one vote, one control.....	11
3.2.6 One vote, one control start.....	11
3.2.7 One vote, one control end.....	11
3.2.8 Print barcode.....	12

3.2.9 Through picturesPrint QR code	12
3.3.1 Turn on black mark detection.....	12
3.3.2 Go to the next black mark	13
3.3.3 Print device information	13
3.3.4 Reset printer.....	13
3.3.5 Get the firmware version	14
3.3.6 Two-line splicing of small ticket content.....	14
3.3.7 Three-line splicing of small ticket content	14
3.3.8 Dotted line	15
3.3.9 Unloading paper.....	15
3.4.1 Slowly print pictures	15
3.4.2 Quickly print pictures	16
3.4.3 Set printer encoding format	16
3.4.4 Psam card reset	16
3.4.5 Send apdu command	17
3.4.6 Whether to enable the enrichment mode.....	17
3.4.7 Print QR code via printer	17
3.4.8 Whether to enable automatic paper feed	18
3.4.9 Set text line spacing	18
3.5.1 Restore default line spacing	18
3.5.2 Hide the text below the barcode	19
4 Appendix 1	19
4.1 Printer encoding type.....	19
4.2 Printer support languages.....	19

4.3 Example of small ticket printing	20
4.4 Label printing example.....	21
4.5 Enumeration class	22
4.6 Bluetooth printing.....	22
5. Appendix 2	23
5.1 PSAM operation	23
5.2 Example psam tool class	23
5.3 Card reset operation	23
5.4 Send apdu command	23
6. Appendix 3	24
6.1 One-vote-one-control on small tickets.....	24
6.2 Matters needing attention	24
7. Get started quickly.....	25
7.1 Label printing process	25

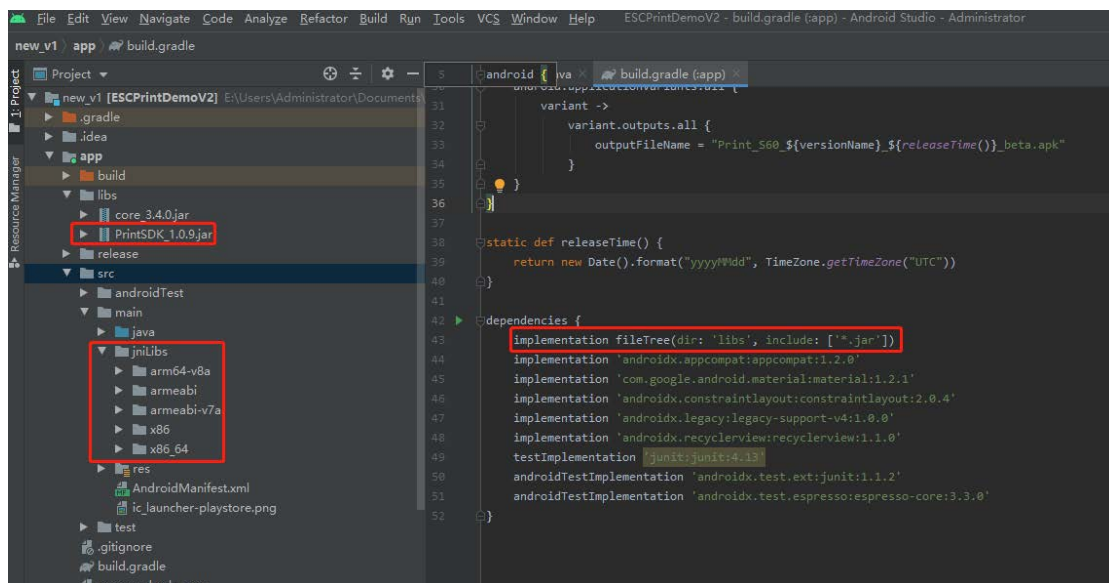
1. Introduction

In order to facilitate secondary development, we provide a function library that can be run on the Java platform. The library is written in Java language.

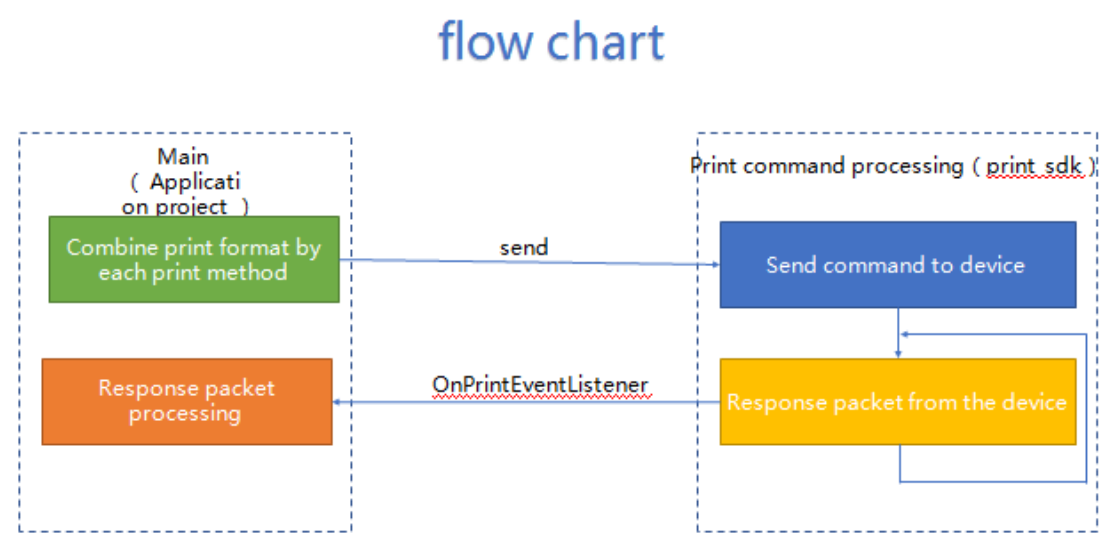
2. Precautions

2.1 configure android development environment

1. Add print_version.jar ,core.jar and so files to the project, configure the jar package path and so files path in the gradle file.



2.2 Basic printing process



3.Interface

3.1.1 Printer status

Function interface	void printState ()
Function Description	Printer status
Parameter Description	no
return value	no

3.1.2 Print language

Function interface	void printLanguage(int mode)
Function Description	language settings
Parameter Description	mode: Please refer to Appendix 4.2 Supported Languages
return value	no

3.1.3 Print density

Function interface	void printConcentration (int level)
Function Description	concentration
Parameter Description	level: 25-39
return value	no

3.1.4 Printer code

Function interface	void printEncode (int encode)
Function Description	Encoding settings
Parameter Description	encode: refer to appendix 4.1 encoding type
return value	no

3.1.5 Emphasis mode

Function interface	void printTextBold (boolean bold)
Function Description	Emphasis mode, bold text
Parameter Description	bold: true is turned on, false is turned off
return value	no

3.1.6 Font size

Function interface	void printFontSize (MODE_ENLARGE mode)
Function Description	font size
Parameter Description	MODE_ENLARGE: <i>NORMAL</i> <i>HEIGHT_DOUBLE</i> <i>HEIGHT_WIDTH_DOUBLE</i>
return value	no

3.1.7 Multi-line wrapping

Function interface	void printLine(int lineNum)
Function Description	Multi-line wrap
Parameter Description	lineNum: 1-n
return value	no

3.1.8 Single line wrap

Function interface	void printLine()
Function Description	Single line wrap
Parameter Description	no
return value	no

3.1.9 Blank printing

Function interface	void printTabSpace(int length)
Function Description	Print blank
Parameter Description	length:1-n
return value	no

3.2.1 Print text

Function interface	void printText(String text)
Function Description	Print text
Parameter Description	text
return value	no

3.2.2 Alignment

Function interface	void printAlignment(ALIGN_MODE alignment)
Function Description	Alignment
Parameter Description	ALIGN_MODE: <i>ALIGN_LEFT</i> <i>ALIGN_CENTER</i> <i>ALIGN_RIGHT</i>
return value	no

3.2.3 Left margin

Function interface	void printMarginLeft(int param)
Function Description	Left margin
Parameter Description	Param:0-384
return value	no

3.2.4 Title text

Function interface	void printLargeText(String text)
Function Description	Large text
Parameter Description	text
return value	no

3.2.5 Enable one vote, one control

Function interface	void printEnableCertificate(boolean bool)
Function Description	Open one ticket, one control
Parameter Description	bool: true is turned on, false is turned off
return value	no

3.2.6 One vote, one control start

Function interface	void printStartNumber(int number)
Function Description	One vote for one head
Parameter Description	number:1000000001 (10-digit serial number, add 1 each time)
return value	no

3.2.7 One vote, one control end

Function interface	void printEndNumber()
Function Description	One vote, one control ending
Parameter Description	no
return value	no

3.2.8 Print barcode

Function interface	void printBarcode(String text, int Height, int Width)
Function Description	Print barcode
Parameter Description	text:Barcode content Height: barcode height Width: 1-4
return value	no

3.2.9 Through picturesPrint QR code

Function interface	void printQR(String text, int height, int width)
Function Description	Print QR code
Parameter Description	text:Barcode content Height: height Width: up to 384
return value	no

3.3.1 Turn on black mark detection

Function interface	void printEnableMark(boolean bool)
Function Description	Turn on black mark detection
Parameter Description	bool: true is turned on, false is turned off
return value	no

3.3.2 Go to the next black mark

Function interface	void printGoToNextMark()
Function Description	Go to the next black mark
Parameter Description	no
return value	no

3.3.3 Print device information

Function interface	void printFeatureList()
Function Description	List of functions supported by the printing device
Parameter Description	no
return value	no

3.3.4 Reset printer

Function interface	void resetPrint()
Function Description	Reset printer
Parameter Description	no
return value	no

3.3.5 Get the firmware version

Function interface	void getVersion()
Function Description	Get the printer firmware version
Parameter Description	no
return value	no

3.3.6 Two-line splicing of small ticket content

Function interface	void printTwoColumn(String title, String content)
Function Description	Two-line splicing of small ticket content
Parameter Description	no
return value	no

3.3.7 Three-line splicing of small ticket content

Function interface	void printThreeColumn(String left, String middle, String right)
Function Description	Three-line splicing of small ticket content
Parameter Description	no
return value	no

3.3.8 Dotted line

Function interface	void printDashLine()
Function Description	dotted line
Parameter Description	no
return value	no

3.3.9 Unloading paper

Function interface	void setBackPaper(int param)
Function Description	Print the paper back to the cover, 9030 version firmware does not need this setting
Parameter Description	param: 0-100
return value	no

3.4.1 Slowly print pictures

Function interface	void printBitmap(Bitmap bmp)
Function Description	Small picture printing (384x360)
Parameter Description	Bitmap
return value	no

3.4.2 Quickly print pictures

Function interface	void printBitmap2(Bitmap bmp)
Function Description	Large picture use (384xn)
Parameter Description	Bitmap
return value	no

3.4.3 Set printer encoding format

Function interface	void setEncoding(String encoding)
Function Description	Set encoding (default GB2312)
Parameter Description	String
return value	no

3.4.4 Psam card reset

Function interface	int resetPsam(inttype, byte[] data)
Function Description	Psam card reset
Parameter Description	Type: card 1, card 2 Data: incoming byte array
return value	Int

3.4.5 Send apdu command

Function interface	int sendApdu(inttype, String apduHex,byte[] data)
Function Description	Send apdu command
Parameter Description	Type: card 1, card 2 apduHex: Apdu command Data: incoming byte array
return value	Int

3.4.6 Whether to enable the enrichment mode

Function interface	void printThicken(boolean bool)
Function Description	Enrichment mode control (9030 firmware version and above)
Parameter Description	True: enable enrichment False: turn off and thicken
return value	Void

3.4.7 Print QR code via printer

Function interface	void printQR2(int pix, int unit, int level, ALIGN_MODE AlignMode, String CodeText)
Function Description	Print QR code via instructions
Parameter Description	Pix(pixel):pixel size $n \geq 1$, $n \leq 24$ Unit(QR code version): Unin size $1 \leq n \leq 16$ Level(Error correction level):48 49 50 51 ALIGN_MODE: Alignment
return value	Void

3.4.8 Whether to enable automatic paper feed

Function interface	void printAutoEnableMark(boolean bool)
Function Description	Control whether to print the last printed content after changing the paper
Parameter Description	True: turn on automatic paper feed False: turn off automatic paper feed
return value	Void

3.4.9 Set text line spacing

Function interface	void setPrintLineSpacing(int line)
Function Description	Set the line spacing to [n × vertical or horizontal movement unit] inches, $0 \leq n \leq 255$
Parameter Description	line:
return value	Void

3.5.1 Restore default line spacing

Function interface	void setPrintDefLineSpacing()
Function Description	Set the line spacing to the default value
Parameter Description	no
return value	Void

3.5.2 Hide the text below the barcode

Function interface	void printNoBarcodeText()
Function Description	Hide barcode text, set before printing barcode
Parameter Description	no
return value	Void

4 Appendix 1

4.1 Printer encoding type

n = 2, UTF-8 encoding; n = 3, CODEPAGE encoding

4.2 Printer support languages

n	Code page
0	PC437[American, European Standard]
3	PC860 [Spanish]、 [Portuguese]
7	PC737 [Greek]
15	PC936 [Chinese Simplified]、 PC950[chinese traditional]、

	PC932 [Japanese]
18	PC852:Latin2 [Latin]
19	PC858 [Western European]
21	PC858 [Slavic/Russian]
23	CP857 [Turkish]
32	CP874 [Thai]
41	CP1258[Vietnam]

For specific settings of encoding and language, please refer to the language setting of the printer initialization operation.

4.3 Example of small ticket printing

```
public void printText(intnumber) {
```

```
    try {PrintUtil pUtil = PrintUtil.getClient (); pUtil. printState (); // The
    print status needs to be placed at the top pUtil.printStartNumber
    (number); pUtil.printConcentration (25);
```

```
    pUtil.printFontSize (MODE_ENLARGE.NORMAL); pUtil.printTextBold
    (true);
    pUtil.printAlignment (ALIGN_MODE.ALIGN_LEFT); pUtil.printTextBold
    (false);
    pUtil.printFontSize (MODE_ENLARGE.NORMAL);
    pUtil.printLine ();
    pUtil.printAlignment (ALIGN_MODE.ALIGN_LEFT); pUtil.printLine ();
    pUtil.printTwoColumn ("Time: ", "2017-05-09 15:50:41");
    pUtil.printLine (); pUtil.printTwoColumn ("order number:", "1");
    pUtil.printLine (); pUtil.printTwoColumn ("Payer:", "VitaminChen");
    pUtil.printLine (); pUtil.printDashLine (); pUtil.printLine ();
```

```

pUtil.printText ("commodity"); pUtil.printTabSpace (2); pUtil.printText
("Quantity"); pUtil.printTabSpace (1); pUtil.printText ("unit price");
pUtil.printLine (); pUtil.printThreeColumn ("iphone6", "1", "4999.00");
pUtil.printThreeColumn ("iphone6", "1", "4999.00");
pUtil.printDashLine (); pUtil.printLine ();

```

```

pUtil.printTwoColumn ("order amount:", "9998.00"); pUtil.printLine ();
pUtil.printTwoColumn ("Amount received:", "10000.00");
pUtil.printLine (); pUtil.printTwoColumn ("Change:", "2.00");
pUtil.printLine (); pUtil.printDashLine (); pUtil.printLine ();
pUtil.printAlignment (ALIGN_MODE.ALIGN_CENTER); pUtil.printBarcode
("123456", 80, 2); pUtil.printLine (); pUtil.printQR ("1234456", 200, 200);
pUtil.printLine (2); pUtil.printEndNumber ();

```

```

} catch (IOException e) {

```

```

}}

```

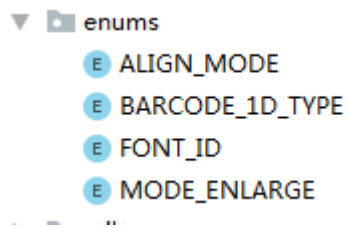
4.4 Label printing example

```

public void printLabel(int number) {try {PrintUtil pUtil=new PrintUtil
(mOutputStream, "GB2312");
pUtil. printState (); // The print status needs to be placed at the top
pUtil.printStartNumber (number); pUtil.printConcentration (25);
pUtil.printAlignment (ALIGN_MODE.ALIGN_CENTER); pUtil.printBarcode
("123456", 100, 2); pUtil.printGoToNextMark (); pUtil.printEndNumber ();
} catch (IOException e) {e.printStackTrace (); }}

```

4.5 Enumeration class



ALIGN_MODE: alignment

BARCODE_1D_TYPE: Barcode type

FONT_ID: character font

MODE_ENLARGE: character enlargement

4.6 Bluetooth printing

This device currently supports Bluetooth printing. If you use the serial port method, please turn off the virtual Bluetooth switch.

It should be noted that virtual Bluetooth can only be used by this machine, and other devices cannot be connected.

The use steps are as follows:

1. Turn on the virtual Bluetooth switch in Settings ==> Personalization
2. You will see VirtualBT in the Bluetooth list after turning it on
3. There is no need to open the serial port after pairing Bluetooth, pass directlyBluetoothSocket, transmit data organized by PrintUtil
4. Please see the demo example for specific operations

5. Appendix 2

5.1 PSAM operation

Suitable for printer with psam module

5.2 Example psam tool class

```
PrintUtil printUtil=PrintUtil.getClient ();
```

5.3 Card reset operation

type: card 1, card 2

bytes: receive the returned data

```
byte bytes=new byte[32];  
printUtil.resetPsam (1, bytes);
```

5.4 Send apdu command

type: card 1, card 2 hex: apdu command

bytes: receive the returned data

```
byte bytes=new byte[32];  
printUtil.sendApdu (psamId, sendHex, bytes);
```

6. Appendix 3

6.1 One-vote-one-control on small tickets

Please refer to the one-vote-one-control document about the serial number of one-vote-one-control.

6.2 Matters needing attention

1. The printer currently does not support horizontal layout, such as the QR code on the left and the text on the right. This format needs to generate pictures for printing. For examples, please refer to CanvasActivity, The maximum width of the picture is 384. Can refer to the provided in the demoCanvasUtil.

2. When performing continuous label printing, please print the next one after the printing is completed. Directly using the loop to send will cause data confusion, and the loop will be adjusted soon. The content of the previous one is not finished, and the next one is sent again; Therefore, one ticket and one control are turned on during initialization. After opening, the ticket serial number and end tag are sent at the head and tail of the printed content. After the printer finishes printing, it will return the serial number sent, and the serial port receives the serial number sent and the printing is successful.

3. When the firmware version of the device is 9030, there is no need to call the paper return method, this version can automatically return the paper when the black mark is turned on.

4. When using Thai language, please set the printer code to utf-8, otherwise garbled characters will appear.
5. The psam function needs to be matched.

7. Get started quickly

7.1 Label printing process

- 1、Get print instance

```
pUtil = PrintUtil.getInstance();  
pUtil.printEnableCertificate(true);//Open one vote one control  
pUtil.printAutoEnableMark(false);//Auto feed on or not  
pUtil.printLanguage(15);//Language settings  
pUtil.printEncode(3);//Coding settings  
pUtil.setPrintDefLineSpacing();//Restore default row spacing
```

- 2、Set print monitor

```
pUtil.setPrintEventListener(new OnPrintEventListener() {  
    @Override  
    public void onPrintStatus(int state) {  
        Log.e("TAG", "onPrintStatus: " + state);  
        switch (state) {  
            case 0:  
                if (loadProgressDialog != null) {  
                    if (loadProgressDialog.isShowing()) {  
                        loadProgressDialog.cancel();  
                    }  
                }  
            }  
        }  
    }  
});
```

```

        }
    }
    number += 1; // Serial number self plus 1 Serial number plus 1
    Toast.makeText(mContext, getString(R.string.toast_print_success),
    Toast.LENGTH_SHORT).show();
    break;
    case 1:
    case 3:
        Toast.makeText(mContext, getString(R.string.toast_no_paper),
    Toast.LENGTH_SHORT).show();
        break;
    case 2:
        Toast.makeText(mContext, getString(R.string.toast_print_error),
    Toast.LENGTH_SHORT).show();
        break;
    }
}
@Override
public void onVersion(String version) {
}
@Override
public void onTemperature(String str) {
}
});

```

3、Printing

```

printUtil.printEnableMark(true); // Turn on black label detection
printUtil.printStartNumber(number); // One vote, one control
printUtil.printState(); // Start printing status callback
// print contents
printUtil.printConcentration(Integer.valueOf(mEditBarCon.getText().toString().trim())
);

```

```
printUtil.printAlignment(ALIGN_MODE.ALIGN_CENTER);  
printUtil.printLine(1);  
if (barContent.length() > 12) {  
    printUtil.printBarcode(barContent, mBarcode1DType, 80, 1);  
} else {  
    printUtil.printBarcode(barContent, mBarcode1DType, 80, 2);  
}  
printUtil.printGoToNextMark();//Go to the next label  
printUtil.printEndNumber();//End one vote one control
```