

Effective-UI Best Practices

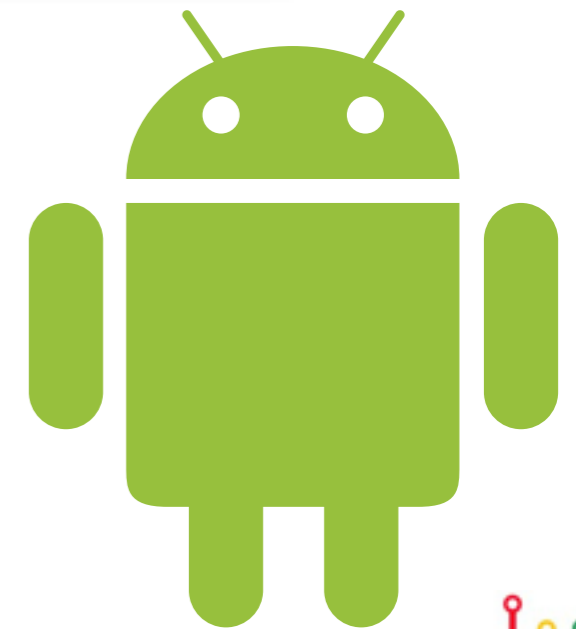
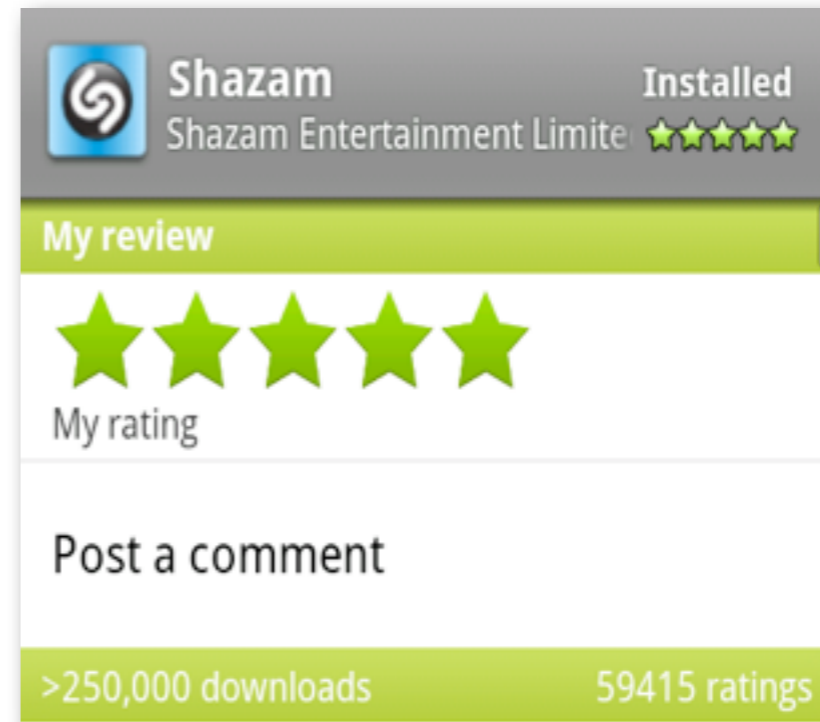
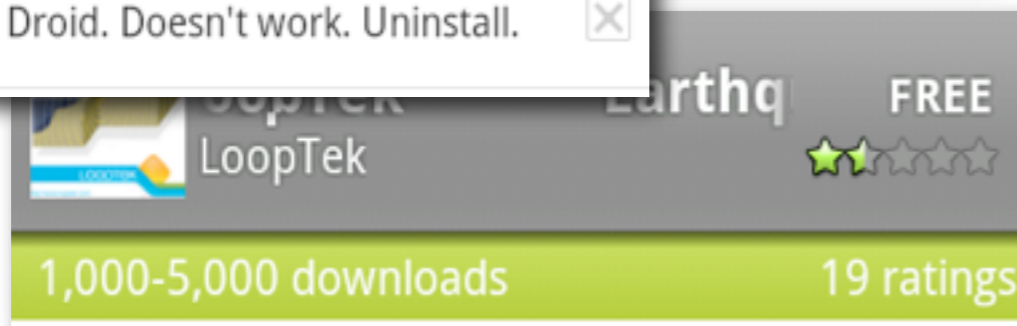
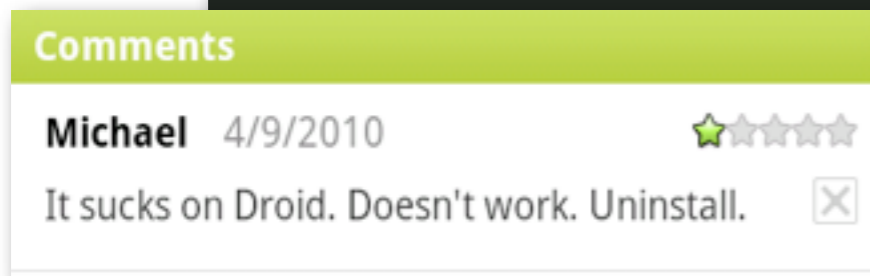
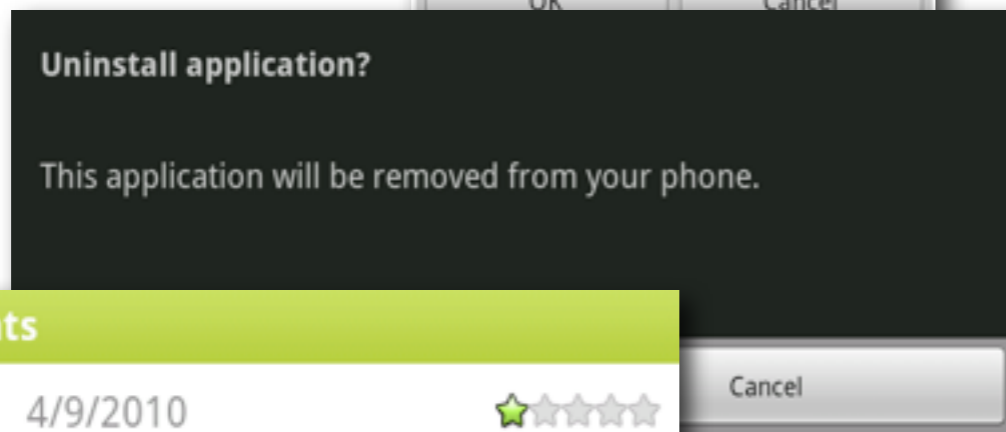
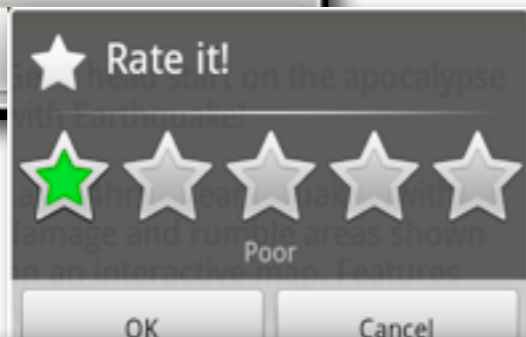
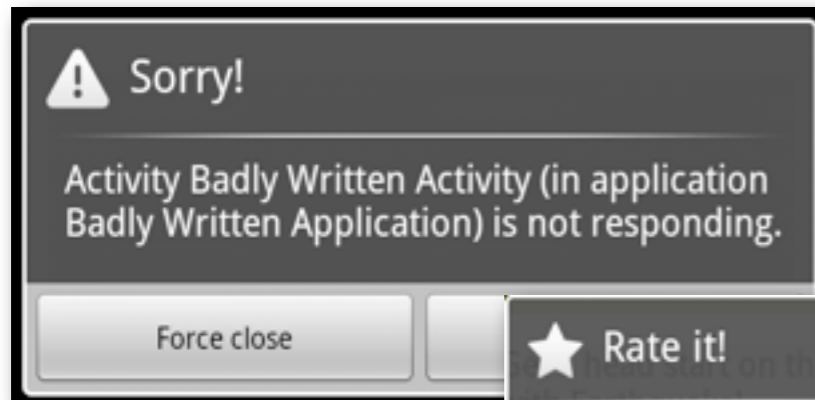
Tim Bray, Developer Advocate



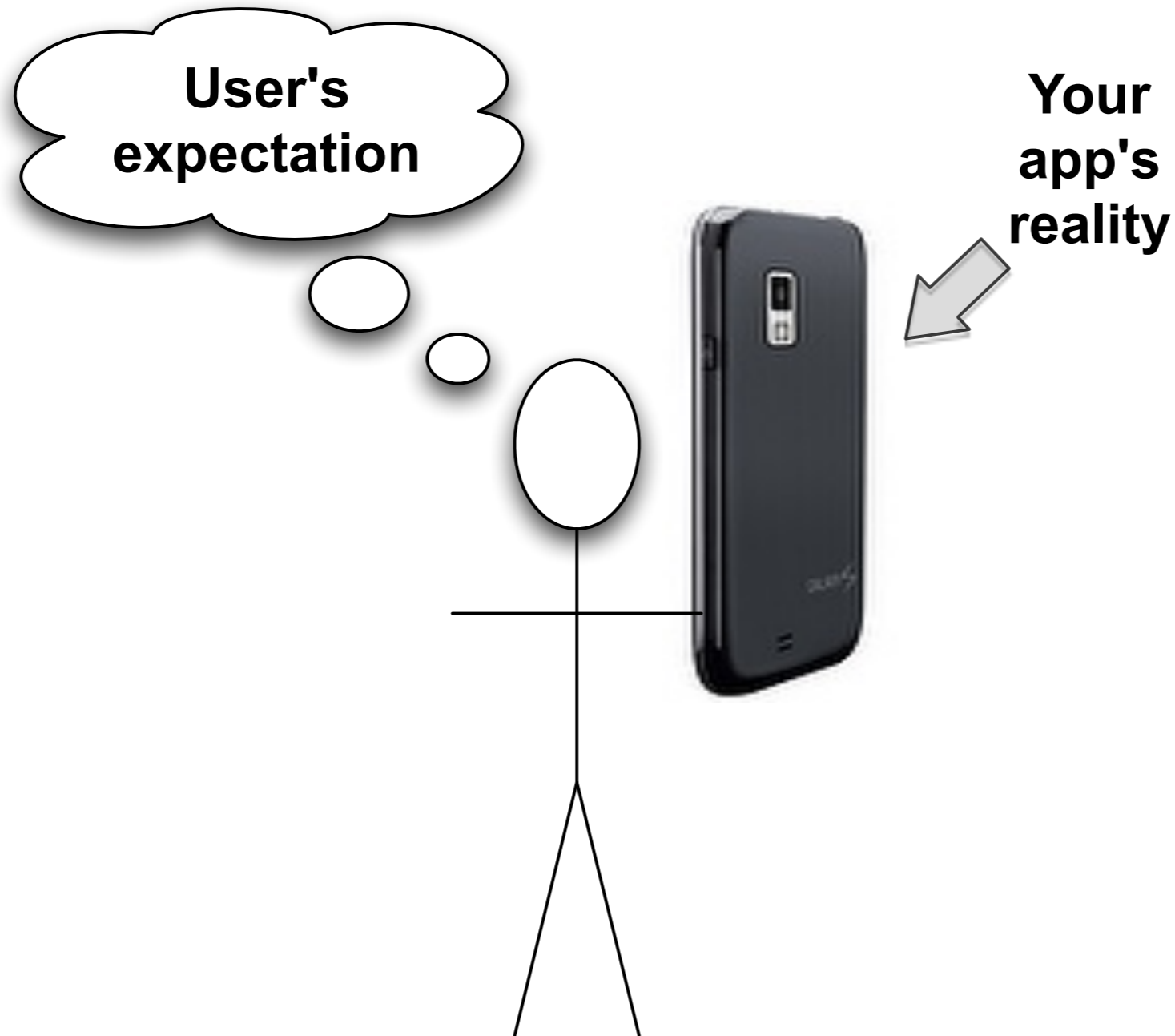
Why care about UI?



Why care about UI?



The perception of excellence



Listen to your users

- Public beta



Listen to your users

- Public ~~beta~~ alpha



Listen to your users

- Public ~~beta~~ alpha
- Release early, release often
- Provide a place for feedback



Listen to your users

Content Performance			
Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate
32,171,724 % of Site Total: 100.00%	6,310,205 % of Site Total: 100.00%	00:17:59 Site Avg: 00:17:59 (0.00%)	43.31% Site Avg: 4
Page	Pageviews ↓	Unique Pageviews	
1. /refresh_earthquakes	25,505,418	3,834,412	
2. /exception_parsing_feed	3,508,268	621,731	
3. /application_created	1,350,416	820,078	
4. /map_view	592,940	319,004	
5. /list_view	529,530	305,304	
6. /widget_enabled	410,780	190,433	
7. /menu_refresh	150,740	121,481	
8. /menu_preferences	45,775	38,485	
9. /quake_detail_dialog	22,166	16,872	
10. /exception_cursor_to_quake	16,507	14,760	



Google Analytics for Mobile

- Track every Activity
- Track settings
- Track exceptions and errors

```
// Start tracking  
tracker.start("UA-MY_CODE-XX", this);
```

```
// Register a page view  
tracker.trackPageView("/map_view");
```

```
// Send views to server  
tracker.dispatch();
```



Fight bugs

- Test-driven development
- Use the Monkey
- Public bug tracker

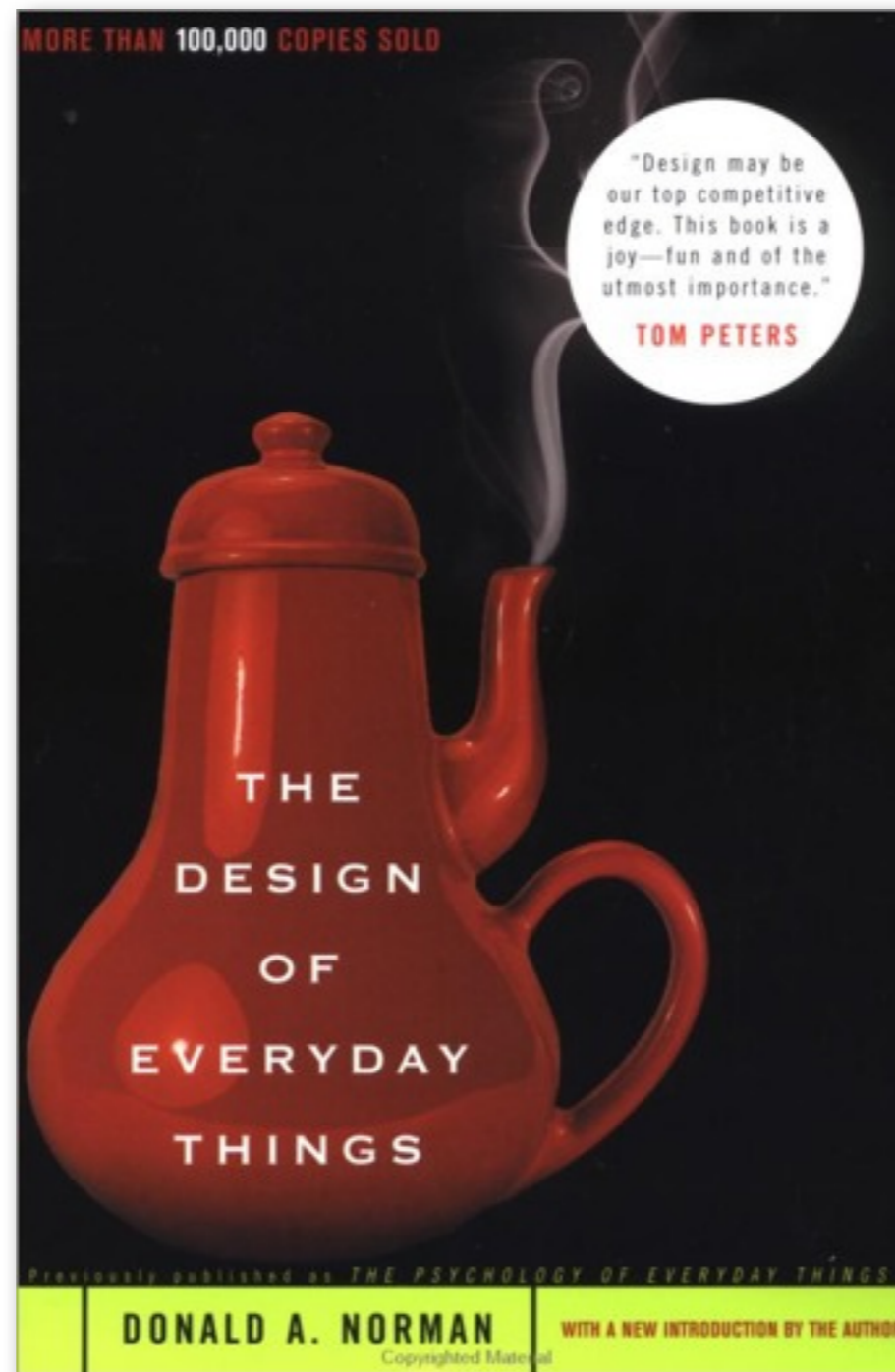


Be responsive



Google
DevFest

Be usable



Be usable

“If an error is possible, someone will make it.”

– Donald Norman, author,
The Design of Everyday Things



Be usable

- Stick with common user-interface patterns
- Use big buttons and big fonts
- Gather analytics



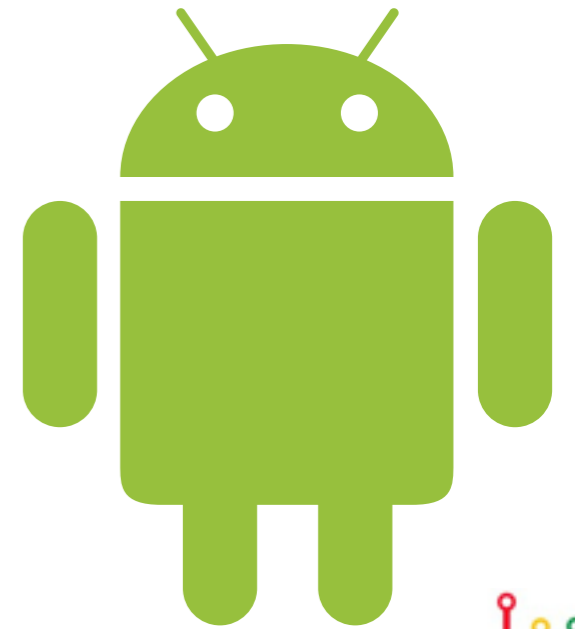
Be usable

If complex instructions
are required,
you're doing it wrong.



Be usable

If ~~complex~~ instructions
are required,
you're doing it wrong.



Be beautiful



Be beautiful

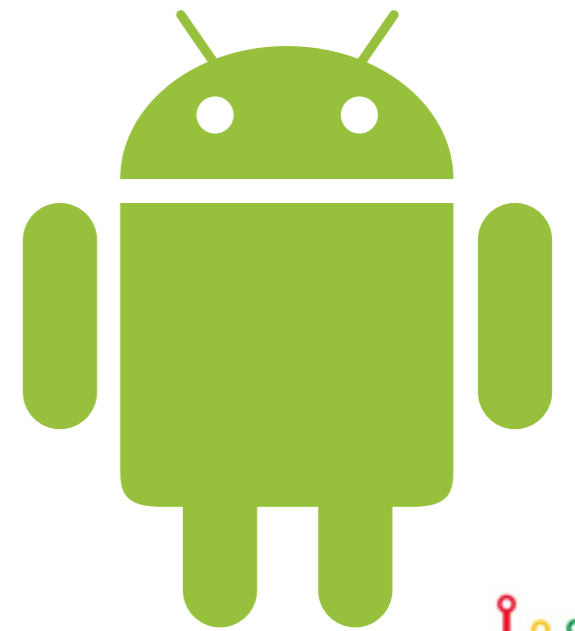
Typography Color

kerning font alpha color space

weight

justification leading

contrast palette



Be beautiful

kerning

font

alpha

color space

Typography

weight

Color

justification

leading

contrast

palette

landscape

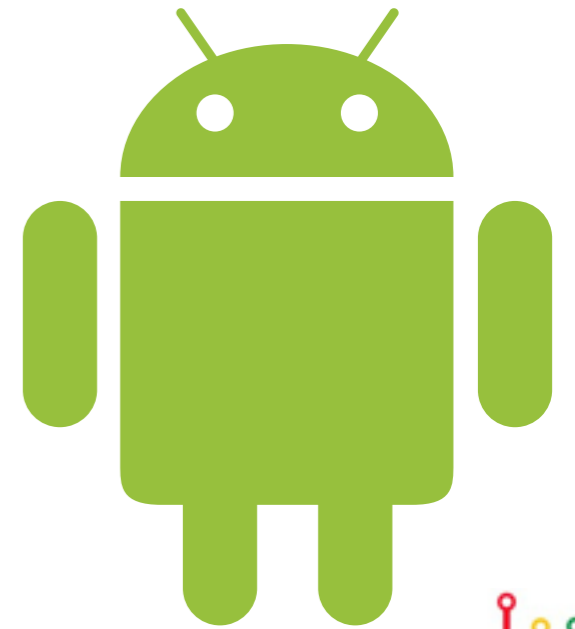
portrait

Layout

empty space

tablet

handset



Be beautiful

kerning

font

alpha

color space

Typography

weight

Color

justification

leading

contrast

palette

transitions

animations

landscape

portrait

Motion



Layout

touch reaction

empty space

tablet

handset



Be beautiful

Work with professional
visual and interaction
designers!



Be beautiful

⬇ ⚠️ 📶 🔋 2:34 AM

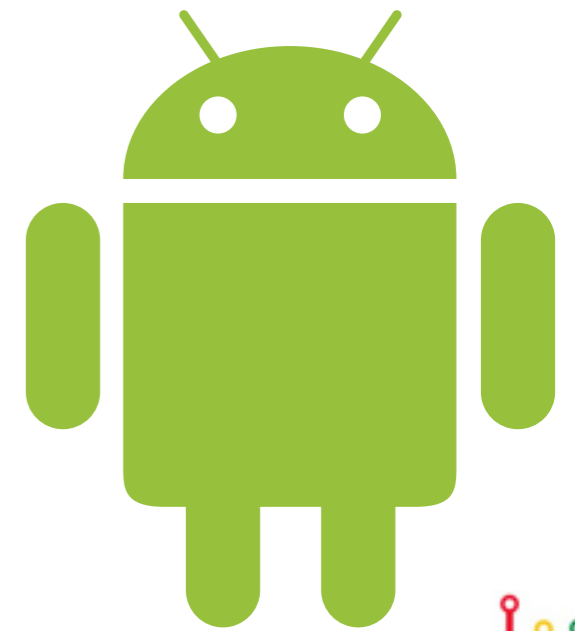
Earthquake!

- 4.3** Central Kazakhstan
09/Apr/2010 07:31:26 UTC (8/4 23:31)
- 4.2** Eastern Mediterranean Sea
09/Apr/2010 07:09:11 UTC (8/4 23:09)
- 4.4** Northern Sumatra
09/Apr/2010 06:29:38 UTC (8/4 22:29)
- 5.1** Tonga
09/Apr/2010 06:04:22 UTC (8/4 22:04)
- 4.2** Baja California
09/Apr/2010 05:32:14 UTC (8/4 21:32)
- 4.2** Off the coast of Oregon
09/Apr/2010 01:27:10 UTC (8/4 17:27)
- 4.8** Araucania
09/Apr/2010 00:30:33 UTC (8/4 16:30)
- 4.1** Baja California
09/Apr/2010 00:19:00 UTC (8/4 16:19)
- 4.9** Tanzania
08/Apr/2010 23:57:41 UTC (8/4 15:57)
- 4.8** Offshore Bio-Bio
08/Apr/2010 22:21:18 UTC (8/4 14:21)

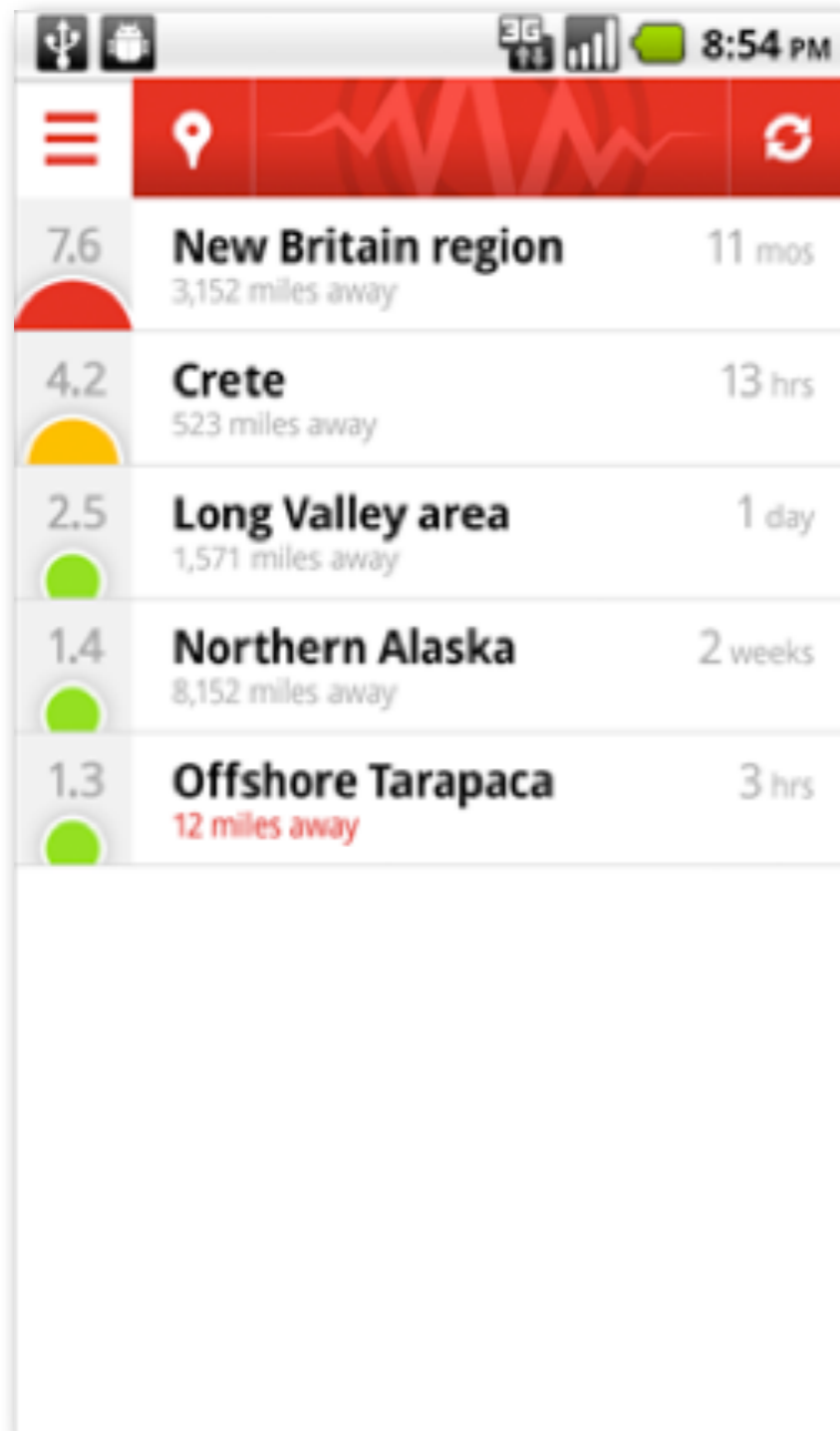
⬇ ⚠️ 📶 🔋 2:34 AM

Earthquake!

Google



Be beautiful



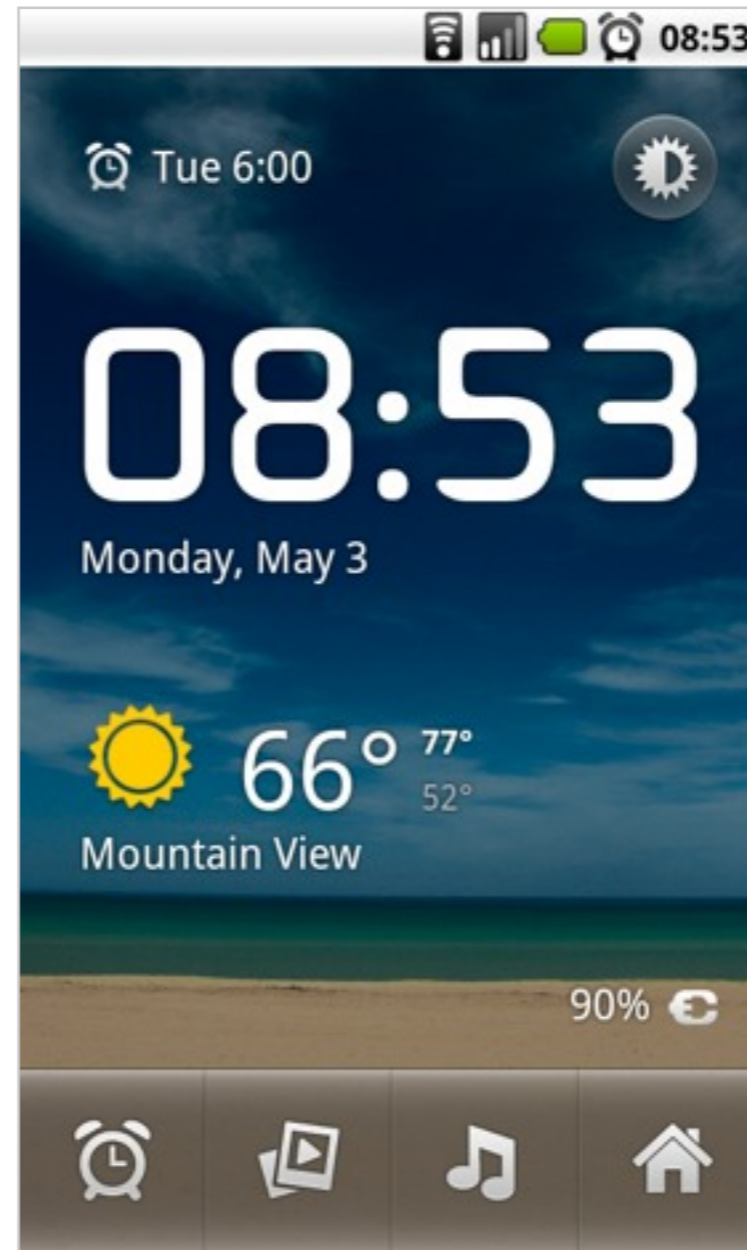
Be Android

- Don't just port your UI over from another framework
- Don't steal the back button
- Don't build your own lists
- Dont build your own menu system



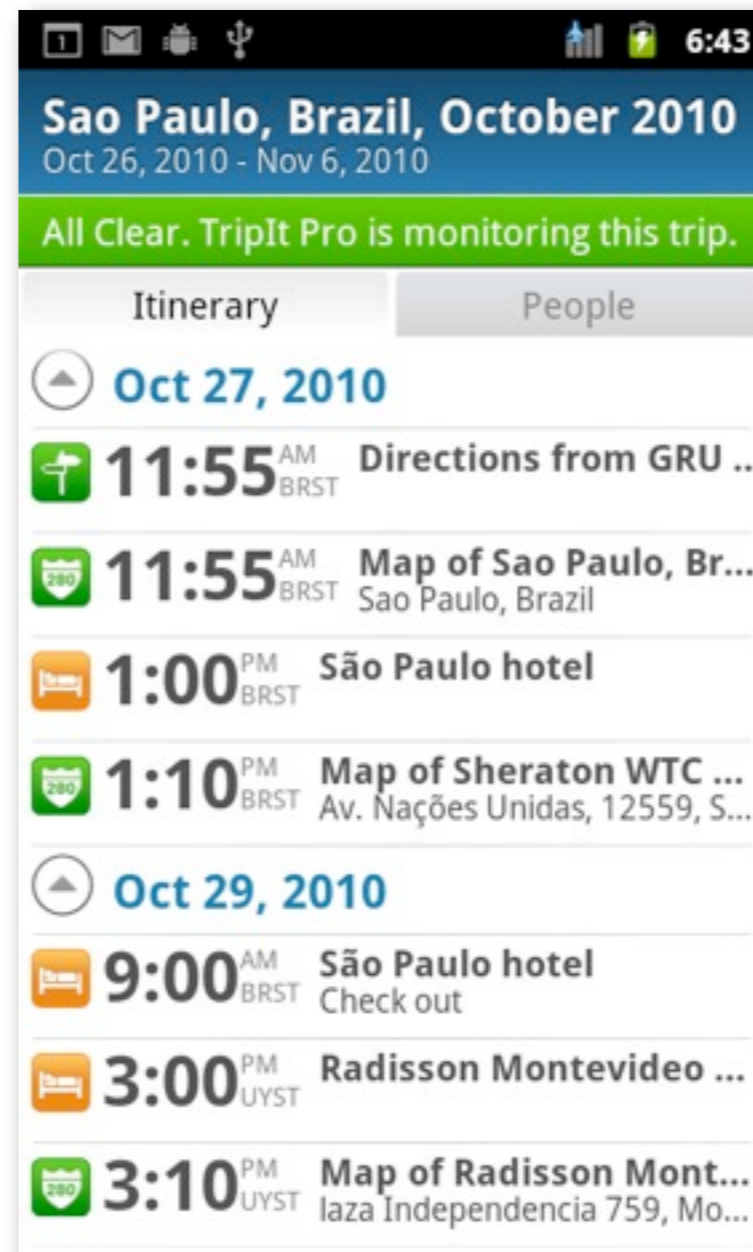
We believe:

Clarity
over
simplicity



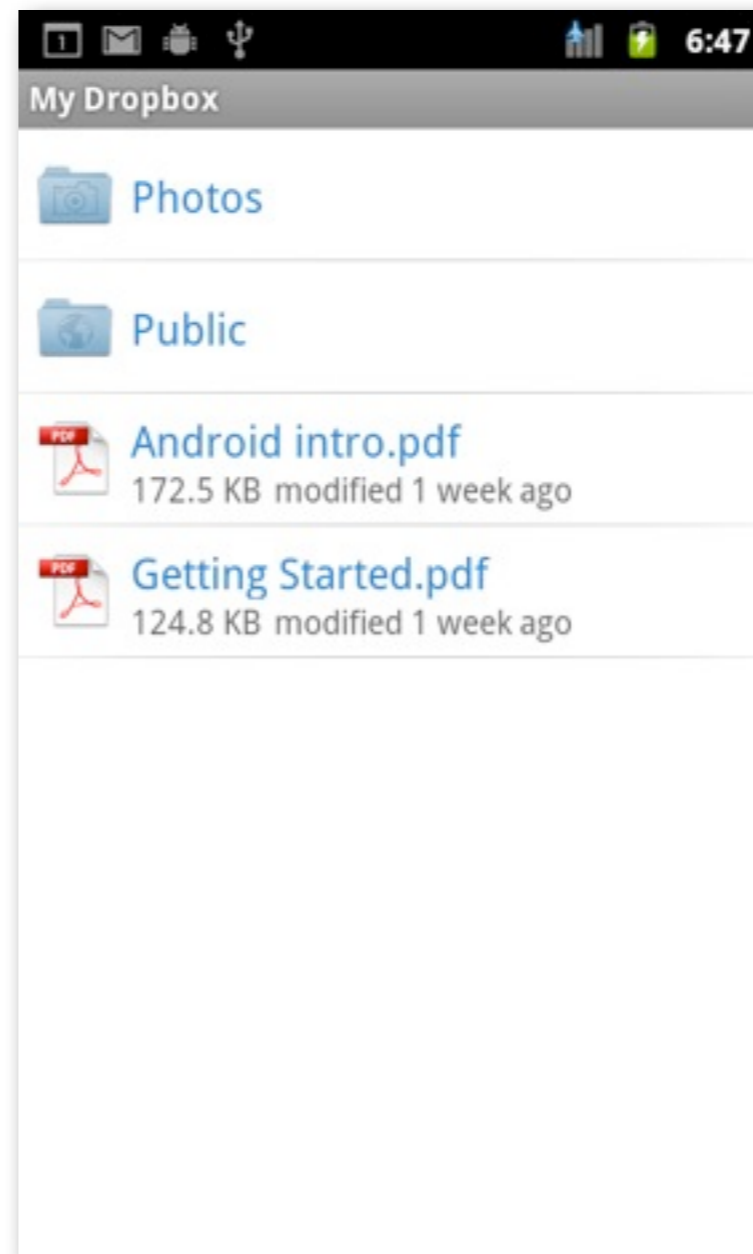
We believe:

Content over chrome



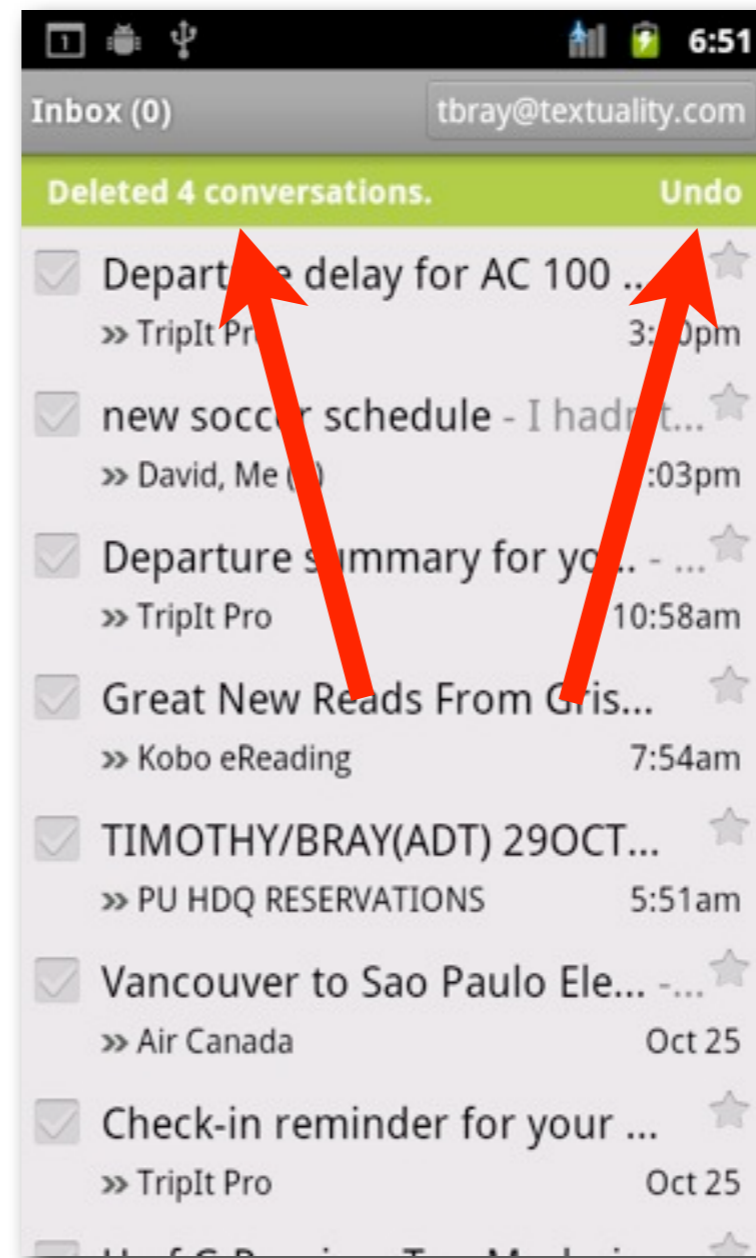
We believe:

Cloud
over
local



We believe:

Recover,
don't
warn



We believe:

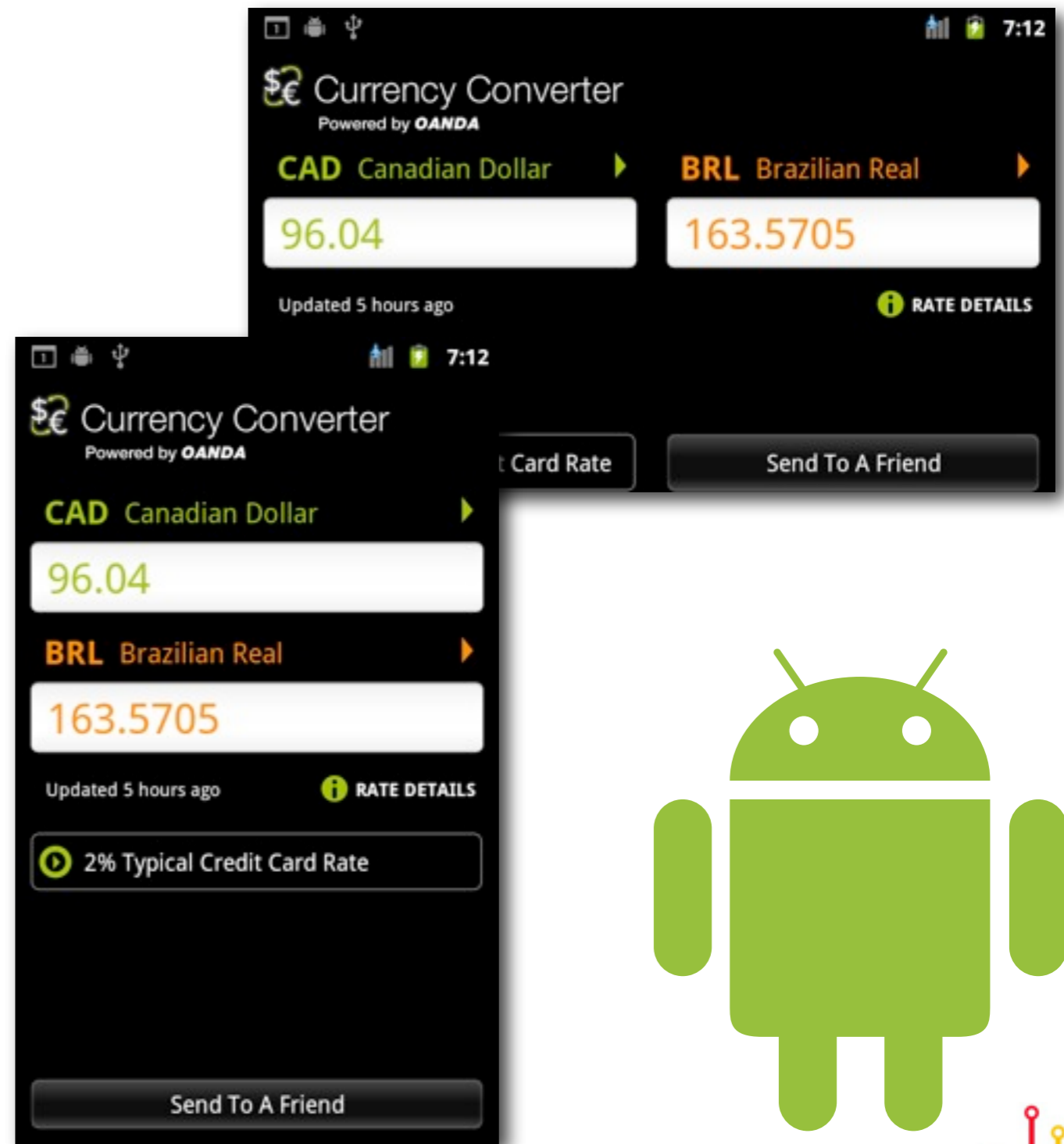
More
sizes are
better



Google
DevFest

We believe:

Landscape and portrait



Google
DevFest

We believe:

Icons matter



Google
DevFest

We believe:

Good
graphical
feedback



default



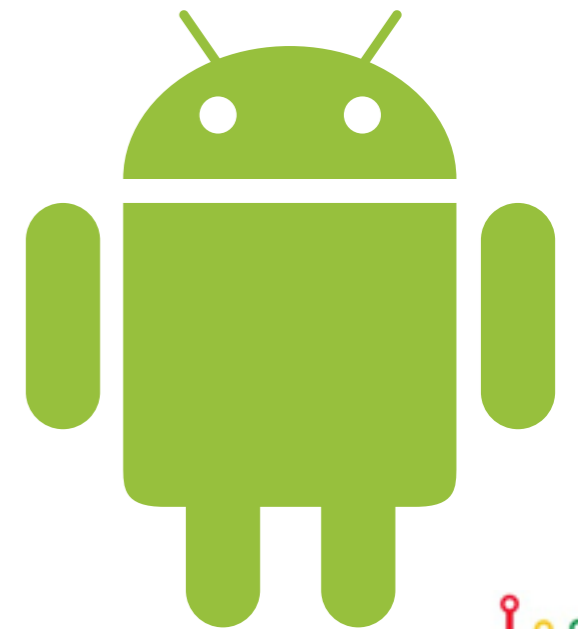
disabled



focused



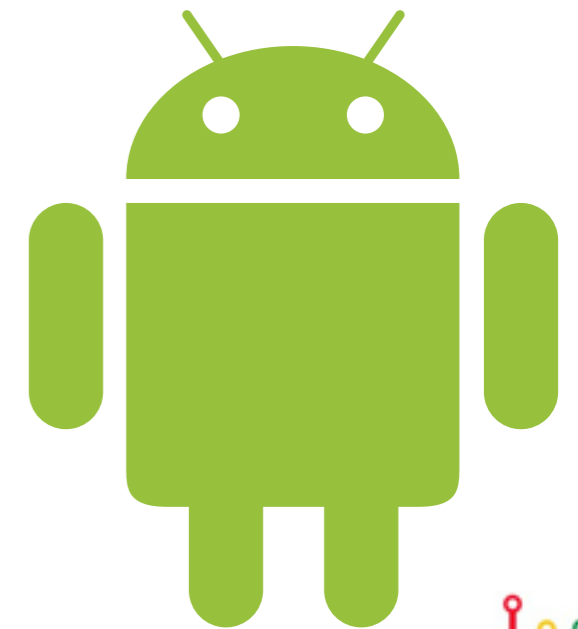
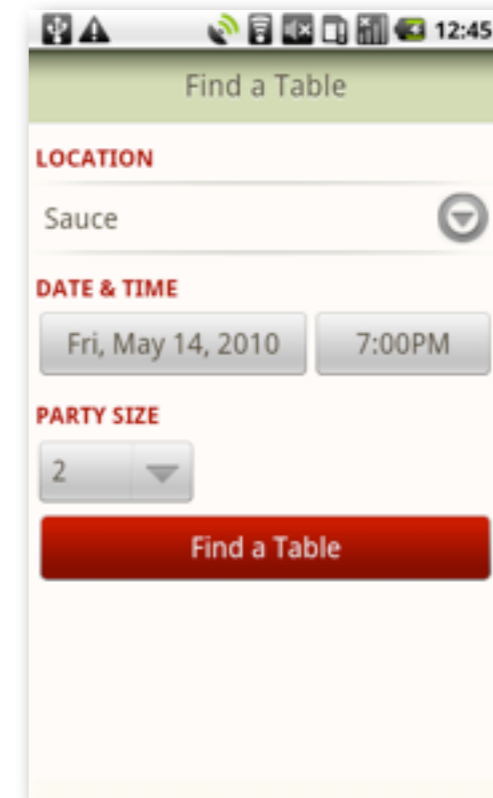
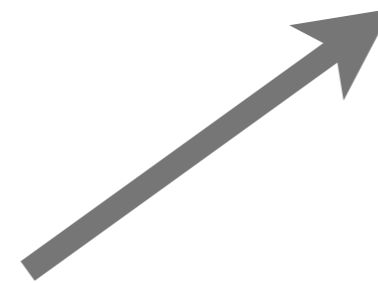
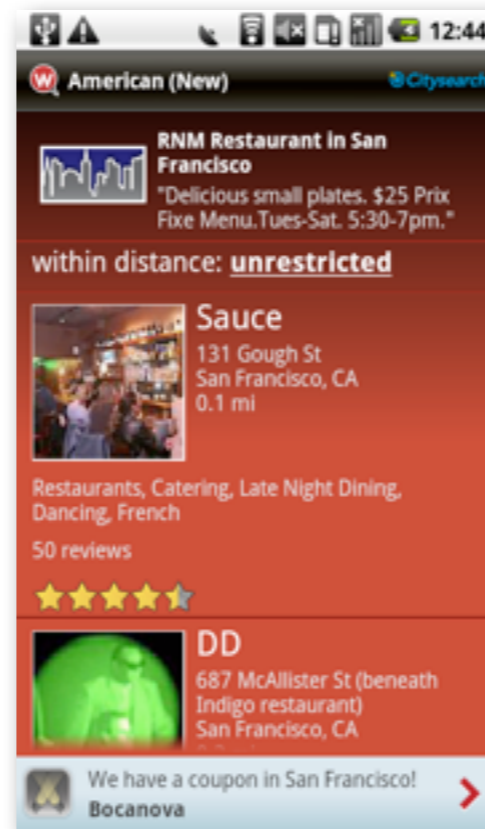
pressed



Google
DevFest

We believe:

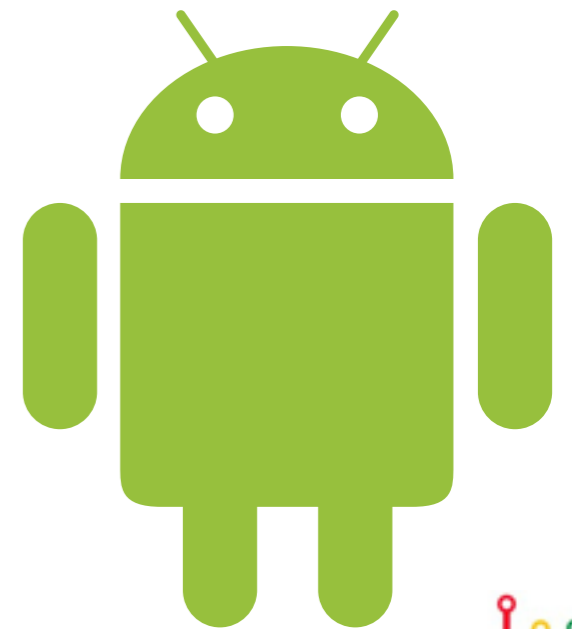
Integrated
not
standalone



These things are sacred



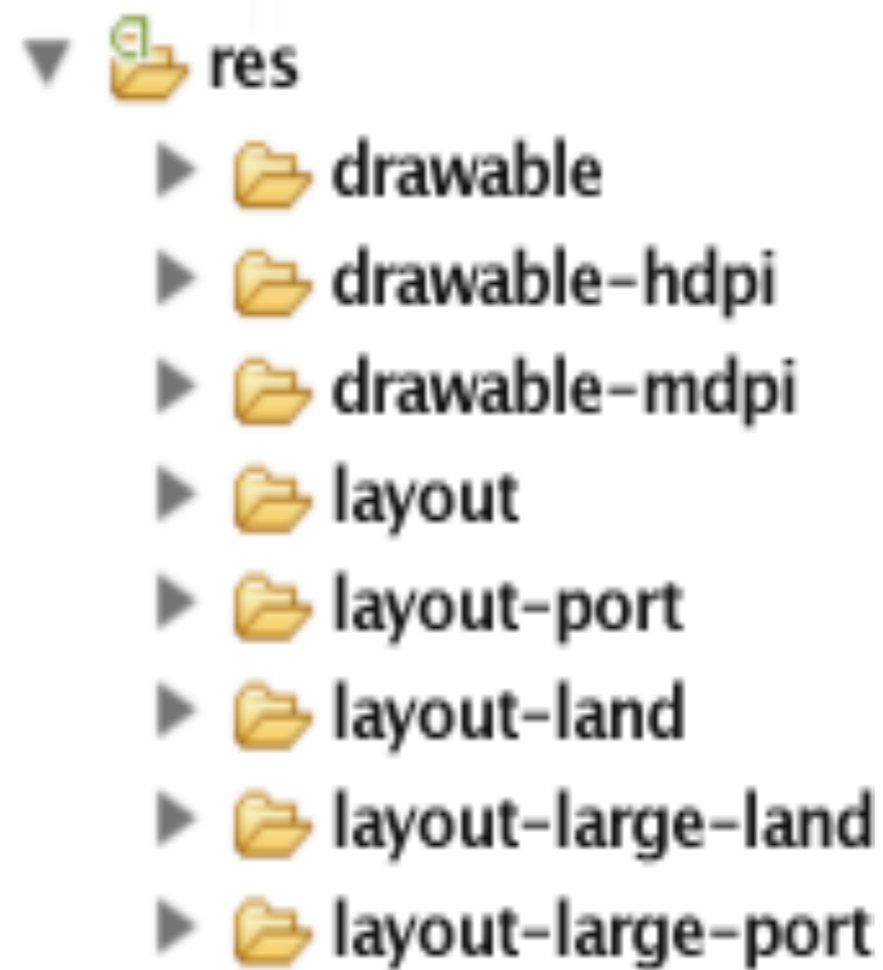
- The status bar
- The back button
- The menu button
- The search button



Google
DevFest

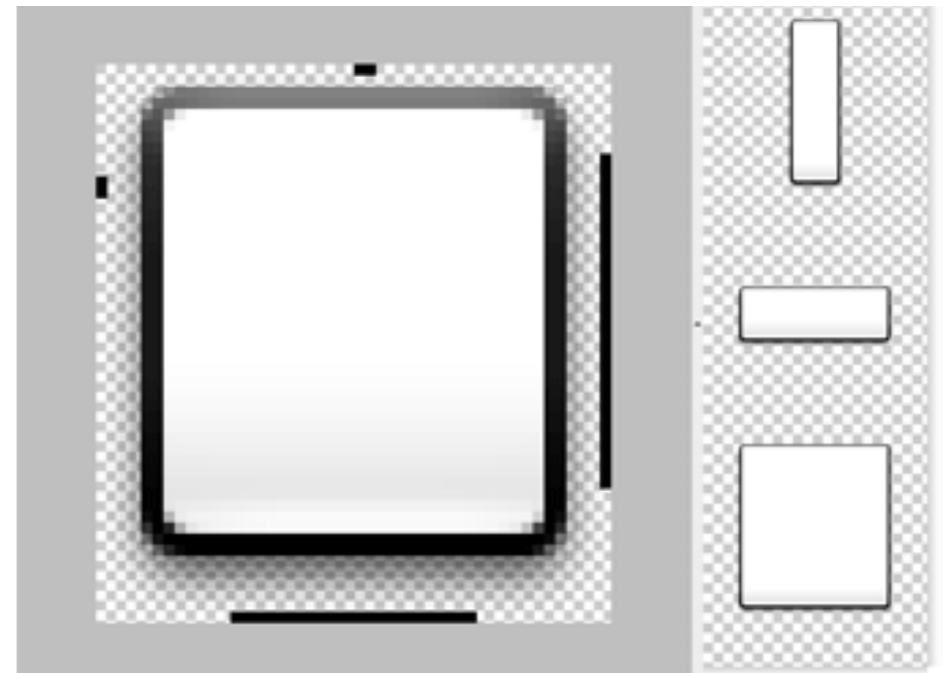
Tools: Resource Qualifiers

- One .apk contains all resources
- System chooses at runtime which resources to use



Tools: 9-patch graphics

- Similar to CSS3 `border-image`
- Border pixels indicate stretchable regions
- Make both `-mdpi` and `-hdpi` versions!



Tools: Selector drawables

```
<selector>
  <item android:drawable="@drawable/foe_disabled"
        android:state_enabled="false" ... />
  <item android:drawable="@drawable/foe_pressed"
        android:state_pressed="true" ... />
  <item android:drawable="@drawable/foe_focused"
        android:state_focused="true" ... />
  <item android:drawable="@drawable/foe_default" />
</selector>
```



foe.xml:



Tools: Selector drawables

▶ drawable-mdpi

foo_default.png



foo_disabled.png



foo_focused.png



foo_pressed.png



▶ drawable-hdpi

foo_default.png



foo_disabled.png



foo_focused.png

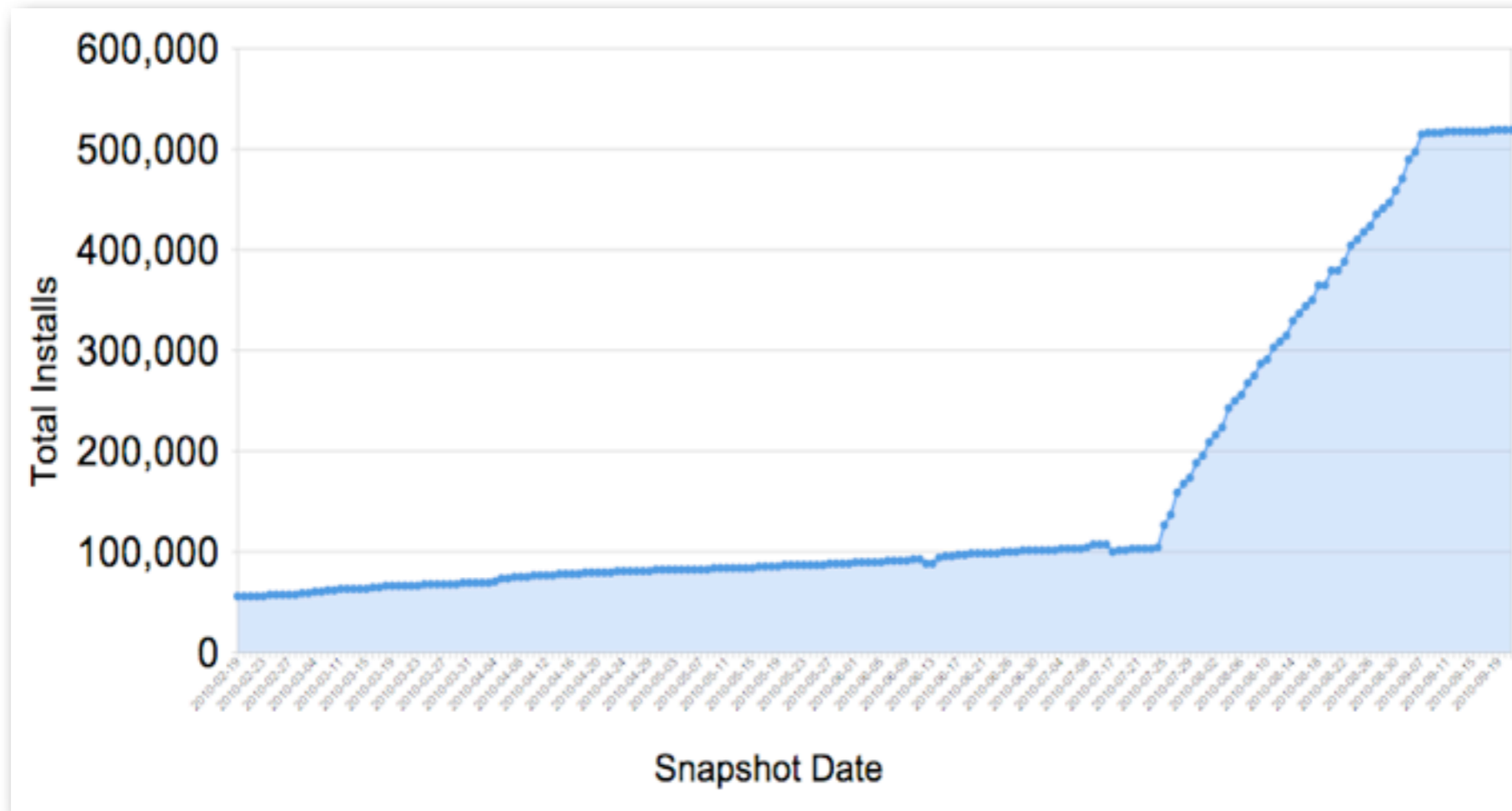


foo_pressed.png



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The Reward



Thank you!

Tim Bray, Developer Advocate

twbray@google.com android-developers.blogspot.com [@AndroidDev](https://twitter.com/AndroidDev)

