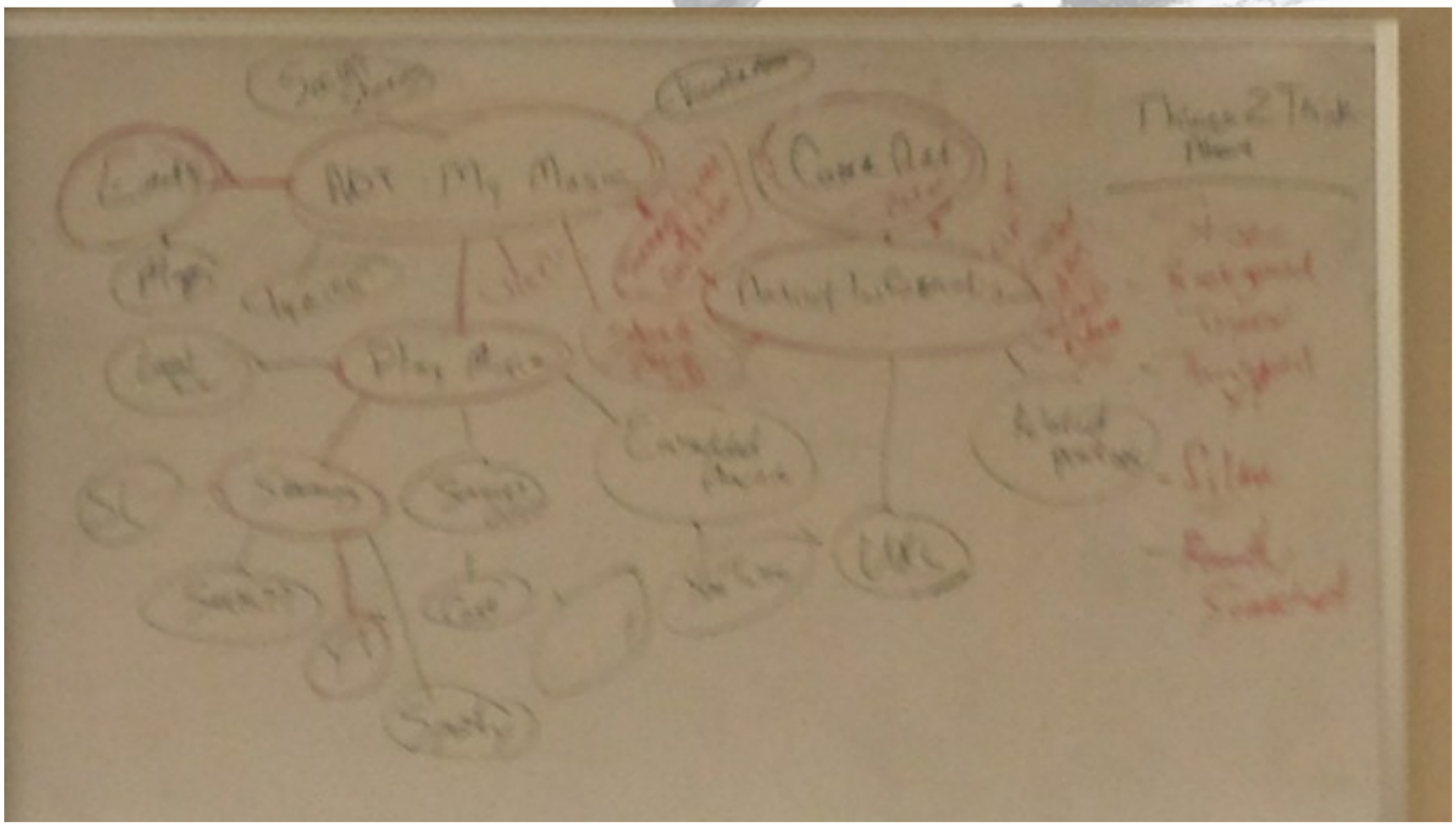
Week 16

@wesreisz

Agenda

- NotMyMusic Where we started
  - Lollipop upgrades (Discuss)
- 3rd Party libraries
  - EchoNext (Demo, using jars)
  - Google Maps (Demo, using android libs)
  - SeatGeek (Demo, creating our own pojos)
- Parse.com Social API's (Discuss)
- Sqlite
  - CRUD (Discuss)
  - Sqlite3 (Demo)
- Debugging

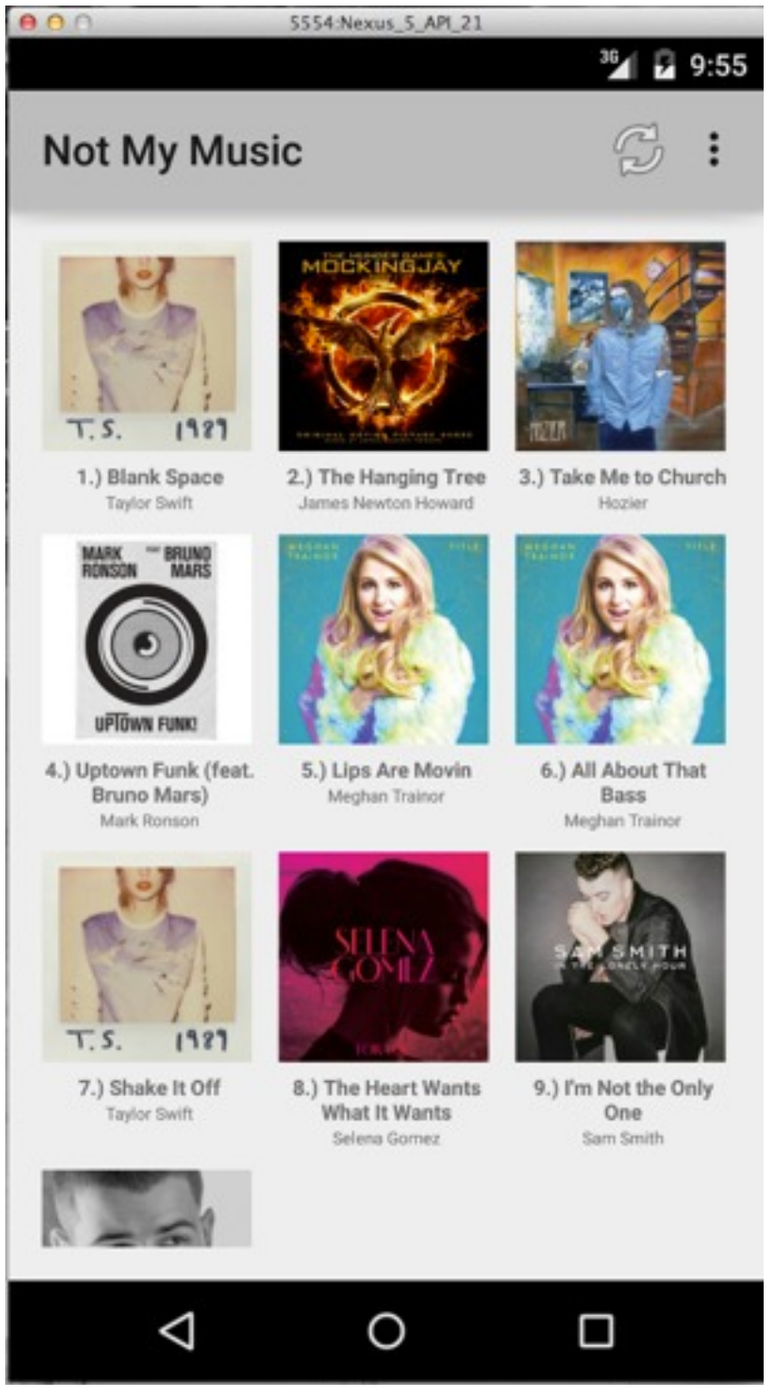
Not My Music

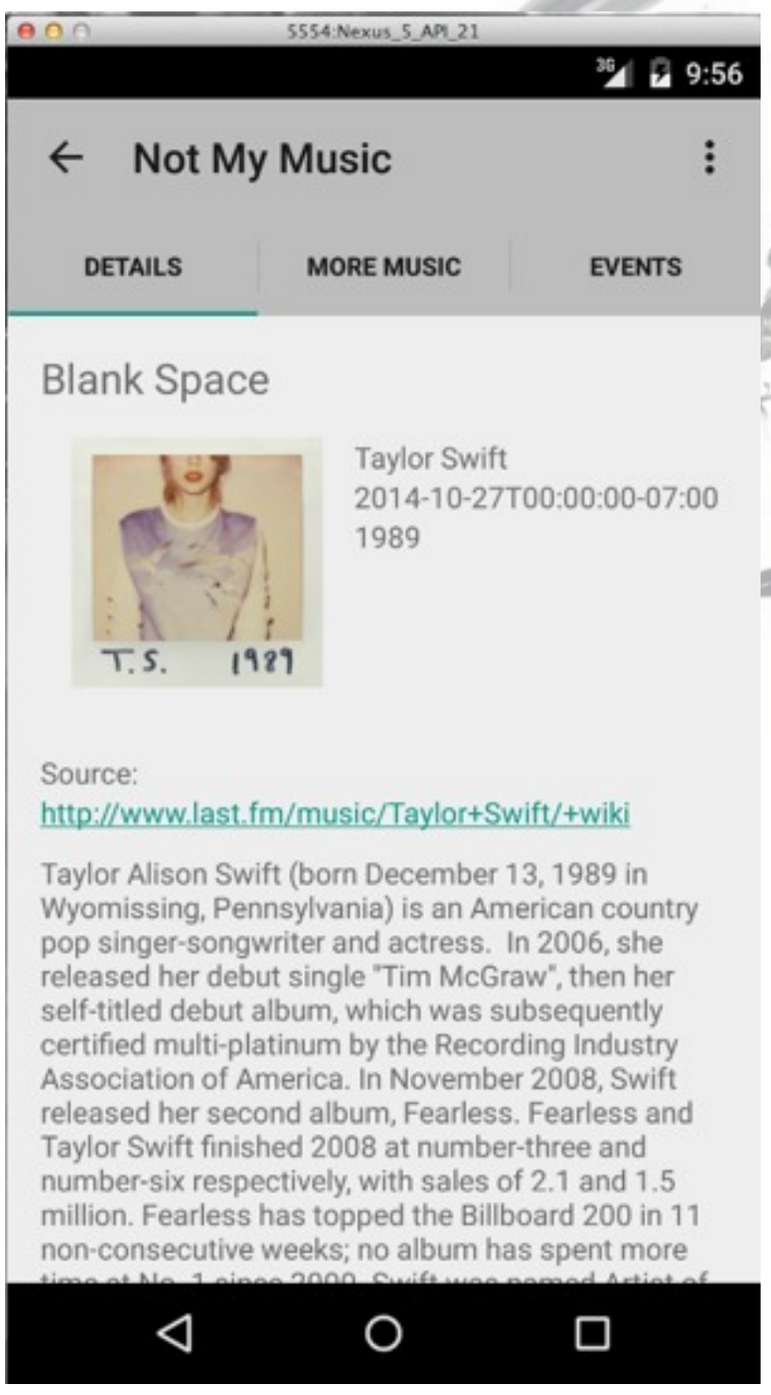


WESLEY REISZ

Feature we Wanted

- Cover Art
- Events
- Play Music
- URL (info)
- Search
- Lollipop


5554:Nexus_5_API_21
9:55
Not My Music
1.) Blank Space
Taylor Swift
2.) The Hanging Tree
James Newton Howard
3.) Take Me to Church
Hozier
4.) Uptown Funk (feat. Bruno Mars)
Mark Ronson
5.) Lips Are Movin
Meghan Trainor
6.) All About That Bass
Meghan Trainor
7.) Shake It Off
Taylor Swift
8.) The Heart Wants What It Wants
Selena Gomez
9.) I'm Not the Only One
Sam Smith


5554:Nexus_5_API_21
9:56
Not My Music
DETAILS
MORE MUSIC
EVENTS
Blank Space
Taylor Swift
2014-10-27T00:00:00-07:00
1989
Source:
http://www.last.fm/music/Taylor+Swift/+wiki
Taylor Alison Swift (born December 13, 1989 in Wyomissing, Pennsylvania) is an American country pop singer-songwriter and actress. In 2006, she released her debut single "Tim McGraw", then her self-titled debut album, which was subsequently certified multi-platinum by the Recording Industry Association of America. In November 2008, Swift released her second album, Fearless. Fearless and Taylor Swift finished 2008 at number-three and number-six respectively, with sales of 2.1 and 1.5 million. Fearless has topped the Billboard 200 in 11 non-consecutive weeks; no album has spent more


5554:Nexus_5_API_21
9:56
Not My Music
DETAILS
MORE MUSIC
EVENTS
Greenland
Louisville, KY
Taylor Swift with Vance Joy
United States
Mexico
North Atlantic Ocean
Venezuela
Peru
Brazil
Bolivia
Chile
South Pacific Ocean

Upgrading to lollipop

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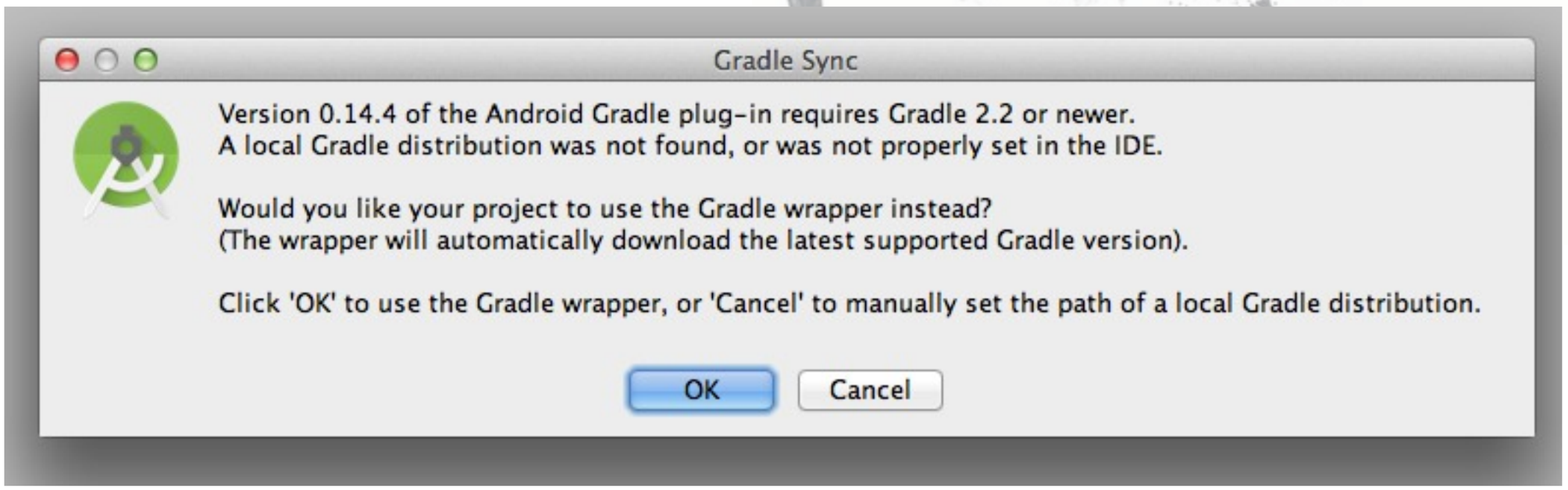
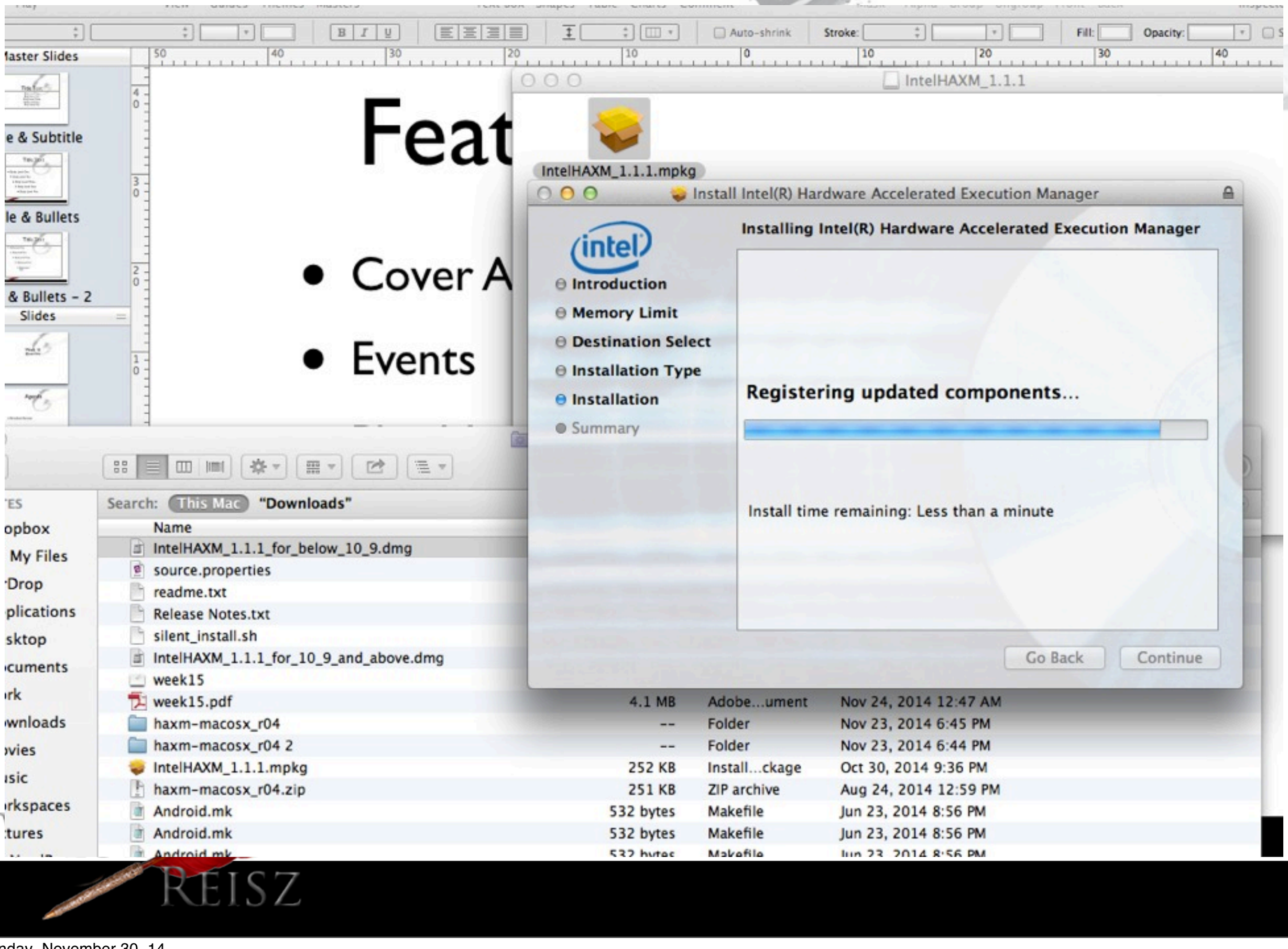
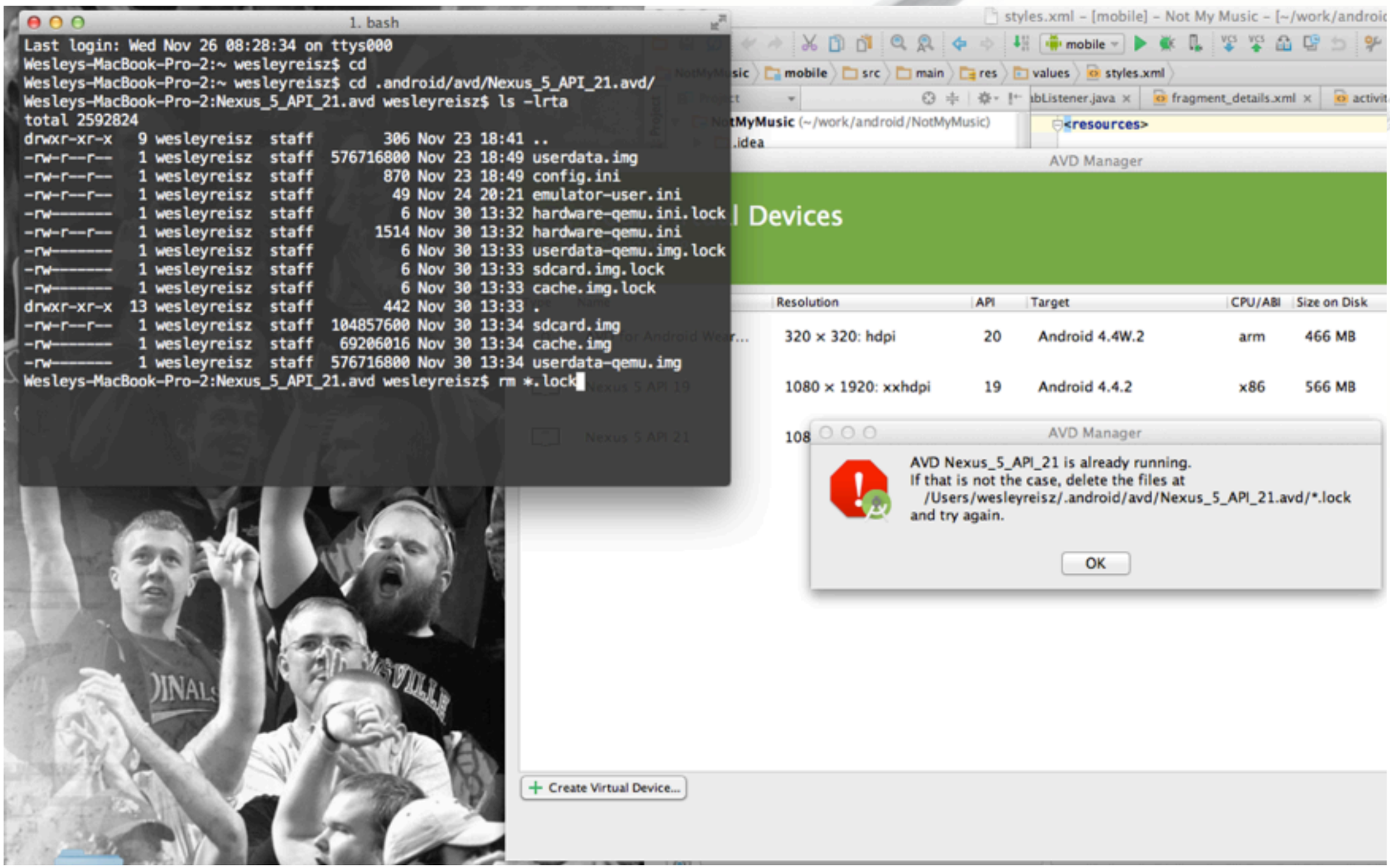
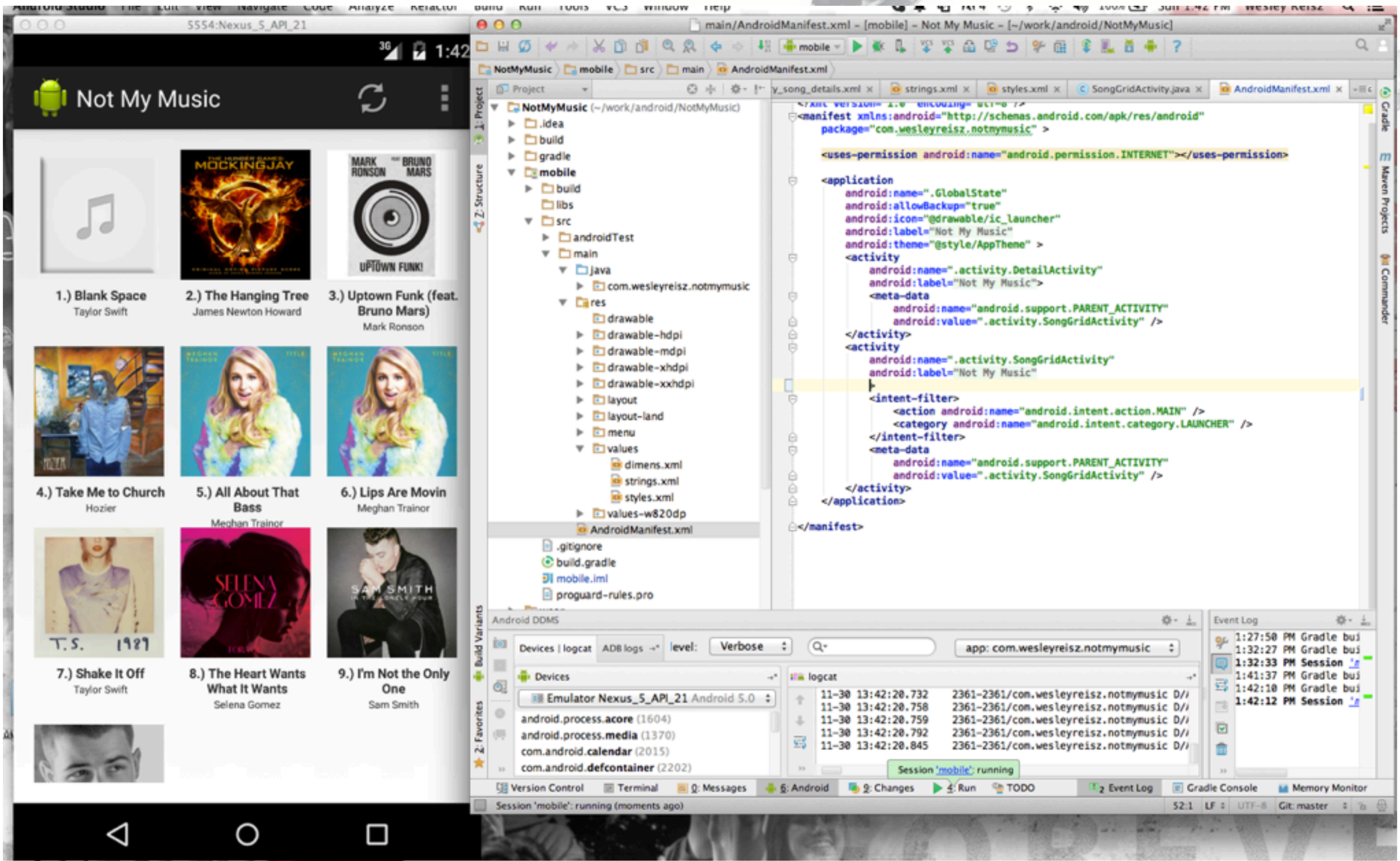

Gradle Sync
Version 0.14.4 of the Android Gradle plug-in requires Gradle 2.2 or newer.
A local Gradle distribution was not found, or was not properly set in the IDE.
Would you like your project to use the Gradle wrapper instead?
(The wrapper will automatically download the latest supported Gradle version).
Click 'OK' to use the Gradle wrapper, or 'Cancel' to manually set the path of a local Gradle distribution.
OK
Cancel

Android Studio

- New Project Import for Eclipse or non-gradle file


Feat
• Cover A
• Events
IntelHAXM_1.1.1
IntelHAXM_1.1.1.mpkg
Install Intel(R) Hardware Accelerated Execution Manager
Installing Intel(R) Hardware Accelerated Execution Manager
Introduction
Memory Limit
Destination Select
Installation Type
Installation
Summary
Registering updated components...
Install time remaining: Less than a minute
Go Back
Continue
Search: This Mac "Downloads"
Name
IntelHAXM_1.1.1_for_below_10_9.dmg
source.properties
readme.txt
Release Notes.txt
silent_install.sh
IntelHAXM_1.1.1_for_10_9_and_above.dmg
week15
week15.pdf 4.1 MB Adobe...ument Nov 24, 2014 12:47 AM
haxm-macosx_r04 -- Folder Nov 23, 2014 6:45 PM
haxm-macosx_r04 2 -- Folder Nov 23, 2014 6:44 PM
IntelHAXM_1.1.1.mpkg 252 KB Install...ckage Oct 30, 2014 9:36 PM
haxm-macosx_r04.zip 251 KB ZIP archive Aug 24, 2014 12:59 PM
Android.mk 532 bytes Makefile Jun 23, 2014 8:56 PM
Android.mk 532 bytes Makefile Jun 23, 2014 8:56 PM


1. bash
Last login: Wed Nov 26 08:28:34 on ttys000
Wesleys-MacBook-Pro-2:~ wesleyreisz$ cd
Wesleys-MacBook-Pro-2:~ wesleyreisz$ cd .android/avd/Nexus_5_API_21.avd/
Wesleys-MacBook-Pro-2:Nexus_5_API_21.avd wesleyreisz$ ls -lrta
total 2592824
drwxr-xr-x   9 wesleyreisz staff   306 Nov 23 18:41 ..
-rw-r--r--   1 wesleyreisz staff 576716800 Nov 23 18:49 userdata.img
-rw-r--r--   1 wesleyreisz staff   870 Nov 23 18:49 config.ini
-rw-r--r--   1 wesleyreisz staff   49 Nov 24 20:21 emulator-user.ini
-rw-------   1 wesleyreisz staff   6 Nov 30 13:32 hardware-qemu.ini.lock
-rw-r--r--   1 wesleyreisz staff   1514 Nov 30 13:32 hardware-qemu.ini
-rw-------   1 wesleyreisz staff   6 Nov 30 13:33 userdata-qemu.img.lock
-rw-------   1 wesleyreisz staff   6 Nov 30 13:33 sdcard.img.lock
-rw-------   1 wesleyreisz staff   6 Nov 30 13:33 cache.img.lock
drwxr-xr-x 13 wesleyreisz staff   442 Nov 30 13:33 .
-rw-r--r--   1 wesleyreisz staff 104857600 Nov 30 13:34 sdcard.img
-rw-------   1 wesleyreisz staff   69206016 Nov 30 13:34 cache.img
-rw-------   1 wesleyreisz staff 576716800 Nov 30 13:34 userdata-qemu.img
Wesleys-MacBook-Pro-2:Nexus_5_API_21.avd wesleyreisz$ rm *.lock
styles.xml – [mobile] – Not My Music – [~/work/androi
mobile
mobile
src
main
res
values
styles.xml
fragment_details.xml
MyMusic (~/work/android/NotMyMusic)
.idea
<resources>
AVD Manager
Devices
Resolution
API
Target
CPU/ABI
Size on Disk
320 × 320: hdpi
20
Android 4.4W.2
arm
466 MB
1080 × 1920: xxhdpi
19
Android 4.4.2
x86
566 MB
AVD Manager
AVD Nexus_5_API_21 is already running.
If that is not the case, delete the files at
/Users/wesleyreisz/.android/avd/Nexus_5_API_21.avd/*.lock
and try again.
OK
Create Virtual Device...


5554:Nexus_5_API_21
Not My Music
1.) Blank Space
Taylor Swift
2.) The Hanging Tree
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Mark Ronson
4.) Take Me to Church
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Meghan Trainor
6.) Lips Are Movin
Meghan Trainor
7.) Shake It Off
Taylor Swift
8.) The Heart Wants What It Wants
Selena Gomez
9.) I'm Not the Only One
Sam Smith
main/AndroidManifest.xml – [mobile] – Not My Music – [~/work/android/NotMyMusic]
NotMyMusic
mobile
src
main
AndroidManifest.xml
NotMyMusic (~/work/android/NotMyMusic)
.idea
build
gradle
mobile
libs
androidTest
java
com.wesleyreisz.notmymusic
res
drawable
drawable-hdpi
drawable-mdpi
drawable-xhdpi
drawable-xxhdpi
layout
layout-land
menu
values
dimens.xml
strings.xml
styles.xml
values-w820dp
AndroidManifest.xml
.gitignore
build.gradle
mobile.iml
proguard-rules.pro
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
package="com.wesleyreisz.notmymusic" >
<uses-permission android:name="android.permission.INTERNET"></uses-permission>
<application
android:name=".GlobalState"
android:allowBackup="true"
android:icon="@drawable/ic_launcher"
android:label="Not My Music"
android:theme="@style/AppTheme" >
<activity
android:name=".activity.DetailActivity"
android:label="Not My Music">
<meta-data
android:name="android.support.PARENT_ACTIVITY"
android:value=".activity.SongGridActivity" />
</activity>
<activity
android:name=".activity.SongGridActivity"
android:label="Not My Music"
<intent-filter>
<action android:name="android.intent.action.MAIN" />
<category android:name="android.intent.category.LAUNCHER" />
</intent-filter>
<meta-data
android:name="android.support.PARENT_ACTIVITY"
android:value=".activity.SongGridActivity" />
</activity>
</application>
</manifest>
Android DDMS
Devices | logcat
ADB logs
level:
Verbose
app: com.wesleyreisz.notmymusic
Devices
Emulator Nexus_5_API_21 Android 5.0
android.process.acore (1604)
android.process.media (1370)
com.android.calendar (2015)
com.android.defcontainer (2202)
logcat
11-30 13:42:20.732 2361-2361/com.wesleyreisz.notmymusic D/
11-30 13:42:20.758 2361-2361/com.wesleyreisz.notmymusic D/
11-30 13:42:20.759 2361-2361/com.wesleyreisz.notmymusic D/
11-30 13:42:20.792 2361-2361/com.wesleyreisz.notmymusic D/
11-30 13:42:20.845 2361-2361/com.wesleyreisz.notmymusic D/
Session 'mobile': running
Event Log
1:27:50 PM Gradle bui
1:32:27 PM Gradle bui
1:32:33 PM Session
1:41:37 PM Gradle bui
1:42:10 PM Gradle bui
1:42:12 PM Session
Version Control
Terminal
0: Messages
6: Android
9: Changes
4: Run
TODO
Event Log
Gradle Console
Memory Monitor
Session 'mobile': running (moments ago)
52:1
LF
UTF-8
Git: master

mobile/build.gradle – [mobile] – Not My Music – [~/work/android/NotMyMusic]

NotMyMusic › mobile › build.gradle

Project

- NotMyMusic (~/work/android/NotMyMusic)
  - .idea
  - build
  - gradle
  - mobile
    - build
    - libs
    - src
      - androidTest
      - main
        - java
        - res
          - drawable
          - drawable-hdpi
          - drawable-mdpi
          - drawable-xhdpi
          - drawable-xxhdpi
          - layout
          - layout-land
          - menu
          - values
          - values-v21
            - styles.xml
          - values-w820dp
        - AndroidManifest.xml
    - .gitignore
    - build.gradle
    - mobile.iml
    - proguard-rules.pro
  - wear
  - .gitignore

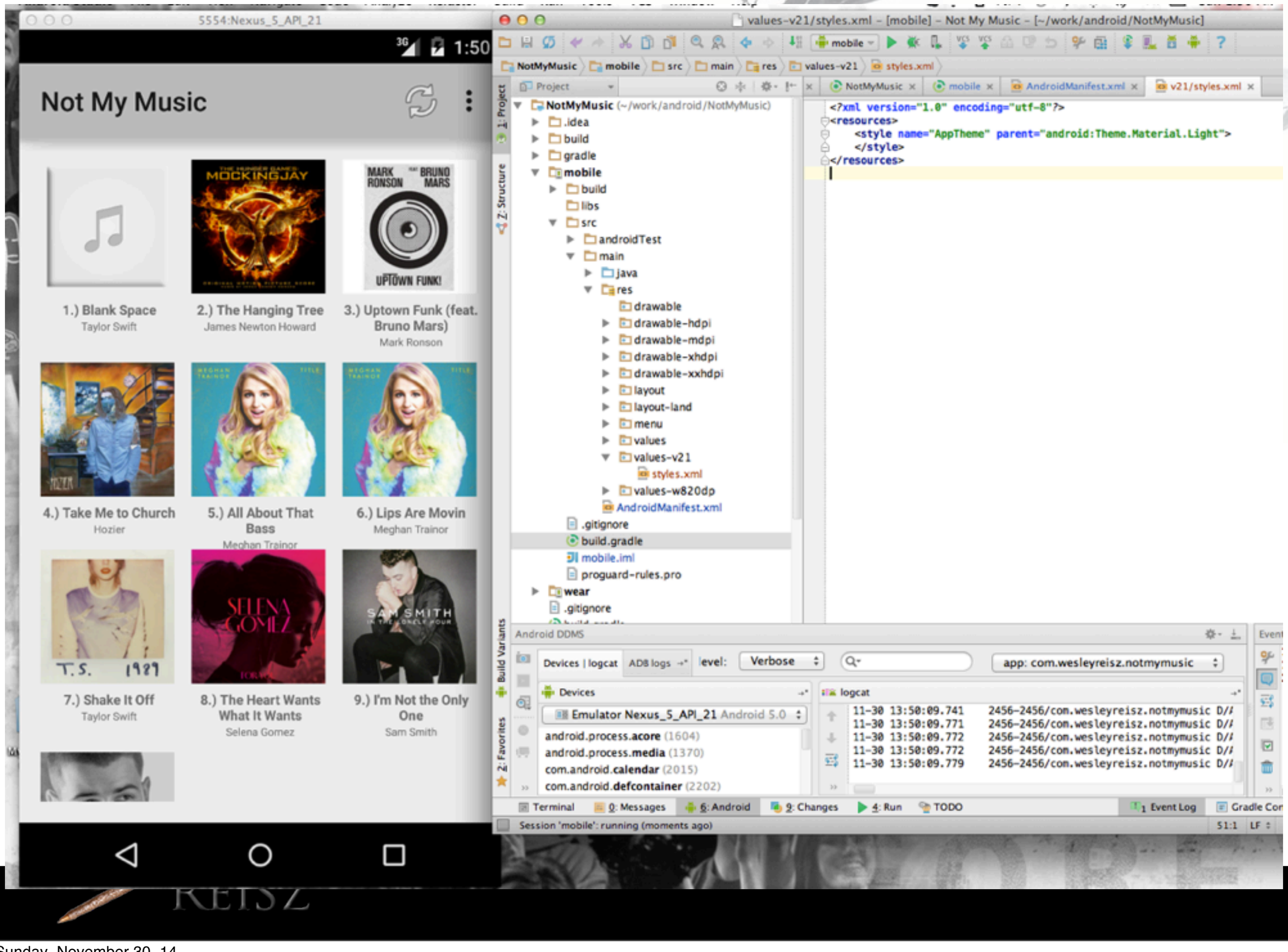
NotMyMusic × | mobile × | AndroidManifest.xml × | v21/styles.xml ×

```
apply plugin: 'com.android.application'

android {
    compileSdkVersion 21
    buildToolsVersion "20.0.0"

    defaultConfig {
        applicationId "com.wesleyreisz.notmymusic"
        minSdkVersion 19
        targetSdkVersion 19
        versionCode 1
        versionName "1.0"
    }
    buildTypes {
        release {
            runProguard false
            proguardFiles getDefaultProguardFile('proguard-android.tx
        }
    }
}

dependencies {
    compile fileTree(dir: 'libs', include: ['*.jar'])
    wearApp project(':wear')
    compile 'com.google.android.gms:play-services:+'
}
```

values-v21 / styles.xml — [mobile] ~/work/android/NotMyMusic/mobile/src/main/

NotMyMusic × | mobile × | AndroidManifest.xml × | v21/styles.xml ×

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <style name="AppTheme" parent="android:Theme.Material.Light">
    </style>
</resources>
```


5554:Nexus_5_API_21
1:50
Not My Music
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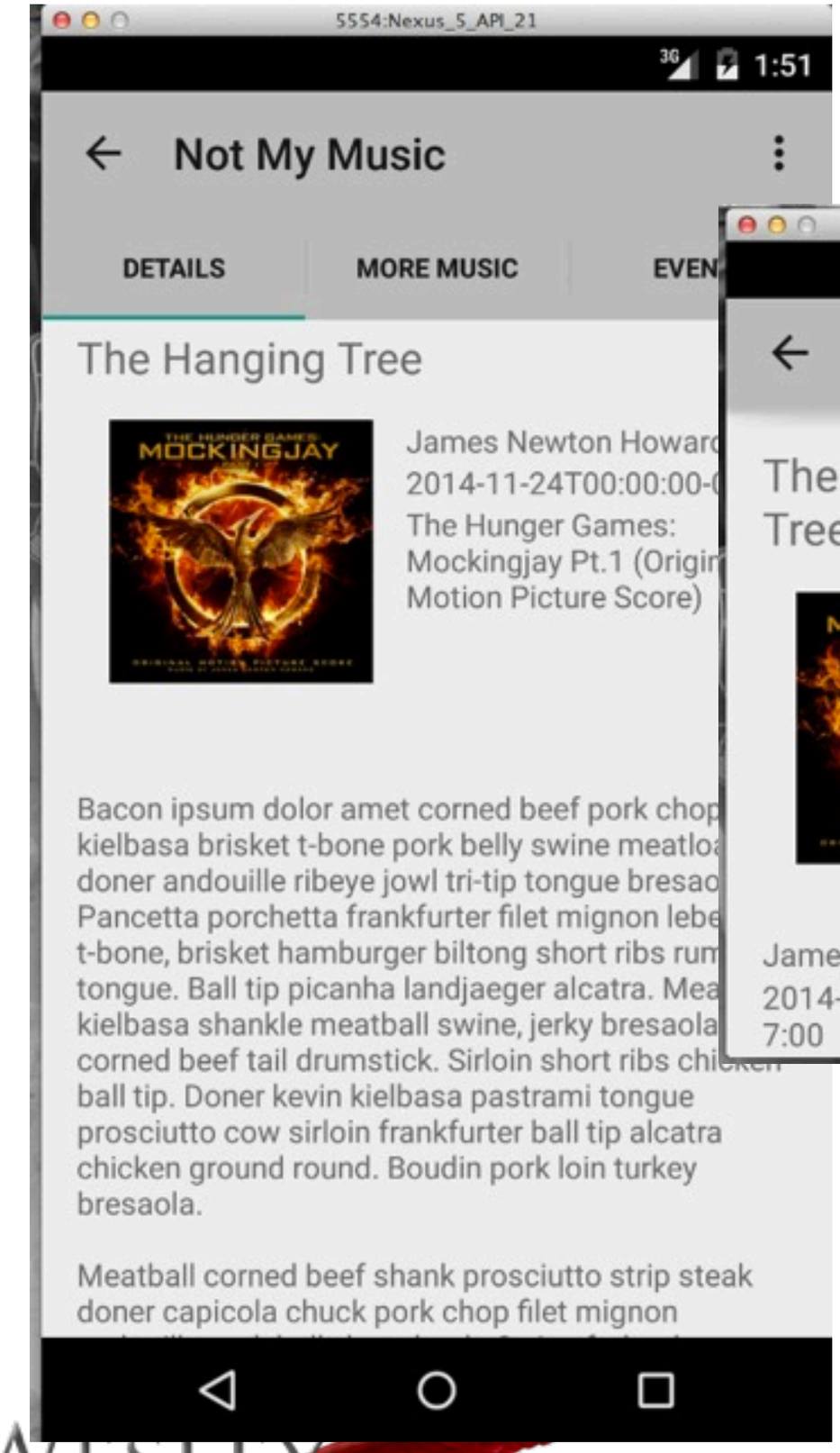
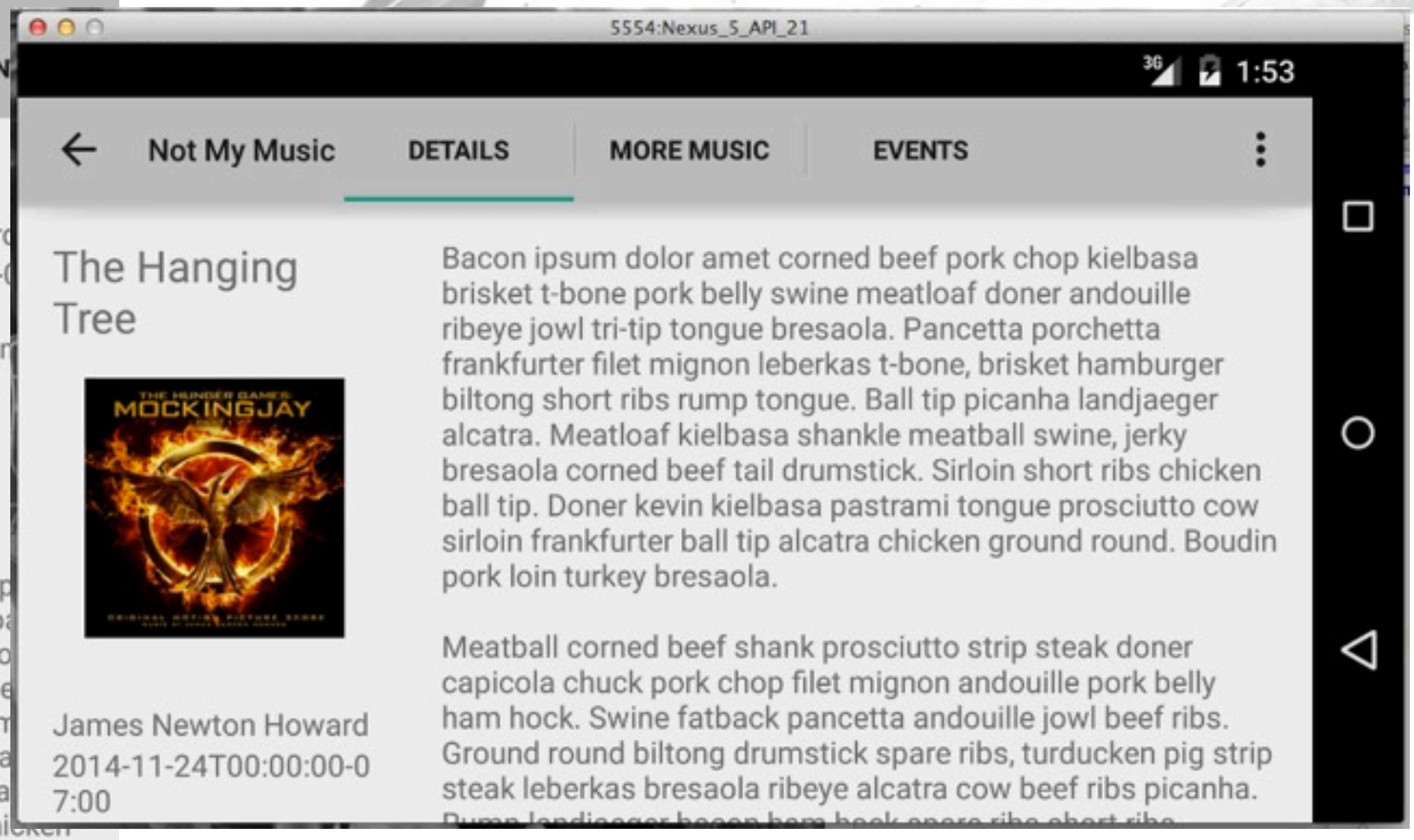
Mark Ronson
4.) Take Me to Church
Hozier
5.) All About That Bass
Meghan Trainor
6.) Lips Are Movin
Meghan Trainor
7.) Shake It Off
Taylor Swift
8.) The Heart Wants What It Wants
Selena Gomez
9.) I'm Not the Only One
Sam Smith
values-v21/styles.xml - [mobile] - Not My Music - [~/work/android/NotMyMusic]
NotMyMusic
mobile
src
main
res
values-v21
styles.xml
Project
NotMyMusic (~/work/android/NotMyMusic)
.idea
build
gradle
mobile
build
libs
src
androidTest
main
java
res
drawable
drawable-hdpi
drawable-mdpi
drawable-xhdpi
drawable-xxhdpi
layout
layout-land
menu
values
values-v21
styles.xml
values-w820dp
AndroidManifest.xml
.gitignore
build.gradle
mobile.iml
proguard-rules.pro
wear
.gitignore
AndroidManifest.xml
v21/styles.xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
<style name="AppTheme" parent="android:Theme.Material.Light">
</style>
</resources>
Android DDMS
Devices | logcat
ADB logs
Verbose
app: com.wesleyreisz.notmymusic
Devices
Emulator Nexus_5_API_21 Android 5.0
android.process.acore (1604)
android.process.media (1370)
com.android.calendar (2015)
com.android.defcontainer (2202)
logcat
11-30 13:50:09.741 2456-2456/com.wesleyreisz.notmymusic D/
11-30 13:50:09.771 2456-2456/com.wesleyreisz.notmymusic D/
11-30 13:50:09.772 2456-2456/com.wesleyreisz.notmymusic D/
11-30 13:50:09.772 2456-2456/com.wesleyreisz.notmymusic D/
11-30 13:50:09.779 2456-2456/com.wesleyreisz.notmymusic D/
Terminal
0: Messages
6: Android
9: Changes
4: Run
TODO
1 Event Log
Session 'mobile': running (moments ago)
51:1
LF

Using API's

- 3rd Party Libs (EchoNext)





Note: Looks like the emulator fixed the screen rotation issue. (CNTRL +F11)

developer.echonest.com

Apps | Outlook Web App | HP Rooms | CATW | Sauce Labs | Recruiter Notificatio | HSM IP Manager | List of data structure | Other Bookmark

the echonest

Customers | Solutions | Blog | Developers
Company | Showcase | Jobs | News

Dev Center

The Echo Nest offers an incredible array of music data and services for developers to build amazing apps and experiences. Here is where you learn all about the features and capabilities of our platform, review tutorials and sample code, and see what tools and libraries are available. Feel free to browse around, or just dive right in by requesting an API key.

Hundreds of music applications tap into The Echo Nest API for access to billions of data points about music from leading media companies (MTV, the BBC, MOG and others) to award-winning mobile applications (Discovr, Music Hunter, Pocket Hipster).

Big News The Echo Nest and Spotify have joined forces. Now the combined APIs of The Echo Nest and Spotify provide broad and deep data on millions of artists and songs, making it easy for you to create an awesome listening experience for your users. You can tap into the power of the tightly linked Echo Nest and Spotify APIs to build world-class music apps that take advantage of all of the capabilities and deep data provided by both APIs.

To learn about all the various ways that you can use The Echo Nest and Spotify APIs together, visit the Echo Nest / Spotify Sandbox page.

the echonest Spotify

and the Spotify partner sandbox page.

API Basics

Overview
API Key
Licensing
Developer API Documentation

Learn

Tutorials
Acoustic Attributes
Demos
Labs

Build

Client Libraries
Developer API
Remix API

Partner Access

Deezer
Discogs
Eventful

Question From last week?

- If you put your API key in your apk, is it secure?
    - Short answer is no... decompilers, can get to it. Code obfuscators can only go so far.
    - Riot games recommends: putting the key on your server. Have the client make a request to the server to download the key and store it in memory. You can then change the key when you need to. Still some argument whether thats even secure. All these still require something a user can get to. Call through the server to the service. Encrypt it? Hash it? There is always risk. You can only mitigate and be able to change it. Use SSL where possible.

Steps

- Create an account and get your developer key.
- Get the java libraries using gradle.

  Note: the repository must be available for gradle to find it. If it's not, take a look at http://chimera.labs.oreilly.com/books/1234000001741/ch04.html#TRANSITIVE-DEPENDENCIES to learn how to add a repository to your build. If there is no repository available, you are often left with installing into your local repo and then including the repo. Either do that, or manually include in your bin directory. The last approach is the least acceptable approach.

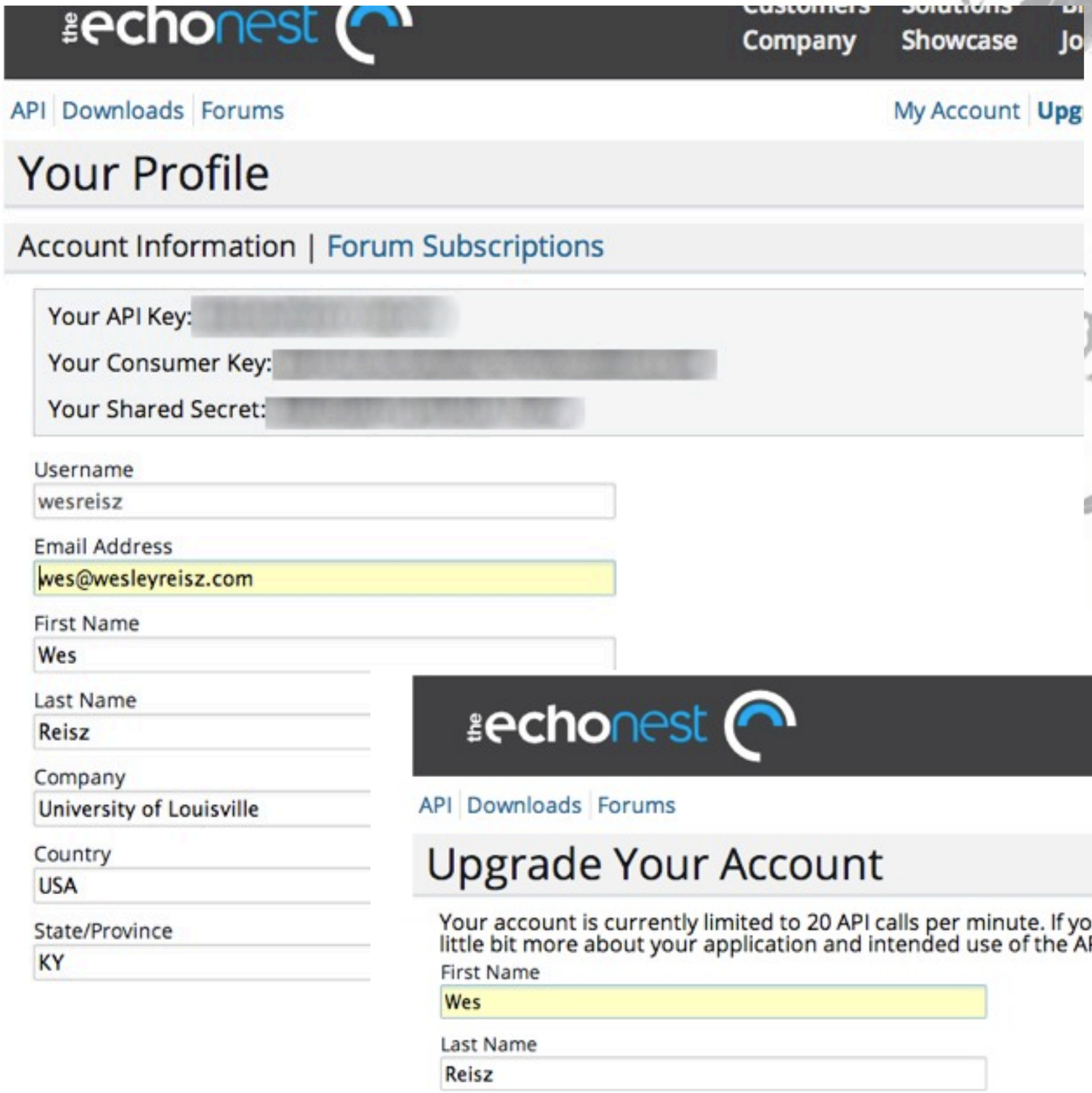
- Locate JavaDocs (if available) http://static.echonest.com.s3.amazonaws.com/jEN/javadoc/index.html
- Write a test case

Steps

- Create a new fragment for details
- Create a new ASyncTask to handle network comms

  NOTE: Both the searchArtists and getBiographies require network. Make sure both on in background thread.

- Update UI with results
  - add android:autoLink="web" to make a hyperlink


the echonest
Company
Showcase
API | Downloads | Forums
My Account | Upg
Your Profile
Account Information | Forum Subscriptions
Your API Key:
Your Consumer Key:
Your Shared Secret:
Username
wesreisz
Email Address
wes@wesleyreisz.com
First Name
Wes
Last Name
Reisz
Company
University of Louisville
Country
USA
State/Province
KY

the echonest
Customers
Company
Solutions
Showcase
Blog
Jobs
Developers
News
API | Downloads | Forums
My Account | Upgrade Rate Limit | Log out
Upgrade Your Account
Your account is currently limited to 20 API calls per minute. If you would like to increase your rate limit, please tell us a little bit more about your application and intended use of the API.
First Name
Wes
Last Name
Reisz


WESLEY
REISZ

https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=E

Apps | Outlook Web App | HP Rooms | CATW | Sauce Labs | Recruiter Notificatio | HSM IP Manag

Google | Echo Nest API gradle

Web | Shopping | News | Videos | Images | More | Search tools

About 36,800 results (0.69 seconds)

Maven Repository: com.googlecode.jen-api » jen-api » 4.x.p
mvnrepository.com/artifact/com.googlecode.jen-api/jen-api/4.x.p
This is a Java client API and assorted tools and helpers for the Echo Nest API (at developer.echonest.com). This client works with Version 4 of the Echo Nest API.

efsavage/Echo-Nest-API-Java-Client · GitHub
https://github.com/efsavage/Echo-Nest-API-Java-Client
Jun 17, 2011 - Maven-ized fork of the original client. Contribute to Echo-Nest-API-Java-Client development by creating an account on GitHub.

Song API Methods — The Echo Nest 4.2 documentation
developer.echonest.com/docs/v4/song.html - The Echo Nest
Song API Methods¶. Api calls for getting data about songs. Buckets: Some song methods such as search, profile, and identify accept a bucket parameter.
You've visited this page 3 times. Last visit: 11/15/14

echonest-api 0.0.2 - Clojars
https://clojars.org/echonest-api
May 30, 2012 - GitHub siscia/echonest-clojure-api; 29 Downloads; 14 This Version ...
Gradle. compile "echonest-api:echonest-api:0.0.2" ...

com.echonest.api.v4 - Maven Dependency & Plugin ...

mvnrepository.com/artifact/com.googlecode.jen-api/jen-api/4.x.p

Apps | Outlook Web App | HP Rooms | CATW | Sauce Labs | Recruiter Notificatio | HSM IP Manager | List of data s

MVNREPOSITORY | Search for groups, artifacts, categories | Search

Artifacts/Year

Popular Categories

- Aspect Oriented
- Actor Frameworks
- Android Platform
- Application Metrics
- Assertion Libraries
- Base64 Libraries
- Build Models
- Build Tools
- Bytecode Libraries
- Command Line Parsers
- Cache Implementations

home » com.googlecode.jen-api » jen-api » 4.x.p

jen-api » 4.x.p

This is a Java client API and assorted tools and helpers for the Echo Nest API (at developer.echonest.com). This client works with Version 4 of the Echo Nest API.

Artifact	Download (JAR) **(207 KB)**
POM File	View
Date	(Feb 02, 2012)
HomePage	http://code.google.com/p/jen-api/

Maven | Ivy | Grape | Gradle | Buildr | SBT | Leiningen

```
'com.googlecode.jen-api:jen-api:4.x.p'
```

Download Now

proguard-rules.pro
wear
.gitignore
build.gradle
gradle.properties
gradlew
gradlew.bat
local.properties
NotMyMusic.iml
settings.gradle
External Libraries
< Android API 20 Platform > (/Users/wesleyre
< Android API 21 Platform > (/Users/wesleyre
< 1.7 > (/Library/Java/JavaVirtualMachines/jd
jen-api-4.x.p
json-simple-1.1
support-annotations-20.0.0

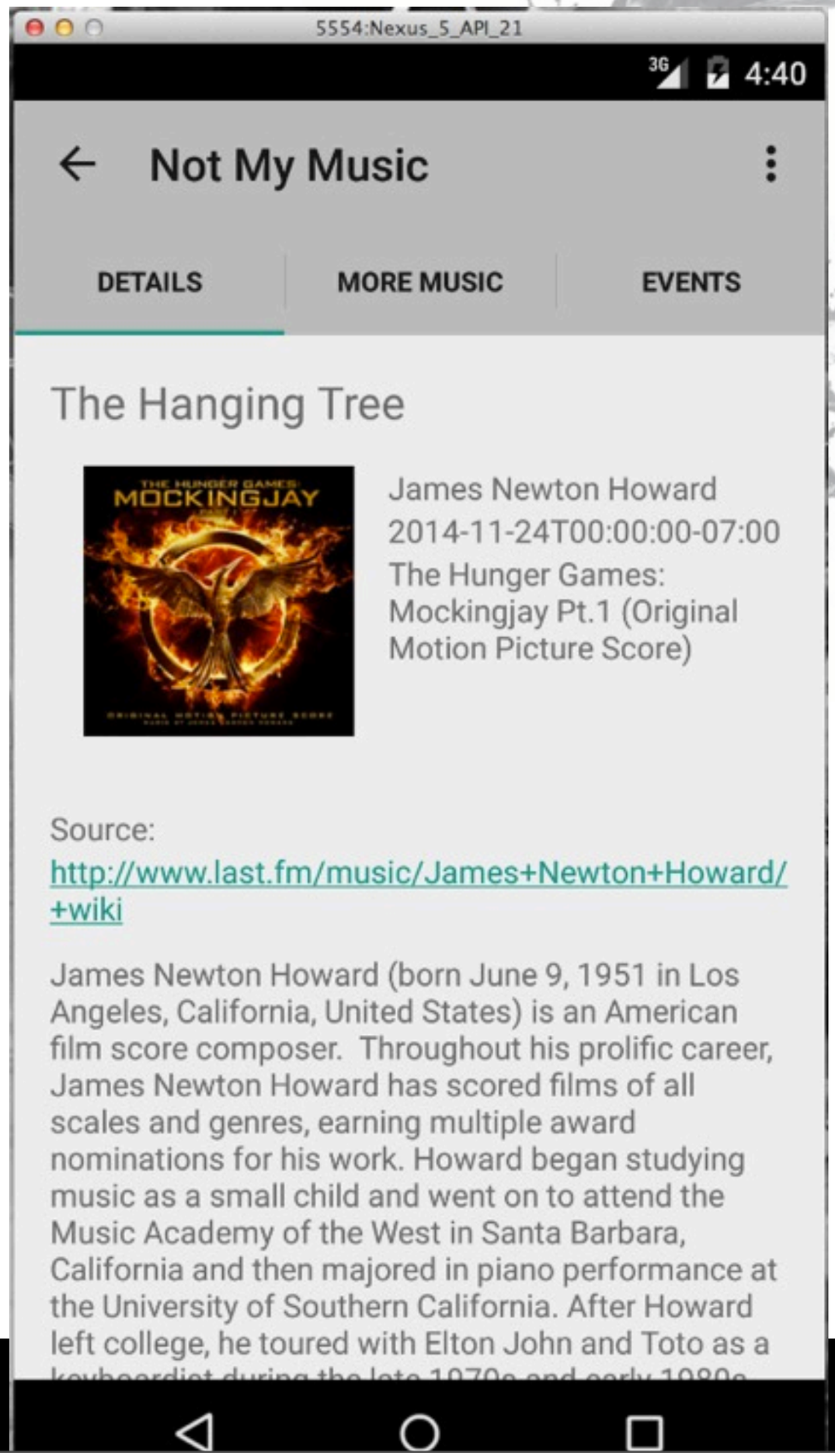
```
    }
}

dependencies {
    compile fileTree(di
    wearApp project(':wear')
    compile 'com.google.android.gms:play-services:+'
    compile 'com.googlecode.jen-api:jen-api:4.x.p'
}
```

```java
import junit.framework.TestCase;

import java.util.List;

/**
 * Created by wesleyreisz on 11/30/14.
 */
public class ArtistServiceTest extends TestCase {
    public void testFindArtistIdByKeywords(){
        String[] keywords = new String[]{"James Newton Howard", "The Hanging Tree"};
        ArtistService artistService = new ArtistService();
        try {
            Artist artist = artistService.findArtistIdByKeywords(keywords[0]);
            assertNotNull(artist);
            assertEquals("ARSZIBW1187B994053", artist.getID());
            List<Biography> bios = artist.getBiographies();
            assertNotNull(bios);
            if(bios.size()>=1){
                Biography bio = bios.get(0);
                assertTrue(bio.getText().startsWith("James Newton Howard"));
                assertEquals("http://www.last.fm/music/James+Newton+Howard/+wiki",bio.getURL()
            }

        } catch (EchoNestException e) {
            e.printStackTrace();
            assertTrue(e.getMessage(),false);
        }
    }
}
```

```
548  git status
549  git rm mobile/src/main/java/com/wesleyreisz/notmymusic/Constants.java
550  git status
551  vi .gitignore
552  vi .gitignore
553  git add .gitignore
554  git status
555  git commit "removed constant file"
556  git commit -m "removed constant file"
557  git status
558  git rm mobile/src/main/java/com/wesleyreisz/notmymusic/Constants.java
559  git rm --cached mobile/src/main/java/com/wesleyreisz/notmymusic/Constants.java
560  gits tatus
561  git status
562  git commit -m "removed file"
563  git status
564  git status
565  git history
566  history
Wesleys-MacBook-Pro-2:NotMyMusic wesleyreisz$
```

```java
public class BioFragment extends Fragment {
    private static final String TAG = "SONG BIOGRAPHY";
    private GlobalState mGlobalState;
    private TextView textViewBio;
    private TextView textViewSource;

    @Nullable
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container, Bundle savedInstanceState) {
        View rootView = inflater.inflate(R.layout.fragment_bio, container, false);
        mGlobalState = GlobalState.getInstance();
        return rootView;
    }

    @Override
    public void onActivityCreated(Bundle savedInstanceState) {
        super.onActivityCreated(savedInstanceState);
        textViewBio = (TextView)getActivity().findViewById(R.id.textViewBiography);
        textViewSource = (TextView)getActivity().findViewById(R.id.textViewSource);

        Bundle extras = getActivity().getIntent().getExtras();
        int position;
        if(extras != null && mGlobalState != null) {
            position = extras.getInt(Constants.POSITION);
            Song song = mGlobalState.getSongList().get(position);
            Artist artist = ArtistUtil.findArtist(mGlobalState,song.getArtist());
            if (artist!=null){
                try {
                    List<Biography> biographyList = artist.getBiographies();
                    if(biographyList!=null && biographyList.size()>=1) {
                        Biography biography = biographyList.get(0);
                        textViewBio.setText(biography.getText());
                    }else{
                        textViewBio.setText(Constants.NO_BIOGRAPHY_FOUND);
                    }
                } catch (EchoNestException e) {
                    e.printStackTrace();
                }
            }else{
                new FindArtistAsyncTask().execute(song.getArtist());
            }
        }else{
            Log.d(TAG,"No data passed to fragment or global statis null");
        }
    }

    private class FindArtistAsyncTask extends AsyncTask<String, Void, Biography> {...}
}
```

```java
private class FindArtistAsyncTask extends AsyncTask<String, Void, Biography> {

    @Override
    protected Biography doInBackground(String... params) {
        ArtistService artistService = new ArtistService();
        Artist artist = null;
        Biography biography = null;
        try {
            //get the artist
            artist = artistService.findArtistIdByKeywords(params);

            //now get the bios
            List<Biography> biographyList = artist.getBiographies();
            if (biographyList != null && biographyList.size() >= 1) {
                biography = biographyList.get(0);
                //if its truncated grab the next
                if(biography.getText().contains("...") && biographyList.size()>=2){
                    biography = biographyList.get(1);
                }
                Log.d(TAG, "Found biography");
            } else {
                Log.d(TAG, "No biography");
            }
            return biography;
        } catch (EchoNestException e) {
            e.printStackTrace();
            return null;
        }
    }

    @Override
    protected void onPostExecute(Biography biography) {
        super.onPostExecute(biography);

        //ArtistUtil.addArtist(mGlobalState, artist);
        Log.d(TAG, "found artist: " + biography.toString());
        if(biography!=null){
            textViewBio.setText(biography.getText());
            textViewSource.setText(biography.getURL());
        }else {
            Log.d(TAG, "No artist found from search");
            textViewBio.setText(Constants.NO_BIOGRAPHY_FOUND);
        }
    }
}
```



Demo

Using API's

- Google Maps API
- Debugging

Steps

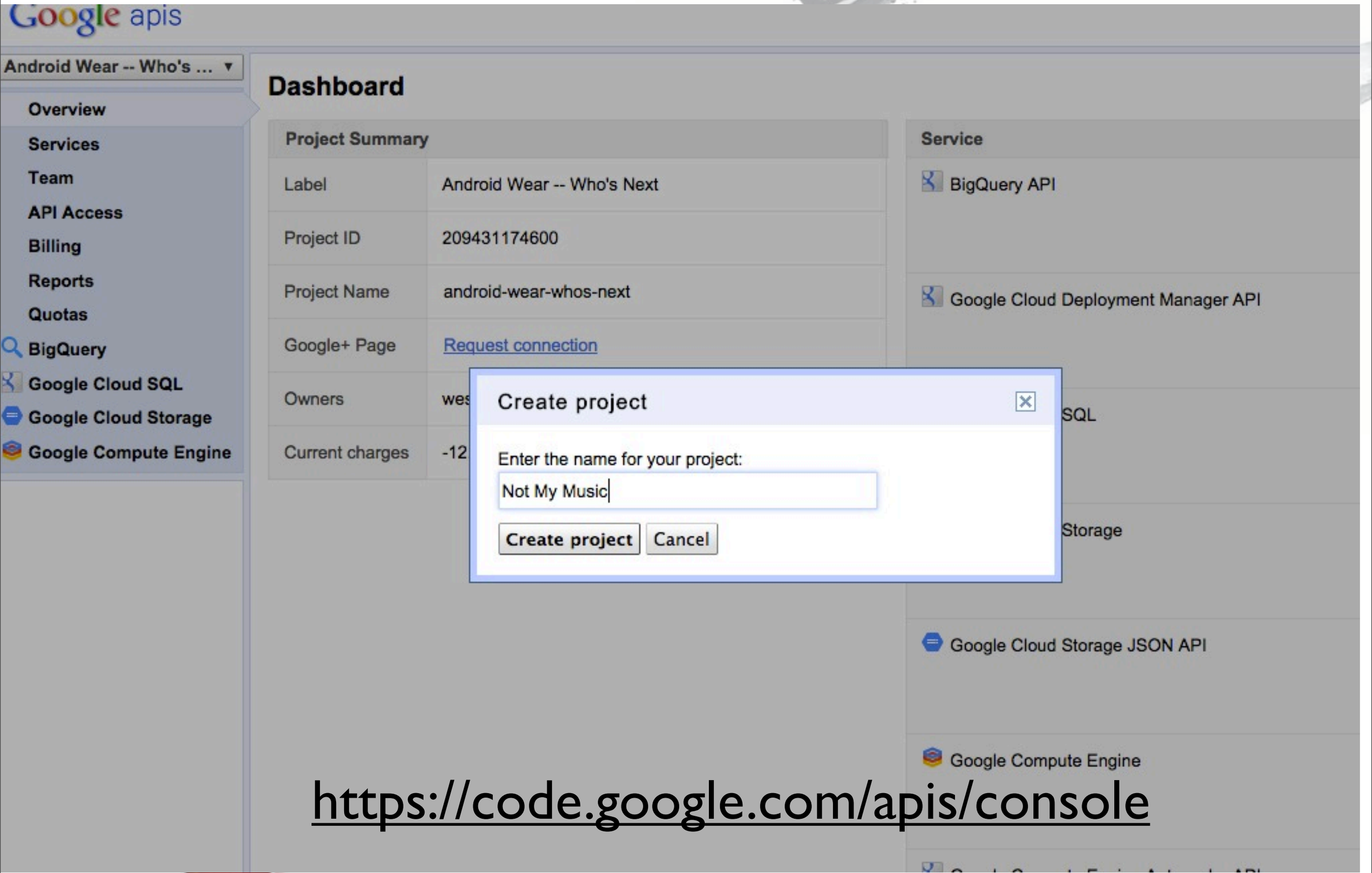
- Install the Android SDK.
- *Download and configure the Google Play services SDK, which includes the Google Maps Android API. If you use the Google Maps Mobile SDK for Work you must download and configure the Google Maps Mobile SDK for Work static library.*
- Obtain an API key. To do this, you will need to register a project in the Google APIs Console, and get a signing certificate for your app.
- Add the required settings in your application's manifest.
- Add a map to your application.
- Publish your application.

mobile

```
apply plugin: 'com.android.application'

android {
    compileSdkVersion 21
    buildToolsVersion "20.0.0"

    defaultConfig {
        applicationId "com.wesleyreisz.notmymusic"
        minSdkVersion 19
        targetSdkVersion 19
        versionCode 1
        versionName "1.0"
    }
    buildTypes {
        release {
            runProguard false
            proguardFiles getDefaultProguardFile('proguard-a
        }
    }
}

dependencies {
    compile fileTree(dir: 'libs', include: ['*.jar'])
    wearApp project(':wear')
    compile 'com.google.android.gms:play-services:+'
    compile 'com.googlecode.jen-api:jen-api:4.x.p'
}
```

Get an Android certificate and the Google Maps API key

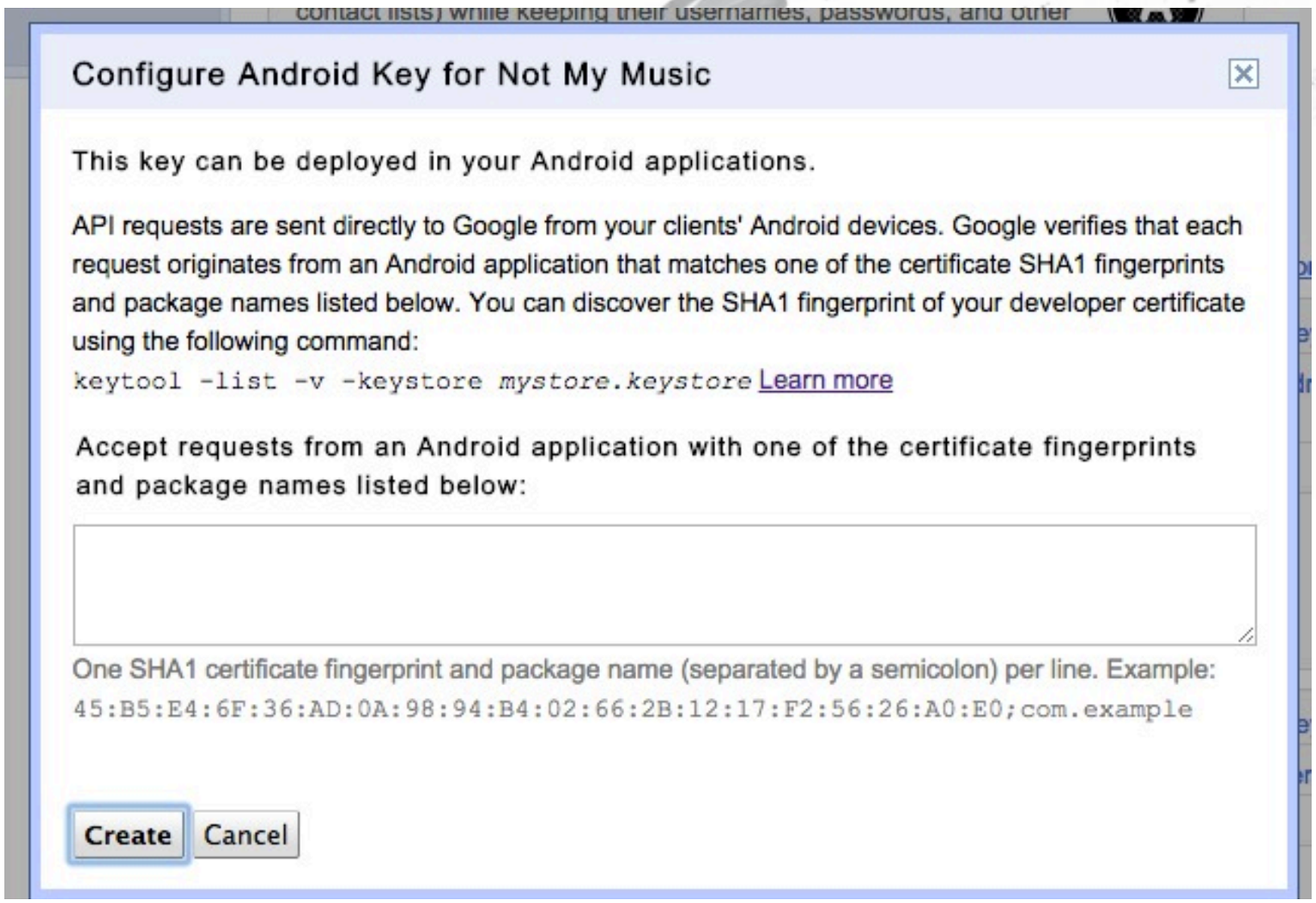
- Retrieve information about your application's certificate.
- Register a project in the Google APIs Console and add the Maps API as a service for the project.
- Request one or more keys.
- Add your key to your application and begin development.



https://code.google.com/apis/console

Google Compute Engine Instance Groups API		OFF	Courtesy limit: 1,0
Google Contacts CardDAV API		OFF	Courtesy limit: 20,0
Google Container Engine API		OFF	Courtesy limit: 1,0
Google Maps Android API v2		ON	
Google Maps Coordinate API		OFF	Courtesy limit: 1,0
Google Maps Embed API		OFF	Courtesy limit: 2,0

```
        at sun.security.tools.KeyTool.main(KeyTool.java:333)
Wesleys-MacBook-Pro-2:NotMyMusic wesleyreisz$ locate *.keystore
/Users/wesleyreisz/.android/debug.keystore
/Users/wesleyreisz/workspaces/io2012/iosched/android/dummy.keystore
Wesleys-MacBook-Pro-2:NotMyMusic wesleyreisz$ keytool -list -v -keystore /Users/wesleyreisz/.android/debug.keystore
Enter keystore password:

*****************  WARNING WARNING WARNING  *****************
* The integrity of the information stored in your keystore  *
* has NOT been verified!  In order to verify its integrity, *
* you must provide your keystore password.                  *
*****************  WARNING WARNING WARNING  *****************

Keystore type: JKS
Keystore provider: SUN

Your keystore contains 1 entry

Alias name: androiddebugkey
Creation date: Mar 24, 2013
Entry type: PrivateKeyEntry
Certificate chain length: 1
Certificate[1]:
Owner: CN=Android Debug, O=Android, C=US
Issuer: CN=Android Debug, O=Android, C=US
Serial number: 3cd6791b
Valid from: Sun Mar 24 11:02:43 EDT 2013 until: Tue Mar 17 11:02:43 EDT 2043
Certificate fingerprints:
         MD5:  85:05:08:6C:
         SHA1: EE:23:EE:F2:1F:4C:
         SHA256: 80:21:F4:
         Signature algorithm name: SHA256withRSA
         Version: 3

Extensions:
```


contact lists) while keeping their usernames, passwords, and other
Configure Android Key for Not My Music
This key can be deployed in your Android applications.
API requests are sent directly to Google from your clients' Android devices. Google verifies that each request originates from an Android application that matches one of the certificate SHA1 fingerprints and package names listed below. You can discover the SHA1 fingerprint of your developer certificate using the following command:
keytool -list -v -keystore mystore.keystore Learn more
Accept requests from an Android application with one of the certificate fingerprints and package names listed below:
One SHA1 certificate fingerprint and package name (separated by a semicolon) per line. Example:
45:B5:E4:6F:36:AD:0A:98:94:B4:02:66:2B:12:17:F2:56:26:A0:E0;com.example
Create
Cancel

Simple API Access

Use API keys to identify your project when you do not need to access user data. Learn more

Key for Android apps (with certificates)

API key:	[redacted]MYJ MDt-FI
Android apps:	[redacted]DC:AB:C0: 89:[redacted];com.we sleyreisz.notmymusic
Activated on:	Nov 30, 2014 2:33 PM
Activated by:	wes@wesleyreisz.com – you

Generate new key...

Edit allowed Android apps...

Delete key...

```
<application
    android:name=".GlobalState"
    android:allowBackup="true"
    android:icon="@drawable/ic_launcher"
    android:label="Not My Music"
    android:theme="@style/AppTheme" >

    <meta-data
        android:name="com.google.android.gms.version"
        android:value="@integer/google_play_services_version" />

    <meta-data
        android:name="com.google.android.maps.v2.API_KEY"
        android:value="AIzaSyCs0P0KpCaNBqBp5ZTuraYbzkMYJMDt-FI"/>

    <activity
        android:name=".activity.DetailActivity"
        android:label="Not My Music">
        <meta-data
            android:name="android.support.PARENT_ACTIVITY"
            android:value=".activity.SongGridActivity" />
    </activity>
    <activity
        android:name=".activity.SongGridActivity"
        android:label="Not My Music"
        >
        <intent-filter>
```

```
package="com.wesleyreisz.notmymusic" >

<uses-permission android:name="android.permission.INTERNET"></uses-permission>
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE"/>
<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>

<uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION "/>
<uses-permission android:name="android.permission.ACCESS_FINE_LOCATION "/>

<application
    android:name=".GlobalState"
```

mobile

layout > fragment_events.xml

EventsFragment.java × | fragment_events.xml × | Constants.java ×

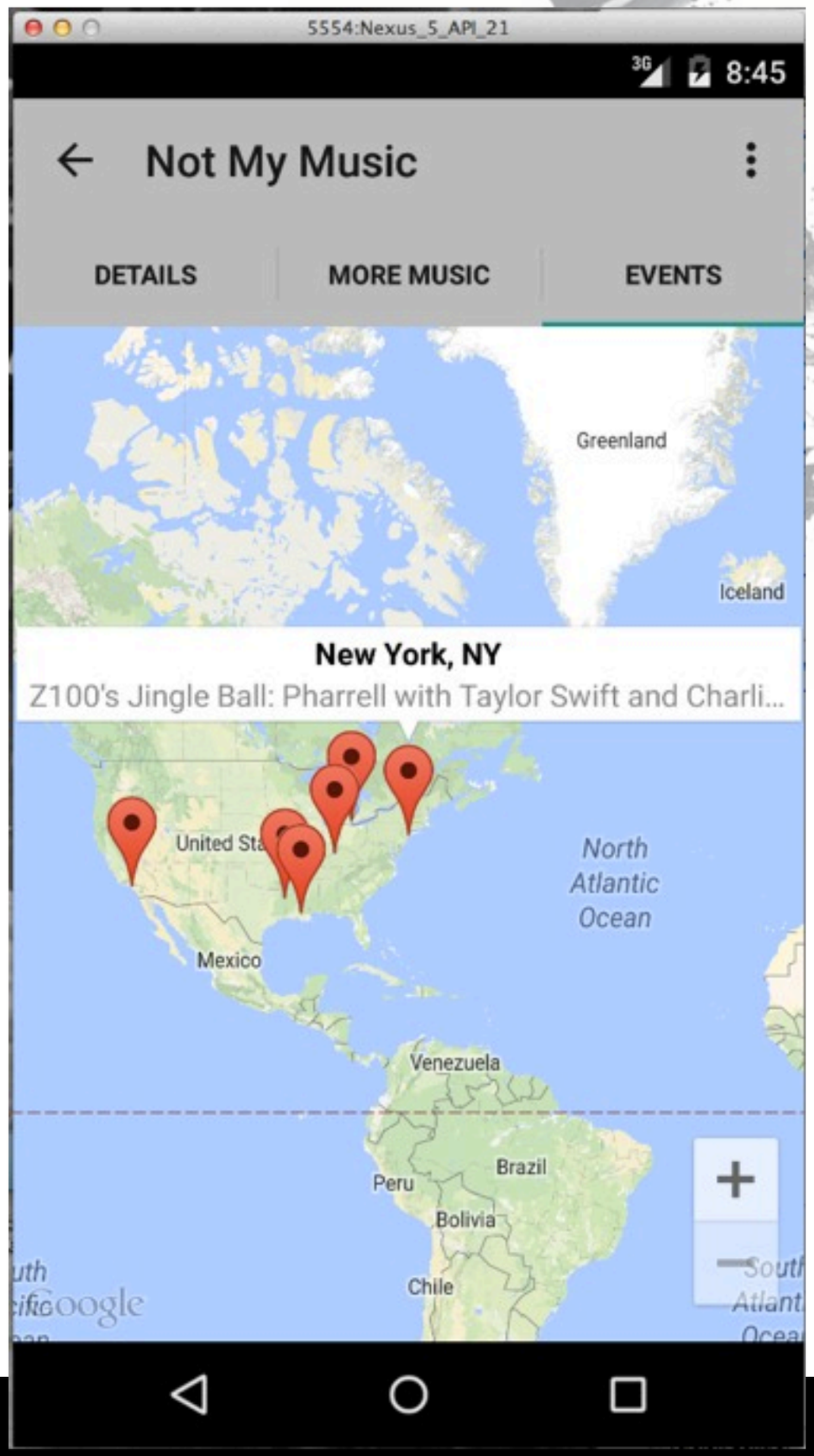
```xml
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    >
    <fragment xmlns:android="http://schemas.android.com/apk/res/android"
        android:id="@+id/mapEvents"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        class="com.google.android.gms.maps.MapFragment"/>
</RelativeLayout>
```

```java
@Override
public void onActivityCreated(Bundle savedInstanceState) {
    super.onActivityCreated(savedInstanceState);
    Bundle extras = getActivity().getIntent().getExtras();
    int position = 0;
    if(extras != null && mGlobalState != null) {
        position = extras.getInt(Constants.POSITION);
        Song song = mGlobalState.getSongList().get(position);

        String encode_url = "";
        try {
            encode_url =  URLEncoder.encode(song.getArtist(), "UTF-8");
        } catch (UnsupportedEncodingException e) {
            e.printStackTrace();
        }

        new ListEventsAsyncTask(getActivity()).execute(
                String.format(Constants.FIND_EVENTS_BY_ARTIST_URL,encode_url)
        );

    }

    map = ((MapFragment) getFragmentManager().findFragmentById(R.id.mapEvents)).getMap();
}
```

```java
@Override
public void onStop() {
    super.onStop();
    MapFragment f = (MapFragment) getFragmentManager()
            .findFragmentById(R.id.mapEvents);
    if (f != null)
        getFragmentManager().beginTransaction().remove(f).commit();
}
```

```java
private class ListEventsAsyncTask extends AsyncTask<String, Void, ArtistEvents> {
    private Context context;
    public ListEventsAsyncTask(Context context) { this.context=context; }
    @Override
    protected ArtistEvents doInBackground(String... url) {
        Log.d(TAG, url[0]);
        String json = HttpUtil.getJson(url[0]);
        Log.d(TAG,json);

        ObjectMapper mapper = new ObjectMapper();
        ArtistEvents events = null;
        try {
            events = mapper.readValue(json, ArtistEvents.class);
        } catch (IOException e) {
            e.printStackTrace();
        }
        return events;
    }

    @Override
    protected void onPostExecute(ArtistEvents artistEvents) {
        if (artistEvents!=null && artistEvents.getEvents().size()>0) {
            LatLngBounds.Builder builder = new LatLngBounds.Builder();
            List<Event> events =  artistEvents.getEvents();

            for(Event event:events){
                LatLng latLng =  new LatLng(
                        event.getVenue().getLocation().getLat(),
                        event.getVenue().getLocation().getLon()
                );

                MarkerOptions marker = new MarkerOptions();
                marker.position(latLng);
                marker.title(event.getVenue().getDisplayLocation());
                marker.snippet(event.getShortTitle());
                map.addMarker(marker);

                builder.include(marker.getPosition());
            }

            int padding = 20; // offset from edges of the map in pixels
            LatLngBounds bounds = builder.build();
            CameraUpdate cu = CameraUpdateFactory.newLatLngBounds(bounds, padding);
            map.animateCamera(cu);

        } else {
            Toast.makeText(
                    context, "No Events found for Artist", Toast.LENGTH_LONG)
                    .show();
        }
    }
}
```

```
if (artistEvents!=null && artistEvents.getEvents().size()>0) {
    LatLngBounds.Builder builder = new LatLngBounds.Builder();
    List<Event> events =  artistEvents.getEvents();

    for(Event event:events){
        LatLng latLng =  new LatLng(
                event.getVenue().getLocation().getLat(),
                event.getVenue().getLocation().getLon()
        );

        MarkerOptions marker = new MarkerOptions();
        marker.position(latLng);
        marker.title(event.getVenue().getDisplayLocation());
        marker.snippet(event.getShortTitle());
        map.addMarker(marker);

        builder.include(marker.getPosition());
    }

    int padding = 20; // offset from edges of the map in pixels
    LatLngBounds bounds = builder.build();
    CameraUpdate cu = CameraUpdateFactory.newLatLngBounds(bounds, padding);
    map.animateCamera(cu);

} else {
    Toast.makeText(
            context, "No Events found for Artist", Toast.LENGTH_LONG)
            .show();
}
```


5554:Nexus_5_API_21
3G
8:45
Not My Music
DETAILS
MORE MUSIC
EVENTS
Greenland
Iceland
New York, NY
Z100's Jingle Ball: Pharrell with Taylor Swift and Charli...
United Sta
North Atlantic Ocean
Mexico
Venezuela
Peru
Brazil
Bolivia
Chile
Google

Using API's

- Parse.com Social API's

Facebook Users

https://www.parse.com/docs/android_guide#fbusers

Parse provides an easy way to integrate Facebook with your application. The Facebook SDK can be used with our SDK, and is integrated with the `ParseUser` class to make linking your users to their Facebook identities easy.

Using our Facebook integration, you can associate an authenticated Facebook user with a `ParseUser`. With just a few lines of code, you'll be able to provide a "log in with Facebook" option in your app, and be able to save their data to Parse.

Setup

To start using Facebook with Parse, you need to:

1. Set up a Facebook app, if you haven't already.
2. Add your application's Facebook Application ID on your Parse a
3. Follow Facebook's instructions for getting started with the Face get to Step 6, stop after linking the Facebook SDK project and c Parse users to their Facebook accounts when logging in.
4. Add the following where you initialize the Parse SDK in your App

```
ParseFacebookUtils.initialize("YOUR FACEBOOK APP ID");
```

Facebook's Android SDK provides an enhanced login experience o allows users of apps that support Facebook login to sign in directly device. If the Facebook app is not installed, the default dialog-base on," and requires you to override `onActivityResult()` in your calli

```
@Override
protected void onActivityResult(int requestCode, int resultC
  super.onActivityResult(requestCode, resultCode, data);
  ParseFacebookUtils.finishAuthentication(requestCode, resul
}
```

If your `Activity` is already using `onActivityResult()`, you can av

Twitter Users

As with Facebook, Parse also provides an easy way to integrate Twitter authentication into your application. The Parse SDK provides a straightforward way to authorize and link a Twitter account to your `ParseUser`s. With just a few lines of code, you'll be able to provide a "log in with Twitter" option in your app, and be able to save their data to Parse.

Setup

To start using Twitter with Parse, you need to:

1. Set up a Twitter app, if you haven't already.
2. Add your application's Twitter consumer key on your Parse application's settings page.
3. When asked to specify a "Callback URL" for your Twitter app, please insert a valid URL. This value will not be used by your iOS or Android application, but is necessary in order to enable authentication through Twitter.
4. Add the following where you initialize the Parse SDK in your `Application.onCreate()`

```
ParseTwitterUtils.initialize("YOUR CONSUMER KEY", "YOUR CONSUMER SECRET");
```

If you encounter any issues that are Twitter-related, a good resource is the official Twitter documentation.

There are two main ways to use Twitter with your Parse users: (1) logging in as a Twitter user and creating a `ParseUser`, or (2) linking Twitter to an existing `ParseUser`.

Login & Signup

`ParseTwitterUtils` provides a way to allow your `ParseUser`s to log in or sign up through Twitter. This is accomplished using the `logIn()` method:

```
ParseTwitterUtils.logIn(this, new LogInCallback() {
  @Override
  public void done(ParseUser user, ParseException err) {
    if (user == null) {
      Log.d("MyApp", "Uh oh. The user cancelled the Twitter login.");
```

https://www.parse.com/docs/android_guide#twitterusers

Sqlite

WESLEY REISZ

Sqlite Example

SQLite is an in-process library that implements a self-contained, serverless, zero-configuration, transactional SQL database engine. The code for SQLite is in the public domain and is thus free for use for any purpose, commercial or private.

Sqlite

- Create
- Read
- Update
- Delete

Create

```
db=openOrCreateDatabase("StudentDB", Context.MODE_PRIVATE, null);
db.execSQL("CREATE TABLE IF NOT EXISTS student(rollno VARCHAR,name VARCHAR,marks VARCHAR);");
```

Read

```
Cursor c=db.rawQuery("SELECT * FROM student", null);
if(c.getCount()==0)
{
    showMessage("Error", "No records found");
    return;
}
StringBuffer buffer=new StringBuffer();
while(c.moveToNext())
{
    buffer.append("Rollno: "+c.getString(0)+"\n");
    buffer.append("Name: "+c.getString(1)+"\n");
    buffer.append("Marks: "+c.getString(2)+"\n\n");
}
showMessage("Student Details", buffer.toString());
```

```
Cursor c=db.rawQuery("SELECT * FROM student WHERE rollno='"+editRollno.getText()+"'", null);
if(c.moveToFirst())
{
    editName.setText(c.getString(1));
    editMarks.setText(c.getString(2));
}
else
{
    showMessage("Error", "Invalid Rollno");
    clearText();
}
```

Update

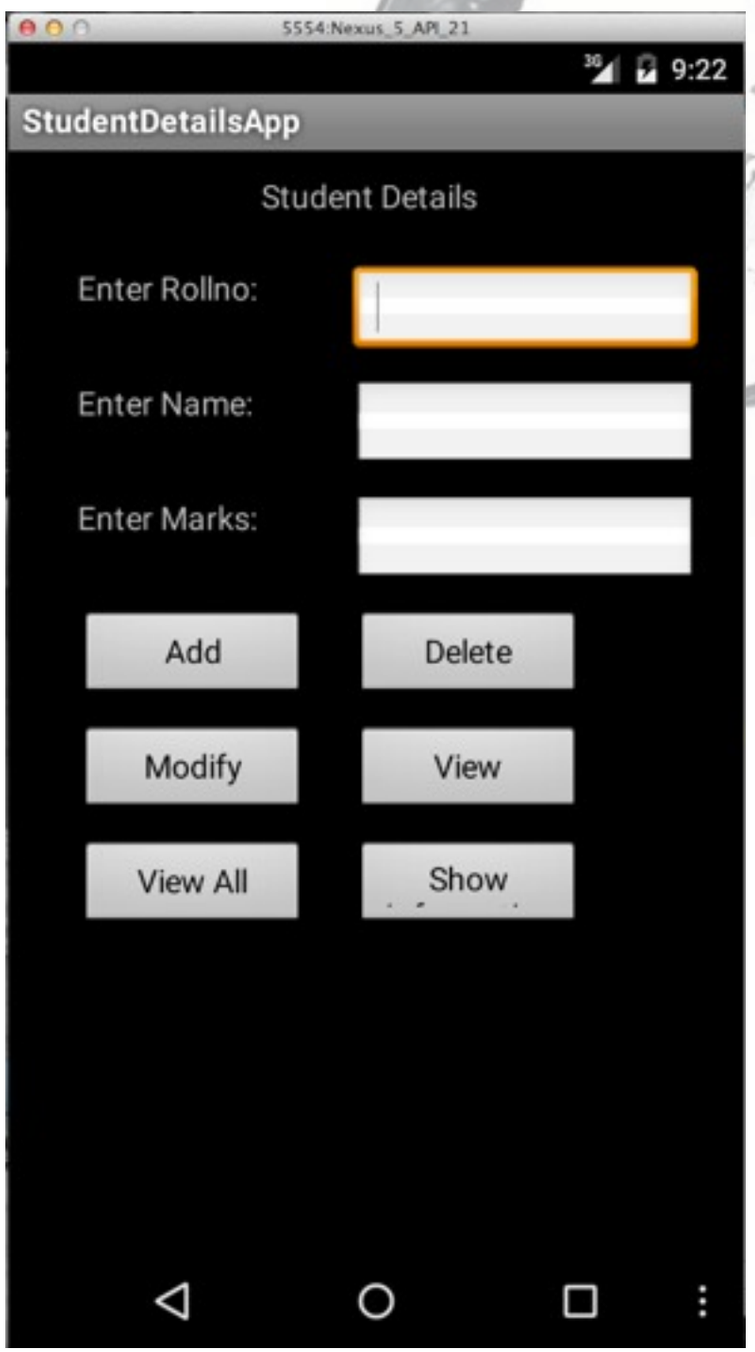
```
Cursor c=db.rawQuery("SELECT * FROM student WHERE rollno='"+editRollno.getText()+"'", null);
if(c.moveToFirst())
{
    db.execSQL("UPDATE student SET name='"+editName.getText()+"',marks='"+editMarks.getText()+
            "' WHERE rollno='"+editRollno.getText()+"'");
    showMessage("Success", "Record Modified");
}
else
{
    showMessage("Error", "Invalid Rollno");
}
```

```
if(editRollno.getText().toString().trim().length()==0||
   editName.getText().toString().trim().length()==0||
   editMarks.getText().toString().trim().length()==0)
{
    showMessage("Error", "Please enter all values");
    return;
}
db.execSQL("INSERT INTO student VALUES('"+editRollno.getText()+"','"+editName.getText()+
           "','"+editMarks.getText()+"');");
showMessage("Success", "Record added");
```

Delete

```
Cursor c=db.rawQuery("SELECT * FROM student WHERE rollno='"+editRollno.getText()+"'", null);
if(c.moveToFirst())
{
    db.execSQL("DELETE FROM student WHERE rollno='"+editRollno.getText()+"'");
    showMessage("Success", "Record Deleted");
}
else
{
    showMessage("Error", "Invalid Rollno");
}
```

Simple Example



Sqlite3

1. adb

```
root@generic_x86:/ # clear
root@generic_x86:/ # exit
Wesleys-MacBook-Pro-2:NotMyMusic wesleyreisz$ adb shell
root@generic_x86:/ # sqlite3 /data/da
dalvik-cache/   data/
root@generic_x86:/ # sqlite3 /data/data/com.azim/
cache/     databases/ lib
qlite3 /data/data/com.azim/databases/                                    <
StudentDB           StudentDB-journal
qlite3 /data/data/com.azim/databases/StudentDB                           <
SQLite version 3.8.6 2014-08-15 11:46:33
Enter ".help" for usage hints.
sqlite> .tables
android_metadata  student
sqlite> select * from student
   ...> ;
1|wes|3
2|John|40
1|test|6
4|dude|40
4|test|40
sqlite>
```

Agenda

- NotMyMusic Where we started
  - Lollipop upgrades (Discuss)
- 3rd Party libraries
  - EchoNext (Demo, using jars)
  - Google Maps (Demo, using android libs)
  - SeatGeek (Demo, creating our own pojos)
- Parse.com Social API's (Discuss)
- Sqlite
  - CRUD (Discuss)
  - Sqlite3 (Demo)
- Debugging

Next Week

- Media
  - Playing Videos
  - Using the YouTube API
- Plus...