

GS-SDK APIs Introduction

Generalscan GS-SDK development APIs is designed for third software partner integrated Generalscan Bluetooth Barcode Scanner with Android smartphone. This SDK provide all kinds of function which include bluetooth communication, hardware DES encryption algorithm, barcode setting, TTS voice playback and etc.

You can easily to use Generalscan Bluetooth scanner with GS-SDK API package in your Android Apps.

GS-SDK API provide many low level function such as Bluetooth SPP communication, Pairing, Data transmission, Bluetooth device name modify, barcode settings, hardware ID readability, DES encryption algorithm, sleep mode change .

GS-SDK Function Introduction:

Before you start use GS-SDK APIs ,You should understand all kind of class referenced in your project.The following table is description and definition of all class in APIs.

| Class Name | Description |
|-----------------------------------|--|
| BluetoothConnect | The Class of Connect Bluetooth Barcode Scanner,When success connect ,it will prompt message in the notification bar and can accept data from scanner |
| BluetoothSend | The Class of Send data from Bluetooth |
| BluetoothSettings | The Class of Open System bluetooth setting interface,select the bluetooth device. |
| OnDataReceive | The Interface of Receive data from bluetooth |
| OnScannerID | The Interface of Receive Scanner Hardware ID |
| SendConstant | The Constants of Send command |
| TTSInterface | The Class of TTS voice which include play,stop,etc |
| OnFinishSpeech | The Interface of finish play voice |

Before you begin to use GS-SDK APIs, You should import generalscan-sdk.jar fie to your Eclipse project,at the same time ,copy the resource directory to your project directory.(Note:All developement are base on the Eclipse IDE envorinment , and all resource file are named with "gs",please make sure no other resource files are named with "gs")

Android Manifest File Setting

Before you start to use GS-SDK APIs , You should add the following content in the manifest file :

Add User Permission Bluetooth:

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

Declaration GS-SDK APIs Service:

```
1 <!-- Register Service -->
2 <service android:name="com.generalscan.connect.ATService" android:enabled="true" />
```

The following is complete sample of Manifest file:

```
1
2 <?xml version="1.0" encoding="utf-8"?>
3 <manifest xmlns:android="http://schemas.android.com/apk/res/android"
4 package="com.generalscan.activity"
5 android:versionCode="1"
6 android:versionName="1.0" >
7
8 <uses-sdk android:minSdkVersion="10" />
9
10 <uses-permission android:name="android.permission.BLUETOOTH" />
11 <uses-permission android:name="android.permission.BLUETOOTH_ADMIN" />
12 <!-- Show Alert Dialog in Service-->
13 <uses-permission android:name="android.permission.SYSTEM_ALERT_WINDOW" />
14
15 <application>
16 <activity
17 android:name="com.generalscan.activity.MainActivity"
18 android:icon="@drawable/ic_launcher"
19 android:label="@string/app_name" >
20 <intent-filter>
21 <action android:name="android.intent.action.MAIN" />
22
23 <category android:name="android.intent.category.LAUNCHER" />
24 </intent-filter>
25 </activity>
26 <activity android:name="com.generalscan.activity.bluetoothConnect.BluetoothConnectActivity" />
27 <activity android:name="com.generalscan.activity.speech.SpeechSDKActivity" />
28 <activity android:name="com.generalscan.activity.speech.SettingsSpeech" />
29
30 <!--Register Service -->
31 <service
32 android:name="com.generalscan.bluetooth.connect.ATService"
33 android:enabled="true" />
34 </application>
35
36 </manifest>
37
38
```

The following is introduction for the static method ,parameter in each class,please reference the sample code in the end of page.

BluetoothConnect Class Description

| Statics Method | Function Decription |
|-----------------|--|
| BindService() | Bind Bluetooth Service |
| BluetoothSend() | Send character to bluetooth device |
| Connect() | Connect bluetooth device and prompt in the |

| | |
|------------------------------------|---|
| | notification bar when successful connect bluetooth barcode scanner. |
| SetOnDataReceive() | The data receive from bluetooth device Listener |
| SetOnScannerID() | Listener the bluetooth is active successfully and return the device ID. Note:Only Generalscan can read device ID. |
| Stop() | Stop bluetooth device,disconnect the bluetooth scanner |

[BinService\(\) Method and Parameters](#)

```

1 public static void BindService(Activity activity) //Bind Bluetooth Service to Activity Return: void
2 public static void BindService(Service service) //Bind Bluetooth Service to Activity Return: void
3

```

Sample Code:

```

1 @Override
2 public void onCreate(Bundle savedInstanceState) {
3     super.onCreate(savedInstanceState);
4     requestWindowFeature(Window.FEATURE_NO_TITLE);
5     setContentView(R.layout.main);
6     myActivity = this;
7     // Bind Bluetooth Service(Must bind service in the onCreate )
8     BluetoothConnect.BindService(myActivity);
9
10
11     findViewById();
12     // Set button event
13     setListener();
14     // Get data
15     GetData();
16 }

```

[Connect\(\) Method and Parameters](#)

```

1 public static void Connect() //Connect with bluetooth service Return: void
2

```

Sample Code:

```

1 // Connect with Bluetooth Device
2 myBtnBlueConnect.setOnClickListener(new OnClickListener() {
3
4     @Override
5     public void onClick(View v) {
6         BluetoothConnect.Connect();
7     }
8
9 });
10

```

[Stop\(\) Method and Parameters](#)

```

1 public static void Stop(Activity activity) //Stop Bluetooth Service to Activity Return : void
2 public static void Stop(Service service) //Stop Bluetooth Service to Activity Return : void
3

```

Sample Code:

```

1 // Stop Bluetooth Service
2 myBtnBlueStop.setOnClickListener(new OnClickListener() {
3
4     @Override
5     public void onClick(View v) {
6         BluetoothConnect.Stop(myActivity);
7     }
8
9     });
10

```

SetOnDataReceive() Method and Parameters

```

1 public static void SetOnDataReceive(OnDataReceive dataReceive)
2
//Receive data from bluetooth scanner,
//data is receive message,You can display this message in any control

```

Sample Code:

```

1 // Listener received data
2 BluetoothConnect.SetOnDataReceive(new OnDataReceive() {
3
4     @Override
5     public void DataReceive(String data) {
6
7         ((EditText) findViewById(R.id.editText1)).append(data);
8
9     }
10
11 });
12
13

```

SetOnScannerID() Method and Parameters

```

1 public static void SetOnScannerID(OnScannerID ScannerID)
2
3
//Listener the bluetooth scann whether or not is activated,if yes, return device ID
//ID is device ID,if device id is null,it means the bluetooth can not be successful activated.,

```

Sample Code:

```

1 BluetoothConnect.SetOnScannerID(new OnScannerID() {
2
3     @Override
4     public void ScannerID(String ID) {
5         ((EditText) findViewById(R.id.editText1)).append(ID + "Successful Activated");
6
7     }
8
9     });
10
11

```

BluetoothSend Method and Parameters

```

1 public static void BluetoothSend(String AIcontent) //Send data to bluetooth device
2
3

```

Sample Code:

```

1 BluetoothConnect.SetOnScannerID(new OnScannerID() {
2
3     @Override
4     public void ScannerID(String ID) {
5         ((EditText) findViewById(R.id.editText1)).append(ID + "Successful Activated");
6
7     }
8
9 });
10
11

```

BluetoothSend Class Description

| Static Method | Function Description |
|---------------|----------------------|
| SendContent() | Send One Command |
| SetSendList() | Display Command List |

SendContent() Method and Parameters

```

1 public static void SendContent(Context context,int whichUnit) //The first parameter is Activity,
2 //The second parameter is Command list
3

```

Sample Code:

```

1 @Override
2 public void onClick(View v) {
3     // Send one command in the command list
4     // SendConstant.F_StartScan Sart Scan Barcode
5     BluetoothSend.SendContent(myActivity, SendConstant.F_StartScan);
6
7 }
8

```

SetSendList() Method and Parameters

```

1 public static void SetSendList(Context context,int whichList)
2 public static void SetSendList(Context context,int whichList,String ListName)
3 public static void SetSendList(Context context,int whichList,String ListName,boolean IsShowCommand)
4
5
6 //The first parameter is Activity, The second parameter is int
7 //SendConstant have three type:
8 //SendConstant.ListRead Display Readable Scanner Content List
9 //SendConstant.ListFunction Display Scanner Function List
10 //SendConstant.ListConfig Display Scanner Configuration List
11
12
13

```

Sample Code :

```

1 @Override
2 public void onClick(View v) {
3     // SendConstant.ListRead
4     // SendConstant.ListFunction
5     // SendConstant.ListConfig
6     // There are three list,You can send to bluetooth scanner directly
7     BluetoothSend.SetSendList(myActivity, SendConstant.ListFunction);
8
9 }
10
11 @Override
12 public void onClick(View v) {
13     BluetoothSend.SetSendList(myActivity, SendConstant.ListConfig);
14 }
15
16 @Override
17 public void onClick(View v) {
18     BluetoothSend.SetSendList(myActivity, SendConstant.ListRead);
19 }
20
21

```

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BluetoothSettings Class Description

| Static Method | Function Description |
|---|--|
| ACTION_BLUETOOTH_SETTINGS() | Display System Bluetooth Configuration Interface |
| SetScanner() | Select the Bluetooth Scanner |

[ACTION_BLUETOOTH_SETTINGS\(\) Method and Parameters](#)

```
1 public static void ACTION_BLUETOOTH_SETTINGS(Activity activity) // Parameter is Activity
2
```

Sample Code:

```
1 // Open System Bluetooth Configuration Interface
2 @Override
3 public void onClick(View v) {
4     BluetoothSettings.ACTION_BLUETOOTH_SETTINGS(myActivity);
5 }
6
```

[SetScanner\(\) Method and Parameters](#)

```
1 public static void SetScanner(Activity activity) //Parameter is Activity,
2
```

Sample Code:

```
1 // Select the paired bluetooth scanner
2 @Override
3 public void onClick(View v) {
4     BluetoothSettings.SetScanner(myActivity);
5 }
6
7
```

Interface and Constants Description

| Interface and Constants | Function Description |
|---------------------------------|--|
| OnDataReceive() | The interface for receive data from Bluetooth |
| OnScannerID() | The interface for read bluetooth scanner device ID |
| SendConstant() | Builed Constants |

[OnDataReceive\(\) and OnScannerID\(\) Method and Parameters](#)

```
1 public interface OnDataReceive //No Parameters
2 public interface OnScannerID //No Parameters
```

Sample Code:

```

1 // Open System Bluetooth Setting Interface
2 private void GetData() {
3     // Listener received data from bluetooth
4     BluetoothConnect.SetOnDataReceive(new OnDataReceive() {
5
6         @Override
7         public void DataReceive(String data) {
8
9             ((EditText) findViewById(R.id.editText1)).append(data);
10        }
11    });
12
13    // Successful activated and return scanner device id
14    BluetoothConnect.SetOnScannerID(new OnScannerID() {
15
16        @Override
17        public void ScannerID(String ID) {
18
19            ((EditText) findViewById(R.id.editText1)).append(ID + "Successful Activated");
20        }
21    });
22 }
23
24
25
26
27
28

```

SendConstant

| Constants Type | Constants Name | Function Description |
|--------------------|------------------------------|--|
| Constants List | <i>ListRead</i> | Read List |
| | <i>ListFunction</i> | Function List |
| | <i>ListConfig</i> | Configuration List |
| Read List | <i>GetCipher</i> | Read DES Encryption Algorithm Passcode |
| | <i>GetScannerID</i> | Read DeviceID |
| | <i>GetSleepTime</i> | Read Sleep Time |
| Function Constants | <i>F_StartScan</i> | Start Scan |
| Configuration List | <i>SetSleepTime</i> | Set Sleep Time |
| | <i>SetSPPBluetoothName</i> | Set SPP Bluetooth Name |
| | <i>SetHIDBluetoothName</i> | Set HID Bluetooth Name |
| | <i>SetPostambleCharacter</i> | Set Postamble Character |

Sample Code:

```

1 public class SendList {
2
3     //所有的发送内容
4     private final int[] AllConstant = {
5         // SendConstant.ListRead
6         // SendConstant.ListFunction
7         // SendConstant.ListConfig
8         // There are three type constants
9         SendConstant.ListFunction,SendConstant.ListConfig,SendConstant.ListRead,
10        //Send Start Scan Command
11        SendConstant.F_StartScan,
12        //Get Hardware DES Passcode
13        SendConstant.GetCipher,SendConstant.GetScannerID,
14
15        //
16        SendConstant.SetHIDBluetoothName,SendConstant.SetSPPBluetoothName,SendConstant.SetPreambleCh
17        SendConstant.SetPostambleCharacter,SendConstant.SetSleepTime
18    };
19
20    //对应发送内容的描述
21    private CharSequence[] items = {
22        "Function List","Configuration List","Read List",
23        "Start Scan",
24        "Get PassDESCode","Get Device ID",
25        "Set HID Bluetooth Name","Set SPP Bluetooth Name","Set Preamble Character",
26        "Set Postamble Character","Set SleepTime"
27    };
28    private Context myContext;
29
30    public SendList(Context context) {
31        myContext = context;
32    }
33

```

```

33
34    /**
35     * Display Dialogue of send data
36     */
37    public void ShowDialog() {
38
39        AlertDialog.Builder builer = new AlertDialog.Builder(myContext);
40        builer.setSingleChoiceItems(items, -1,
41            new DialogInterface.OnClickListener() {
42
43                @Override
44                public void onClick(DialogInterface dialog, int which) {
45
46
47                    //Send Command List
48                    BluetoothSend.SendContent(myContext,AllConstant[which]);
49
50                    dialog.cancel();
51                }
52            });
53        builer.create().show();
54    }
55 }
56 }
57
58

```

TTSInterface Class Description

| Static Method | Function Description |
|---------------------|--|
| Play() | Start Playback |
| Stop() | Stop TTS Service |
| StartTTS() | Check TTS Engine Installation and resource |
| SetOnFinishSpeech() | Listener Message after playback TTS voice |
| TTSActivityResult() | Check TTS Engine |

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TTSSettings()

Display System TTS Interface

Play() Method and Parameters

```
1 public static void Play(String,String) //方法的参数为String,  
2
```

Sample Code:

```
1 if (event.getAction() == KeyEvent.ACTION_DOWN) {  
2     String speech = "";  
3     switch (v.getId()) {  
4         case R.id.edtName:  
5             speech = DataShare.getName(myContext);  
6  
7             TTSInterface.Play(Replace(speech, myEdtName.getText().toString()), String.valueOf(R.id.edtName)  
8  
9
```

Stop() Method and Parameters

```
1 public static void Stop()  
2
```

Sample Code:

```
1 /**  
2  * Stop TTS Service  
3  */  
4 @Override  
5 protected void onDestroy() {  
6     TTSInterface.Stop();  
7     super.onDestroy();  
8 }
```

StartTTS() Method and Parameters

```
1 public static void StartTTS(Activity)  
2
```

Sample Code:

```
1 /**  
2  * Start TTS Service, Handle it in onResume  
3  */  
4 @Override  
5 protected void onResume() {  
6     TTSInterface.StartTTS(this); // Check TTS Engine and resource  
7     super.onResume();  
8 }
```

SetOnFinishSpeech() Method and Parameters ,OnFinishSpeech Interface defintion

```
1 public static void SetOnFinishSpeech(OnFinishSpeech)  
2
```

Sample Code:

```
1 // Listener Message after playback voice
2 TTSInterface.SetOnFinishSpeech(new OnFinishSpeech() {
3
4     @Override
5     public void FinishSpeech(String finishContent) {
6
7         // if (finishContent.equals(String.valueOf(R.id.edtName))) {
8         // myEdtName.setText("");
9         // }
10        // if (finishContent.equals(String.valueOf(R.id.edtBarcode))) {
11        // myEdtBarcode.setText("");
12        // }
13        // if (finishContent.equals(String.valueOf(R.id.edtCount))) {
14        // myEdtCount.setText("");
15        // }
16    }
17
18 });
```

TTSActivityResult() Method and Parameters

```
1 public static void TTSActivityResult(int,int)
2
```

Sample Code:

```
1 /**
2  * Setting ActivityResult
3  */
4 @Override
5 protected void onActivityResult(int requestCode, int resultCode, Intent data) {
6     TTSInterface.TTSActivityResult(requestCode, resultCode);
7 }
8
```

TTSSettings() Method and Parameters

```
1 public static void TTSSettings()
2
```

Sample Code:

```
1 // Display System TTS Interface
2 myBtnSettings.setOnClickListener(new OnClickListener() {
3
4     @Override
5     public void onClick(View v) {
6         TTSInterface.TTSSettings();
7     }
8
9 });
10
```