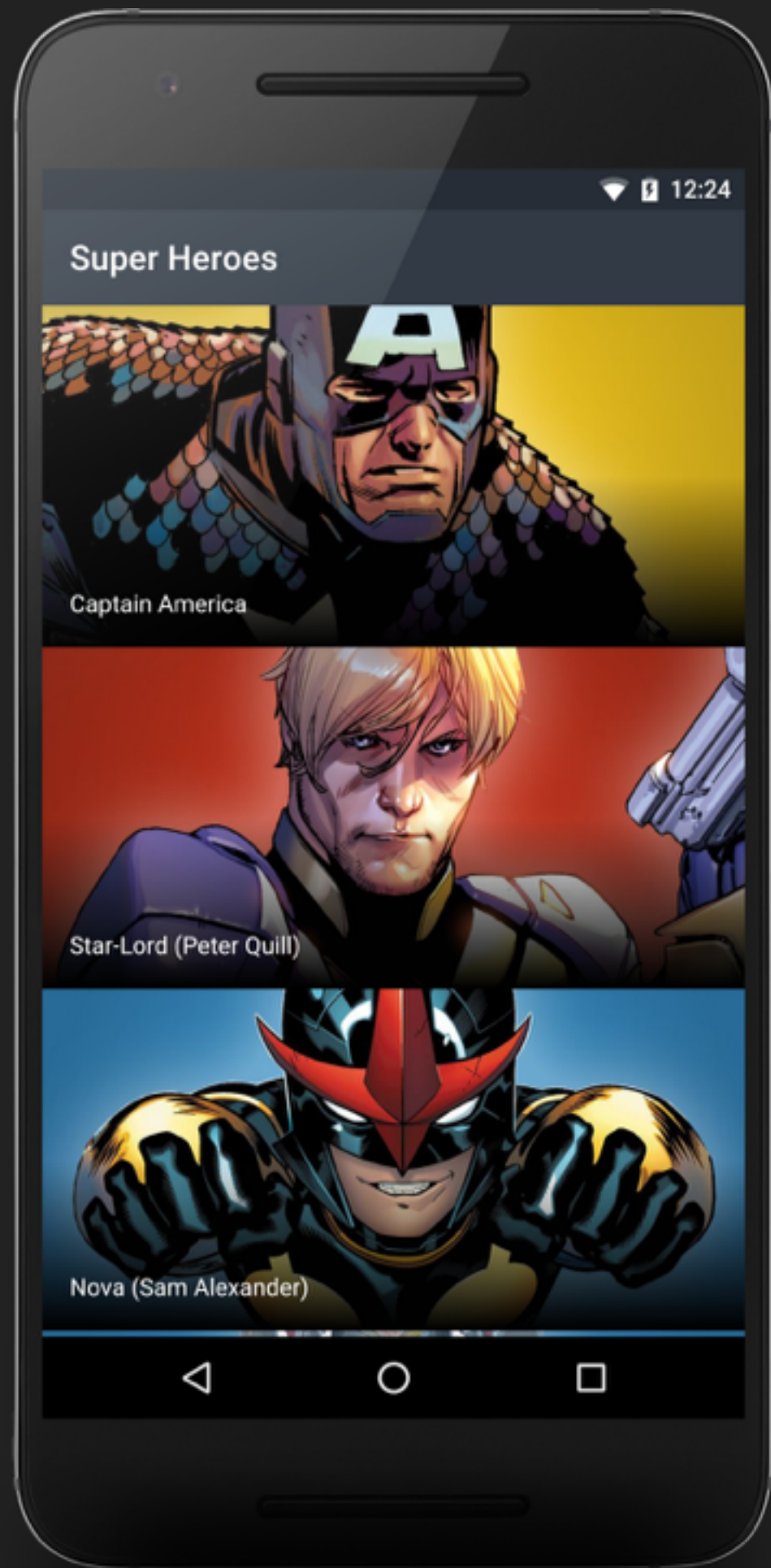




WORKSHOP ANDROID IV

SUBTITLE WANTED, DEAD OR ALIVE



BUT FIRST

~~LET ME TAKE A SELFIE~~

RUN THE APP

WHAT'S THIS ALL ABOUT

- ▶ Main Thread
- ▶ Background processing
- ▶ Network requests
- ▶ REST APIs
- ▶ Storing Data

MAIN THREAD

MAIN THREAD

PROCESS

MAIN THREAD

APP
EVENTS

UI
DRAWING

UI
DRAWING

UI
DRAWING

UI
DRAWING

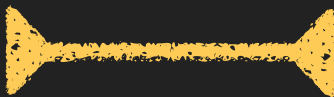
UI
DRAWING



16ms



16ms



16ms



16ms



16ms

MAIN THREAD

PROCESS

MAIN THREAD

APP
EVENTS

UI
DRAWING

UI
DRAWING

YOUR
STUFF

UI
DRAWING

UI
DRAWING

16ms

dropped frame

16ms

16ms

BACKGROUND PROCESSING

TO THE RESCUE

MAIN THREAD

PROCESS

MAIN THREAD

APP
EVENTS

UI
DRAWING

UI
DRAWING

YOUR
STUFF

UI
DRAWING

UI
DRAWING



16ms



dropped frame



16ms



16ms

MAIN THREAD

PROCESS

MAIN THREAD

APP
EVENTS

UI
DRAWING

UI
DRAWING

UI
DRAWING

UI
DRAWING

UI
DRAWING

16ms

16ms

16ms

16ms

16ms

WORKER THREAD

YOUR STUFF

HOW TO

```
showLoadingUI();
new Thread(new Runnable() {
    public void run() {
        final Result result = expensiveMethod();
        runOnUiThread(new Runnable() {
            public void run() {
                showResultUI(result);
            }
        });
    }
}).start();
```

HOW TO

Main Thread

```
showLoadingUI();
```

```
new Thread(new Runnable() {
```

```
    public void run() {
```

```
        final Result result = expensiveMethod();
```

```
        runOnUiThread(new Runnable() {
```

```
            public void run() {
```

```
                showResultUI(result);
```

```
            }
```

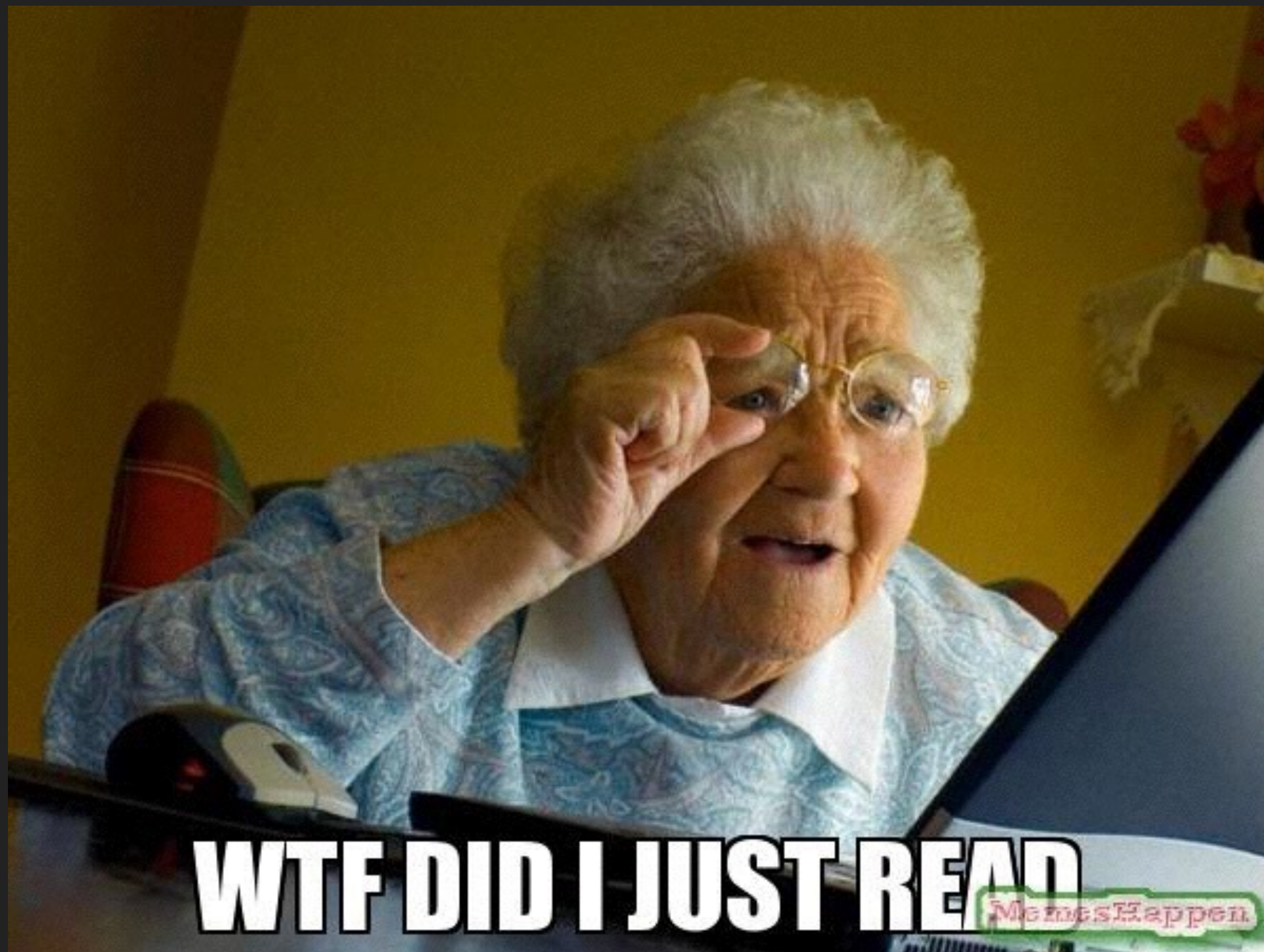
```
        });
```

```
    }
```

```
}).start();
```

Background

Main Thread



WTF DID I JUST READ

MemesHappen

HOW TO

- ▶ Worker Thread
- ▶ Async Task
- ▶ Intent Service
- ▶ Priority Job Queue
- ▶ RxJava
- ▶ And moar!

ASync TASK – SETUP

```
private class SuperHeroTask extends AsyncTask<Void, Void, SuperHero> {  
    @Override  
    protected void onPreExecute() {  
        // Runs on UI Thread  
    }  
  
    @Override  
    protected SuperHero doInBackground(Void... params) {  
        // Runs on Worker Thread  
        return superHero;  
    }  
  
    @Override  
    protected void onPostExecute(SuperHero superHero) {  
        // Runs on UI Thread  
    }  
}
```


ASync TASK – SETUP

```
private class SuperHeroTask extends AsyncTask<Void, Void, SuperHero> {  
    @Override  
    protected void onPreExecute() {  
        // Runs on UI Thread  
    }  
  
    @Override  
    protected SuperHero doInBackground(Void... params) {  
        // Runs on Worker Thread  
        return superHero;  
    }  
  
    @Override  
    protected void onPostExecute(SuperHero superHero) {  
        // Runs on UI Thread  
    }  
}
```

ASync TASK – EXECUTE

```
new SuperHeroTask().execute();
```


NETWORK REQUESTS

MARVEL API

- ▶ <https://marvel-ij.herokuapp.com/characters>
- ▶ <https://marvel-ij.herokuapp.com/characters/{name}>

OKHTTP

```
OkHttpClient client = new OkHttpClient();
```

```
Request request = new Request.Builder()  
    .url(url)  
    .build();
```

```
Response response = client.newCall(request).execute();  
return response.body().string();
```

OKHTTP

```
public SuperHero getByName(String name) {
    Request request = new Request.Builder()
        .get()
        .url(ENDPOINT + "characters/" + name)
        .build();

    try {
        Response response = httpClient.newCall(request).execute();
        String jsonResponse = response.body().string();
        return gson.fromJson(jsonResponse, SuperHero.class);
    } catch (IOException e) {
        throw new RuntimeException(e);
    }
}
```

RETROFIT

1.9

RETROFIT

```
public interface MarvelApi {  
    @GET("/characters/{name}")  
    SuperHero getByName(@Path("name") String name);  
}
```

RETROFIT

```
RestAdapter restAdapter = new RestAdapter.Builder()  
    .setEndpoint("https://marvel-ij.herokuapp.com/")  
    .build();
```

RETROFIT

```
RestAdapter restAdapter = new RestAdapter.Builder()  
    .setEndpoint("https://marvel-ij.herokuapp.com/")  
    .build();  
MarvelApi marvelApi = restAdapter.create(MarvelApi.class);
```


RETROFIT

```
RestAdapter restAdapter = new RestAdapter.Builder()  
    .setEndpoint("https://marvel-ij.herokuapp.com/")  
    .build();  
MarvelApi marvelApi = restAdapter.create(MarvelApi.class);
```

```
SuperHero hero = marvelApi.getByName("rafa");
```

RETROFIT

```
RestAdapter restAdapter = new RestAdapter.Builder()  
    .setEndpoint("https://marvel-ij.herokuapp.com/")  
    .build();  
MarvelApi marvelApi = restAdapter.create(MarvelApi.class);
```

```
SuperHero hero = marvelApi.getByName("rafa");  
List<SuperHero> list = marvelApi.getAll();
```

SHARED PREFERENCES

SHARED PREFERENCES

```
SharedPreferences sharedPreferences = getSharedPreferences("favorites",  
MODE_PRIVATE);
```

SHARED PREFERENCES

```
SharedPreferences sharedPreferences = getSharedPreferences("favorites",  
MODE_PRIVATE);  
  
sharedPreferences.edit()  
    .putBoolean("key", value)  
    .apply();
```

SHARED PREFERENCES

```
SharedPreferences sharedPreferences = getSharedPreferences("favorites",  
MODE_PRIVATE);
```

```
sharedPreferences.edit()  
    .putBoolean("key", value)  
    .apply();
```

```
String storedValue = sharedPreferences.getString("key", defaultValue);
```

**THAT'S ALL,
FOLKS!**

THAT'S ALL!

REFERENCE

- ▶ <http://android-developers.blogspot.com.es/2009/05/painless-threading.html>
- ▶ <http://square.github.io/okhttp/>
- ▶ <http://square.github.io/retrofit/>
- ▶ <http://developer.android.com/intl/es/guide/topics/data/data-storage.html#pref>
- ▶ <https://github.com/Karumi/KataSuperHeroesAndroid>

THAT'S ALL!

SPECIAL THANKS TO

- ▶ Infojobs' Transformers Team
- ▶ Schibsted Spain
- ▶ Karumi