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Google I/O 2016 Recap

What happened this year at Google I/O?

Julian Villella
Mobile Developer

Keynote

- **Google Assistant** + Google Home
- Chrome OS + Android Apps
- Android Wear 2.0
 - “Offline”, handwriting, complications, etc.
- **Android N**
- **Android Studio 2.2**
- **Instant Apps**
- **Company Vision:** Mobile-first → **AI-first**
- **TPU**
- **Firebase**



Allo + Duo

Allo Messenger

- Machine Learning + Messaging
- Platform for developers

Duo Video Calling

- Knock-Knock
- WebRTC team
- “Quic” protocol
 - Gracefully handles low-bandwidth
 - Switches between cellular & Wi-Fi



Daydream



“A platform for high quality mobile virtual reality.”

Smartphones

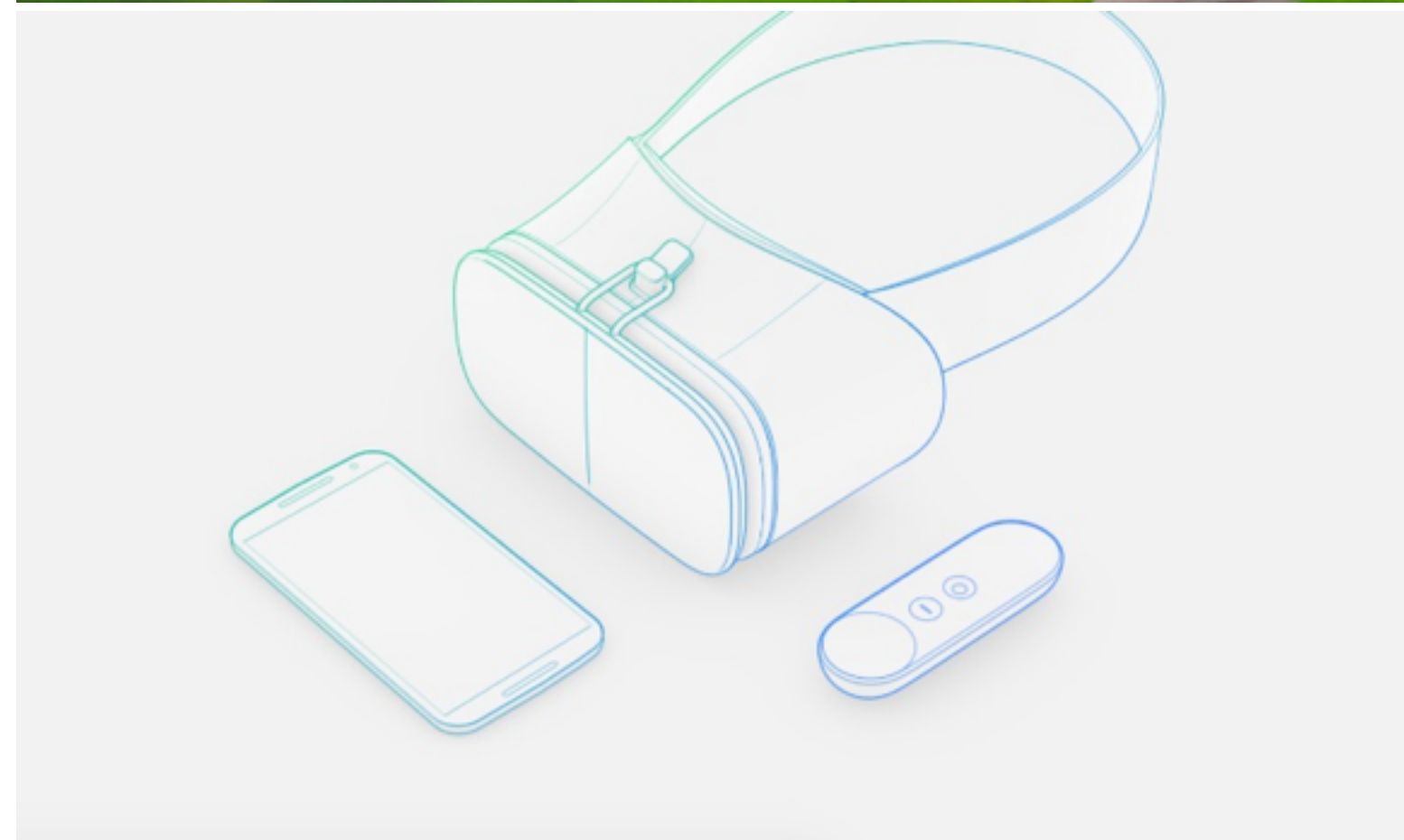
- “Daydream ready” phones
- Android N - VR Mode (UI + Rendering)

Headset + Controller

- Reference designs for vendors

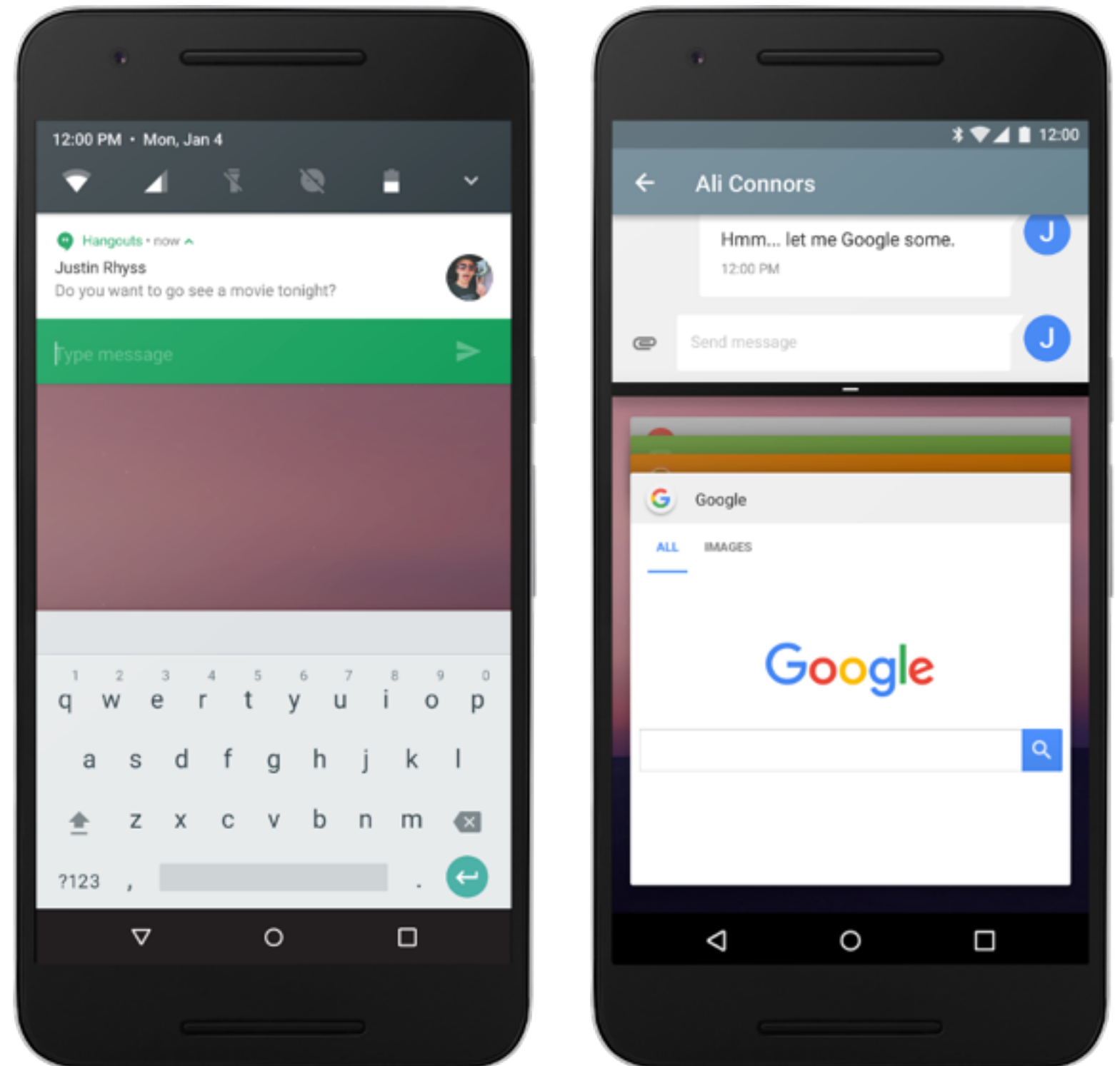
Apps

- Daydream Home
- Google Play for VR



Android N

- Adds new JIT compiler to ART
 - Profiles app, precompiles hot methods when device is charging.
- Multi-window support + drag/drop
- Notification enhancements
- Updates to Doze
 - Job scheduler
- Data Saver mode
 - Block background requests + signal app
- Vulkan support



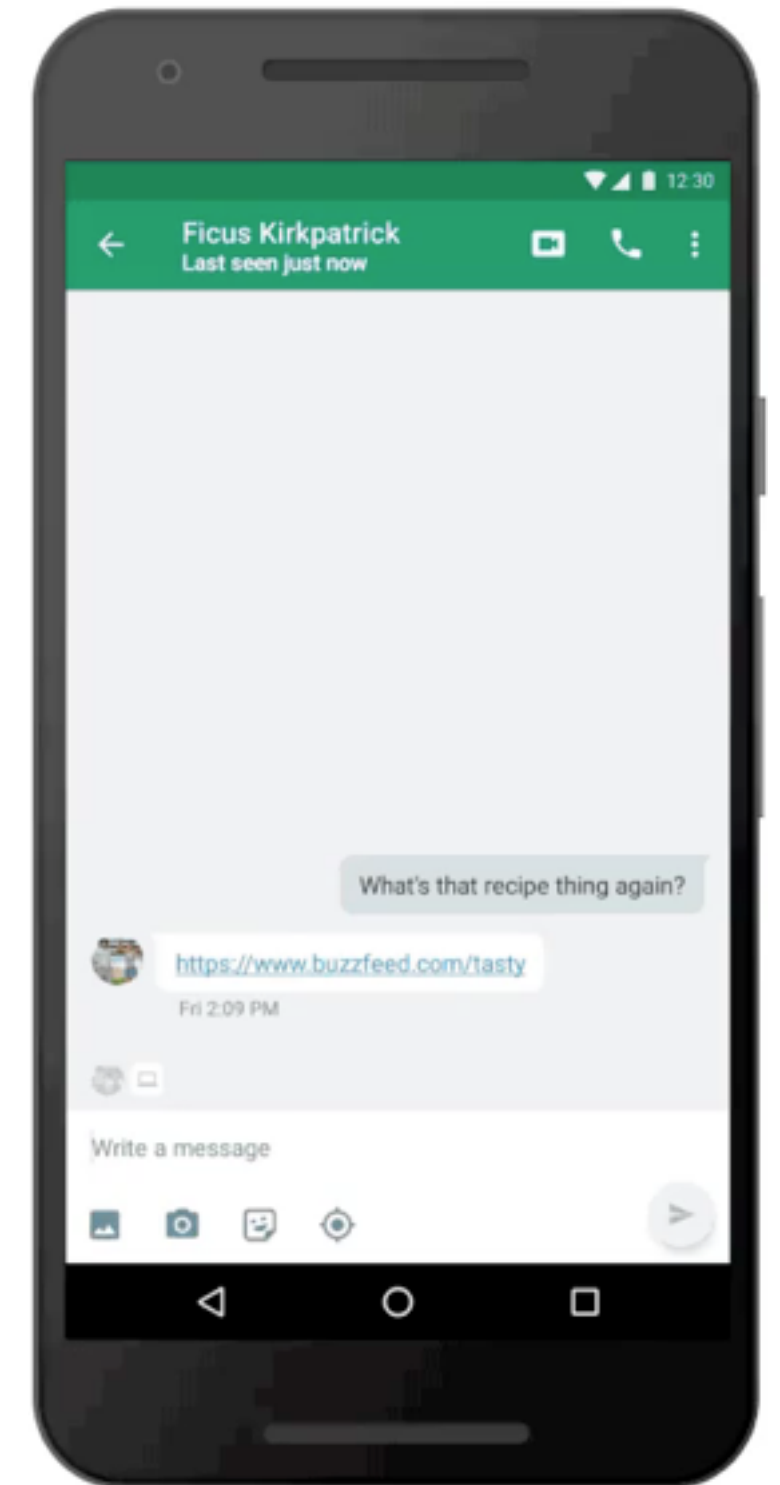
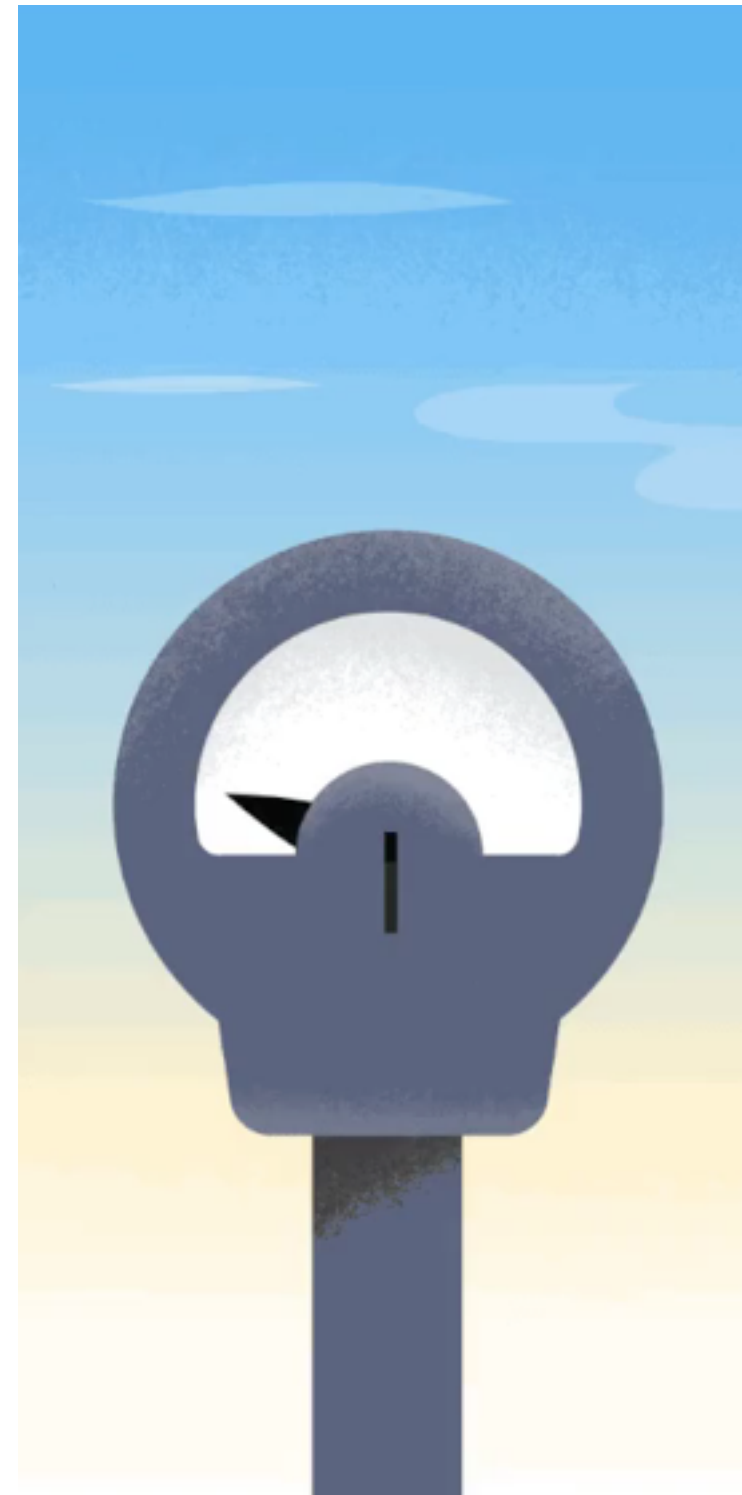
Android N - Battery + Memory Optimizations

- Updates to **Doze** mode
- **JobScheduler**
- Removes 3 implicit **broadcasts**
 - CONNECTIVITY_ACTION
 - ACTION_NEW_PICTURE
 - ACTION_NEW_VIDEO
- GCM can still interact with app



Android Instant Apps

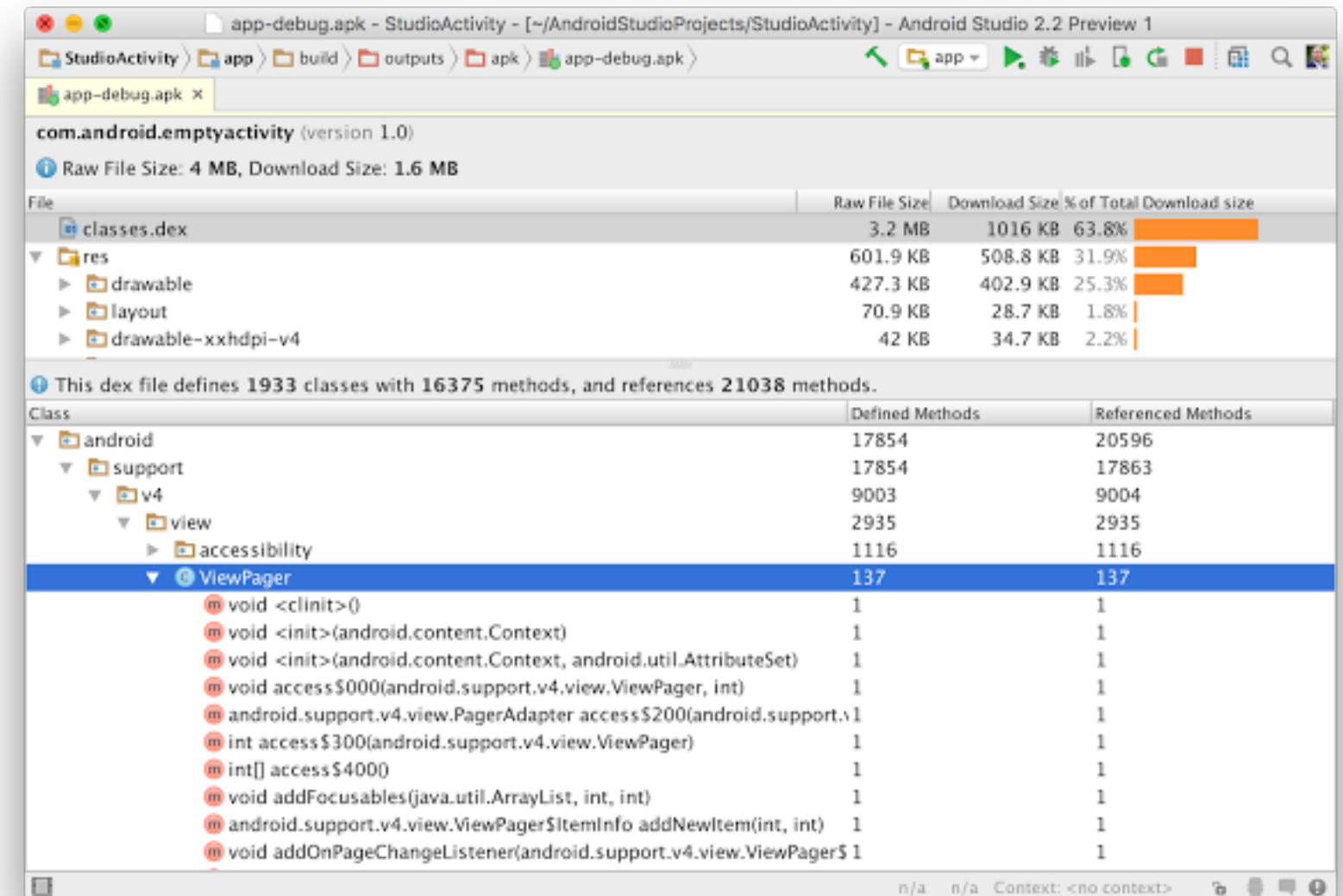
- Opens from a deep link
- Play store downloads specific Activity
- Runs without installation
- Is treated like a webpage
- Supports Android 4.1+



Android Studio 2.2



- **Constraint Layout**
- **Layout Inspector**
- **Espresso Test recorder**
- **APK Analyzer**
- **Code Sample Browser**
- **Instant Run improvements**
- **Partial Java 8 support through Jack**
- **Java-aware C++ (NDK) lldb debugger**
- and more...





Develop

- **Realtime DB**
- Authentication
- **Cloud Messaging**
- Crash Reporting
- **Remote Config**
- **Test Lab**

Grow and Earn

- **Dynamic Links**
 - Deep link → install → page
- Invites
- Adwords
- Notifications
- App Indexing
- AdMob

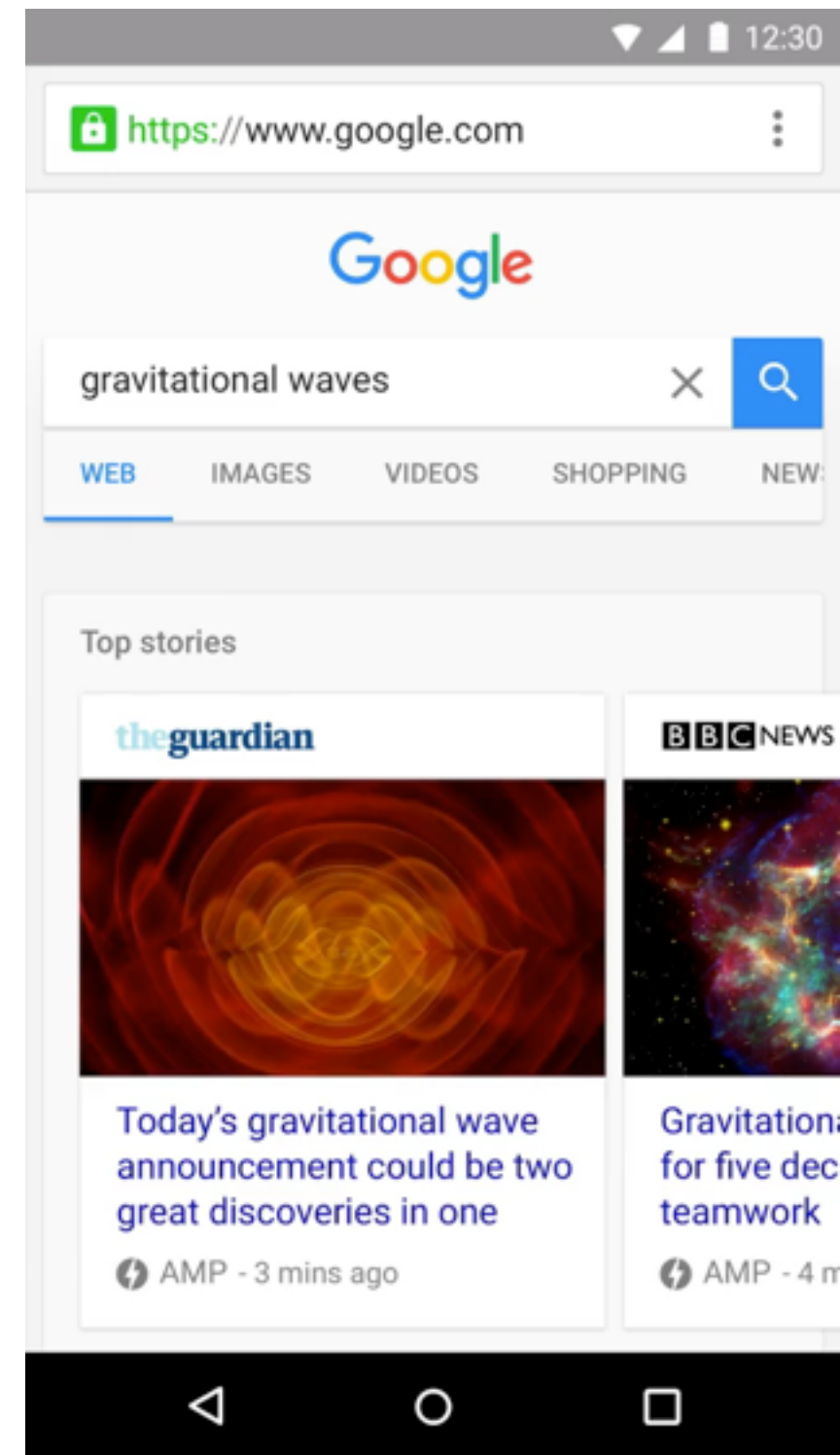
Analytics

- **Integrated across Firebase**
- “Built for apps”
- **Firebase Audiences**
 - Group users based on criteria
 - Send push, ads, experiments
- **BigQuery support**



Accelerated Mobile Pages

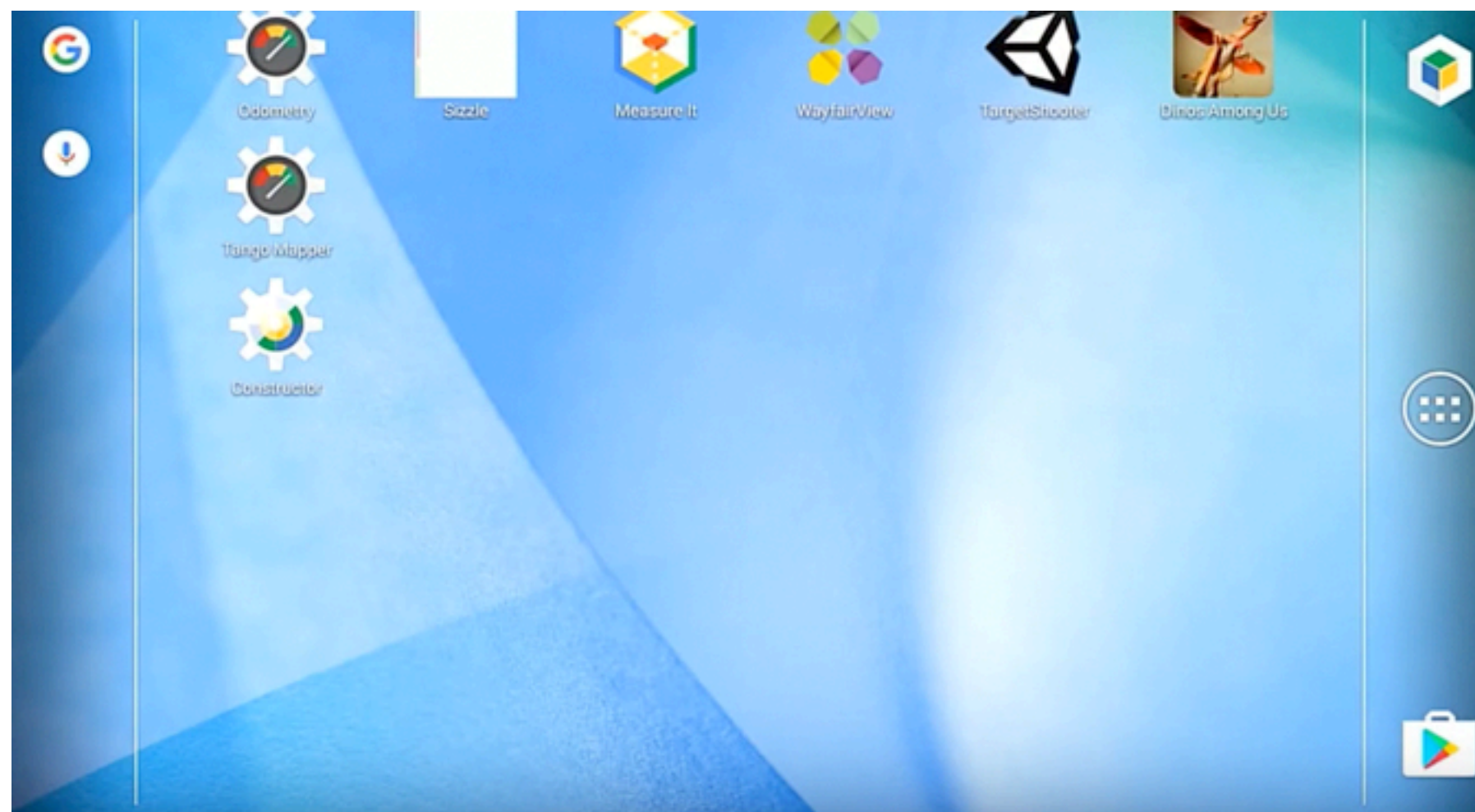
- 640,000 separate websites using it
- AMP HTML - Restrictions + extensions
- AMP JS
- Google AMP Cache
- Set of combined **optimizations**
 - Allow only async scripts
 - Size resources statically
 - All CSS must be inline and size-bound
 - Only run GPU-accelerated animations
 - and more...



Project Tango



- **Motion Tracking**
- **Depth perception**
 - Depth sensing camera → point clouds
- **Area Learning**
 - “Remember” key locations from past
 - Stores visible features - searches later
- Support for Java, C, Unity
- Developer kits already available
- Lenovo device with technology out this fall



Questions?

