Introduction to

Western Greece Software Developers

Meetup #4

Coming to watches, phones, tablets, TVs, and cars near you

Android Wear ›

Phones and Tablets ›

Android TV ›

Android Auto ›

Agenda

1. Challenges of Building an App
2. Basics of Building an App (Manifest, Activities, Fragments, Layouts,...)
3. The Support Libraries
4. Gotchas
5. (New) Architecture Components (+ other helpful libraries)

1. Challenges of Building an App

- Battery
- Hardware Capabilities
- Network
- Configuration Changes
- Multi-Screen compatibility
- Android Version compatibility (backwards)
- Passing data around (apps, activities, etc)
- Launch time
- Threading
- APK size

- Prefetching
- Memory Leaks

2. App Building Basics

Straight from docs:

" There are 4 types of app components:

- Activities
- Services
- Broadcast Receivers
- Content Providers

"

In Reality: Much More

- Intents
- Fragments (reusable Activities)
- Layouts
- Database/File System Components
- Manifest
- Sensor Data
- Caching (In-memory, On-Disk, or both)

3. The Support Libraries

...are your best friends! They are a way to provide new features to older devices & software, or fallback to equivalents if something is too old. They also come with other utilities and helpers.

- v4
- v7-appcompat
- v8
- v13 (bundles v4)
- v17
- multidex
- annotations

- v7-recyclerview
- v7-cardview
- v7-gridlayout
- v7-mediarouter
- v7-palette

4. Gotchas

- UI Thread limitations
- Activity god classes
- Configuration Changes + Lifecycles
- Use latest Android Studio (3.0 for now) - even if beta
- Bundle size limits :(
- Writing and reading to files between activities

5. New Architecture Components

- LiveData
- ViewModel
- LifecycleObserver
- LifecycleOwner
- Room (SQLite Mapper)

Other useful components

- Parceler
- RxAndroid
- Retrofit
- Picasso
- Dagger 2
- RecyclerView Variants (Maybe)
- Espresso

Thank you