

# Star mPOP Android SDK User's Manual

**Aug 24, 2015**

## **Abstract**

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This paper provides information about the Star mPOP Android SDK.  
It provides guidelines for our customers to build the mPOP application.

#### Version History

| Release Date | Update      |
|--------------|-------------|
| Aug 24, 2015 | 1st Release |

## About this Manual

This manual is designed to help you understand StarIO library, StarIO\_Extension library and how to build an Android application to interact with mPOP.

**When you'd like to know StarIO library details, download StarIO Android SDK, and refer to the document.**

It is important to understand the basics of the Java language. Although this SDK is for Android, there are SDKs available for many different operating systems and programming languages at [our website](#) in the Developers section. Check the Developers section of our site for the newest SDKs, technical documentation, FAQs, and many more additional resources.

### **CAUTION**

- The information in this manual is subject to change without notice.
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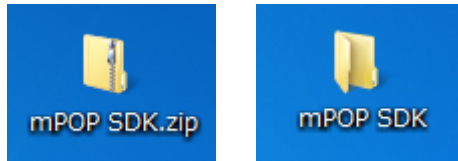
## 1 Getting Started

To build an Android project, Android Studio are needed. These tools are available in one package from the [Android Studio – Official Site](#).

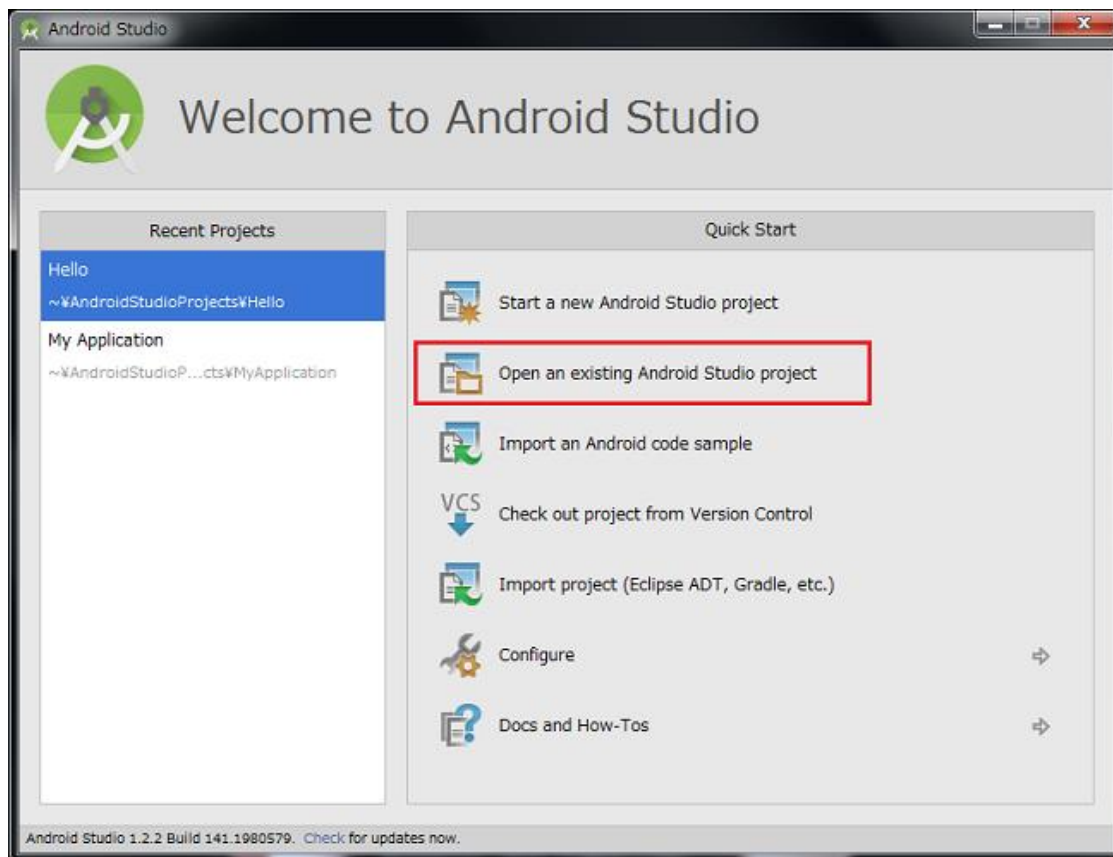
It is assumed Android Studio have already been installed on your PC at this point. Should you need assistance or additional information, visit the [Android Studio – Official Site](#).

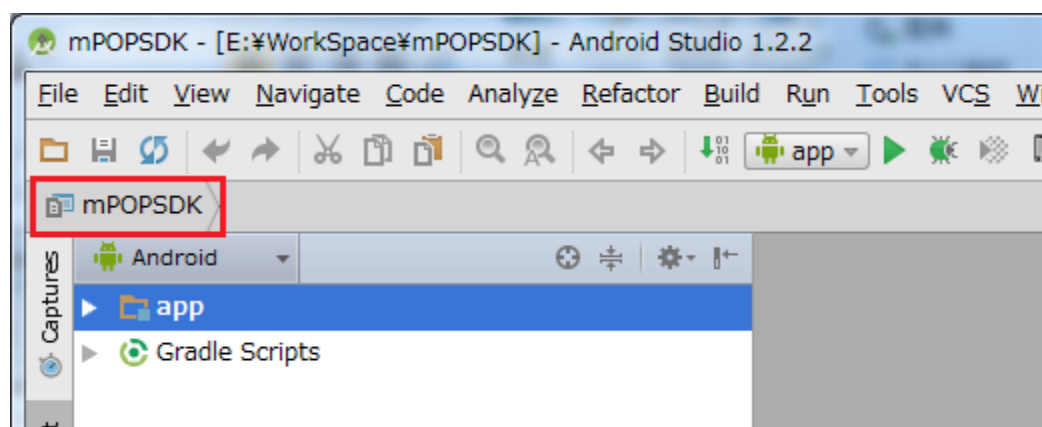
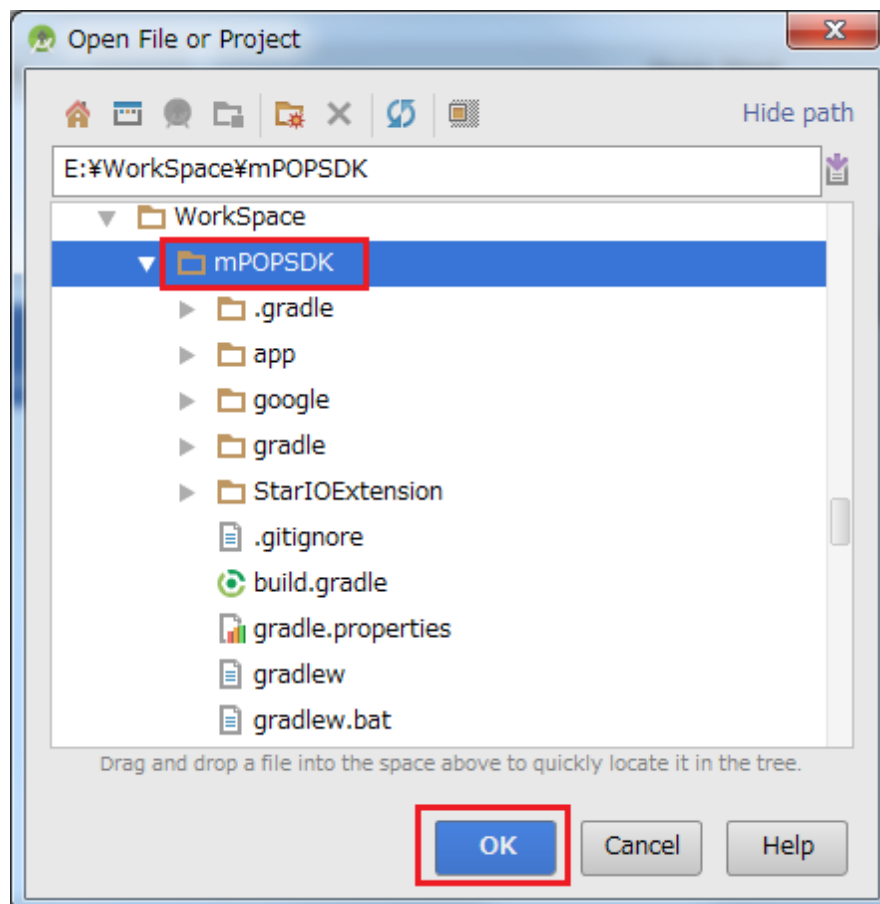
### How to open the Star mPOP Android SDK project in Android Studio

1. Unzip the Star iOS SDK folder.



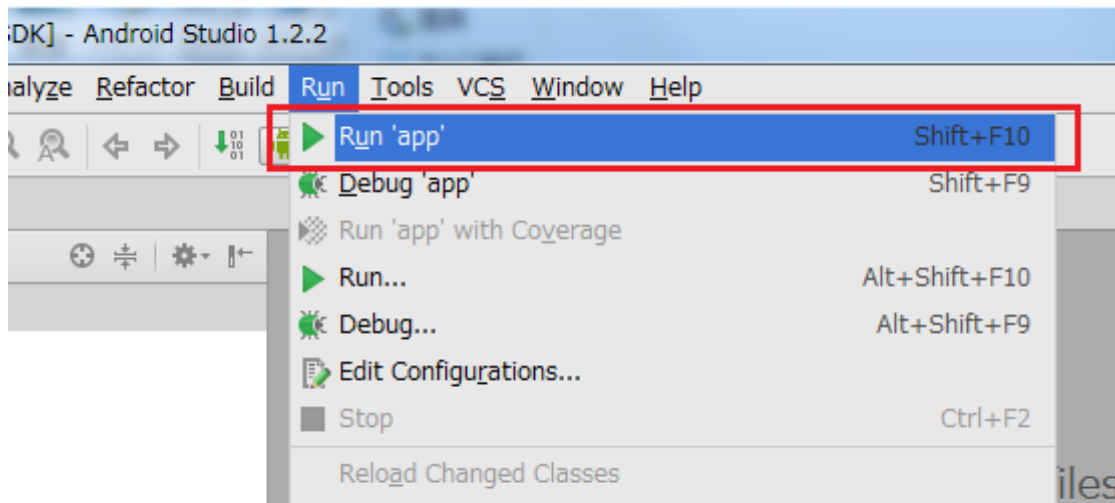
2. Execute X and open mPOP SDK.



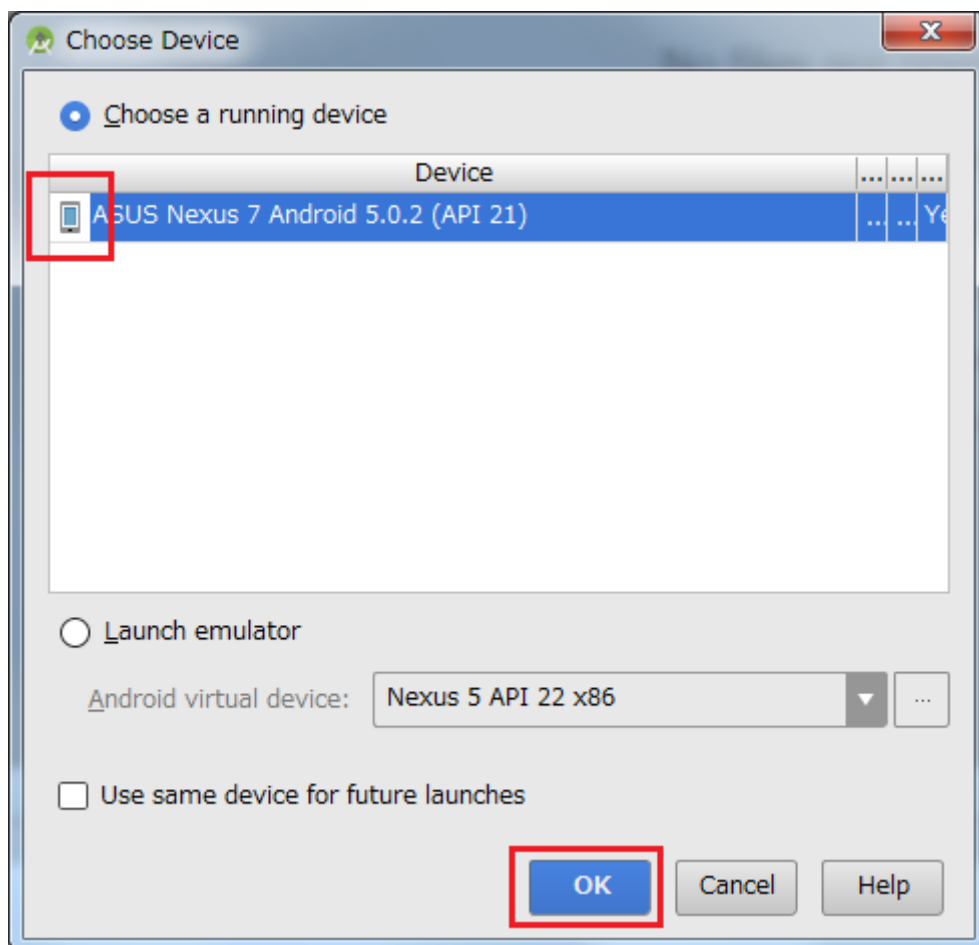


## Running the project

1. Click "Run" in the top menu bar and then select "Run 'app'".



2. Choose Device.



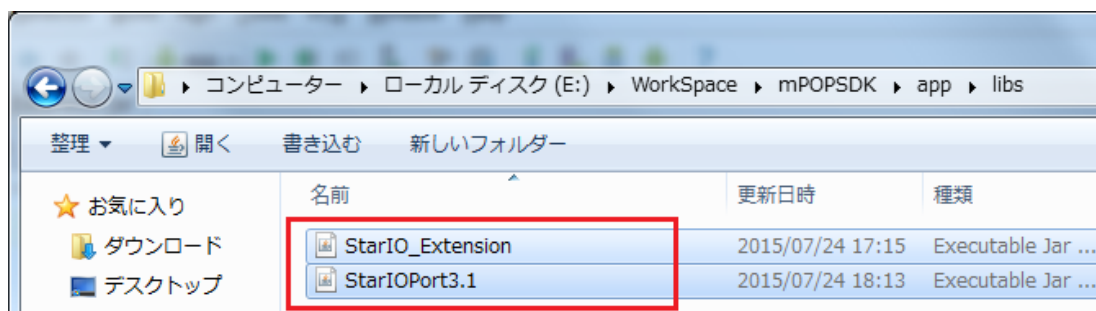


## 2 How to configuration mPOP Application

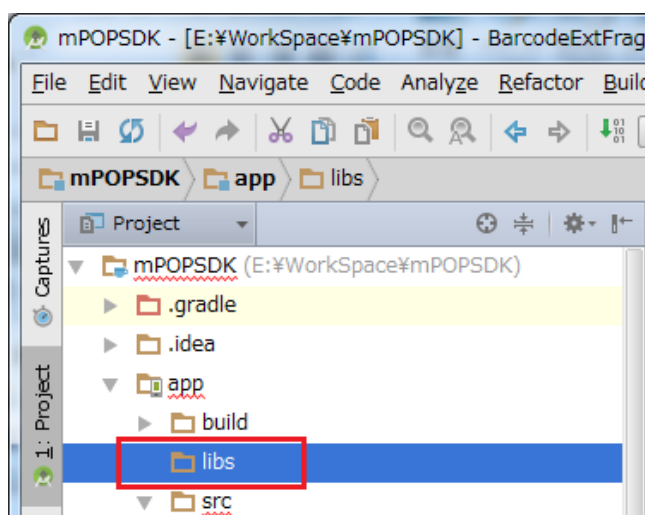
The StarIO library and StarIO\_Extension library is already included when the Star mPOP Android SDK is loaded; there's no need to include it again when testing our SDK. However, when you are building your own application, it is necessary to add the library into it.

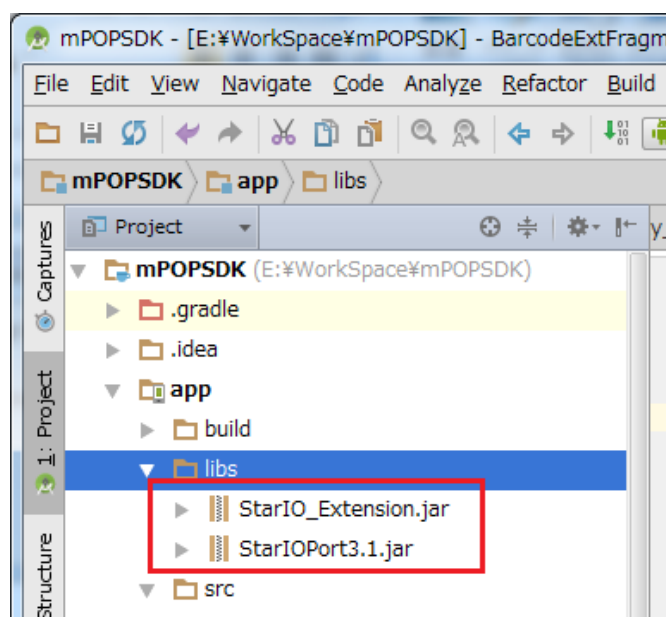
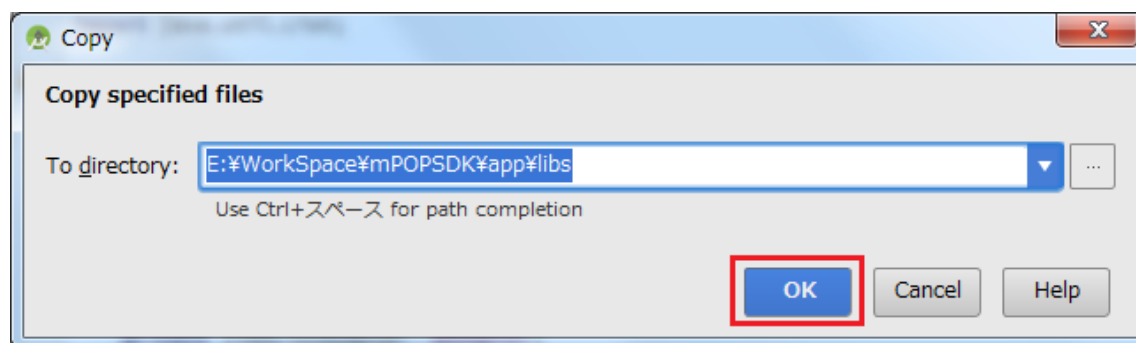
### 2.1 Add StarIO\_Extension library

1. Select the library in the libs folder of mPOP SDK.



2. Copy the library to the libs folder of project.

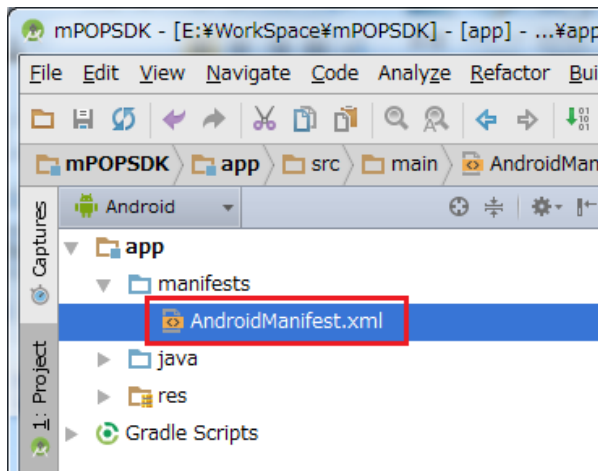




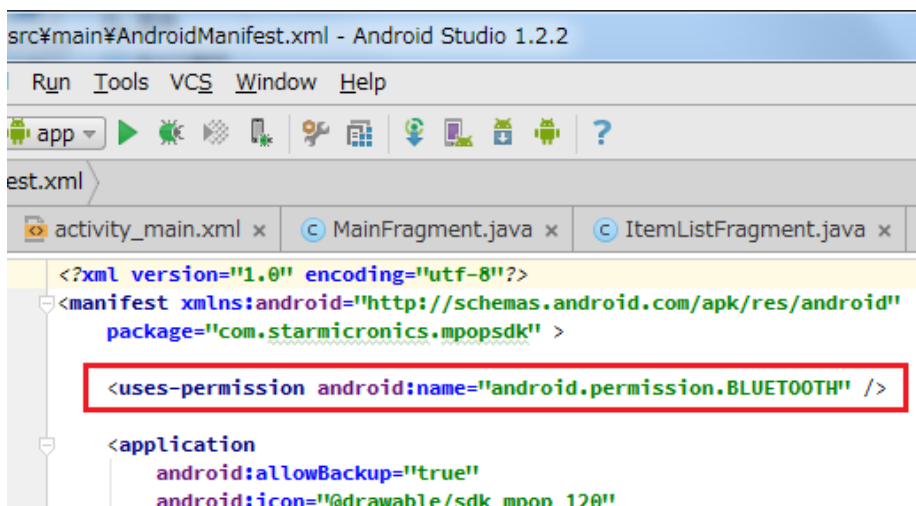
3. The library is added to the project.

## 2.2 Edit AndroidManifest.xml

1. Double Click on the AndroidManifest.xml file.

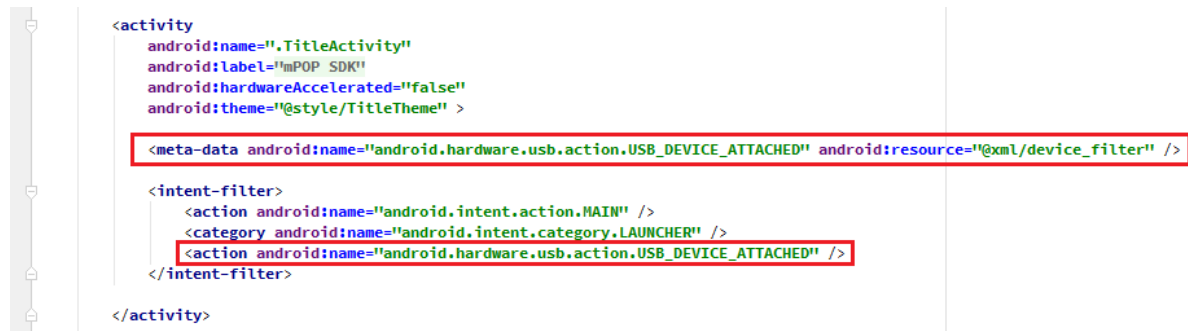


2. In case of Bluetooth connection, add about use of Bluetooth connection.



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

3. In case of USB connection, add about use of USB connection.



```

<activity
    android:name=".TitleActivity"
    android:label="@string/app_name"
    android:hardwareAccelerated="false"
    android:theme="@style/TitleTheme" >

    <meta-data android:name="android.hardware.usb.action.USB_DEVICE_ATTACHED" android:resource="@xml/device_filter" />

    <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
        <action android:name="android.hardware.usb.action.USB_DEVICE_ATTACHED" />
    </intent-filter>
</activity>

```

```

<meta-data android:name="android.hardware.usb.action.USB_DEVICE_ATTACHED"
android:resource="@xml/device_filter" />

```

```

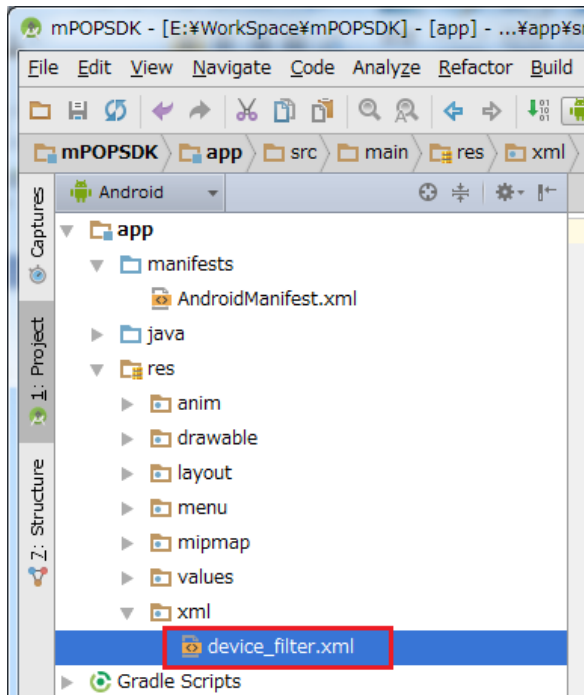
<action android:name="android.hardware.usb.action.USB_DEVICE_ATTACHED" />

```

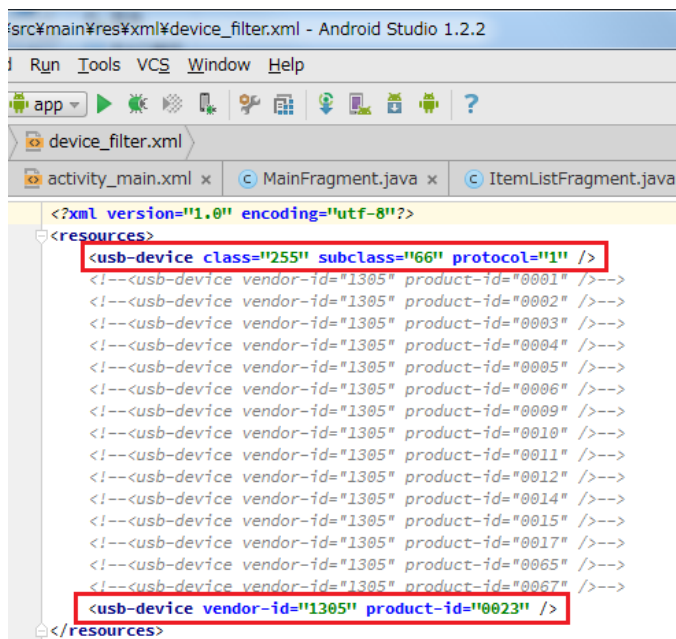
4. You have finished editing the AndroidManifest.xml file.

## 2.3 Edit device\_filter.xml

1. Double Click on the device\_filter.xml file.



2. In case of USB connection, add about use of USB connection.



```
<usb-device class="255" subclass="66" protocol="1" />
<usb-device vendor-id="1305" product-id="0023" />
```

3. You have finished editing the device\_filter.xml file.

### 3 StarIoExtManager

#### Constructor

| Name             | Description                           |
|------------------|---------------------------------------|
| StarIoExtManager | Initializes the StarIoManager object. |

#### Method

| Name                          | Description                                       |
|-------------------------------|---|
| connect                       | Management start.                                 |
| disconnect                    | Management stop.                                  |
| getPort                       | Gets the StarIoPort object.                       |
| getPrinterOnlineStatus        | Gets the printer Online status.                   |
| getPrinterPaperReadyStatus    | Gets the printer paper ready status.              |
| getPrinterCoverOpenStatus     | Gets the printer cover open status.               |
| getCashDrawerOpenStatus       | Gets the cash drawer open status.                 |
| getBarcodeReaderConnectStatus | Gets the barcode reader connection status.        |
| getCashDrawerOpenActiveHigh   | Gets the mode of cash drawer open sensor active.  |
| setCashDrawerOpenActiveHigh   | Sets the mode of cash drawer open sensor active.  |
| setListener                   | Sets the listener object of the StarIoExtManager. |

#### Constants

| Name   | Description             |
|--------|-------------------------|
| Type   | Manager type constants. |
| Status | Status constants.       |

### 3.1 StarloExtManager Constractor

Initializes the StarloManager object.

#### Declaration

StarloExtManager(Type type, String portName, String portSetting, int ioTimeoutMillis, Context context);

#### Parameter

| Name            | Description  | Object type |
|-----------------|--|-------------|
| type            | Maneger type. <ul style="list-style-type: none"> <li>Standard ... Management of the printer and the cash drawer.</li> <li>WithBarcodeReader ... Management of the printer, cash drawer and the barcode reader.</li> <li>OnlyBarcodeReader ... Management of the barcode reader.</li> </ul> | Type        |
| portName        | Printer port name.   | String      |
| portSettings    | Port settings.   | String      |
| ioTimeoutMillis | Timeout value for internal control and API.  | int         |

#### Return value

| Description              | Object type      |
|--------------------------|------------------|
| StarloExtManager object. | StarloExtManager |

#### Example

```
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);

    PrinterSetting setting = new PrinterSetting(getActivity());

    mStarloExtManager = new StarloExtManager(StarloExtManager.Type.Standard, setting.getPortName(),
    setting.getPrinterType(), 10000, getActivity()); // 10000mS!!!

    mStarloExtManager.setListener(mStarloExtManagerListener);
}
```

Refer to *PrinterExtFragment.java*, *CashDrawerExtFragment.java*, *BarcodeReaderExtFragment.java* and *CombinationExtFragment.java*.

◆When you'd like to know portName, portSettings and ioTimeoutMills details, download StarIO Android SDK, and refer to the document.

## 3.2 connect Method

Management start.

### Declaration

boolean connect();

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description   | Object type |
|---|-------------|
| Result. <ul style="list-style-type: none"> <li>true ... Success</li> <li>false ... Failure</li> </ul> | boolean     |

### Example

```
public void onResume() {
    super.onResume();

    mStarloExtManagerListener.didAccessoryDisconnect();

    AsyncTask<Void, Void, Boolean> asyncTask = new AsyncTask<Void, Void, Boolean>() {
        @Override
        protected void onPreExecute() {

            ...

        }

        @Override
        protected Boolean doInBackground(Void... params) {
            return mStarloExtManager.connect();
        }

        @Override
        protected void onPostExecute(Boolean result) {

            ...

            if (!result) {
                AlertDialog.Builder dialogBuilder = new AlertDialog.Builder(getActivity());

                dialogBuilder.setTitle("Communication Result");
                dialogBuilder.setMessage("Fail to Open Port.");

                dialogBuilder.setPositiveButton("OK", null);

                dialogBuilder.show();
            }
        }
    };

    asyncTask.execute();
}
```

Refer to *PrinterExtFragment.java*, *CashDrawerExtFragment.java*, *BarcodeReaderExtFragment.java* and *CombinationExtFragment.java*.



### 3.3 disconnect Method

Management stop.

#### Declaration

boolean disconnect();

#### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

#### Return value

| Description   | Object type |
|---|-------------|
| Result. <ul style="list-style-type: none"> <li>true ... Success</li> <li>false ... Failure</li> </ul> | boolean     |

#### Example

```
public void onPause() {
    super.onPause();

    mStarIoExtManager.disconnect();
}
```

Refer to *PrinterExtFragment.java*, *CashDrawerExtFragment.java*, *BarcodeReaderExtFragment.java* and *CombinationExtFragment.java*.

### 3.4 getPort Method

Gets the StarIoPort object.

#### Declaration

StarIoPort getPort();

#### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

#### Return value

| Description        | Object type |
|--------------------|-------------|
| StarIoPort object. | StarIoPort  |

◆When you'd like to know StarIo object details, download StarIo Android SDK, and refer to the document.

### 3.5 getPrinterOnlineStatus Method

Gets the printer Online status.

#### *Declaration*

Status getPrinterOnlineStatus();

#### *Parameter*

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

#### *Return Value*

| Description   | Object type |
|---|-------------|
| Printer Online status. <ul style="list-style-type: none"> <li>Invalid ... Invalid.</li> <li>Impossible ... Equipment impossible.</li> <li>PrinterOnline ... Printer online detection.</li> <li>PrinterOffline ... Printer offline detection.</li> </ul> | Status      |

### 3.6 getPrinterPaperReadyStatus Method

Gets the printer paper ready status.

#### *Declaration*

Status getPrinterPaperReadyStatus();

#### *Parameter*

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

#### *Return Value*

| Description   | Object type |
|---|-------------|
| Printer paper ready status. <ul style="list-style-type: none"> <li>Invalid ... Invalid.</li> <li>Impossible ... Equipment impossible.</li> <li>PrinterPaperReady ... Printer paper ready detection.</li> <li>PrinterPaperNearEmpty ... Printer paper near end detection.</li> <li>PrinterPaperEmpty ... Printer paper empty detection.</li> </ul> | Status      |

### 3.7 getPrinterCoverOpenStatus Method

Gets the printer cover open status.

#### Declaration

```
Status getPrinterCoverOpenStatus();
```

#### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

#### Return Value

| Description   | Object type |
|---|-------------|
| Printer cover open status. <ul style="list-style-type: none"> <li>Invalid ... Invalid.</li> <li>Impossible ... Equipment impossible.</li> <li>PrinterCoverOpen ... Printer cover open detection.</li> <li>PrinterCoverClose ... Printer cover close detection.</li> </ul> | Status      |

### 3.8 getCashDrawerOpenStatus Method

Gets the cash drawer open status.

#### Declaration

```
Status getCashDrawerOpenStatus();
```

#### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

#### Return Value

| Description   | Object type |
|---|-------------|
| Cash drawer open status. <ul style="list-style-type: none"> <li>Invalid ... Invalid.</li> <li>Impossible ... Equipment impossible.</li> <li>CashDrawerOpen ... Cash drawer open detection.</li> <li>CashDrawerClose ... Cash drawer close detection.</li> </ul> | Status      |

### 3.9 getBarcodeReaderConnectStatus Method

Gets the barcode reader connection status.

#### Declaration

```
Status getBarcodeReaderConnectStatus();
```

#### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

#### Return Value

| Description  | Object type |
|--|-------------|
| Barcode reader connection status. <ul style="list-style-type: none"> <li>Invalid ... Invalid.</li> <li>Impossible ... Equipment impossible.</li> <li>BarcodeReaderConnect ... Barcode reader connection detection.</li> <li>BarcodeReaderDisconnect ... Barcode reader disconnection detection.</li> </ul> | Status      |

### 3.10 getCashDrawerOpenActiveHigh Method

Gets the mode of cash drawer open sensor active.

#### Declaration

```
boolean getCashDrawerOpenActiveHigh();
```

#### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

#### Return Value

| Description  | Object type |
|--|-------------|
| Mode of a cash drawer open sensor active. <ul style="list-style-type: none"> <li>true ... Active high. mPOP.</li> <li>false ... Active low.</li> </ul> <p><b>* Be the default value (true) for mPOP.</b></p> | boolean     |

### 3.11 setCashDrawerOpenActiveHigh Method

Sets the mode of cash drawer open sensor active.

#### *Declaration*

```
void getCashDrawerOpenActiveHigh(boolean isActiveHigh);
```

#### *Parameter*

| Name         | Description  | Object type |
|--------------|--|-------------|
| isActiveHigh | Mode of a cash drawer open sensor active. <ul style="list-style-type: none"> <li>true ... Active high. mPOP.</li> <li>false ... Active low.</li> </ul> <b>* Be the default value (true) for mPOP.-</b> | boolean     |

#### *Return Value*

| Description | Object type |
|-------------|-------------|
| -           | -           |

### 3.12 setListener Method

Sets the listener object of the StarloExtManager.

#### Declaration

```
void setListener(StarloExtManagerListener listener);
```

#### Parameter

| Name     | Description                              | Object type              |
|----------|--|--------------------------|
| listener | Listener object of the StarloExtManager. | StarloExtManagerListener |

#### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

#### Example

```
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);

    PrinterSetting setting = new PrinterSetting(getActivity());

    mStarloExtManager = new StarloExtManager(StarloExtManager.Type.Standard, setting.getPortName(), "",
    setting.getTimeout(), getActivity());

    mStarloExtManager.setListener(mStarloExtManagerListener);
}

StarloExtManagerListener mStarloExtManagerListener = new StarloExtManagerListener() {

    ...

};
```

Refer to *PrinterExtFragment.java*, *CashDrawerExtFragment.java*, *BarcodeReaderExtFragment.java* and *CombinationExtFragment.java*.

### 3.13 Type Constants

Manager type constants.

#### Declaration

```
public enum Type {
    Standard,
    WithBarcodeReader,
    OnlyBarcodeReader
}
```

#### Constants

| Name              | Description  |
|-------------------|--|
| Standard          | Management of the printer and the cash drawer.                 |
| WithBarcodeReader | Management of the printer, cash drawer and the barcode reader. |
| OnlyBarcodeReader | Management of the barcode reader.                              |

### 3.14 Status Constants

Status constants.

#### *Declaration*

```
public enum Status {
    Invalid,
    Impossible,
    PrinterOnline,
    PrinterOffline,
    PrinterPaperReady,
    PrinterPaperNearEmpty,
    PrinterPaperEmpty,
    PrinterCoverOpen,
    PrinterCoverClose,
    CashDrawerOpen,
    CashDrawerClose,
    BarcodeReaderConnect,
    BarcodeReaderDisconnect
}
```

#### *Constants*

| Name                    | Description                             |
|-------------------------|---|
| Invalid                 | Invalid.                                |
| Impossible              | Equipment impossible.                   |
| PrinterOnline           | Printer online detection.               |
| PrinterOffline          | Printer offline detection.              |
| PrinterPaperReady       | Printer paper ready detection.          |
| PrinterPaperNearEmpty   | Printer paper near end detection.       |
| PrinterPaperEmpty       | Printer paper empty detection.          |
| PrinterCoverOpen        | Printer cover open detection.           |
| PrinterCoverClose       | Printer cover close detection.          |
| CashDrawerOpen          | Cash drawer open detection.             |
| CashDrawerClose         | Cash drawer close detection.            |
| BarcodeReaderConnect    | Barcode reader connection detection.    |
| BarcodeReaderDisconnect | Barcode reader disconnection detection. |

## 4 StarloExtManagerListener

### Method

| Name                       | Description  |
|----------------------------|--|
| didPrinterImpossible       | Tells the listener the printer impossible. * <i>Override</i>                               |
| didPrinterOnline           | Tells the listener the printer has come online. * <i>Override</i>                          |
| didPrinterOffline          | Tells the listener the printer has come offline. * <i>Override</i>                         |
| didPrinterPaperReady       | Tells the listener the printer has come paper ready. * <i>Override</i>                     |
| didPrinterPaperNearEmpty   | Tells the listener the printer has come paper near end. * <i>Override</i>                  |
| didPrinterPaperEmpty       | Tells the listener the printer has come paper empty. * <i>Override</i>                     |
| didPrinterCoverOpen        | Tells the listener the printer has come cover open. * <i>Override</i>                      |
| didPrinterCoverClose       | Tells the listener the printer has come cover close. * <i>Override</i>                     |
| didCashDrawerOpen          | Tells the listener the cash drawer has come open. * <i>Override</i>                        |
| didCashDrawerClose         | Tells the listener the cash drawer has come close. * <i>Override</i>                       |
| didBarcodeReaderImpossible | Tells the listener the barcode reader impossible. * <i>Override</i>                        |
| didBarcodeReaderConnect    | Tells the listener the barcode reader connected. * <i>Override</i>                         |
| didBarcodeReaderDisconnect | Tells the listener the barcode reader disconnected. * <i>Override</i>                      |
| didBarcodeDataReceive      | Tells the listener the barcode data received. * <i>Override</i>                            |
| didAccessoryConnectSuccess | Tells the listener the accessory (Bluetooth / USB) connection succeeded. * <i>Override</i> |
| didAccessoryConnectFailure | Tells the delegate the accessory (Bluetooth / USB) connection failed. * <i>Override</i>    |
| didAccessoryDisconnect     | Tells the listener the accessory (Bluetooth / USB) disconnected. * <i>Override</i>         |

### 4.1 didPrinterImpossible Method

Tells the listener the printer impossible. \* *Override*

#### Declaration

```
void didPrinterImpossible();
```

#### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

#### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

#### Example

```
@Override
public void didPrinterImpossible() {
    mComment.setText("Printer Impossible.");
    mComment.setTextColor(Color.RED);
}
```

Refer to *PrinterExtFragment.java*, *CashDrawerExtFragment.java* and *CombinationExtFragment.java*.



## 4.2 didPrinterOnline Method

Tells the listener the printer has come online. \* *Override*

### Declaration

```
void didPrinterOnline();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didPrinterOnline() {
    mComment.setText("Printer Online.");
    mComment.setTextColor(Color.BLUE);
}
```

Refer to *PrinterExtFragment.java* and *CombinationExtFragment.java*.

## 4.3 didPrinterOffline Method

Tells the listener the printer has come offline. \* *Override*

### Declaration

```
void didPrinterOffline();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didPrinterOffline() {
    mComment.setText("Printer Offline.");
    mComment.setTextColor(Color.RED);
}
```

Refer to *PrinterExtFragment.java* and *CombinationExtFragment.java*.

## 4.4 didPrinterPaperReady Method

Tells the listener the printer has come paper ready. \* *Override*

### Declaration

```
void didPrinterPaperReady();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didPrinterPaperReady() {
    mComment.setText("Printer Paper Ready.");

    mComment.setTextColor(Color.BLUE);
}
```

Refer to *PrinterExtFragment.java* and *CombinationExtFragment.java*.

## 4.5 didPrinterPaperNearEmpty Method

Tells the listener the printer has come paper near end. \* *Override*

**\* This method is not called with mPOP. Because mPOP does not have "Paper Near Empty sensor".**

### Declaration

```
void didPrinterPaperNearEmpty();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didPrinterPaperNearEmpty() {
    mComment.setText("Printer Paper Near Empty.");

    mComment.setTextColor(0xfffffa500); // Orange
}
```

Refer to *PrinterExtFragment.java* and *CombinationExtFragment.java*.

## 4.6 didPrinterPaperEmpty Method

Tells the listener the printer has come paper empty. \* *Override*

### Declaration

```
void didPrinterPaperEmpty();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didPrinterPaperEmpty() {
    mComment.setText("Printer Paper Empty.");
    mComment.setTextColor(Color.RED);
}
```

Refer to *PrinterExtFragment.java* and *CombinationExtFragment.java*.

## 4.7 didPrinterCoverOpen Method

Tells the listener the printer has come cover open. \* *Override*

### Declaration

```
void didPrinterCoverOpen();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didPrinterCoverOpen() {
    mComment.setText("Printer Cover Open.");
    mComment.setTextColor(Color.RED);
}
```

Refer to *PrinterExtFragment.java* and *CombinationExtFragment.java*.

## 4.8 didPrinterCoverClose Method

Tells the listener the printer has come cover close. \* *Override*

### Declaration

```
void didPrinterCoverClose();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didPrinterCoverClose() {
    mComment.setText("Printer Cover Close.");
    mComment.setTextColor(Color.BLUE);
}
```

Refer to *PrinterExtFragment.java* and *CombinationExtFragment.java*.

## 4.9 didCashDrawerOpen Method

Tells the listener the cash drawer has come open. \* *Override*

### Declaration

```
void didCashDrawerOpen();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didCashDrawerOpen() {
    mComment.setText("Cash Drawer Open.");
    // mComment.setTextColor(Color.RED);
    mComment.setTextColor(Color.MAGENTA);
}
```

Refer to *CashDrawerExtFragment.java* and *CombinationExtFragment.java*.

## 4.10 didCashDrawerClose Method

Tells the listener the cash drawer has come close. \* *Override*

### Declaration

```
void didCashDrawerClose();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didCashDrawerClose() {
    mComment.setText("Cash Drawer Close.");

    mComment.setTextColor(Color.BLUE);
}
```

Refer to *CashDrawerExtFragment.java* and *CombinationExtFragment.java*.

## 4.11 didBarcodeReaderImpossible Method

Tells the listener the barcode reader impossible. \* *Override*

### Declaration

```
void didBarcodeReaderImpossible();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didBarcodeReaderImpossible() {
    mComment.setText("Barcode Reader Impossible.");

    mComment.setTextColor(Color.RED);
}
```

Refer to *BarcodeReaderExtFragment.java* and *CombinationExtFragment.java*.

## 4.12 didBarcodeReaderConnect Method

Tells the listener the barcode reader connected. \* *Override*

### Declaration

```
void didBarcodeReaderConnect();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didBarcodeReaderConnect() {
    mComment.setText("Barcode Reader Connect.");

    mComment.setTextColor(Color.BLUE);
}
```

Refer to *BarcodeReaderExtFragment.java* and *CombinationExtFragment.java*.

## 4.13 didBarcodeReaderDisconnect Method

Tells the listener the barcode reader disconnected. \* *Override*

### Declaration

```
void didBarcodeReaderDisconnect();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didBarcodeReaderDisconnect() {
    mComment.setText("Barcode Reader Disconnect.");

    mComment.setTextColor(Color.RED);
}
```

Refer to *BarcodeReaderExtFragment.java* and *CombinationExtFragment.java*.

## 4.14 didBarcodeDataReceive Method

Tells the listener the barcode data received. \* *Override*

### Declaration

```
void didBarcodeDataReceive(byte[] data);
```

### Parameter

| Name | Description            | Object type |
|------|------------------------|-------------|
| data | Received barcode data. | byte[]      |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
public void onBarcodeDataReceive(byte[] data) {
    String[] barcodeDataArray = new String(data).split("\n");

    for(String barcodeData:barcodeDataArray) {
        ...
    }
}
```

Refer to *BarcodeReaderExtFragment.java* and *CombinationExtFragment.java*.

## 4.15 didAccessoryConnectSuccess Method

Tells the listener the accessory (Bluetooth / USB) connection succeeded. \* *Override*

### Declaration

```
void didAccessoryConnectSuccess();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didAccessoryConnectSuccess() {
    mComment.setText("Accessory Connect Success.");

    mComment.setTextColor(Color.BLUE);
}
```

Refer to *PrinterExtFragment.java*, *CashDrawerExtFragment.java*, *BarcodeReaderExtFragment.java* and *CombinationExtFragment.java*.

## 4.16 didAccessoryConnectFailure Method

Tells the listener the accessory (Bluetooth / USB) connection failed. \* *Override*

### Declaration

```
void didAccessoryConnectFailure();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didAccessoryConnectFailure() {
    mComment.setText("Accessory Connect Failure.");

    mComment.setTextColor(Color.RED);
}
```

Refer to *PrinterExtFragment.java*, *CashDrawerExtFragment.java*, *BarcodeReaderExtFragment.java* and *CombinationExtFragment.java*.

## 4.17 didAccessoryDisconnect Method

Tells the listener the accessory (Bluetooth / USB) disconnected. \* *Override*

### Declaration

```
void didAccessoryDisconnect();
```

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
@Override
void didAccessoryDisconnect() {
    mComment.setText("Accessory Disconnect.");

    mComment.setTextColor(Color.RED);
}
```

Refer to *PrinterExtFragment.java*, *CashDrawerExtFragment.java*, *BarcodeReaderExtFragment.java* and *CombinationExtFragment.java*.



## 5 SCBFactory

### Method

| Name          | Description                     |
|---------------|---------------------------------|
| createBuilder | Creates the ISCBBuilder object. |

### Constants

| Name      | Description               |
|-----------|---------------------------|
| Emulation | Emulation type constants. |

### 5.1 createBuilder Method

Creates the ISCBBuilder object.

#### Declaration

```
public static ISCBBuilder createBuilder(Emulation emulation);
```

#### Parameter

| Name      | Description   | Object type |
|-----------|---|-------------|
| emulation | Emulation type.<br><ul style="list-style-type: none"> <li>Star ... Star Emulation</li> <li><del>EscPos ... ESC/POS Emulation</del></li> </ul> | Emulation   |

#### Return value

| Description        | Object type |
|--------------------|-------------|
| ISCBBuilder object | ISCBBuilder |

#### Example

```
static byte[] createCommandsRasterModeCoupon(Resources resource ) {
    CommandDataList commands = new CommandDataList();

    Bitmap bitmap = BitmapFactory.decodeResource( resource, R.drawable.coupon_image);

    ISCBBuilder builder = SCBFactory.createBuilder(SCBFactory.Emulation.Star);

    builder.appendBitmap(bitmap, false, 384, SCBBitmapConverter.Rotation.Right90);

    List<byte[]> listBuf = builder.getBuffer();

    for(byte[] buf:listBuf) {
        commands.add(buf);
    }

    return commands.getByteArray();
}
```

Refer to *PrinterFunctions.java*.

## 5.2 Emulation Constants

Emulation type constants.

### *Declaration*

```
public enum Emulation {
    Star,
    EscPos
}
```

### *Constants*

| Name              | Description                   |
|-------------------|-------------------------------|
| Star              | Star emulation.               |
| <del>EscPos</del> | <del>ESC/POS emulation.</del> |

## 6 ISCBBuilder

### Method

| Name                         | Description  |
|------------------------------|--|
| appendBitmap                 | Print command of the bitmap is generated and added to the commands property.                   |
| appendAbsolutePositionBitmap | Print command of the absolute position bitmap is generated and added to the commands property. |
| appendAlignmentBitmap        | Print command of the alignment bitmap is generated and added to the commands property.         |
| getBuffer                    | Getter of commands property.   |

### 6.1 appendBitmap Method

Print command of the bitmap is generated and added to the commands property.

#### Declaration

```
void appendBitmap(Bitmap bitmap, boolean diffusion, int width, boolean bothScale,
SCBBitmapConverter.Rotation rotation);
```

```
void appendBitmap(Bitmap bitmap, boolean diffusion, int width, SCBBitmapConverter.Rotation
rotation);
```

```
void appendBitmap(Bitmap bitmap, boolean diffusion, SCBBitmapConverter.Rotation rotation);
```

```
void appendBitmap(Bitmap bitmap, boolean diffusion, int width, boolean bothScale);
```

```
void appendBitmap(Bitmap bitmap, boolean diffusion, int width);
```

```
void appendBitmap(Bitmap bitmap, boolean diffusion);
```

#### Parameter

| Name      | Description  | Object type                 |
|-----------|--|-----------------------------|
| bitmap    | Source bitmap object.  | Bitmap                      |
| diffusion | Random dither. <ul style="list-style-type: none"> <li>true ... Valid</li> <li>false ... Invalid</li> </ul>   | boolean                     |
| width     | Bitmap width after conversion. (Units : Dots)  | int                         |
| bothScale | Height is changed according to the conversion rate of the width property. <ul style="list-style-type: none"> <li>true ... Valid.</li> <li>false ... Invalid.</li> </ul>              | boolean                     |
| rotation  | Rotation. <ul style="list-style-type: none"> <li>Normal ...Rotated 0.</li> <li>Right90 ...Rotated 90.</li> <li>Left90 ...Rotated 270.</li> <li>Rotate180 ... Rotated 180.</li> </ul> | SCBBitmapConverter.Rotation |

## Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

## Example

```
static byte[] createCommandsRasterModeCoupon(Resources resource ) {
    CommandDataList commands = new CommandDataList();

    Bitmap bitmap = BitmapFactory.decodeResource( resource, R.drawable.coupon_image);

    ISCBBuilder builder = SCBFactory.createBuilder(SCBFactory.Emulation.Star);

    builder.appendBitmap(bitmap, false, 384, false, SCBBitmapConverter.Rotation.Right90);

    List<byte[]> listBuf = builder.getBuffer();

    for(byte[] buf:listBuf) {
        commands.add(buf);
    }

    return commands.getByteArray();
}
```

Refer to *PrinterFunctions.java*.

## 6.2 appendAbsolutePositionBitmap Method

Print command of the absolute position bitmap is generated and added to the commands property.

### Declaration

```
void appendAbsolutePositionBitmap(Bitmap bitmap, boolean diffusion, int width, boolean bothScale, SCBBitmapConverter.Rotation rotation, int position);
```

```
void appendAbsolutePositionBitmap(Bitmap bitmap, boolean diffusion, int width, SCBBitmapConverter.Rotation rotation, int position);
```

```
void appendAbsolutePositionBitmap(Bitmap bitmap, boolean diffusion, SCBBitmapConverter.Rotation rotation, int position);
```

```
void appendAbsolutePositionBitmap(Bitmap bitmap, boolean diffusion, int width, boolean bothScale, int position);
```

```
void appendAbsolutePositionBitmap(Bitmap bitmap, boolean diffusion, int width, int position);
```

```
void appendAbsolutePositionBitmap(Bitmap bitmap, boolean diffusion, int position);
```

### Parameter

| Name      | Description  | Object type                 |
|-----------|--|-----------------------------|
| bitmap    | Source bitmap object.  | Bitmap                      |
| diffusion | Random dither. <ul style="list-style-type: none"> <li>true ... Valid</li> <li>false ... Invalid</li> </ul>   | boolean                     |
| width     | Bitmap width after conversion. (Units : Dots)  | int                         |
| bothScale | Height is changed according to the conversion rate of the width property. <ul style="list-style-type: none"> <li>true ... Valid.</li> <li>false ... Invalid.</li> </ul>              | boolean                     |
| rotation  | Rotation. <ul style="list-style-type: none"> <li>Normal ...Rotated 0.</li> <li>Right90 ...Rotated 90.</li> <li>Left90 ...Rotated 270.</li> <li>Rotate180 ... Rotated 180.</li> </ul> | SCBBitmapConverter.Rotation |
| position  | Absolute position. (Units : Dots)  | int                         |

### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
static byte[] createCommandsRasterModeCoupon(Resources resource ) {  
    CommandDataList commands = new CommandDataList();  
  
    Bitmap bitmap = BitmapFactory.decodeResource( resource, R.drawable.coupon_image);  
  
    ISCBBuilder builder = SCBFactory.createBuilder(SCBFactory.Emulation.Star);  
  
    builder.appendAbsolutePositionBitmap(bitmap, false, 384, false, SCBBitmapConverter.Rotation.Right90, 100);  
  
    List<byte[]> listBuf = builder.getBuffer();  
  
    for(byte[] buf:listBuf) {  
        commands.add(buf);  
    }  
  
    return commands.getByteArray();  
}
```

### 6.3 appendAlignmentBitmap Method

Print command of the alignment bitmap is generated and added to the commands property.

#### Declaration

```
void appendAlignmentBitmap(Bitmap bitmap, boolean diffusion, int width, boolean bothScale,
SCBBitmapConverter.Rotation rotation, SCBAlignment.Position position);
```

```
void appendAlignmentBitmap(Bitmap bitmap, boolean diffusion, int width,
SCBBitmapConverter.Rotation rotation, SCBAlignment.Position position);
```

```
void appendAlignmentBitmap(Bitmap bitmap, boolean diffusion, SCBBitmapConverter.Rotation
rotation, SCBAlignment.Position position);
```

```
void appendAlignmentBitmap(Bitmap bitmap, boolean diffusion, int width, boolean bothScale,
SCBAlignment.Position position);
```

```
void appendAlignmentBitmap(Bitmap bitmap, boolean diffusion, int width, SCBAlignment.Position
position);
```

```
void appendAlignmentBitmap(Bitmap bitmap, boolean diffusion, SCBAlignment.Position position);
```

#### Parameter

| Name      | Description  | Object type                 |
|-----------|--|-----------------------------|
| bitmap    | Source bitmap object.  | Bitmap                      |
| diffusion | Random dither. <ul style="list-style-type: none"> <li>true ... Valid</li> <li>false ... Invalid</li> </ul>   | boolean                     |
| Width     | Bitmap width after conversion. (Units : Dots)  | int                         |
| bothScale | Height is changed according to the conversion rate of the width property. <ul style="list-style-type: none"> <li>true ... Valid.</li> <li>false ... Invalid.</li> </ul>              | boolean                     |
| rotation  | Rotation. <ul style="list-style-type: none"> <li>Normal ...Rotated 0.</li> <li>Right90 ...Rotated 90.</li> <li>Left90 ...Rotated 270.</li> <li>Rotate180 ... Rotated 180.</li> </ul> | SCBBitmapConverter.Rotation |
| position  | Alignment position. <ul style="list-style-type: none"> <li>Left ... Left alignment.</li> <li>Center ... Center alignment.</li> <li>Right ... Right alignment.</li> </ul>             | SCBAlignment.Position       |

#### Return value

| Description | Object type |
|-------------|-------------|
| -           | -           |

### Example

```
static byte[] createCommandsRasterModeCoupon(Resources resource ) {
    CommandDataList commands = new CommandDataList();

    Bitmap bitmap = BitmapFactory.decodeResource( resource, R.drawable.coupon_image);

    ISCBBuilder builder = SCBFactory.createBuilder(SCBFactory.Emulation.Star);

    builder.appendAlignmentBitmap(bitmap, false, 384, false, SCBBitmapConverter.Rotation.Right90,
SCBAlignment.Position.Right);

    List<byte[]> listBuf = builder.getBuffer();

    for(byte[] buf:listBuf) {
        commands.add(buf);
    }

    return commands.getByteArray();
}
```

## 6.4 getBuffer Method

Getter of commands property.

### Declaration

List<byte[]> getBuffer();

### Parameter

| Name | Description | Object type |
|------|-------------|-------------|
| -    | -           | -           |

### Return value

| Description        | Object type  |
|--------------------|--------------|
| commands property. | List<byte[]> |

### Example

```
static byte[] createCommandsRasterModeCoupon(Resources resource ) {
    CommandDataList commands = new CommandDataList();

    Bitmap bitmap = BitmapFactory.decodeResource( resource, R.drawable.coupon_image);

    ISCBBuilder builder = SCBFactory.createBuilder(SCBFactory.Emulation.Star);

    builder.appendAlignmentBitmap(bitmap, false, 384, false, SCBBitmapConverter.Rotation.Right90,
    SCBAlignment.Position.Right);

    List<byte[]> listBuf = builder.getBuffer();

    for(byte[] buf:listBuf) {
        commands.add(buf);
    }

    return commands.getByteArray();
}
```

Refer to *PrinterFunctions.java*.



## 7 SCBAlignment

### Constants

| Name     | Description                   |
|----------|-------------------------------|
| Position | Alignment position constants. |

### 7.1 Position Constants

Alignment position constants.

#### Declaration

```
public enum Position {
    Left,
    Center,
    Right
}
```

### Constants

| Name   | Description       |
|--------|-------------------|
| Left   | Left alignment.   |
| Center | Center alignment. |
| Right  | Right alignment.  |

## 8 SCBBitmapConverter

### Constants

| Name     | Description         |
|----------|---------------------|
| Rotation | Rotation constants. |

### 8.1 Rotation Constants

Rotation constants.

#### Declaration

```
public enum Rotation {
    Normal,
    Right90,
    Left90,
    Rotate180
}
```

### Constants

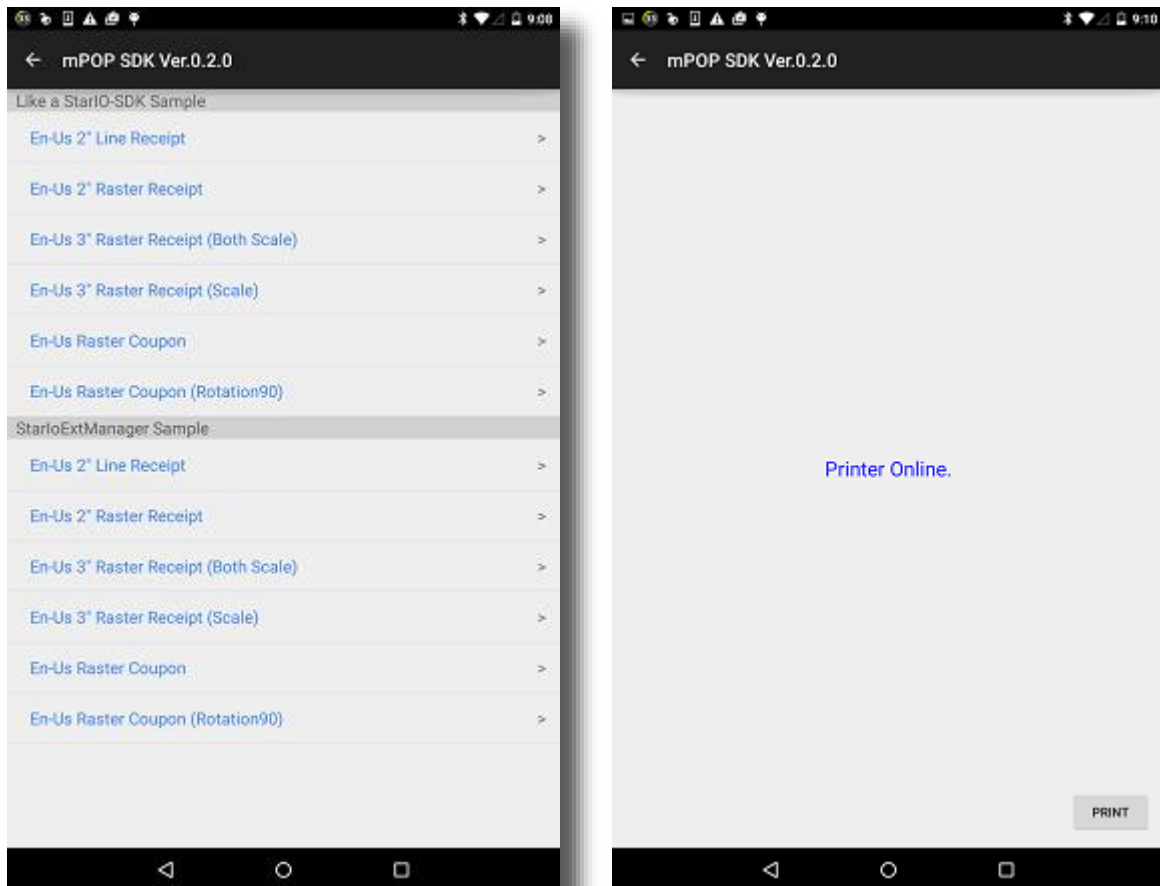
| Name      | Description  |
|-----------|--------------|
| Normal    | Rotated 0.   |
| Right90   | Rotated 90.  |
| Left90    | Rotated 270. |
| Rotate180 | Rotated 180. |

## 9 Star mPOP Android SDK Functionality

### 9.1 PrinterFragment.java / PrintExtFragment.java

Receipt sample is chosen in PrinterFragment.java.

And PrintExtFragment.java does print and watche with StarIoExtManager object of StarIoExtManager.Type.Standard-type.



#### *Initialize of StarIoExtManager*

```
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);

    ...

    PrinterSetting setting = new PrinterSetting(getActivity());

    mStarIoExtManager = new StarIoExtManager(StarIoExtManager.Type.Standard, setting.getPortName(),
    setting.getPrinterType(), 10000, getActivity()); // 10000mS!!!

    mStarIoExtManager.setListener(mStarIoExtManagerListener);

    ...
}
```

## Connect

```
public void onResume() {
    super.onResume();

    ...

    mStarloExtManagerListener.didAccessoryDisconnect();

    AsyncTask<Void, Void, Boolean> asyncTask = new AsyncTask<Void, Void, Boolean>() {
        @Override
        protected void onPreExecute() {

            ...

        }

        @Override
        protected Boolean doInBackground(Void... params) {
            return mStarloExtManager.connect();
        }

        @Override
        protected void onPostExecute(Boolean result) {

            ...

            if (! result) {
                AlertDialog.Builder dialogBuilder = new AlertDialog.Builder(getActivity());

                dialogBuilder.setTitle("Communication Result");
                dialogBuilder.setMessage("Fail to Open Port.");

                dialogBuilder.setPositiveButton("OK", null);

                dialogBuilder.show();
            }
        }
    };

    asyncTask.execute();

    ...
}
```

## Disconnect

```
public void onPause() {
    super.onPause();

    ...

    mStarloExtManager.disconnect();

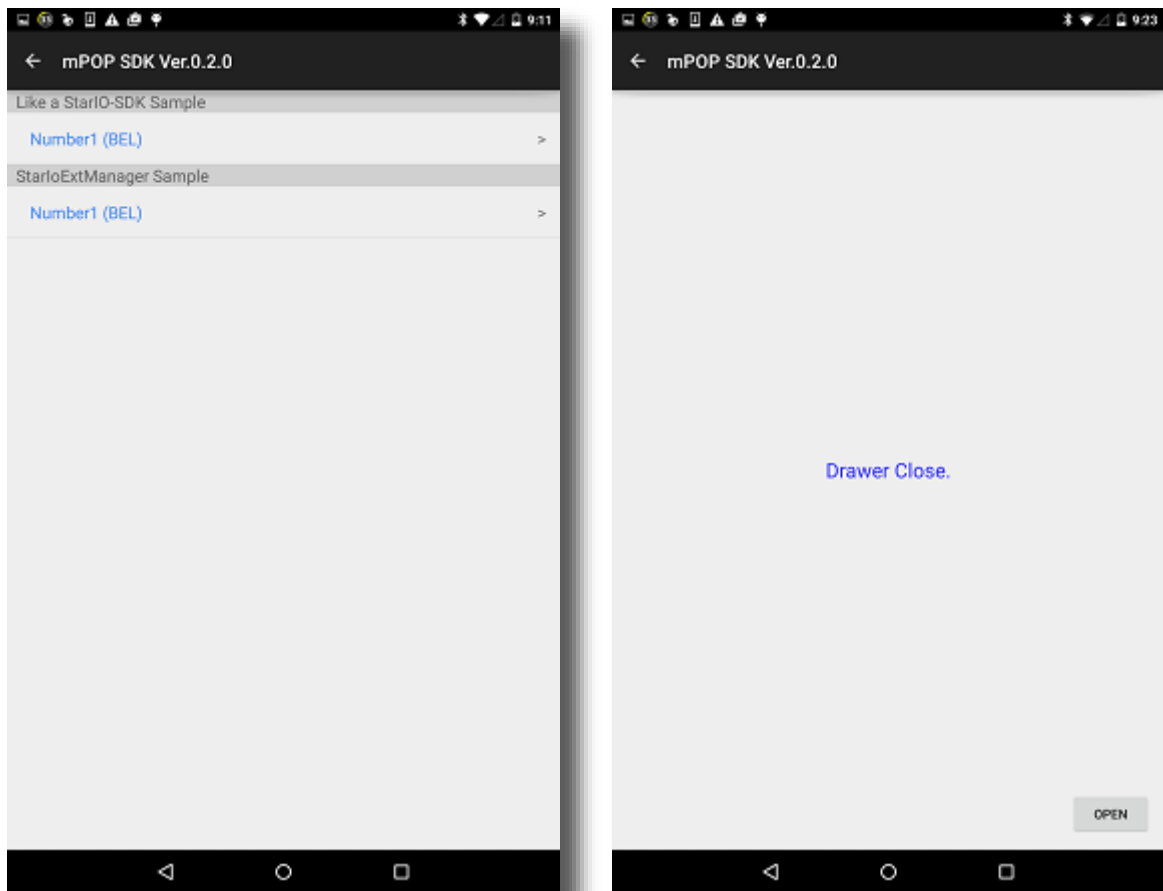
    ...
}
```

### *Send Data (Print)*

```
private void sendCommands() {  
    ...  
    Communication.Result result;  
    synchronized (mStarIoExtManager) {  
        result = Communication.sendCommands(data, mStarIoExtManager.getPort(), getActivity()); // 10000mS!!!  
    }  
    ...  
}
```

## 9.2 CashDrawerFragment.java / CashDrawerExtFragment.java

CashDrawerExtFragment.java does open cash drawer and watche with StarloExtManager object of StarloExtManager.Type.Standard-type.



### *Initialize of StarloExtManager*

```
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);

    ...

    PrinterSetting setting = new PrinterSetting(getActivity());

    mStarloExtManager = new StarloExtManager(StarloExtManager.Type.Standard, setting.getPortName(),
    setting.getPrinterType(), 10000, getActivity()); // 10000mS!!!

    mStarloExtManager.setListener(mStarloExtManagerListener);

    ...
}
```

## Connect

```
public void onResume() {
    super.onResume();

    ...

    mStarloExtManagerListener.didAccessoryDisconnect();

    AsyncTask<Void, Void, Boolean> asyncTask = new AsyncTask<Void, Void, Boolean>() {
        @Override
        protected void onPreExecute() {

            ...

        }

        @Override
        protected Boolean doInBackground(Void... params) {
            return mStarloExtManager.connect();
        }

        @Override
        protected void onPostExecute(Boolean result) {

            ...

            if (! result) {
                AlertDialog.Builder dialogBuilder = new AlertDialog.Builder(getActivity());

                dialogBuilder.setTitle("Communication Result");
                dialogBuilder.setMessage("Fail to Open Port.");

                dialogBuilder.setPositiveButton("OK", null);

                dialogBuilder.show();
            }
        }
    };

    asyncTask.execute();

    ...
}
```

## Disconnect

```
public void onPause() {
    super.onPause();

    ...

    mStarloExtManager.disconnect();

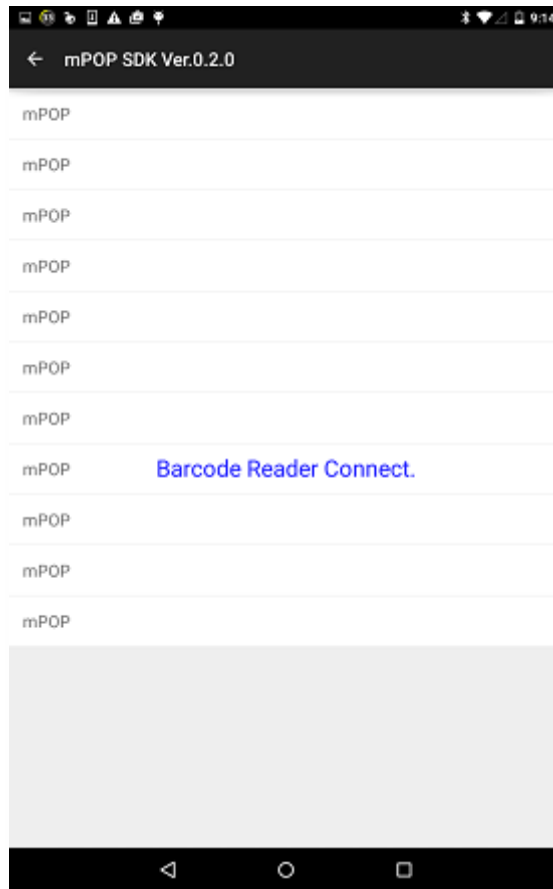
    ...
}
```

### *Send Data (Open Cash Drawer)*

```
private void sendCommands() {  
    ...  
    Communication.Result result;  
    synchronized (mStarIoExtManager) {  
        result = Communication.sendCommands(data, mStarIoExtManager.getPort(), getActivity()); // 10000mS!!!  
    }  
    ...  
}
```

### 9.3 BarcodeExtFragment.java

BarcodeExtFragment.java does read barcode and watche with StarIoExtManager object of StarIoExtManager.Type.OnlyBarcodeReader-type.



#### *Initialize of StarIoExtManager*

```
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);

    ...

    PrinterSetting setting = new PrinterSetting(getActivity());

    mStarIoExtManager = new StarIoExtManager(StarIoExtManager.Type.OnlyBarcodeReader,
    setting.getPortName(), setting.getPrinterType(), 10000, getActivity()); // 10000mS!!!

    mStarIoExtManager.setListener(mStarIoExtManagerListener);

    ...
}
```



## Connect

```
public void onResume() {
    super.onResume();

    ...

    mStarIoExtManagerListener.didAccessoryDisconnect();

    AsyncTask<Void, Void, Boolean> asyncTask = new AsyncTask<Void, Void, Boolean>() {
        @Override
        protected void onPreExecute() {

            ...

        }

        @Override
        protected Boolean doInBackground(Void... params) {
            return mStarIoExtManager.connect();
        }

        @Override
        protected void onPostExecute(Boolean result) {

            ...

            if (! result) {
                AlertDialog.Builder dialogBuilder = new AlertDialog.Builder(getActivity());

                dialogBuilder.setTitle("Communication Result");
                dialogBuilder.setMessage("Fail to Open Port.");

                dialogBuilder.setPositiveButton("OK", null);

                dialogBuilder.show();
            }
        }
    };

    asyncTask.execute();

    ...
}
```

## Disconnect

```
public void onPause() {
    super.onPause();

    ...

    mStarIoExtManager.disconnect();

    ...
}
```

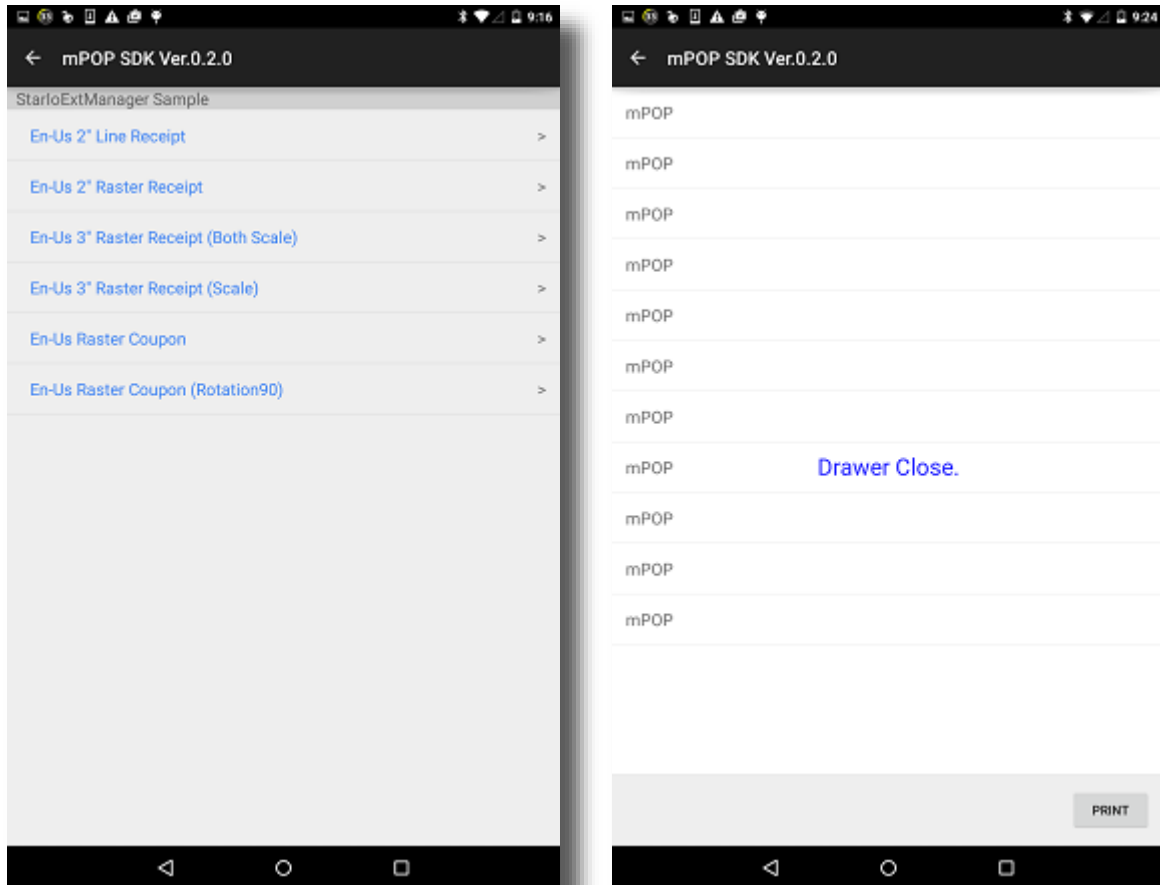
### *Receive Barcode Data Listener*

```
StarloExtManagerListener mStarloExtManagerListener = new StarloExtManagerListener() {  
  
    ...  
  
    @Override  
    public void didBarcodeDataReceive(byte[] data) {  
        String[] barcodeDataArray = new String(data).split("\n");  
  
        for(String barcodeData:barcodeDataArray) {  
  
            ...  
        }  
    }  
  
    ...  
};
```

## 9.4 CombinationFragment.java / CombinationExtFragment.java

Receipt sample is chosen in CombinationFragment.java.

And CombinationExtFragment.java does print, open cash drawer, read barcode and watche with StarloExtManager object of StarloExtManager.Type.WithBarcodeReader-type.



### Initialize of StarloExtManager

```
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);

    ...

    PrinterSetting setting = new PrinterSetting(getActivity());

    mStarloExtManager = new StarloExtManager(StarloExtManager.Type.WithBarcodeReader,
    setting.getPortName(), setting.getPrinterType(), 10000, getActivity()); // 10000mS!!!

    mStarloExtManager.setListener(mStarloExtManagerListener);

    ...
}
```

### Connect

```
public void onResume() {
    super.onResume();

    ...

    mStarloExtManagerListener.didAccessoryDisconnect();

    AsyncTask<Void, Void, Boolean> asyncTask = new AsyncTask<Void, Void, Boolean>() {
        @Override
        protected void onPreExecute() {

            ...

        }

        @Override
        protected Boolean doInBackground(Void... params) {
            return mStarloExtManager.connect();
        }

        @Override
        protected void onPostExecute(Boolean result) {

            ...

            if (! result) {
                AlertDialog.Builder dialogBuilder = new AlertDialog.Builder(getActivity());

                dialogBuilder.setTitle("Communication Result");
                dialogBuilder.setMessage("Fail to Open Port.");

                dialogBuilder.setPositiveButton("OK", null);

                dialogBuilder.show();
            }
        }
    };

    asyncTask.execute();

    ...
}
```

### Disconnect

```
public void onPause() {
    super.onPause();

    ...

    mStarloExtManager.disconnect();

    ...
}
```

### *Send Data (Print and Open Cash Drawer)*

```
private void sendCommands() {
    ...

    Communication.Result result;

    synchronized (mStarloExtManager) {
        result = Communication.sendCommands(data, mStarloExtManager.getPort(), getActivity()); // 10000mS!!!
    }

    ...
}
```

### *Receive Barcode Data Listener*

```
StarloExtManagerListener mStarloExtManagerListener = new StarloExtManagerListener() {

    ...

    @Override
    public void didBarcodeDataReceive(byte[] data) {
        String[] barcodeDataArray = new String(data).split("\n");

        for(String barcodeData:barcodeDataArray) {

            ...
        }
    }

    ...
};
```

## 9.5 Communication

Communicates with mPOP.

An example of print data transmission with a StarIoExtManager object and print data transmission of StarIO Android SDK equivalence.

### *Example (Using StarIoExtManager object)*

```
public static Result sendCommands(byte[] commands, StarIOPort port, Context context) {
    Result result = Result.ErrorUnknown;

    try {
        // try {
        //     Thread.sleep(100);
        // } catch (InterruptedException e) {
        // }

        StarPrinterStatus status;

        result = Result.ErrorBeginCheckedBlock;

        status = port.beginCheckedBlock();

        if (status.offline) {
            throw new StarIOPortException("A printer is offline");
        }

        result = Result.ErrorWritePort;

        port.writePort(commands, 0, commands.length);

        result = Result.ErrorEndCheckedBlock;

        port.setEndCheckedBlockTimeoutMillis(30000); // 30000mS!!!

        status = port.endCheckedBlock();

        if (status.coverOpen) {
            throw new StarIOPortException("Printer cover is open");
        }
        else if (status.receiptPaperEmpty) {
            throw new StarIOPortException("Receipt paper is empty");
        }
        else if (status.offline) {
            throw new StarIOPortException("Printer is offline");
        }

        result = Result.Success;
    }
    catch (StarIOPortException e) {

        ...

    }

    return result;
}
```

### Example (Like a StarIO Android SDK)

```
public static Result sendCommands(byte[] commands, String portName, String portSettings, int timeout, Context
context) {
    Result result = Result.ErrorUnknown;

    StarIOPort port = null;

    try {
        result = Result.ErrorOpenPort;

        port = StarIOPort.getPort(portName, portSettings, timeout, context);

        try {
            Thread.sleep(100);
        } catch (InterruptedException e) {
        }

        StarPrinterStatus status;

        result = Result.ErrorBeginCheckedBlock;

        status = port.beginCheckedBlock();

        if (status.offline) {
            throw new StarIOPortException("A printer is offline");
        }

        result = Result.ErrorWritePort;

        port.writePort(commands, 0, commands.length);

        result = Result.ErrorEndCheckedBlock;

        port.setEndCheckedBlockTimeoutMillis(30000); // 30000mS!!!

        status = port.endCheckedBlock();

        if (status.coverOpen) {
            throw new StarIOPortException("Printer cover is open");
        }
        else if (status.receiptPaperEmpty) {
            throw new StarIOPortException("Receipt paper is empty");
        }
        else if (status.offline) {
            throw new StarIOPortException("Printer is offline");
        }

        result = Result.Success;
    }
    catch (StarIOPortException e) {

        ...

    }
    finally {
        if (port != null) {
            try {
                StarIOPort.releasePort(port);

                port = null;
            }
            catch (StarIOPortException e) {
            }
        }
    }
}
```

```
}  
    return result;  
}
```

**When you'd like to know StarIO.framework details, download StarIO Android SDK, and refer to the document.**