

Intermediate topics in Android

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The framework

“Java” APIs

C / JNI
(NDK)



Topics

-Alternatives to Eclipse

-Common Patterns

-Performance tuning

-Tools you can use

-Solving problems

-Other references

- Use Ant to build and sign your applications, deploy to AVD
- Check out MOTODEV Studio for Android, lots of functionality
 - (<http://developer.motorola.com/docstools/motodevstudio/>)
- Doing more with WebKit
- The Native SDK (NDK)

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- Data storage patterns:
 - SQLite is preferred over Assets, Raw, XML
 - Sometimes you **must** download your data
 - Use cursors and content providers, or share a service
 - Don't forget to cache in memory and on the SD card
- Watch for caveats on Assets and XML resources

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- Activities, Services, CPs
 - TabView, one activity per tab
 - ContentProvider lazy init
 - Application class, not really
 - Service lifecycle
 - Threading is important, don't avoid it (AsyncTask)
- Don't overuse Activity grouping, they are slower!

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- Compatibility with devices
 - Declare screens, configurations, features, libraries, **permissions**, sdk
 - Users won't even see things they can't run
 - 1.6+ has been totally adequate for my needs
- API level should be compatible with higher
- Do testing!

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- Functionality!
 - Maps, GPS
 - OpenGL
 - Bluetooth
 - Media
 - SMS
 - Various Sensors
 - Camera
 - Google APIs for Android
 - **Existing applications, libs**

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- Pay attention to startup!
- Avoid creating objects
- Prefer final, int over enum
- Prefer static, field access
- Polymorphism without JIT
- Enhanced for loop syntax
- double = float, prefer int
- Avoid the ANR (200ms)

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- <http://developer.android.com/guide/developing/tools>
- android.os.Debug
- Dalvik Debug Monitor (DDMS)
- Instrumentation
- Traceview, the Monkey, etc
- AVD console (:5554)
- Web services, SQLite tools, etc

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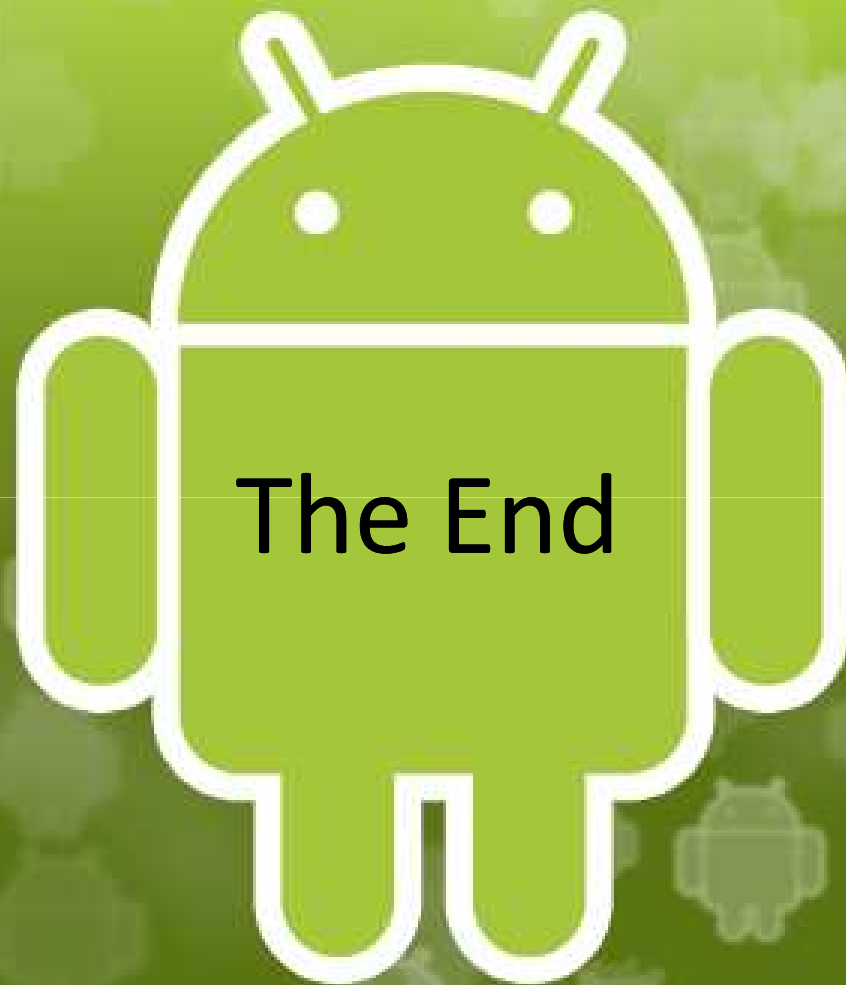
- Revisit the fundamentals:
 - **Intents** can be used to communicate with existing applications, drive Activity change
 - **Content providers** can offer integrated full-phone search and suggestions
 - **Activities** with views and viewgroups can help you multithread, viewflipper too
 - **Services** provide inter-process communication functionality
 - **WebKit** can change everything

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- developer.android.com/guide
- StackOverflow.com
- AndDev.org,
AndroidForums.com
- Google Group ***android-developers***
- *Phonegap.com*
- OpenIntents.org
- github.com:
 - [commonsguy/cw-android](https://github.com/commonsguy/cw-android)
 - [kaeppler/droid-fu](https://github.com/kaeppler/droid-fu)



The End