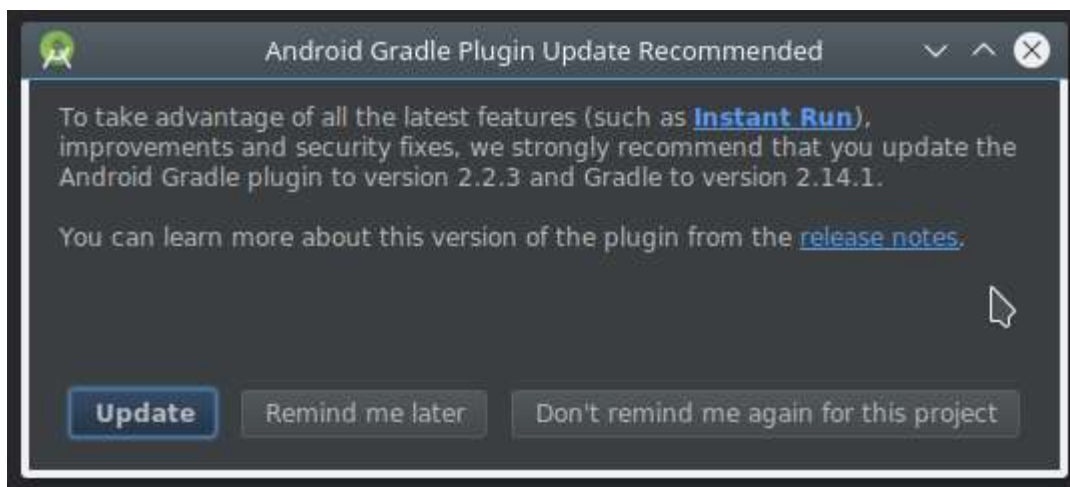


Laptop: Lenovo ThinkPad T400, 4 GB RAM, Intel Core 2 Duo

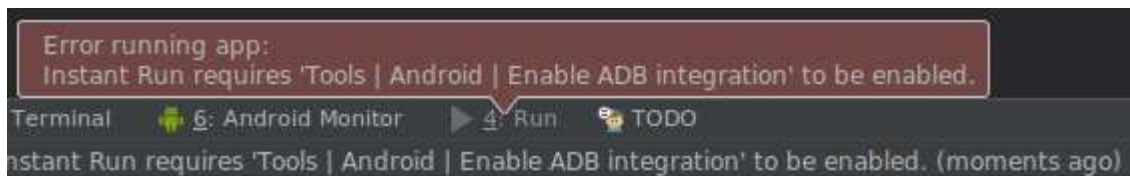
Phone: Samsung Galaxy S5 running Android 6.0.1

<https://github.com/MattAndersonCEG3900>

Task 1: Build OpenSudoku As-Is (15 minutes)

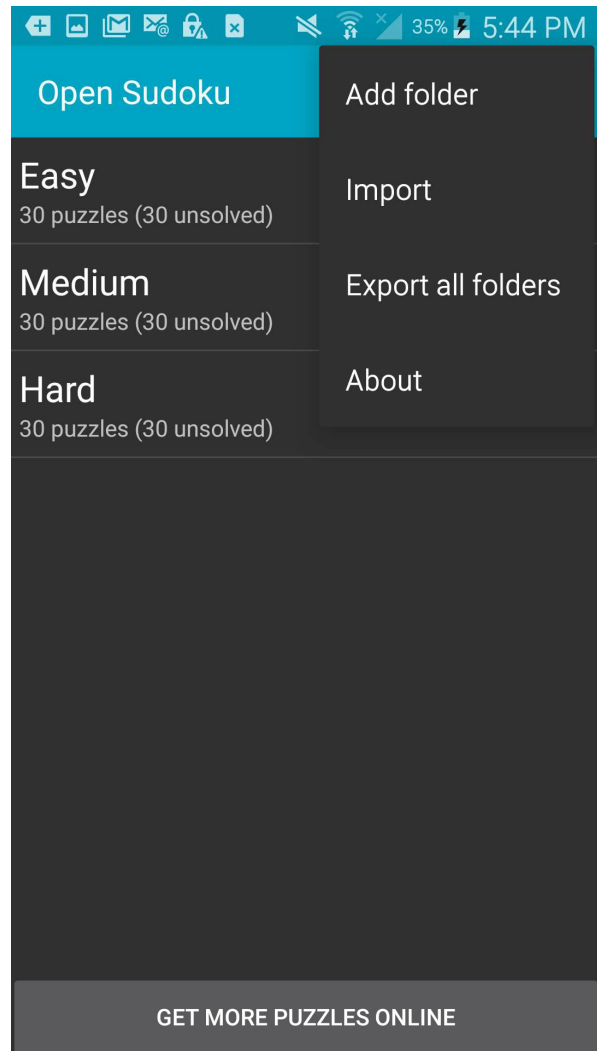
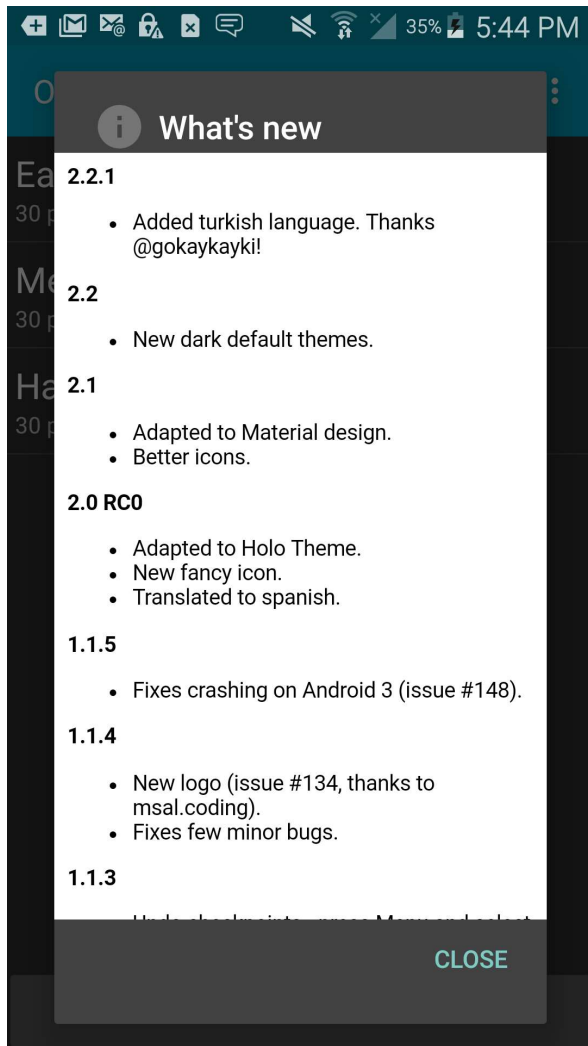


As with every APK we've downloaded so far, the Grade plugin needed updated.



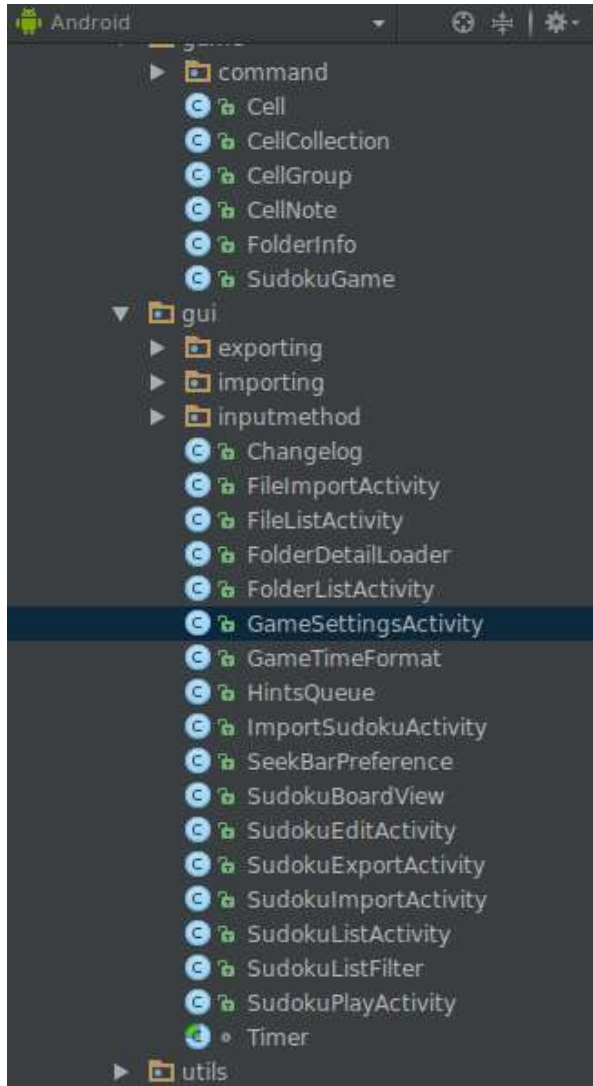
For some reason, ADB integration was disabled. To fix this, I went to Tools > Android > Enable ADB Integration. It took two attempts for the change to stick.

This APK seems to be really well made. P1 was a real struggle to find an APK that would build without hours of troubleshooting, but OpenSudoku was built by updating the Gradle plugin, enabling ADB integration, and building.



Task 2: Prune OpenSudoku (About 3 hours)

Before:



```

public class FolderListActivity extends ListActivity {

    public static final int MENU_ITEM_ADD = Menu.FIRST;
    public static final int MENU_ITEM_RENAME = Menu.FIRST + 1;
    public static final int MENU_ITEM_DELETE = Menu.FIRST + 2;
    public static final int MENU_ITEM_ABOUT = Menu.FIRST + 3;
    public static final int MENU_ITEM_EXPORT = Menu.FIRST + 4;
    public static final int MENU_ITEM_EXPORT_ALL = Menu.FIRST + 5;
    public static final int MENU_ITEM_IMPORT = Menu.FIRST + 6;

    private static final int DIALOG_ABOUT = 0;
    private static final int DIALOG_ADD_FOLDER = 1;
    private static final int DIALOG_RENAME_FOLDER = 2;
    private static final int DIALOG_DELETE_FOLDER = 3;

```

```

package org.moire.opensudoku.gui;

import ...

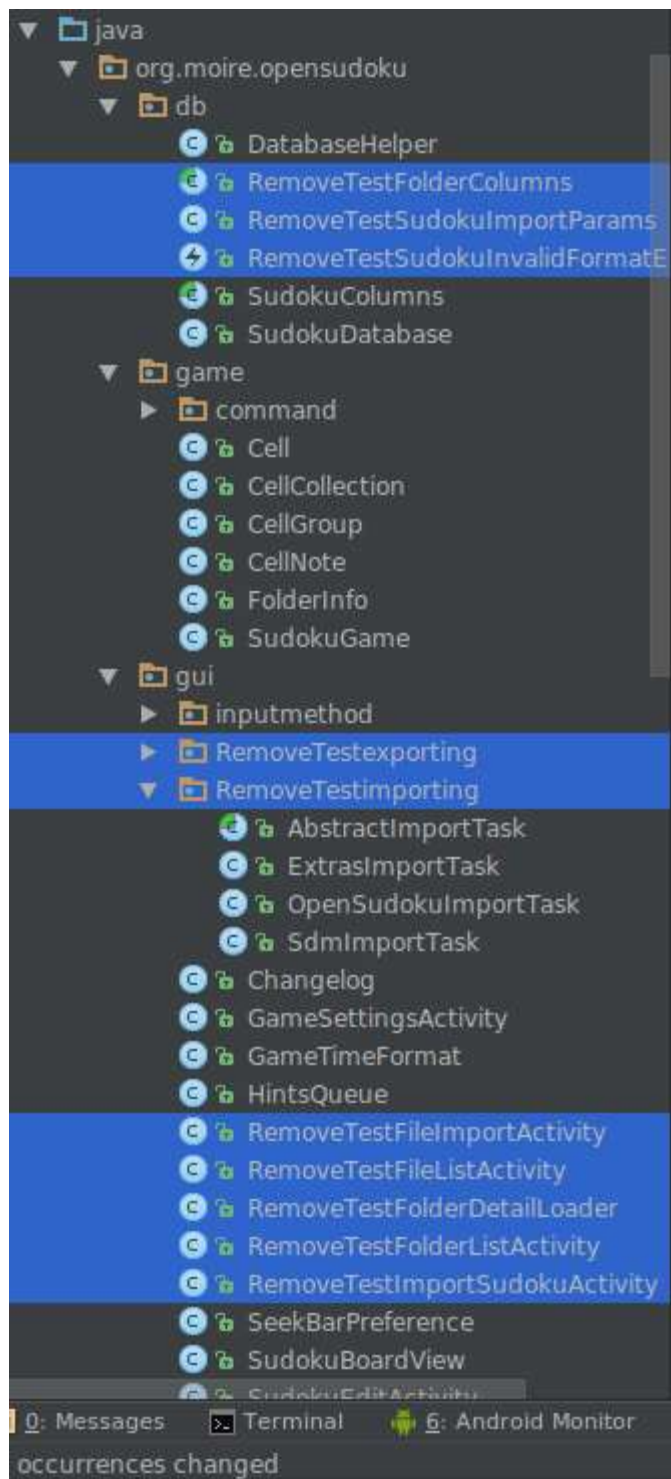
/**
 * List of puzzles in folder.
 *
 * @author romario
 */
public class SudokuListActivity extends ListActivity {

    public static final String EXTRA_FOLDER_ID = "folder_id";

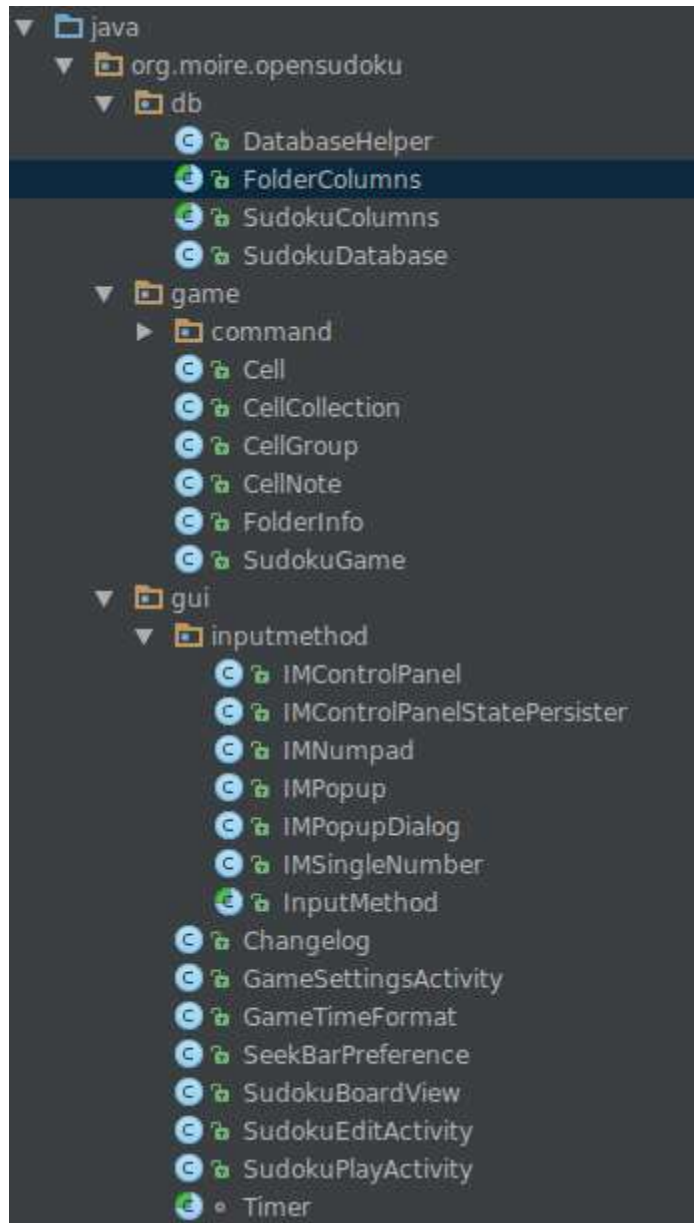
    public static final int MENU_ITEM_INSERT = Menu.FIRST;
    public static final int MENU_ITEM_EDIT = Menu.FIRST + 1;
    public static final int MENU_ITEM_DELETE = Menu.FIRST + 2;
    public static final int MENU_ITEM_PLAY = Menu.FIRST + 3;
    public static final int MENU_ITEM_RESET = Menu.FIRST + 4;
    public static final int MENU_ITEM_EDIT_NOTE = Menu.FIRST + 5;
    public static final int MENU_ITEM_FILTER = Menu.FIRST + 6;
    public static final int MENU_ITEM_FOLDERS = Menu.FIRST + 7;

    private static final int DIALOG_DELETE_PUZZLE = 0;
    private static final int DIALOG_RESET_PUZZLE = 1;
    private static final int DIALOG_EDIT_NOTE = 2;
    private static final int DIALOG_FILTER = 3;

```



After:




```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="edu.wright.ceg3900">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="Open Sudoku"
        android:theme="@style/Theme" >
        <activity android:name=".gui.SudokuEditActivity" android:label="Edit sudoku">
            <intent-filter>
                <action android:name="android.intent.action.INSERT"/>
                <action android:name="android.intent.action.EDIT"/>
                <category android:name="android.intent.category.DEFAULT"/>
            </intent-filter>
        </activity>
        <!-- This activity is here to keep backward compatibility, use SudokuImportActivity instead. -->
        <activity android:name=".gui.SudokuPlayActivity"
            android:label="Open Sudoku">
            <intent-filter>
                <action android:name="android.intent.action.MAIN"/>
                <category android:name="android.intent.category.LAUNCHER"/>
            </intent-filter>
        </activity>
        <activity android:name=".gui.GameSettingsActivity"
            android:label="Game settings">
        </activity>
    </application>

```

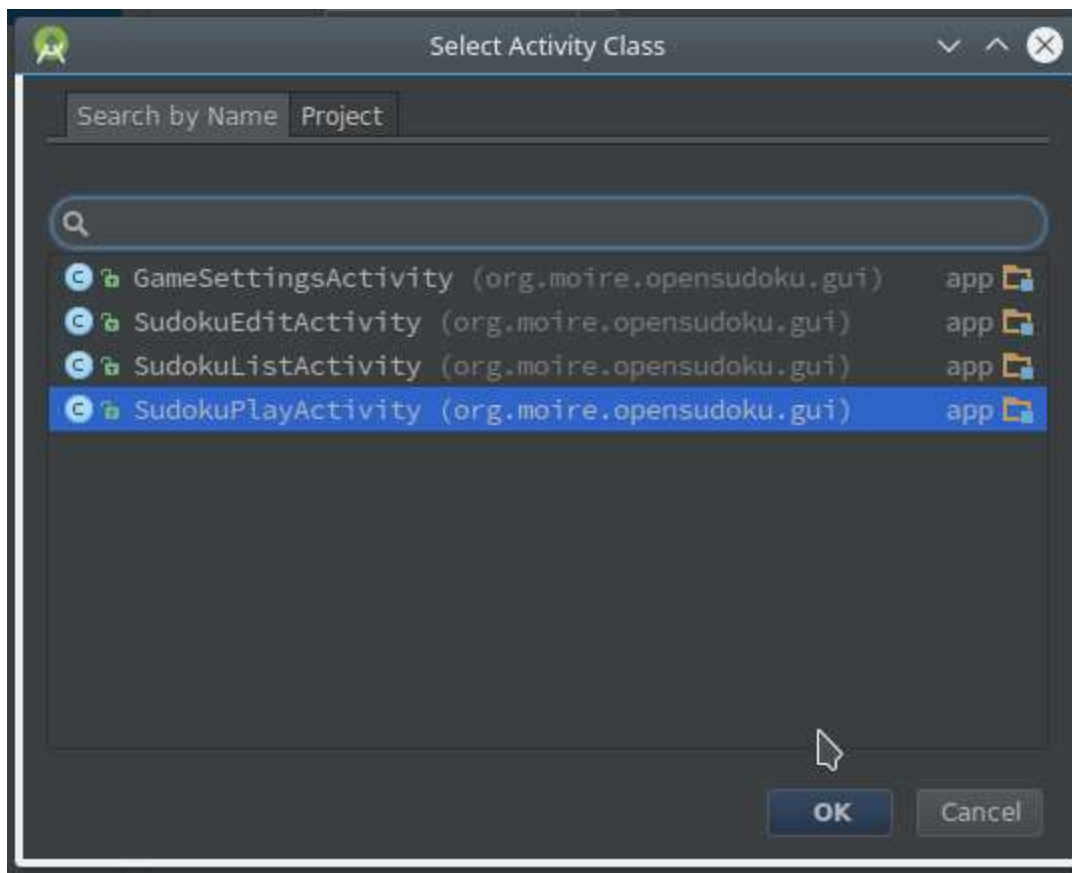
```

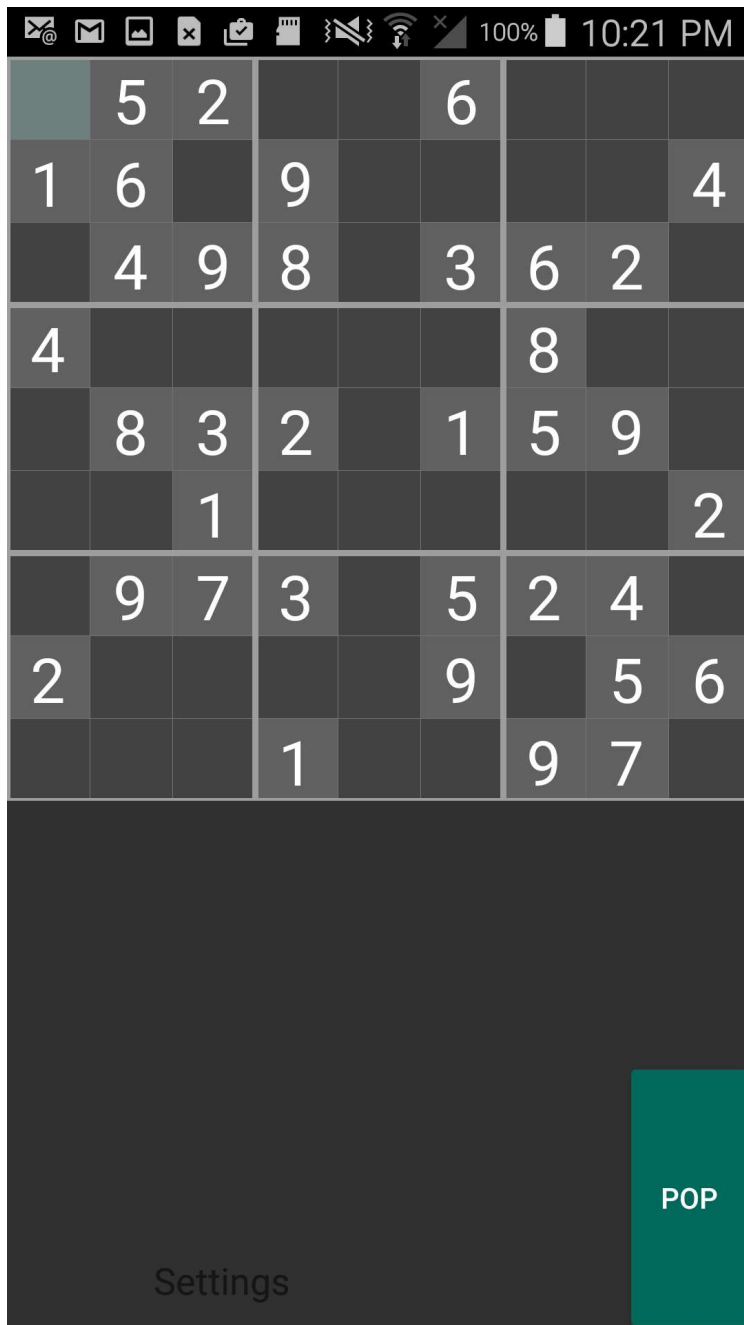
@Override
public boolean onCreateOptionsMenu(Menu menu) {
    super.onCreateOptionsMenu(menu);

    // This is our one standard application action -- inserting a
    // new note into the list.
    menu.add(0, MENU_ITEM_ADD, 0, R.string.add_folder)
        .setShortcut('3', 'a')
        .setIcon(R.drawable.ic_add);
    menu.add(0, MENU_ITEM_IMPORT, 0, R.string.import_file)
        .setShortcut('8', 'i')
        .setIcon(R.drawable.ic_cloud_upload);
    menu.add(0, MENU_ITEM_EXPORT_ALL, 1, R.string.export_all_folders)
        .setShortcut('7', 'e')
        .setIcon(R.drawable.ic_share);
    menu.add(0, MENU_ITEM_ABOUT, 2, R.string.about)
        .setShortcut('1', 'h')
        .setIcon(R.drawable.ic_info);
}

```

Many references in code remained after deleting unnecessary elements of the program and had to be removed.



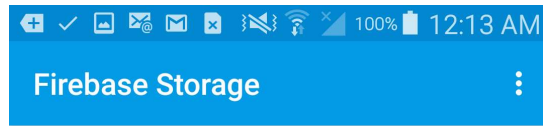


Task 3: Firebase Storage (About 5 hours)



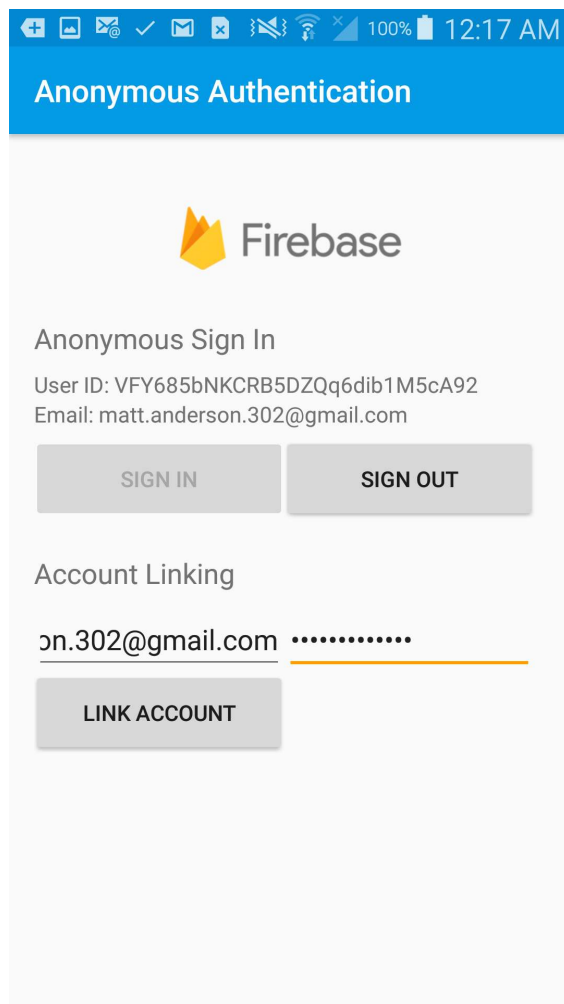
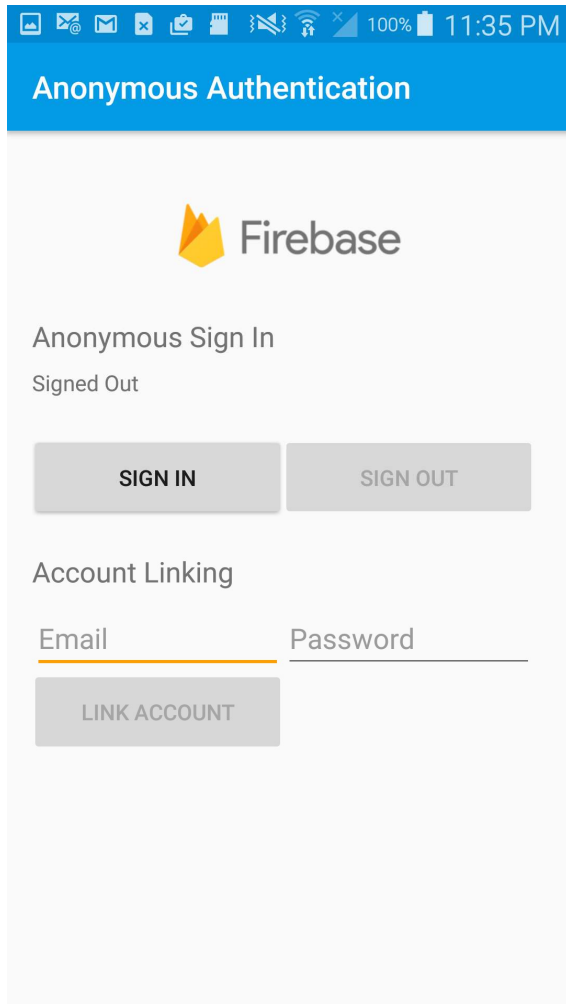
The bulk of this part of the project was spent trying to figure out why the Firebase Storage app wouldn't sign in. The buttons existed and functioned, and the "signing in" toasted appeared, but

then would close itself. Hours of troubleshooting and Google searching later (with nothing found), it began working on its own. It seems that my Firebase console account was just running behind in updating that the Storage APK had been given anonymous access to Firebase.



Task 4: Firebase Auth (About 5 hours, overlapped with Task 3)

In between searches for solutions to Firebase Storage not working, I performed similar searches on Firebase Auth. It was the same issue here, with Firebase Auth starting to work about an hour after Firebase Storage started working.



Task 5: GitHub

URL included at the top of the report

Other deliverables withheld until 2 or more days (TBA)

Total Time: 8 hours 15 minutes