

Advanced Android Interface and Activities

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1 Introduction

In this machine problem will learn how to start a new activity, read files, and perform multimedia operations.

2 Problem statement

The objective is to start new activities corresponding to buttons pressed in MainActivity. The new “display” activities will be called DispImages, DispText, DispMedia. Each such “display” activities will display a list of files. When the user selects one of the files, it will either open an appropriate application to show it (image, text or media player).

You will need to understand which folders to look for if you want to modify the UI of your app and where to place external resources such as image or music files that you might want to use in your app. You will also need to modify the AndroidManifest.xml file and use the functionality that it provides.

First read through “Starting another Activity” in [1] and Chapters 7 and 8 in HFA [5]. Create a three new activities as indicated above. Also, locate the right locations to place images, text and media in the resources folder and place appropriate files in them.

XML: Modify activity_main.xml to have multiple buttons in a LinearLayout, with the text on each button indicating “Text”, “Images,” “Media” etc. Each display activity should show a list of files, and allow you to select one of them on a ListView [3]. So you will also need to create LinearLayouts with ListViews for the appropriate display activities.

JAVA: When one of the buttons is pressed in your MainActivity, start the appropriate display activity and display the contents of the directory where you have stored the files on screen. You can read more on files here [2].

In addition, add support in your code such that the contents of the selected file is displayed when its name is selected from the directory listing above. For example, you must implement this feature to display an image if selected. Read through [4] to learn how to handle media files.

MANIFEST: You will need to add permissions in the AndroidManifest.xml to allow your application to access the storage. The command for this is :

```
<uses-permission android:name='“android.permission.READ_EXTERNAL_STORAGE”' />
```

Don’t forget to declare your different display activities in the manifest. You can read more on how to modify the Manifest on page 111 in HFA [5].

3 Evaluation Guidelines

1. Check operation using the interface.
2. Creativity carries bonus points.
3. Your application must run on either a physical or a virtual device.

References

- [1] Android developer: Building Your First App
<http://developer.android.com/training/basics/firstapp/index.html>
- [2] Android developer: Saving Data
<http://developer.android.com/training/basics/data-storage/index.html>
- [3] Android developer: List View
<http://developer.android.com/guide/topics/ui/layout/listview.html>
- [4] Android developer: Building Apps with Multimedia
<http://developer.android.com/training/building-multimedia.html>
- [5] Head First Android