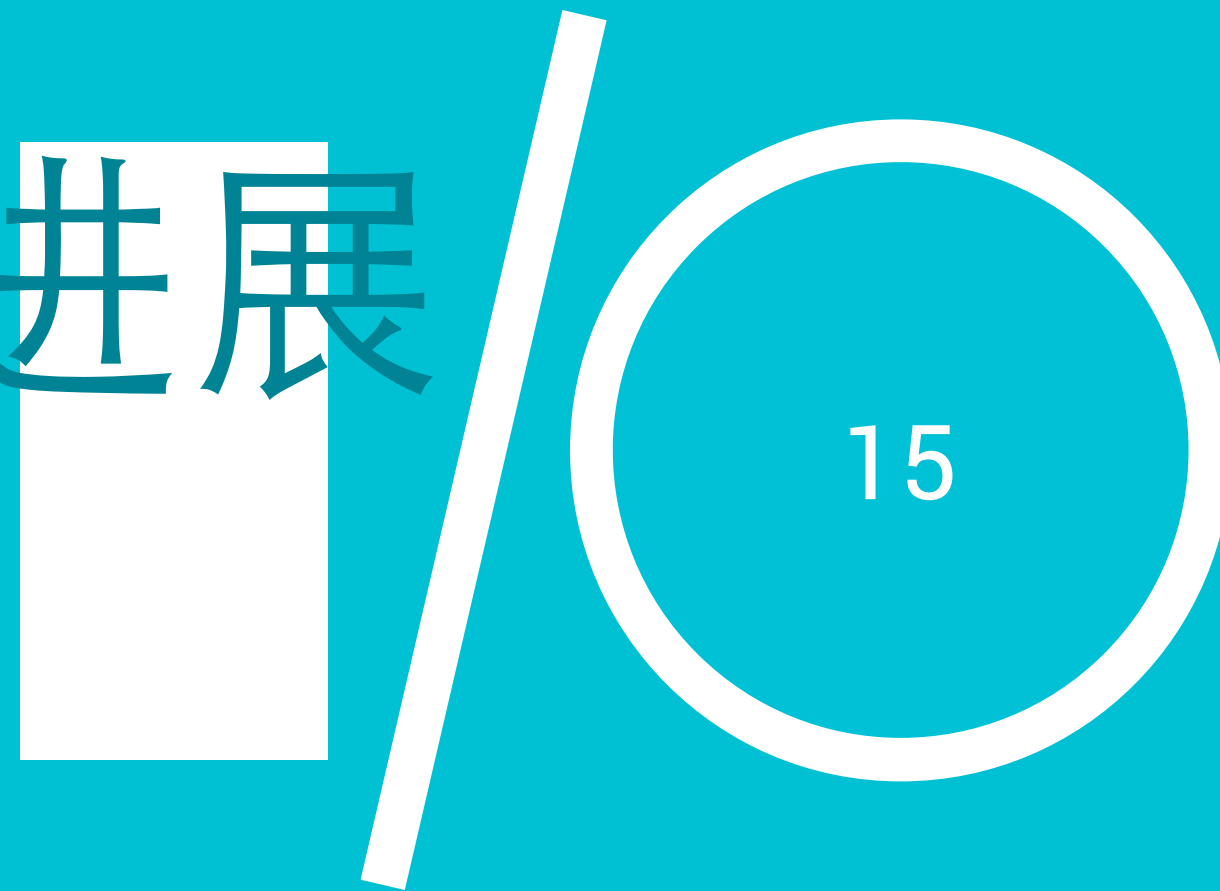




Android 最新进展



胡 坤
Developer Advocate

Android 最新进展

Android M

Google Play 服务

Android UI/Material Design

Google 开发者工具

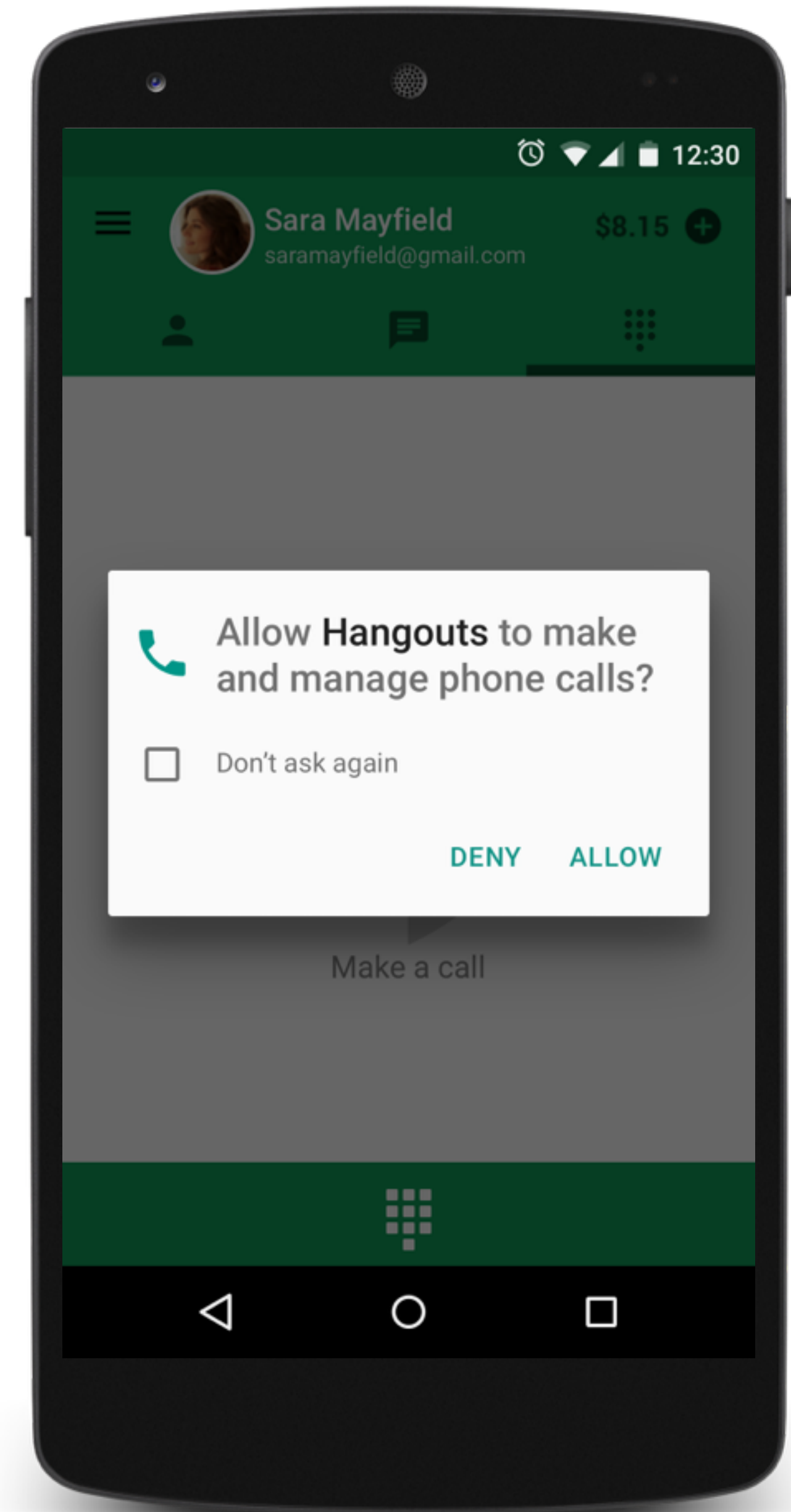
Google 开发者控制面板

Android M

运行时权限

最佳实践

- 启动界面详细解释所需权限
- 只在需要的时申请必要权限
- 获取用户权限做出立即反馈
- 用户拒绝权限遵循设计规范



Android M

指纹加密&锁屏确认

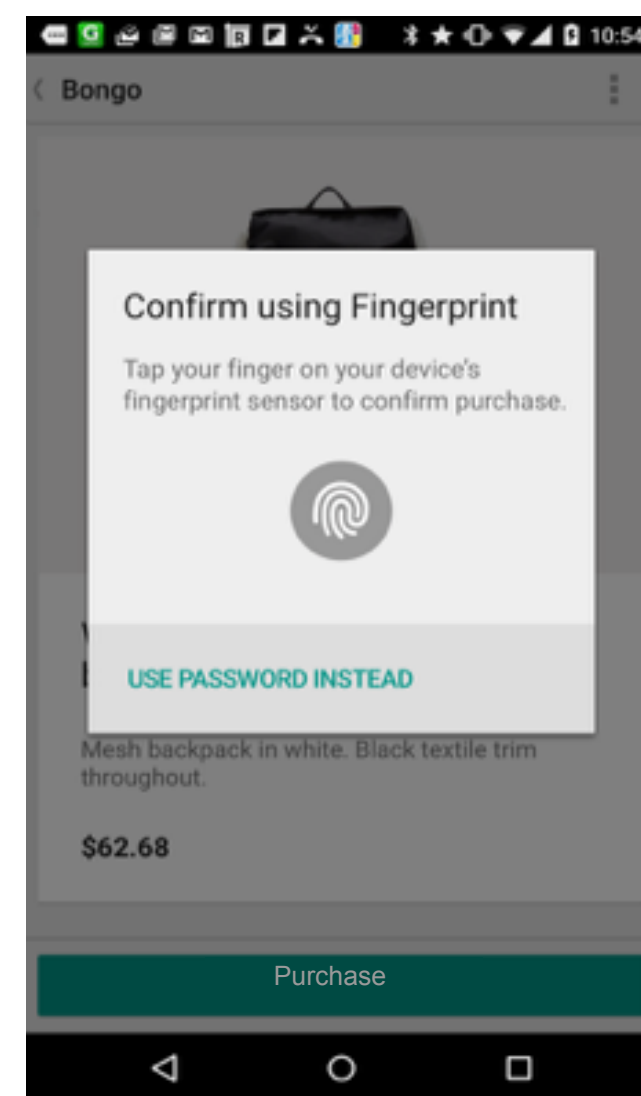
01.

指纹加密

方便支付和登陆

用户界面可定义

可任意时刻启用



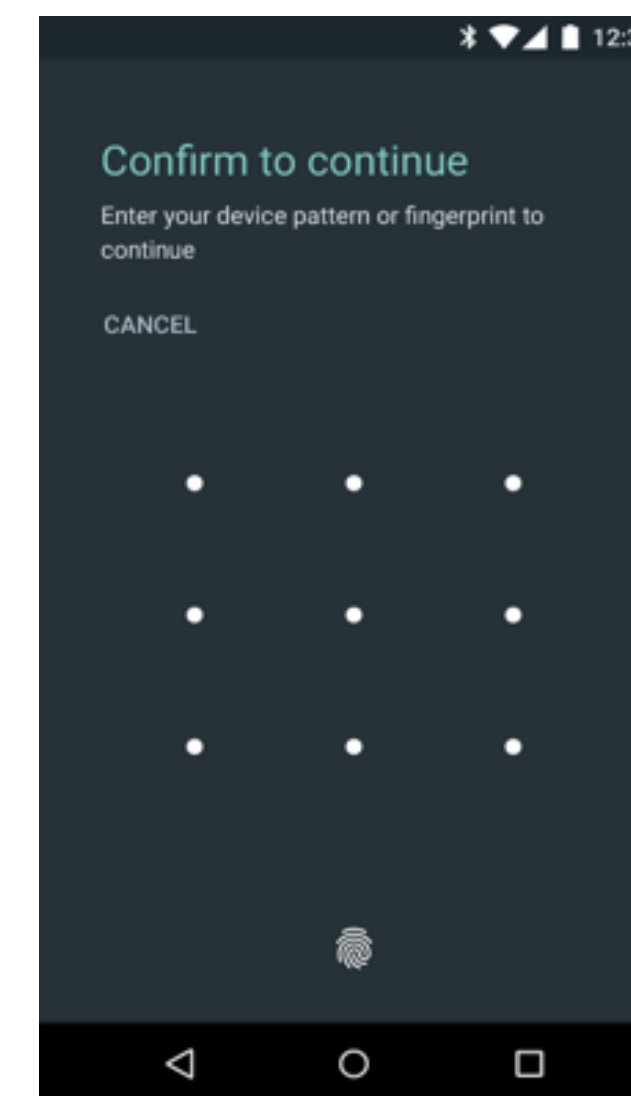
02.

锁屏确认

利用设备锁屏

定义Timeout策略

同步Timeout

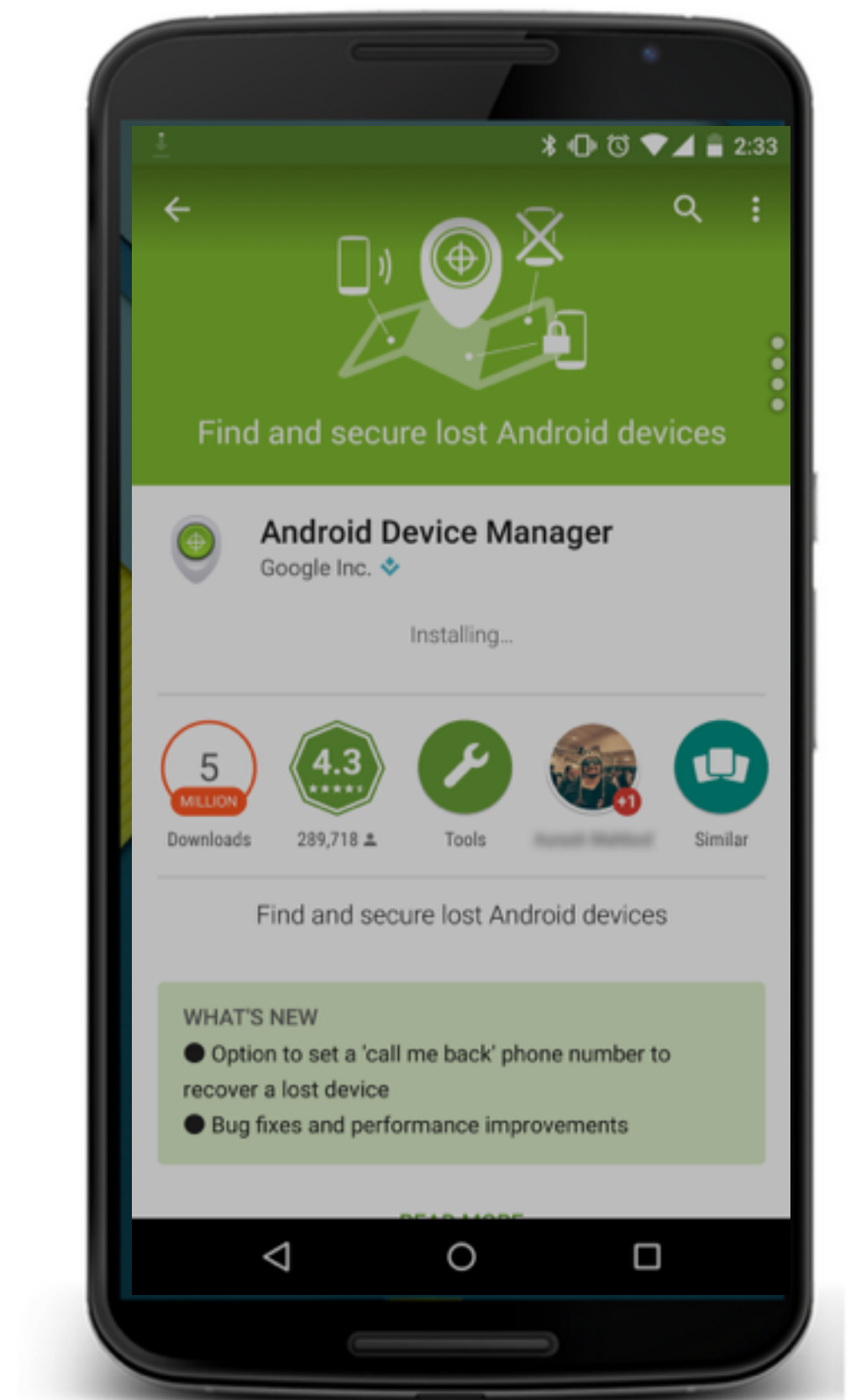


Android M

应用数据自动备份

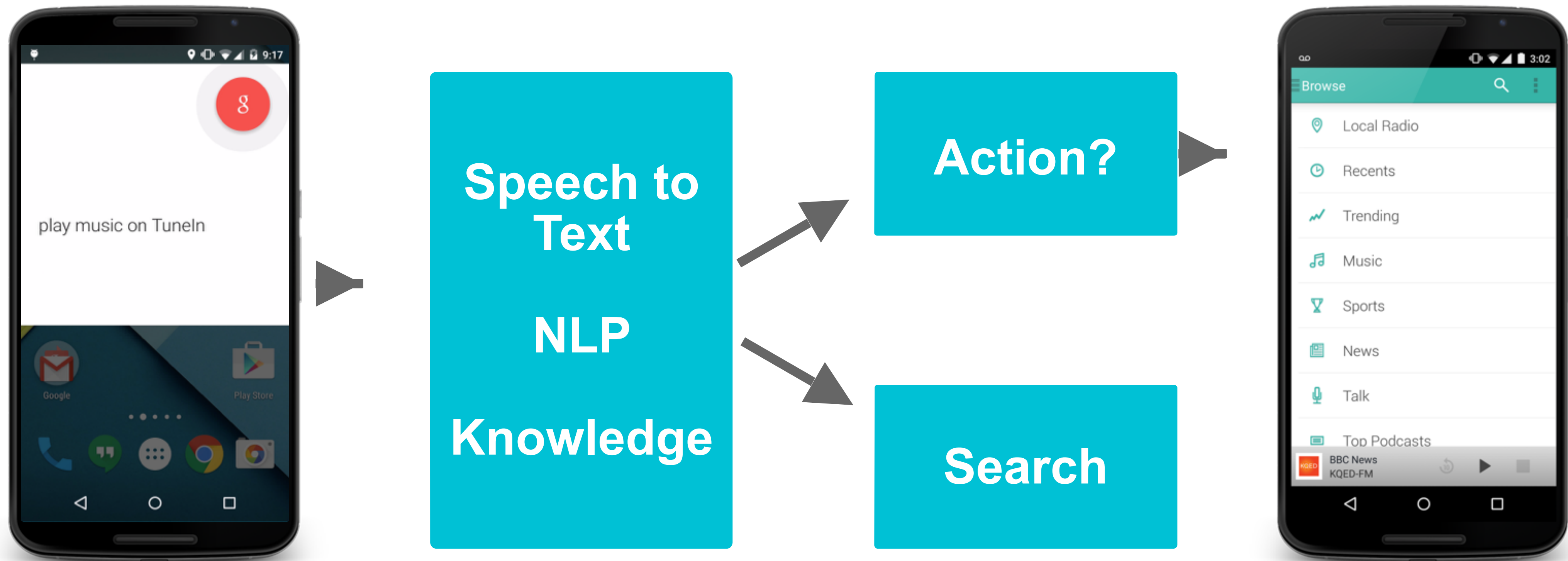
功能说明

- 每天备份一次
- 每个应用25M
- 应用可以自定义
- 无需代码编程
- 需要SDK 23



Android M

Voice Action



- 1) 系统支持7个动作，
- 2) 可自定义动作
- 3) 可应用内交互

Android M

App Links

```
<activity ...>
  <intent-filter android:autoVerify="true">
    ...
    <data android:scheme="http" android:host="twitter.com"/>
    ...
  </intent-filter>
</activity>
```



```
{
  namespace: android_app,
  package_name: com.twitter.android,
  sha256_cert_fingerprints: ["SHA256 fingerprint of signing cert"]
}
```

Twitter App

twitter.com server

Android M

电池管理： Doze & Standby

Doze

无任何输入的设备变成“inactive”

等待更长时间唤醒后台任务

继续任务执行在手机被移动、使用或者充电

App standby

不被使用的应用失去网络访问权限

继续执行在重新启动、使用或者充电后

Google Play服务7.5

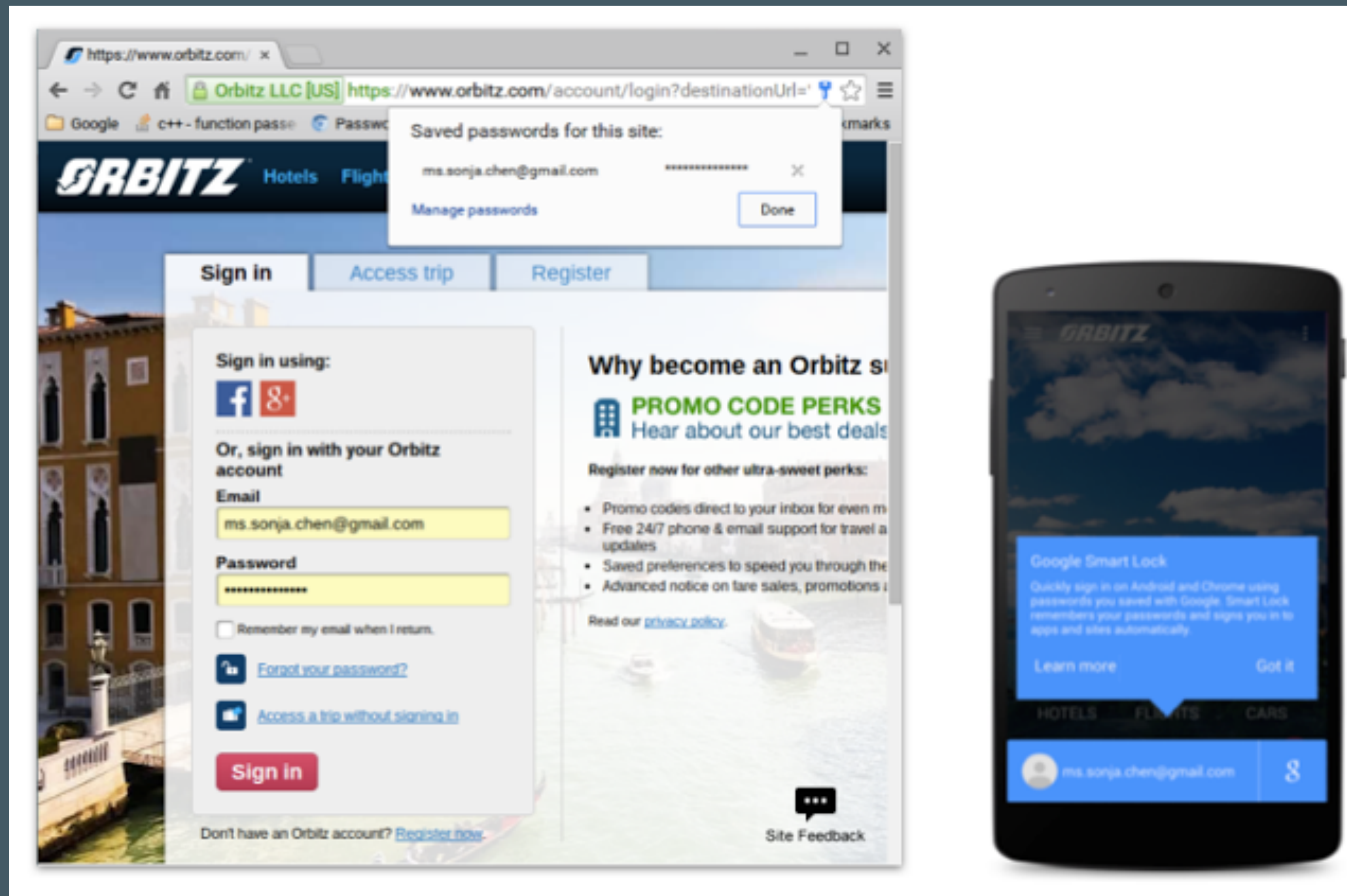
云推送3.0



iOS

Google Play服务7.5

Smart Lock for password

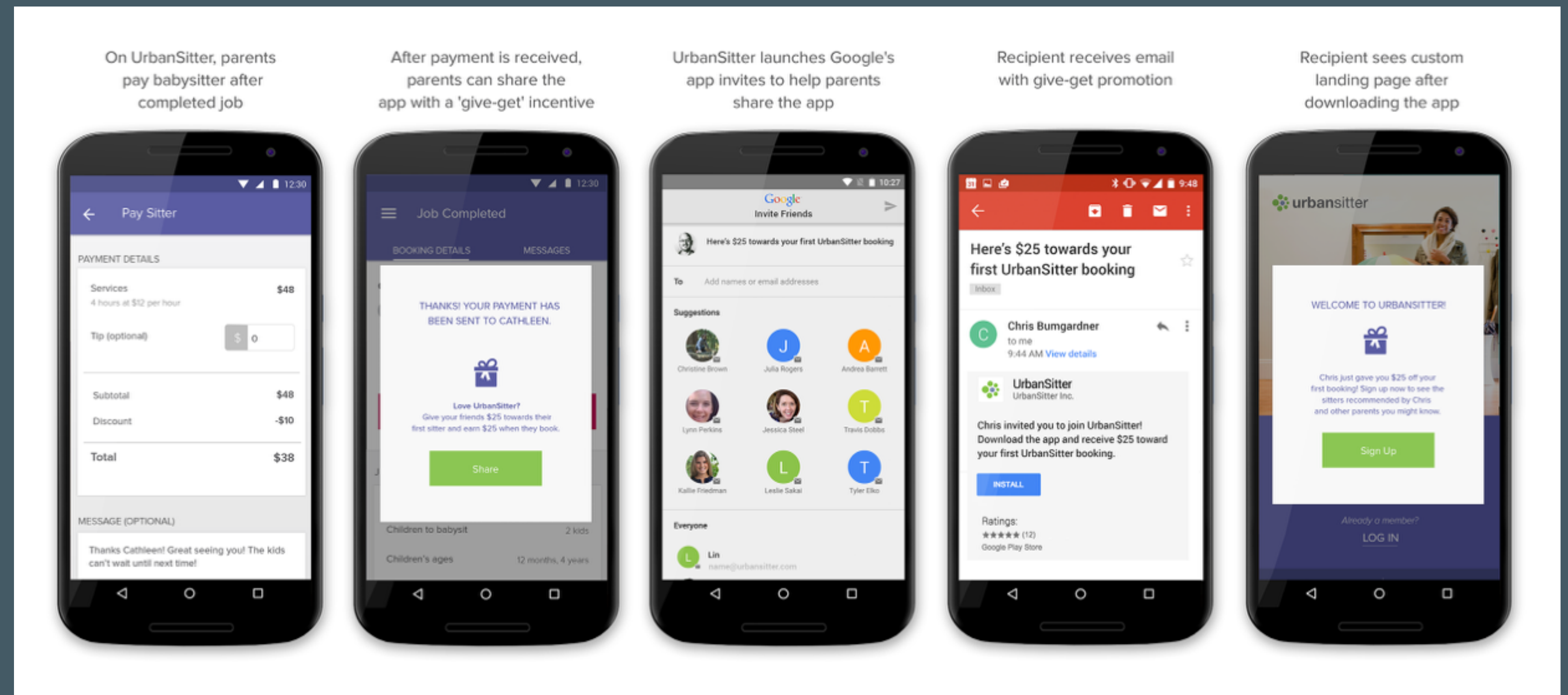


Google Play服务7.5

应用邀请

口碑传播

- 应用内邀请
- 支持短信邮件
- 所有联系人
- 可跟踪安装
- 提示邀请人



Google Play服务7.5

远程显示 for Cast



远程显示



CAST

适合3D、计算需求高的游戏应用

适合基于HTML5的游戏视频。

1700万设备、15亿次点击、
28个国家、上万应用

Google Play服务7.5

Android Wear: 地图API,
Always on



Google Play服务7.5

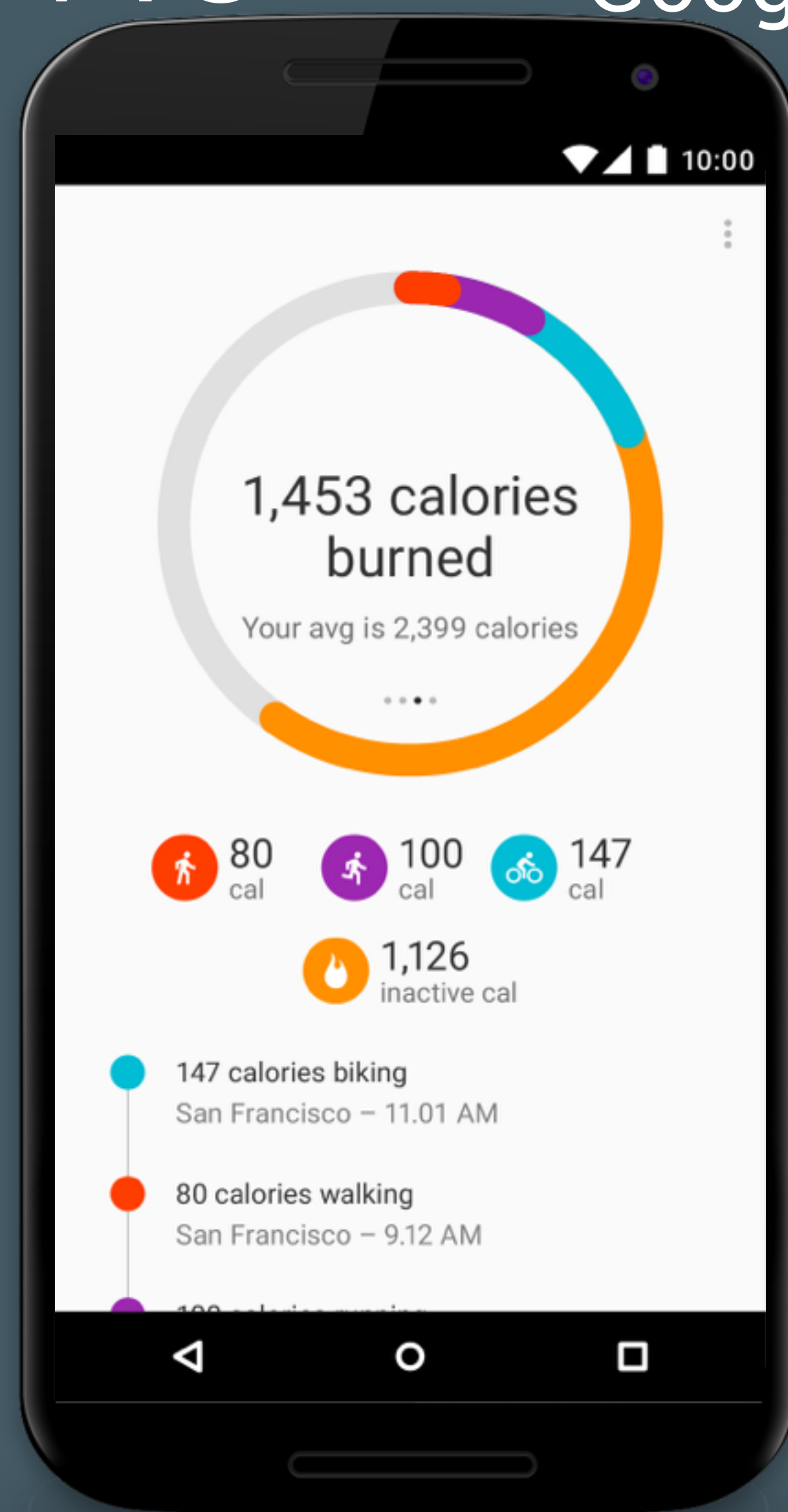
Google Fit

01. 行为探测，比如仰卧起坐

02. 计算步数，行走距离

03. 更多感应设备，比如心跳

04. Wear API coming.....

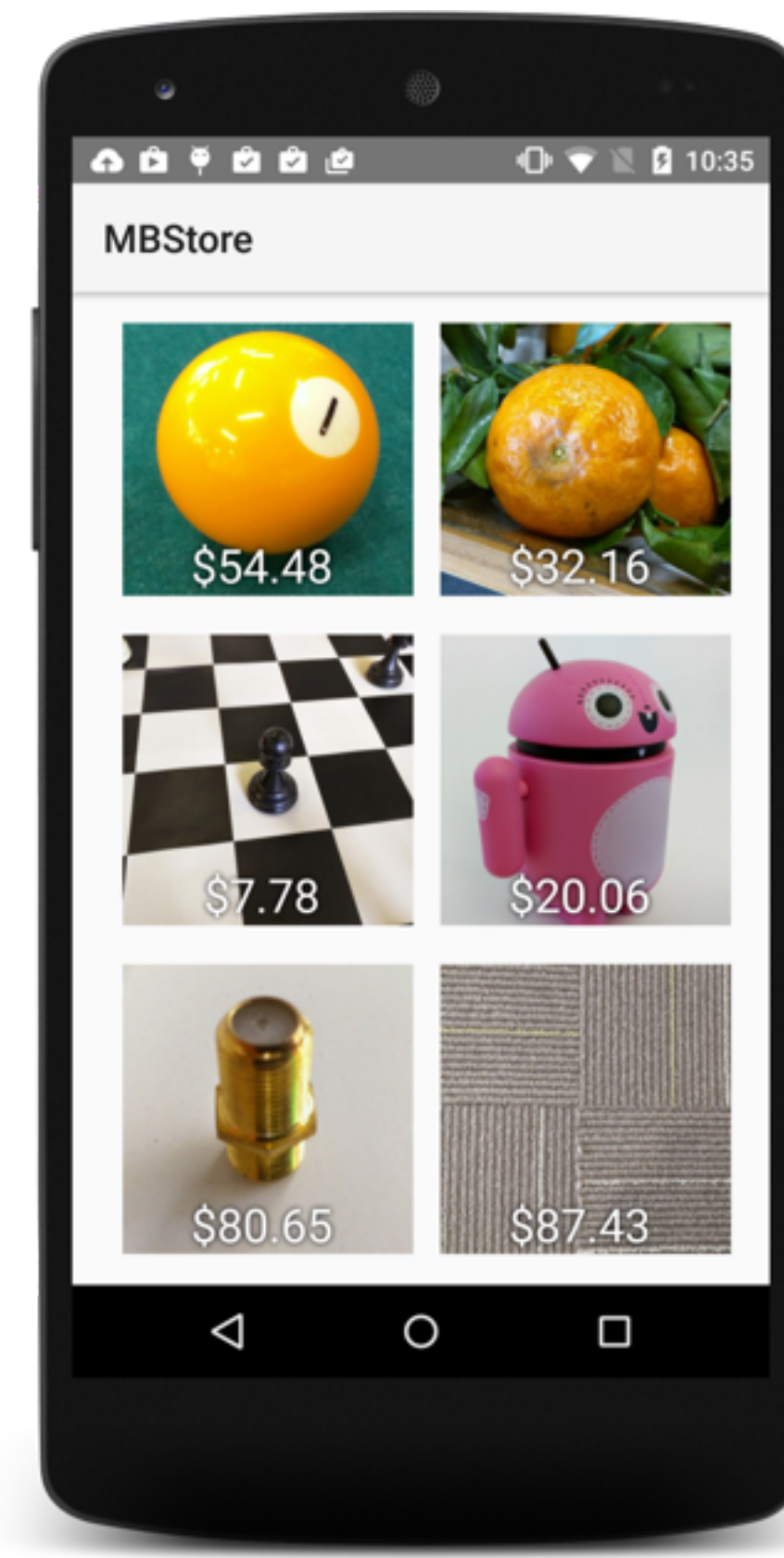


Android UI

Layout:数据绑定

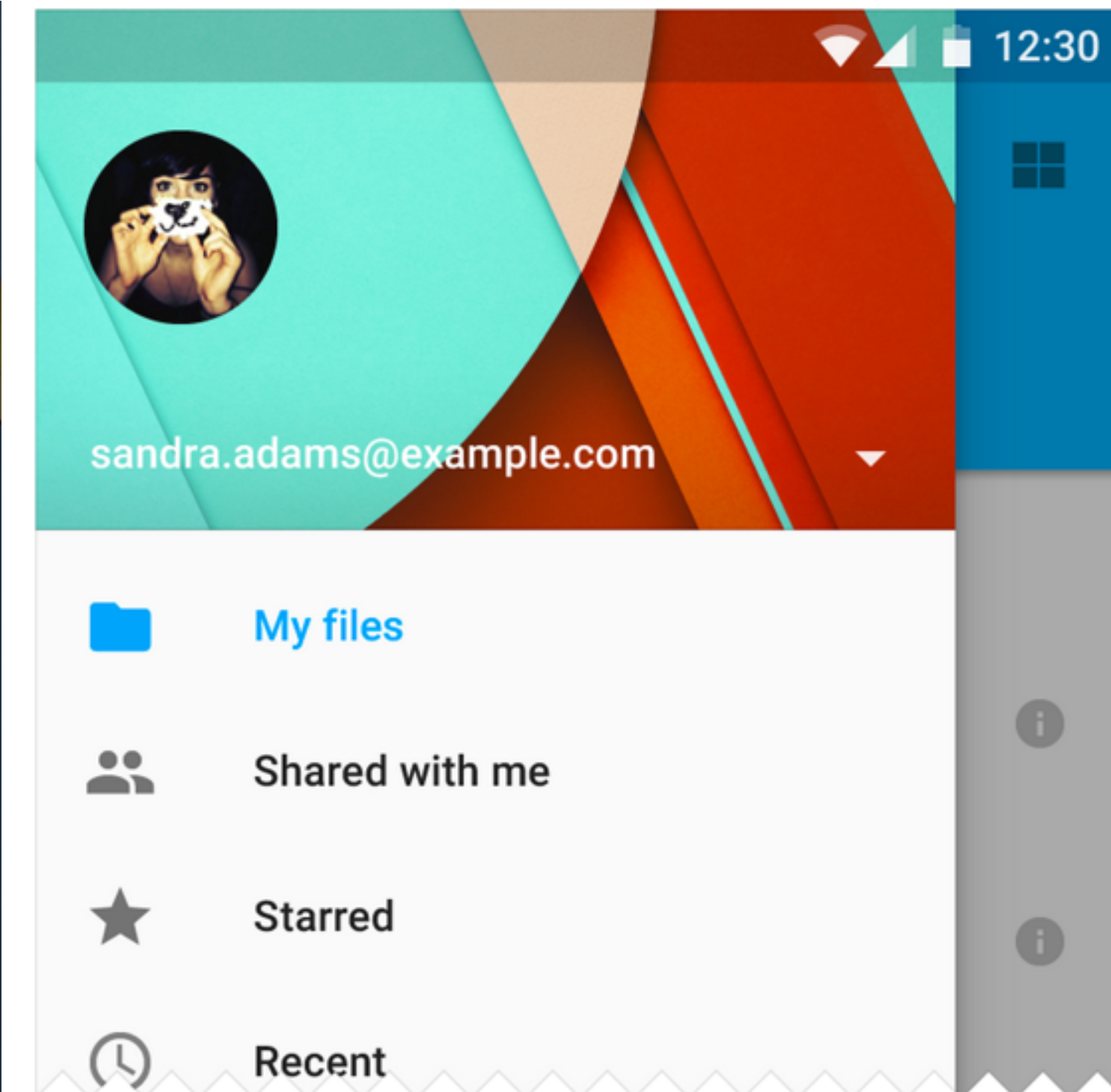
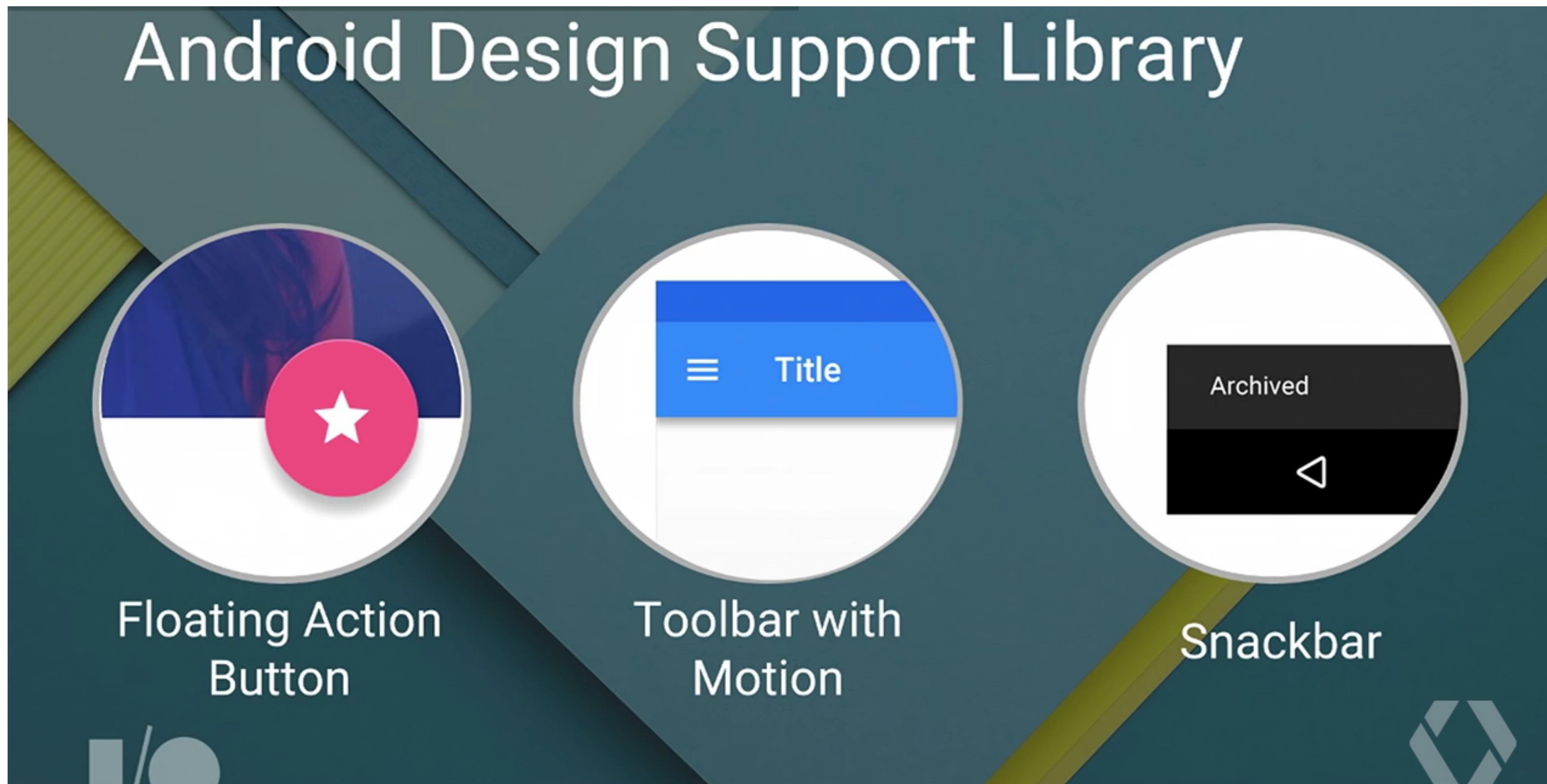
```
<ImageView  
    android:src="@{item.image}"  
>
```

```
layout.setItem(item);
```



Android UI

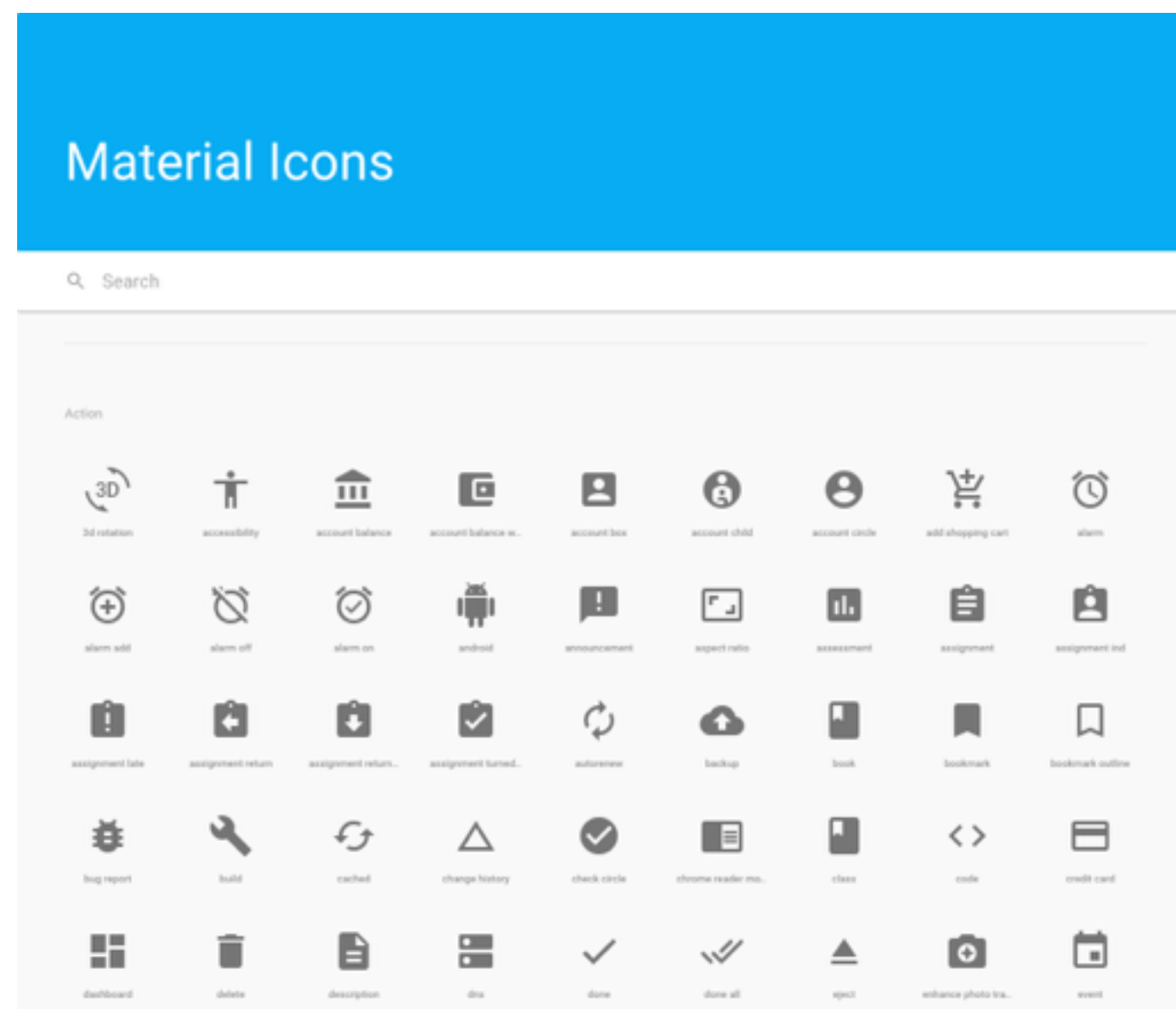
Material Now(1)



Android UI

Material Now(2)

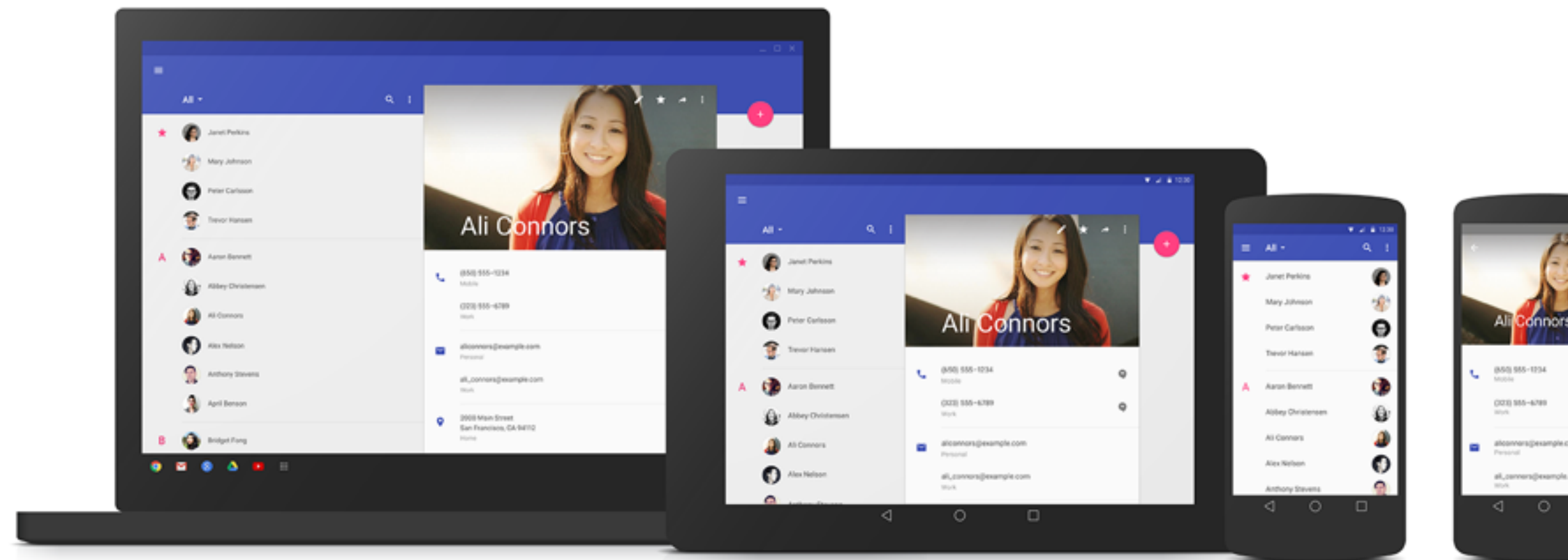
google.com/design/icons/



[http://github.com/google/material-design-icons/](https://github.com/google/material-design-icons/)

Android UI

Material Now(3)



Devices

Type	Device	Platform	Screen dimensions in cm	Aspect Ratio	Width × Height dp	Width × Height px
Phone	Android One	Android	4.5 in 2.2 × 3.9 in	16 : 9	320 × 569 dp	480 × 854 px
Wearable	Apple Watch 38mm	iOS	1.5 in 0.9 × 1.2 in	5 : 4	136 × 178 dp	272 × 348 px
Wearable	Apple Watch 42mm	iOS	1.7 in 1.0 × 1.3 in	5 : 4	156 × 195 dp	312 × 398 px
Wearable	Asus Zen Watch	Android	1.6 in 1.2 × 1.2 in	1 : 1	213 × 213 dp	320 × 320 px
Laptop	Chromebook 11	Chrome	11.6 in 10.1 × 5.7 in	16 : 9	1366 × 768 dp	1366 × 768 px
Laptop	Chromebook Pixel	Chrome	12.9 in 10.7 × 7.1 in	3 : 2	1280 × 850 dp	2560 × 1700 px
Laptop	Chromebox 30	Chrome				
Desktop	Dell Venue 8					
Desktop	HTC One M8					
Desktop	HTC One M9					
Desktop	iMac 5K					
Desktop	iPad					
Desktop	iPad Mini					

Material metrics

64 dp	48 dp
Toolbar unit	UI depth
4	16 dp
Columns	Gutter width

Adaptive UI

Responsive layouts in material design adapt to any possible screen size. This adaptive UI guidance includes a flexible grid that ensures consistency across layouts, breakpoint details about how content reflows on different screens, and a description of how an app can scale from small to extra-large screens.

- Contents
- Breakpoints
- Grid
- Surface behaviors
- Patterns

Breakpoints

For optimal user experience, Material user interfaces should adapt layouts for the following breakpoint widths: 480, 600, 840, 960, 1280, 1440, and 1600dp.

提名->断点->分格->界面行为->开工.....

Android UI

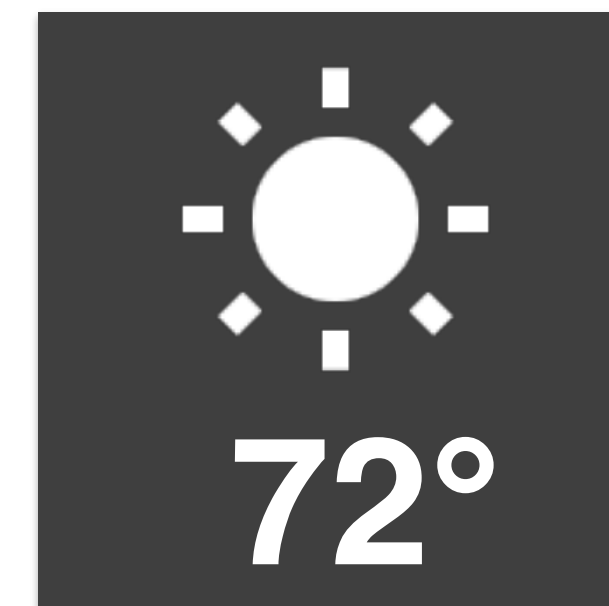
Notification: 基于位图的图标

```
Icon ic = Icon.createWithBitmap(iconBitmap);
```

```
Notification no = new Notification.Builder(context)  
    .setSmallIcon(ic)
```

```
    ...
```

```
    .build();
```

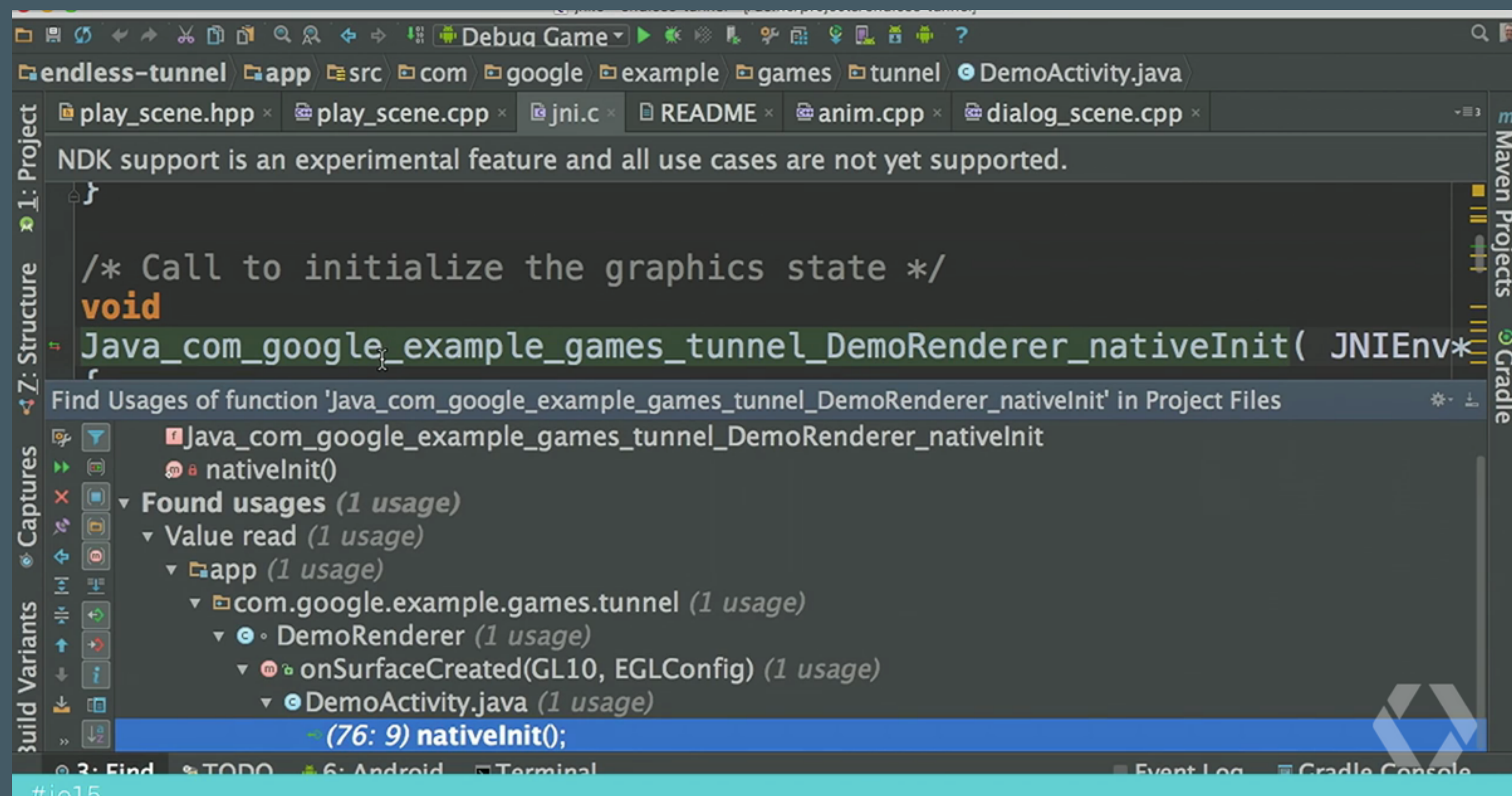


Google 开发者工具

C++ NDK

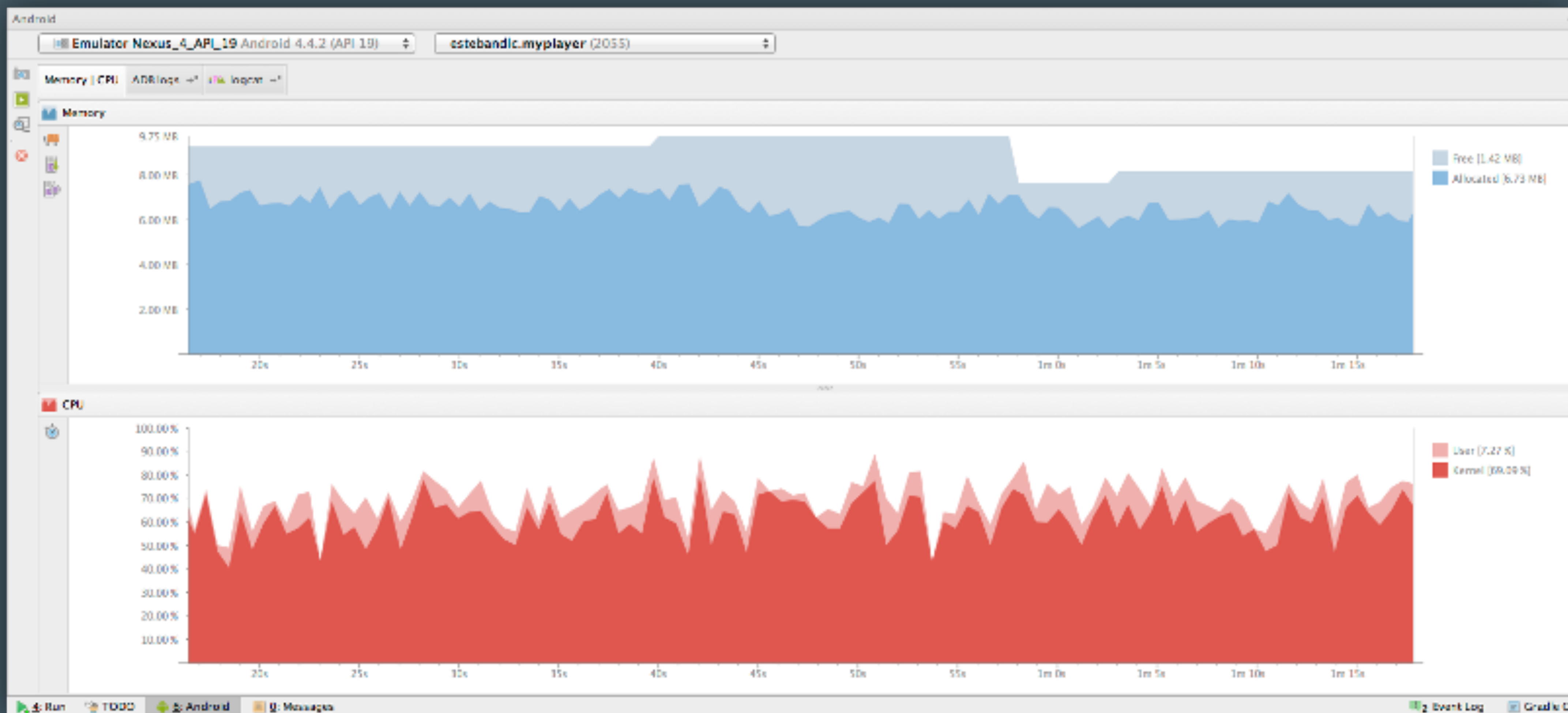
支持C++

- 调试、重构
- 基于CLion
- 免费工具



Google 开发者工具

内存监测



Google 开发者工具

测试



Android Studio



Android Testing



Cloud Test Lab



Google Play

Setup

- Setup projects with tests & infrastructure

Develop

- User Interface Tests
- Java Unit Tests

Release

- Testing on matrix of devices (virtual & real)

Support

- Google Play App Testing & Validation

Google 开发者控制面板

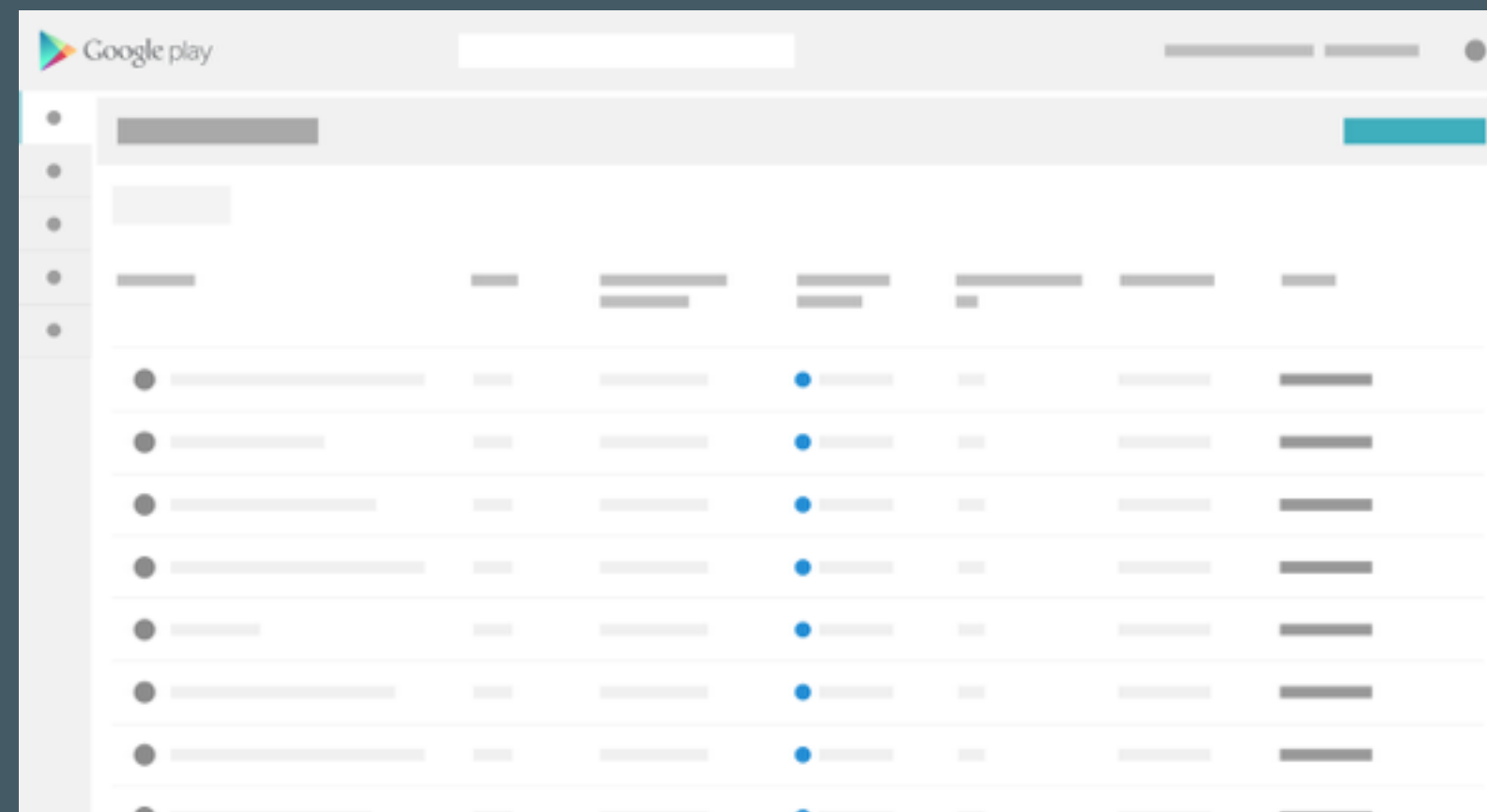
云测试

01. Beta内测申请



02. 完全免费

03. 可变成测试用例



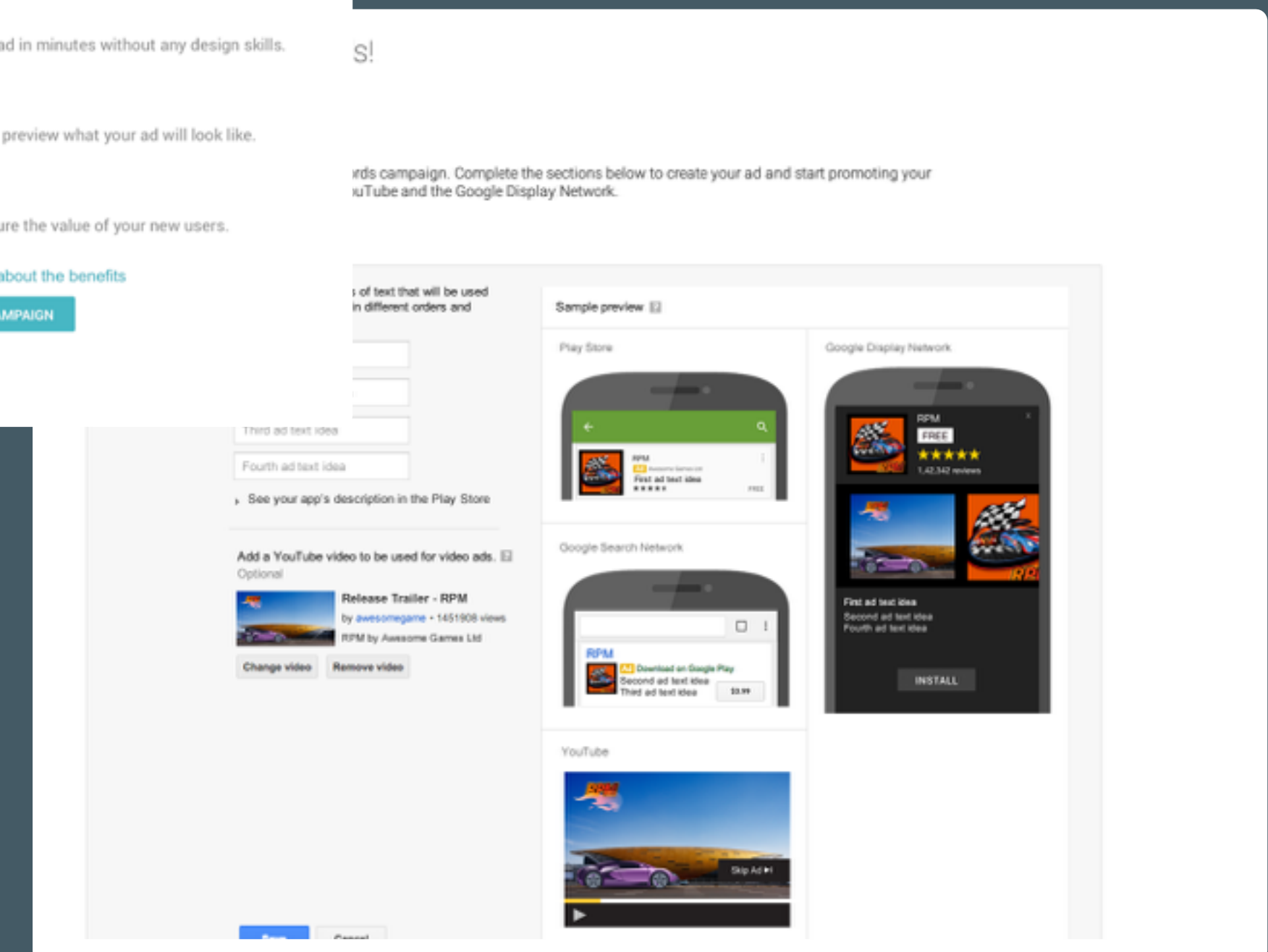
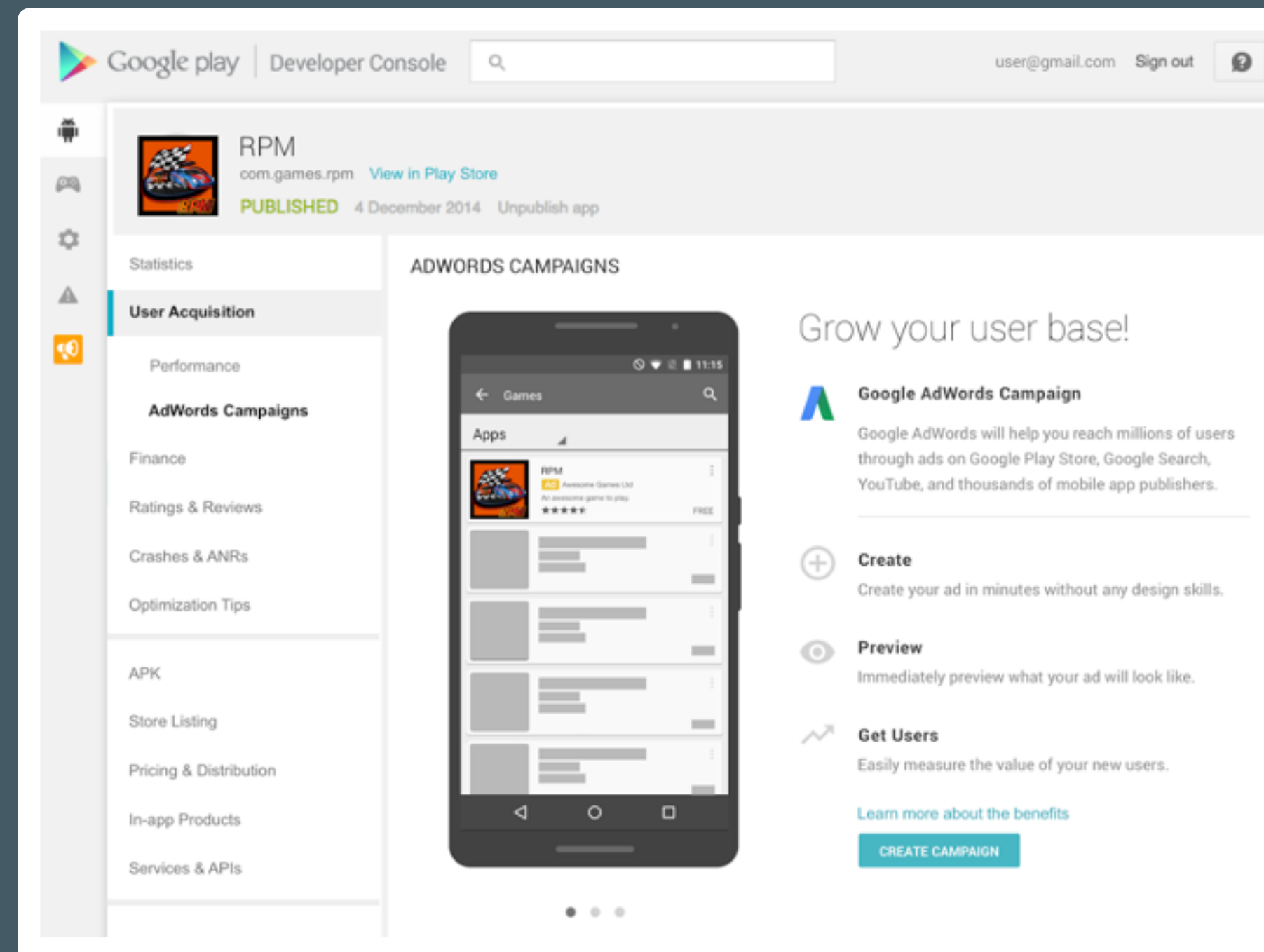
Google 开发者控制面板

广告投放

01. 支持Google全部广告网络

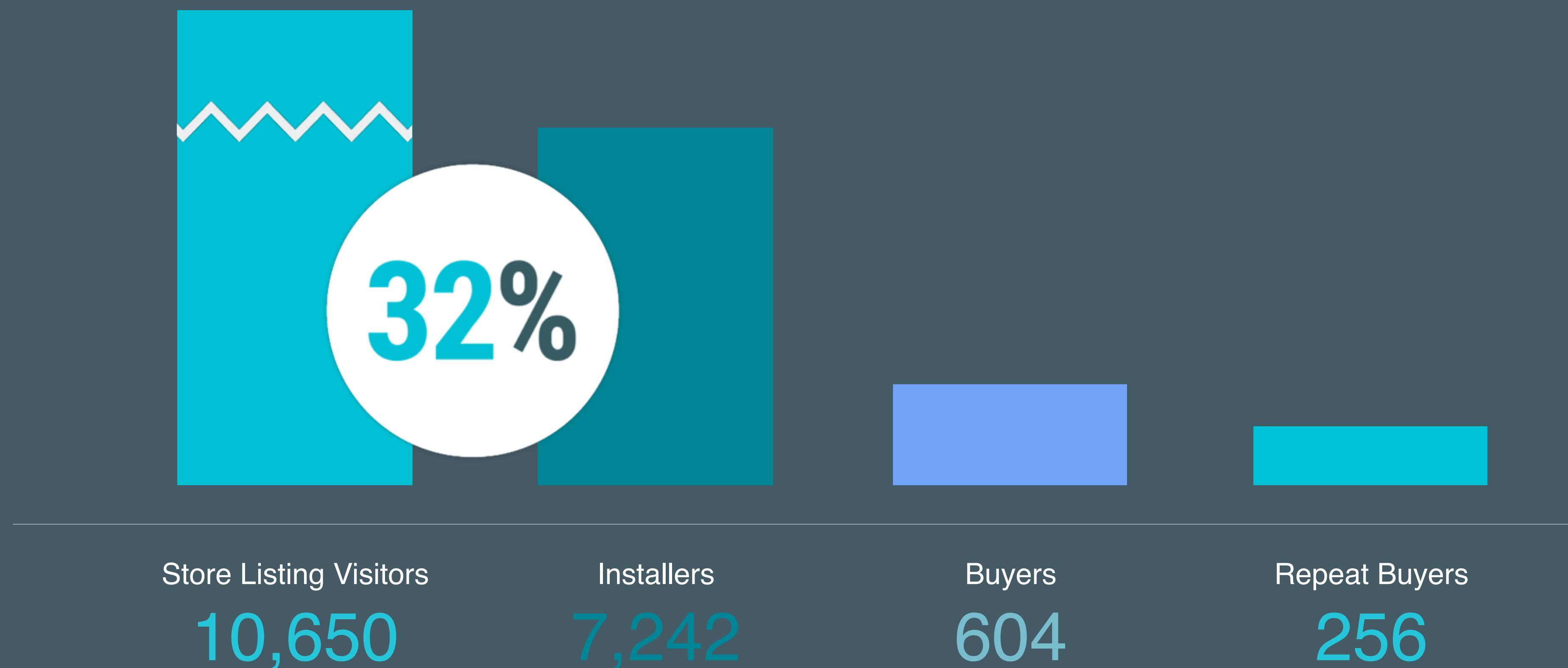
02. 支持投放效果跟踪

03. 支持自定义渠道



Google 开发控制面板

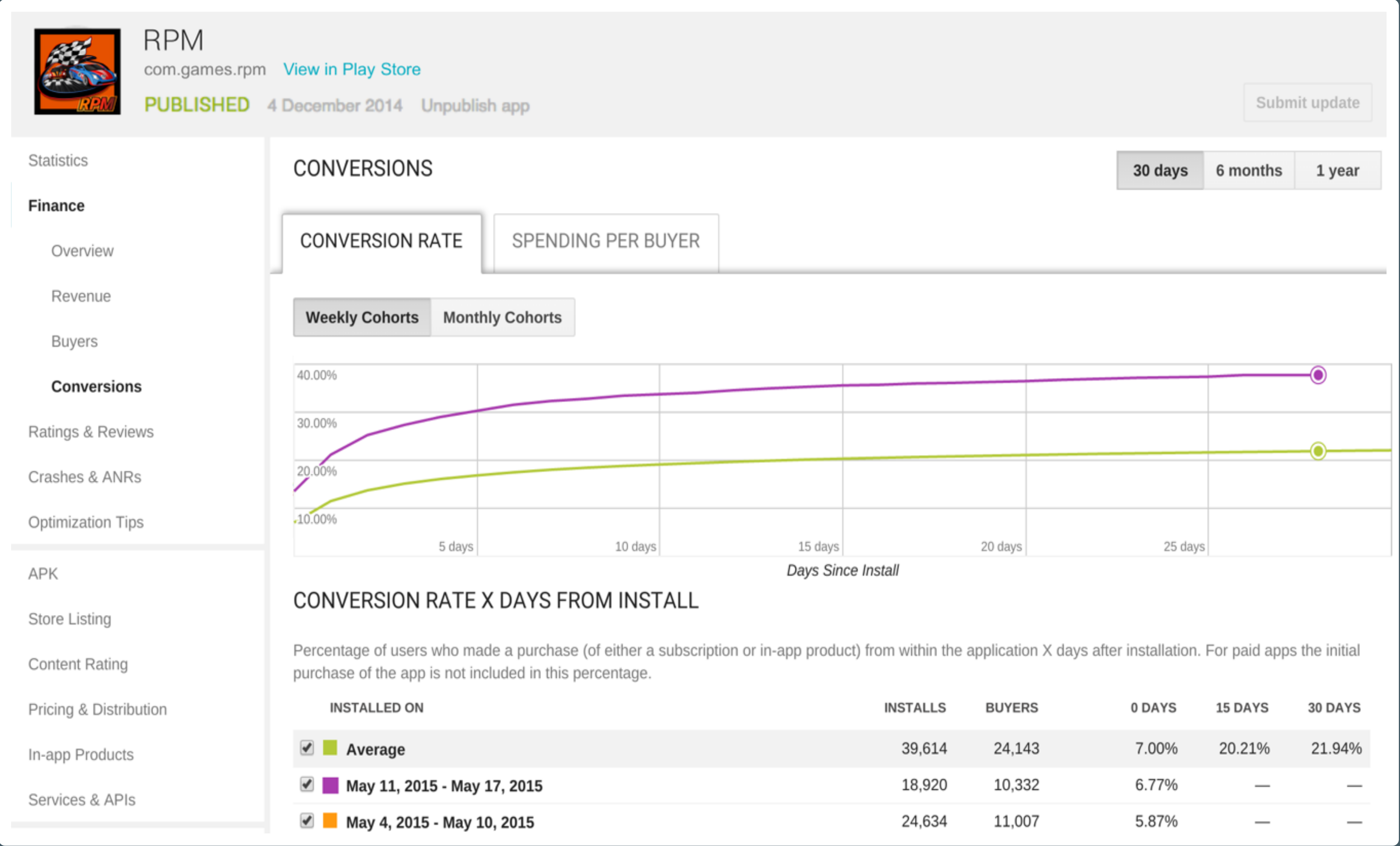
广告转换



支持优化应用商店下载页面

Google 开发者控制面板

收入转化



Thanks