



Android Lecture #0

Welcome

Android Fundamentals

از על מה אנחנו הולכים לדבר בקורס זה.

- Intro to Android
 - Platform overview
 - Development tools
 - Fragmentation challenge
 - Project structure
 - Lifecycle
- Main components
 - Activities
 - Intents
 - Services
 - Broadcast receivers
 - Fragments
- Views in Android
- Lists & Adapters (recycling views)
- Threads and concurrency
- Networking
- ...



> 5,000 members



Largest Android Active Community



ENGLISH

TIME

for you



Kotlin



Ask questions.
It's for you.

از על מה אנחנו חולכים לדבר היום?



از איך הכל התחיל?



B
F
I
Film
Forever



"AN ESSENTIAL
BIG SCREEN
EXPERIENCE"



TOTAL FILM

"AN UNPARALLELED
VISUAL ACHIEVEMENT"



EMPIRE

HARRISON FORD IN RIDLEY SCOTT'S

BLADE RUNNER



open handset alliance



WIND RIVER



TELECA

noser

NVIDIA.

sasken
embInux



OMRON



...T...Mobile



TOSHIBA

lenovo
联想移动

SVOX



Living Image



Google

SoftBank



ALCATEL
mobile phones



acer



QUALCOMM



FIH

Synaptics

ARM



RENESAS

TEXAS INSTRUMENTS

ATHEROS

intel



GARMIN







Android 1.5 Cupcake



Android 1.6 Donut



Android 2.0 Eclair



Android 2.2 Froyo



Android 2.3 Gingerbread



Android 3.0 Honeycomb



Android 4.0
Ice Cream Sandwich



Android 4.1 Jelly Bean



Android 4.4 KitKat



Android 5.0 Lollipop









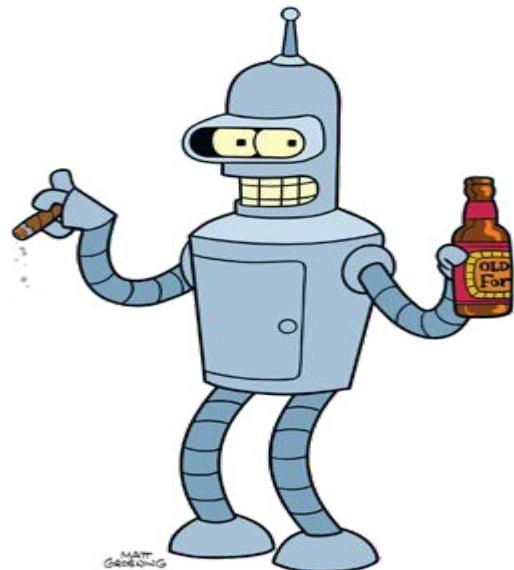




android 10

What about A & B?

טוב לדעת...
מה המשותף לשלושה?











Wear what you want
#AndroidWear



android
auto





2.5

BILLION

android

monthly active devices

#io19

**“WITH GREAT POWER
COMES GREAT
RESPONSIBILITY”**

streamoplayer res layout activity_main.xml

Project StreamActivity.java MainActivity.java activity_main.xml

The virtual device to render the layout with Galaxy Nexus AppTheme

Streamoplayer

Register Stream

Rendering Problems
"@dimen/activity_vertical_margin" in attribute "paddingTop" is not a valid format.
(Edit)

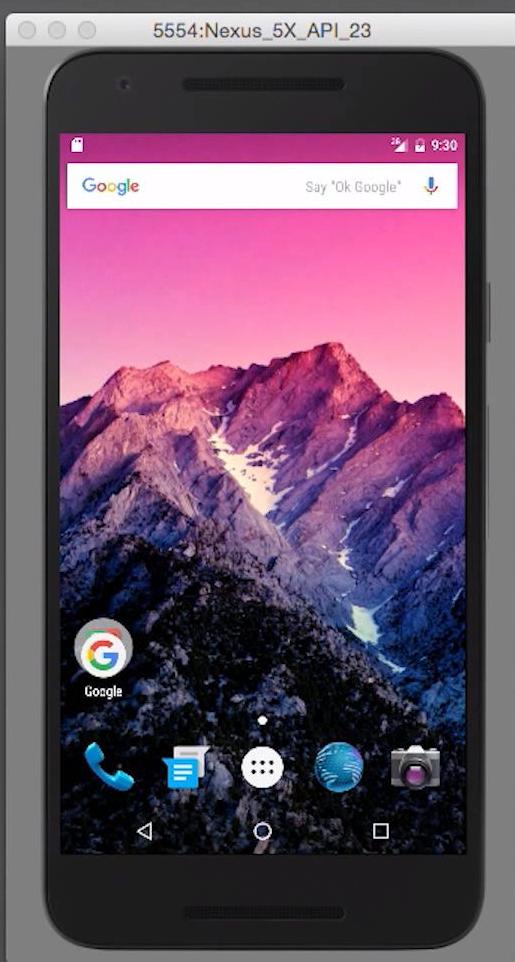
1: Project Z: Structure 2: Favorites

Design Text

Cannot resolve symbol '@dimen/activity_vertical_margin'

8:43 LF UTF-8 233M of 711M Event Log

This screenshot shows the Android Studio interface for a project named "streamoplayer". The left sidebar displays the project structure, including the "res" directory containing layout files like "activity_main.xml", "activity_stream.xml", and "activity_user_settings.xml". The "src" directory contains Java classes such as MainActivity, StreamActivity, StreamApp, and UserSettingsActivity. The bottom navigation bar has tabs for "Design" and "Text", with "Text" currently selected. The main editor area shows the XML code for "activity_main.xml", which defines a RelativeLayout with a TextView, a LinearLayout containing two buttons (submitButton and streamButton), and a Register/Stream button bar at the bottom. A rendering preview on the right shows a smartphone screen with the app's logo and these UI elements. A tooltip above the preview says "The virtual device to render the layout with Galaxy Nexus AppTheme". A "Rendering Problems" dialog box is open, indicating an error in the XML code regarding the "paddingTop" attribute. The bottom status bar shows the time as 8:43, the file type as LF, the encoding as UTF-8, and the memory usage as 233M of 711M.



Extended controls

GPS data points

Decimal Latitude

Sexagesimal Longitude

Altitude (meters)

SEND

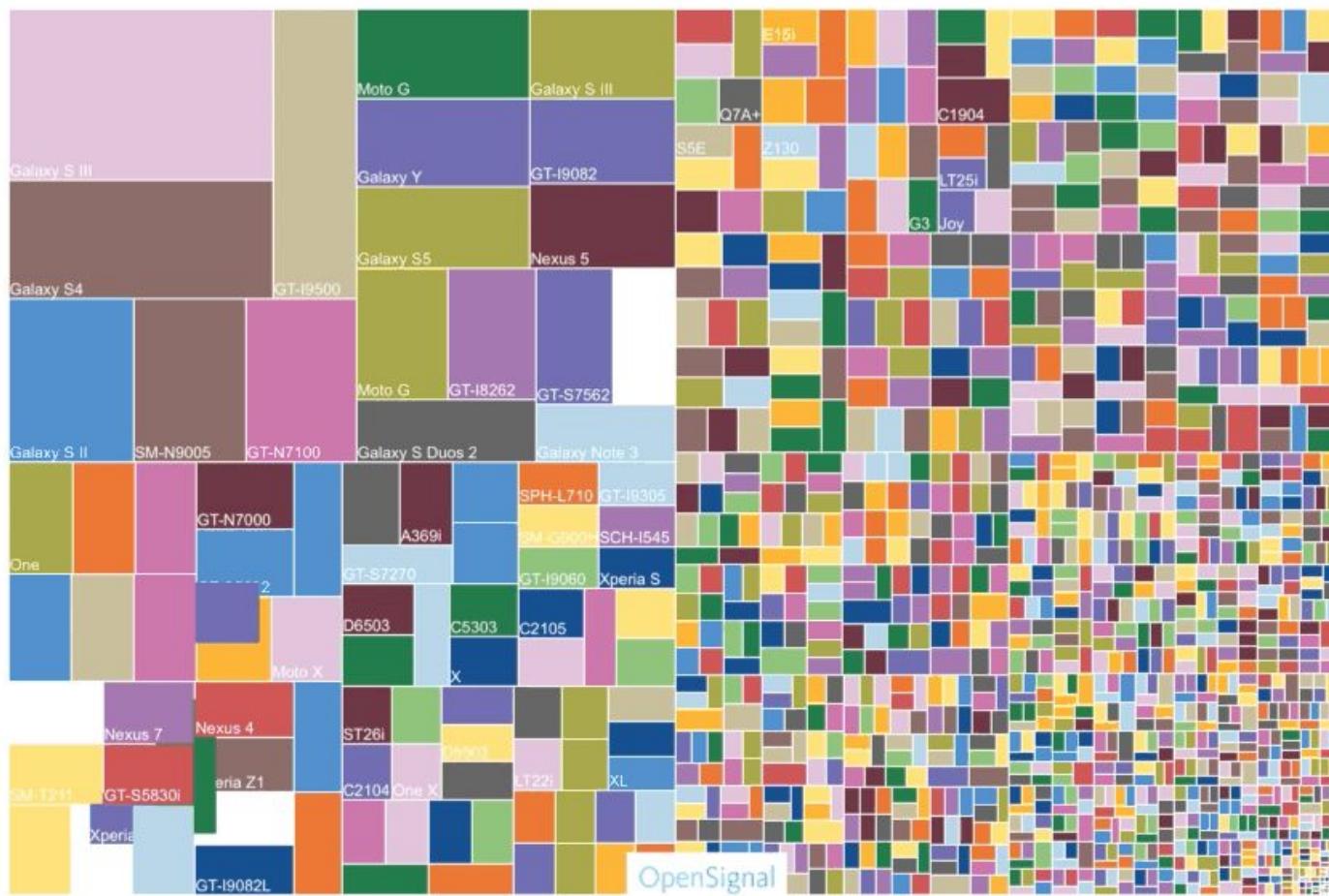
GPS data points

Delay (sec)	Latitude	Longitude	Elevation	Name	Description
0	37.4227	-122.08374...	0.0	Directions from Google...	
2	37.42266	-122.0836	0.0		
2	37.42257	-122.08336	0.0		
2	37.42258	-122.08331	0.0		
2	37.42258	-122.08329...	0.0		
2	37.42259	-122.08327	0.0		
2	37.42262	-122.08325...	0.0		

▶ Speed 1X ▾

LOAD GPX/KML

DEVICE FRAGMENTATION



August 2014

August 2015

OpenSignal

ALL DEVICES 

15,567 total

SUPPORTED DEVICES 

13,179 supported by this app



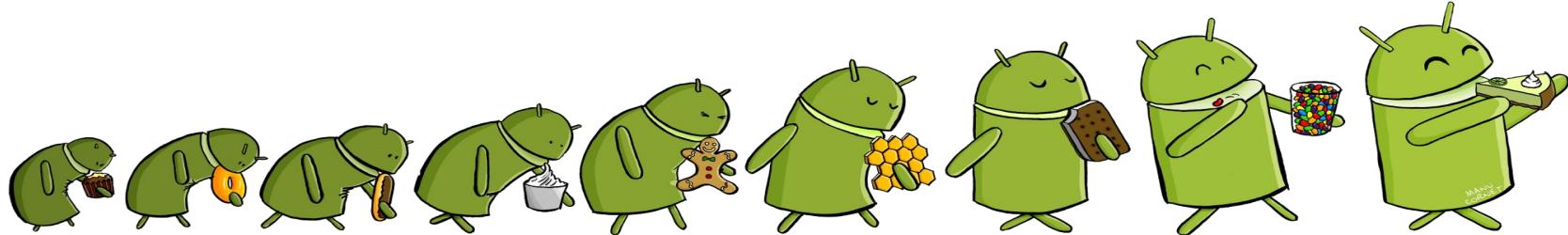


Sony Ericsson



MOTOROLA





Version	Codename	API	Distribution
2.3.3 - 2.3.7	Gingerbread	10	0.3%
4.0.3 - 4.0.4	Ice Cream Sandwich	15	0.3%
4.1.x	Jelly Bean	16	1.2%
4.2.x		17	1.5%
4.3		18	0.5%
4.4	KitKat	19	6.9%
5.0	Lollipop	21	3.0%
5.1		22	11.5%
6.0	Marshmallow	23	16.9%
7.0	Nougat	24	11.4%
7.1		25	7.8%
8.0	Oreo	26	12.9%
8.1		27	15.4%
9	Pie	28	10.4%



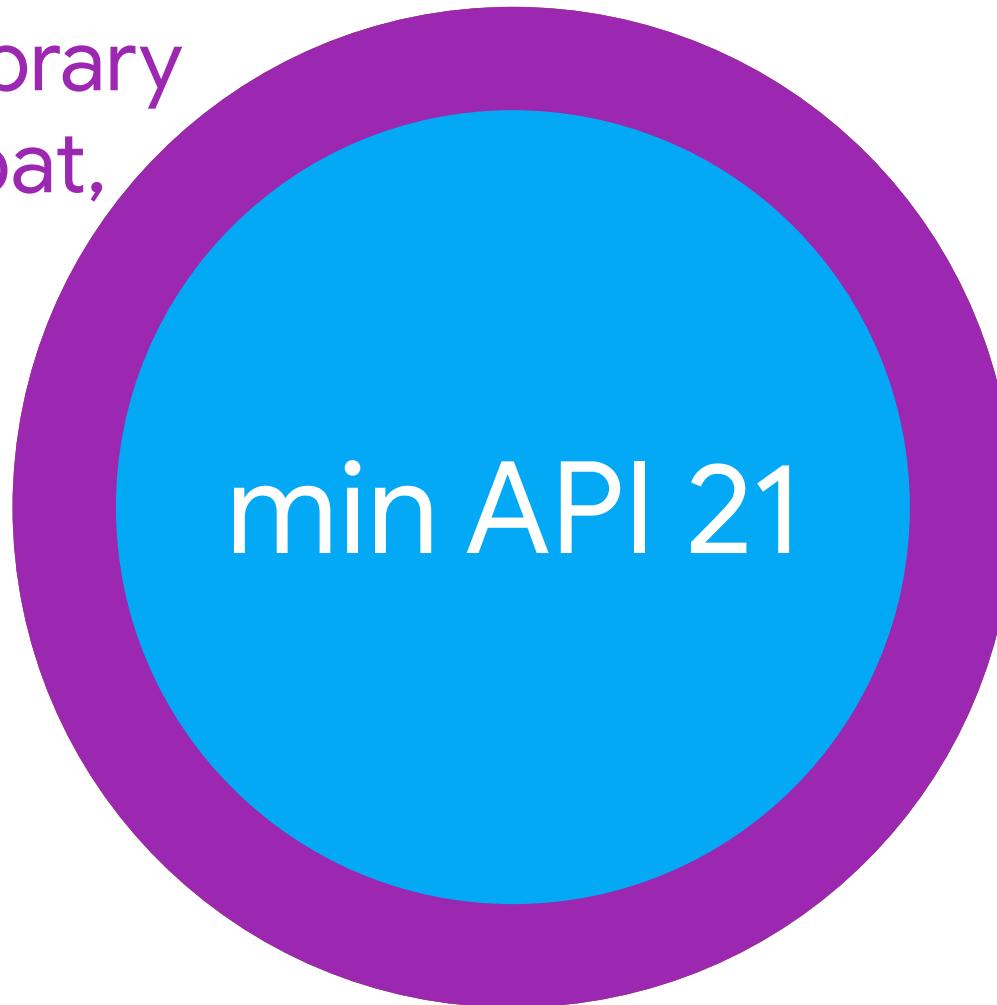
API 28

Alchaka
Art of Movement
Breath control
Center of Being
Detoxify Poison
Flashburn
Force Body
Force
Enlightenment
Force ghost
Force healing^[1]
Force speed
Force stealth (Also known as Force Concealment)
Hibernation trance
Morichro
Tapas
Cloak of Shadow



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Support Library (AppCompat, androidx)

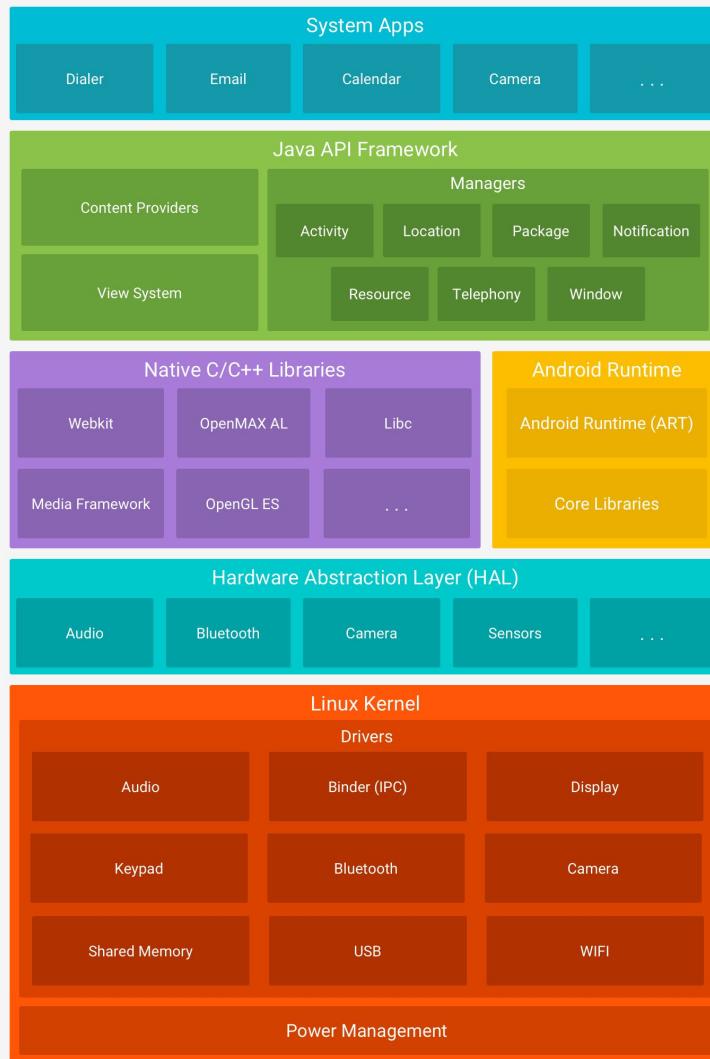


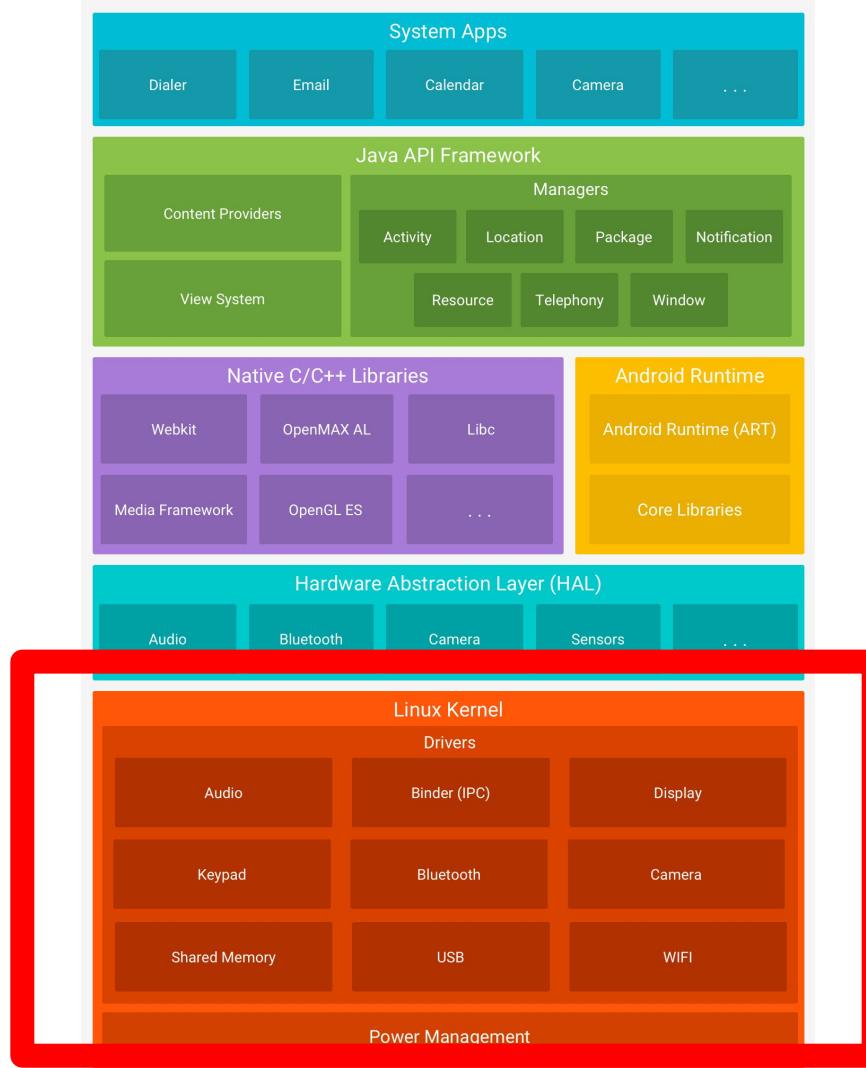
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שאלות

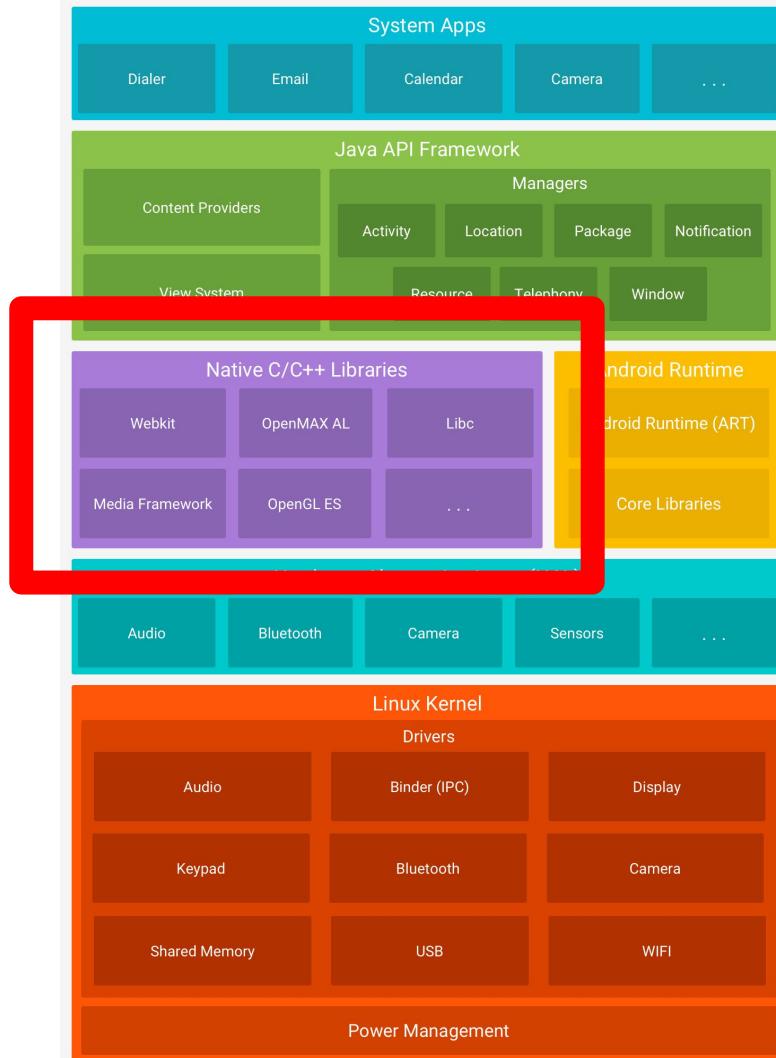


Little bit of a hard core :)





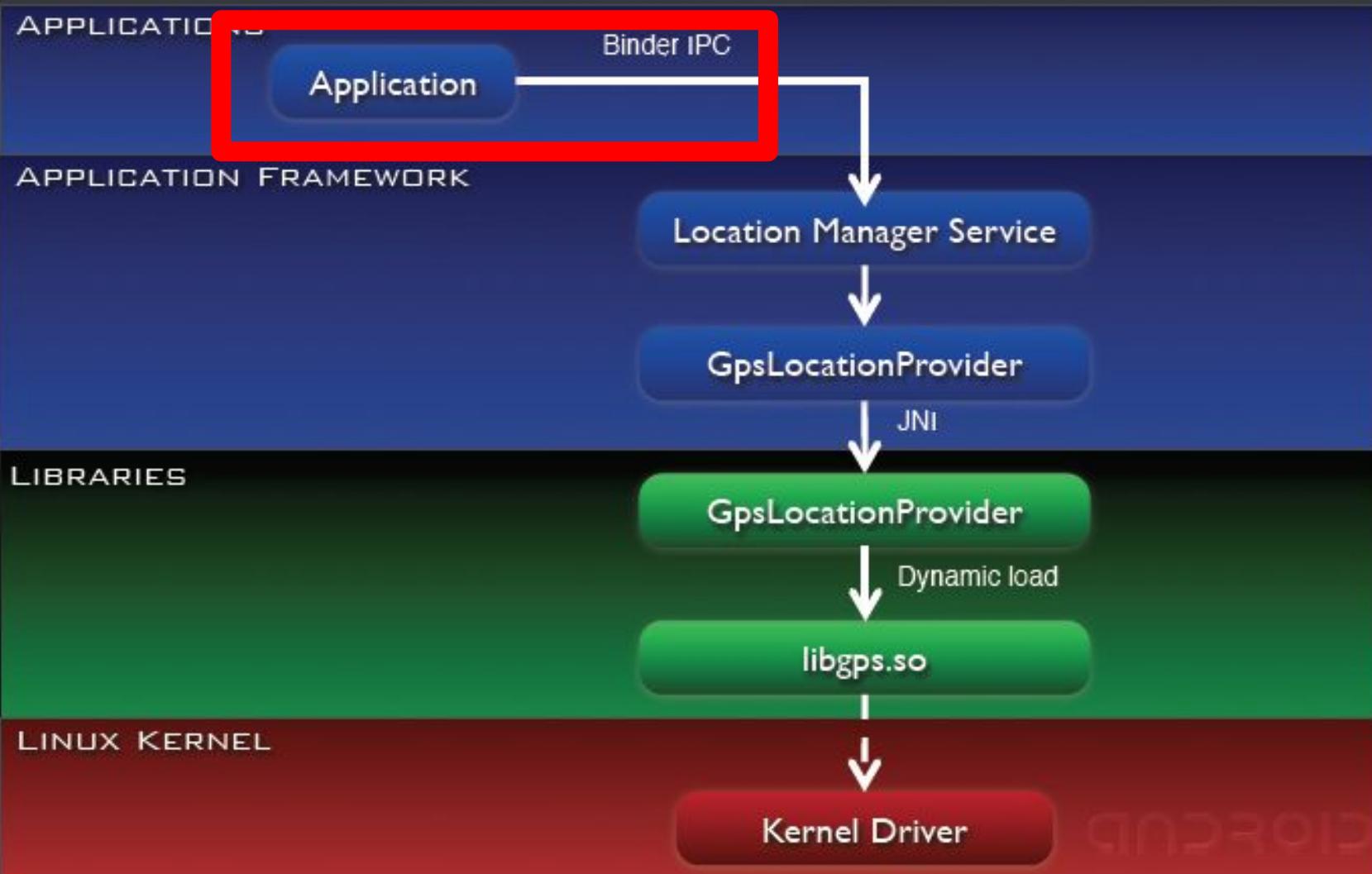












APPLICATIONS

APPLICATION FRAMEWORK

LIBRARIES

LINUX KERNEL

Binder IPC

Application

Location Manager Service

GpsLocationProvider

GpsLocationProvider

libgps.so

Kernel Driver



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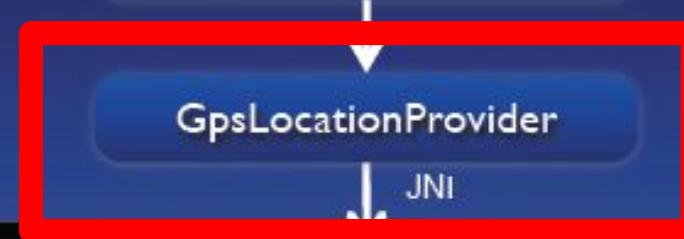
JNI

GpsLocationProvider

Dynamic load

libgps.so

Kernel Driver



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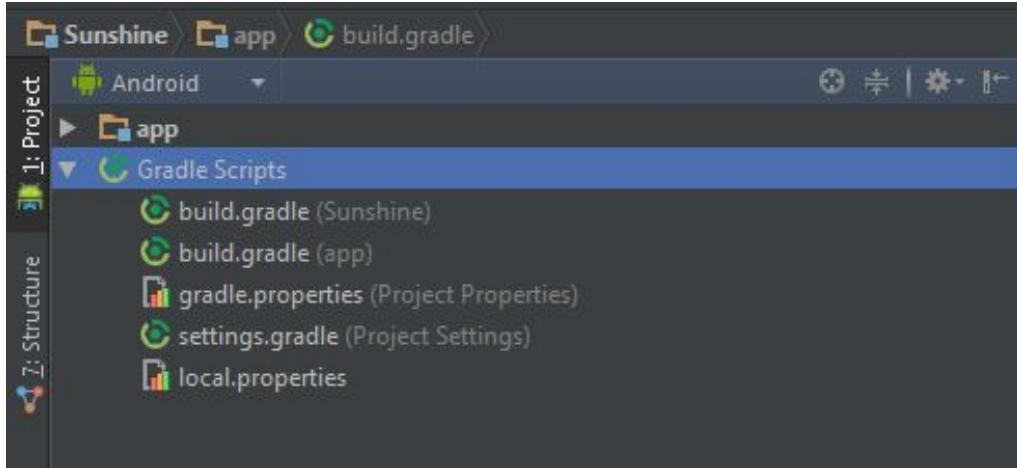
Dynamic load

libgps.so

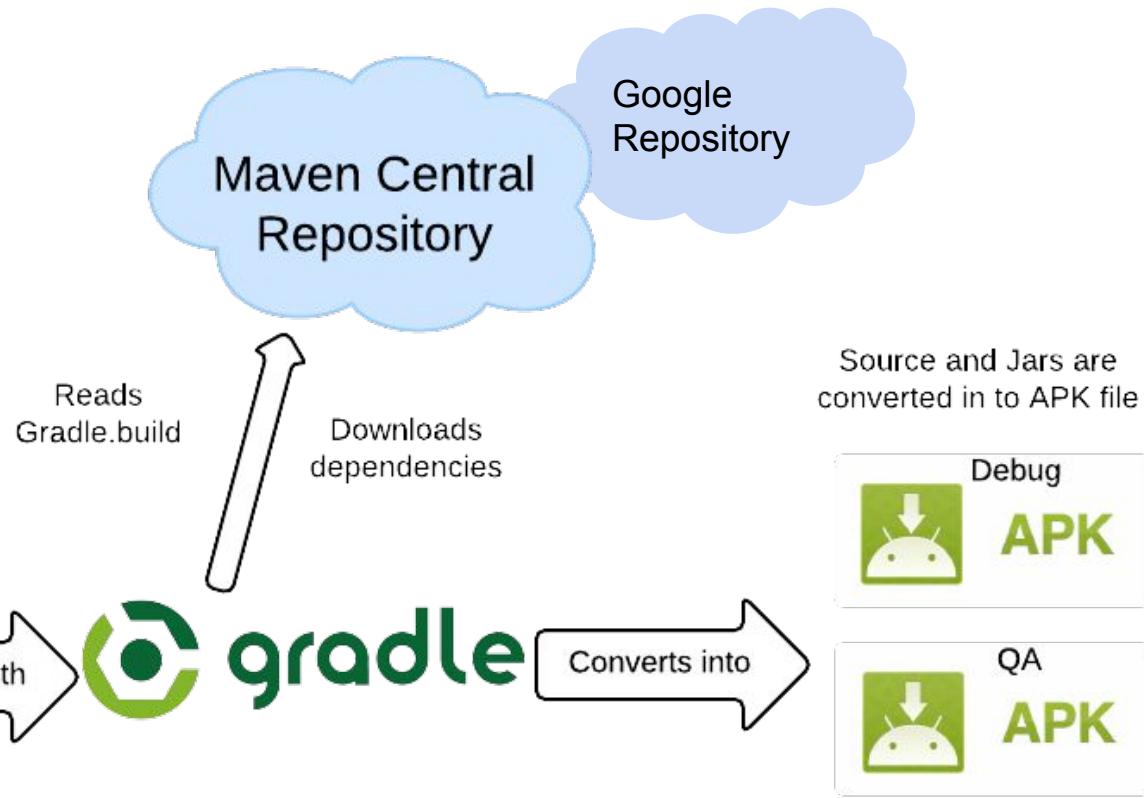
Kernel Driver



Single Flexible Build System

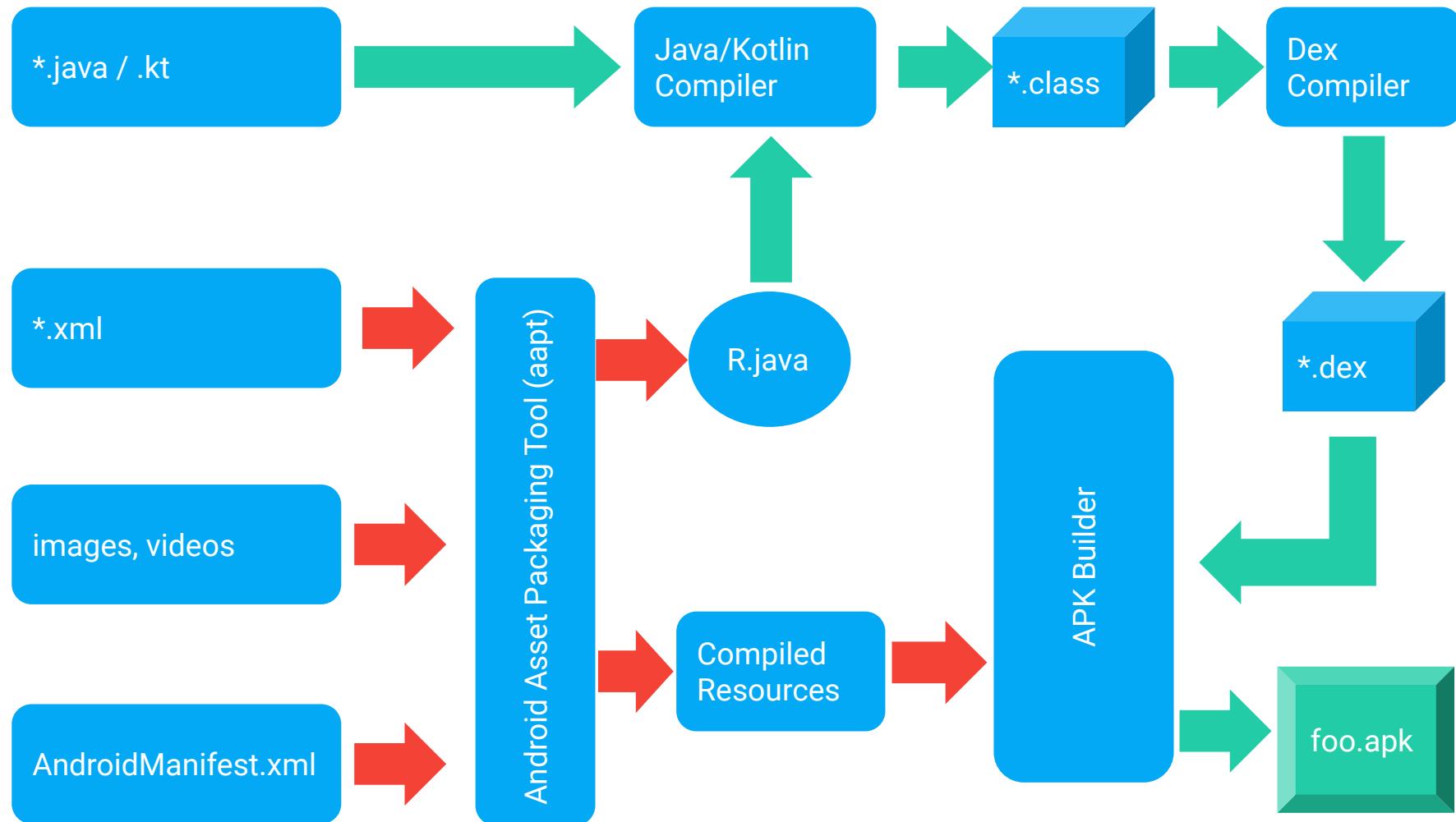


Google I/O talk: <https://www.youtube.com/watch?v=LCJAgPkpmR0>



Source and Jars are converted in to APK file









תרגול

Open Android Studio and Have “Hello world” running on your phone