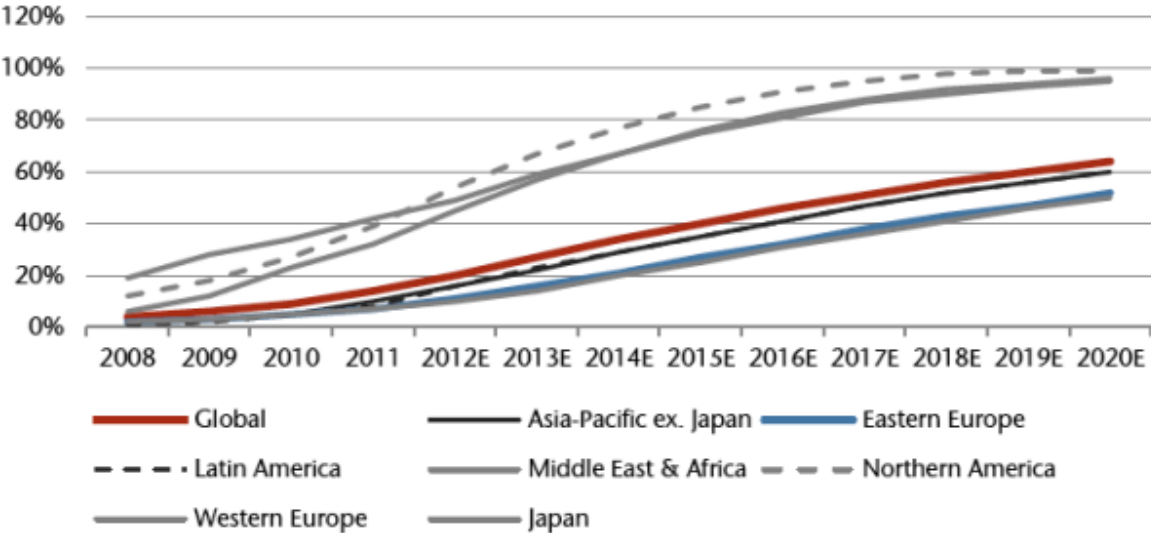
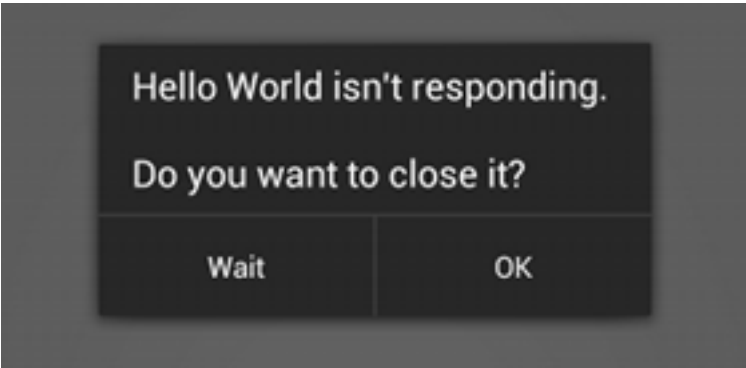


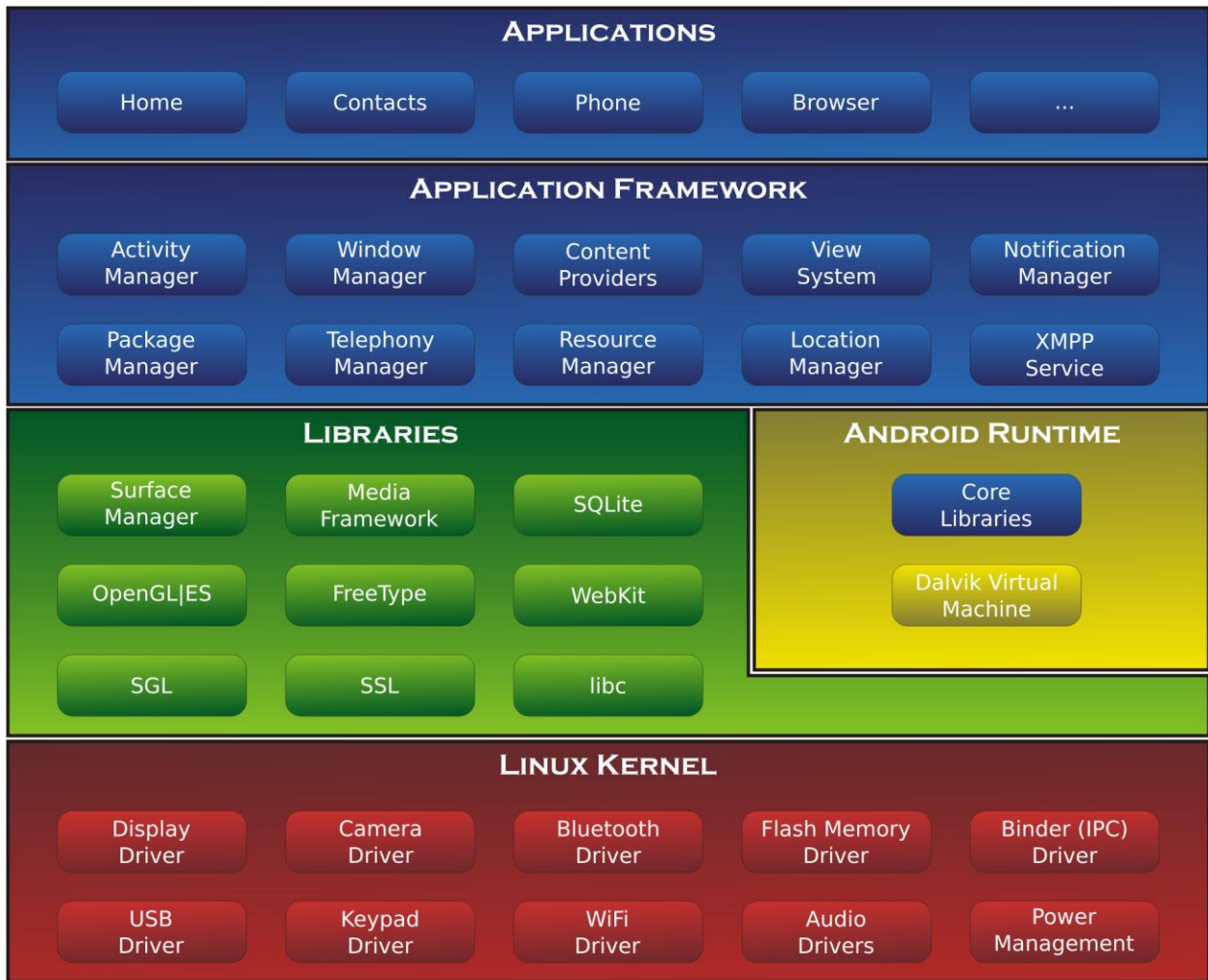
Chapter 1: Introduction: Why High Performance?

Exhibit 1: Smartphone Penetration Estimates



Source: Gartner historical, Jefferies & Company, Inc. estimates





Chapter 2: Efficient Debugging

The screenshot shows the Android Studio interface with the Android Device Monitor and LogCat panels open. The Device Monitor shows a list of processes for the device 'genymotion-google_nexus_4_4.4.4...'. The LogCat panel shows a list of messages with columns for Level, Time, PID, TID, Application, Tag, and Text.

Name	Size	Date	Time	Permissions	Info
acct		2015-11-09	16:...	drwxr-xr-x	
cache		2015-09-22	08:...	drwxrwx---	
config		2015-11-09	16:...	dr-x-----	
d		2015-11-09	16:...	lrwxrwxrwx	-> /sys/ke...
data		2015-10-08	15:...	drwxrwx--x	
default.prop	151	1989-12-31	19:...	-rw-r--r--	
dev		2015-11-09	16:...	drwxr-xr-x	
etc		2015-11-09	16:...	lrwxrwxrwx	-> /sys/te...
file_contexts	8870	1989-12-31	19:...	-rw-r--r--	
fstab.vbox86	625	1989-12-31	19:...	-rw-r-----	
init	4133...	1989-12-31	19:...	-rwxr-xc--	
init.environ.rc	919	1989-12-31	19:...	-rwxr-xc--	
init.rc	19976	1989-12-31	19:...	-rwxr-xc--	
init.trace.rc	1795	1989-12-31	19:...	-rwxr-xc--	
init.usb.rc	3915	1989-12-31	19:...	-rwxr-xc--	
init.vbox86.rc	2452	1989-12-31	19:...	-rwxr-xc--	
init.vbox86p.rc	297	1989-12-31	19:...	-rwxr-xc--	
mnt		2015-11-09	16:...	drwxrwxr-x	
proc		2015-11-09	16:...	dr-xr-xr-x	
property_contexts	2161	1989-12-31	19:...	-rw-r--r--	
root		2015-04-27	05:...	drwx-----	
sbin		1989-12-31	19:...	drwxr-xc--	
sdcard		2015-11-09	16:...	lrwxrwxrwx	-> /storag...
seapp_contexts	656	1989-12-31	19:...	-rw-r--r--	
sepolICY	74816	1989-12-31	19:...	-rw-r--r--	

Level	Time	PID	TID	Application	Tag	Text
W	11-09 17:05:10.626	784	3177	com.google.proces...	GLSUser	java.io.IOException: Invalid device key response.
W	11-09 17:05:10.626	784	3177	com.google.proces...	GLSUser	at com.google.android.gms.auth.be.appcert.a.a(SourceFile:268)
W	11-09 17:05:10.626	784	3177	com.google.proces...	GLSUser	at com.google.android.gms.auth.be.appcert.a.a(SourceFile:132)
W	11-09 17:05:10.626	784	3177	com.google.proces...	GLSUser	at com.google.android.gms.auth.be.appcert.b.a(SourceFile:43)
W	11-09 17:05:10.626	784	3177	com.google.proces...	GLSUser	at com.google.android.gms.auth.b.b.a(SourceFile:62)
W	11-09 17:05:10.626	784	3177	com.google.proces...	GLSUser	at com.google.android.gms.auth.b.a.a(SourceFile:120)
W	11-09 17:05:10.626	784	3177	com.google.proces...	GLSUser	at com.google.android.gms.auth.b.a.a(SourceFile:61)
W	11-09 17:05:10.626	784	3177	com.google.proces...	GLSUser	at com.google.android.gms.auth.be.cron.AuthCronService.a(SourceFil
W	11-09 17:05:10.626	784	3177	com.google.proces...	GLSUser	e:44)
W	11-09 17:05:10.626	784	3177	com.google.proces...	GLSUser	at com.google.android.gms.gcm.at.run(SourceFile:142)
D	11-09 17:05:14.966	514	558	system_process	Connectivity..	Sampling interval elapsed, updating statistics ..
D	11-09 17:05:14.966	514	558	system_process	Connectivity..	Done.
D	11-09 17:05:14.966	514	558	system_process	Connectivity..	Setting timer for 720seconds

ID	Tid	Status	utime	stime	Name
1	721	Native	42	89	main
*2	724	VmWait	0	20	GC
*3	727	VmWait	0	0	Signal Catcher
*4	728	Runnable	1	0	JDWP
*5	729	VmWait	14	12	Compiler
*6	730	Wait	0	0	ReferenceQueueDaemon
*7	731	Wait	0	3	FinalizerDaemon
*8	732	Wait	0	0	FinalizerWatchdogDaemon
9	733	Native	3	17	Binder_1
10	734	Native	3	4	Binder_2
11	798	Native	0	0	Gservices
12	939	Native	0	2	FlpThread
13	2082	Native	0	0	IntentService[GCoreNetworkLocationService]
14	955	Wait	0	5	GAC_Executer[0]

Eclipse Memory Analyzer

Inspector

@ Oxa5076d08

- TaskRecord
- com.android.server.am
- class com.android.server.am.TaskRe...
- com.android.server.am.ThumbnailHolder
- java.lang.ClassLoader @ 0x0
- 80 (shallow size)
- 761,656 (retained size)
- no GC root

Statics

Type	Name	Value
ref	affinity	android.task.calenda
ref	affinityIntent	null
ref	stringName	null
ref	intent	android.content.Inter
ref	stack	com.android.server.a
ref	mActivities	java.util.ArrayList @ (
ref	realActivity	android.content.Com
ref	origActivity	null
long	lastActive...	9571571
int	numFullsc...	0
int	mTaskType	0
boole...	mOnTopO...	true
boole...	rootWasR...	true
int	numActivit...	0
boole...	askedCom...	false
int	taskId	2
int	userId	0
ref	lastDescri...	null
ref	lastThumb...	android.graphics.Bitr

Attributes

Overview

Details

Size: 8.7 MB Classes: 5.3k Objects: 142.2k Class Loader: 5 [Unreachable Objects Histogram](#)

Biggest Objects by Retained Size

Object Size
6.4 MB
743.8 KB
460.6 KB
372 KB
371.8 KB
372 KB

Total: 8.7 MB

com.android.server.am.TaskRecord @ Oxa5076d08

Shallow Size: 80 B Retained Size: 743.8 KB

Notes Navigation History

315M of 384M

The screenshot shows the Memory Profiler interface in IntelliJ IDEA. The main window displays a table of memory usage for various classes. The 'Overview' tab is active, and the 'Histogram' view is selected. The table has columns for Class Name, Objects, Shallow Heap, and Retained Heap. The 'java.lang.String' class is highlighted, and a context menu is open over it. The context menu includes options like 'List objects', 'Show objects by class', 'Merge Shortest Paths to GC Roots', 'Java Basics', 'Java Collections', 'Leak Identification', 'Immediate Dominators', 'Show Retained Set', 'Copy', 'Search Queries...', 'Calculate Minimum Retained Size (quick approx.)', 'Calculate Precise Retained Size', and 'Columns...'. A sub-menu is also visible, showing options like 'References', 'Class Loader Explorer', 'Customized Retained Set', 'Find Strings', 'Group By Value', 'Open In Dominator Tree', 'Show As Histogram', 'Thread Details', and 'Thread Stacks'.

Class Name	Objects	Shallow Heap	Retained Heap
<Regex>	<Numeric>	<Numeric>	<Numeric>
java.lang.Integer	1.013.336	24.320.064	
java.lang.Object[]	2.909	12.313.944	
char[]	32.860	3.561.976	
java.lang.String			
java.util.HashMap\$Entry			
java.lang.reflect.Method			
java.util.HashMap\$Entry[]			
byte[]			
java.lang.String[]			
java.util.LinkedHashMap\$Entry			
java.util.concurrent.ConcurrentHashMap\$Entry			
java.util.HashMap			
java.util.Hashtable\$Entry			
java.lang.ref.WeakReference			
java.util.WeakHashMap\$Entry			
java.util.Hashtable\$Entry[]			
java.util.concurrent.locks.ReentrantLock\$NonfairSync			
java.util.ArrayList			
java.util.concurrent.ConcurrentHashMap\$Entry			
java.util.TreeMap\$Entry			

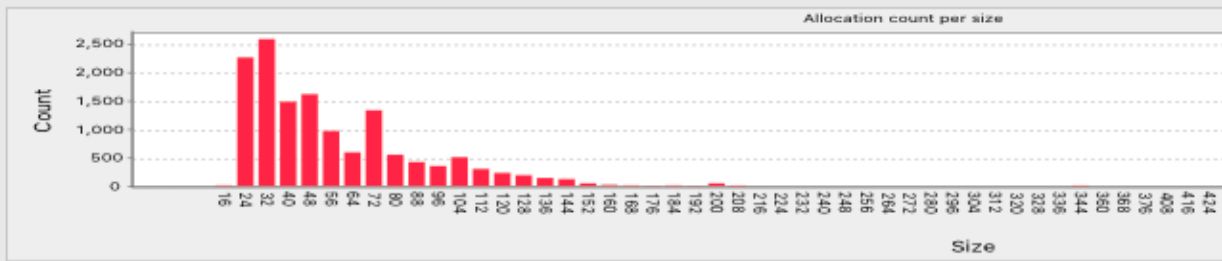
Heap updates will happen after every GC for this client

ID	Heap Size	Allocated	Free	% Used	# Objects
1	18.230 MB	8.770 MB	9.460 MB	48.11%	82,479

Cause GC

Display: Stats

Type	Count	Total Size	Smallest	Largest	Median	Average
free	9,253	9.169 MB	16 B	2.861 MB	72 B	1.015 KB
data object	51,1...	1.688 MB	16 B	1.094 KB	32 B	34 B
class object	6,778	1.588 MB	168 B	42.375 KB	168 B	245 B
1-byte array (byte[], boolean[])	441	3.834 MB	16 B	1.075 MB	96 B	8.902 KB
2-byte array (short[], char[])	14,2...	917.070 KB	16 B	37.016 KB	48 B	66 B
4-byte array (object[], int[], flo...	9,744	755.188 KB	16 B	16.016 KB	40 B	79 B
8-byte array (long[], double[])	188	28.203 KB	16 B	8.516 KB	32 B	153 B
non-Java object	1,413	67.945 KB	16 B	480 B	32 B	49 B

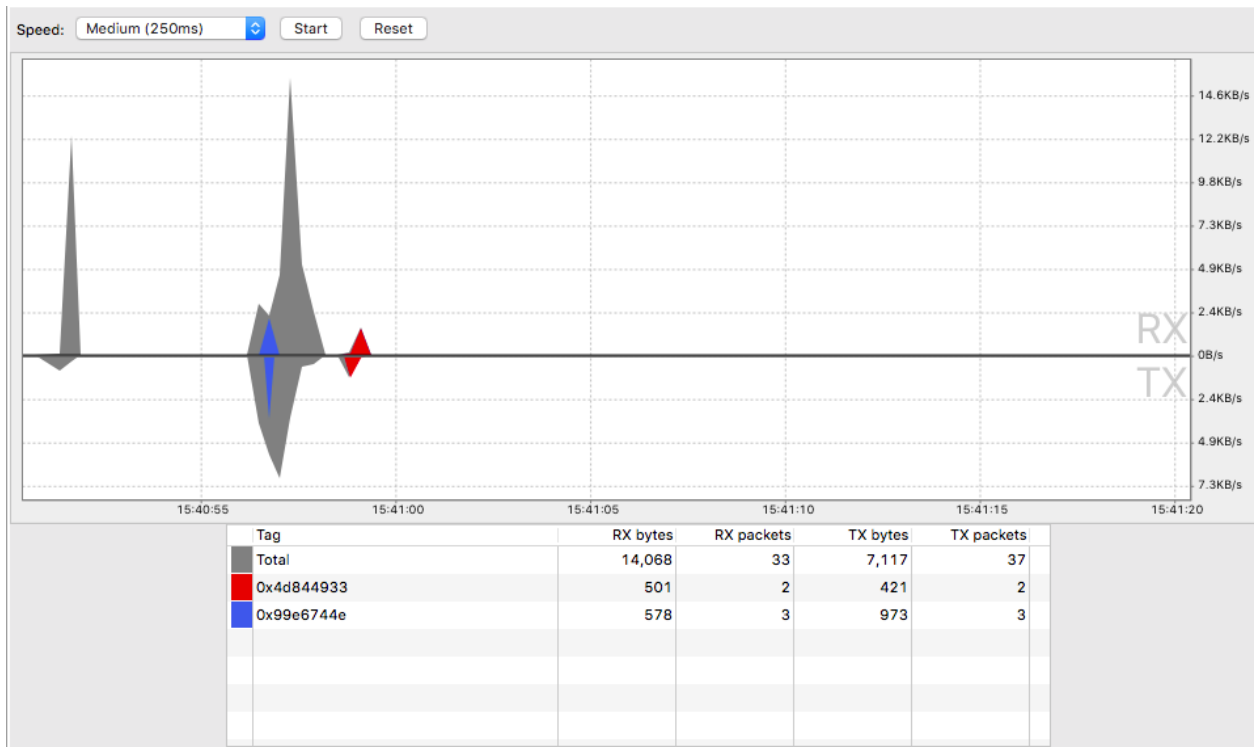


Stop Tracking Get Allocations Filter:

Alloc Order	Allocation Size	Allocated Class	Thread Id	Allocated in	Allocated in
17933	864	short[]	42	com.google.ma...	f
12661	12	org.apache.http.m...	28	org.apache.htt...	<init>
12663	20	org.apache.http.m...	28	com.a.a.a.i	a
12662	32	org.apache.http.m...	28	com.a.a.a.i	a
19404	16	org.apache.http.m...	29	com.a.a.a.i	a
19402	16	org.apache.http.m...	29	com.a.a.a.i	a
19400	16	org.apache.http.m...	29	com.a.a.a.i	a
19397	16	org.apache.http.m...	29	com.a.a.a.i	a
19395	16	org.apache.http.m...	29	com.a.a.a.i	a

```

at com.google.maps.api.android.lib6.gmm6.n.c.a.d.f()
at com.google.maps.api.android.lib6.gmm6.n.c.a.d.<init>()
at com.google.maps.api.android.lib6.gmm6.n.c.a.d.<init>()
at com.google.maps.api.android.lib6.gmm6.n.bp.a()
at com.google.maps.api.android.lib6.gmm6.c.t.a()
at com.google.maps.api.android.lib6.gmm6.c.r.a()
at com.google.maps.api.android.lib6.gmm6.n.l.a()
at com.google.maps.api.android.lib6.gmm6.n.l.b()
at com.google.maps.api.android.lib6.gmm6.n.cv.f()
at com.google.maps.api.android.lib6.gmm6.n.cv.run()
    
```



Android Device Monitor

Quick Access DDMS

Devices [LogCat]

Name	AVDMobli...	AVDMobli...
com.androi..._452	8600	
com.androi..._261	8601	
android.pr..._295	8602	
com.androi..._423	8603	
com.androi..._361	8604	
com.androi..._204	8605	
com.androi..._237	8606	
com.androi..._336	8607	
android.pr..._402	8608	
system.pr..._149	8609	
com.androi..._470	8610	
com.androi..._249	8611	
com.androi..._218	8612	
com.androi..._315	8613	
com.androi..._380	8614	

Threads Heap Allocation Tracker Network Statistics File Explorer Emulator Control System Information

Telephony Status

Voice: home Speed: Full

Data: home Latency: None

Telephony Actions

Incoming number:

Voice

SMS

Message:

[Call] [Hang Up]

Location Controls

Manual GPX KML

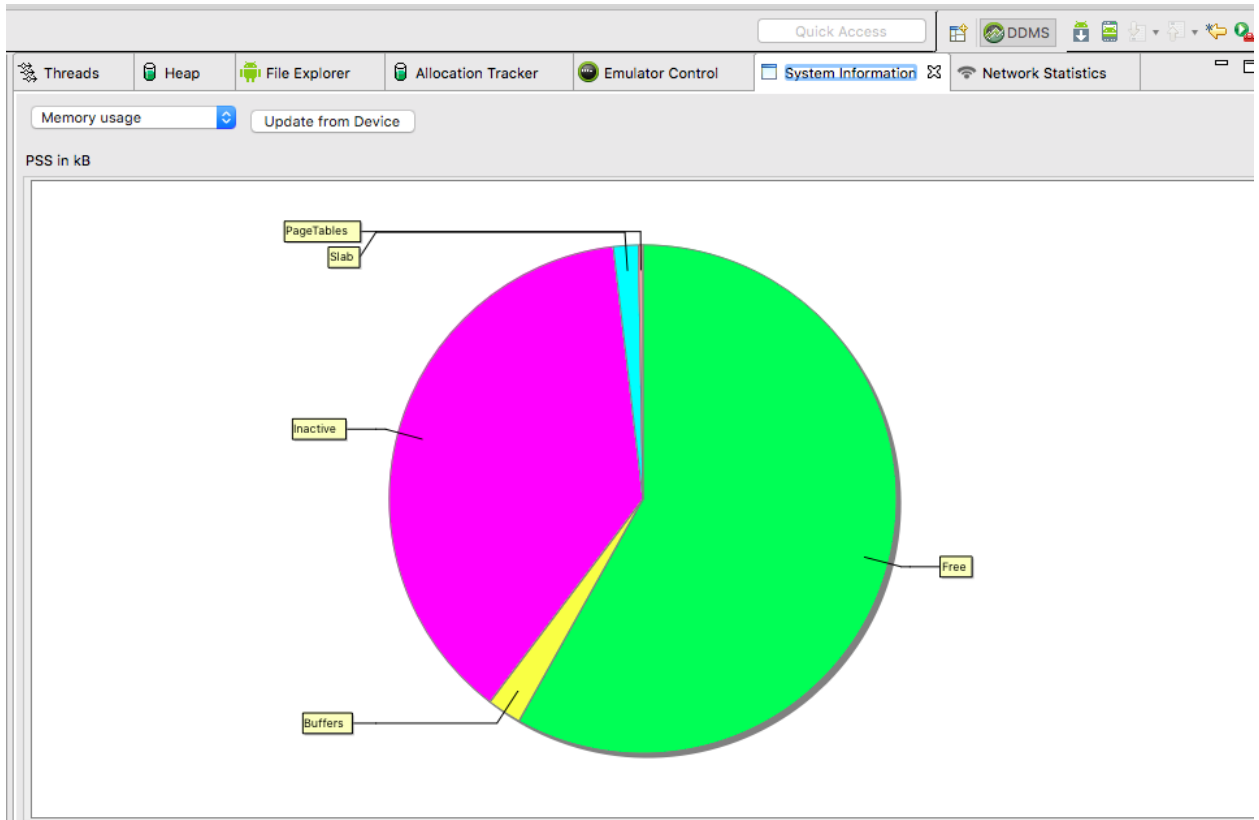
Decimal

Sexagesimal

Longitude: -122.084095

Latitude: 37.422006

[Send]



Hierarchy Viewer

Refresh Load View Hierarchy Inspect Screenshot

- Nexus_5_API_21_x86 [emulator-5554]
 - SearchPanel
 - NavigationBar**
 - Heads Up
 - StatusBar
 - KeyguardScrim
 - com.android.launcher/com.android.launcher2.Laur
 - com.android.systemui.ImageWallpaper

Hierarchy Viewer

Save as PNG Capture Layers Load View Hierarchy Evaluate Contrast Display View
 Invalidate Layout Request Layout Dump DisplayList Dump Theme Profile Node

```

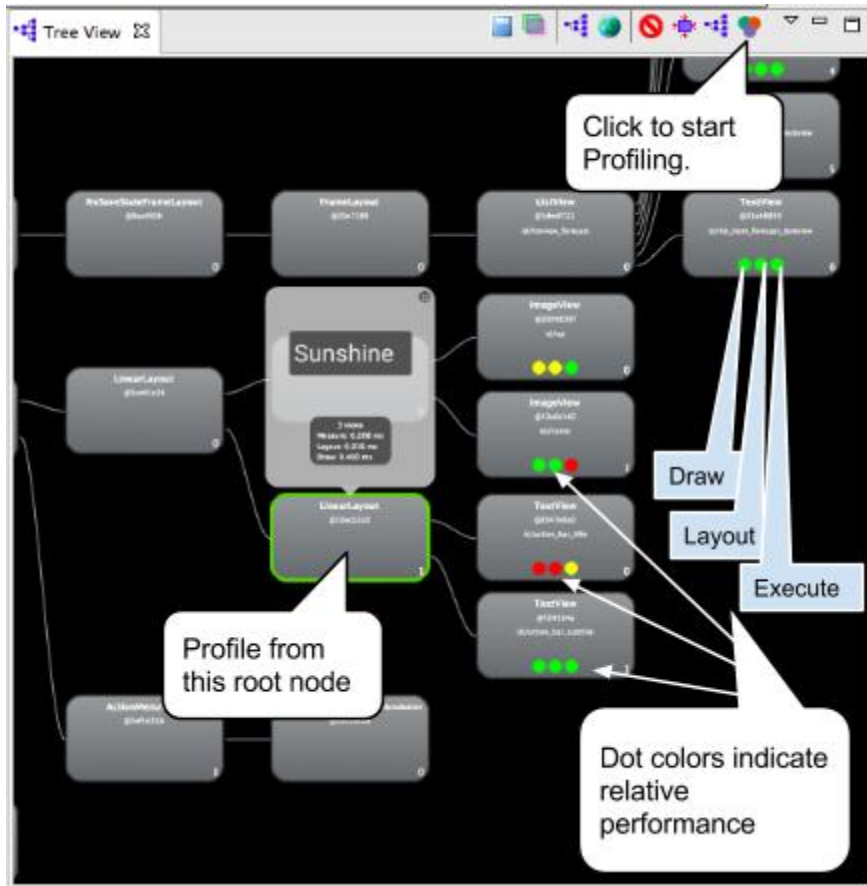
    graph LR
      PhoneWindow$DecorView["PhoneWindow$DecorView  
@2be5472f  
0"] --- ActionBarOverlayLayout["ActionBarOverlayLayout  
@fd833a  
id=decor_content_parent  
0"]
      ActionBarOverlayLayout --- ActionBarContainer1["ActionBarContainer  
@8c20fa0  
id=action_bar_container  
1"]
      ActionBarOverlayLayout --- FrameLayout["FrameLayout  
@e581298  
id=content  
0"]
      ActionBarOverlayLayout --- RelativeLayout["RelativeLayout  
@2015f204  
0"]
      ActionBarContainer1 --- ActionBarView["ActionBarView  
@2f39c3ff  
id=action_bar  
0"]
      ActionBarContainer1 --- ActionBarContainer2["ActionBarContainer  
@12f99fc  
id=split_action_bar  
2"]
      ActionBarView --- ActionBarContextView["ActionBarContextView  
@6c6a08c9  
id=action_context_bar  
1"]
      ActionBarView --- ActionMenuView1["ActionMenuView  
@13826885  
0"]
      ActionBarContextView --- ActionMenuView2["ActionMenuView  
@13826885  
0"]
  
```

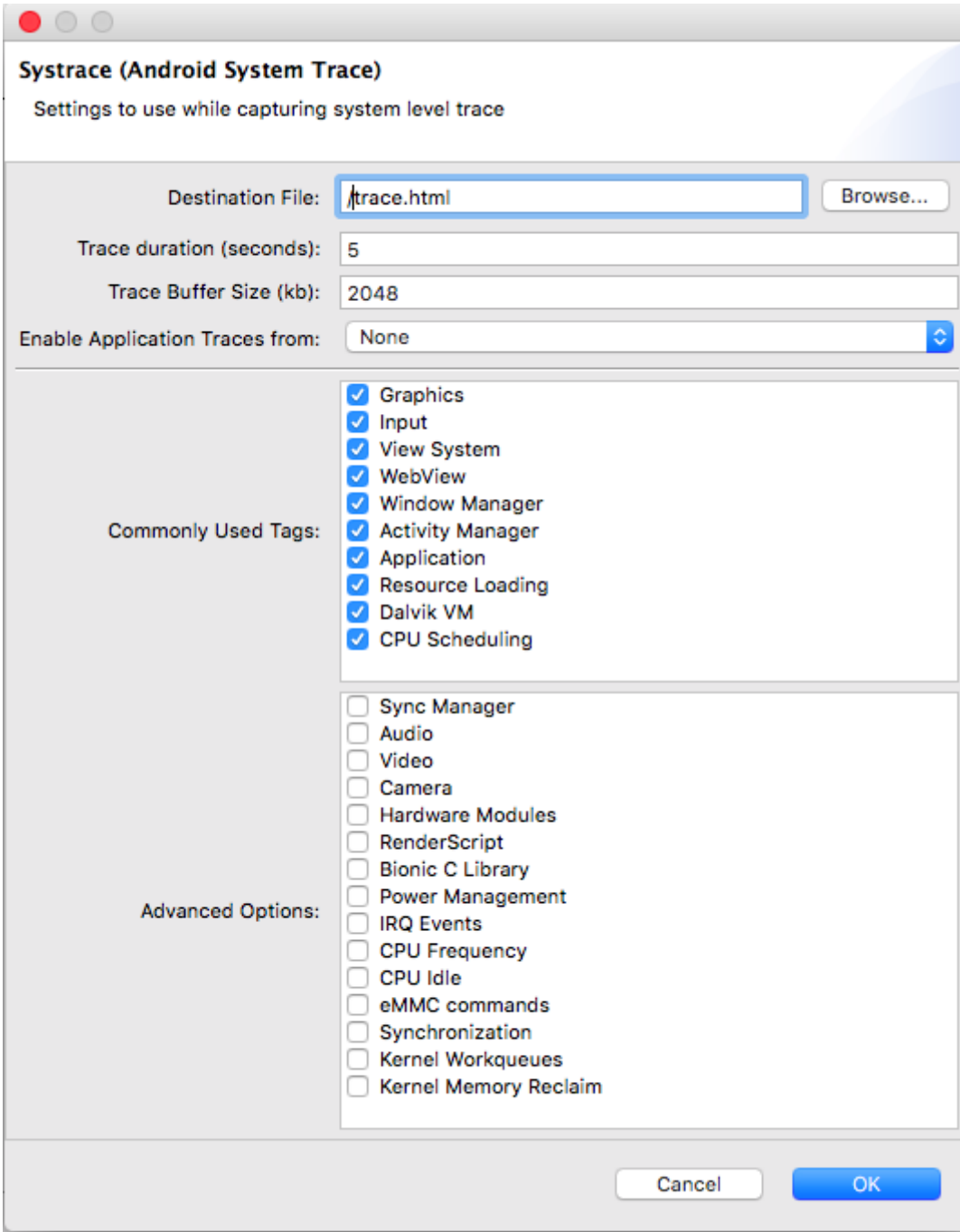
PhoneWindow\$DecorView @2be5472f 0
 ActionBarOverlayLayout @fd833a id=decor_content_parent 0
 ActionBarContainer @8c20fa0 id=action_bar_container 1
 FrameLayout @e581298 id=content 0
 RelativeLayout @2015f204 0
 ActionBarView @2f39c3ff id=action_bar 0
 ActionBarContextView @6c6a08c9 id=action_context_bar 1
 ActionMenuView @13826885 0
 ActionMenuView @13826885 0

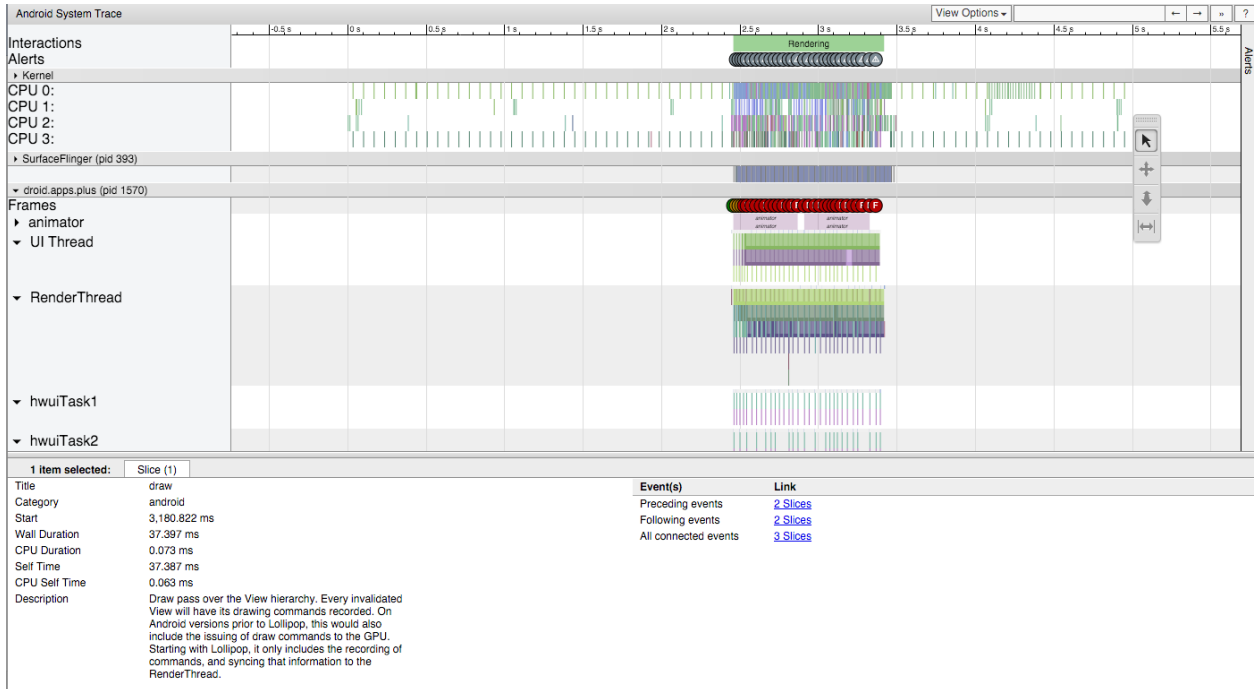
Property Value
 Accessibility
 Drawing
 Events
 Focus
 Layout
 baseline -1
 height 144
 layoutDirection RESOLVED_DIRECTION_LTR
 locationOnScreen_x 0
 locationOnScreen_y 75
 rawLayoutDirection INHERIT
 width 1080
 hasTransientState false
 isLayoutRtl false
 layout_bottomMargin 0

Show Extras Load All Views

Filter by class or id: 20% 200%







About phone



System updates

Status

Phone number, signal, etc.

Legal information

Model number

Google Nexus 6 - 5.0.0 - API 21 - 1440x2560

Android version

5.0

Baseband version

Unknown

Kernel version

3.10.0-genymotion-g1d178ae-dirty
guillaume@gro-xps #1
Mon Apr 27 11:57:12 CEST 2015

You are now a developer!

Build number

vbox86p-userdebug 5.0 LRX21M eng.buildbot.
20150610.004120 test-keys

← Developer options



On



Take bug report

Desktop backup password
Desktop full backups aren't currently protected

Stay awake
Screen will never sleep while charging

Always stay awake
Screen will never sleep

HDCP checking
Use HDCP checking for DRM content only

Enable Bluetooth HCI snoop log
Capture all bluetooth HCI packets in a file

Process Stats
Geeky stats about running processes

[Debugging](#)

← Use details



Hangouts

100%

com.google.android.talk

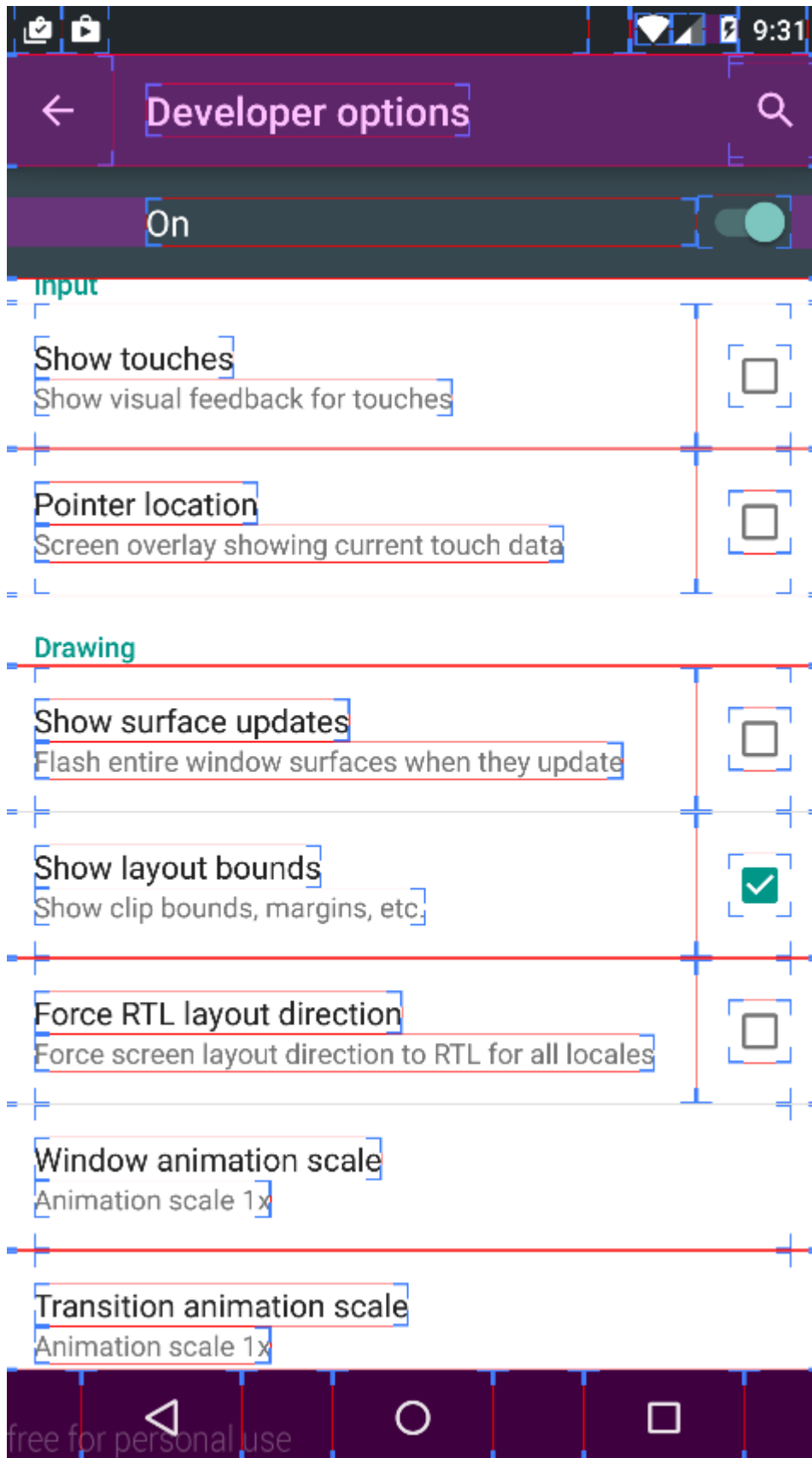
FORCE STOP

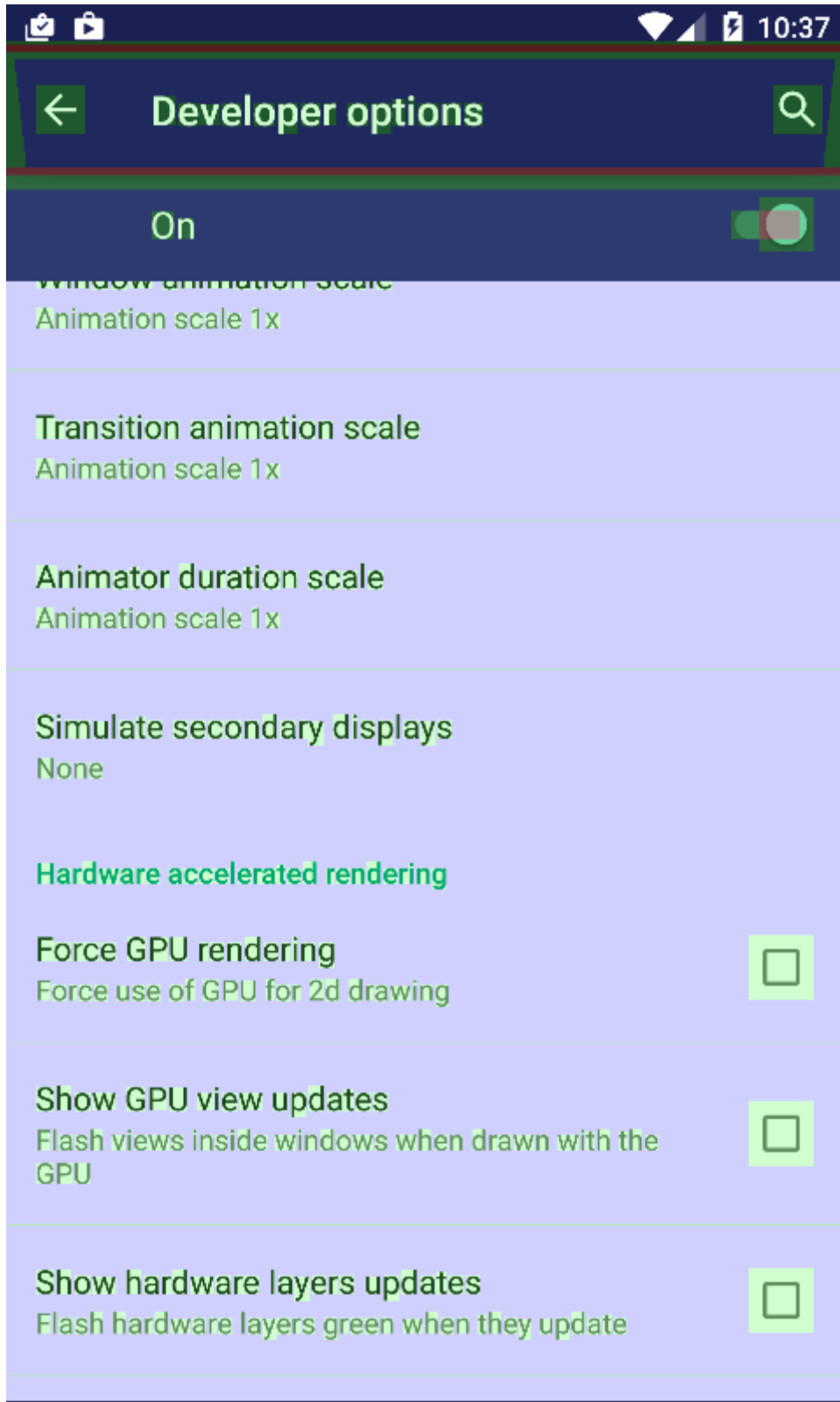
USE DETAILS

Average RAM use	36MB
Maximum RAM use	40MB
Run time	100%

SERVICES


CallService	100%
RequestWriter	1%
ReceiveServerUpdateService	0%
NotificationService	0%
GcmIntentService	0%
RealTimeChatService	0%





3:35

← **Developer options** 🔍

On 

Strict mode enabled

Flash screen when apps do long operations on main thread

Show CPU usage

Screen overlay showing current CPU usage

Profile GPU rendering

On screen as bars

Enable OpenGL traces

None

Apps

Dont keep activities

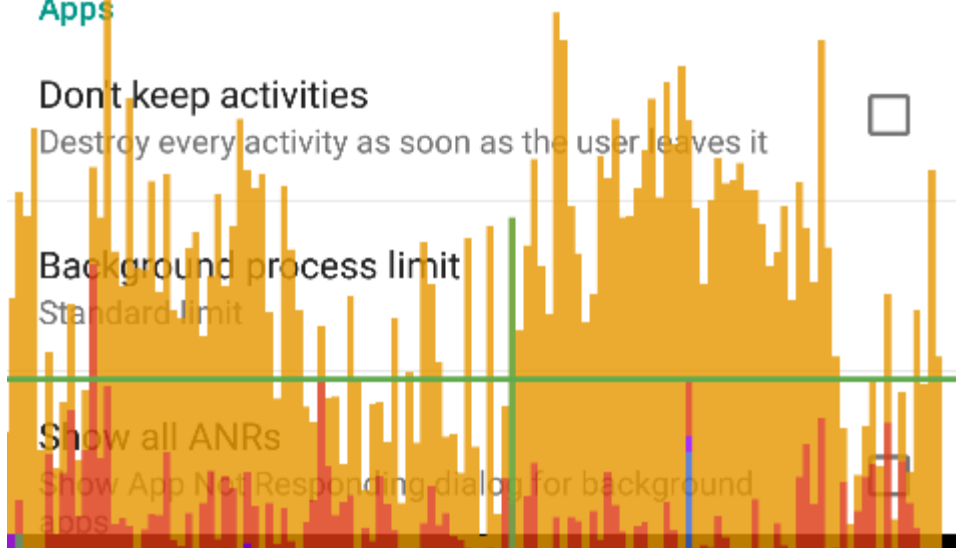
Destroy every activity as soon as the user leaves it

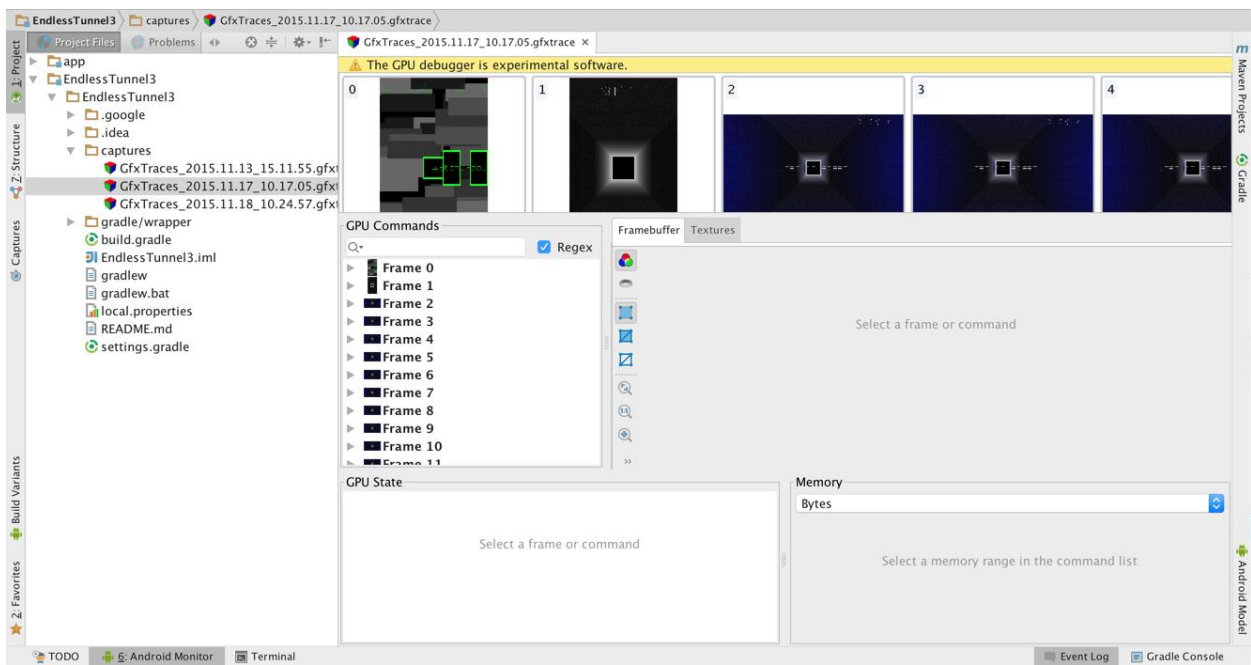
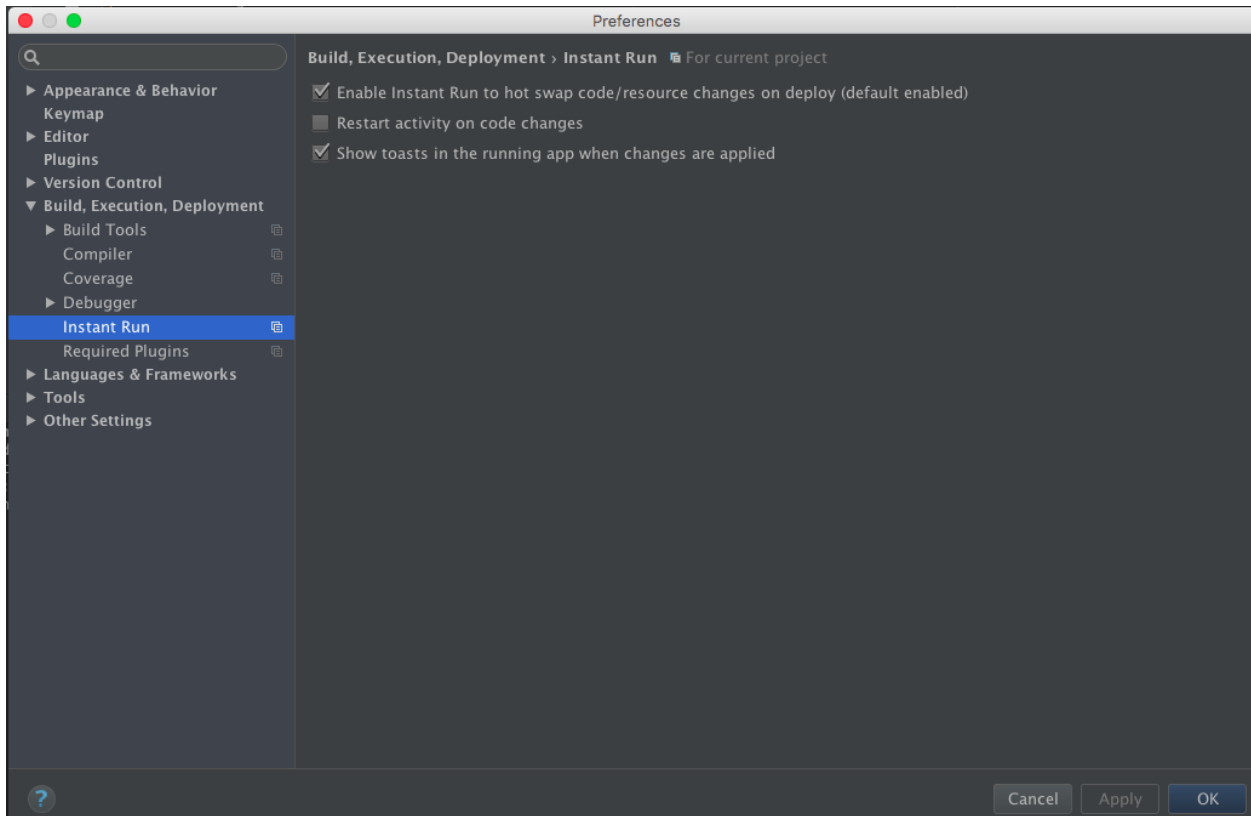
Background process limit

Standard limit

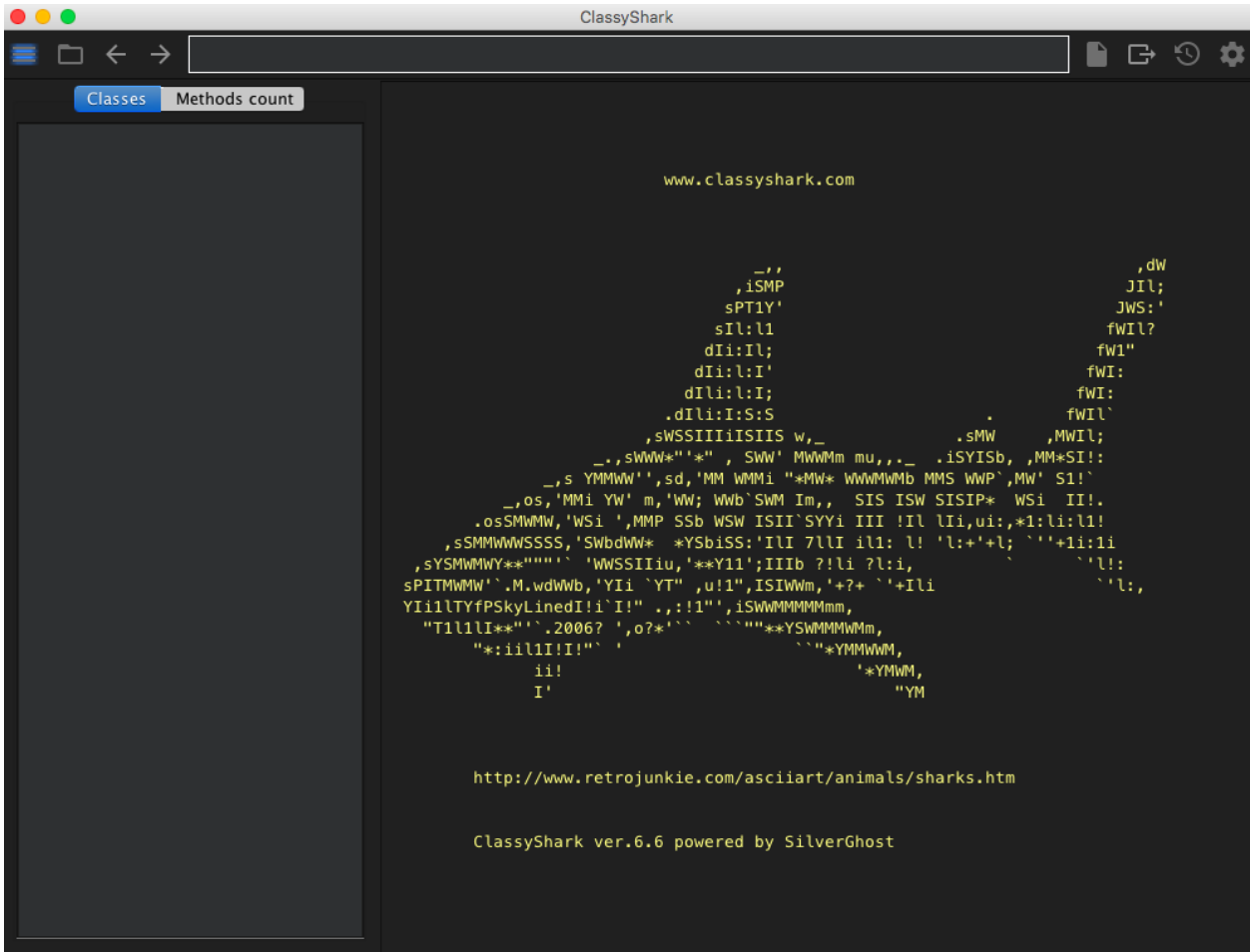
Show all ANRs

Show App Not Responding dialog for background apps









mvgmore-debug-211009.apk

Classes Methods count

- debug-211009.apk
 - AndroidManifest.xml
 - classes
 - classes.dex
 - res
 - res/anim
 - res/animator
 - res/color-v11
 - res/color-v23
 - res/color
 - res/drawable-v21
 - res/drawable-v23
 - res/drawable
 - res/layout-sw600dp-v13
 - res/layout-v17
 - res/layout-v21
 - res/layout
 - res/menu
 - res/transition
 - res/xml

classes: 6786
strings: 54753
types: 8024
protos: 12768
fields: 25387
methods: 57189

Classes with Native Calls



Classes Methods count

- ▾ AccountRepository\$17
- ▾ AccountRepository\$18
- ▾ AccountRepository\$19
- ▾ AccountRepository\$2
- ▾ AccountRepository\$20
- ▾ AccountRepository\$21
- ▾ AccountRepository\$22
- ▾ AccountRepository\$23
- ▾ AccountRepository\$24
- ▾ AccountRepository\$25
- ▾ AccountRepository\$26
- ▾ AccountRepository\$26\$1
- ▾ AccountRepository\$27
- ▾ AccountRepository\$28
- ▾ AccountRepository\$28\$1
- ▾ AccountRepository\$29
- ▾ AccountRepository\$3
- ▾ AccountRepository\$30
- ▾ AccountRepository\$4
- ▾ AccountRepository\$4\$1
- ▾ AccountRepository\$5
- ▾ AccountRepository\$6
- ▾ AccountRepository\$7
- ▾ AccountRepository\$8
- ▾ AccountRepository\$9
- ▾ AccountRepository_Mem
- ▾ AppStateRepository
- ▾ AppStateRepository\$1
- ▾ AppStateRepository\$2
- ▾ AppStateRepository\$3
- ▾ AppStateRepository\$4
- ▾ AppStateRepository\$5
- ▾ AppStateRepository_Mem

```
public class AccountRepository extends Object
{
    //===== F I E L D S =====

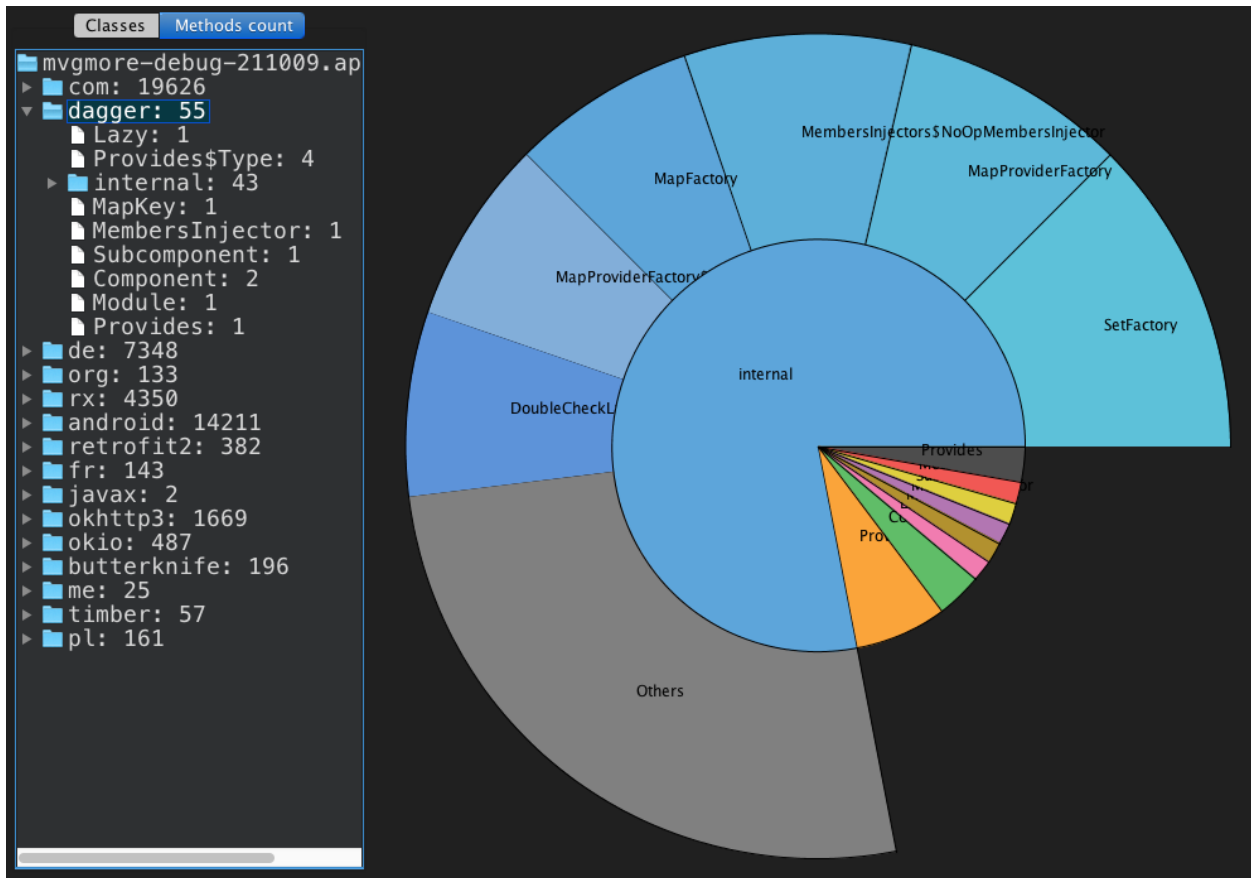
    private AccountManager accountManager;
    private final String accountTokenType;
    private final String accountType;
    @dalvik.annotation.Signature
    private List authenticatedProviders;
    private final Context context;
    private String lastUserValidationResult;
    private String nextBikeId;
    private Subscription sessionCheckSubscription;
    private String sessionToken;
    private boolean temporarilyLogin;
    private String userId;
    @dalvik.annotation.Signature
    private final PublishSubject userSessionPublishSubject;
    @javax.inject.Inject
    ZentralSystemService zentralSystemService;

    //===== C O N S T R U C T O R S =====

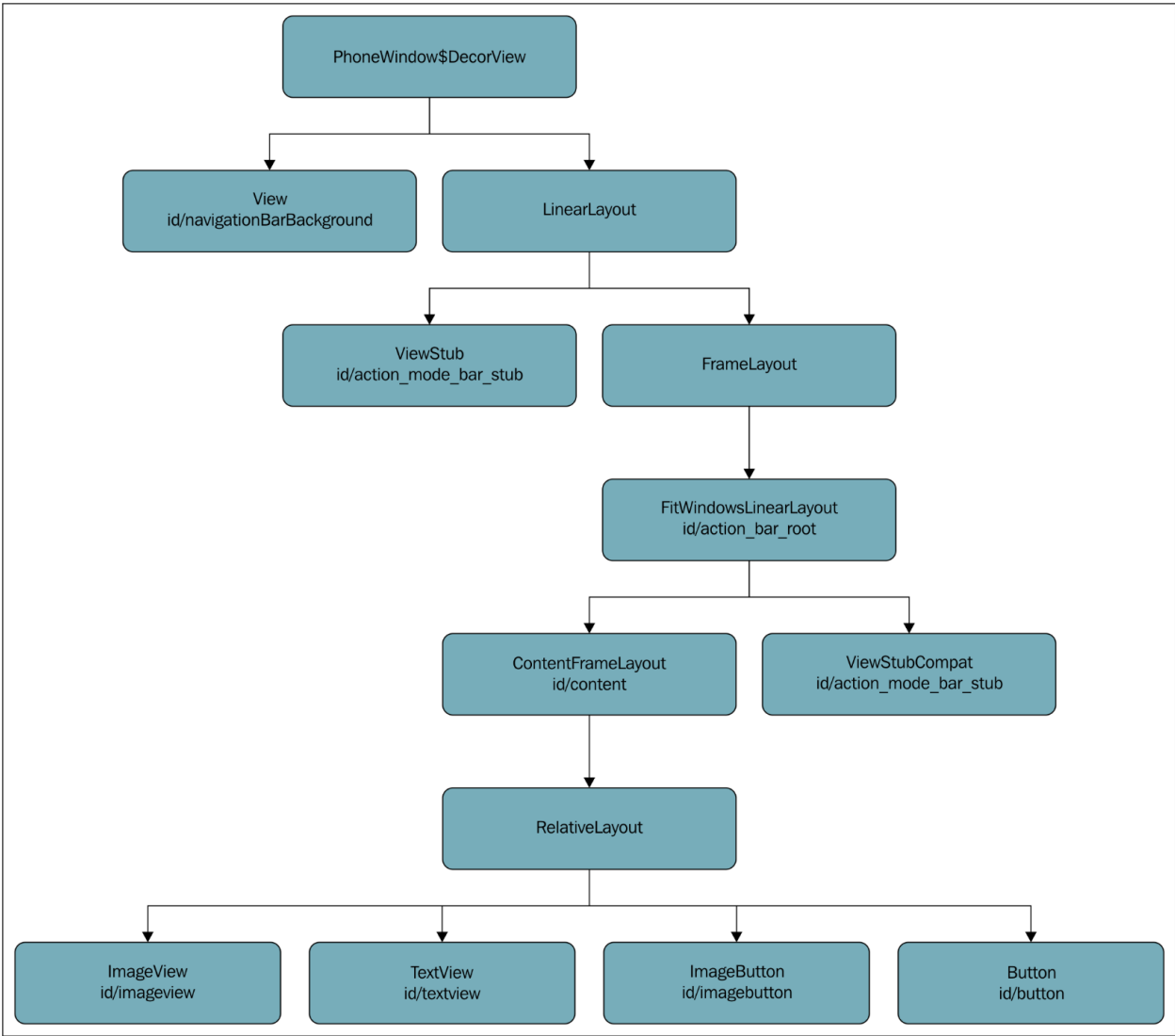
    public AccountRepository(Context,
        AccountManager) { ... }

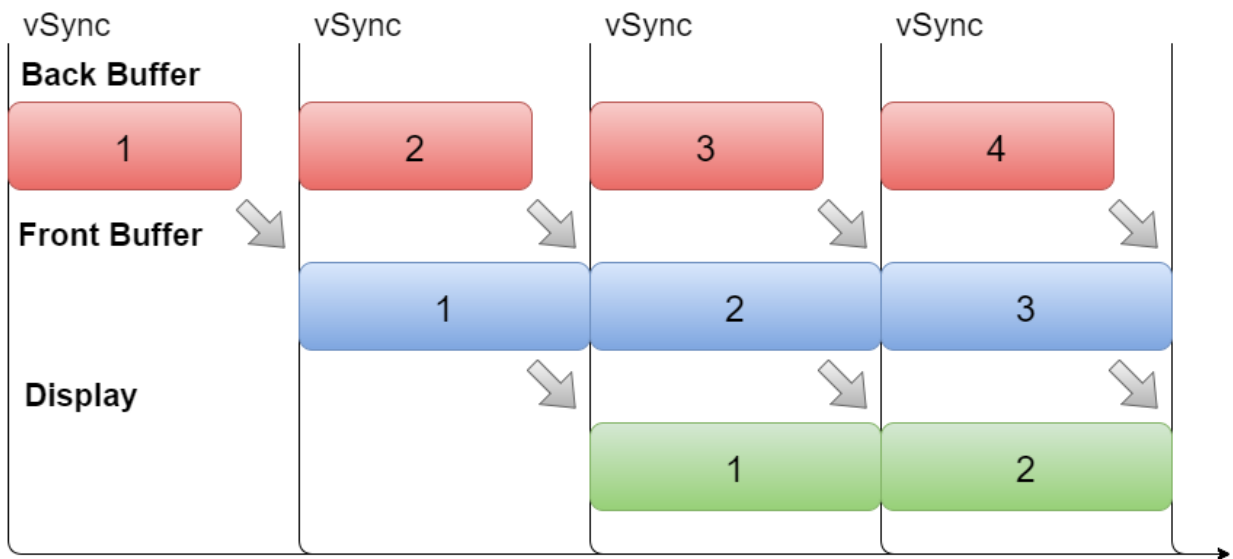
    //===== M E T H O D S =====

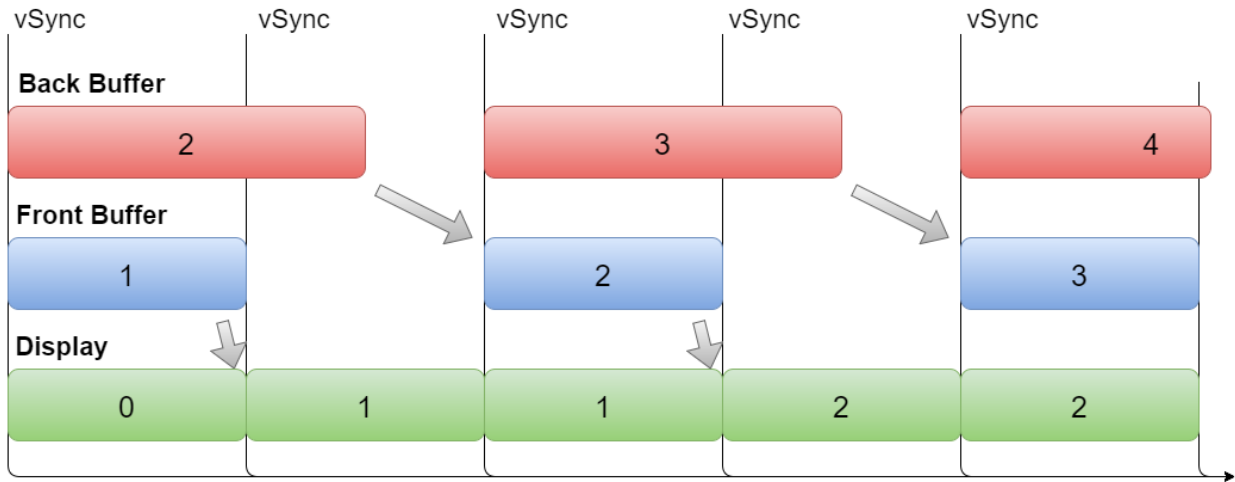
    static String access$000(AccountRepository) { ... }
```

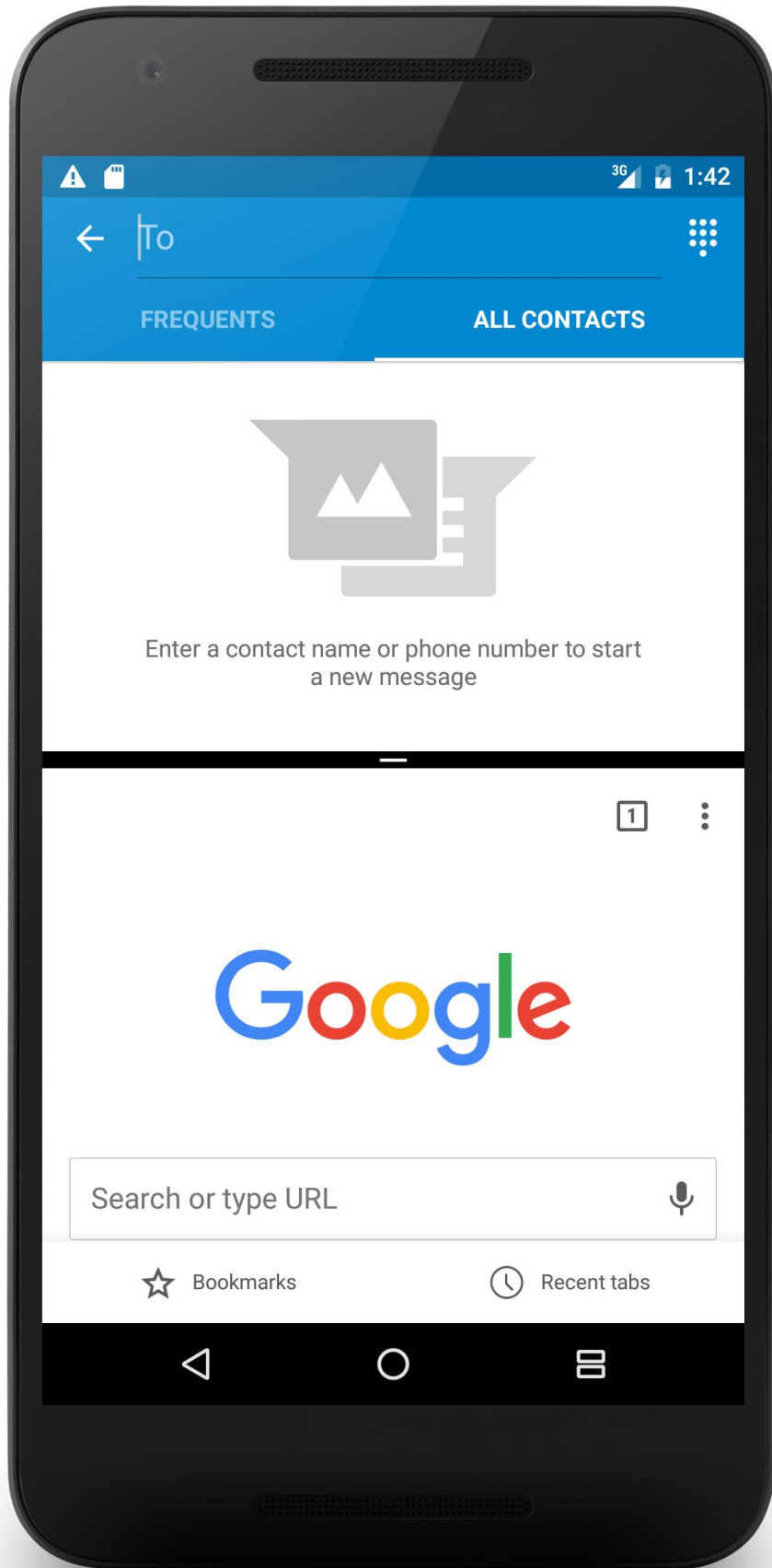



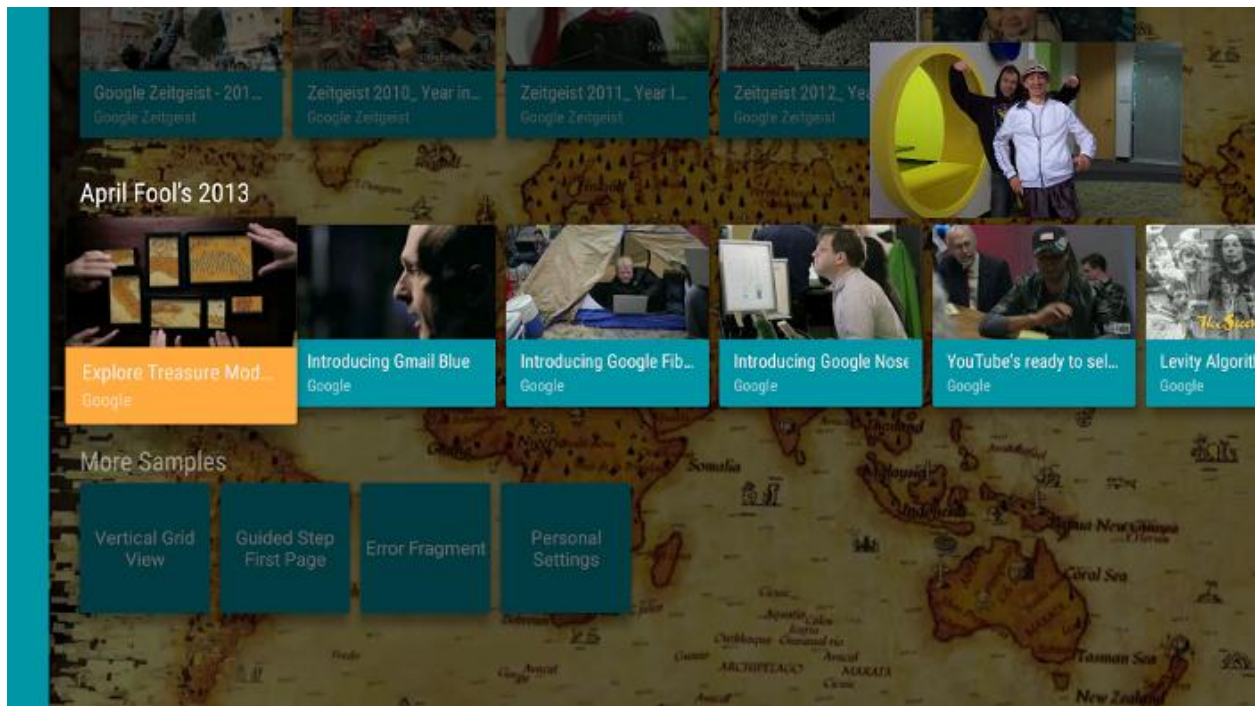
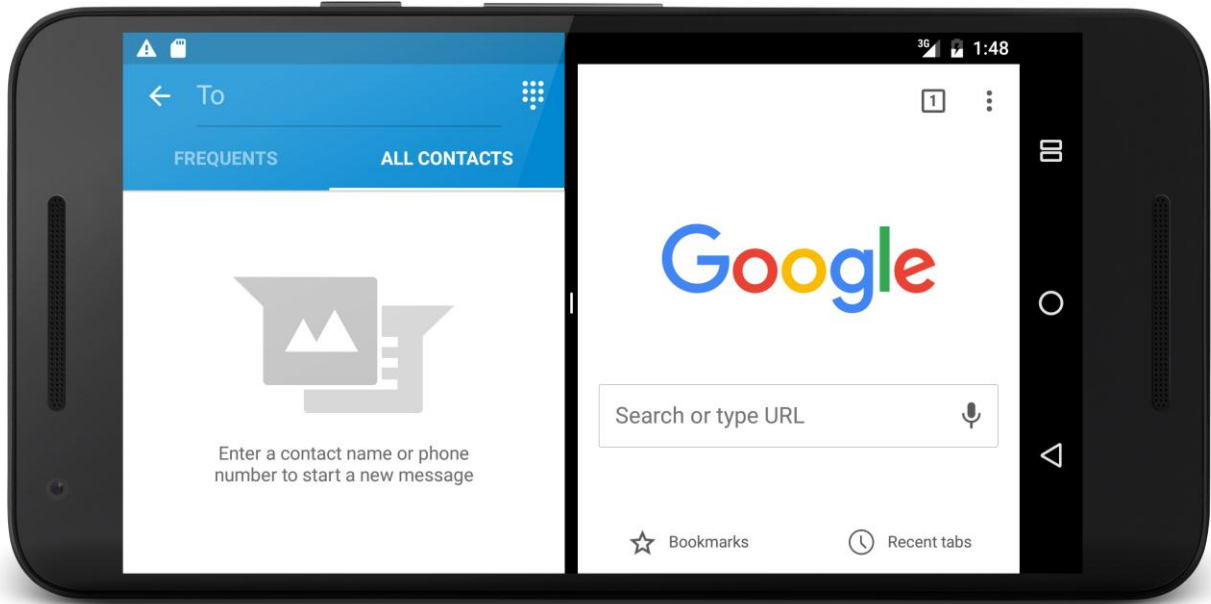
Chapter 3: Building Layouts











6:00

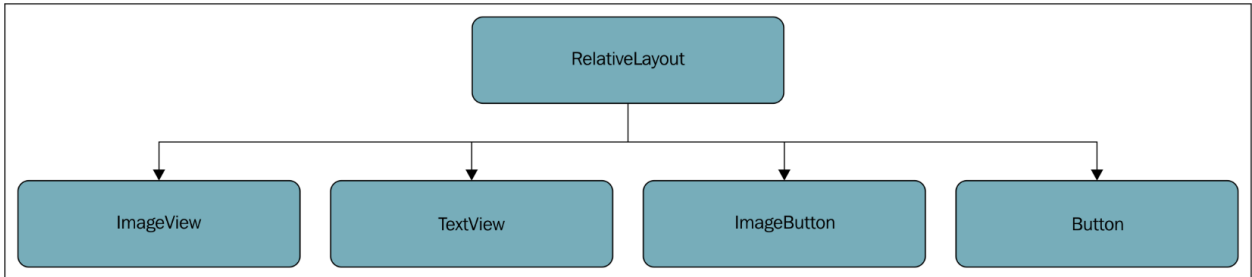
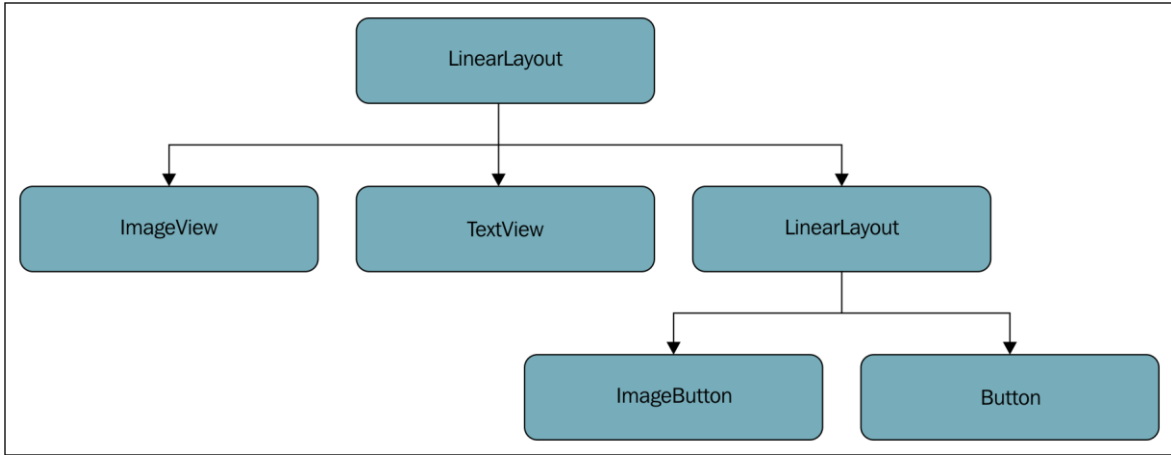


TextView

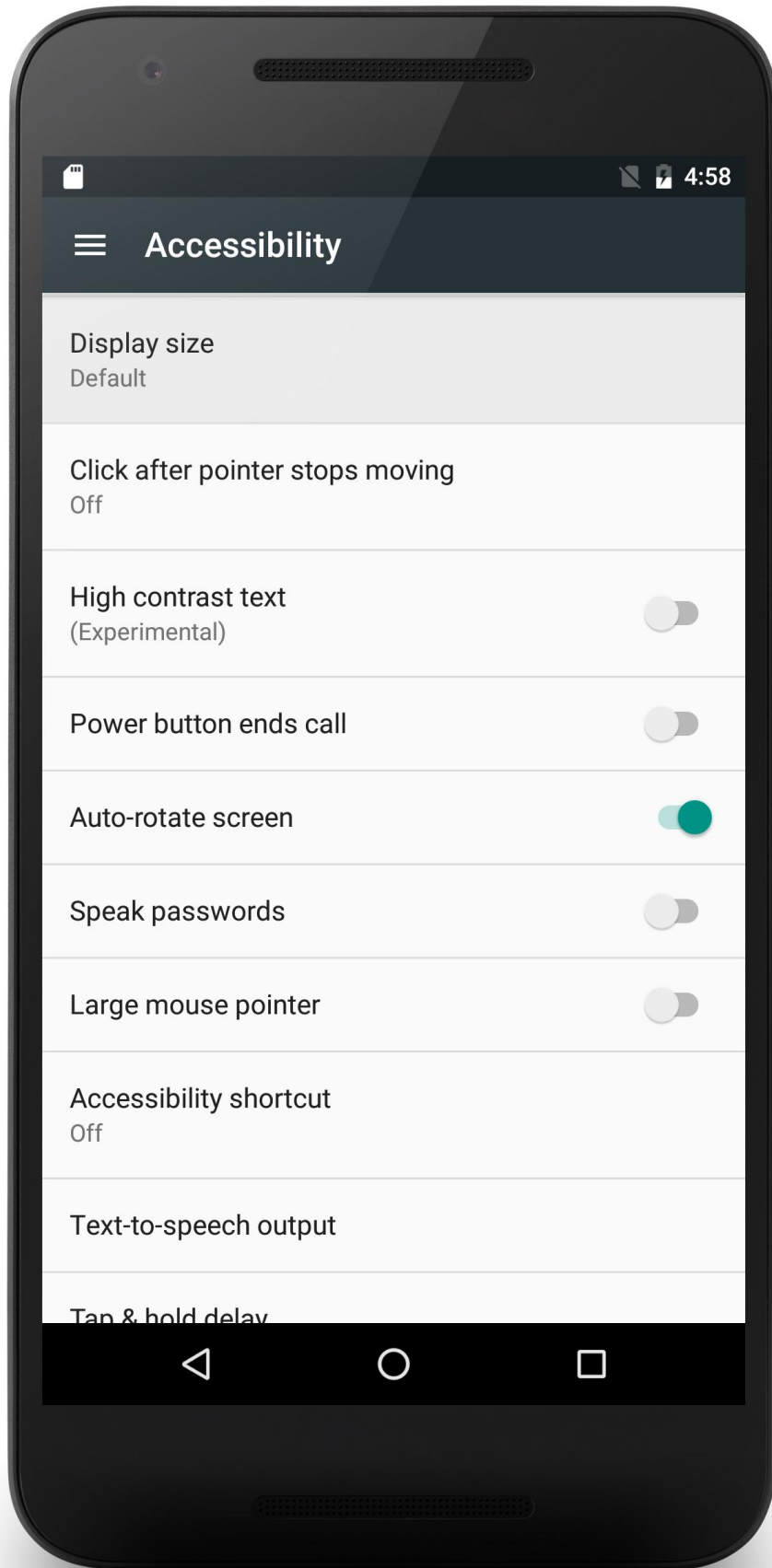


BUTTON









4:58



Accessibility

Display size

Default

Click after pointer stops moving

Off

High contrast text

(Experimental)



Power button ends call



Auto-rotate screen



Speak passwords



Large mouse pointer



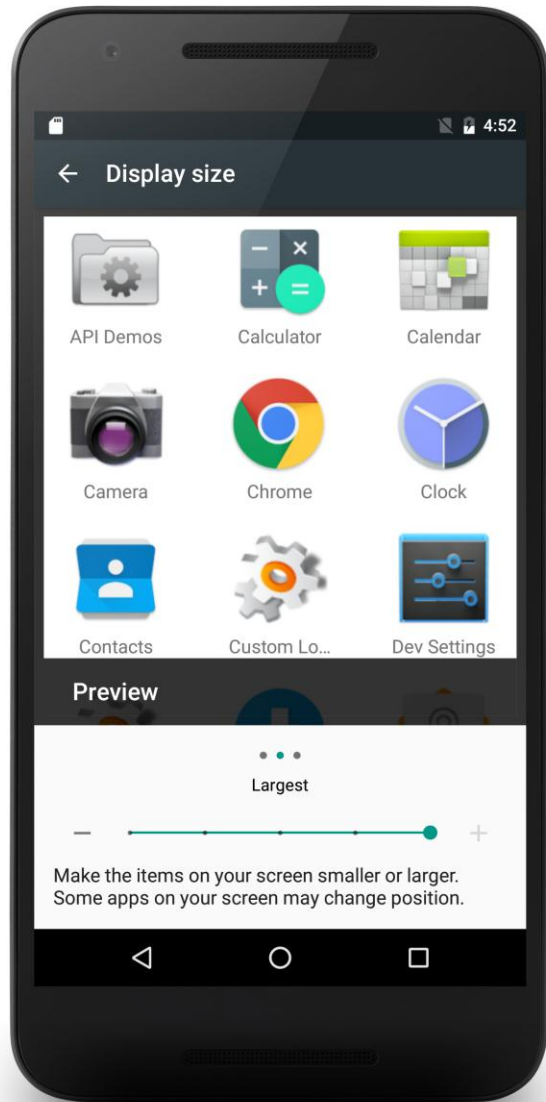
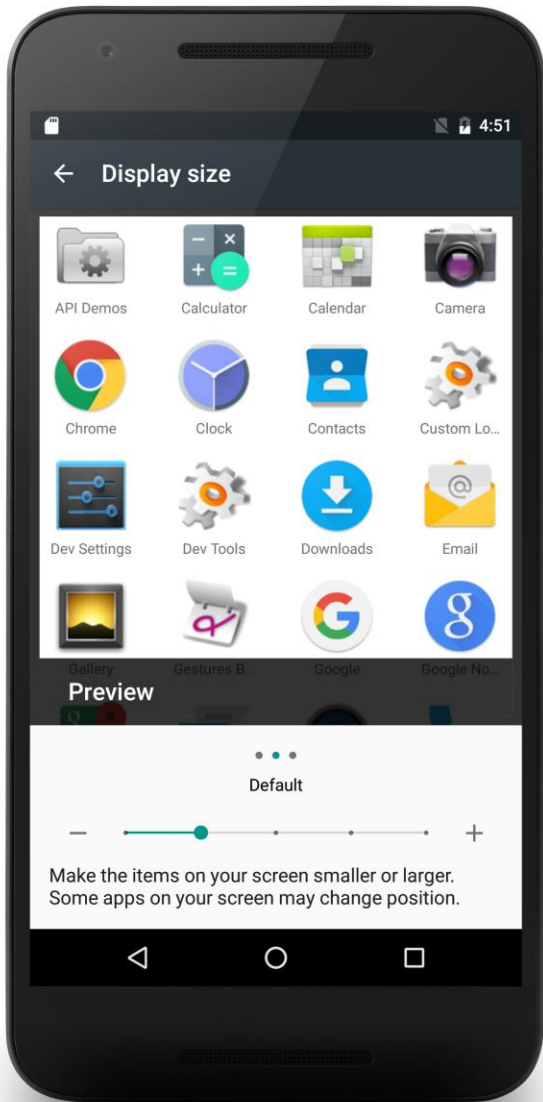
Accessibility shortcut

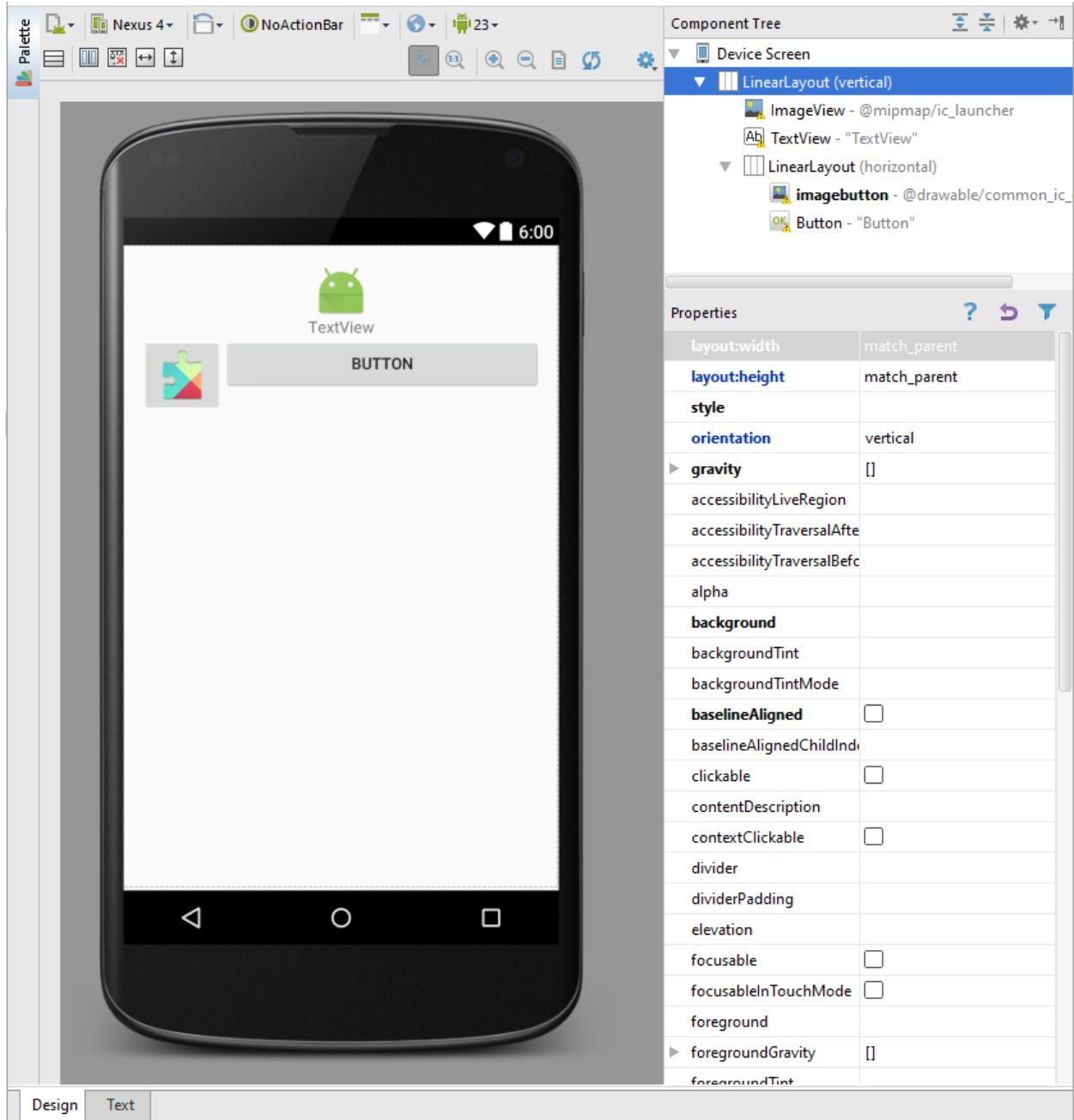
Off

Text-to-speech output

Tap & hold delay



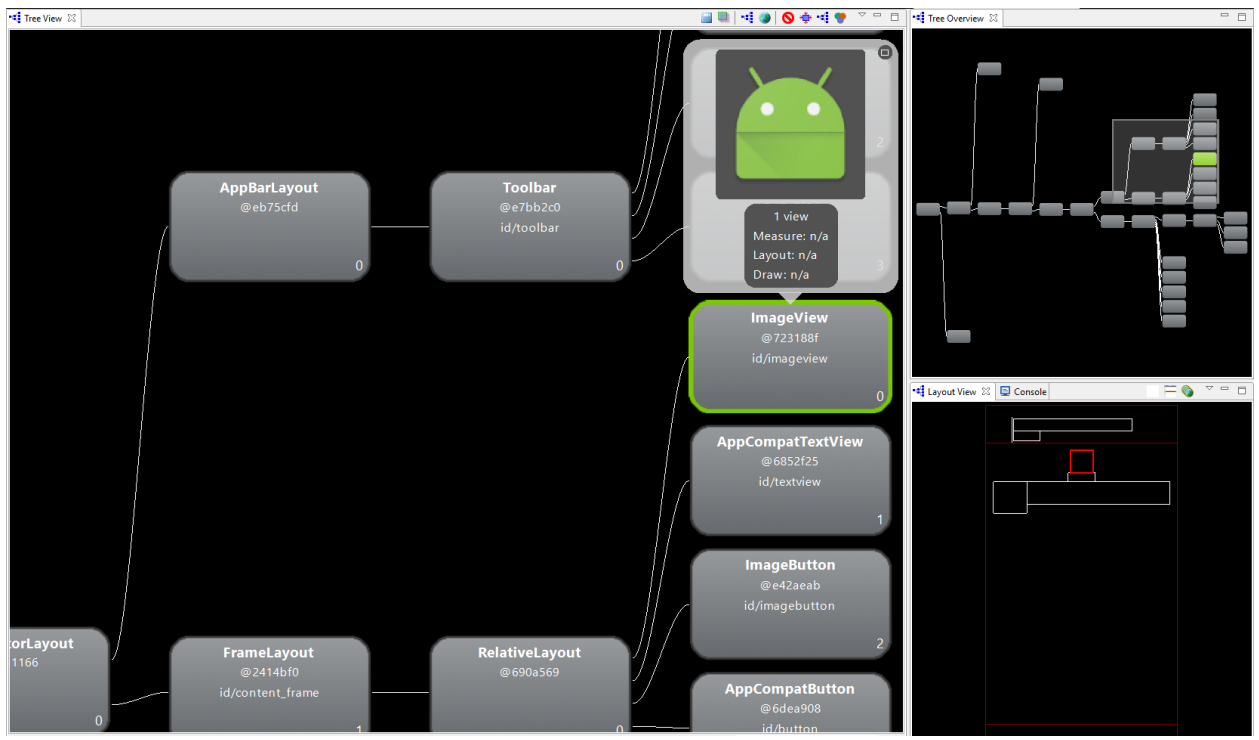
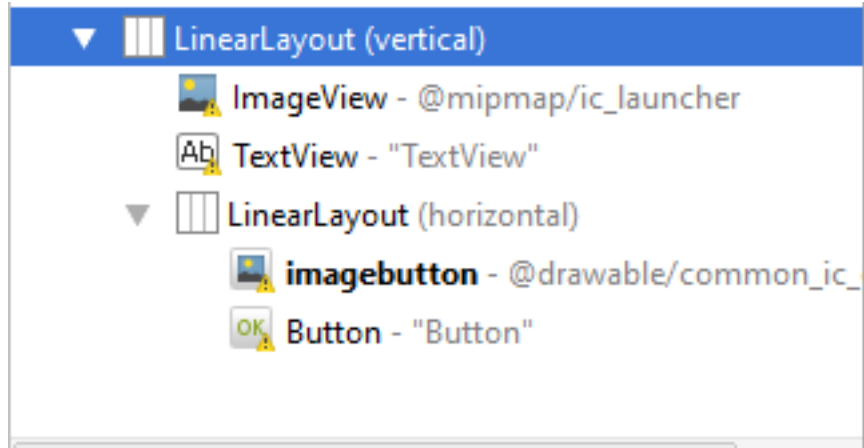


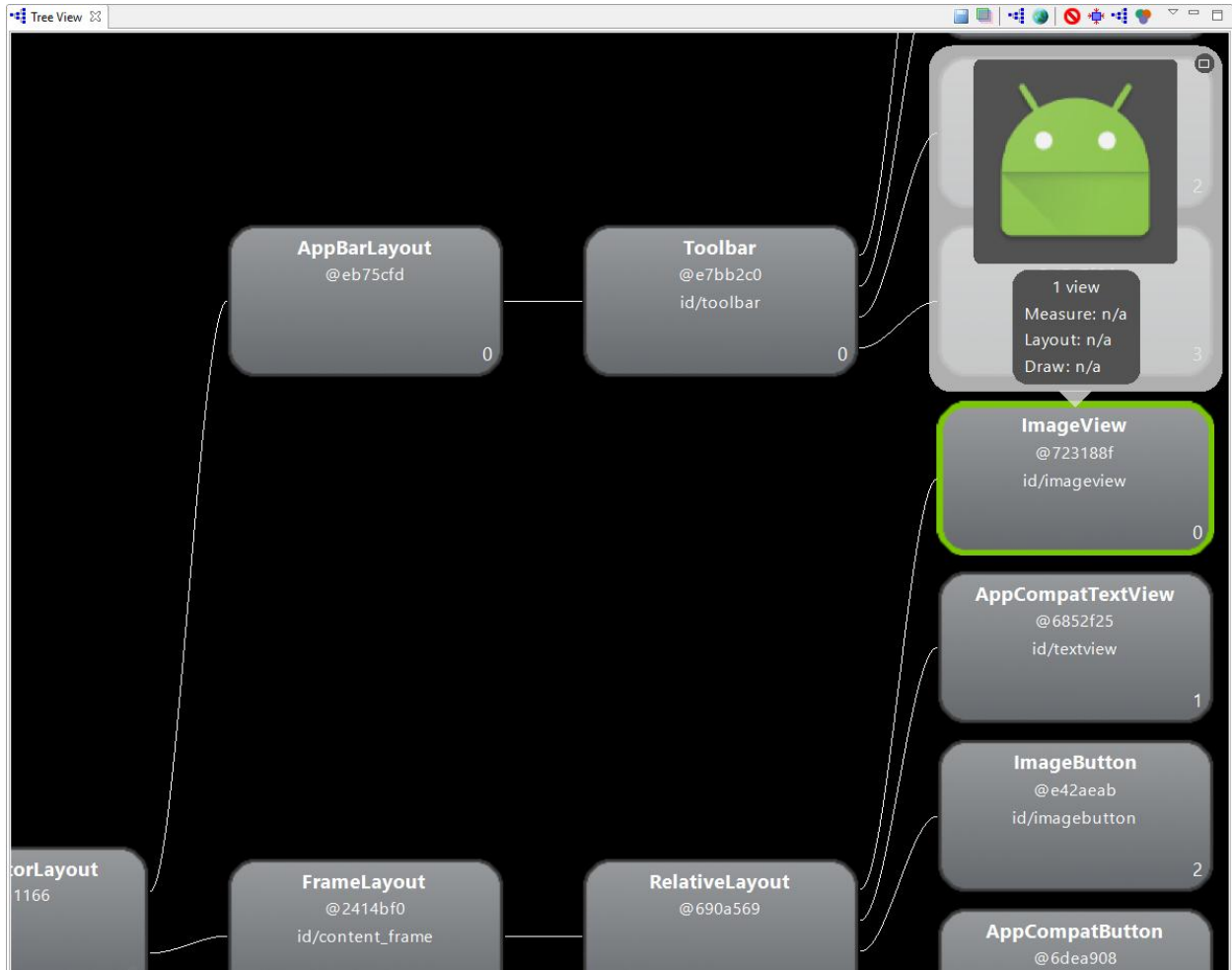


Properties

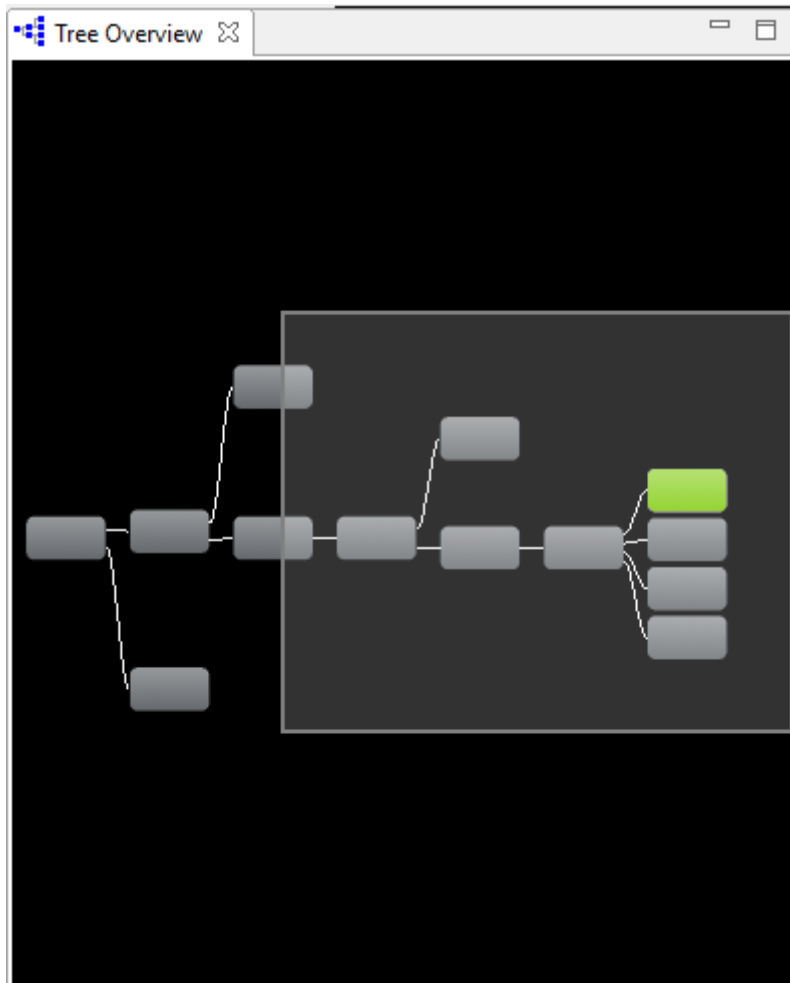
layout:width	match_parent
layout:height	match_parent
style	
orientation	vertical
▶ gravity	[]
accessibilityLiveRegion	
accessibilityTraversalAfter	
accessibilityTraversalBefore	
alpha	
background	
backgroundTint	
backgroundTintMode	
baselineAligned	<input type="checkbox"/>
baselineAlignedChildIndex	
clickable	<input type="checkbox"/>
contentDescription	
contextClickable	<input type="checkbox"/>
divider	
dividerPadding	
elevation	
focusable	<input type="checkbox"/>
focusableInTouchMode	<input type="checkbox"/>
foreground	
▶ foregroundGravity	[]
foregroundTint	

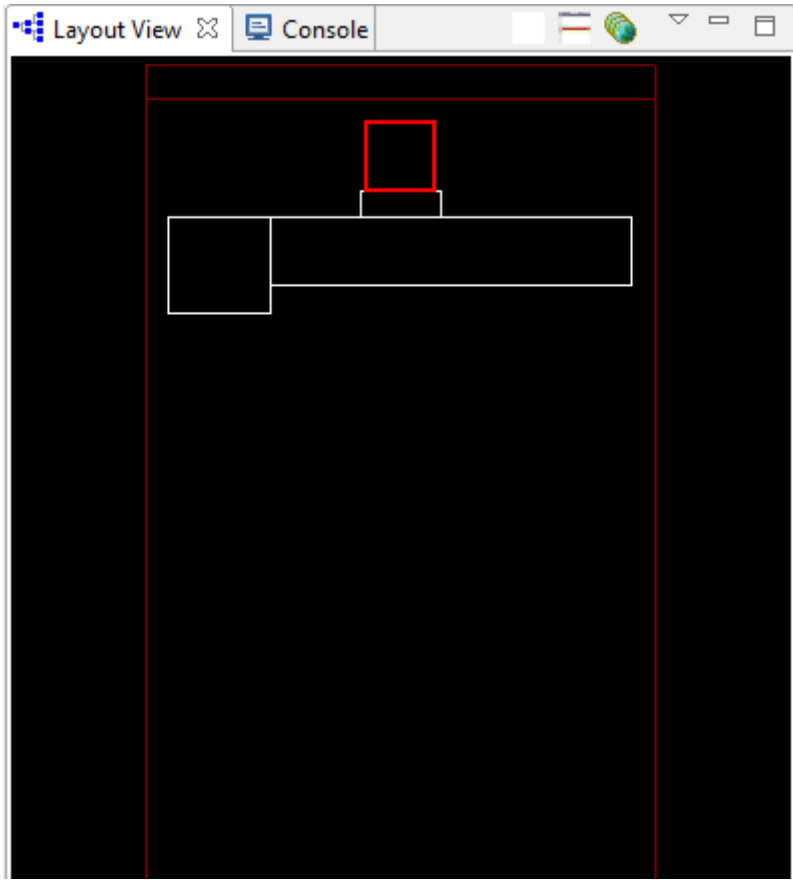
Design Text

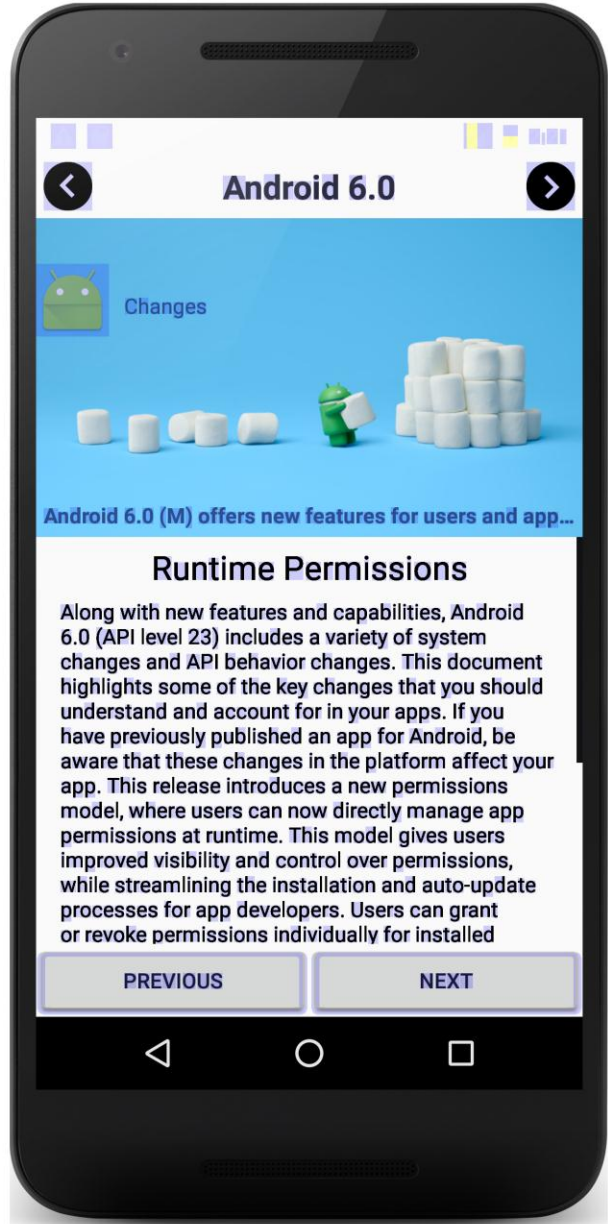
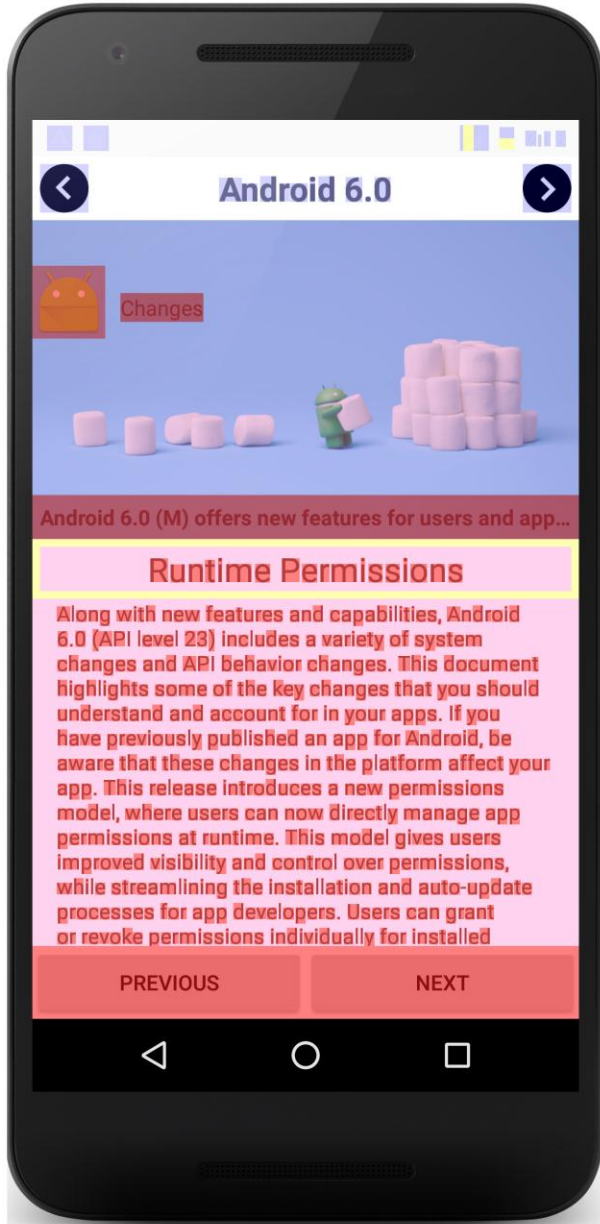


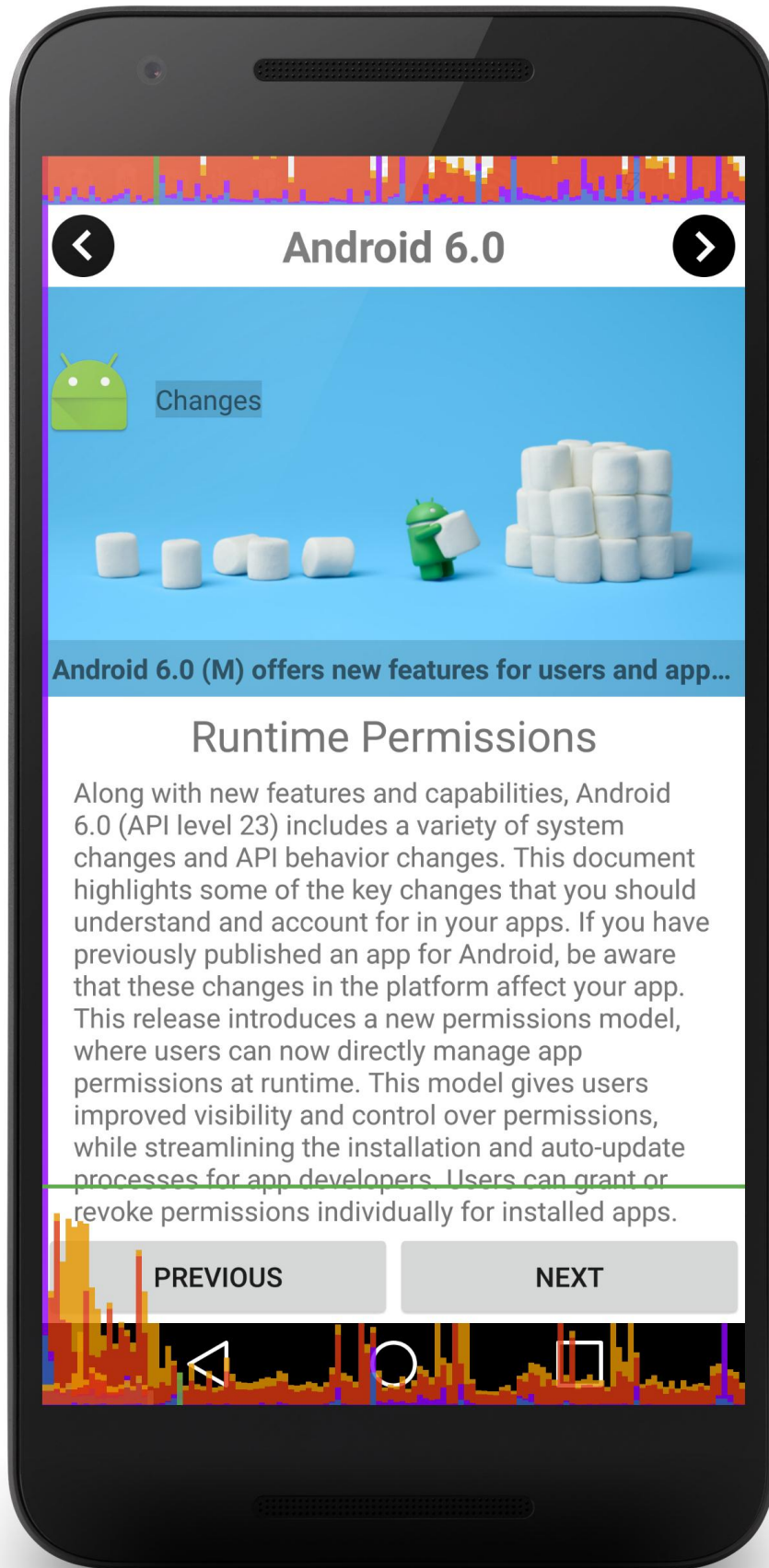


Property	Value
> Accessibility	
> Drawing	
> Focus	
> Layout	
> Measurement	
> Miscellaneous	
> Padding	
> Scrolling	
> Text	
> Theme	









Android 6.0



Changes



Android 6.0 (M) offers new features for users and app...

Runtime Permissions

Along with new features and capabilities, Android 6.0 (API level 23) includes a variety of system changes and API behavior changes. This document highlights some of the key changes that you should understand and account for in your apps. If you have previously published an app for Android, be aware that these changes in the platform affect your app. This release introduces a new permissions model, where users can now directly manage app permissions at runtime. This model gives users improved visibility and control over permissions, while streamlining the installation and auto-update processes for app developers. Users can grant or revoke permissions individually for installed apps.

PREVIOUS

NEXT

Systrace (Android System Trace)
Settings to use while capturing system level trace

Destination File:

Trace duration (seconds):

Trace Buffer Size (kb):

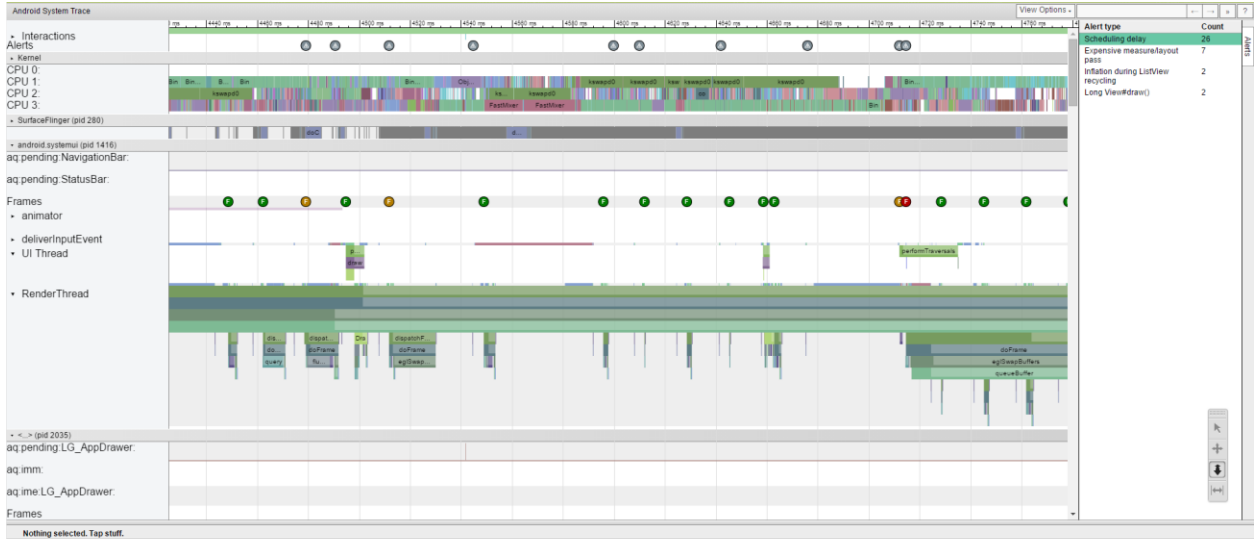
Enable Application Traces from:

Commonly Used Tags:

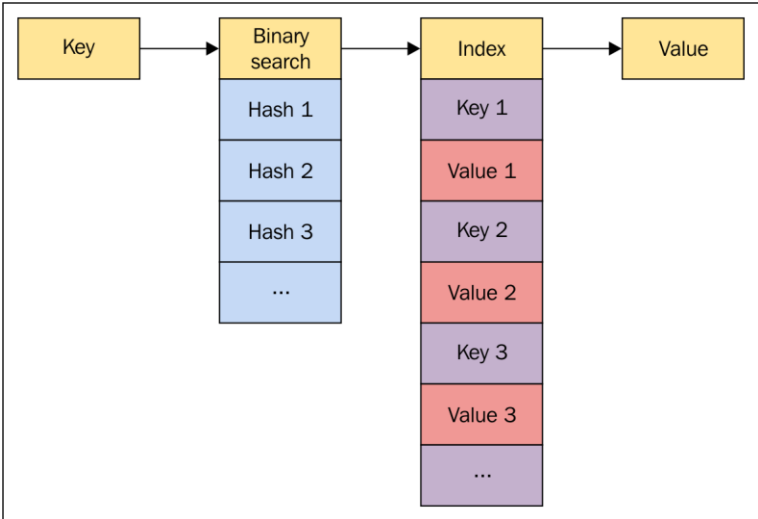
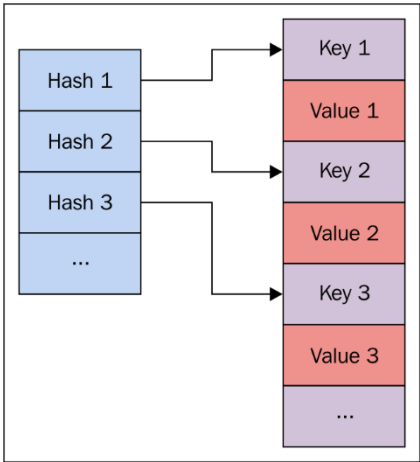
- Graphics
- Input
- View System
- WebView
- Window Manager
- Activity Manager
- Application
- Resource Loading
- Dalvik VM
- CPU Scheduling
- Disk I/O

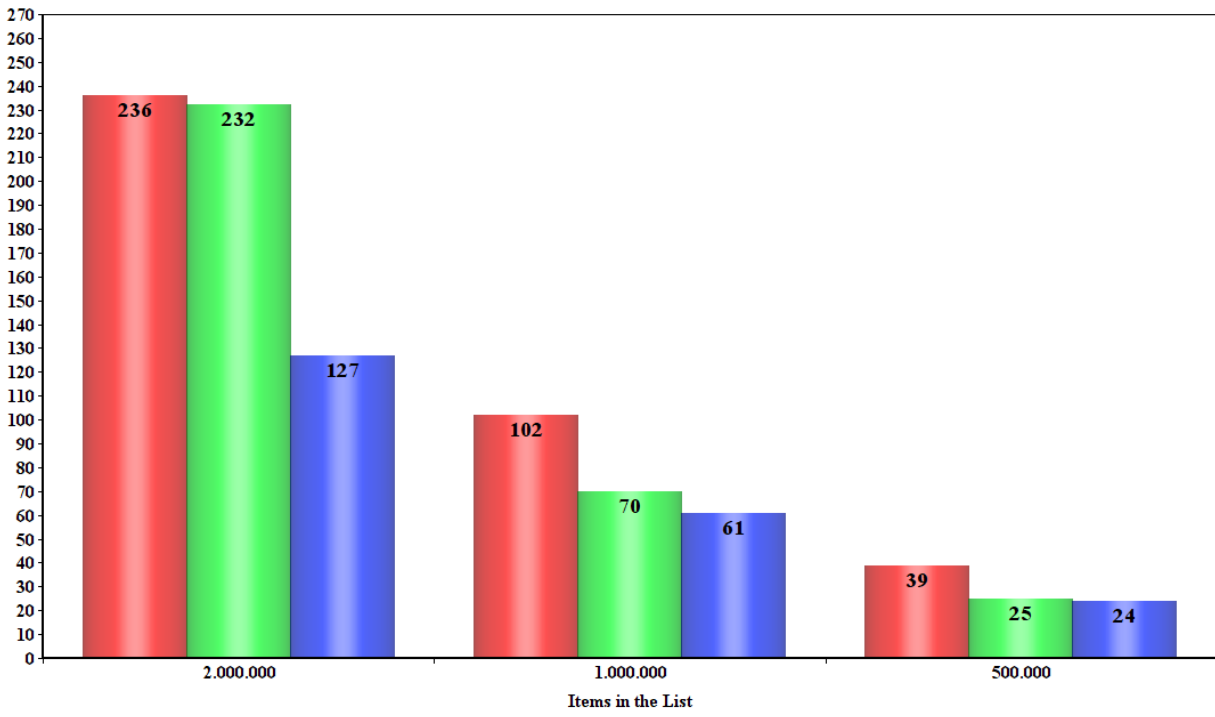
Advanced Options:

- Sync Manager
- Audio
- Video
- Camera
- Hardware Modules
- RenderScript
- Bionic C Library
- Power Management
- IRQ Events
- CPU Frequency
- CPU Idle
- eMMC commands
- Kernel Workqueues
- Kernel Memory Reclaim

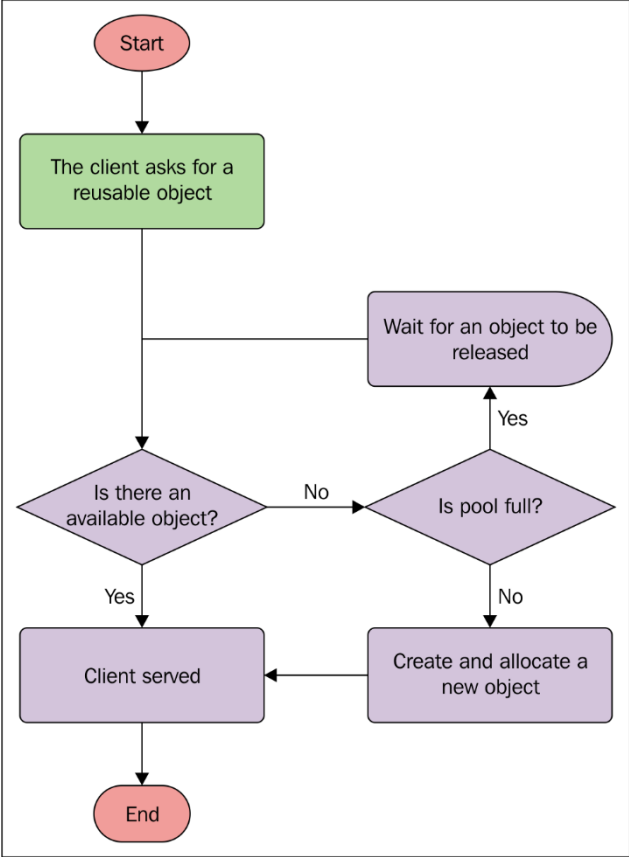


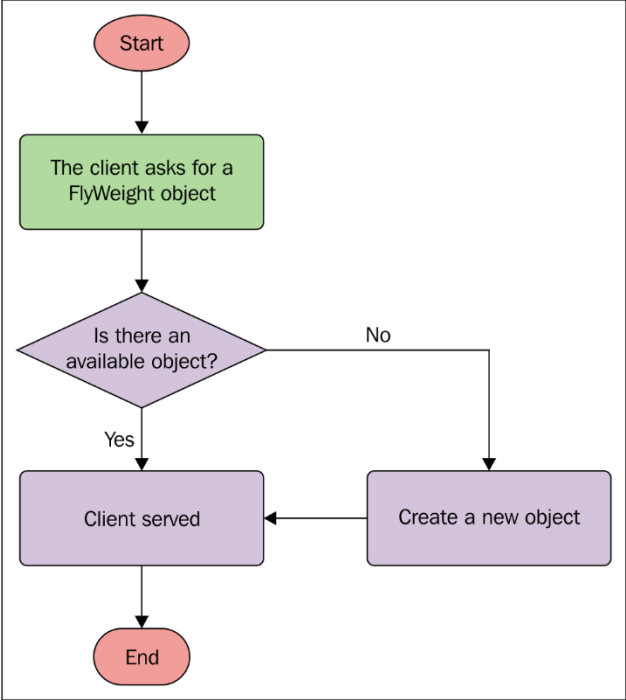
Chapter 4: Memory

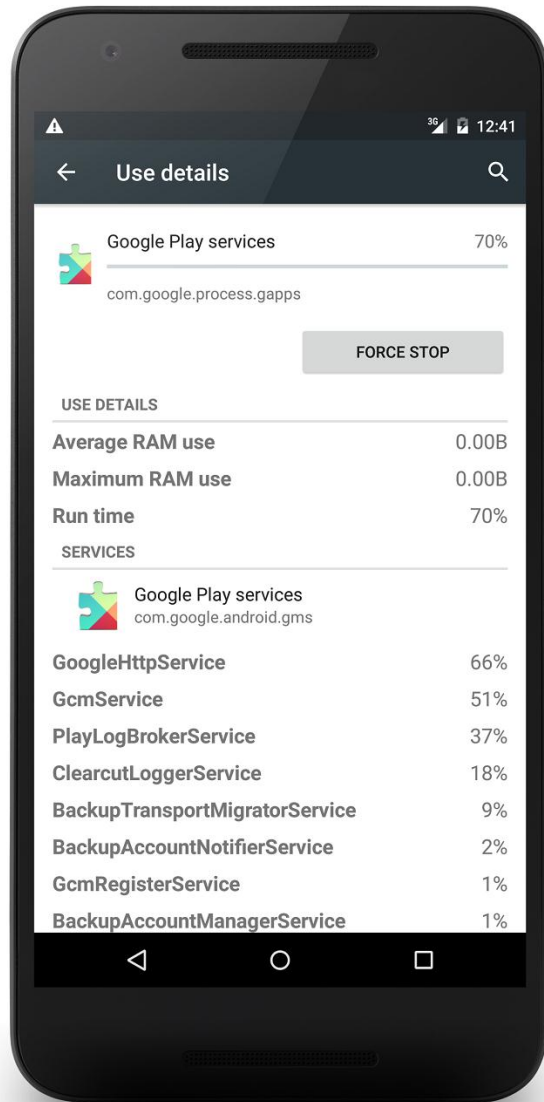
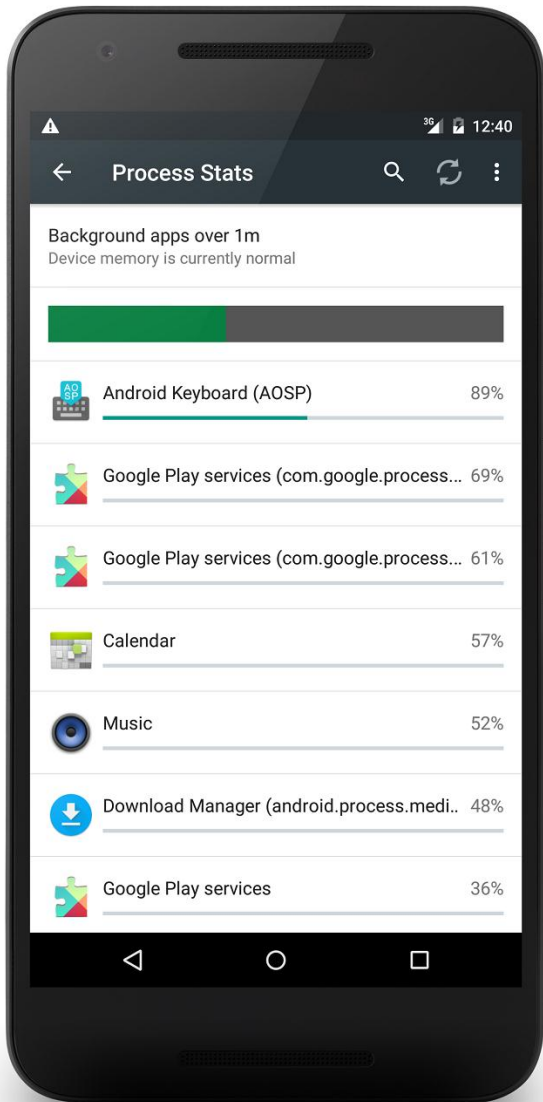




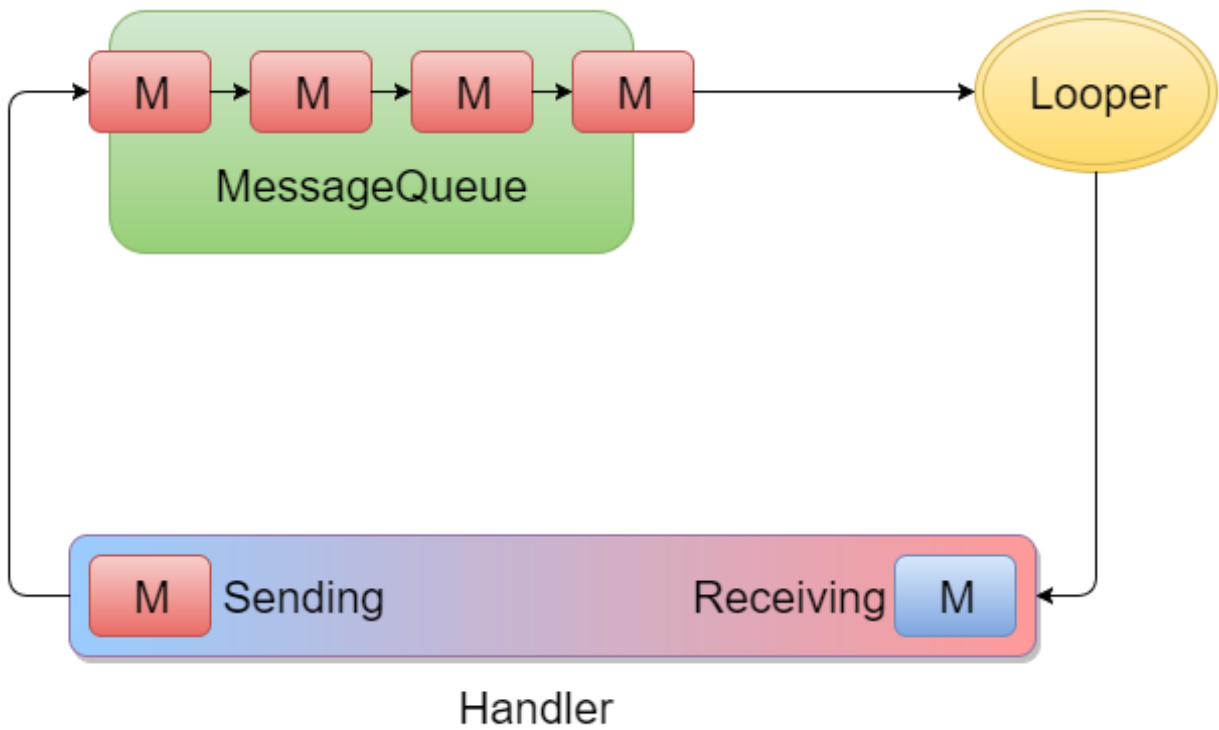
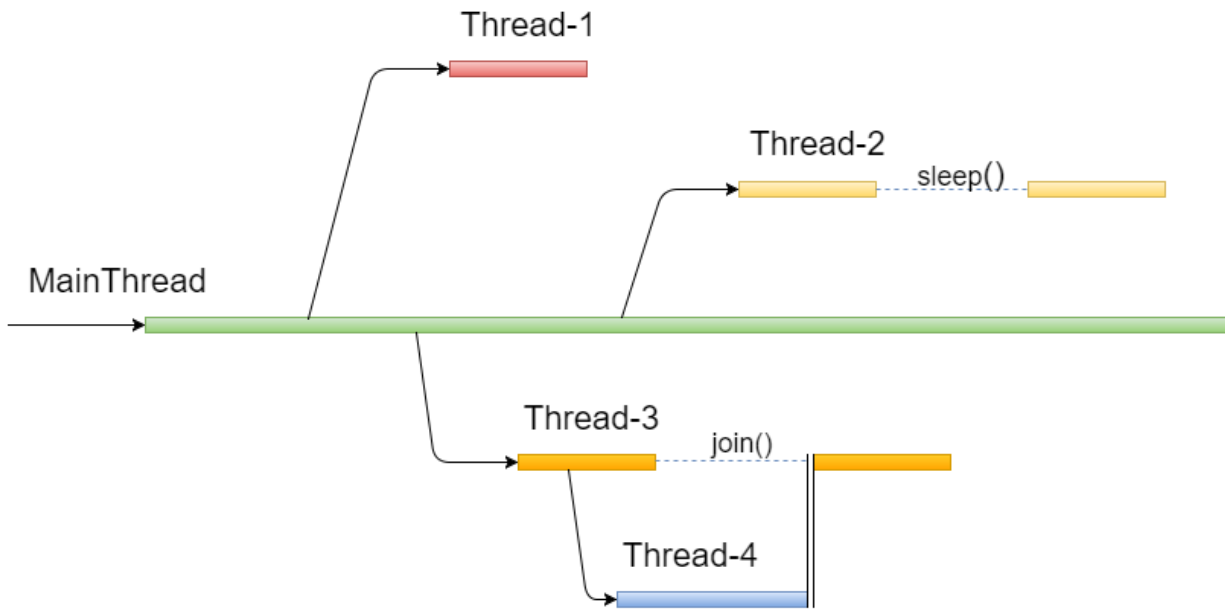
■ Iterator ■ While ■ For

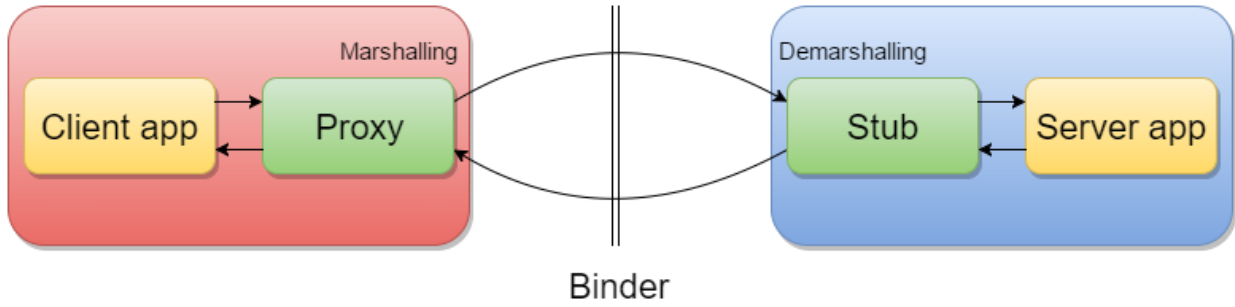
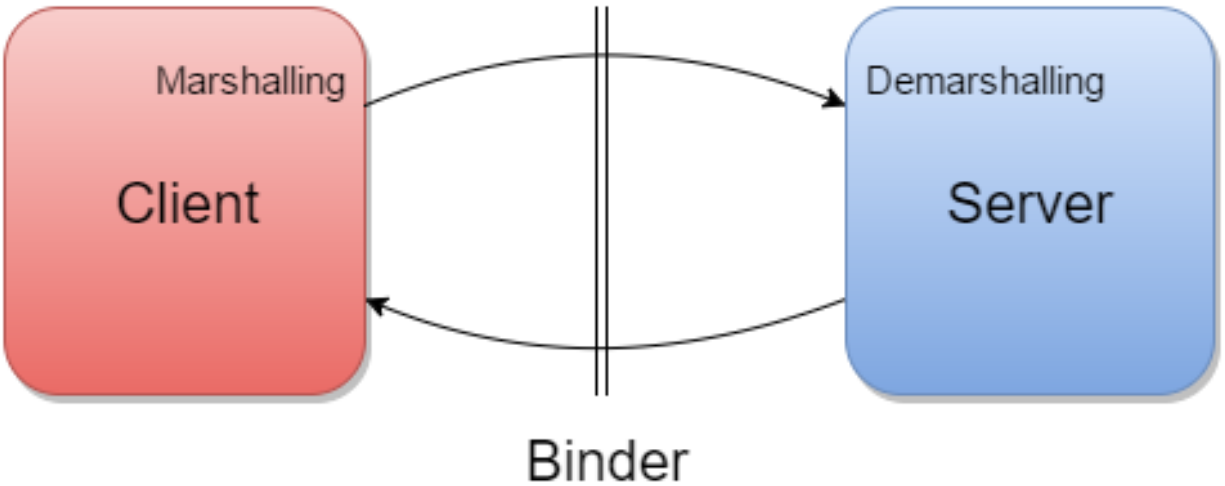




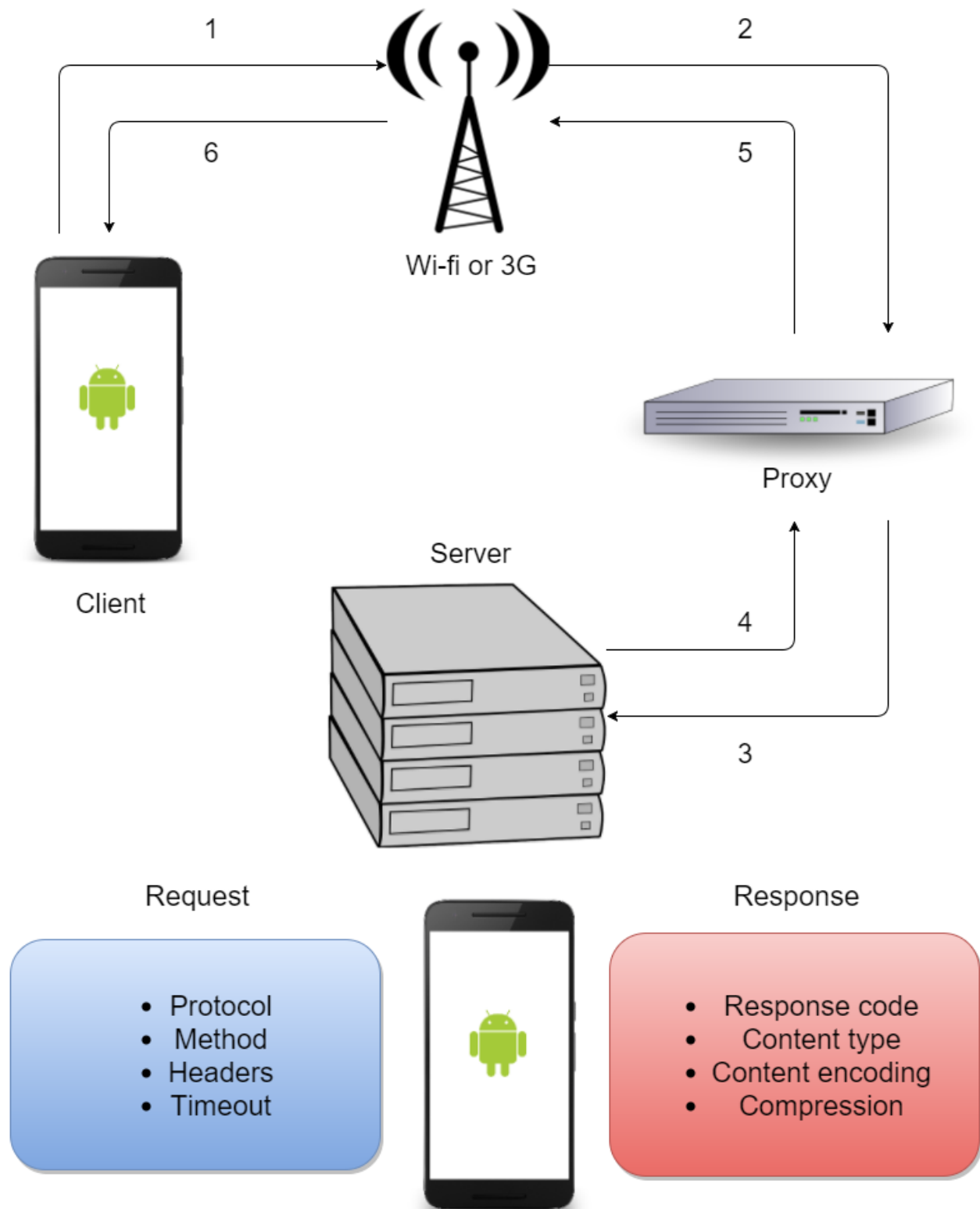


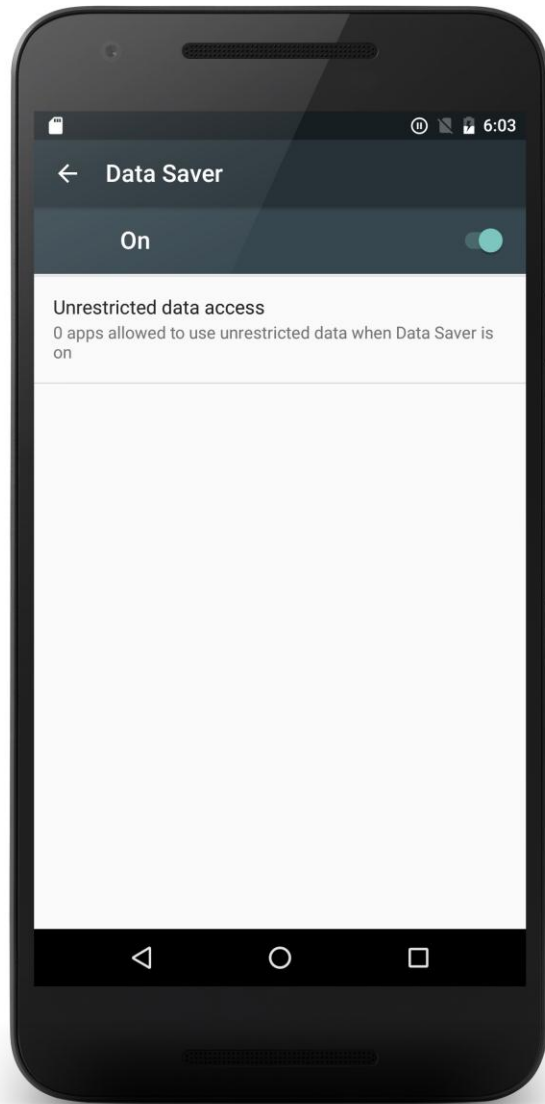
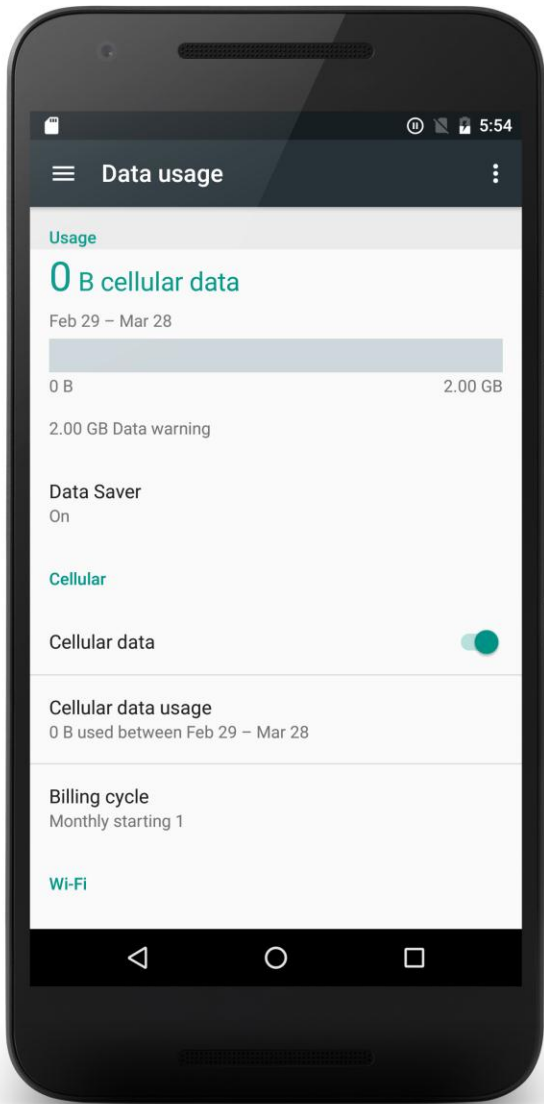
Chapter 5: Multithreading





Chapter 6: Networking





*Ethernet

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Apply a display filter ... <Ctrl-/> Expression...

No.	Time	Source	Destination	Protocol	Length	Info
4445	520.756999	192.168.1.70	239.255.255.250	SSDP	534	NOTIFY * HTTP/1.1
4446	520.757090	fe80::1892:10cc:163...	ff02::c	SSDP	563	NOTIFY * HTTP/1.1
4447	520.843789	192.168.1.70	239.255.255.250	SSDP	548	NOTIFY * HTTP/1.1
4448	520.843878	fe80::1892:10cc:163...	ff02::c	SSDP	577	NOTIFY * HTTP/1.1
4449	520.905455	192.168.1.70	239.255.255.250	SSDP	546	NOTIFY * HTTP/1.1
4450	520.905543	fe80::1892:10cc:163...	ff02::c	SSDP	575	NOTIFY * HTTP/1.1
4451	520.983770	192.168.1.70	239.255.255.250	SSDP	562	NOTIFY * HTTP/1.1
4452	520.983866	fe80::1892:10cc:163...	ff02::c	SSDP	591	NOTIFY * HTTP/1.1
4453	521.156338	Sagemcom_f6:9a:2e	Spanning-tree-(for-...	STP	60	Conf. Root = 61440/4095
4454	522.713468	192.168.1.70	192.168.1.254	DNS	75	Standard query 0x22b5 A
4455	522.763892	192.168.1.254	192.168.1.70	DNS	331	Standard query response
4456	522.768088	192.168.1.70	216.58.201.195	TCP	66	57851 → 443 [SYN] Seq=0
4457	522.775392	192.168.1.70	216.58.201.195	QUIC	1392	Client Hello, CID: 1457
4458	522.806643	216.58.201.195	192.168.1.70	TCP	66	443 → 57851 [SYN, ACK]
4459	522.806732	192.168.1.70	216.58.201.195	TCP	54	57851 → 443 [ACK] Seq=1
4460	522.807066	192.168.1.70	216.58.201.195	TLSv1.2	250	Client Hello
4461	522.825688	216.58.201.195	192.168.1.70	QUIC	1392	Rejection, CID: 1457558
4462	522.826505	216.58.201.195	192.168.1.70	QUIC	1392	Payload (Encrypted), CI
4463	522.830729	192.168.1.70	216.58.201.195	QUIC	1392	Client Hello, CID: 1457
4464	522.830765	192.168.1.70	216.58.201.195	QUIC	683	Payload (Encrypted), CI
4465	522.846492	216.58.201.195	192.168.1.70	TCP	60	443 → 57851 [ACK] Seq=1
4466	522.847624	216.58.201.195	192.168.1.70	TLSv1.2	1484	Server Hello
4467	522.848396	216.58.201.195	192.168.1.70	TCP	1484	[TCP segment of a reass
4468	522.848446	192.168.1.70	216.58.201.195	TCP	54	57851 → 443 [ACK] Seq=1

> Frame 4466: 1484 bytes on wire (11872 bits), 1484 bytes captured (11872 bits) on interface 0

> Ethernet II, Src: Sagemcom_f6:9a:2e (44:e9:dd:f6:9a:2e), Dst: AsrockIn_76:16:93 (d0:50:99:76:16:93)

> Internet Protocol Version 4, Src: 216.58.201.195, Dst: 192.168.1.70

> Transmission Control Protocol, Src Port: 443 (443), Dst Port: 57851 (57851), Seq: 1, Ack: 197, Len: 1484

```

0000 d0 50 99 76 16 93 44 e9 dd f6 9a 2e 08 00 45 00 .P.v..D. ....E.
0010 05 be 5d af 00 00 2e 06 c5 9e d8 3a c9 c3 c0 a8 ..]..... ..:....
0020 01 46 01 bb e1 fb ce 9d e9 83 67 e5 8d 66 50 10 .F..... ..g..fP.
0030 01 58 79 b6 00 00 16 03 03 01 45 02 00 01 41 03 .Xy..... ..E...A.
0040 03 57 75 82 13 07 5b f2 09 53 0c 4f 53 89 8a e9 .Wu...[. .S.OS...
0050 e2 9a 4d 4e 82 59 1d e3 3b 34 4d cc 7a 1c ec 7e ..MN.Y.. ;4M.Z...~
0060 00 00 c0 2b 00 01 19 ff 01 00 01 00 00 00 00 00 ...+.... ....
0070 00 17 00 00 00 23 00 00 00 12 00 f1 00 ef 00 76 .....#.. .....v
0080 00 68 f6 98 f8 1f 64 82 be 3a 8c ee b9 28 1d 4c .h....d. .:...(L
0090 fc 71 51 5d 67 93 d4 44 d1 0a 67 ac bb 4f 4f fb .qQ]g..D ..g..00.
00a0 c4 00 00 01 55 7c a3 f6 79 00 00 04 03 00 47 30 ....U|.. y.....G0

```

wireshark_pcapng_AAA075DD-E6...CE2366_20160630212453_a02808 | Packets: 4616 · Displayed: 4616 (100.0%) | Profile: Default

Fiddler Web Debugger

File Edit Rules Tools View Help GET /book GeoEdge
 WinConfig WinConfig Replay X Go Stream Decode Keep: All sessions Any Process Find Save

#	Result	Protocol	Host	URL	Body	Caching	Content-Type	Process
1	200	HTTPS	www.telerik.com	/UpdateCheck.aspx?isBeta=False	549	private	text/plain; charset=utf-8	
2	200	HTTP	Tunnel to	r20---sn-aig1ne6.googlevideo.com:443	0			chrome:5544
3	200	HTTP	Tunnel to	r4---sn-cu-h5ol.googlevideo.com:443	0			chrome:5544
4	200	HTTP	Tunnel to	clients4.google.com:443	0			chrome:5544
5	200	HTTP	Tunnel to	clients6.google.com:443	0			chrome:5544
6	200	HTTP	Tunnel to	0.docs.google.com:443	0			chrome:5544
7	200	HTTP	Tunnel to	ssl.gstatic.com:443	0			chrome:5544
8	200	HTTP	Tunnel to	s.youtube.com:443	0			chrome:5544
9	200	HTTP	Tunnel to	ad.doubleclick.net:443	0			chrome:5544
10	200	HTTP	Tunnel to	pagead2.googleadsyndication.com:443	0			chrome:5544
11	200	HTTP	Tunnel to	googleads.g.doubleclick.net:443	0			chrome:5544
12	200	HTTP	Tunnel to	pubads.g.doubleclick.net:443	0			chrome:5544
13	200	HTTP	Tunnel to	csi.gstatic.com:443	0			chrome:5544

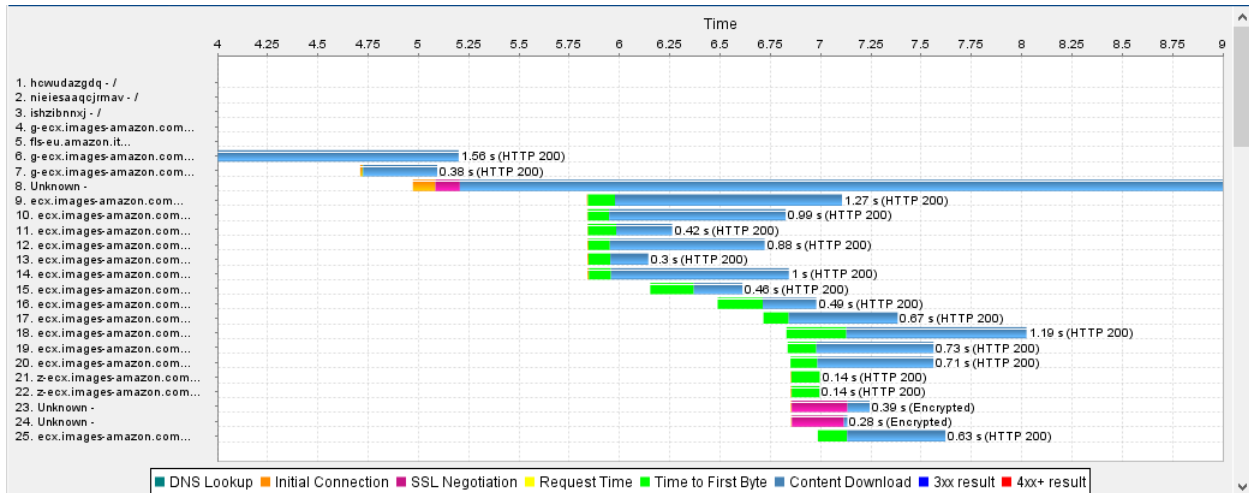
AT&T Application Resource Optimizer (ARO) - C:\Users\dexle\AROTraceAndroid\Nexus

File Profile Tools View Data Collector Defect Tracking Help

Best Practices/Results Overview Diagnostics Statistics Waterfall

TESTS CONDUCTED

	File Download: Text File Compression		Connections: Inefficient Connections - Connection Closing Problems
	File Download: Duplicate Content		Connections: Inefficient Connections - Offloading to WiFi when Possible
	File Download: Cache Control		Connections: 400, 500 HTTP Status Response Codes
	File Download: Content Expiration		Connections: 301, 302 HTTP Status Response Codes
	File Download: Content Pre-fetching		Connections: 3rd Party Scripts
	File Download: Combine JS and CSS Requests		HTML: Asynchronous Load of JavaScript in HTML
	File Download: Resize Images for Mobile		HTML: HTTP 1.0 Usage
	File Download: Minify CSS, JS, JSON and HTML		HTML: File Order
	File Download: Use CSS Sprites for Images		HTML: Empty Source and Link Attributes
	Connections: Connection Opening		HTML: FLASH
	Connections: Unnecessary Connections - Multiple Simultaneous Connections		HTML: "display:none" in CSS
	Connections: Inefficient Connections - Periodic Transfers		Other: Accessing Peripheral Applications
	Connections: Inefficient Connections - Screen Rotation		



Log Filters Timeline

Statistics Inspectors AutoResponder Composer Delayed Responses

Delaying the response only works at fiddler proxy level. Statistical service information is not changed.

TIPS









Delayed sessions have yellow background.
 Drag and Drop a session into rules grid.
 Select a session for Delay rules testing.

	Rule Enabled	Url (Regular Expression)	Html Content (Regular Expression)	Delay (MSec)
✎	<input checked="" type="checkbox"/>	play.google.com:443		300
*	<input type="checkbox"/>			

Enable



Choose a profile...

- 100% Loss**
preset 
- 3G**
preset 
- DSL**
preset 
- Edge**
preset 
- High Latency DNS**
preset 
- Profile 1**
custom 
- Very Bad Network**
preset 
- Wifi**
preset 

Add a profile...

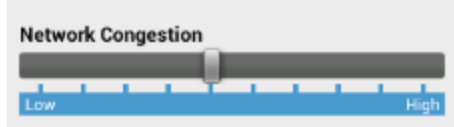
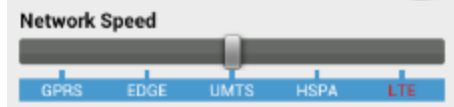


AT&T Network Attenuator

Attenuator Domain Blocker

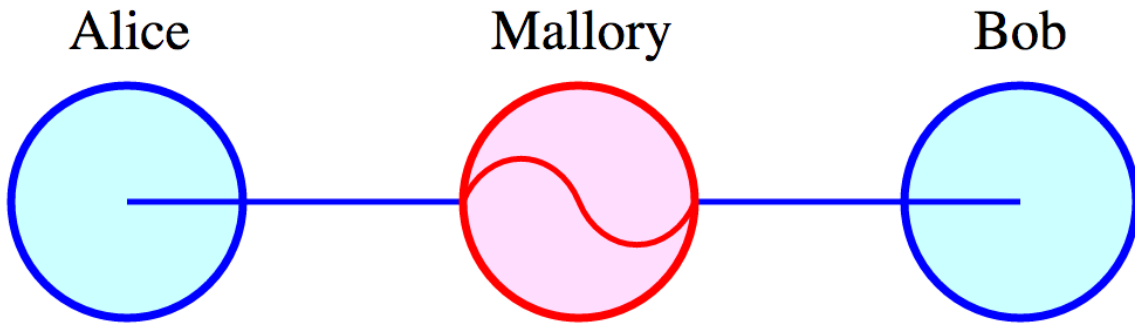
Attenuation: ON

Custom Settings: OFF

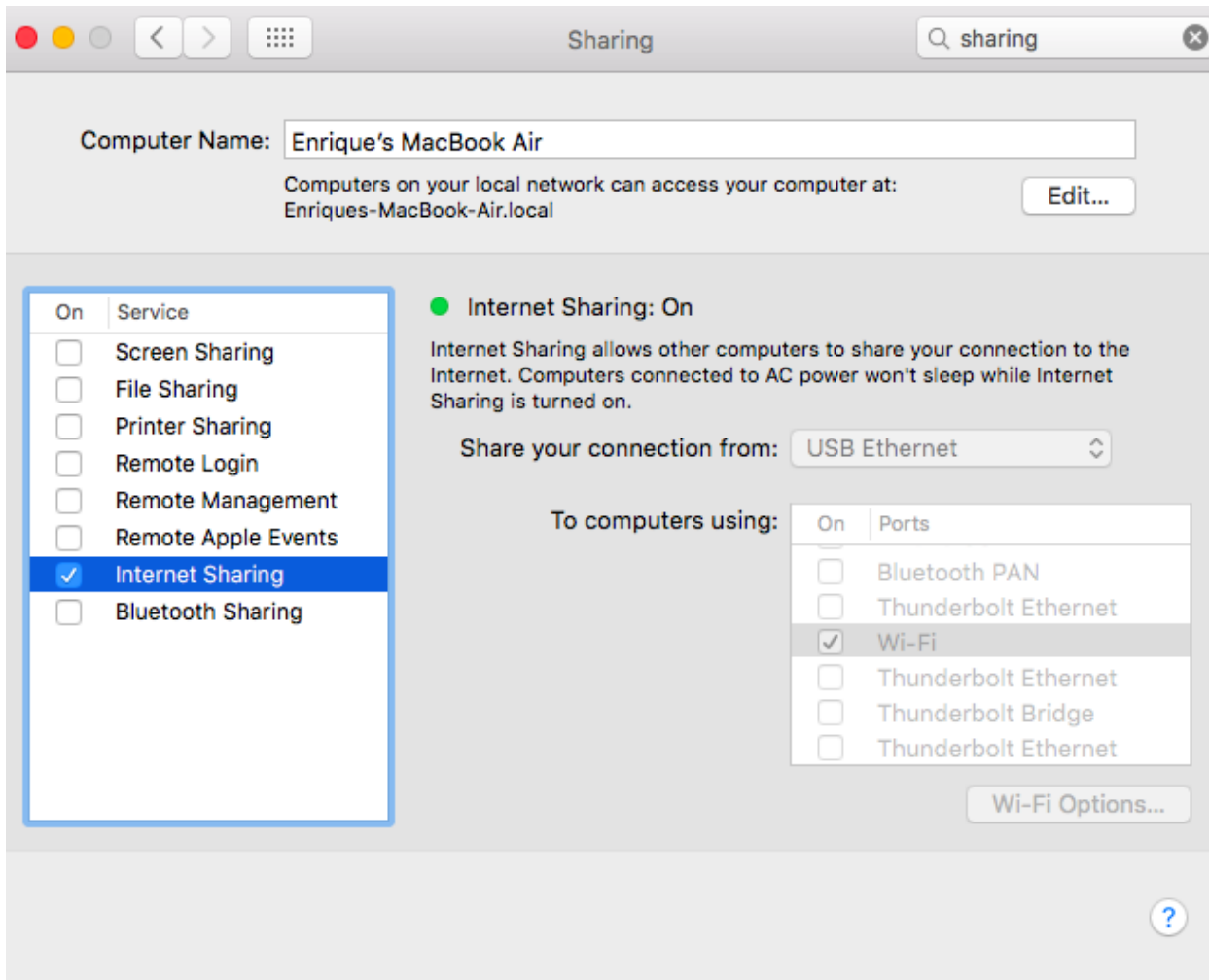


Uplink (Kbps)	76
Downlink (Kbps)	1152
RTT (ms)	360
Queue	0
Loss (%)	0

Chapter 7: Security



<https://play.google.com/store/apps/details?id=com.google.android.apps.maps>



Computer Name: Enrique's MacBook Air

Computers on your local network can access your computer at: Enriques-MacBook-Air.local Edit...

On	Service
<input type="checkbox"/>	Screen Sharing
<input type="checkbox"/>	File Sharing
<input type="checkbox"/>	Printer Sharing
<input type="checkbox"/>	Remote Login
<input type="checkbox"/>	Remote Management
<input type="checkbox"/>	Remote Apple Events
<input checked="" type="checkbox"/>	Internet Sharing
<input type="checkbox"/>	Bluetooth Sharing

Internet Sharing: On

Internet Sharing allows other computers to share your connection to the Internet. Computers connected to AC power won't sleep while Internet Sharing is turned on.

Share your connection from: USB Ethernet

To computers using:

On	Ports
<input type="checkbox"/>	Bluetooth PAN
<input type="checkbox"/>	Thunderbolt Ethernet
<input checked="" type="checkbox"/>	Wi-Fi
<input type="checkbox"/>	Thunderbolt Ethernet
<input type="checkbox"/>	Thunderbolt Bridge
<input type="checkbox"/>	Thunderbolt Ethernet

Wi-Fi Options...



Capturing from Wi-Fi: en0

Apply a display filter ... <%%/> Expression... +

No.	Time	Source	Destination	Protocol	Length	Info
1351	60.615528	2003:63:2f53:ce01:...	2a00:1450:4001:804...	TCP	74	[TCP Dup ACK 1102#1] 49423 → 443 [ACK] Seq=1
1352	60.642832	2a00:1450:4001:804...	2003:63:2f53:ce01:...	TCP	86	[TCP Dup ACK 1103#1] [TCP ACKed unseen segme
1353	61.546744	107.22.191.89	192.168.2.109	TLSv...	86	Application Data
1354	61.546813	192.168.2.109	107.22.191.89	TCP	54	49723 → 443 [ACK] Seq=161 Ack=2208 Win=8191 I
1355	64.616555	fe80::1	ff02::1	ICMP...	86	Neighbor Advertisement fe80::1 (rtr, ovr) is
1356	66.749770	192.168.2.109	107.22.191.89	TLSv...	94	Application Data
1357	66.891347	107.22.191.89	192.168.2.109	TCP	54	443 → 49723 [ACK] Seq=2208 Ack=201 Win=40 Len
1358	67.893454	fe80::1	ff02::1	ICMP...	118	Router Advertisement from 34:6b:d3:81:cd:69
1359	68.817090	192.30.252.91	192.168.2.109	TLSv...	97	Application Data
1360	68.817168	192.168.2.109	192.30.252.91	TCP	66	49573 → 443 [ACK] Seq=36 Ack=63 Win=4095 Len:
1361	68.817284	192.168.2.109	192.30.252.91	TLSv...	101	Application Data
1362	68.931354	192.30.252.91	192.168.2.109	TCP	66	443 → 49573 [ACK] Seq=63 Ack=71 Win=31 Len=0
1363	69.190608	192.168.2.109	54.192.95.39	TLSv...	518	Application Data
1364	69.257771	54.192.95.39	192.168.2.109	TCP	1466	[TCP segment of a reassembled PDU]
1365	69.258225	54.192.95.39	192.168.2.109	TCP	1466	[TCP segment of a reassembled PDU]
1366	69.258228	54.192.95.39	192.168.2.109	TLSv...	333	Application Data
1367	69.258287	192.168.2.109	54.192.95.39	TCP	66	49720 → 443 [ACK] Seq=905 Ack=5739 Win=4052 I
1368	69.258287	192.168.2.109	54.192.95.39	TCP	66	49720 → 443 [ACK] Seq=905 Ack=6006 Win=4087 I

▶ Frame 1353: 86 bytes on wire (688 bits), 86 bytes captured (688 bits) on interface 0

▶ Ethernet II, Src: HuaweiTe_81:cd:69 (34:6b:d3:81:cd:69), Dst: Apple_df:38:de (7c:d1:c3:df:38:de)

▶ Internet Protocol Version 4, Src: 107.22.191.89, Dst: 192.168.2.109

▶ Transmission Control Protocol, Src Port: 443 (443), Dst Port: 49723 (49723), Seq: 2176, Ack: 161, Len: 32

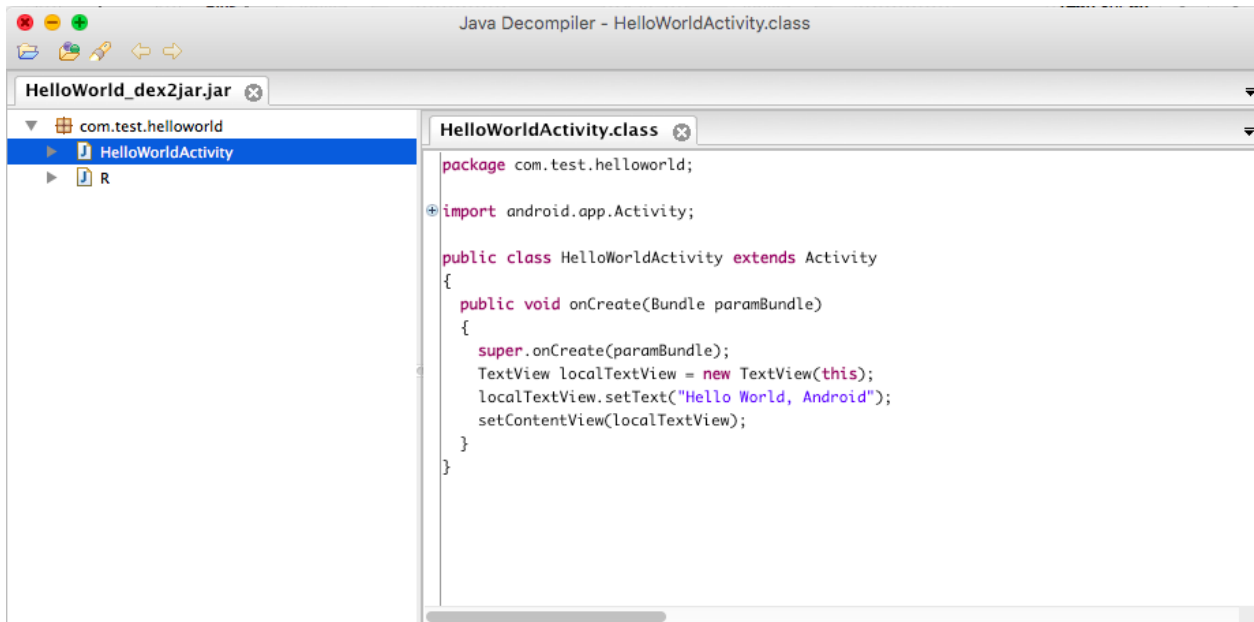
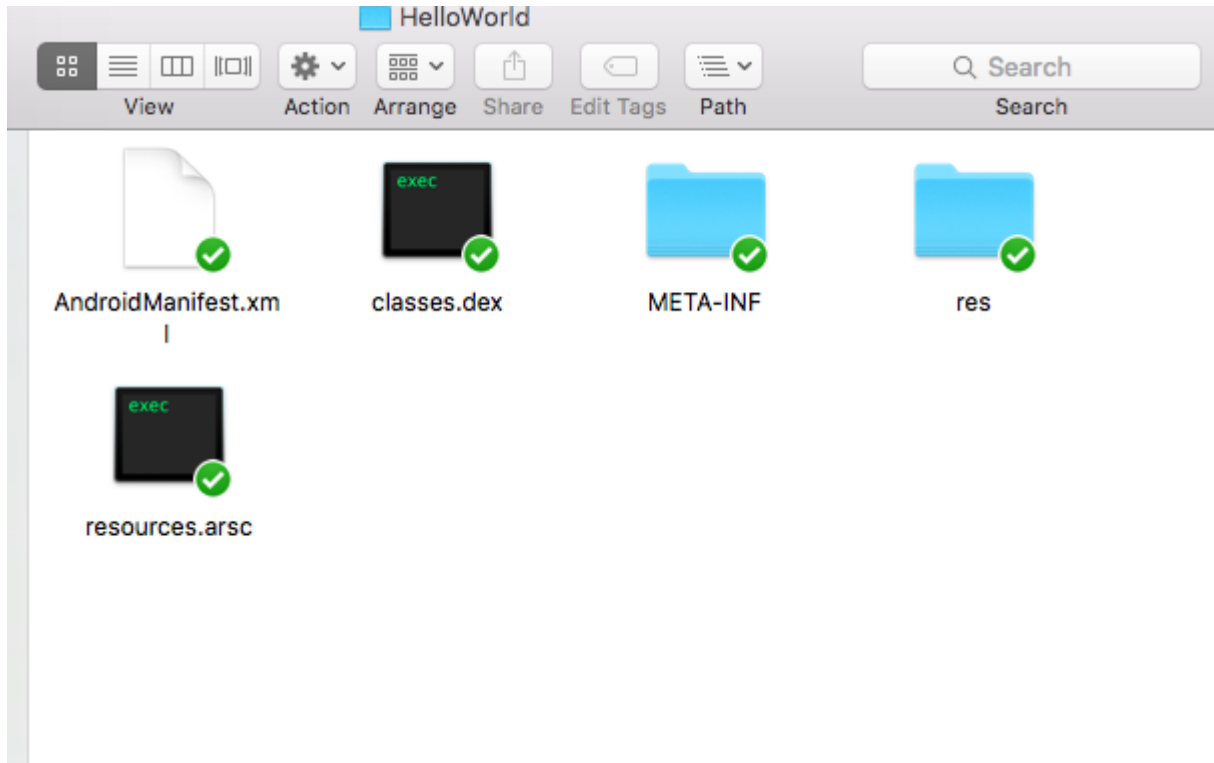
▶ Secure Sockets Layer

```

0000  7c d1 c3 df 38 de 34 6b d3 81 cd 69 08 00 45 00  |...8.4k ...i..E.
0010  00 48 89 34 40 00 26 06 dd f6 6b 16 bf 59 c0 a8  .H.4@.&. ..k..Y..
0020  02 6d 01 bb c2 3b f3 07 16 8c c5 dc b8 01 50 18  .m...;.. ..P.
0030  00 28 06 c4 00 00 17 03 03 00 1b 83 cf 3d 36 9f  .(..... ..=6.
0040  40 c7 de 56 64 75 e5 86 36 59 8b 3b d0 64 7f ce  @..Vdu.. 6Y.;.d..
0050  fb 16 af cc 0e a9  .....

```

Packets: 1368 · Displayed: 1368 (100.0%) Profile: Default



Android Crackme03 - [by deurus]

HardwareID 01: 0000000000000000

HardwareID 02: 8901410321118510720

Enter Name

Enter Serial

Check

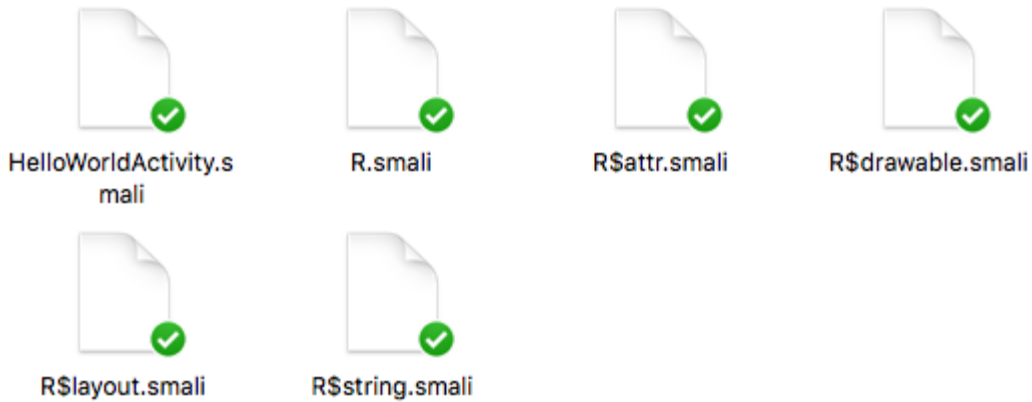
About

Java Decompiler - HelloAndroid.class

Crackme03_dex2jar.jar

- com.example
 - crackme03
 - R
 - helloandroid
 - HelloAndroid
 - HelloAndroid
 - pulsarBoton : View.OnClickListener
 - pulsarBotonabout : View.OnClickListener
 - onCreate(Bundle) : void
 - prueba2

```
public void onClick(View paramAnonymousView)
{
    String str1 = ((EditText)HelloAndroid.this.findViewById(2131034116)).getText().toString();
    int i = str1.length();
    String str2 = "";
    String str3 = ((EditText)HelloAndroid.this.findViewById(2131034118)).getText().toString();
    if (i < 4);
    while (true)
    {
        try
        {
            Toast.makeText(HelloAndroid.this.getApplicationContext(), "Min 4 chars", 1).show();
            return;
        }
        catch (Exception localException)
        {
            Toast.makeText(HelloAndroid.this.getApplicationContext(), "Another Error Occurred :", 1).show();
            return;
        }
        int k = str1.length();
        if (j >= k)
        {
            String str4 = String.valueOf(0x6B016 ^ Integer.parseInt(str2.substring(0, 5)));
            TelephonyManager localTelephonyManager = (TelephonyManager)HelloAndroid.this.getSystemService("phone");
            String str5 = localTelephonyManager.getDeviceId();
            String str6 = localTelephonyManager.getSimSerialNumber();
            String str7 = str5.substring(0, 6);
            String str8 = str6.substring(0, 6);
            long l = Integer.parseInt(str7) ^ Integer.parseInt(str8);
            if (!(str4 + "-" + String.valueOf(l) + "-" + str7).equals(str3))
            {
                break label285;
            }
            Toast.makeText(HelloAndroid.this.getApplicationContext(), "God boy", 1).show();
            return;
        }
    }
    int m = str1.charAt(j);
    str2 = str2 + m;
    j++;
    continue;
label285: Toast.makeText(HelloAndroid.this.getApplicationContext(), "Bad boy ", 1).show();
    return;
    int j = 0;
}
}
```



HelloWorld









Hello World, Android Hacked

This is a Disassembled Toast!

Name	Size	Date	Time	Permissions	Info
▶ config		2016-02-01	17:...	dr-x-----	
▶ d		2016-02-01	17:...	lrwxrwxrwx	-> /sys/ke...
▼ data		2015-12-03	04:...	drwxrwx--x	
▶ anr		2016-02-01	17:...	drwxrwxr-x	
▶ app		2016-02-01	06:...	drwxrwx--x	
▶ app-asec		2015-12-03	04:...	drwx-----	
▶ app-lib		2015-12-03	04:...	drwxrwx--x	
▶ app-private		2015-12-03	04:...	drwxrwx--x	
▶ backup		2016-02-01	06:...	drwx-----	
▶ bugreports		2015-12-03	04:...	lrwxrwxrwx	-> /data/d...
▶ dalvik-cache		2015-12-03	04:...	drwxrwx--x	
▼ data		2016-01-28	12:...	drwxrwx--x	
▶ com.android.backupconfirm		2015-12-03	04:...	drwxr-x--x	
▶ com.android.bluetooth		2015-12-03	04:...	drwxr-x--x	
▶ com.android.browser		2016-01-11	04:...	drwxr-x--x	
▶ com.android.calculator2		2015-12-03	04:...	drwxr-x--x	
▶ com.android.calendar		2015-12-03	04:...	drwxr-x--x	
▶ com.android.camera2		2015-12-03	04:...	drwxr-x--x	
▶ com.android.captiveportallogin		2015-12-03	04:...	drwxr-x--x	
▶ com.android.certinstaller		2016-02-01	17:...	drwxr-x--x	
▶ com.android.contacts		2015-12-03	04:...	drwxr-x--x	
▶ com.android.customlocale2		2015-12-03	04:...	drwxr-x--x	
▶ com.android.defcontainer		2015-12-03	06:...	drwxr-x--x	
▶ com.android.deskclock		2015-12-03	04:...	drwxr-x--x	
▶ com.android.development		2015-12-03	04:...	drwxr-x--x	
▶ com.android.development_s...		2015-12-03	04:...	drwxr-x--x	
▶ com.android.dialer		2015-12-03	04:...	drwxr-x--x	
▶ com.android.documentsui		2015-12-03	11:...	drwxr-x--x	
▶ com.android.dreams.basic		2015-12-03	04:...	drwxr-x--x	

Android Device Monitor

Quick Access 

-  Threads
-  Heap
-  File Explorer 
-  Allocation Tracker
-  Emulator Control
-  System Information 

Name	Size	Date	Time	Permissions	Info
▶ cache		2016-01-05	09:...	drwxrwx--x	
▶ databases		2016-01-05	09:...	drwxrwx--x	
▼ files		2016-02-01	17:...	drwxrwx--x	
DATA_ServerControlle...	2280	2016-02-01	17:...	-rw-rw----	
DATA_cache-migratio...	30	2016-01-05	09:...	-rw-rw----	
DATA_disk_creation_ti...	8	2016-01-05	09:...	-rw-rw----	
DATA_disk_creation_ti...	8	2016-01-05	09:...	-rw-rw----	
DATA_disk_creation_ti...	8	2016-01-05	09:...	-rw-rw----	
DATA_disk_creation_ti...	8	2016-01-05	09:...	-rw-rw----	
DATA_disk_creation_ti...	8	2016-01-05	09:...	-rw-rw----	
ZoomTables.data	1938	2016-01-05	09:...	-rw-rw----	
_m_t	234	2016-02-01	17:...	-rw-rw----	
com.google.android.g...	0	2016-02-01	17:...	-rw-rw----	
event_store_v2_de.mv...	418	2016-01-25	10:...	-rw-rw----	
lib		2016-01-05	09:...	lrwxrwxrwx	-> /data/a...
▼ shared_prefs		2016-02-01	17:...	drwxrwx--x	
AppStateRepository.xml	230	2016-01-11	04:...	-rw-rw----	
MapViewInitializerPref...	138	2016-02-01	17:...	-rw-rw----	
WebViewChromiumPr...	124	2016-01-05	09:...	-rw-rw----	
com.google.maps.api...	211	2016-01-05	09:...	-rw-rw----	
▶ de.mvg.more.k		2016-01-26	09:...	drwxr-x--x	
▶ de.mvg.more.k2		2016-01-13	05:...	drwxr-x--x	
▶ de.mvg.more.k_ng		2016-01-21	04:...	drwxr-x--x	
▶ gcm.play.android.samples.c...		2015-12-03	11:...	drwxr-x--x	
▶ jp.co.omronsoft.openwnn		2015-12-03	04:...	drwxr-x--x	
▶ dontpanic		2015-12-03	04:...	drwxr-x---	
▶ drm		2015-12-03	04:...	drwxrwx--	
▶ local		2015-12-03	04:...	drwxr-x--x	
▶ lost+found		1969-12-31	19:...	drwxrwx--	

 AppStateRepository.xml

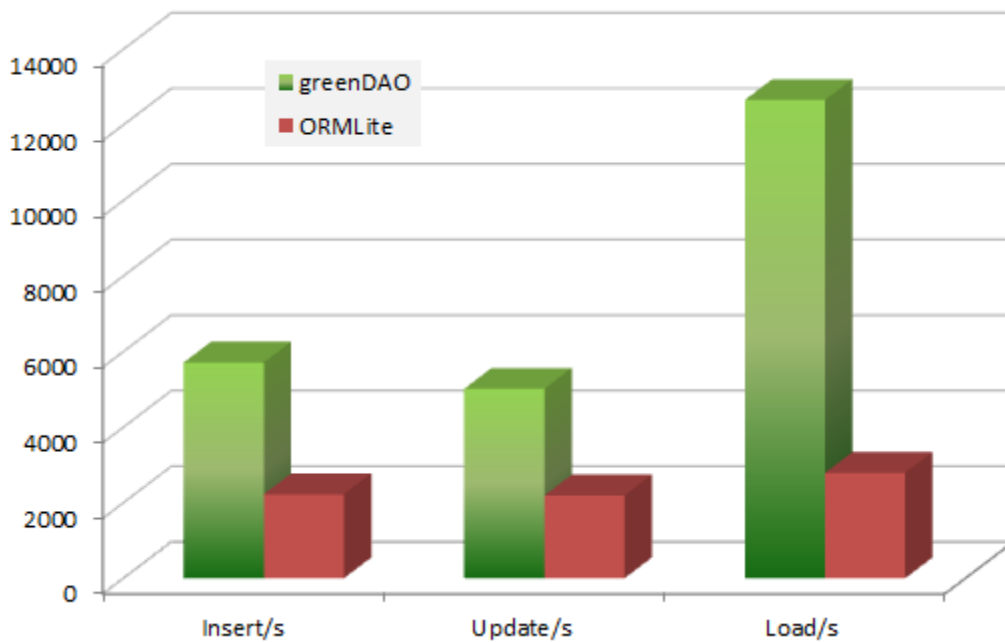
 | < > |  AppStateRepository.xml > No Selection

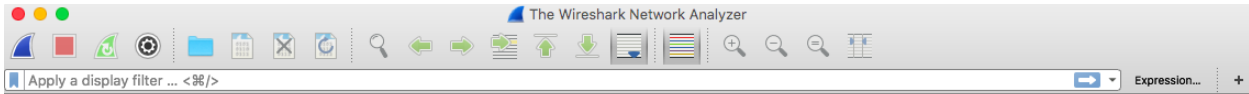
```

1 <?xml version='1.0' encoding='utf-8' standalone='yes' ?>
2 <map>
3   <string name="AppStateRepository:AppVersion">2.0.0_1266 p P 1/11/16 10:53 AM</string>
4   <boolean name="AppStateRepository:FirstAppStart" value="false" />
5 </map>
6

```

▶ com.google.android.gsf	2015-12-03	05:...	drwxr-x--x
▶ com.google.android.gsf.login	2015-12-03	05:...	drwxr-x--x
▶ com.google.android.launcher.layouts.genymotion	2015-12-03	04:...	drwxr-x--x
▶ com.google.android.marvin.talkback	2015-12-03	10:...	drwxr-x--x
▶ com.google.android.music	2015-12-09	08:...	drwxr-x--x
▶ com.google.android.onetimeinitializer	2015-12-03	05:...	drwxr-x--x
▼ com.google.android.partnersetup	2015-12-03	05:...	drwxr-x--x
▶ cache	2015-12-03	05:...	drwxrwx--x
▼ databases	2015-12-03	05:...	drwxrwx--x
riz_data.db	32768 2016-02-01	17:...	-rw-rw----
riz_data.db-journal	12824 2016-02-01	17:...	-rw-----
lib	2015-12-03	05:...	lrwxrwxrwx -> /data/a...
▶ shared_prefs	2016-02-01	17:...	drwxrwx--x
▶ com.google.android.play.games	2016-02-01	17:...	drwxr-x--x
▶ com.google.android.setupwizard	2015-12-03	05:...	drwxr-x--x
▶ com.google.android.street	2016-02-01	17:...	drwxr-x--x
▶ com.google.android.syncadapters.calendar	2015-12-03	06:...	drwxr-x--x





Welcome to Wireshark

Capture

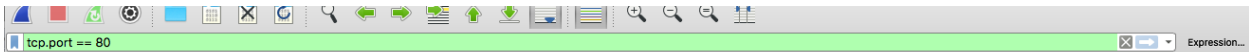
...using this filter:

- Wi-Fi: en0
- awd0
- Thunderbolt Bridge: bridge0
- Thunderbolt 1: en1
- vboxnet1
- p2p0
- Loopback: lo0

Learn

[User's Guide](#) · [Wiki](#) · [Questions and Answers](#) · [Mailing Lists](#)

You are running Wireshark 2.0.0 (v2.0.0-0-g9a73b82 from master-2.0).

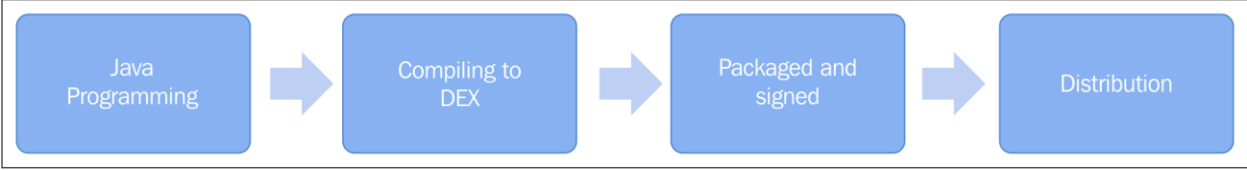


No.	Time	Source	Destination	Protocol	Length	Info
259	8..	192.168.2.104	130.117.88.13	TCP	54	55545 → 80 [ACK] Seq=1365 Ack=334 Win=261792 Len=0
369	1..	192.168.2.104	130.117.88.13	TCP	54	55545 → 80 [FIN, ACK] Seq=1365 Ack=334 Win=262144 Len=0
378	1..	192.168.2.104	130.117.88.13	TCP	54	55545 → 80 [ACK] Seq=1366 Ack=335 Win=262144 Len=0
211	8..	192.168.2.104	130.117.88.22	TCP	54	49825 → 80 [FIN, ACK] Seq=1 Ack=1 Win=8192 Len=0
293	9..	192.168.2.104	130.117.88.22	TCP	54	[TCP Retransmission] 49825 → 80 [FIN, ACK] Seq=1 Ack=1 Win=8192 Len=0
334	9..	192.168.2.104	130.117.88.22	TCP	54	[TCP Retransmission] 49825 → 80 [FIN, ACK] Seq=1 Ack=1 Win=8192 Len=0
379	1..	192.168.2.104	130.117.88.22	TCP	54	[TCP Retransmission] 49825 → 80 [FIN, ACK] Seq=1 Ack=1 Win=8192 Len=0
617	1..	192.168.2.104	130.117.88.22	TCP	54	[TCP Retransmission] 49825 → 80 [FIN, ACK] Seq=1 Ack=1 Win=8192 Len=0
1003	1..	192.168.2.104	130.117.88.22	TCP	54	[TCP Retransmission] 49825 → 80 [FIN, ACK] Seq=1 Ack=1 Win=8192 Len=0
212	8..	192.168.2.104	154.53.129.43	TCP	78	55543 → 80 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 WS=32 TSval=123707644 TSecr=0 SACK_PERM=1
229	8..	192.168.2.104	154.53.129.43	TCP	54	55543 → 80 [ACK] Seq=1 Ack=1 Win=262144 Len=0
230	8..	192.168.2.104	154.53.129.43	HTTP	530	GET /p/108/sp/10800/embedIframeJs/uiconf_id/8704917/partner_id/108 HTTP/1.1
252	8..	192.168.2.104	154.53.129.43	TCP	54	55543 → 80 [ACK] Seq=477 Ack=507 Win=261632 Len=0
117	8..	192.168.2.104	173.194.113.90	TCP	66	50989 → 80 [FIN, ACK] Seq=1 Ack=1 Win=4096 Len=0 TSval=123707414 TSecr=337185077
136	8..	192.168.2.104	173.194.113.90	TCP	66	50989 → 80 [ACK] Seq=2 Ack=2 Win=4096 Len=0 TSval=123707435 TSecr=337246088
118	8..	192.168.2.104	173.194.116.154	TCP	78	55528 → 80 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 WS=32 TSval=123707414 TSecr=0 SACK_PERM=1
119	8..	192.168.2.104	173.194.116.154	TCP	78	55528 → 80 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 WS=32 TSval=123707415 TSecr=0 SACK_PERM=1
138	8..	192.168.2.104	173.194.116.154	TCP	66	55528 → 80 [ACK] Seq=1 Ack=1 Win=131584 Len=0 TSval=123707435 TSecr=516748677
141	8..	192.168.2.104	173.194.116.154	TCP	66	55529 → 80 [ACK] Seq=1 Ack=1 Win=131584 Len=0 TSval=123707438 TSecr=516748330
178	8..	192.168.2.104	173.194.116.154	HTTP	1335	GET /activeview?id=osdtos&avi=BeYTqmgCxVvrqLTX1bNWFgFgFAAAAABAB0AHIAQnAAgAgDgBAGgBHY6cid=5GhaVVFvd
181	8..	192.168.2.104	173.194.116.154	HTTP	1227	GET /activeview?id=osdtos&avi=BeYTqmgCxVvrqLTX1bNWFgFgFAAAAABAB0AHIAQnAAgAgDgBAGgBHY6cid=5GhaVVFvd
195	8..	192.168.2.104	173.194.116.154	TCP	66	55528 → 80 [ACK] Seq=1270 Ack=471 Win=131104 Len=0 TSval=123707620 TSecr=516748902
197	8..	192.168.2.104	173.194.116.154	TCP	66	55529 → 80 [ACK] Seq=1162 Ack=471 Win=131104 Len=0 TSval=123707625 TSecr=516748557
215	8..	192.168.2.104	173.194.116.154	TCP	66	55528 → 80 [FIN, ACK] Seq=1270 Ack=471 Win=131104 Len=0 TSval=123707656 TSecr=516748902
221	8..	192.168.2.104	173.194.116.154	TCP	66	55528 → 80 [ACK] Seq=1271 Ack=472 Win=131104 Len=0 TSval=123707675 TSecr=516748974

Hypertext Transfer Protocol

- ▶ GET /assets/desktop/master/img/loading-icon.gif HTTP/1.1\r\n
 Host: estaticos82.elmundo.es\r\n
 Accept: image/webp,*/*;q=0.8\r\n
 User-Agent: Mozilla/5.0 (Linux; Android 5.0; Google Nexus 6 - 5.0.0 - API 21 - 1440x2560 Build/LRX21M) AppleWebKit/537.36 (KHTML, like Gecko) Version/4.0 Chrome/37.0.0.0 Safari/537.36\r\n
 Referer: http://www.elmundo.es/espana/2016/02/02/56b0e3b1268e3e8a538b4653.html\r\n
 Accept-Encoding: gzip,deflate\r\n
 Accept-Language: en-US\r\n
 [truncated] Cookie: ELMUNDO_pref=%7B%22v%22%3A%22n%22%2C%22d%22%3A%22m%22%2C%22u%22%3A%22c%22%2C%22%3A%22%22%7D; UE_pref=%7B%22v%22%3A%22n%22%2C%22d%22%3A%22m%22%2C%22u%22%3A%22c%22%2C%22%3A%22%22%7D\r\n
 X-Requested-With: com.android.browser\r\n
 \r\n
 [Full request URI: http://estaticos82.elmundo.es/assets/desktop/master/img/loading-icon.gif]
- ▶ [HTTP request 1/1]
- ▶ [Response in frame 258]

0030	28	00	27	f7	00	00	47	45	54	20	2f	61	73	73	65	74	...	GE T /asset
0040	73	2f	64	65	73	6b	74	6f	70	2f	6d	61	73	74	65	72		s/desktop/master
0050	94	50	64	67	67	6a	6f	61	64	60	60	67	2d	60	63	6f		img/loading-ico

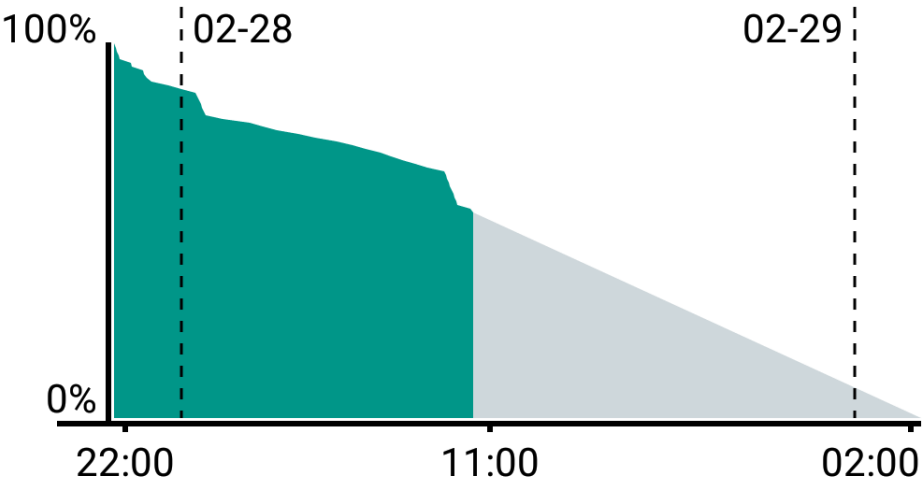


Chapter 8: Optimizing Battery Consumption

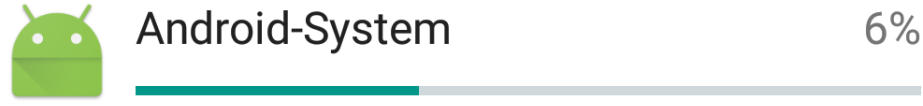
Battery mode
Balanced

Enable per-app profiles
Automatically choose an appropriate battery mode for various apps

Battery usage
55% - approx. 16 hrs left



Use since last full charge

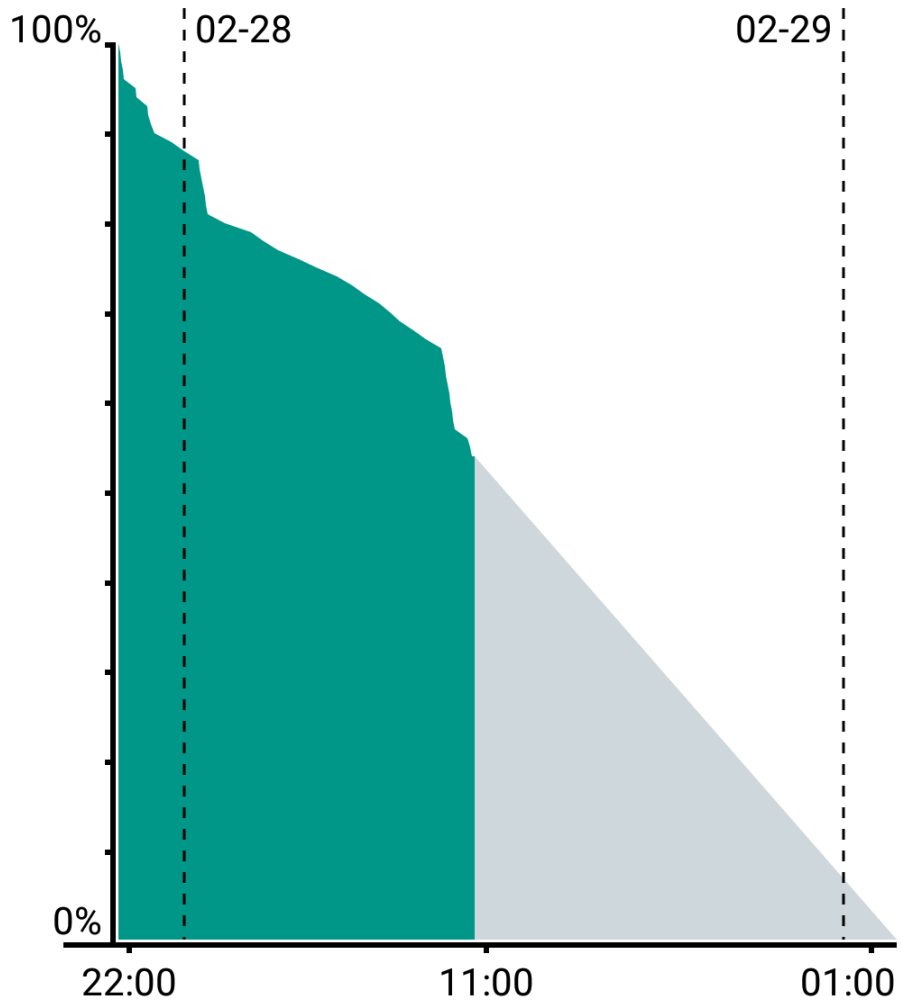




History details



54% - approx. 15 hrs left



- Mobile network signal
- GPS on
- Wi-Fi
- Awake
- Screen on
- Charging



Use details



Android-System

6%

Battery used by app

USE DETAILS

CPU total	1h 33m 33s
CPU foreground	33s
Keep awake	2m 19s
Wi-Fi packets received	230
Wi-Fi packets sent	377

INCLUDED PACKAGES

LocationServices
Settings Storage
CyanogenMod System
Setup Wizard
QuickBoot
Android System
CyanogenMod Resolver
Phone
Input Devices

File Manager HD

Optimize

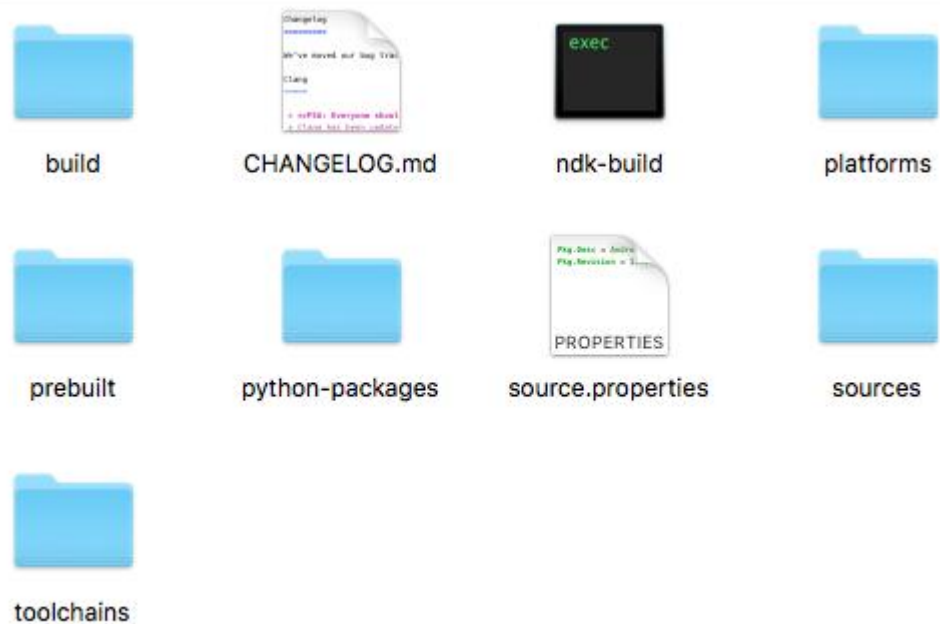
Recommended for better battery life

Don't optimize

May drain your battery more quickly

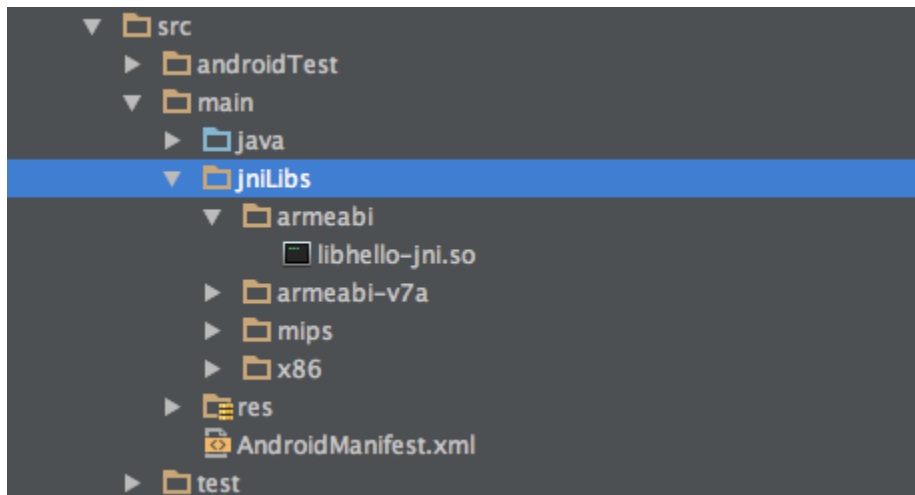
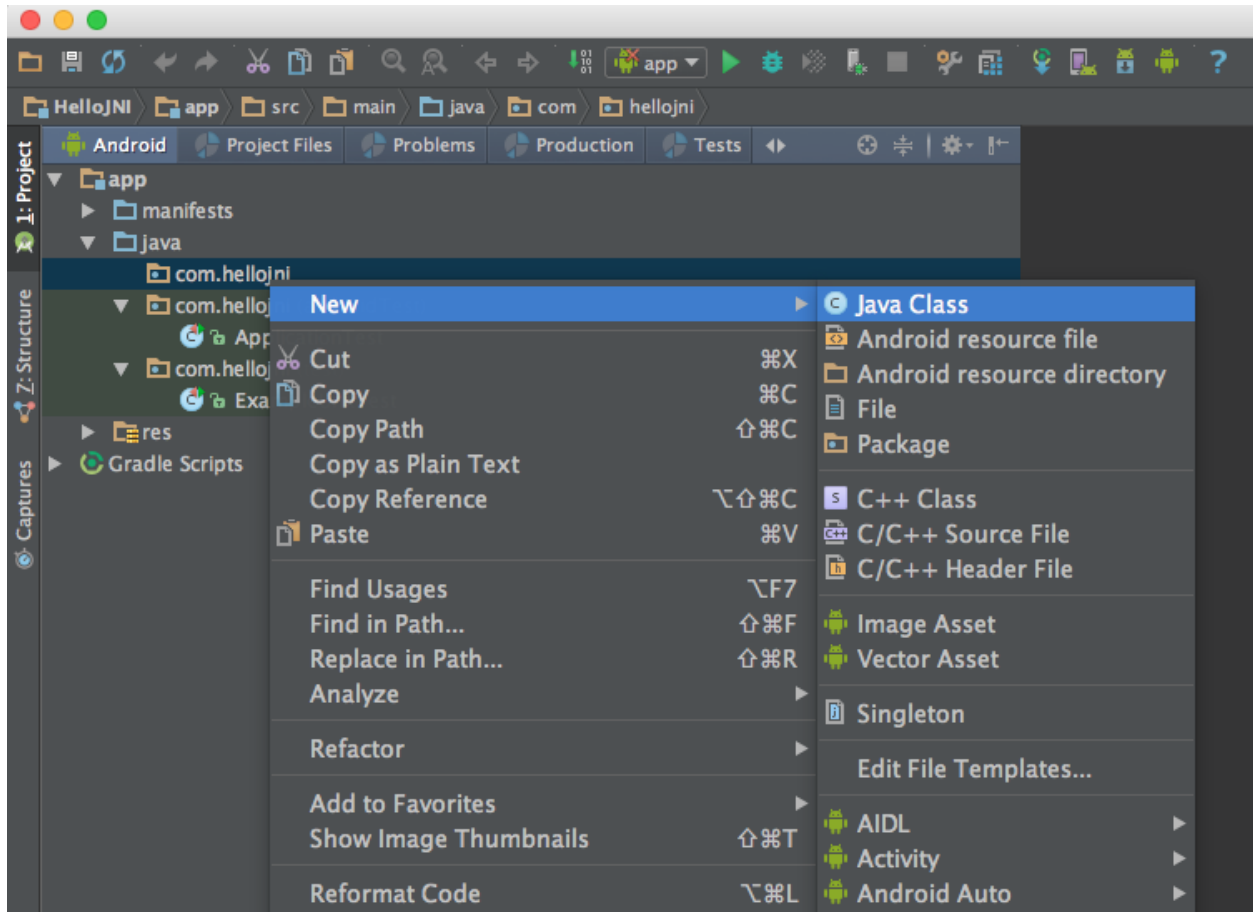
CANCEL DONE

Chapter 9: Native Coding in Android



```
GNU nano 2.0.6 File: /etc/paths
/usr/bin
/bin
/usr/sbin
/sbin
/usr/local/bin
/Applications/android-sdk-macosx/tools
/Applications/android-sdk-macosx/platform-tools
$HOME

[ Read 8 lines ]
^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text ^T To Spell
```

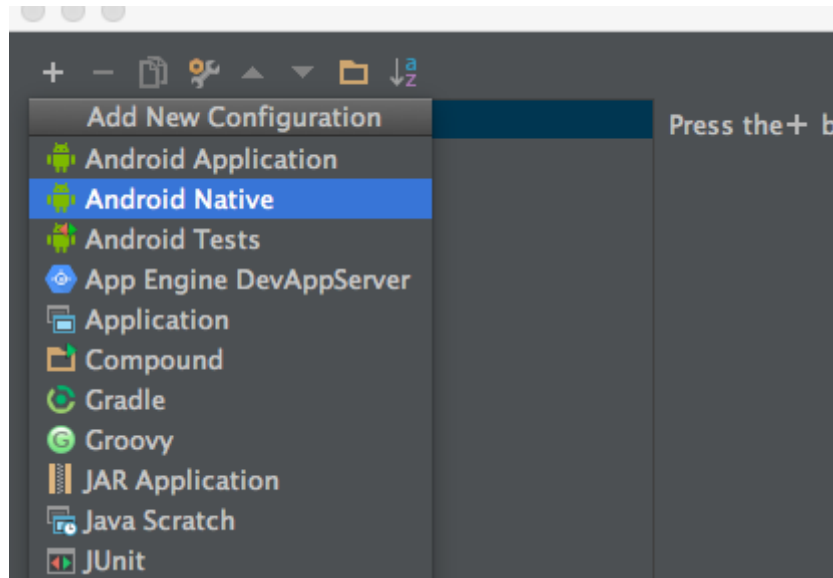




3G 11:56

Hello from JNI!

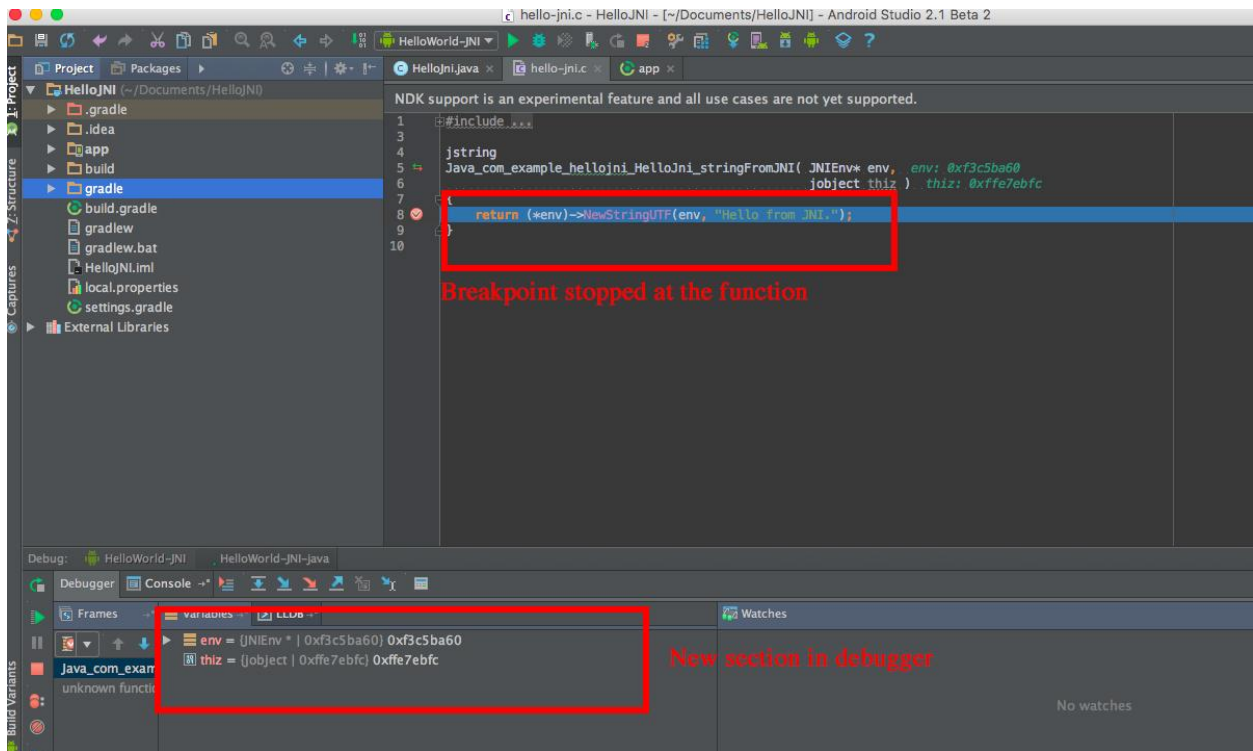




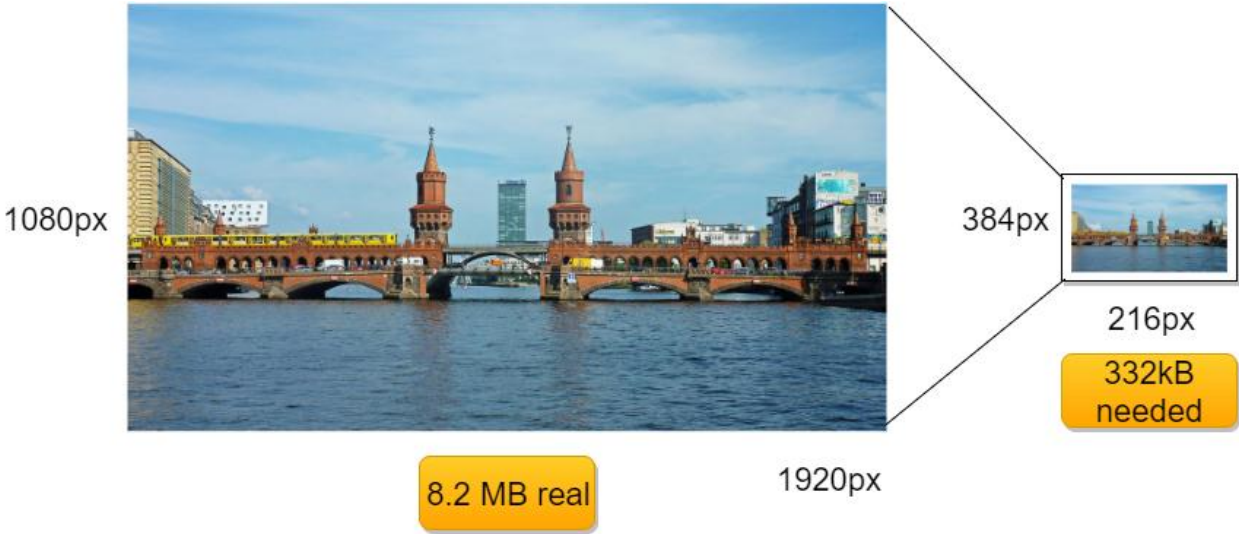
```
jstring  
Java_com_example_hellojni>HelloJni_stringFromJNI( JNIEnv* env,  
..... jobject this )  
{  
    return (*env)->NewStringUTF(env, "Hello from JNI.");  
}
```



```
04/30 11:58:19: Launching HelloWorld-JNI  
No apk changes detected since last installation, skipping installation of /Users/enriquelopezmanas/Doc  
$ adb shell am force-stop com.example.hellojni  
$ adb shell am start -D -n "com.example.hellojni/com.example.hellojni.HelloJni" -a android.intent.acti  
Waiting for application to come online: com.example.hellojni.test | com.example.hellojni  
Connecting to com.example.hellojni  
Now Launching Native Debug Session  
|
```

Chapter 10: Performance Tips



Source Image



1920px

1080px

Intermediate Image



480px

270px

inSampleSize = 4

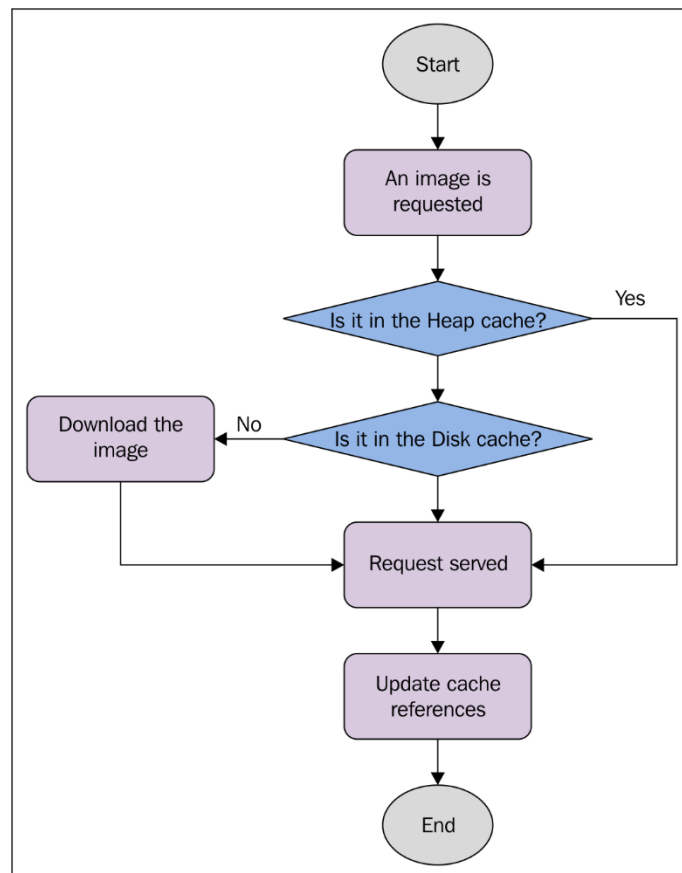
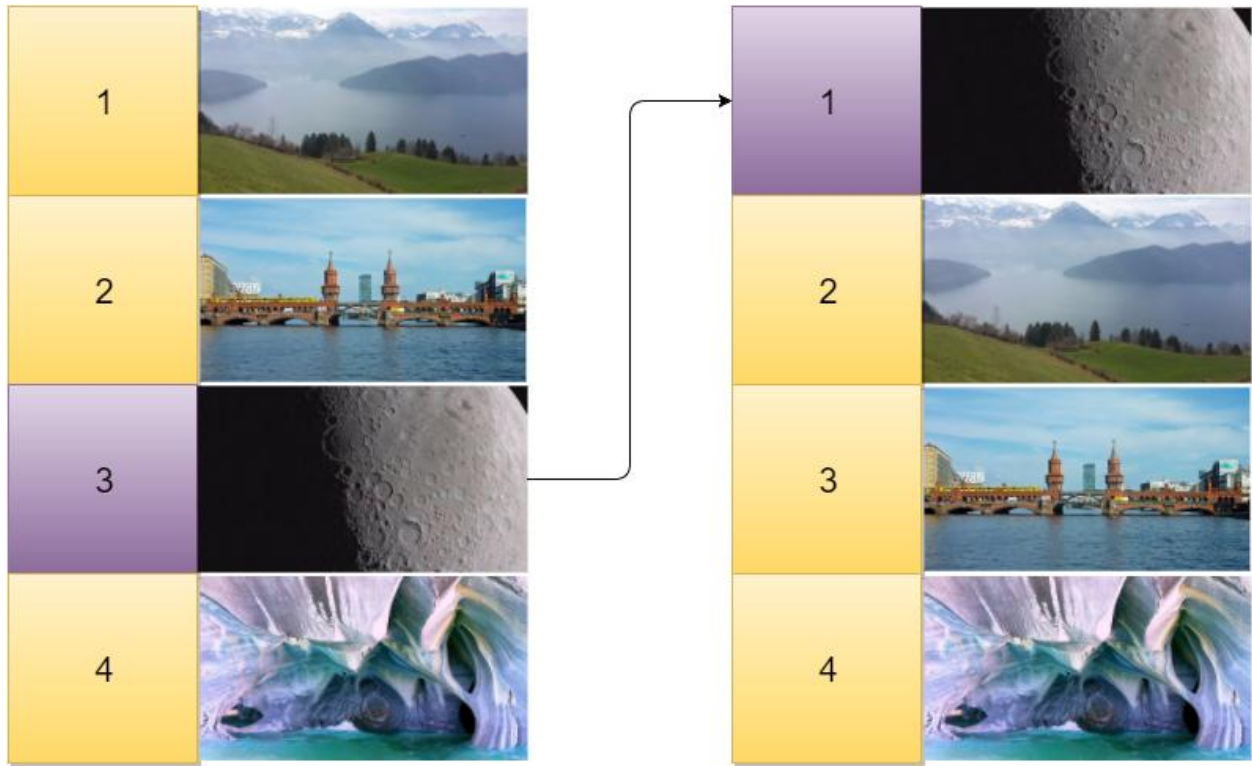
Final Image

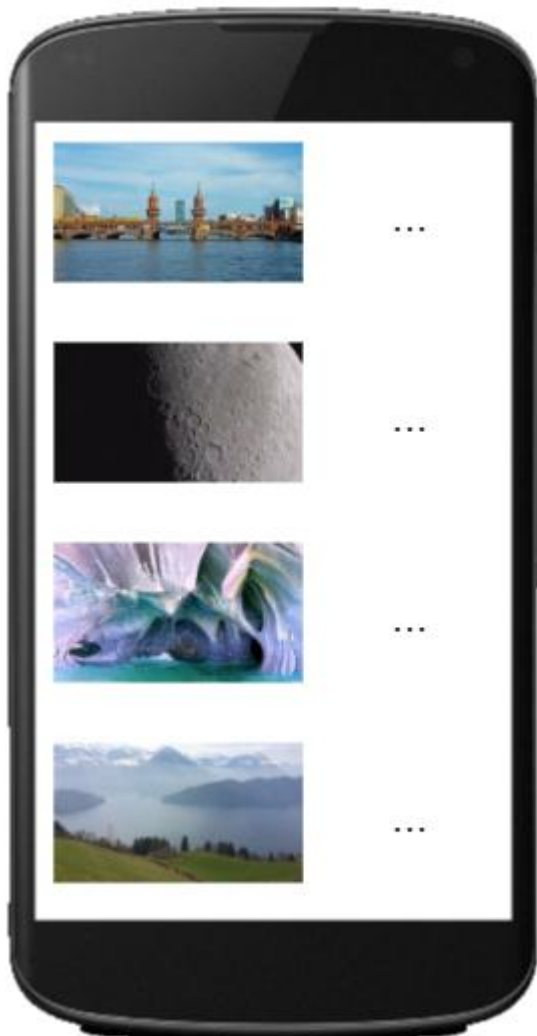
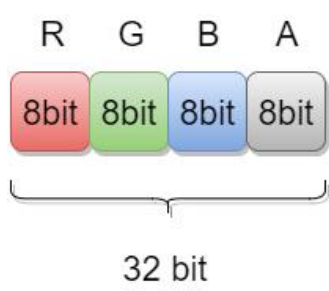


320px

180px

inDensity = 480
inTargetDensity = 320





Heap

