goto; conference amsterdam

How Mobile SDKs Help You

bolot@bignerdranch.com

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www.bignerdranch.com

gotocon.com

Hi, I'm Bolot

Born in the USSR, Kyrgyzstan

Studied in the US at Georgia Tech

@bolot

Tango and taido

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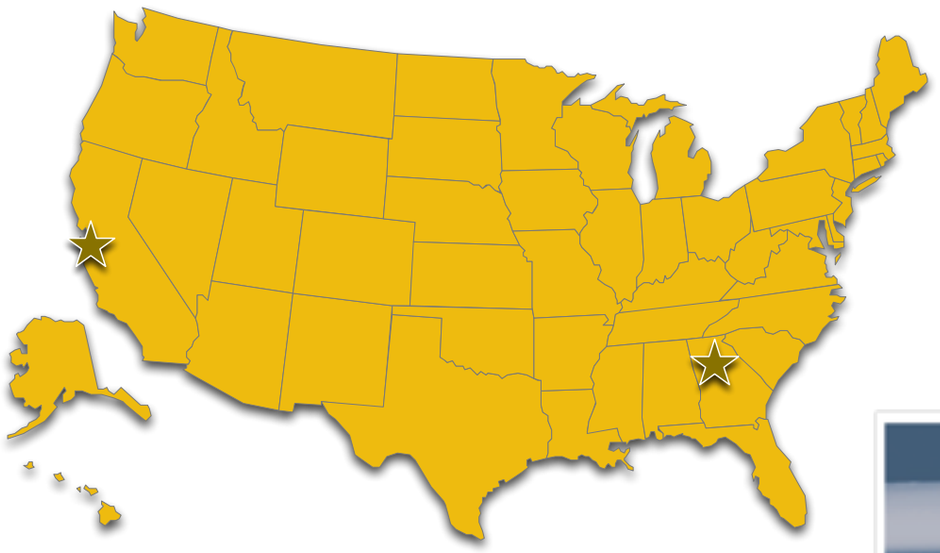
- ★ BNR Atlanta: Galactic Headquarters
- ★ BNR Europe
- ★ BNR Training in Silicon Valley



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What does SDK do for you?

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Source: ifixit.com

Complexity

CPU, GPU

power management

gyroscopes

accelerometers

storage

radios, GPS, cameras

microphones

display, touchscreen, etc...

Source: ifixit.com

Complexity

Network protocols

Audio/video codecs

Graphics

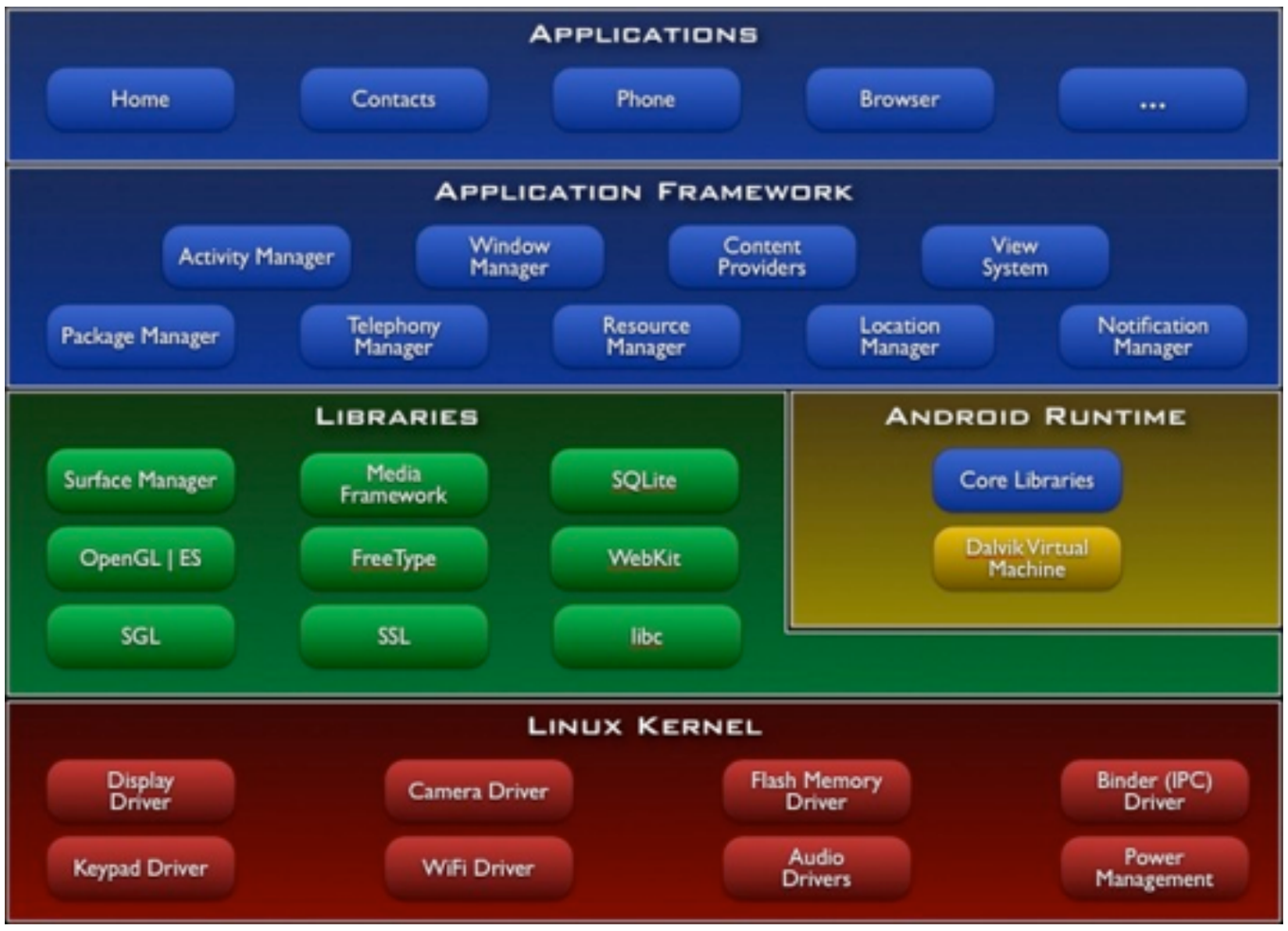
Device drivers

Process management

Memory management

Security

Power management, etc...



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Source: http://developer.android.com/

Complexity

APIs

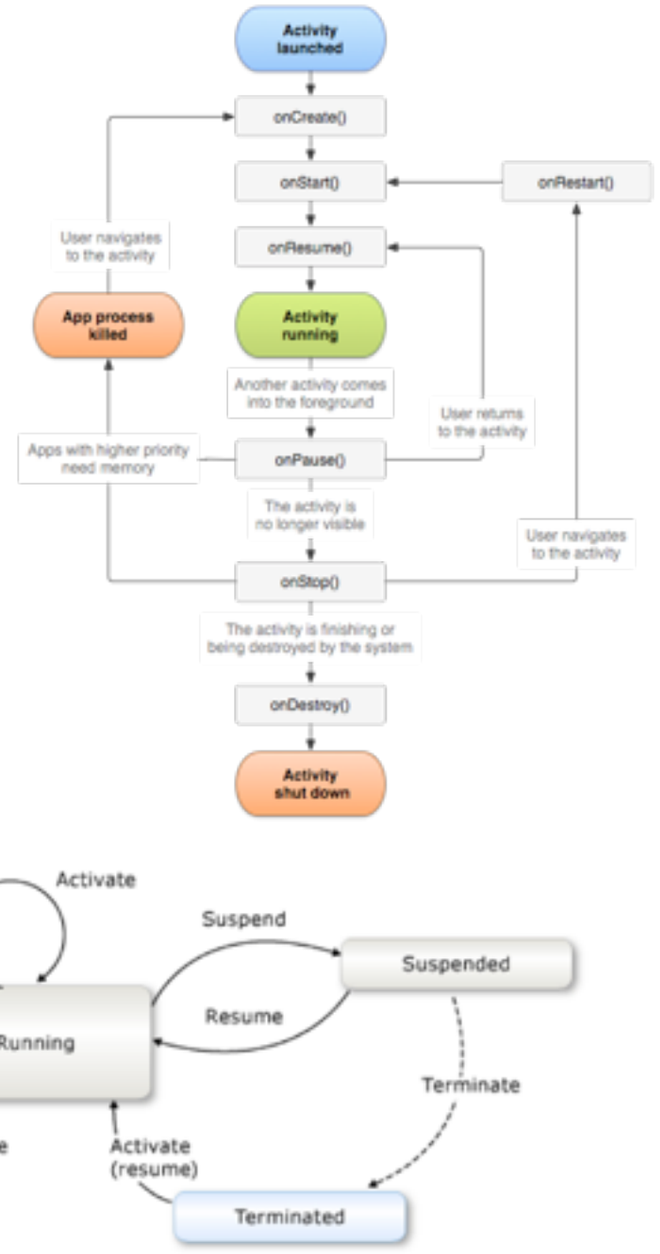
App lifecycle management

User interface

User experience

Services

Distribution



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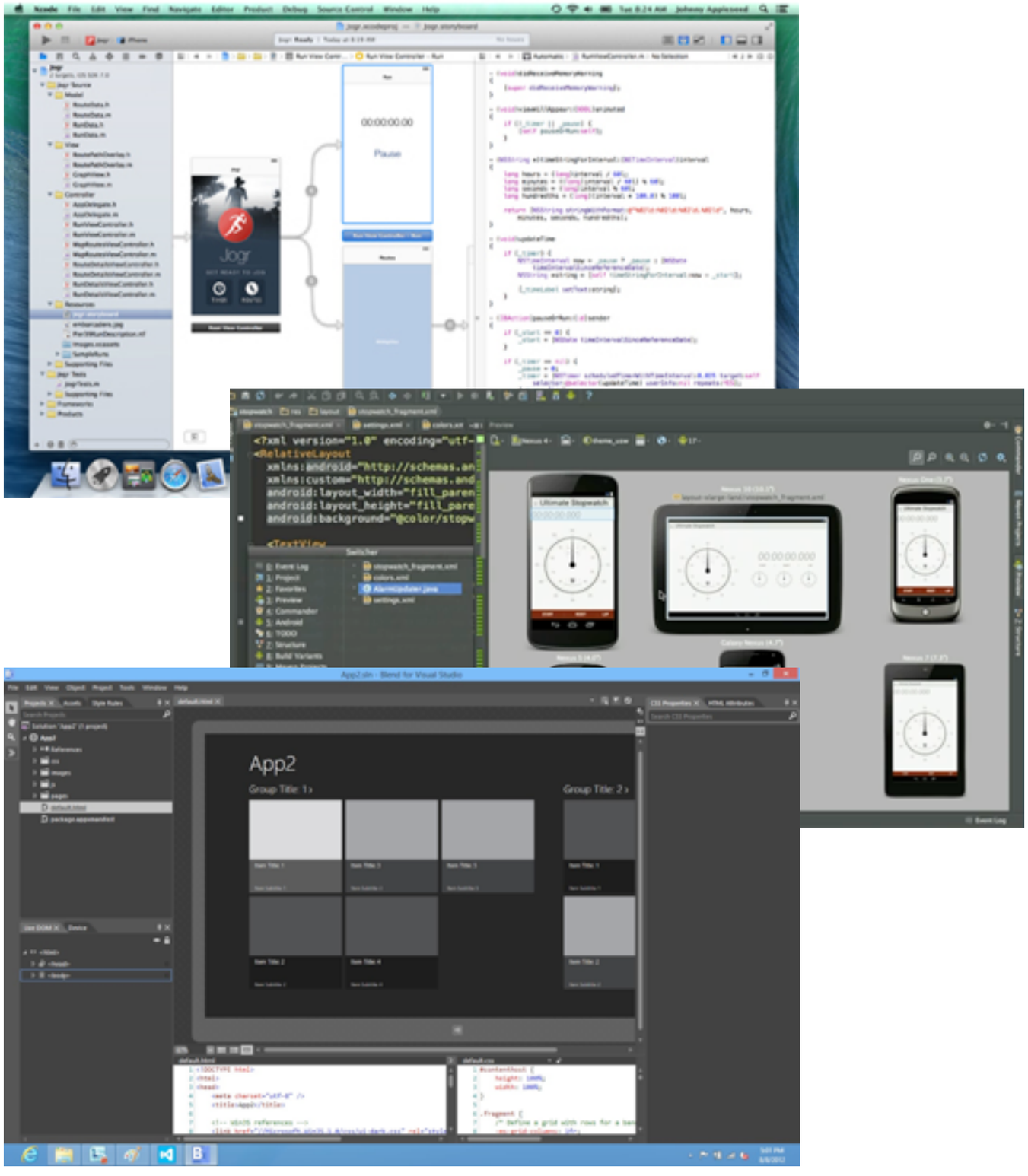
Mobile: 1993 vs 2013

http://dashburst.com/humor/technology-in-1993-vs-2013/

Tools

- IDE
- Editor
- Compiler
- UI Designer
- Test runner
- Programming language



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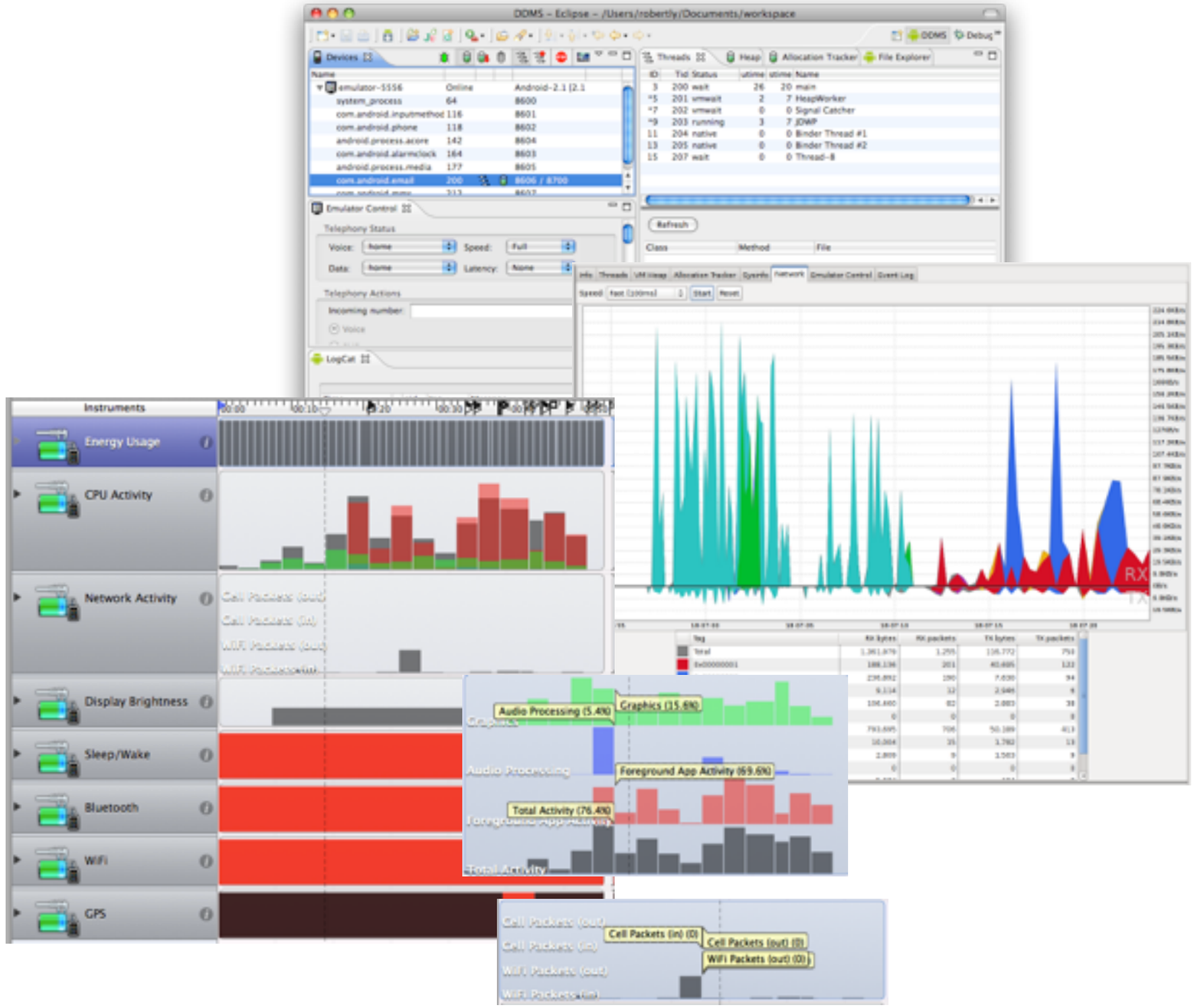
Tools

- Diagnostics
- Debugging
- Profiling
- Network
- Energy
- CPU



Frameworks, libraries

Class libraries

Location, Maps (Google, Apple, Bing)

Graphics, Open GL ES

Accelerometers

Data, SQLite

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Developer resources

Software design patterns

Best practices

Reusable components

Application templates and sample projects

Documentation, education

Human interface guidelines

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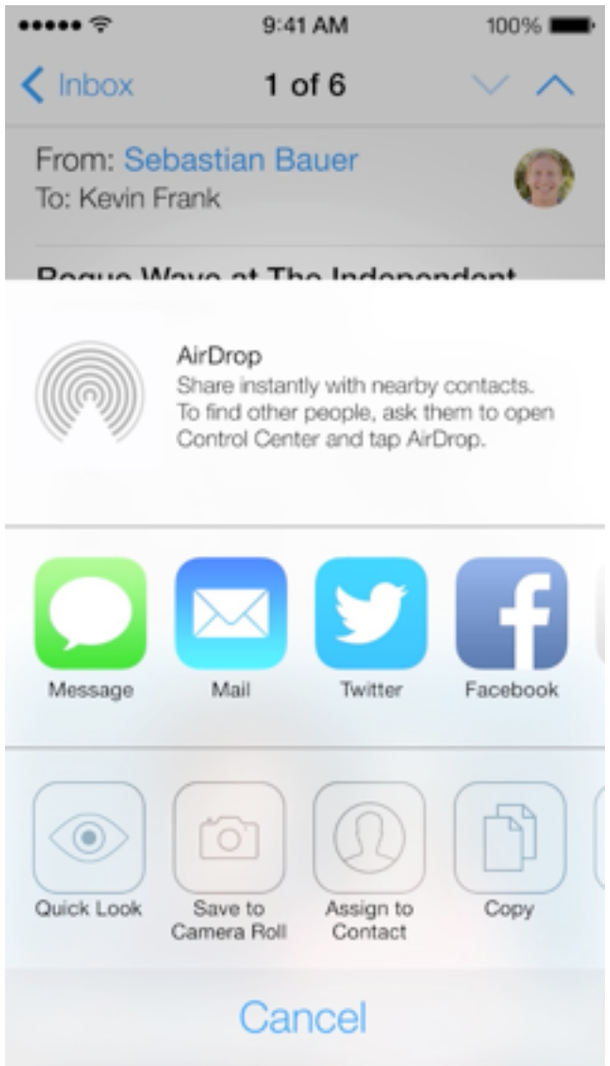
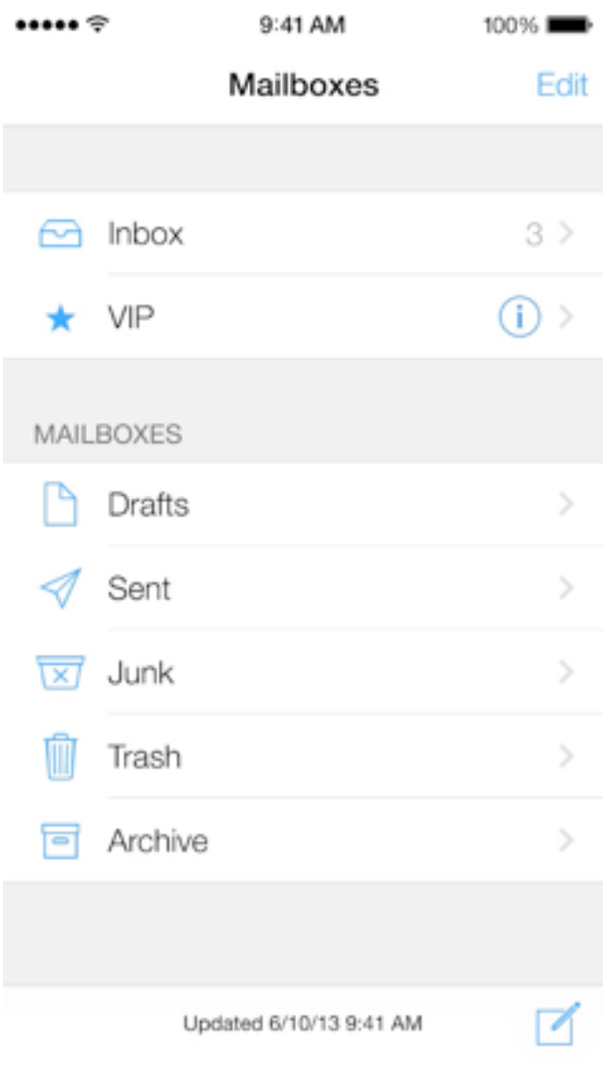
Design





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Source: http://apple.com/

Design

Source: http://developer.android.com/

Example: Location

Cell identification

Cell triangulation

SIM, raw GSM

Wifi

GPS

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Example: Location

iOS

```
- (id)initWithNibName:(NSString *)nibNameOrNil bundle:(NSBundle *)nibBundleOrNil
{
    self = [super initWithNibName:nibNameOrNil bundle:nibBundleOrNil];
    if (self) {
        _locationManager = [[CLLocationManager alloc] init];
        [_locationManager setDelegate:self];
        [_locationManager setDesiredAccuracy:kCLLocationAccuracyBest];
        [_locationManager startUpdatingLocation];
    }
    return self;
}

- (void)locationManager:(CLLocationManager *)manager
     didUpdateLocations:(NSArray *)locations
{
    CLLocation *newLocation = [locations lastObject];
    NSLog(@"%@", newLocation);
}
```

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Example: Location

Android

```
public void startLocationUpdates() {
    LocationManager lm =
                (LocationManager)mAppContext.getSystemService(Context.LOCATION_SERVICE);
    PendingIntent pi = getLocationPendingIntent(true);
    lm.requestLocationUpdates(0, 0, new Criteria(), pi);
}
```

```
public void onReceive(Context context, Intent intent) {
    Location loc = (Location)intent.getParcelableExtra(LocationManager.KEY_LOCATION_CHANGED);
    onLocationReceived(loc);
}

protected void onLocationReceived(Location loc) {
    Log.d(TAG, this + " Got location: " + loc.getLatitude() + ", " + loc.getLongitude());
}
```

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Example: Location

Windows

```
{
_geoLocator = new Geolocator();
_geoLocator.PositionChanged
                    += new Windows.Foundation.TypedEventHandler<Geolocator,
                        PositionChangedEventArgs>(geolocator_PositionChanged);
}

private void geolocator_PositionChanged(Geolocator sender,
            PositionChangedEventArgs args)
{
    // Need to set map view on UI thread.
    this.Dispatcher.RunAsync(CoreDispatcherPriority.Normal,
        new DispatchedHandler(
            () => {
                DisplayPosition(this, args);
            }));
}

private void DisplayPosition(object sender,
    PositionChangedEventArgs args)
{
    Location location = new Location(args.Position.Coordinate.Latitude,
        args.Position.Coordinate.Longitude);
}
```

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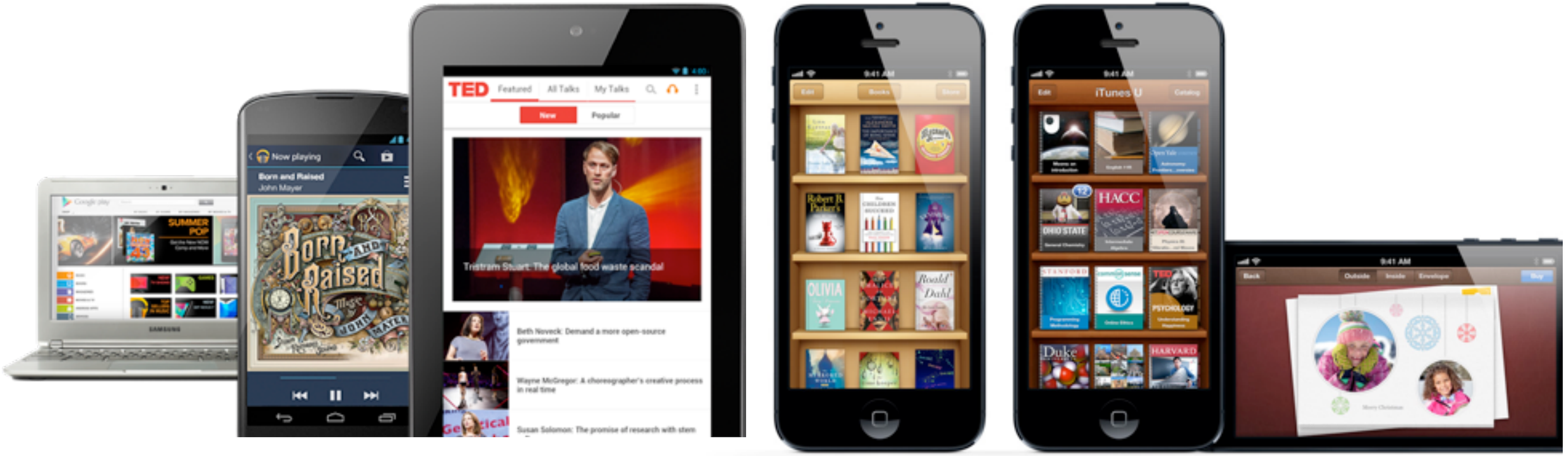
Distribution: Stores



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Bolot Kerimbaev bolot@bignerdranch.com

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