Android Development the Right Mindset

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Agenda

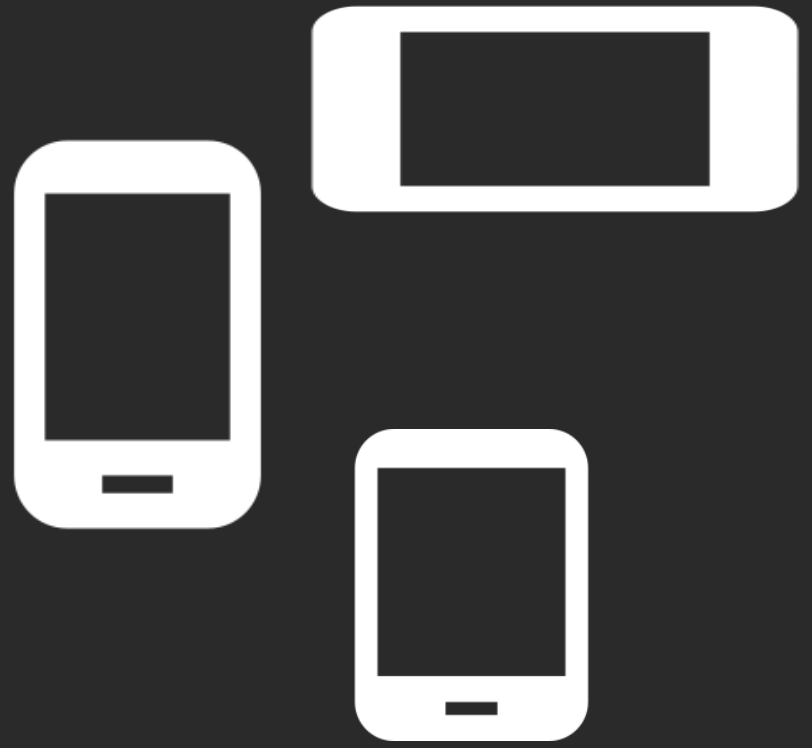
- Low-End Devices
- Memory
- Storage
- CPU
- Battery
- Network
- Tips And Tricks

Low-End Devices

- **Limited Configurations**
  - 512MB RAM, 2GB
- **Old Version of SDK**
  - Compatibility, Gingerbread
- **Still Being Sold**
  - Is not a Disadvantage

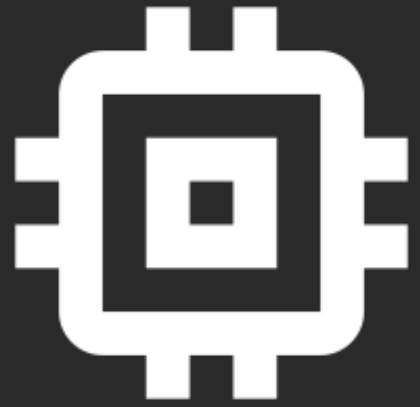
Low-End Devices

- **Many manufacturers**
  - Samsung, Motorola, BLU
- **Many Screen Sizes**
  - Small, Normal , Large, Xlarge
- **Do Not Panic**
  - This is real World



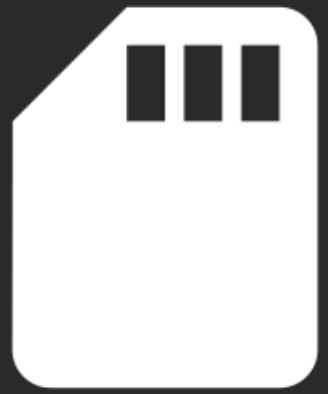
Memory

- **Do not allocate if not need it**
  - OutOfMemoryException
- **Use primitive types**
  - int, boolean , float
- **Use different image sizes per screens**
  - ldpi, mdpi , xxhdpi

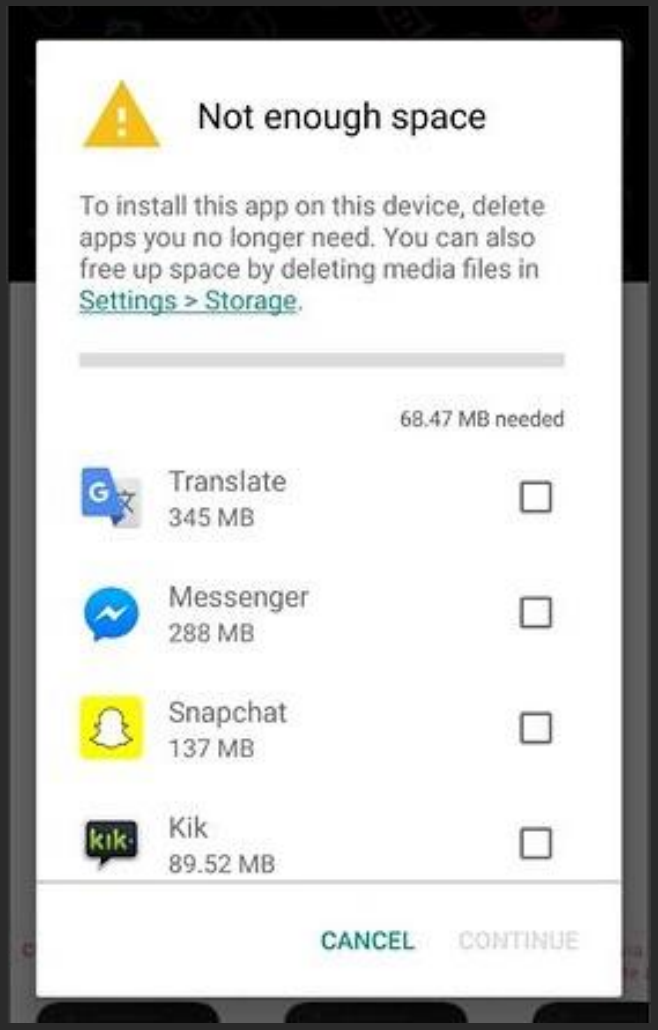


Storage

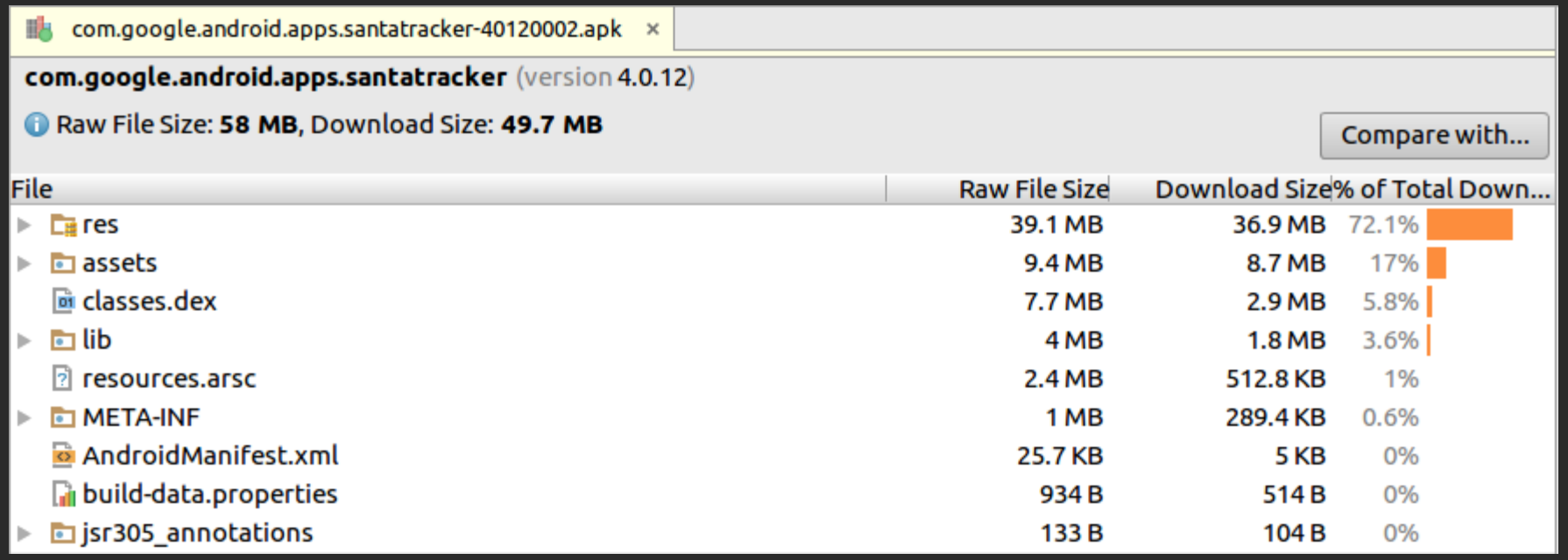
- **Limited space**
  - 4GB and shared with the OS
- **Reduce your APK size**
  - Remove unused png, svg, Apk Analyzer, png optimization
- **Multiple APK**
  - ldpi, mdpi , xxhdpi



Storage


Not enough space
To install this app on this device, delete apps you no longer need. You can also free up space by deleting media files in Settings > Storage.
68.47 MB needed
Translate
345 MB
Messenger
288 MB
Snapchat
137 MB
Kik
89.52 MB
CANCEL
CONTINUE

Apk Analyzer

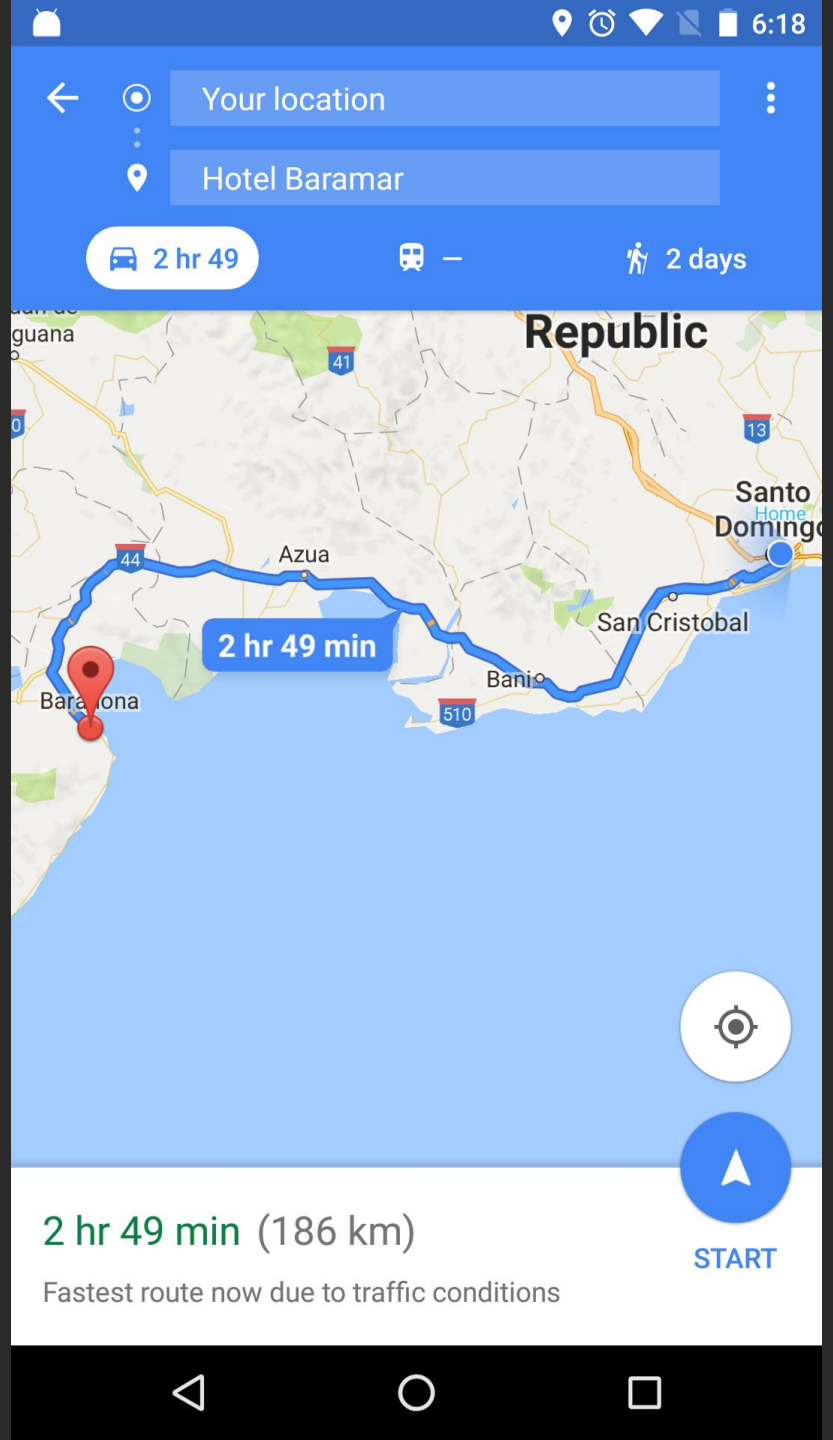


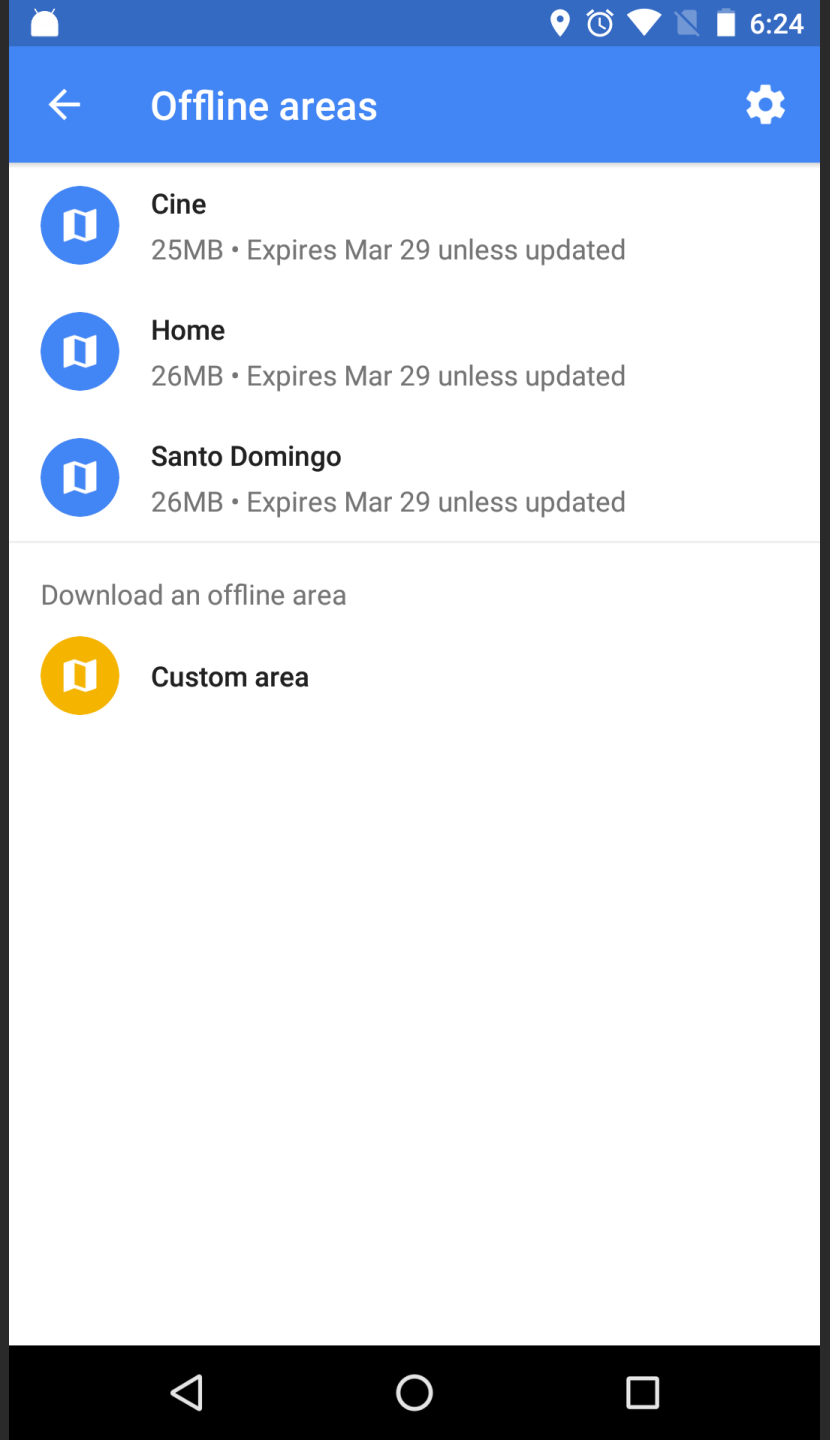
CPU

- **Heavy work in the server**
  - Easy to scale in the could
- **Not everybody has a Pixel or a Nexus phone**
  - Your users have devices slower than yours
- **The system will slow you down**
  - Avoiding overheat, Saving battery, animations

Network

- **Offline Friendly**
  - Commuting (metro lines), Pricey data plans
- **Custom Backend**
  - GraphQL, backend per platform(Android, iOS, Web)
- **Try to use WebP (-26%), Progressive JPEG**
  - Faster downloads, Fresco Facebook.


6:18
Your location
Hotel Baramar
2 hr 49
–
2 days
Republic
Santo Domingo
Home
Azua
San Cristobal
Bani
2 hr 49 min
41
13
44
510
2 hr 49 min (186 km)
Fastest route now due to traffic conditions
START


6:24
Offline areas
Cine
25MB • Expires Mar 29 unless updated
Home
26MB • Expires Mar 29 unless updated
Santo Domingo
26MB • Expires Mar 29 unless updated
Download an offline area
Custom area

Tips And Tricks

- Spend a day with a low-end phone
- Be careful with 3rd party libraries
- Advocate for Android Design (Is your responsibility)
- Why google not provide a solution?
- The backend must be designed for client not other way around

Resources

- Understanding the mobile context
- Add Multi-Density Vector Graphics
- APK Analyzer
- Getting Santa Tracker Into Shape
- Pattern: Backends for frontends

Resources

- Image Compressor
- Developing Mobile Experiences at Facebook’s Scale
- Netflix ISP Speed Index
- What are you doing on the tiny network Android BBQ 2015
- WebP Support Android Studio

Resources

- Building Mobile Apps for unreliable Networks Twitter Flight 2015
- Developing Mobile Experiences at Facebook's Scale
- Building for billions on Android – Google I/O 2016
- Android for Java Developers Big Android BBQ 2015
- Framework Fireside Chat Android Summit 2015

Gracias!

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