



Google
Developers



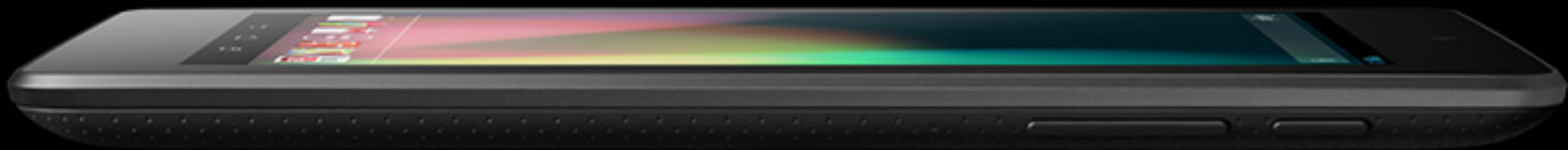
Google Play services

Reto Meier / Rich Hyndman
Android Developer Relations



What is 'Google Play services'?

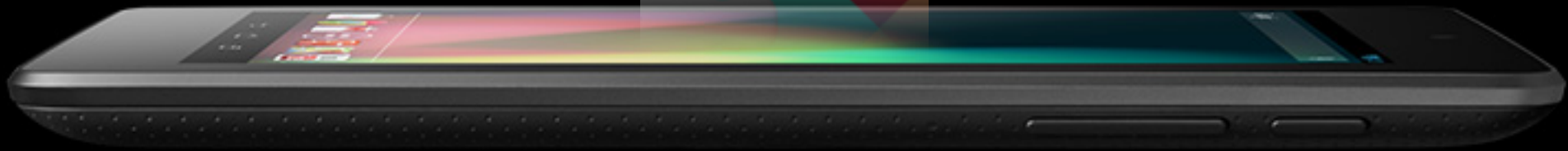








Sign in with Google+



Google+ Platform for Android

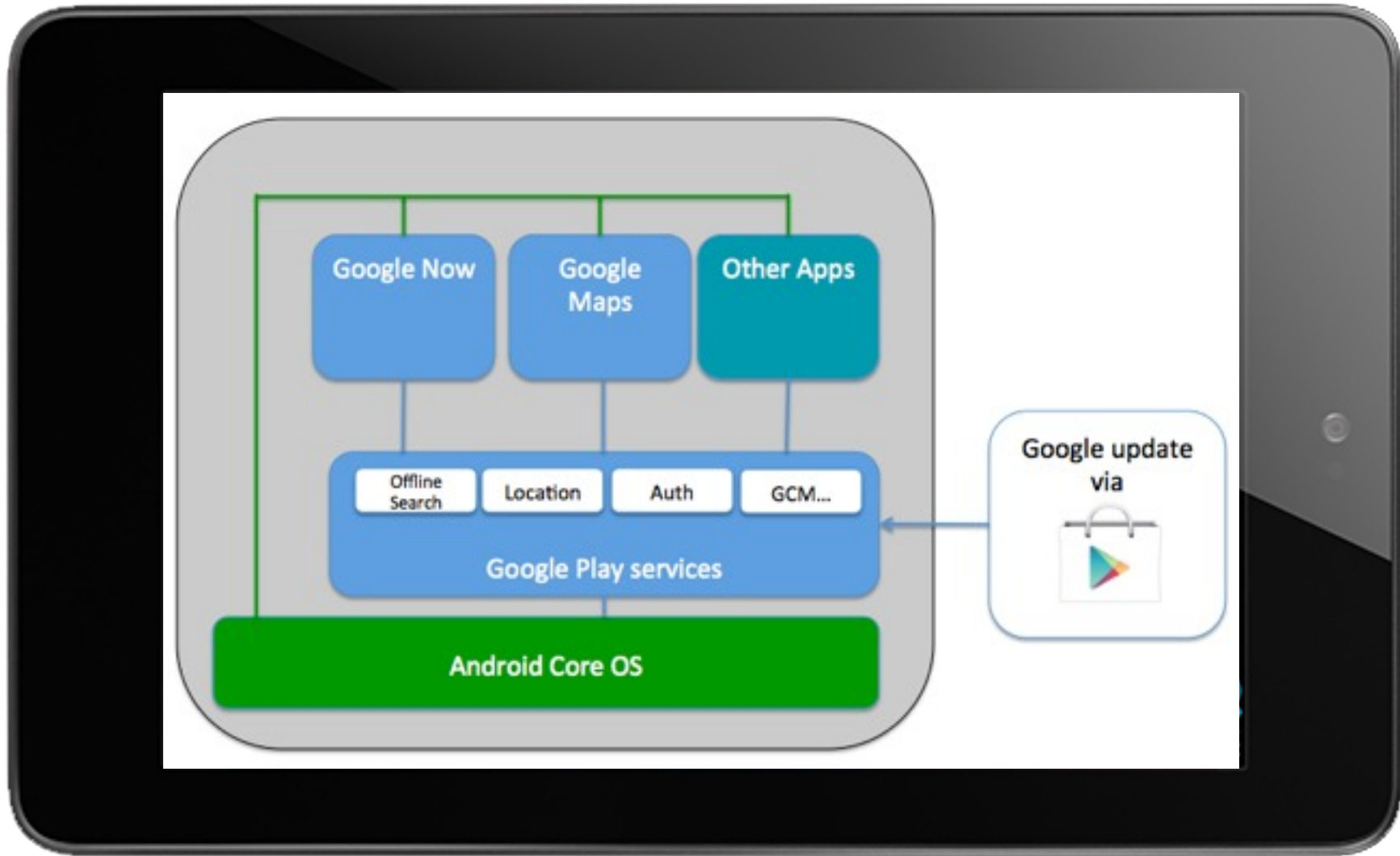
Create a more engaging experience and connect with more users by integrating social into your app. Extend your app in new and creative ways using these Google+ platform features.

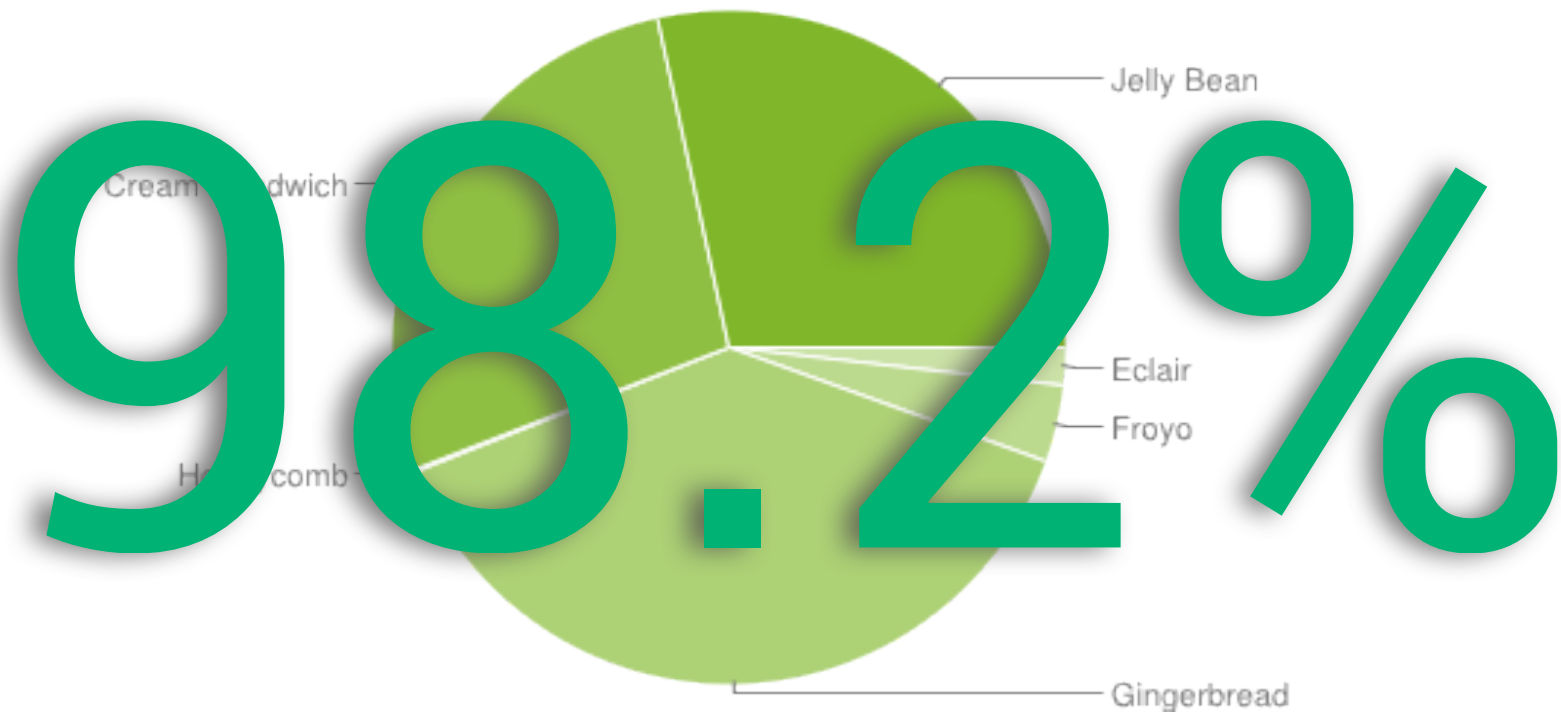
[Get started](#)

[SDK reference](#)











**Android
Support Library**

VS

**Google Play
services**





What's New?



Connect to the Location Services Client

MyActivity

```
private void connectLBS() {  
    int gpsExists = GooglePlayServicesUtil.isGooglePlayServicesAvailable(this);  
    if (gpsExists == ConnectionResult.SUCCESS) {  
        mLocationClient = new LocationClient(this, this, this);  
        mlocationClient.connect();  
    }  
}  
  
@Override  
public void onConnected(Bundle connectionHint) {  
    requestUpdates(mlocationClient);  
}
```



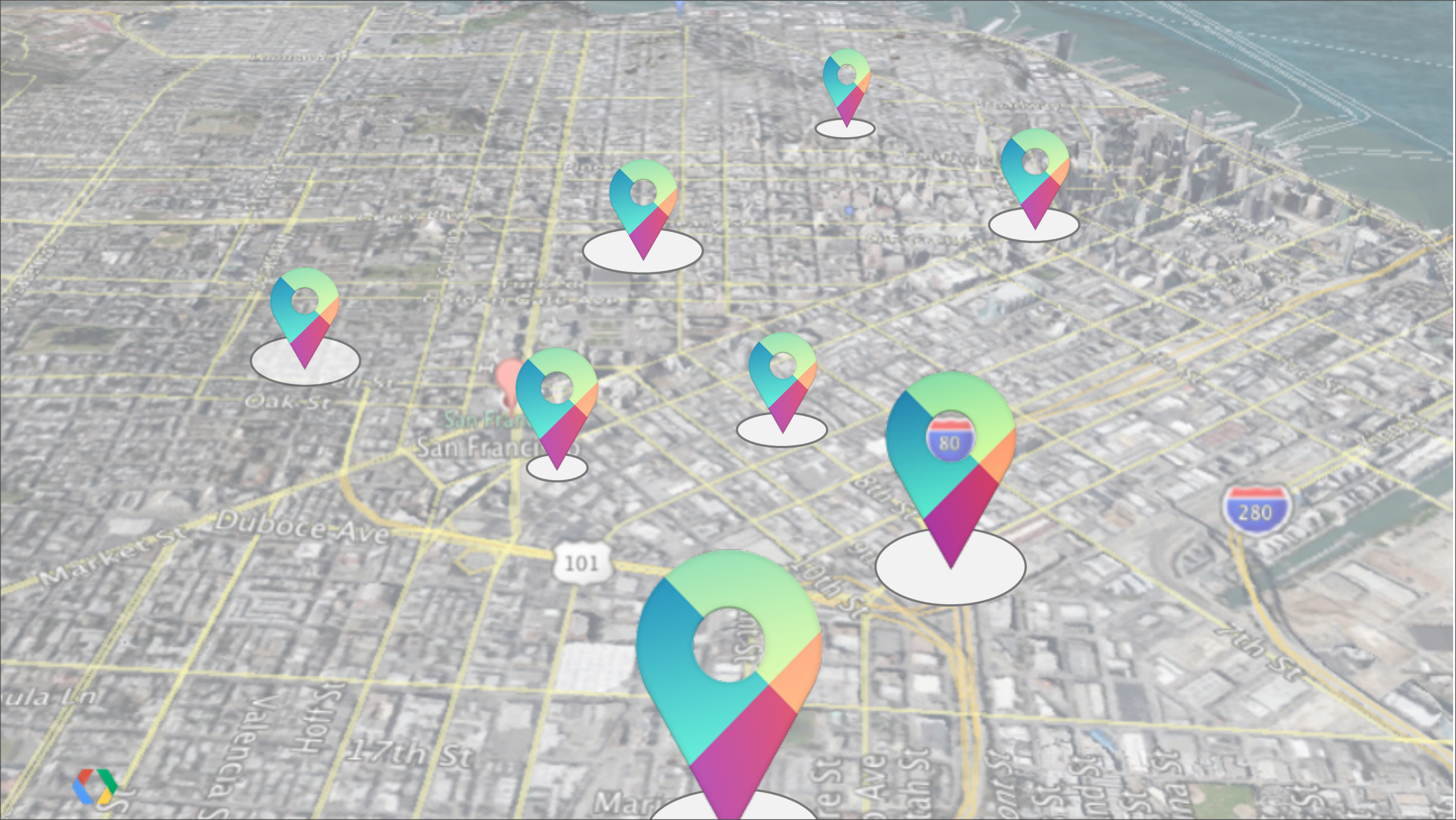
Location Update Requests

MyActivity

```
LocationRequest request = LocationRequest.create();
request.setInterval(minTime);
request.setPriority(lowPowerMoreImportantThanAccuracy ?
    LocationRequest.PRIORITY_BALANCED_POWER_ACCURACY :
    LocationRequest.PRIORITY_HIGH_ACCURACY);

mlocationClient.requestLocationUpdates(request, new LocationListener() {
    @Override
    public void onLocationChanged(Location location) {
        updateLocation(location);
    }
});
```





Geofencing

MyActivity

```
List<Geofence> fenceList = new ArrayList<Geofence>();

// TODO Repeat for all Geofences
Geofence geofence = new Geofence.Builder()
    .setRequestId(myKey)
    .setTransitionTypes(Geofence.GEOFENCE_TRANSITION_ENTER |
        Geofence.GEOFENCE_TRANSITION_EXIT)
    .setCircularRegion(latitude, longitude, GEOFENCE_RADIUS)
    .setExpirationDuration(Geofence.NEVER_EXPIRE)
    .build();

fenceList.add(geofence);

mLocationClient.addGeofences(fenceList, pendingIntent, addGeofencesResultListener);
```





Activity Recognition

MyActivity

```
Intent intent = new Intent(this, ActivityRecognitionIntentService.class);  
intent.setAction(MyActivity.ACTION_STRING);  
  
PendingIntent pi = PendingIntent.getService(this, 0, intent,  
                                           PendingIntent.FLAG_UPDATE_CURRENT);  
  
mActivityRecognitionClient.requestActivityUpdates(interval, pi);
```



Activity Recognition

▪ ActivityRecognitionIntentService

```
@Override
```

```
protected void onHandleIntent(Intent intent) {  
    if (intent.getAction() == MyActivity.ACTION_STRING) {  
        if (ActivityRecognitionResult.hasResult(intent)) {  
            ActivityRecognitionResult result = ActivityRecognitionResult.extractResult(intent);  
            DetectedActivity detectedActivity = result.getMostProbableActivity();  
            int activityType = detectedActivity.getType();  
            if (activityType == DetectedActivity.STILL)  
                setUpdateSpeed(PAUSED);  
            else if (activityType == DetectedActivity.IN_VEHICLE)  
                setUpdateSpeed(FASTER);  
            else  
                setUpdateSpeed(REGULAR);  
        }  
    }  
}
```





**Beyond the Blue Dot:
New Features in Android Location**
Waleed Kadous, Jaikumar Ganesh
Today, Room 12, 11:15am





Achievements



Leaderboards



Cloud Save



Real-time Multiplayer





ANGRY FRUIT - 12694758756



1. Game details



GAME DETAILS

Save



2. Linked apps



English (United States) - en-US

Add translations



3. Achievements



Fields marked with * need to be filled for saving. All fields need to b



4. Leaderboards



Display name *

English (United States) - en-US

Angry Fruit

11 of 30 characters



5. Testing

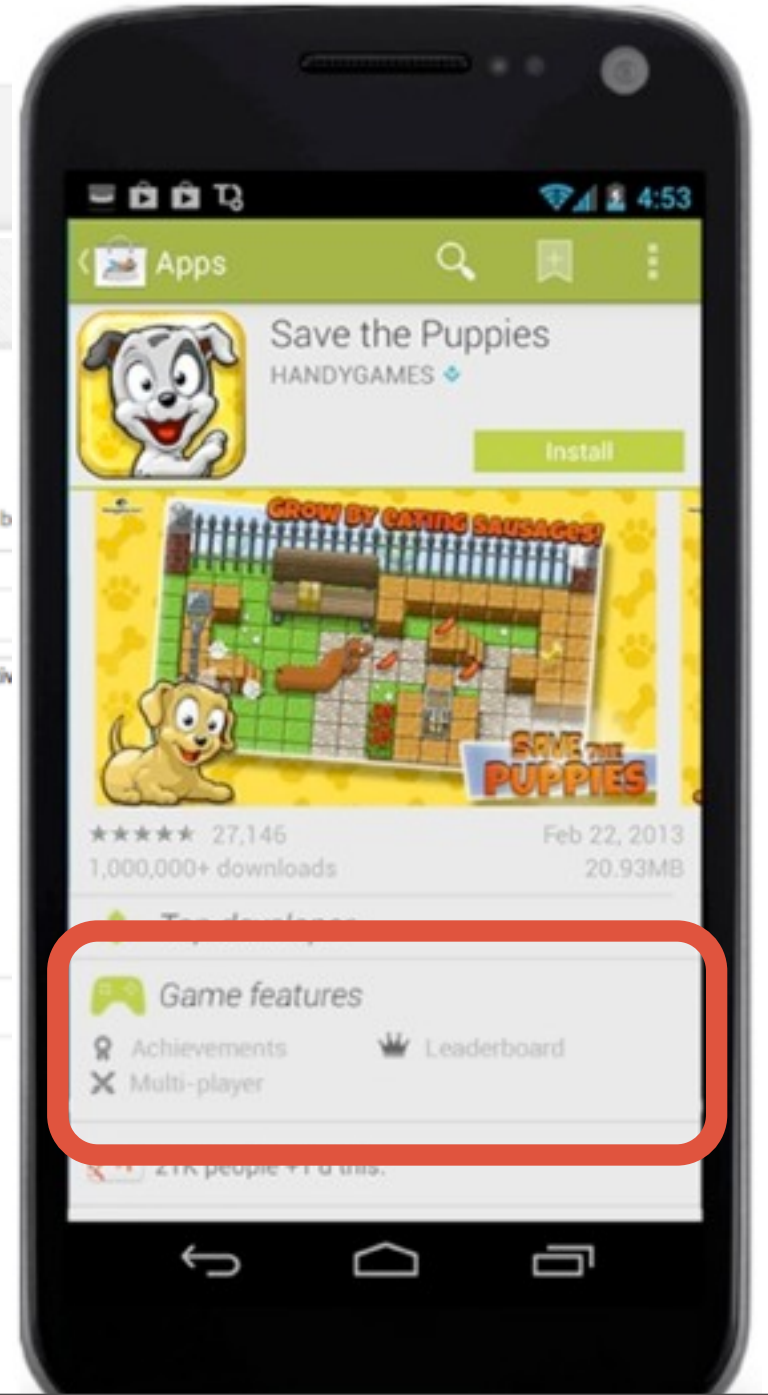


Description

English (United States) - en-US

Help the fruits resolve their anger problems through breathing exercises and activ
the makers of Ninja Birds.

126 of 4000 characters



Game features

- Achievements
- Multi-player
- Leaderboard



2/20 unlocked



Slippery Slope

Crash into a wall while skidding



High Speed Crash

Crash the car against a wall



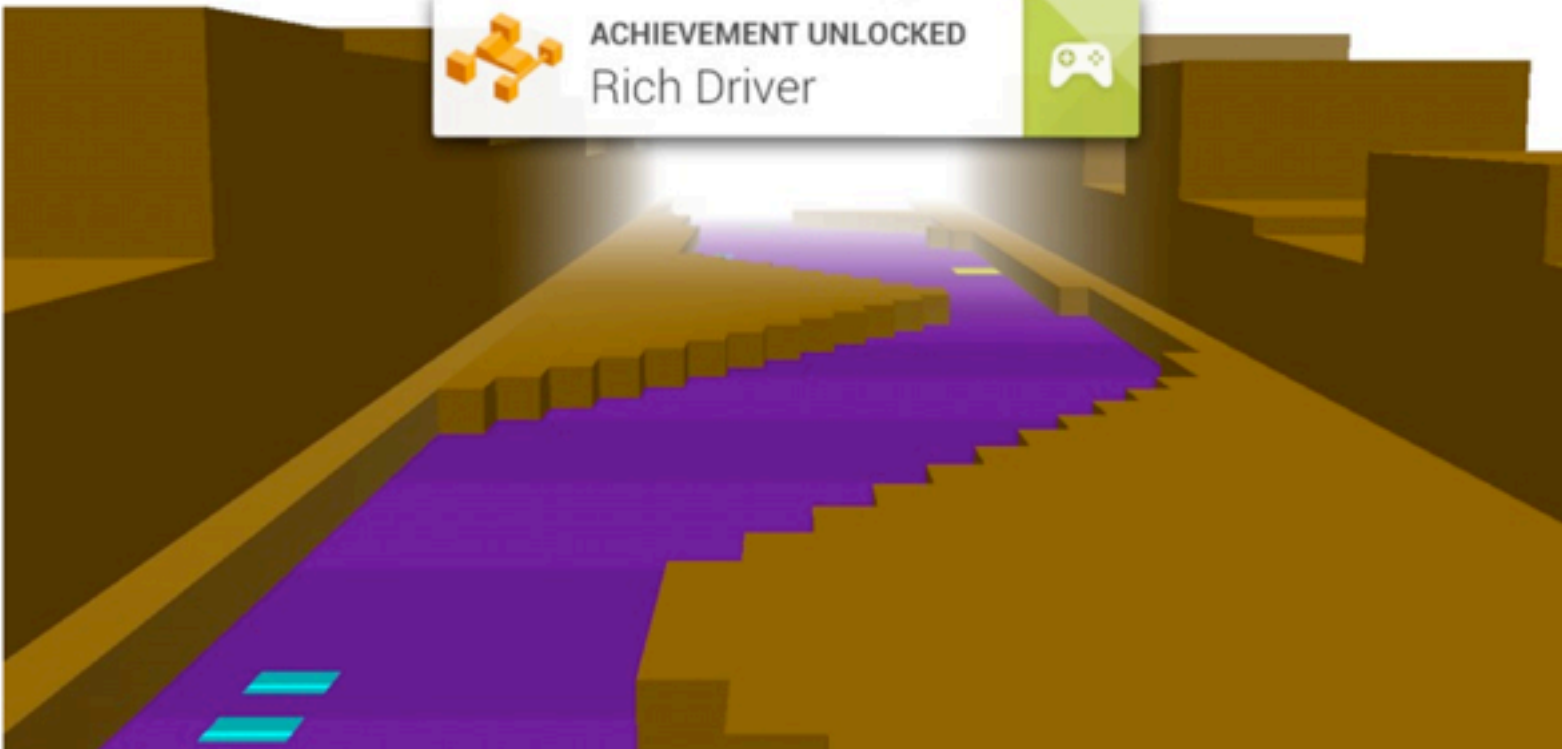
Crash

Crash 50



ACHIEVEMENT UNLOCKED

Rich Driver





World of Goo Corporation

Leaderboard

7:49

MY CIRCLES

PUBLIC

13 players

I'M 1ST

34 players



Hugo Barra
20.0m

1st



Jai Mani
19.0m

2nd



Blake Downsview
18.0m

3rd



Jonathan Tollgate
100.0m

1st



Chris Harbisor
99.0m



Don Ashford
17.0m

4th

James Riverw
97.0m



Cloud Save





New Developments in Mobile Gaming

Todd Kerpelman, Steve Martin, David Santoro

Yesterday



An Introduction to Play games services


Todd Kerpelman, Steve Martin, David Santoro

Yesterday










 Sign in with Google



 Sign in to Flood-It+ with Google


THIS APP WOULD LIKE TO

-  Know your name, basic info, and list of people you're connected to on Google+
Change who this app can see 
-  View and manage your game activity 
 -  Your circles 
 -  Only you



Flood-It+ and Google will use this information in accordance with their respective terms of service and privacy policies.

OK




 Sign in to Flood-It+ with Google

THIS APP WOULD LIKE TO

-  View and manage your data for this application 

Flood-It+ and Google will use this information in accordance with their respective terms of service and privacy policies.

OK

 Sign in with Google



Wins: 0 Score: 0

Step 0/25   



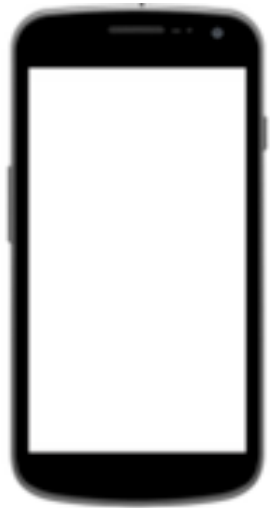



Advanced Games Development Topics

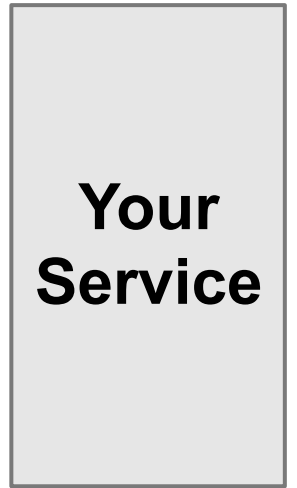
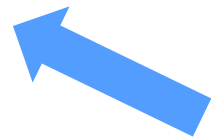
Tom Wilson, Bruno Oliveira

Yesterday



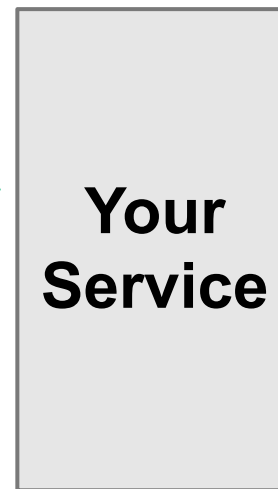
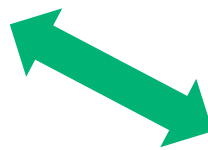
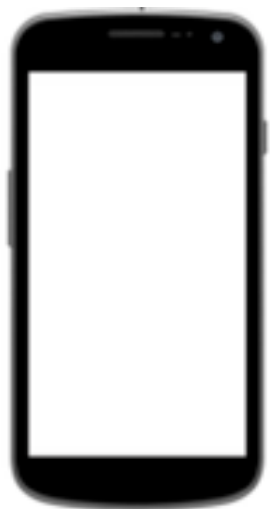


Google cloud messaging



**Your
Service**





Google Cloud Messaging: Upstream

MyService

```
GoogleCloudMessaging gcm = GoogleCloudMessaging.get(context);  
gcm.send(to, msgId, data);
```





Google Cloud Messaging

Francesco Nerieri

Today, Room 12, 1:40pm



Google wallet





What's New with Mobile Payments on Android

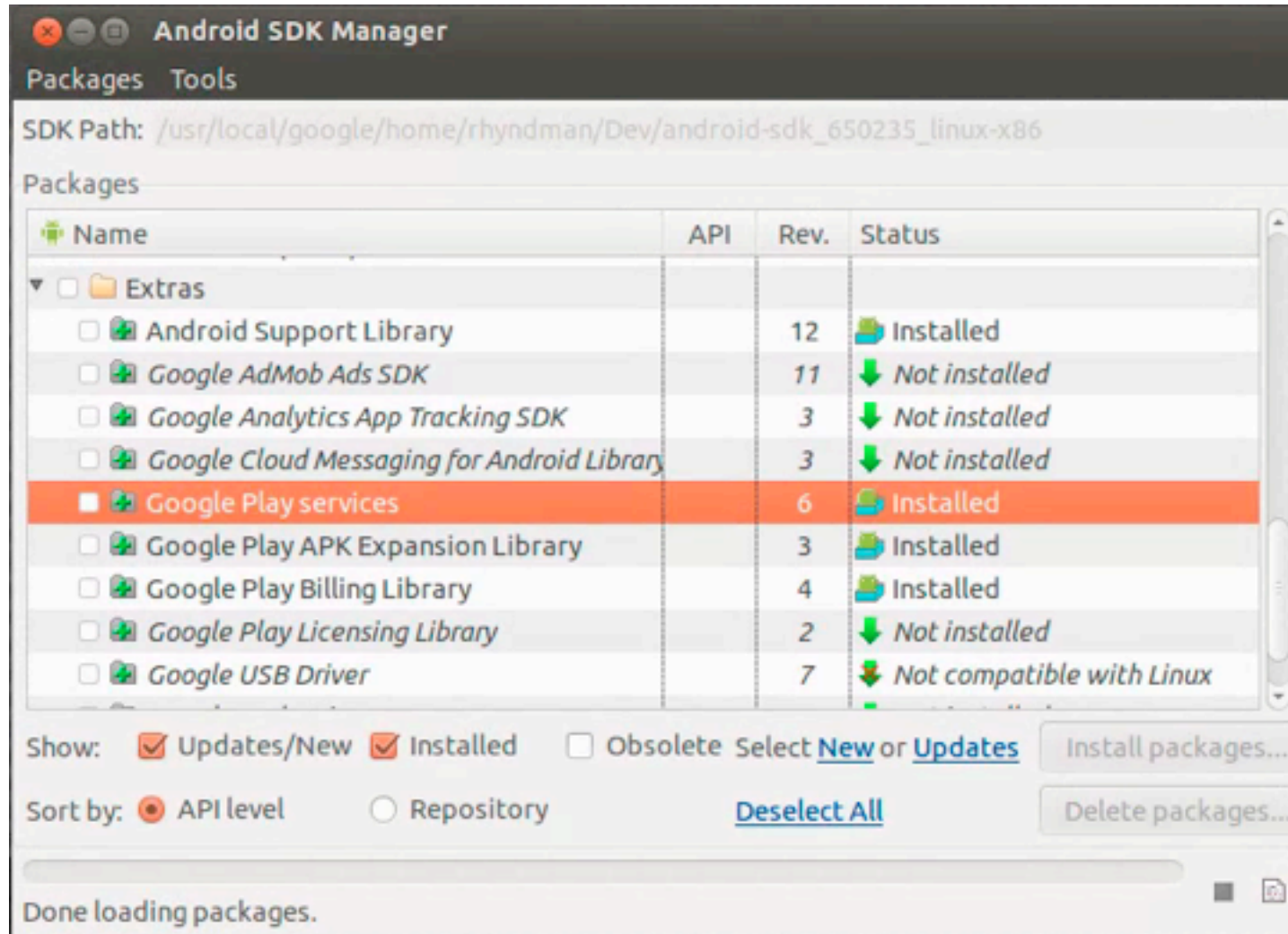
Michael Galpin, Prakash Hariramani, Jonathan Taylor

Yesterday

w00t!

where can I get it?



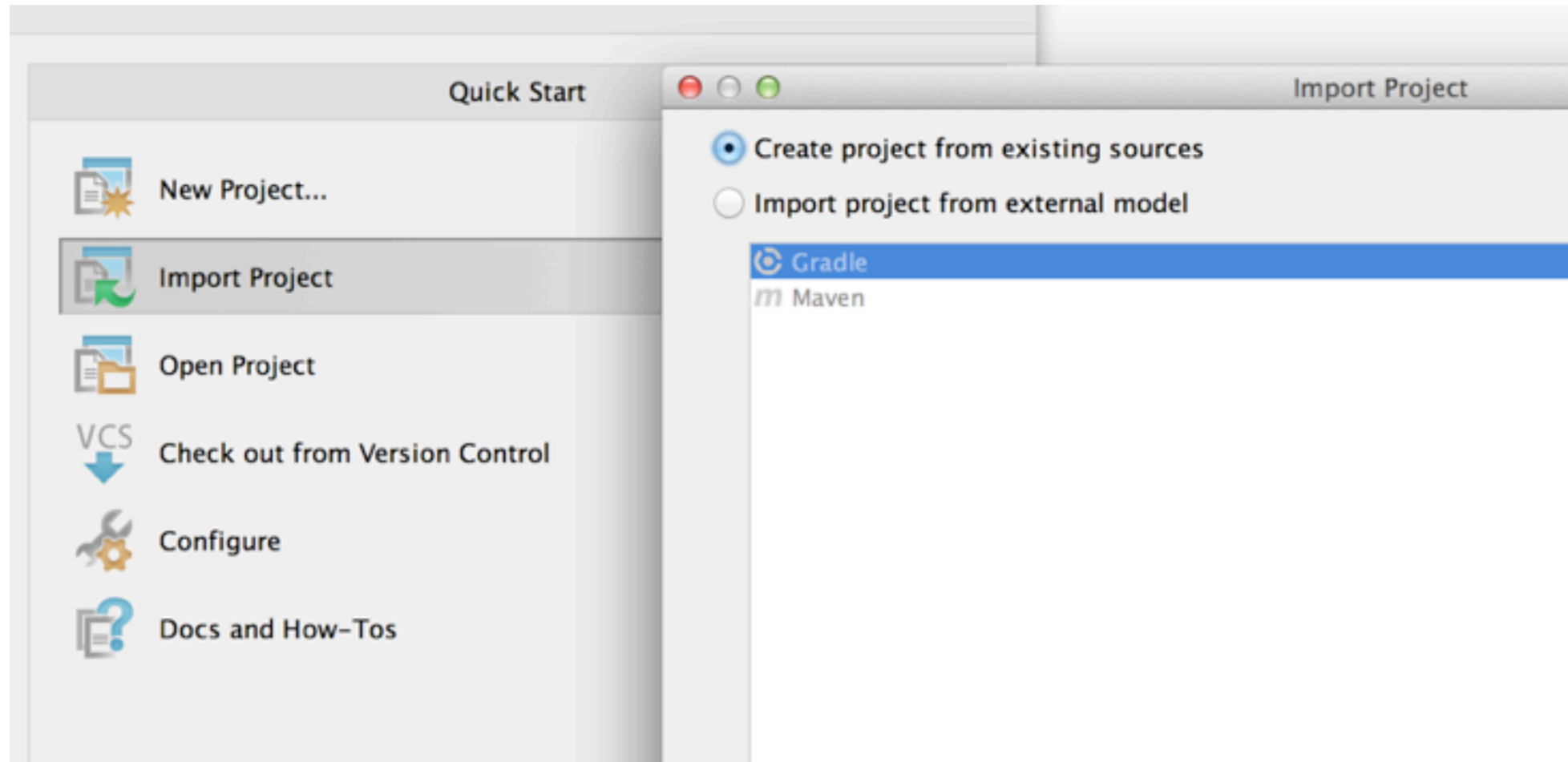


`<android-sdk-folder>/extras/google/google_play_services`



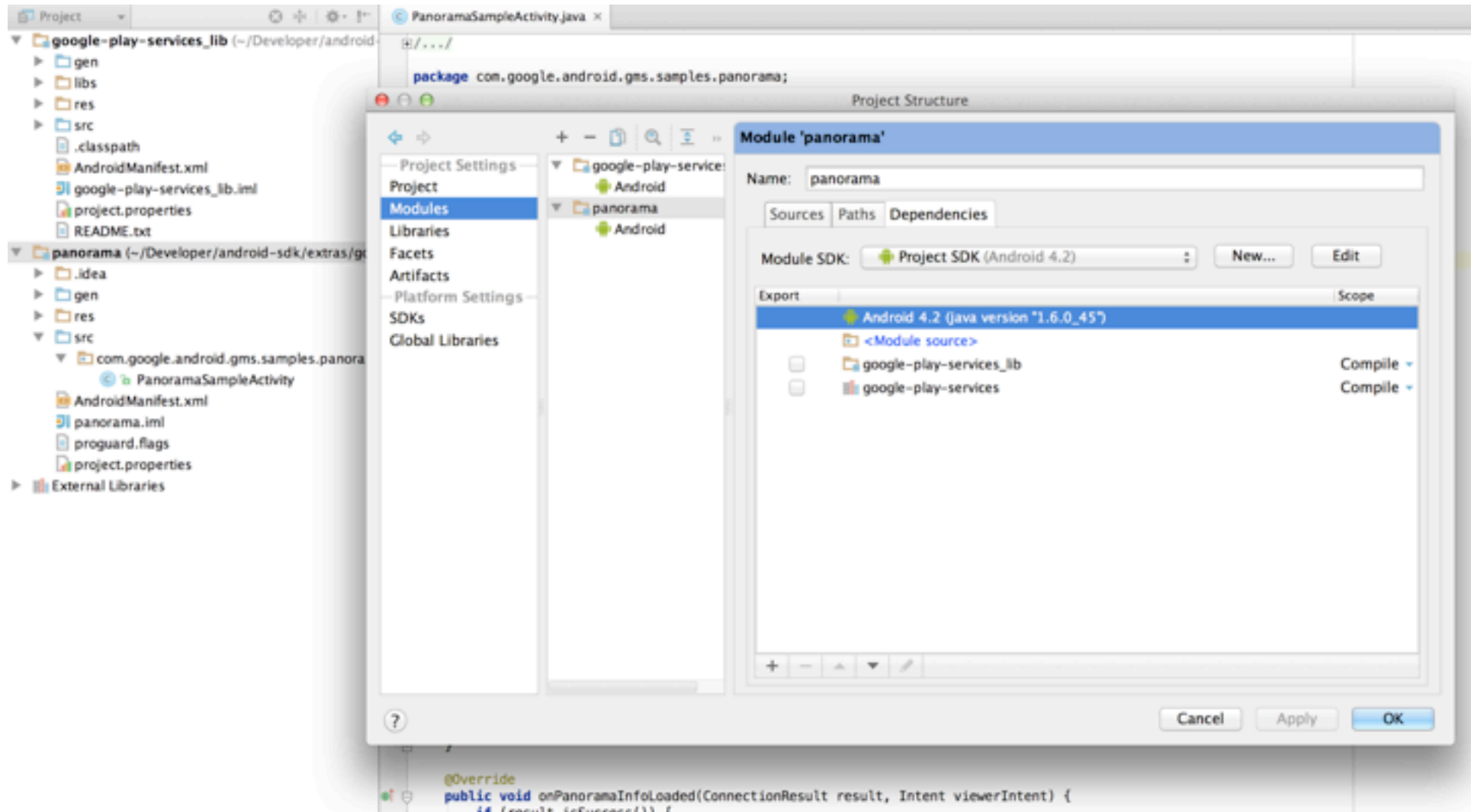


Android Studio / IntelliJ



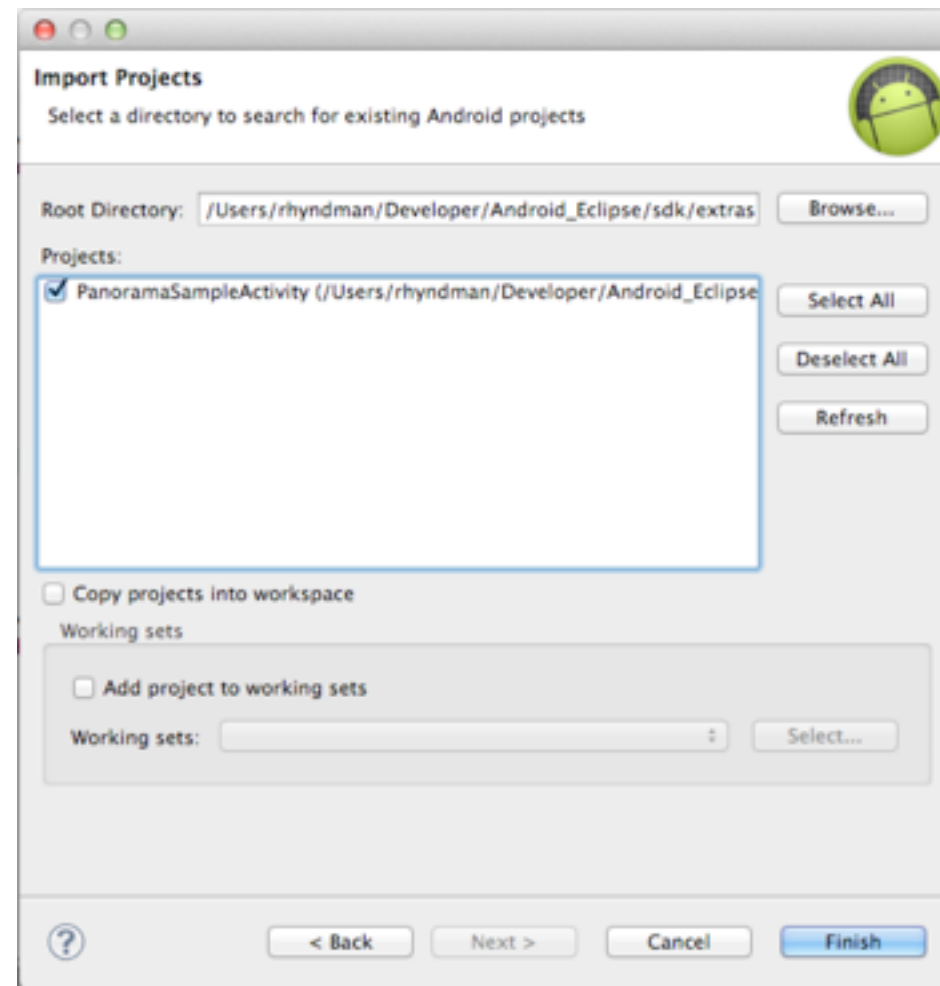
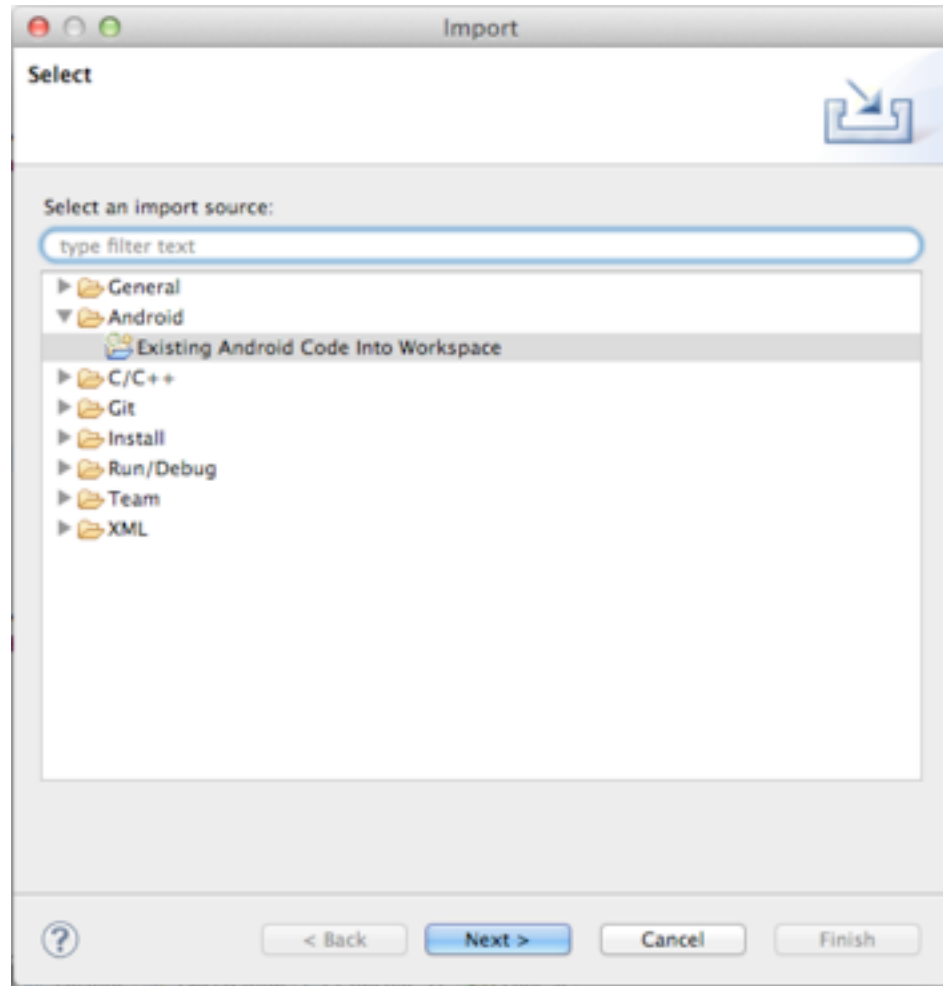
<http://developer.android.com/google/play-services/setup.html>

Android Studio / IntelliJ

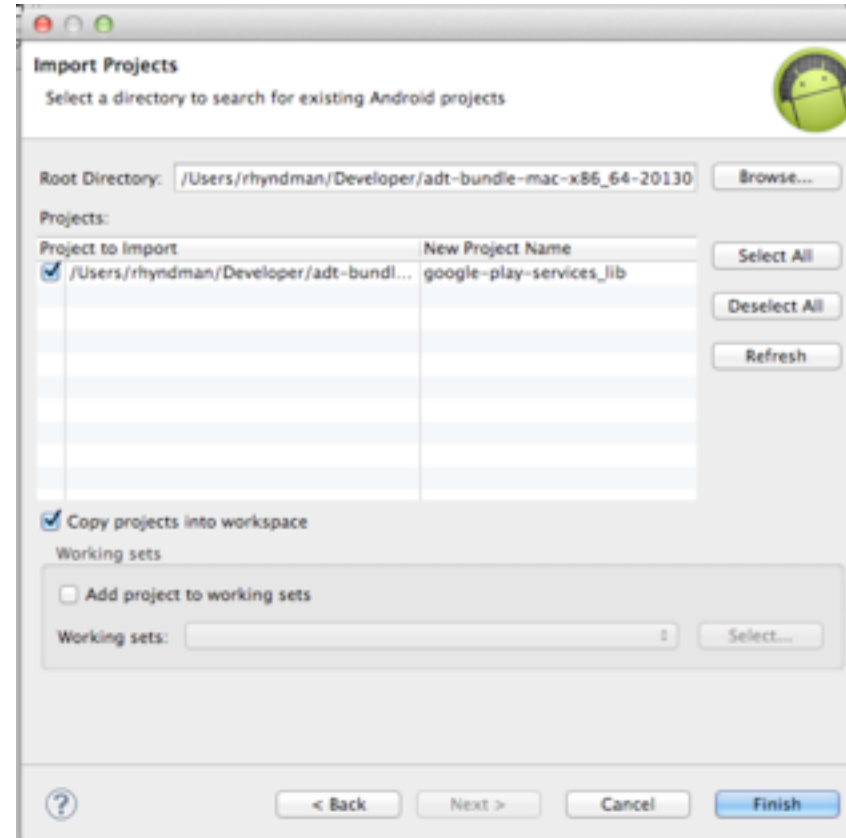
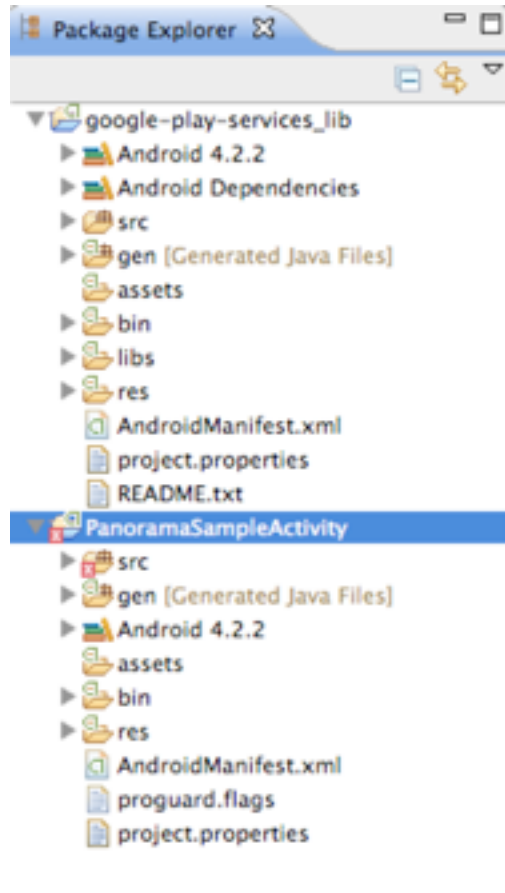


<http://developer.android.com/google/play-services/setup.html>

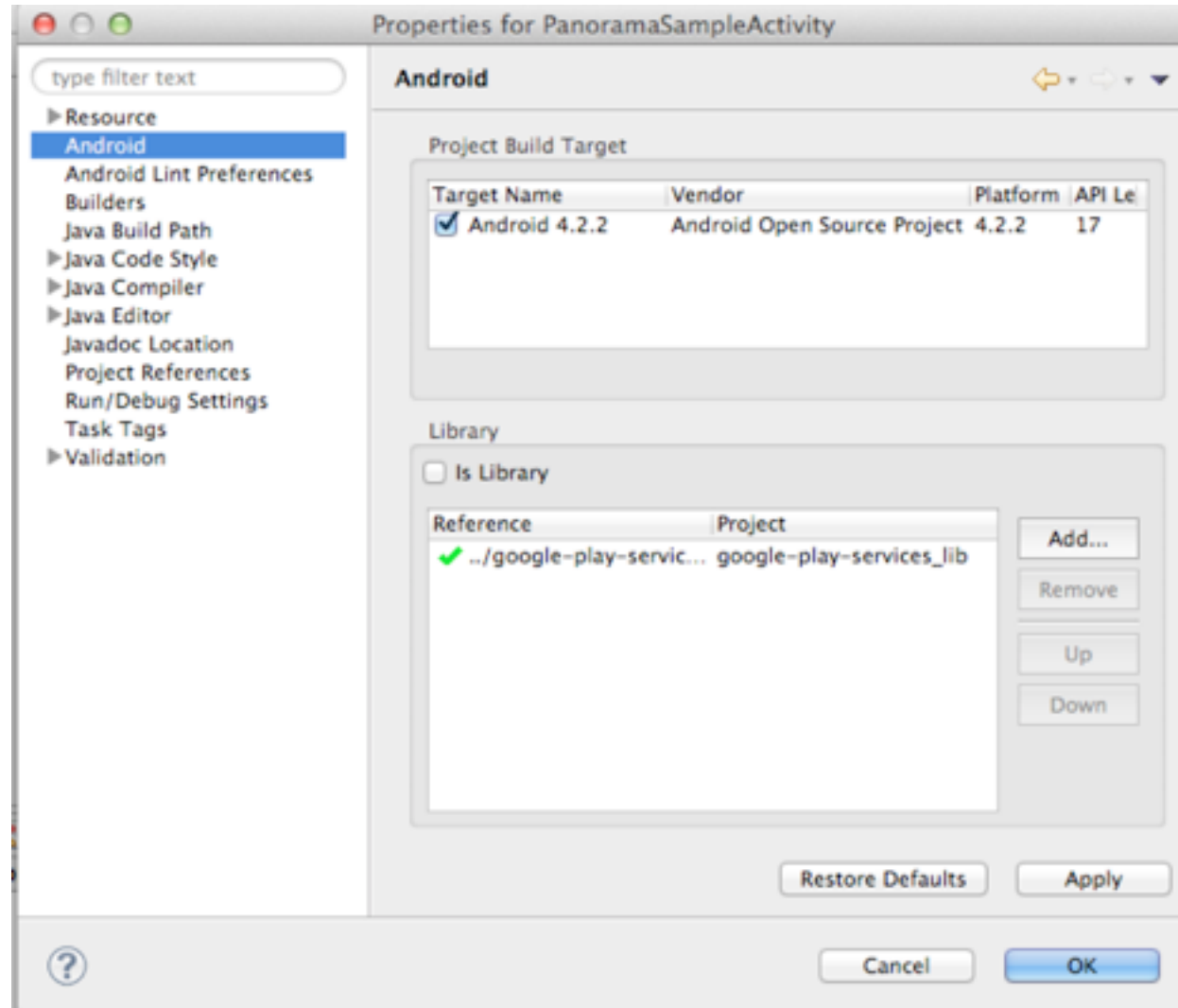
ADT Bundle / Eclipse Setup



ADT Bundle / Eclipse Setup



ADT Bundle / Eclipse Setup





Google API Console

Start using the Google APIs console

to manage your API usage



Google apis

API Project

All (159)

Active (6)

Inactive (152)

Google Cloud Platform

Overview

Services

Team

API Access

Billing

Reports

Quotas

Drive SDK

Active services

Select services for the project.

| Service | Status | Notes |
|--|---|---|
|  Drive API |  <input checked="" type="checkbox"/> | Courtesy limit: 10,000,000 requests/day |
|  Drive SDK |  <input checked="" type="checkbox"/> | |
|  Google Cloud Messaging for Android |  <input checked="" type="checkbox"/> | |
|  Google Maps Android API v2 |  <input checked="" type="checkbox"/> | |
|  Google Play Android Developer API |  <input checked="" type="checkbox"/> | Courtesy limit: 15,000 requests/day |
|  Google+ API |  <input checked="" type="checkbox"/> | |

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



Google API Console



- API Project
- Overview
- Services
- Team
- API Access
- Billing

API Access

To prevent abuse, Google places limits on API requests. Using a valid OAuth token or API key allows you to exceed anonymous limits by connecting requests back to your project.

Authorized API Access

OAuth 2.0 allows users to share specific data with you (for example, information private). A single project may contain up to 20 client IDs.

Create new Android key...



Configure Android Key for API Project

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



Google API Console

```
<application ...>
```

```
<meta-data
```

```
    android:name="com.google.android.maps.v2.API_KEY"
```

```
    android:value="your_api_key"/>
```

```
</application>
```





Auth.... example

Auth

VS

Auth



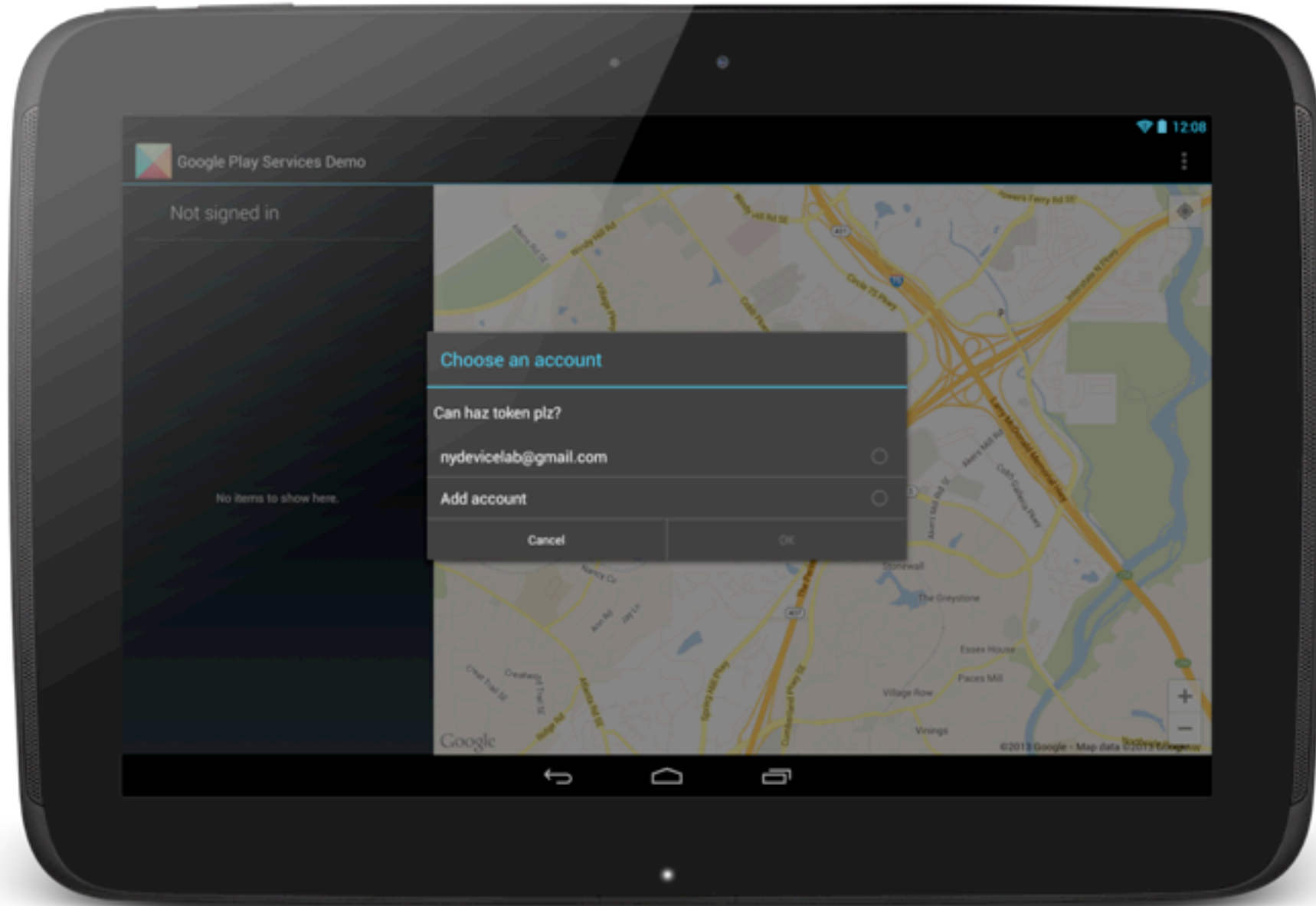
Authentication **VS** Authorization



Choose an Account

```
startActivityForResult(  
    AccountPicker.newChooseAccountIntent(null, null,  
        new String[]{GoogleAuthUtil.GOOGLE_ACCOUNT_TYPE},  
        true, "Can haz token plz?",  
        null, null, null), REQUEST_PICK_ACCOUNT);
```





Preflight Check

@Override

```
protected void onResume() {  
    super.onResume();  
    int canIPlay = GooglePlayServicesUtil.isGooglePlayServicesAvailable(this);  
}
```

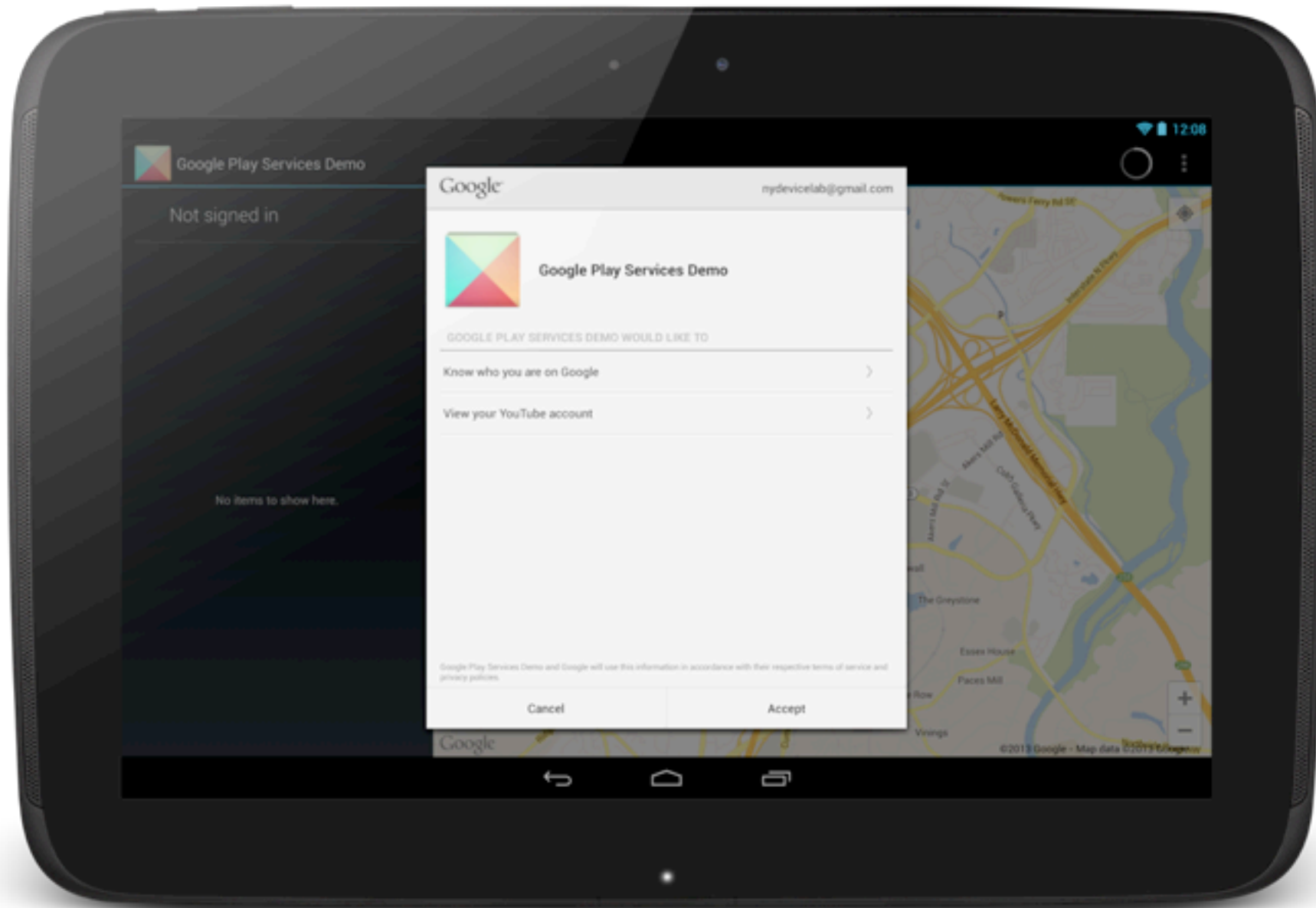


Result Codes:
SUCCESS
SERVICE_MISSING,
SERVICE_VERSION_UPDATE_REQUIRED
SERVICE_DISABLED
SERVICE_INVALID.

Obtain an Access Token

```
mToken = GoogleAuthUtil.getToken(this, "foo@gmail.com",  
    "oauth2:"  
    + Scopes.PLUS_PROFILE + " "  
    + YouTubeScopes.YOUTUBE_READONLY);
```





Access the data

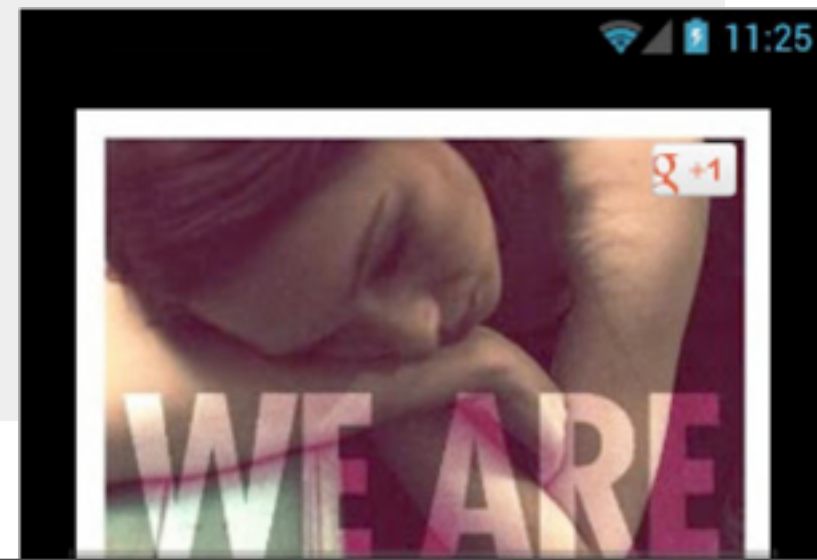
```
URL url = new URL("https://www.googleapis.com/oauth2/v1/userinfo?access_token=" + token);  
  
URLConnection con = (URLConnection) url.openConnection();  
  
int serverCode = con.getResponseCode();  
  
if (serverCode == 200) {  
    ...  
} else {  
    //check error, code do something else  
    return;  
}
```



Adding a button

```
<com.google.android.gms.plus.PlusOneButton  
  android:id="@+id/plus_button"  
  android:layout_width="match_parent"  
  android:layout_height="wrap_content"  
  plus:annotation="inline"  
  plus:size="standard" />
```

```
button.initialize(mPlusClient, "http://...", null);
```





Testing Play Services





...and one more thing...



Basic Controls



Hardware Buttons



DPAD not enabled in AVD



Hardware Keyboard

Use your physical keyboard to provide input



<Thank You!>

+Reto Meier
+Rich Hyndman





Google
Developers