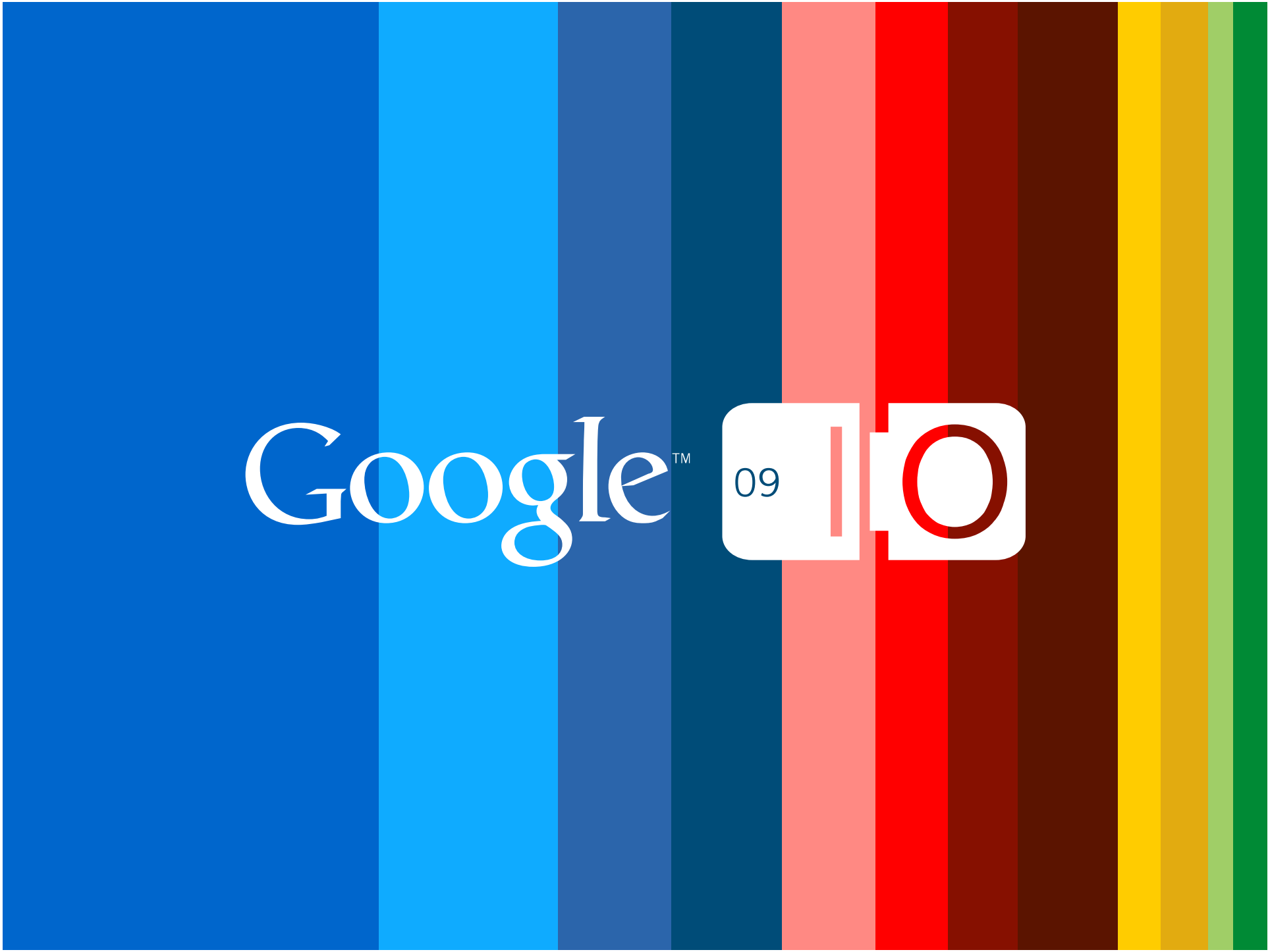

Google™
09
I/O

Supporting Multiple Devices

Joe Onorato
May 28, 2009

Only write your app once

- OS Versions
  - 1.0
  - 1.5 (cupcake)
  - Donut
- Runtime configuration options
  - Locales
  - Orientation
  - Operator
  - *many more*
- Different hardware

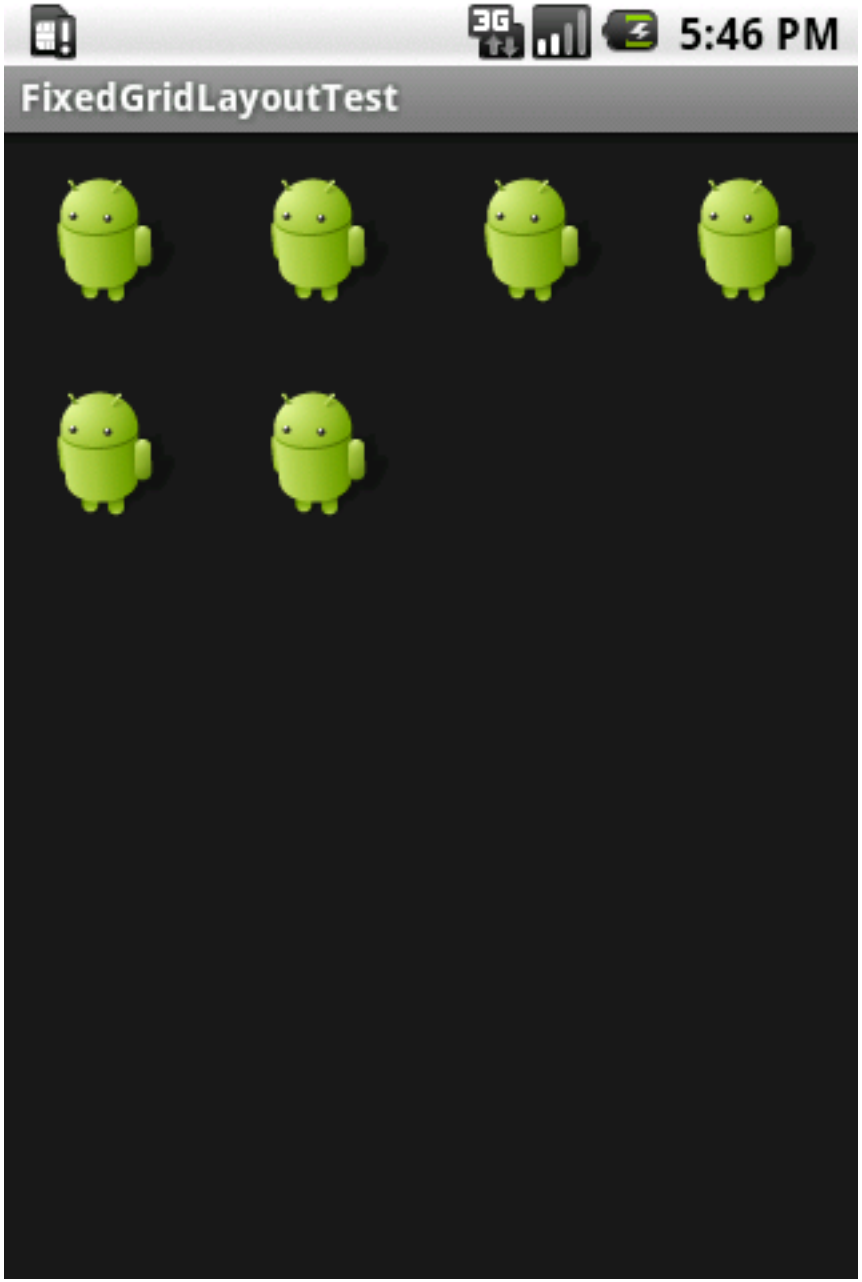
Google 09 IO

Resource configuration options (G1/ADP1 values)

• MCC (Mobile Country Code)	310 (USA)
• MNC (Mobile Network Code)	410 (AT&T)
• Locale (language, region)	en-rUS
• Orientation	port
• Density	160dpi
• Touch screen	finger
• Keyboard hidden / visible	keyshidden
• Keyboard type	qwerty
• Navigation	trackball
• Screen size	480x320

Google 09 I/O

HVGA



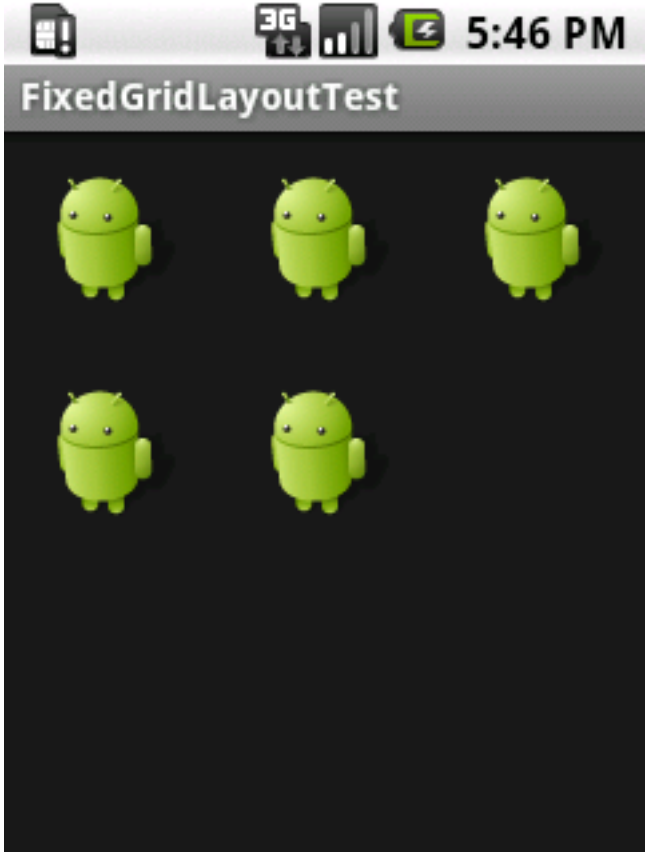
Google 09 I/O

HVGA

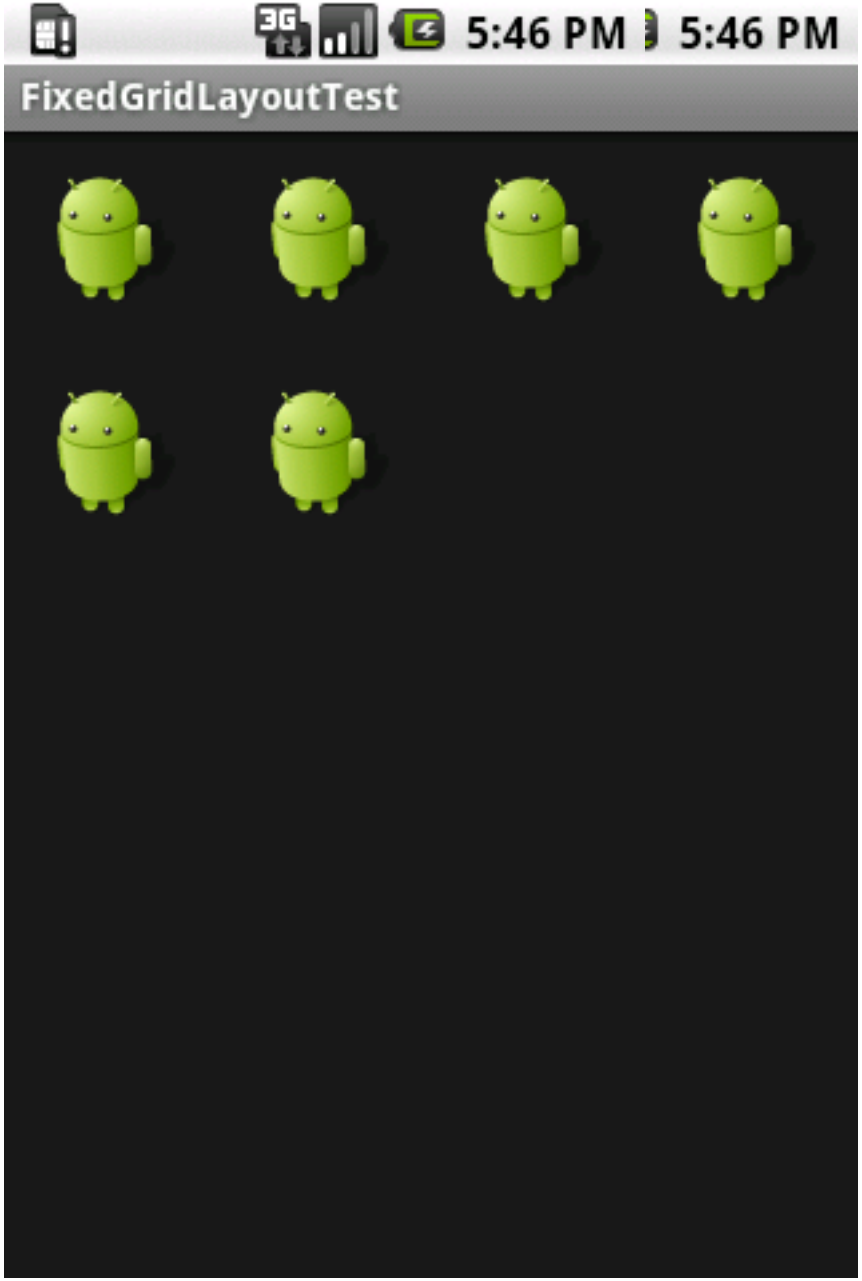
```
<?xml version="1.0" encoding="utf-8"?>
<AbsoluteLayout
    xmlns:android="http://schemas.android.com
    android:orientation="vertical"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    >
  <ImageView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_x="16px"
    android:layout_y="16px"
    android:src="@drawable/bugdroid"
    />
```


Google 09 I/O

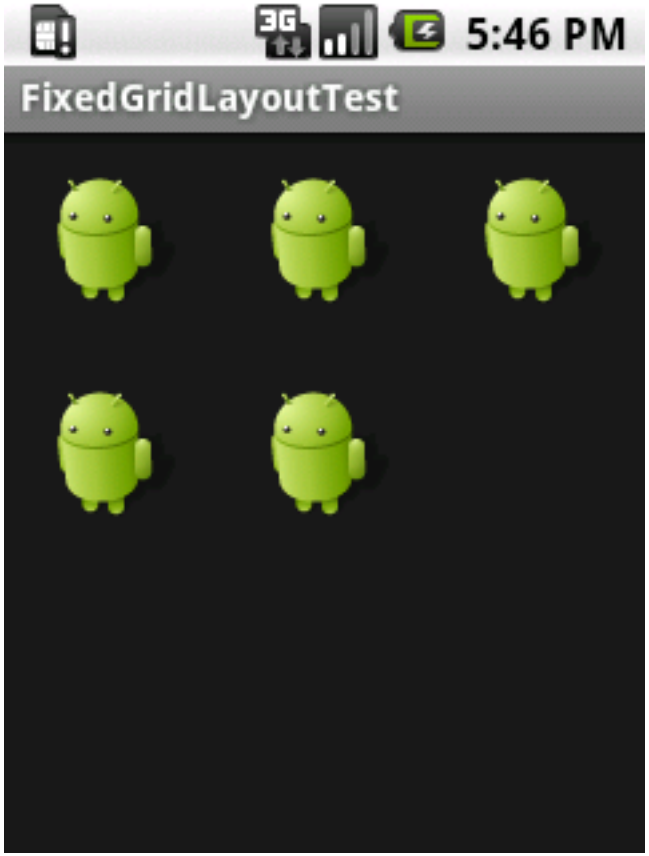
QVGA



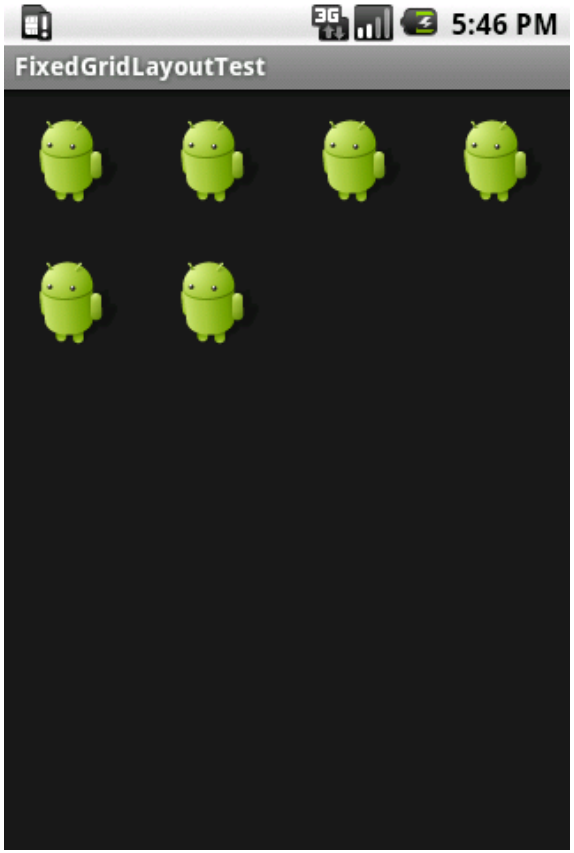
QVGA



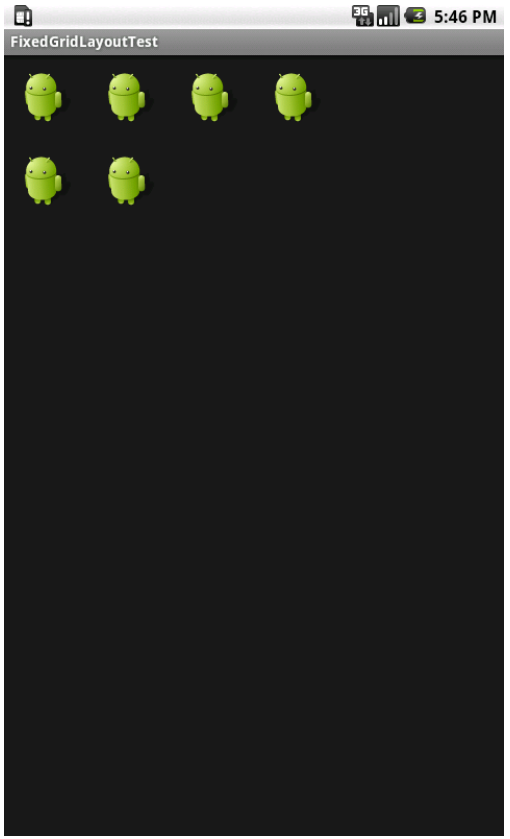
Physical Size – “Density”



QVGA



HVGA



WVGA

Don’t use AbsoluteLayout!

```
<?xml version="1.0" encoding="utf-8"?>
<AbsoluteLayout
    xmlns:android="http://schemas.android.com
    android:orientation="vertical"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    >
  <ImageView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_x="16px"
    android:layout_y="16px"
    android:src="@drawable/bugdroid"
    />
```


Google 09 I/O

Writing a custom view

Read these first

- Declaring Layout

  http://developer.android.com/guide/topics/ui/declaring-layout.html

- Building Custom Components

  http://developer.android.com/guide/topics/ui/custom-components.html

- Resources

  http://developer.android.com/guide/topics/resources/index.html

Writing a custom view

- Measure
- Layout
- Units
- Attributes

Google 09 I/O

Units

- Pixels (px)
- Millimeters (mm)
- Inches (in)
- Points (pt)
- Device independent pixels (dp)
- Scaled pixels (sp)

Google 09 I/O

Where the code went

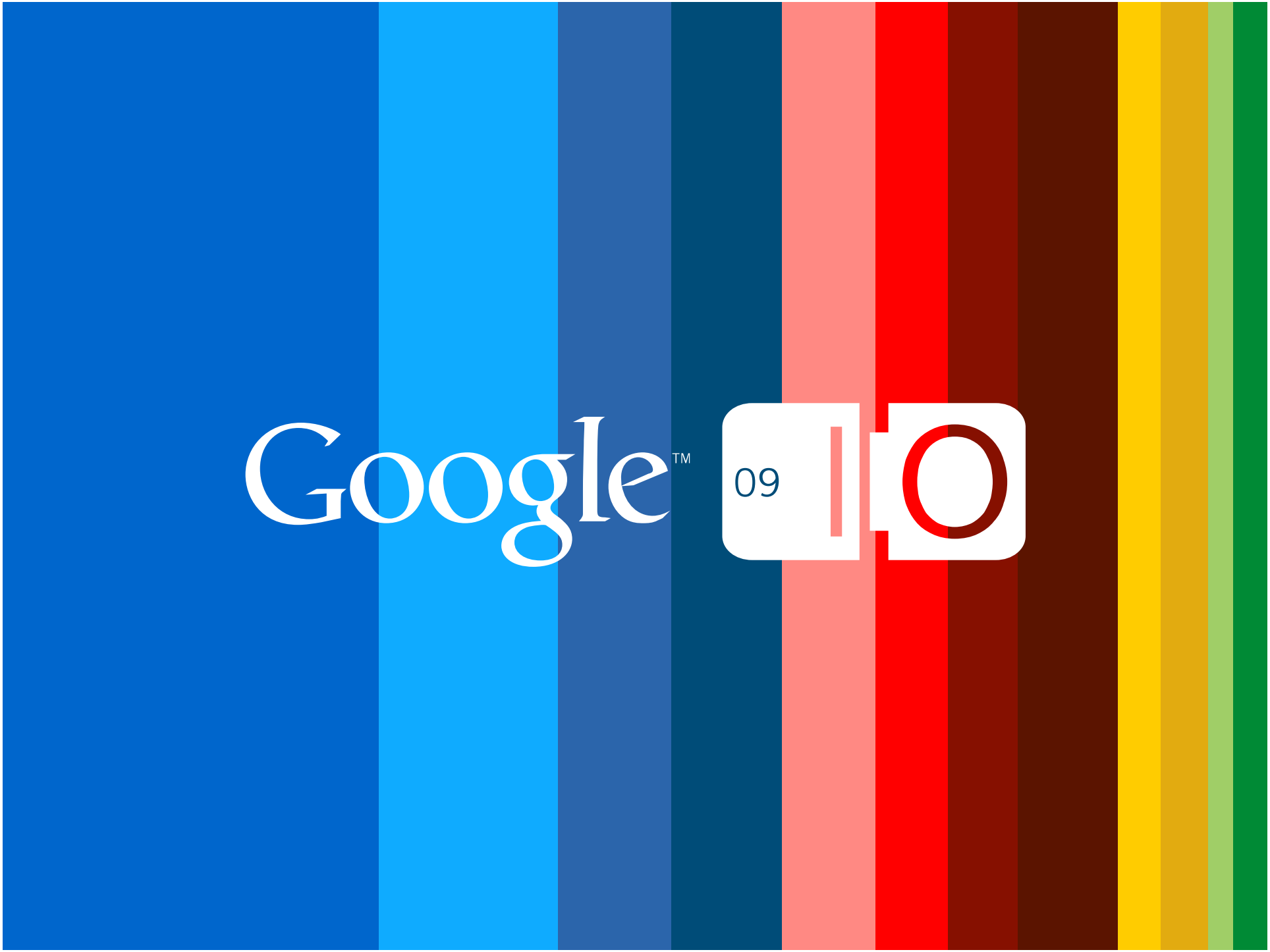
(this slide was added after the presentation)

We found the code we submitted. It took a few minutes for it to replicate to the android.git.kernel.org server we were using. Here's the url:

http://android.git.kernel.org/?p=platform/development.git;a=commit;h=a42091afb7b122c753f9050ff5dbcb792eb36a78

-joe

Questions?


Google™
09
I/O