1. Garen Github 代码
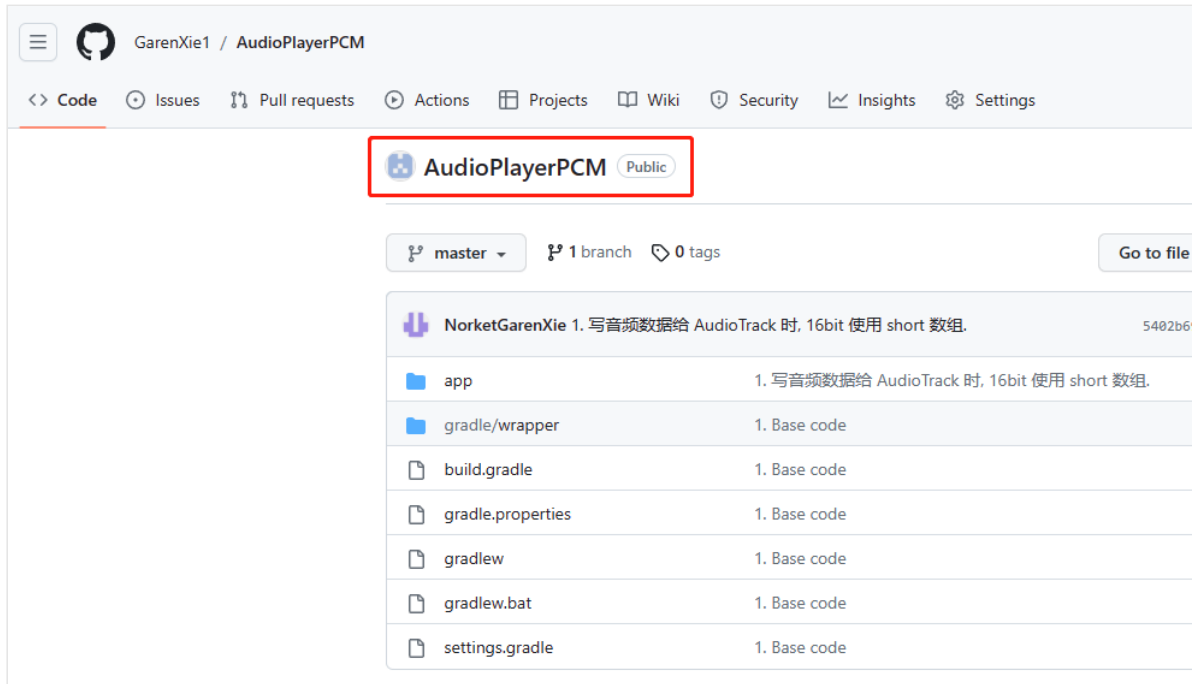
- [GarenXie1/AudioPlayerPCM: Android Play Audio PCM file using AudioTrack API. (github.com)](#)

2. 运行 APP 的步骤

- 需要手动解决如下问题
  - [文件读写权限报错(Permission denied)](#)
  - [UDP 绑定 报错 : java.net.BindException: bind failed:](#)

- 从 仓库中，获取到 `data.pcm` 音频格式：单声道，8k 采样率，16bit 数据深度.

```
1  adb root
2  adb remount
3  adb push data.pcm /storage/emulated/0/audioFile/
4  adb push data.pcm /data/
```
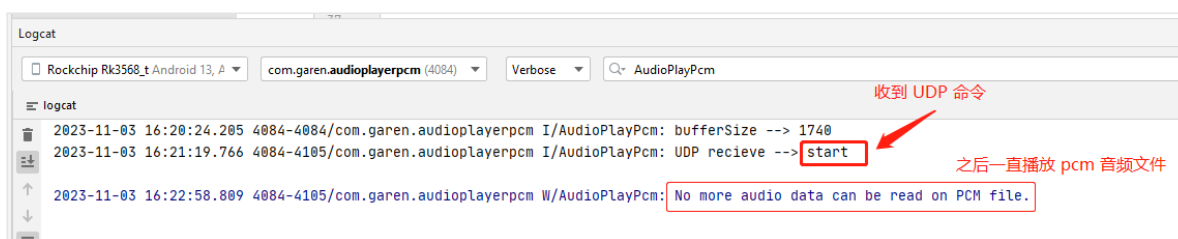
```
1  # Android 13 手动解决  读写文件权限问题
2  chown media_rw:media_rw /data/data.pcm
3  chmod 777 /data/data.pcm
4  ls -l /data/data.pcm
```

```
1    # 第二步: 使用 UDP 工具来发送 "start" 命令
```


发送 UDP 命令给 板子

```
1    # 第三步: 板子接收到 start 命令后, 将会播放 pcm 音频.
```


收到 UDP 命令

之后一直播放 pcm 音频文件

3. 运行报错

3.1. 文件读写权限报错(Permission denied)

- 报错信息

```
1   W/System.err: java.io.FileNotFoundException:
    /storage/emulated/0/audioFile/data.pcm (Permission denied)
2   W/System.err:      at java.io.FileInputStream.open(Native Method)
3   W/System.err:      at java.io.FileInputStream.<init>(FileInputStream.java:146)
4   W/System.err:      at java.io.FileInputStream.<init>(FileInputStream.java:99)
5   W/System.err:      at
    com.garen.audioplayerpcm.AudioPlayPcm.run(AudioPlayPcm.java:41)
6   W/System.err:      at java.lang.Thread.run(Thread.java:761)
```
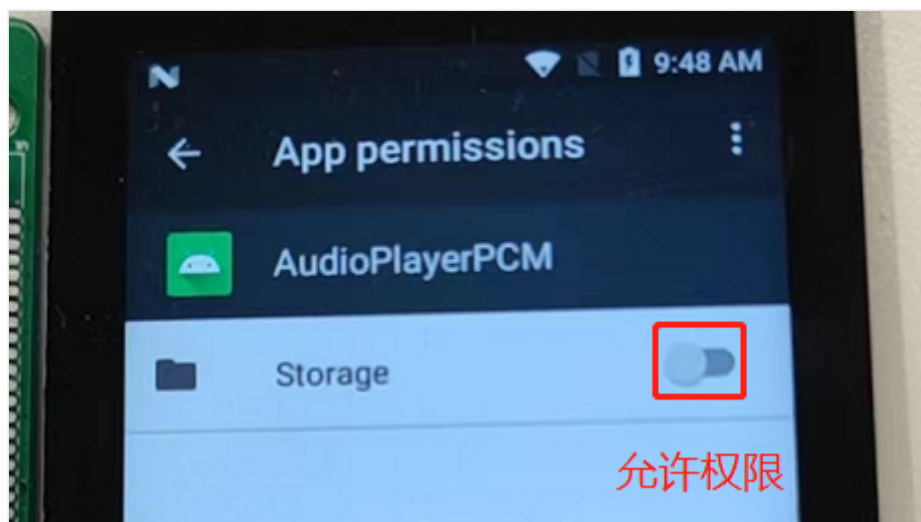
3.1.1. Android 7.1.2 解决办法

- 解决办法
    - 修改 `app/src/main/AndroidManifest.xml`

      ```
      1   <uses-permission
          android:name="android.permission.READ_EXTERNAL_STORAGE" />
      2   <uses-permission
          android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
      ```


- **手动允许权限 (在 Android 7.1.2 可以手动打开 storage 访问权限).**

3.1.2. Android 13 解决办法

- 在 Android 13, RK3568 中, 解决办法如下:

  ```
  1   chown media_rw:media_rw /data/data.pcm
  2   chmod 777 /data/data.pcm
  3   ls -l /data/data.pcm
  ```

```
console:/ #
console:/ # ls -l /data/data.pcm
-rwxrwxrwx 1 media_rw media_rw 1584960 2023-11-03 07:50 /data/data.pcm
console:/ #
console:/ #
```

3.2. UDP 绑定 报错 : java.net.BindException: bind failed:

- 报错信息

```
W/System.err: java.net.BindException: bind failed: EADDRNOTAVAIL (Cannot assign requested address)
W/System.err:     at libcore.io.IoBridge.bind(IoBridge.java:149)
W/System.err:     at java.net.PlainDatagramSocketImpl.bind0(PlainDatagramSocketImpl.java:105)
W/System.err:     at java.net.AbstractPlainDatagramSocketImpl.bind(AbstractPlainDatagramSocketImpl.java:112)
W/System.err:     at java.net.DatagramSocket.bind(DatagramSocket.java:414)
W/System.err:     at java.net.DatagramSocket.<init>(DatagramSocket.java:264)        Android 13
W/System.err:     at java.net.DatagramSocket.<init>(DatagramSocket.java:321)
W/System.err:     at com.garen.audioplayerpcm.AudioPlayPcm.recieveUDPCommand(AudioPlayPcm.java:104)
W/System.err:     at com.garen.audioplayerpcm.AudioPlayPcm.run(AudioPlayPcm.java:62)
W/System.err:     at java.lang.Thread.run(Thread.java:1012)
W/System.err: Caused by: android.system.ErrnoException: bind failed: EADDRNOTAVAIL (Cannot assign requested address)
W/System.err:     at libcore.io.Linux.bind(Native Method)
```

- 解决

原因: 没有获取 WIFI IP 地址，获取 WIFI IP 写错了.

```
wlan0      Link encap:Ethernet  HWaddr e8:24:04:eb:f9:38  Driver rtl88x2
           inet addr:192.168.1.174  Bcast:192.168.1.255  Mask:255.255.25
           inet6 addr: fe80::c060:f5d1:e713:659f/64 Scope: Link
           UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
           RX packets:26 errors:0 dropped:0 overruns:0 frame:0
           TX packets:31 errors:0 dropped:0 overruns:0 carrier:0
           collisions:0 txqueuelen:1000
           RX bytes:912760 TX bytes:85688
```

```
     private static final String playFile = "data.pcm";
+    private static final String mySelfIPaddress = "192.168.1.174";
     private int minBufferSize = 0;
```