

EE447 Lab3 Report

Prof. Luoyi Fu, EE447 Mobile Internet

Spring semester, 2020

Fan Zhou(周凡)
517030910305

1 Requirements

Implement QR code scanning and generating using **Zxing** library in Android.

2 Android Programming

2.1 Original Code

The original code is already provided in this lab. We just need to use some classes in Zxing to implement the function. I uses AndroidX in the project, so it seems more change need to be made during the project.

2.2 Import zxing-lib

The steps to import the module is listed as below:

- download zxing library and paste it under your app folder
- add library dependency in your setting.gradle file
- add project dependency in your app build.gradle file
- register series of permission you probably will use in the project(vibrate, camera, autofocus, *etc.*)

In this process, I also meet the problem that the latest android studio cannot download zxing core code (a .jar package). I download from its official website and add it to app/lib folder. Next we need to

- open android studio:project structure
- add .jar to project module

Notice that the zxing-lib have not change its dependency location, so we also need to change it in zxing-lib's build gradle file.

One more thing to do: AndroidX does not use "Support library" anymore; however, zxing still uses it. So we need to build the project and find errors which is related to "support library" and change them to androidx related classes.

Data (D:) > Codes > AndroidProjects > testimport

名称	修改日期	类型	大小
.gradle	2020/5/4 16:32	文件夹	
.idea	2020/5/4 17:42	文件夹	
app	2020/5/4 17:37	文件夹	
gradle	2020/5/4 16:32	文件夹	
zxing-lib	2020/5/4 17:34	文件夹	
.gitignore	2020/5/4 16:32	文本文档	1 KB
build.gradle	2020/5/4 17:25	GRADLE 文件	1 KB
gradle.properties	2020/5/4 16:32	Properties 源文件	2 KB
gradlew	2020/5/4 16:32	文件	6 KB
gradlew.bat	2020/5/4 16:32	Windows 批处理...	3 KB
local.properties	2020/5/4 16:32	Properties 源文件	1 KB
settings.gradle	2020/5/4 17:04	GRADLE 文件	1 KB
testimport.iml	2020/5/4 16:32	IML 文件	1 KB

图 1: two folder you need to add dependency

report.tex settings.gradle

D: > Codes > AndroidProjects > testimport > settings.gradle

```

1  rootProject.name='testimport'
2  include ':app', ':zxing-lib'
3

```

图 2: changes in setting.gradle

```

dependencies {
    implementation fileTree(dir: 'libs', include: ['*.jar'])

    implementation 'androidx.appcompat:appcompat:1.1.0'
    implementation 'androidx.constraintlayout:constraintlayout:1.1.3'
    testImplementation 'junit:junit:4.12'
    androidTestImplementation 'androidx.test.ext:junit:1.1.1'
    androidTestImplementation 'androidx.test.espresso:espresso-core:3.2.4'

    //noinspection GradleCompatible
    implementation 'com.android.support:appcompat-v7:28.0.0'

    //    implementation 'com.github.yuzhiqiang1993:zxing:2.2.5'
    implementation project(':zxing-lib')
    implementation files('libs/core-3.3.3.jar')
}

```

图 3: changes in app:build.gradle

Codes > AndroidProjects > testimport > app > libs				搜索"libs"
名称	修改日期	类型		
 core-3.3.3.jar	2020/5/3 20:20	Executable Jar File		

图 4: download core-3.3.3.jar, move to app/libs

```
implementation 'com.android.support:appcompat-v7:28.0.0'
implementation files('../app/libs/core-3.3.3.jar')
// api 'com.google.zxing:core:3.3.3'
```

图 5: zxing dependency

```
12 import android.os.Handler;
13 import android.os.Vibrator;
14 //import android.support.v7.app.AppCompatActivity;
15 import androidx.appcompat.app.AppCompatActivity;
16
17 import android.text.TextUtils;
```

图 6: replace supportv7 with androidx

3 View of the QR scanner

Here are some screenshots of the demo.

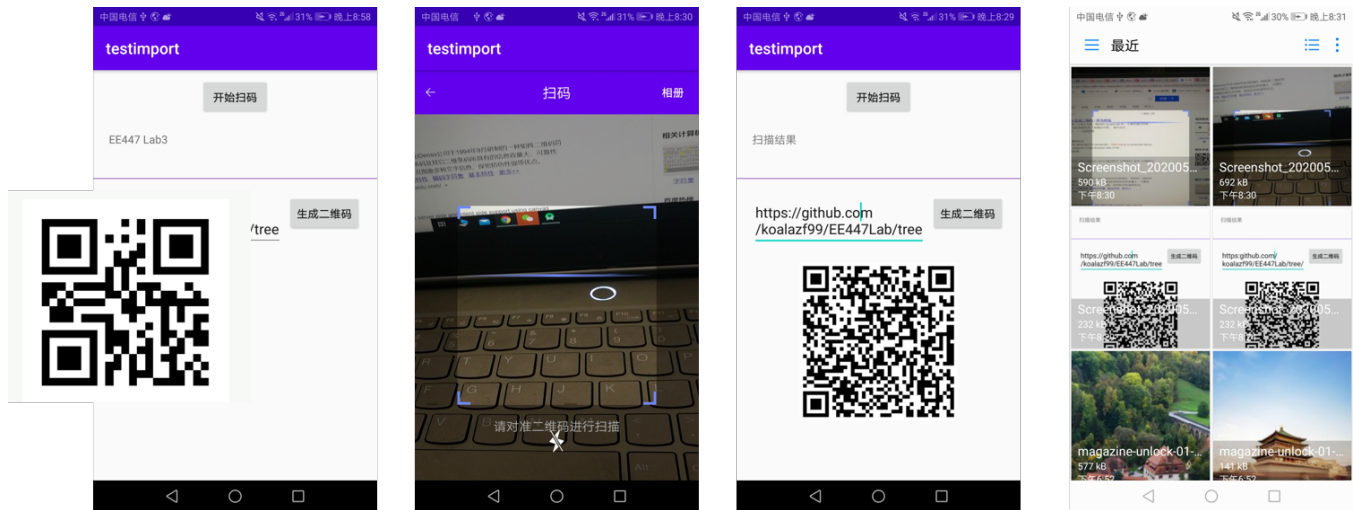


图 7: A view of the Demo

4 External Links

My github repository for this Lab

- <https://github.com/koalazf99/EE447Lab/tree/master/Lab3>

where to download core.jar?

- <https://repo1.maven.org/maven2/com/google/zxing/core/3.3.3/>

A csdn blog which helps a lot

- <https://blog.csdn.net/ahuyangdong/article/details/89339970>

A github repository which also uses Zxing but with some explanations:

- <https://github.com/ahuyangdong/QrCodeLib>