Controlling your NowTv box and everything else with Android Wear

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Who am I?

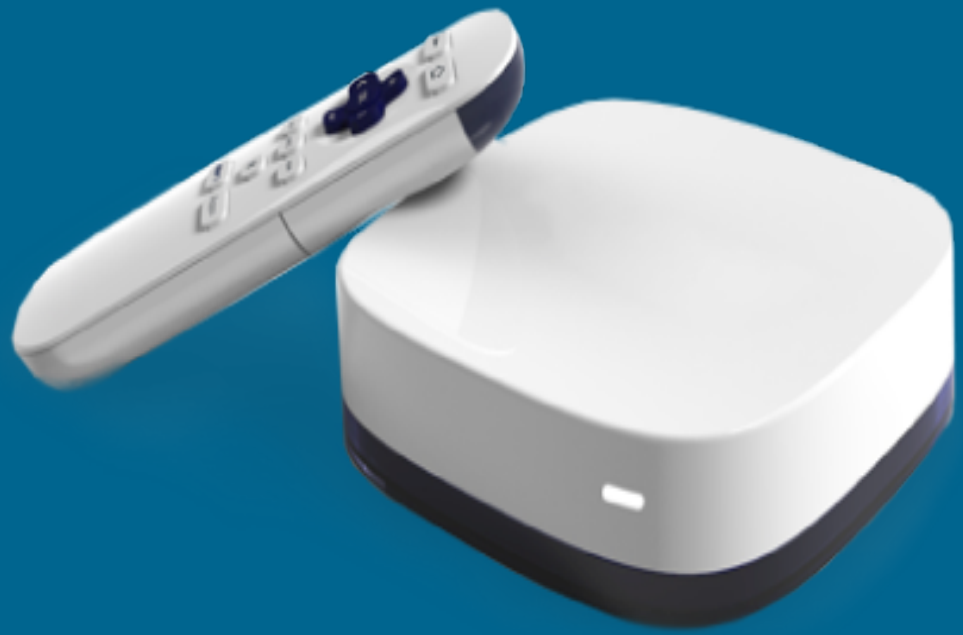
- Jesus Gumiel
  - @jegumi
- Android developer
  - Telefonica R +D (TU Me, TU Go)
  - The Guardian
  - Sky (Now TV)
- Entrepreneur
  - Footballtracker → http://www.football-tracker.com

Some context

- Hackday at Now TV
  - Develop something for Now TV
- What can I do?
  - Only 4 hours of development
  - Android of course
  - It must be cool to show and easy to understand
  - It must be something interesting to develop
  - It must be useful

The target

Control Now Tv box with a Moto 360



Types of wearables app

Synced Notifications

Notifications on handhelds can automatically sync to wearables, so design them with both devices in mind.

Voice Actions

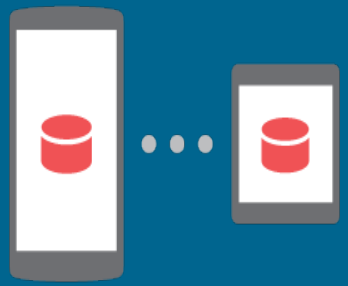
Register your app to handle voice actions, like "Ok Google, take a note," for a hands-free experience.

Build Wearable Apps

Create custom experiences with activities, services, sensors, and much more with the Android SDK.

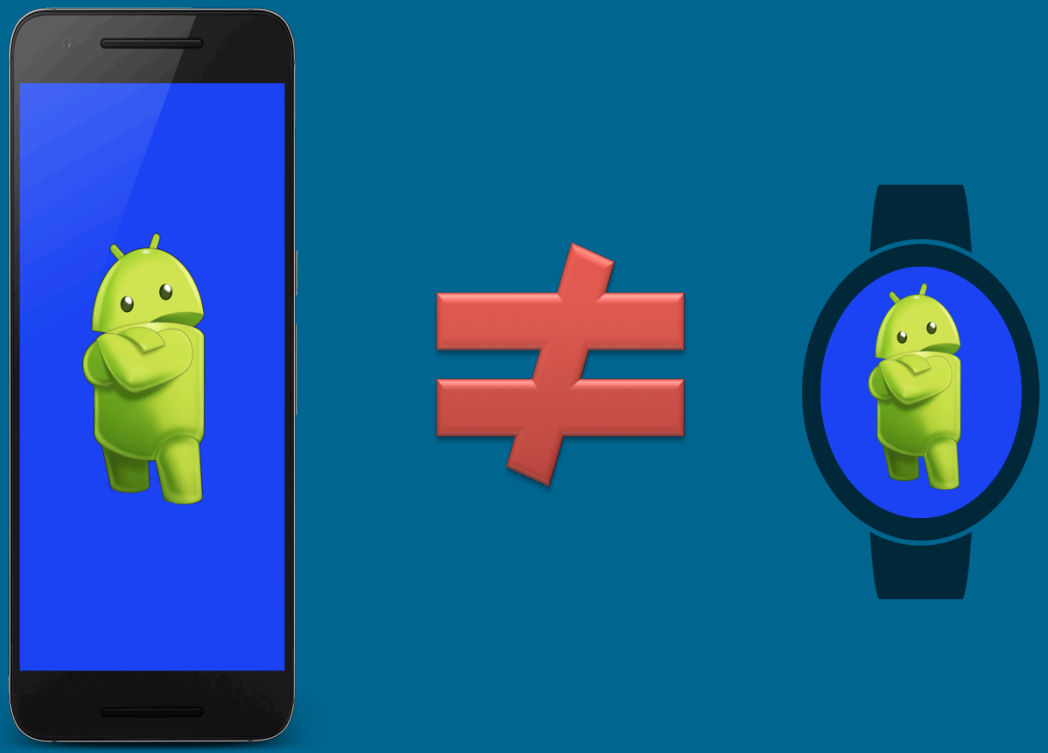
Send Data

Send data and actions between handhelds and wearables with data replication APIs and RPCs



Common mistake

Try to replicate the functionality of your handset on a wearable



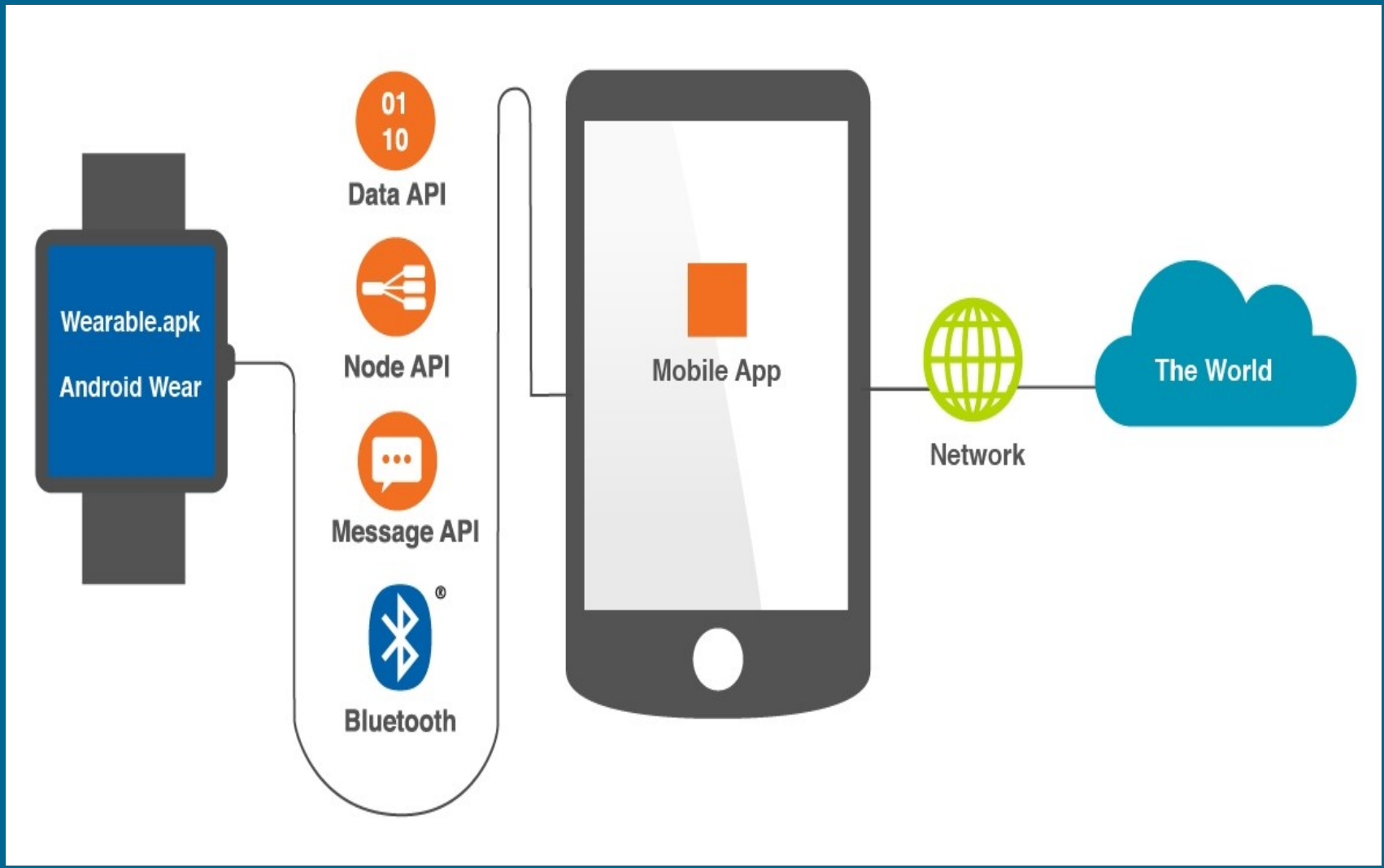
Debugging Bluetooth

- Enable Debugging over Bluetooth on the Android Wear companion app. You should see a tiny status summary appear under the option:
  Host: disconnected
  Target: connected

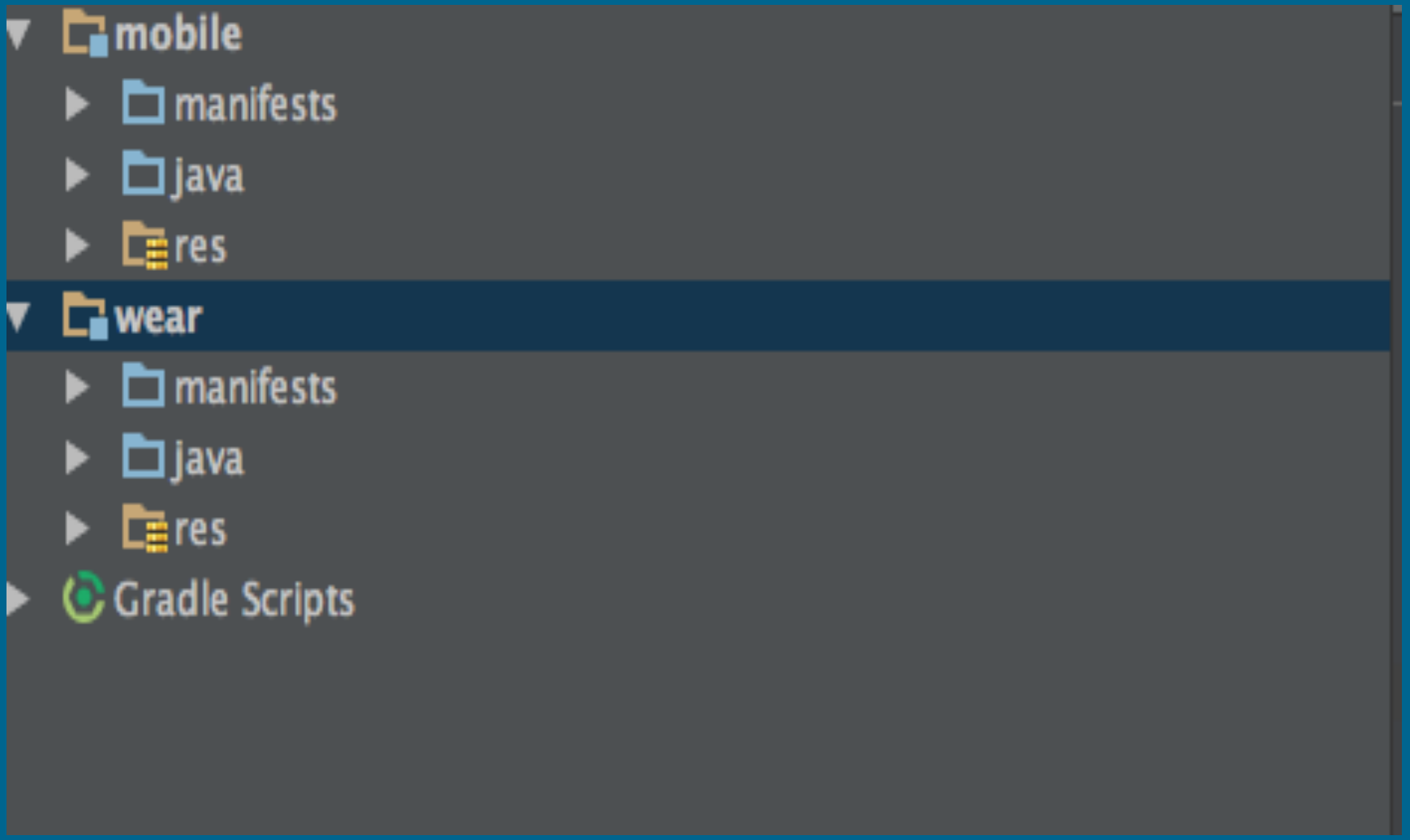
- Connect the handheld to your machine over USB and run:
  adb forward tcp:4444 localabstract:/adb-hub
  adb connect localhost:4444

- In the Android Wear companion app, you should see the status change to:
  Host: connected
  Target: connected

Wearable app architecture



Create a wearable project



WEARABLE

Wearable layout (activity_main.xml)

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.wearable.view.WatchViewStub
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/watch_view_stub"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    app:rectLayout="@layout/rect_activity_main"
    app:roundLayout="@layout/round_activity_main"
    tools:context=".MainActivity"
    tools:deviceIds="wear"/>
```

Wearable layout (round_activity_main.xml)

```
<?xml version="1.0" encoding="utf-8"?>
<GridLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_gravity="center"
    android:background="@color/main_bg"
    android:columnCount="3"
    android:gravity="center"
    android:orientation="horizontal"
    tools:context=".MainActivity"
    tools:deviceIds="wear_round">

                ……..
```

Activity

```
@Override
protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        initFields();
        setUpCommunication();
}
```

Init fields

```
private void initFields() {
        final WatchViewStub stub = (WatchViewStub) findViewById(R.id.watch_view_stub);
         stub.setOnLayoutInflatedListener(new WatchViewStub.OnLayoutInflatedListener() {
                @Override
                public void onLayoutInflated(WatchViewStub stub) {
              ……..
                }
        }
}
```

Connect with the device

```
private void setUpCommunication() {
    mClient = new GoogleApiClient.Builder(this).addApi(Wearable.API).build();
    new Thread(new Runnable() {
      @Override
      public void run() {
        mClient.blockingConnect(CONNECTION_TIME_OUT_MS, TimeUnit.MILLISECONDS);
        NodeApi.GetConnectedNodesResult result = Wearable.NodeApi.getConnectedNodes(mClient).await();
        List<Node> nodes = result.getNodes();
        if (!nodes.isEmpty()) {
          mNodeId = nodes.get(0).getId();
        }
        mClient.disconnect();
      }
    }).start();
}
```

Communicate with the device

```
private void sendMessageToDevice(final int message) {
        if (mNodeId != null) {
            new Thread(new Runnable() {
                @Override
                public void run() {
                    mClient.blockingConnect(CONNECTION_TIME_OUT_MS, TimeUnit.MILLISECONDS);
                    Wearable.MessageApi.sendMessage(mClient, mNodeId, String.valueOf(message), null);
                    mClient.disconnect();
                }
            }).start();
        }
    }
```

MOBILE

Listener to receive messages

```
public class ListenerService extends WearableListenerService {

    @Override
    public void onMessageReceived(MessageEvent messageEvent) {
        String command = messageEvent.getPath();

        RemoteHelper.sendMessageToBox(this, command );
    }
```

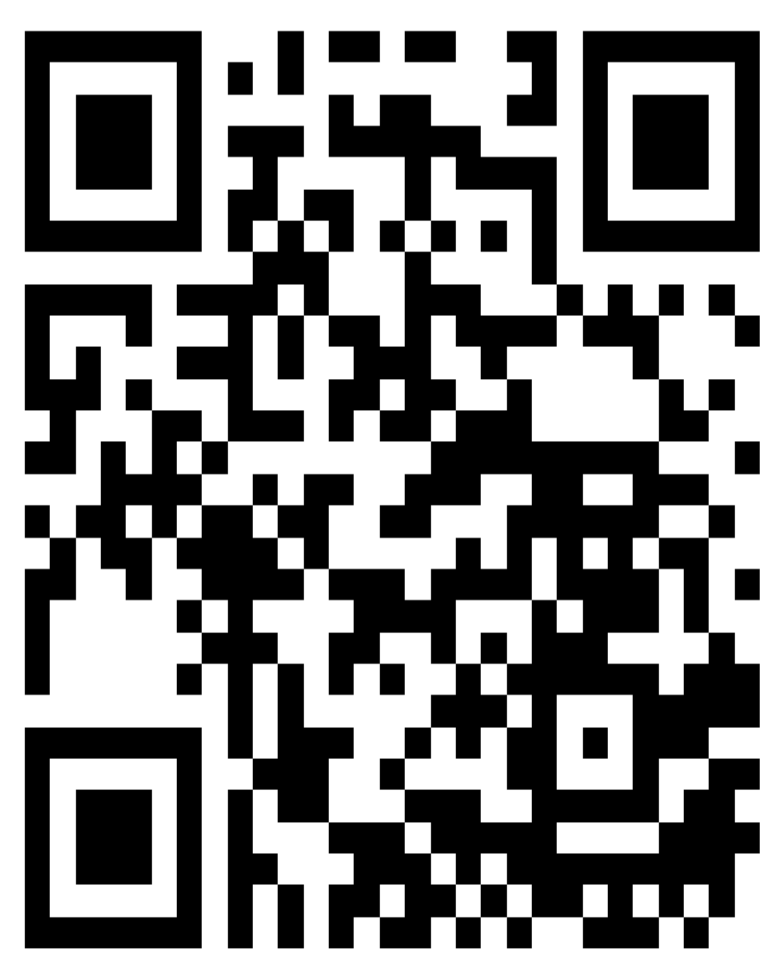
Declare the listener in the Manifest

```
<service
   android:name="com.bskyb.nowtv.ui.ListenerService" >
    <intent-filter>
            <action android:name="com.google.android.gms.wearable.BIND_LISTENER" />
     </intent-filter>
</service>
```

Sending command to Box

```
public static void sendMessageToBox(Context context, String command) {
    RequestQueue queue = Volley.newRequestQueue(context);
    StringRequest stringRequest = new StringRequest(Request.Method.POST, getRemoteUrl(context, command),
            new Response.Listener<String>() {
                @Override
                public void onResponse(String response) {
                    Log.i(TAG, "onResponse: " + response);
                }
            }, new Response.ErrorListener() {
        @Override
        public void onErrorResponse(VolleyError error) {
            Log.e(TAG, "onErrorResponse: ", error);
        }
    });
    queue.add(stringRequest);
}
```

Show me the code



https://github.com/jegumi/londroid2016