Having a Mobile App Presence:

Necessary or Nice to Have?
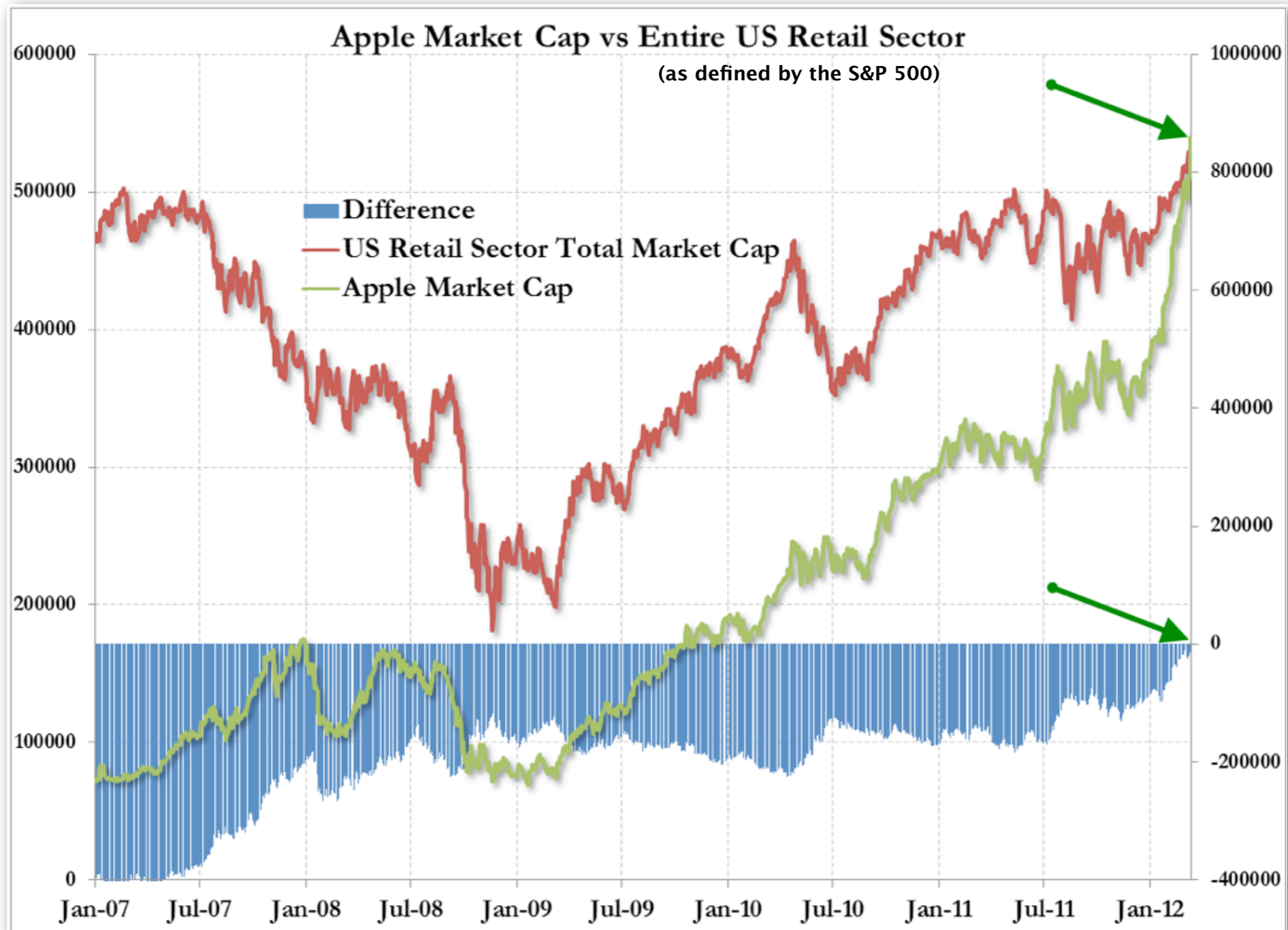
Dr. Steven Muskal

Chief Executive Officer

Eidogen-Sertanty, Inc

smuskal@eidogen-sertanty.com
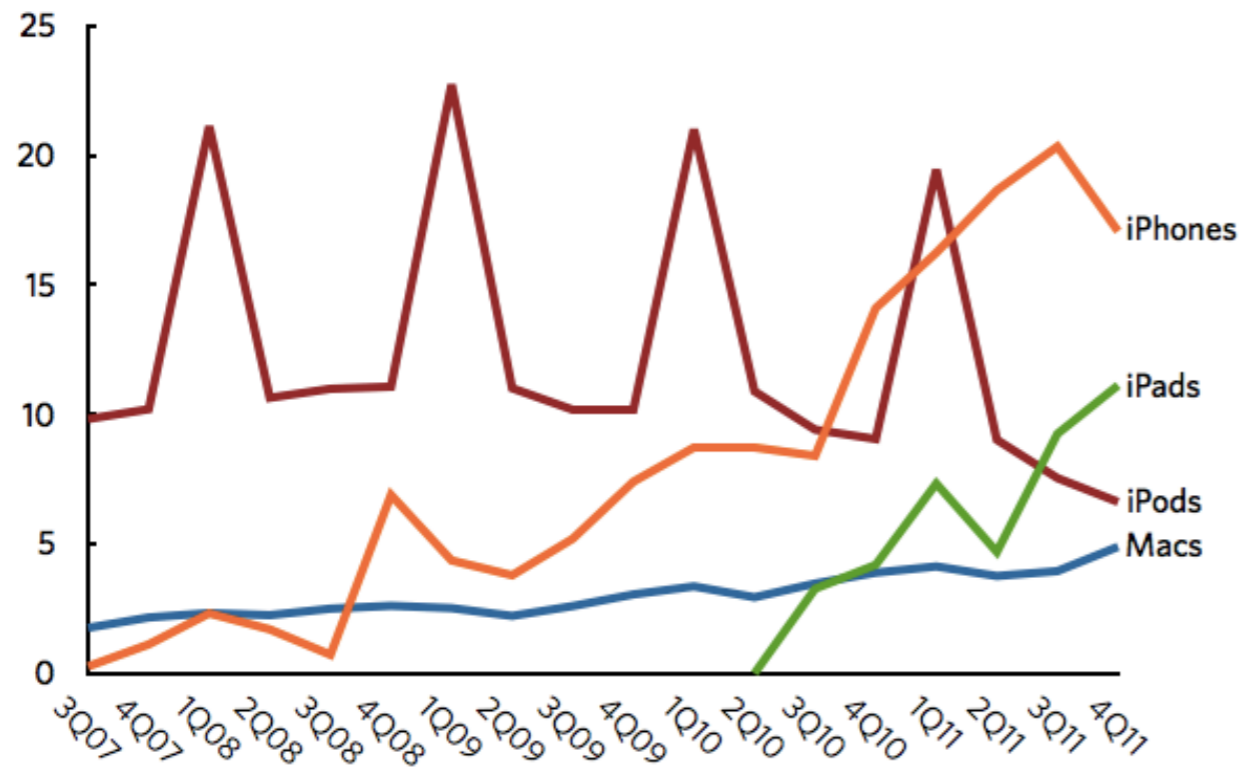
Eidogen·Sertanty

Apple Market Cap = US Retail Sector Total Market Cap

Apple Market Cap vs Entire US Retail Sector

(as defined by the S&P 500)

Difference
US Retail Sector Total Market Cap
Apple Market Cap

Apple Product Unit Sales Trends
Millions

iPhones
iPads
iPods
Macs

Most of Apple Revenue is from Mobile Devices

Apple is Crushing the Competition

- Apple Price: 384.62
- Microsoft Corporation Price: 26.91
- Dell Price: 15.35
- Hewlett Packard Price: 27.58
- Research In Motion Price: 18.49

The Motley Fool.

Created at Nov 12 2011, 10:37AM EST

Powered by YCHARTS
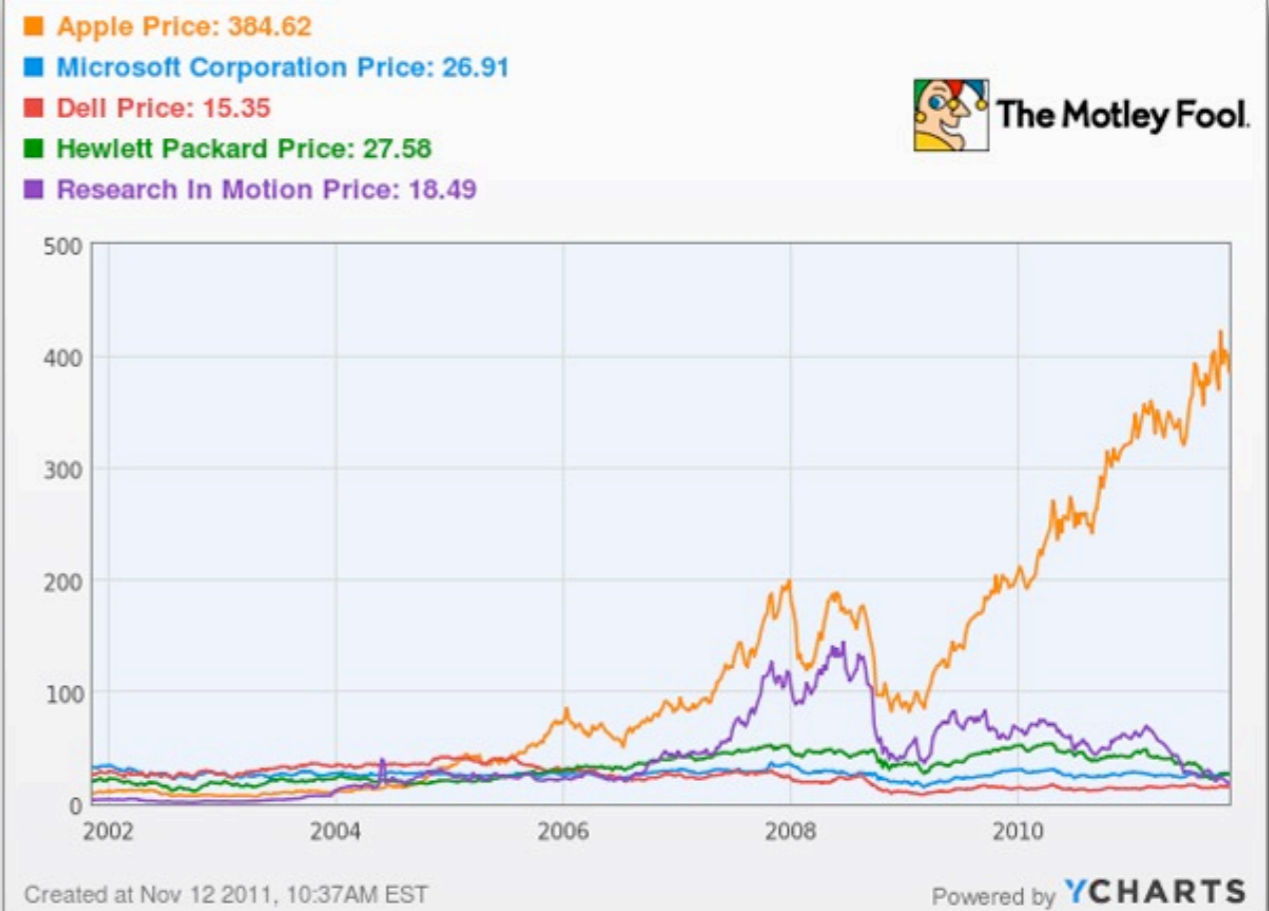
Thursday, March 15, 2012

Apple stock seen hitting $718 on sales of 60M iPads, 134M iPhones in 2012

http://www.appleinsider.com

What if I had bought Apple stock instead?

Last updated April 1, 2012　　　http://kyleconroy.com/2010/04/apple-stock

Product	♦	Release Date	Original Price	Stock Value Today ▾
Apple PowerBook G3 250 (Original/Kanga/3500)		1997-11-10	$5700.0	$731784
Apple Xserve RAID		2003-02-10	$5999.0	$500933
Apple Mac Server G3 266 Minitower		1998-03-02	$4499.0	$474055
Apple Mac Server G3 300 Minitower		1998-03-17	$4999.0	$454802
Apple Power Macintosh G3 266 Minitower		1997-11-10	$3000.0	$385149
Apple PowerBook G3 292 (Wallstreet)		1998-05-06	$4599.0	$363763
Apple Mac Server G3 233 Minitower		1998-03-02	$3349.0	$352881
Apple PowerBook G3 300 (PDQ - Late 1998)		1998-09-01	$4999.0	$351365
Apple Xserve RAID (SFP)		2004-01-06	$5999.0	$325493
Apple Mac Server G3 333 Minitower		1998-09-01	$4599.0	$323250
Apple Xserve G4/1.33 DP (Slot Load)		2003-02-10	$3799.0	$317227
Apple Power Macintosh G3 233 Desktop		1997-11-10	$2400.0	$308119
Apple Power Macintosh G3 233 Minitower		1997-11-10	$2400.0	$308119
Apple Power Macintosh G3 266 Desktop		1997-11-10	$2400.0	$308119
Apple Mac Server G4 1.25 DP (MDD)		2002-08-27	$3499.0	$282345
Apple Mac Server G4 533 DP (Digital Audio)		2001-01-09	$3999.0	$278790
Apple Mac Server G3 400 (Blue & White)		1999-01-05	$4999.0	$276745
Apple Power Macintosh G4 1.25 DP (MDD)		2002-08-13	$3299.0	$270947
Apple Mac Server G3 450 (Blue & White)		1999-06-01	$4999.0	$267602
Apple PowerBook G4 1.0 17" (AI)		2003-01-07	$3299.0	$266206
Apple Mac Server G4 800 DP (Quicksilver)		2001-09-08	$3799.0	$262104
Apple Power Macintosh G3 300 Desktop		1998-03-17	$2750.0	$250191

"Apple's iPad Sales Blow Past Projections"

iPad Sales Trajectory (000)
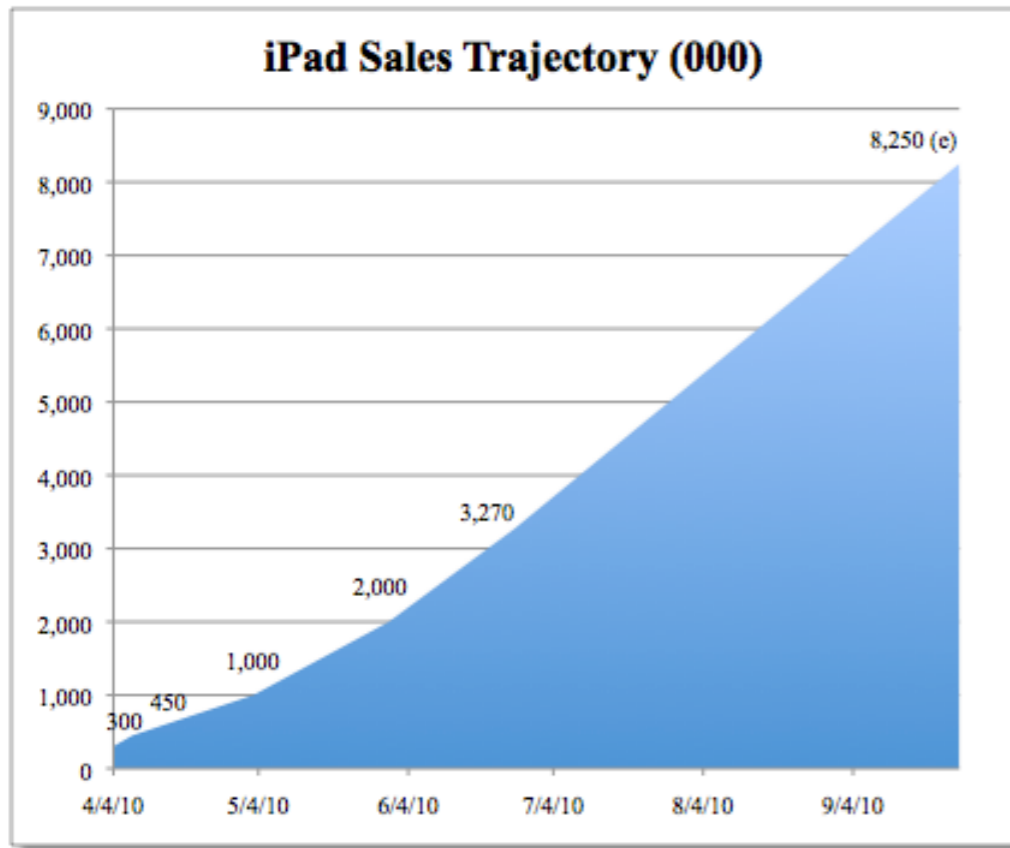
Sources: Company reports and the consensus estimate for Q4

FORTUNE

Apple sold 14.8M iPads in 2010

During the release of the iPad 2 in March 2011, Steve Jobs said that just under 15 million iPads had been sold in the device's first nine months on the market — more than all other tablet PCs combined

Apple iPad Sales Projected to Hit 28 Million in 2011

DailyFinance
An AOL Money & Finance Site

Posted 10:00 AM 09/09/10
http://srph.it/ak77OA

Cumulative iPad Sales

Apple sells 3 million new iPads in 3 days

By Jefferson Graham, USA TODAY   http://usat.ly/FQ40dD

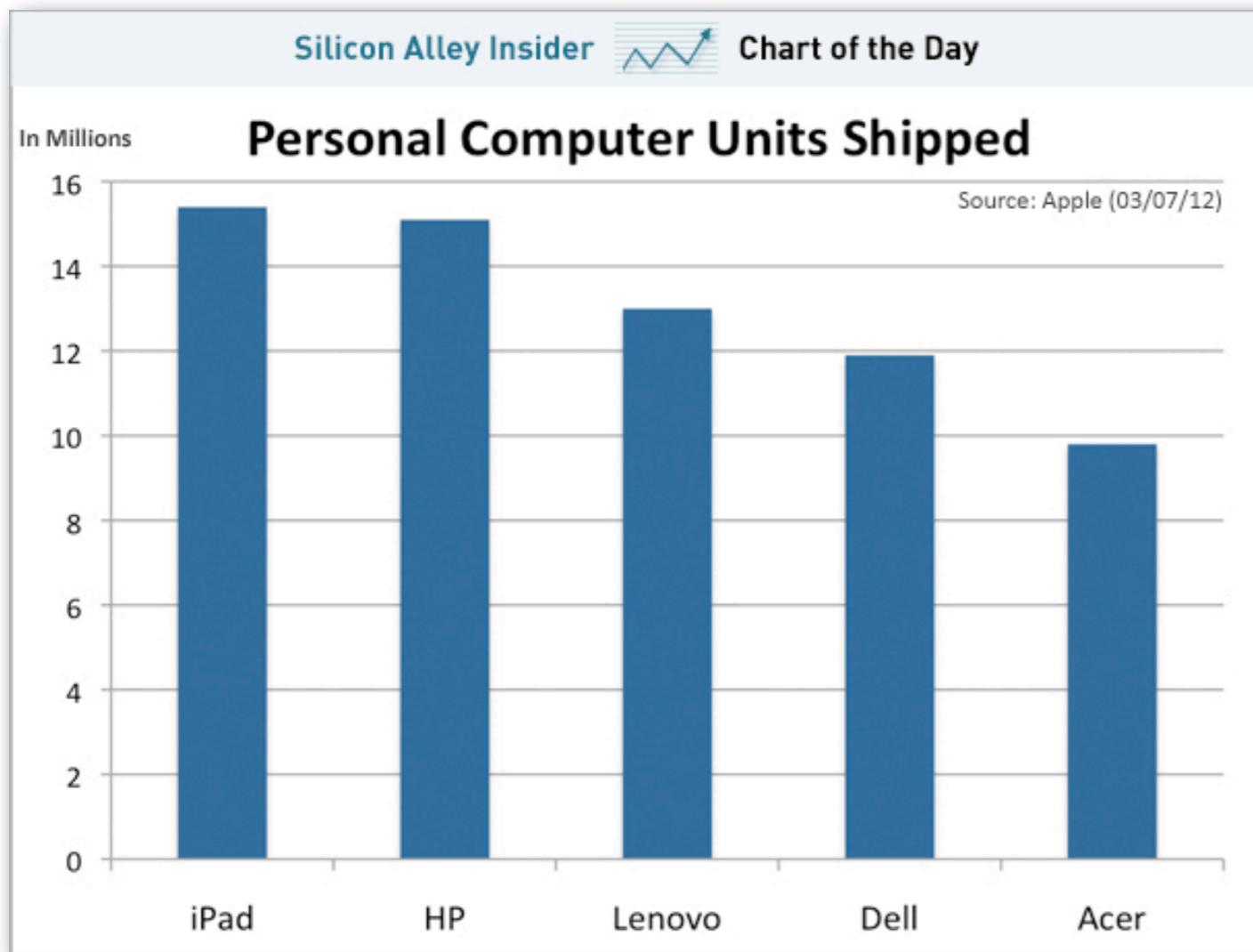http://tech.fortune.cnn.com/2010/10/05/how-many-ipads-has-apple-really-sold/
http://www.publishersweekly.com/pw/by-topic/industry-news/financial-reporting/article/44882-ipad-total-nears-7-5-million.html
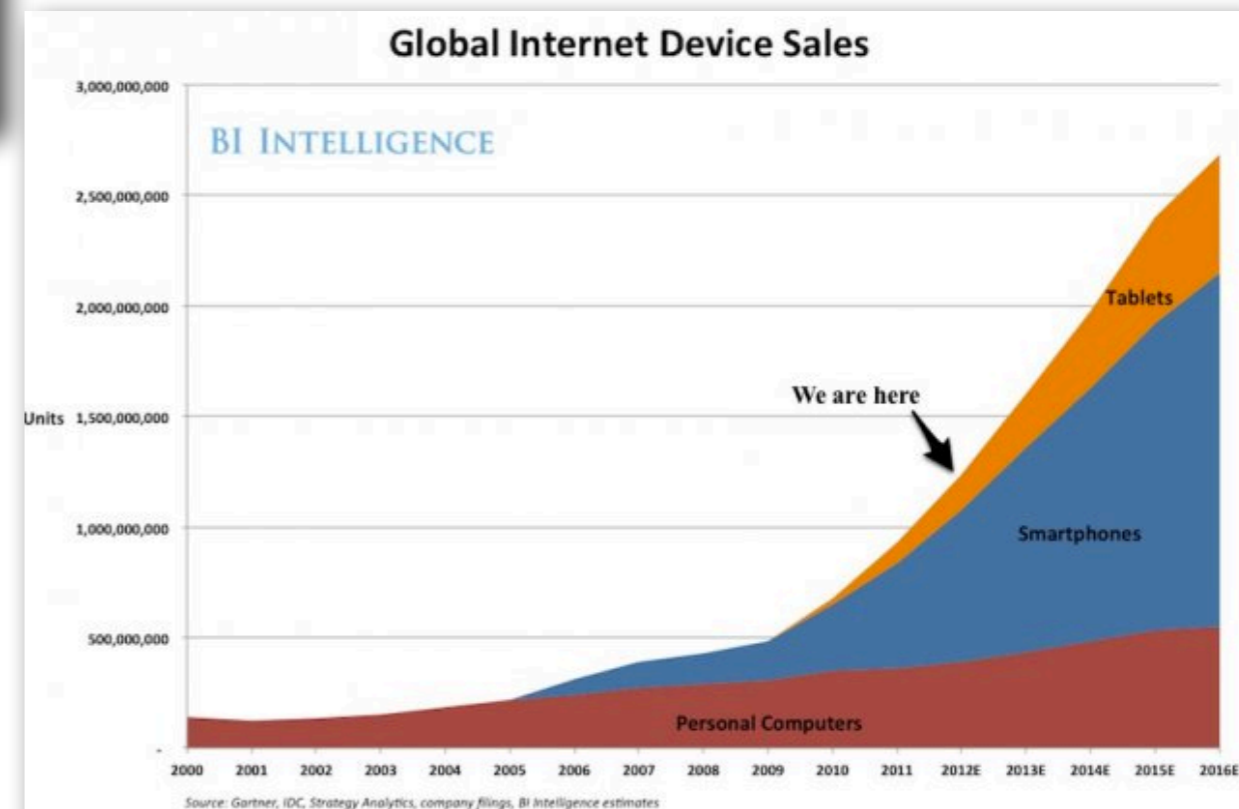http://www.dailyfinance.com/story/company-news/apple-ipad-sales-projected-to-hit-28-million-in-2011/19626822/

The Post-PC Revolution Is Here...

Personal Computer Units Shipped

Silicon Alley Insider — Chart of the Day

In Millions

Source: Apple (03/07/12)

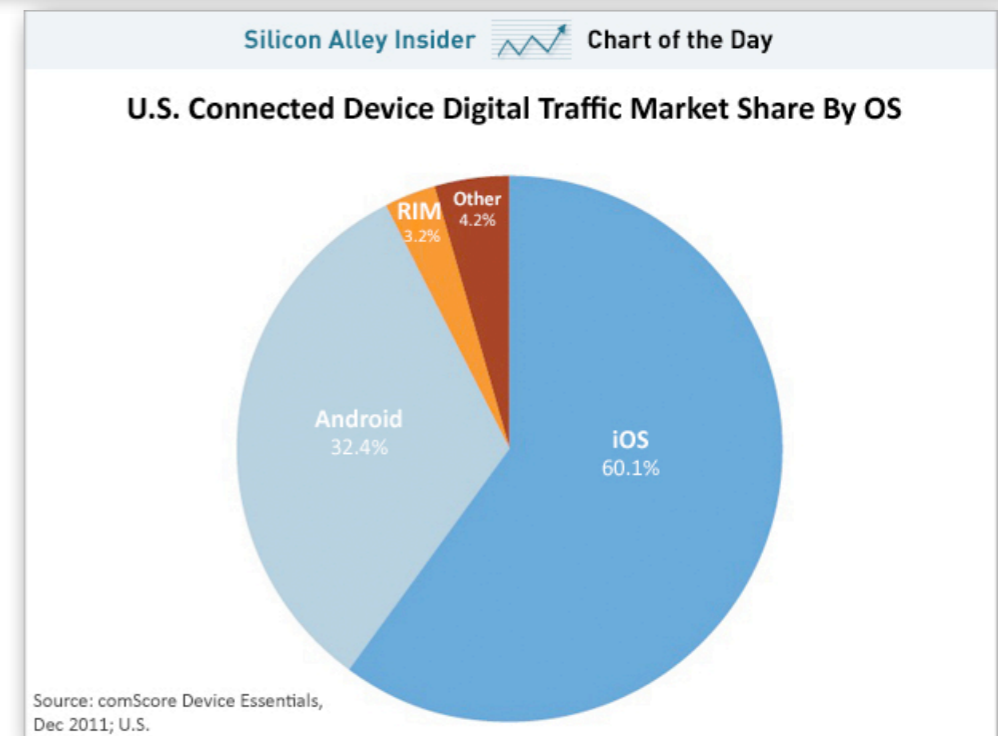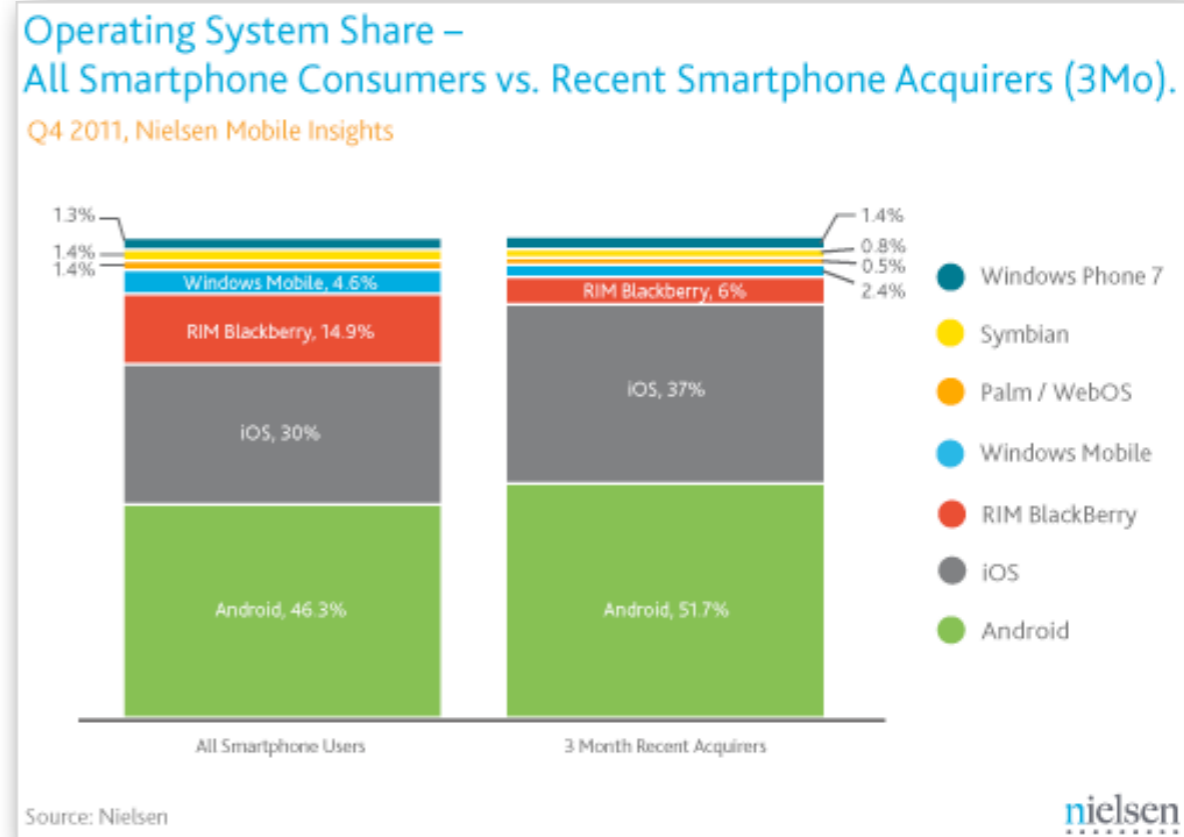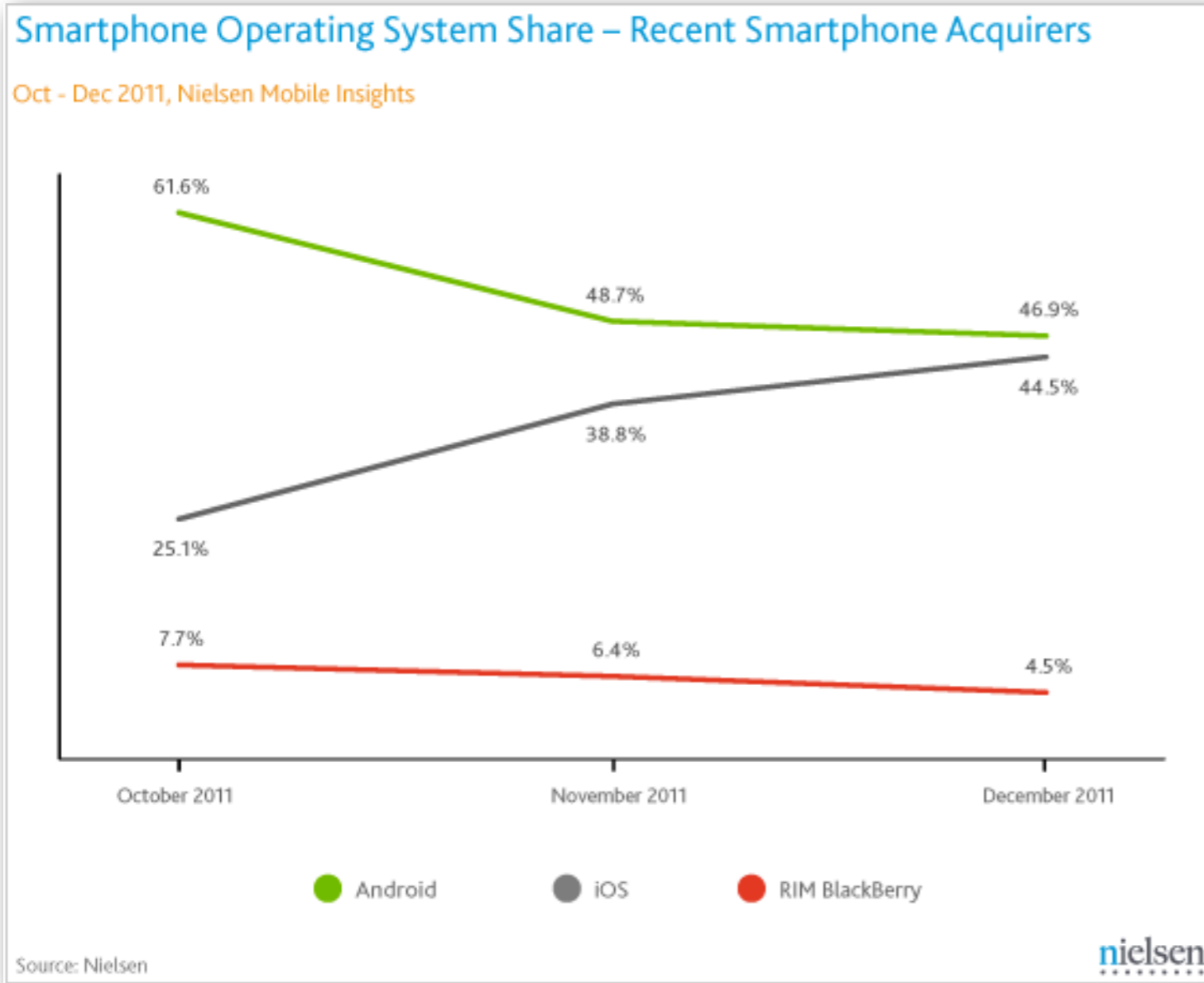| iPad	HP	Lenovo	Dell	Acer
~15.4	~15.1	~13	~11.8	~9.8

Apple Sold More iPads In Q411 Than Any Single Manufacturer Sold PC Devices

"Tablet Sales Will Blow Past PC Sales To Nearly 500 Million Units A Year By 2015"

http://articles.businessinsider.com/2012-02-14/tech/31057828_1_tablet-sales-post-pc-era-lower-prices

Global Internet Device Sales
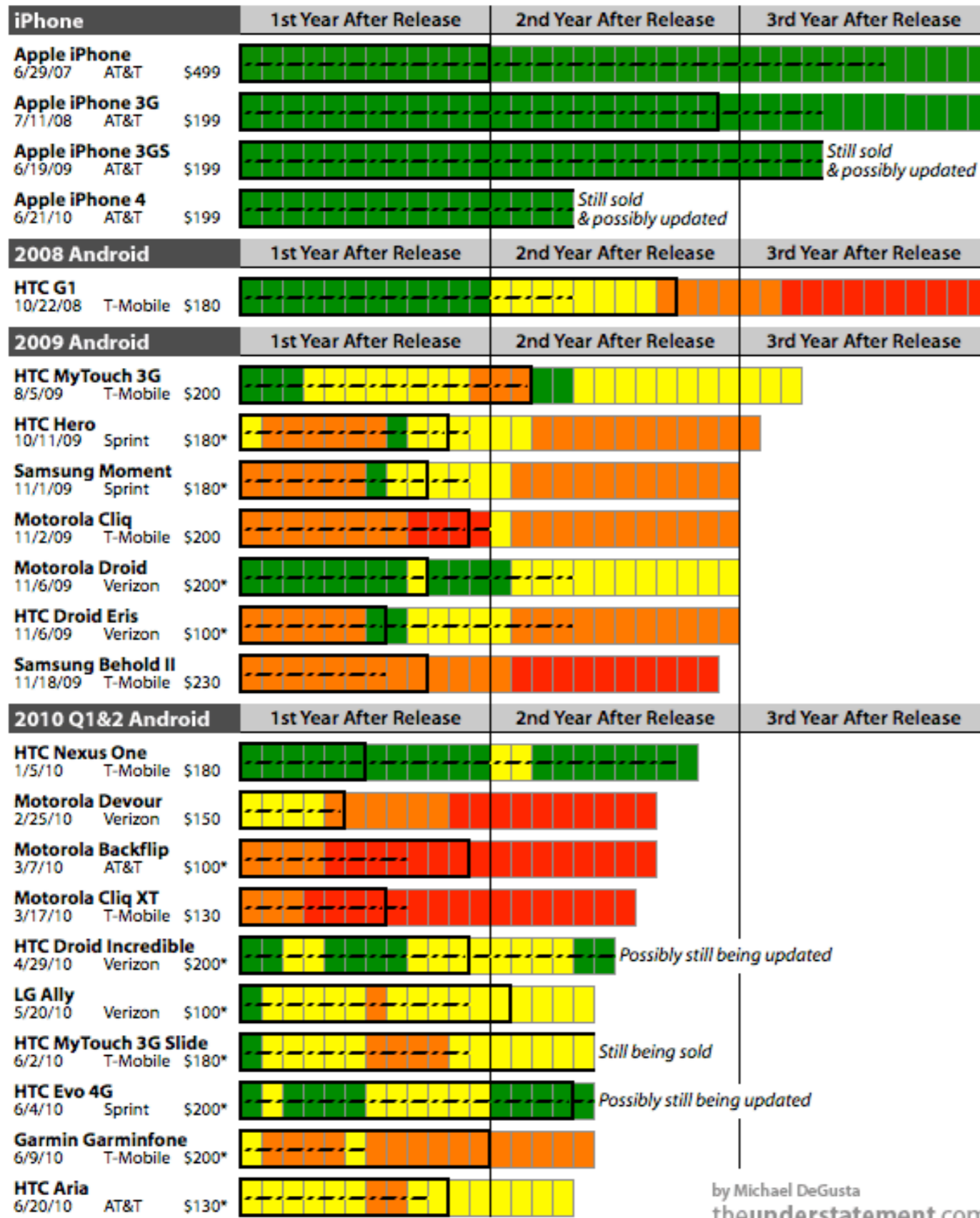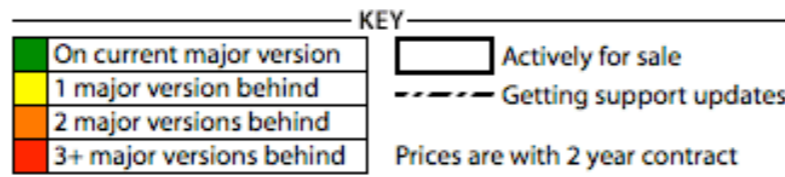
BI INTELLIGENCE

Tablets

We are here

Smartphones

Personal Computers

Units

Source: Gartner, IDC, Strategy Analytics, company filings, BI Intelligence estimates

iOS v. Android - The Numbers Vary

Smartphone Operating System Share – Recent Smartphone Acquirers

Oct - Dec 2011, Nielsen Mobile Insights

61.6%
48.7%
46.9%

25.1%
38.8%
44.5%

7.7%
6.4%
4.5%

October 2011   November 2011   December 2011

● Android   ● iOS   ● RIM BlackBerry

Source: Nielsen

nielsen

Operating System Share –
All Smartphone Consumers vs. Recent Smartphone Acquirers (3Mo).

Q4 2011, Nielsen Mobile Insights

1.3%
1.4%
1.4%
Windows Mobile, 4.6%

RIM Blackberry, 14.9%

iOS, 30%

Android, 46.3%

1.4%
0.8%
0.5%
2.4%
RIM Blackberry, 6%

iOS, 37%

Android, 51.7%

All Smartphone Users   3 Month Recent Acquirers

● Windows Phone 7
● Symbian
● Palm / WebOS
● Windows Mobile
● RIM BlackBerry
● iOS
● Android

Source: Nielsen

nielsen

Silicon Alley Insider   Chart of the Day

U.S. Connected Device Digital Traffic Market Share By OS

RIM 3.2%
Other 4.2%

Android 32.4%

iOS 60.1%

Source: comScore Device Essentials,
Dec 2011; U.S.

http://blog.nielsen.com/nielsenwire/consumer/more-us-consumers-choosing-smartphones-as-apple-closes-the-gap-on-android/
http://articles.businessinsider.com/2012-03-13/tech/31158768_1_ios-android-ipad

ANDROID & IPHONE UPDATE HISTORY

Includes every iPhone & Android model released in the US before July 2010.

Data as of the end of October 2011.

KEY
- 🟩 On current major version
- 🟨 1 major version behind
- 🟧 2 major versions behind
- 🟥 3+ major versions behind
- ☐ Actively for sale
- - - - Getting support updates

Prices are with 2 year contract

iPhone	1st Year After Release	2nd Year After Release	3rd Year After Release
Apple iPhone 6/29/07 AT&T $499			
Apple iPhone 3G 7/11/08 AT&T $199			
Apple iPhone 3GS 6/19/09 AT&T $199			Still sold & possibly updated
Apple iPhone 4 6/21/10 AT&T $199		Still sold & possibly updated	

2008 Android	1st Year After Release	2nd Year After Release	3rd Year After Release
HTC G1 10/22/08 T-Mobile $180			

2009 Android	1st Year After Release	2nd Year After Release	3rd Year After Release
HTC MyTouch 3G 8/5/09 T-Mobile $200			
HTC Hero 10/11/09 Sprint $180*			
Samsung Moment 11/1/09 Sprint $180*			
Motorola Cliq 11/2/09 T-Mobile $200			
Motorola Droid 11/6/09 Verizon $200*			
HTC Droid Eris 11/6/09 Verizon $100*			
Samsung Behold II 11/18/09 T-Mobile $230			

2010 Q1&2 Android	1st Year After Release	2nd Year After Release	3rd Year After Release
HTC Nexus One 1/5/10 T-Mobile $180			
Motorola Devour 2/25/10 Verizon $150			
Motorola Backflip 3/7/10 AT&T $100*			
Motorola Cliq XT 3/17/10 T-Mobile $130			
HTC Droid Incredible 4/29/10 Verizon $200*		Possibly still being updated	
LG Ally 5/20/10 Verizon $100*			
HTC MyTouch 3G Slide 6/2/10 T-Mobile $180*		Still being sold	
HTC Evo 4G 6/4/10 Sprint $200*		Possibly still being updated	
Garmin Garminfone 6/9/10 T-Mobile $200*			
HTC Aria 6/20/10 AT&T $130*			

by Michael DeGusta
theunderstatement.com
Copyright © 2011

* After $100 mail-in rebate ($50 on MyTouch 3G Slide & Garminfone)

Advantages iOS

- Minimal fragmentation
- Nice development environment
- Better tablet support
- Apple is a powerhouse

"Apple App Store Generates Twice As Much Revenue As Android Market In 2011" Distimo

Advantages Android

- Java-based
- Several development environments available
- Many powerful devices
- Many hardware vendors

http://techcrunch.com/2011/10/27/charted-android-fragmentation/   http://www.gottabemobile.com/2011/12/21/app-store-data-analyzed/

Web Apps v. Native Apps

| Web Advantages	Web Disadvantages
Central Management	InterApp Communication Difficult
Device Agnostic	Can't Maximize Device Features (e.g. Gestures & Motion)
No App Store Approval	URL exposed
HTML5 is very powerful	No App Store promotion

Hybrid ➔ Native Apps with WebViews
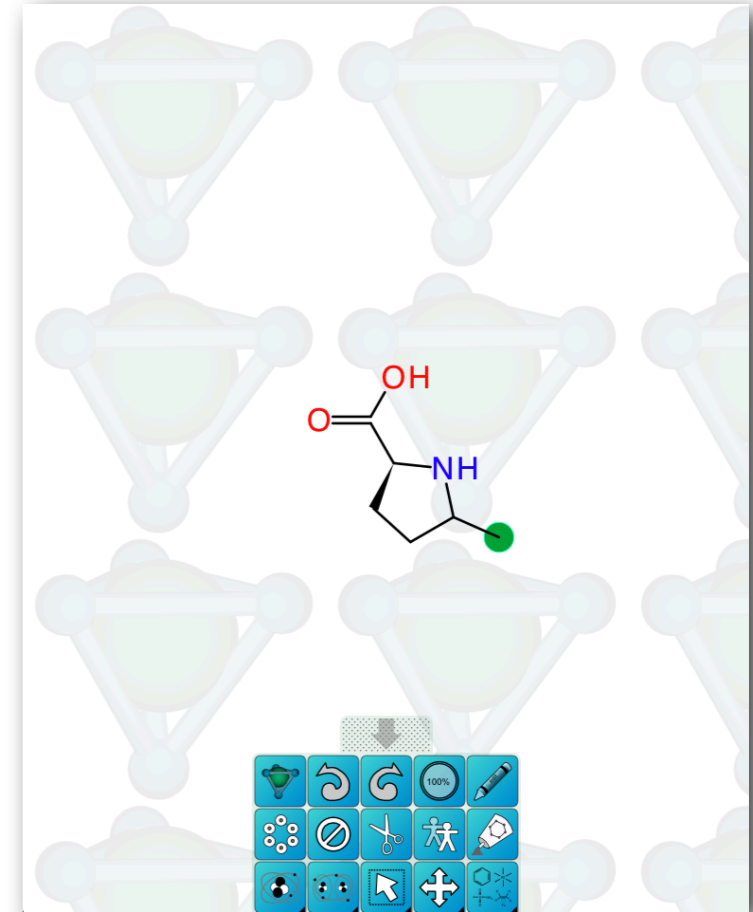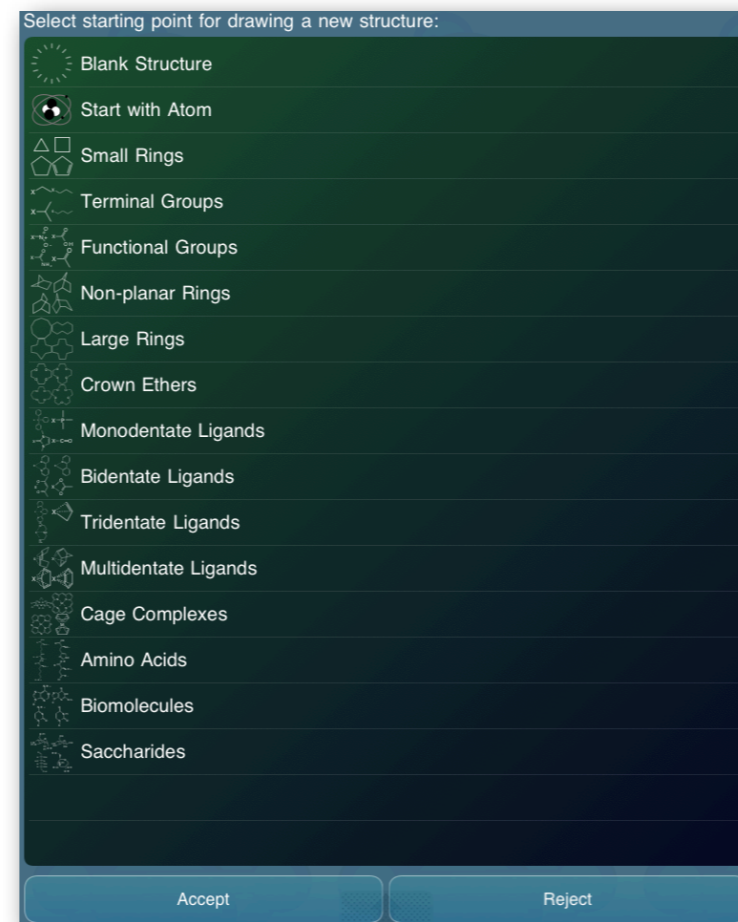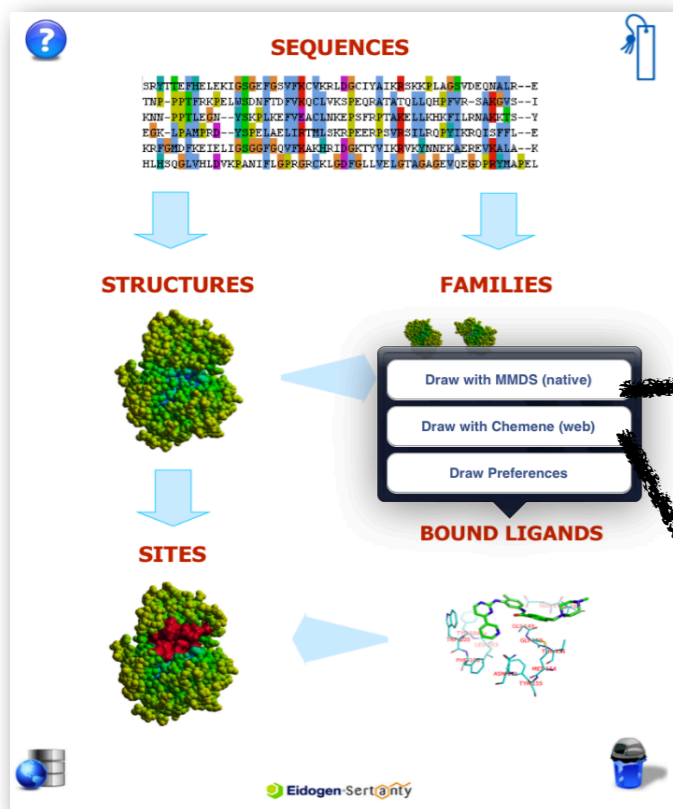
iProtein: > 8600 users

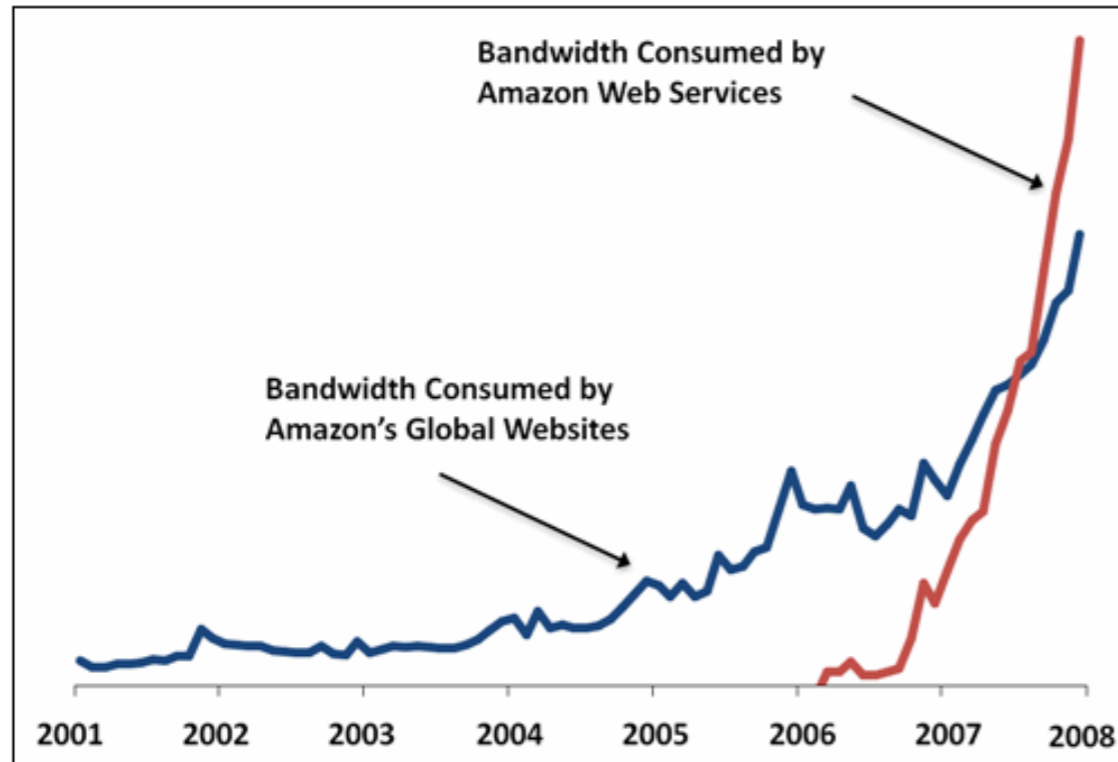70% JSDraw/30% MMDS

MMDSLib (native, template-based)
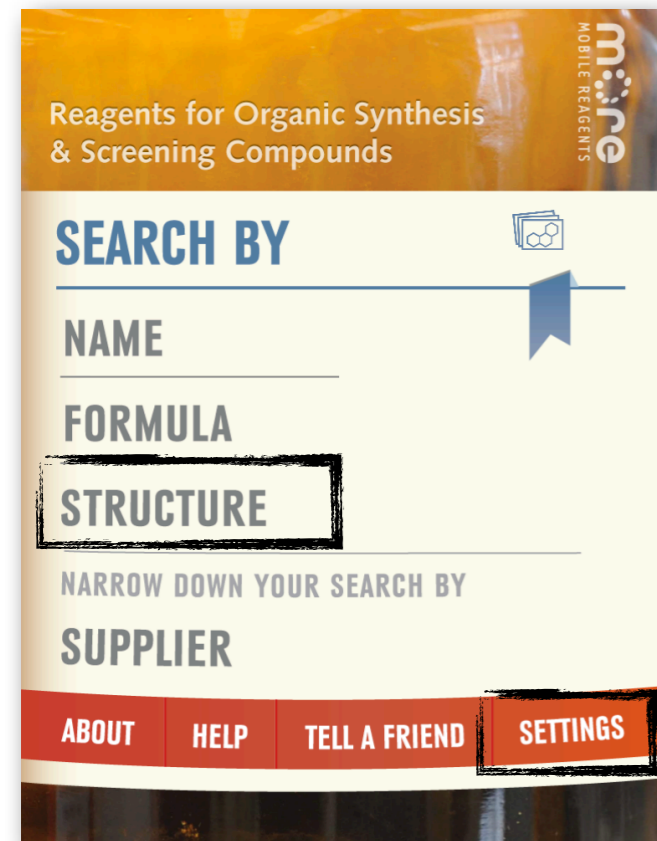
MobileReagents: > 6000 users

5% JSDraw/95% MMDS
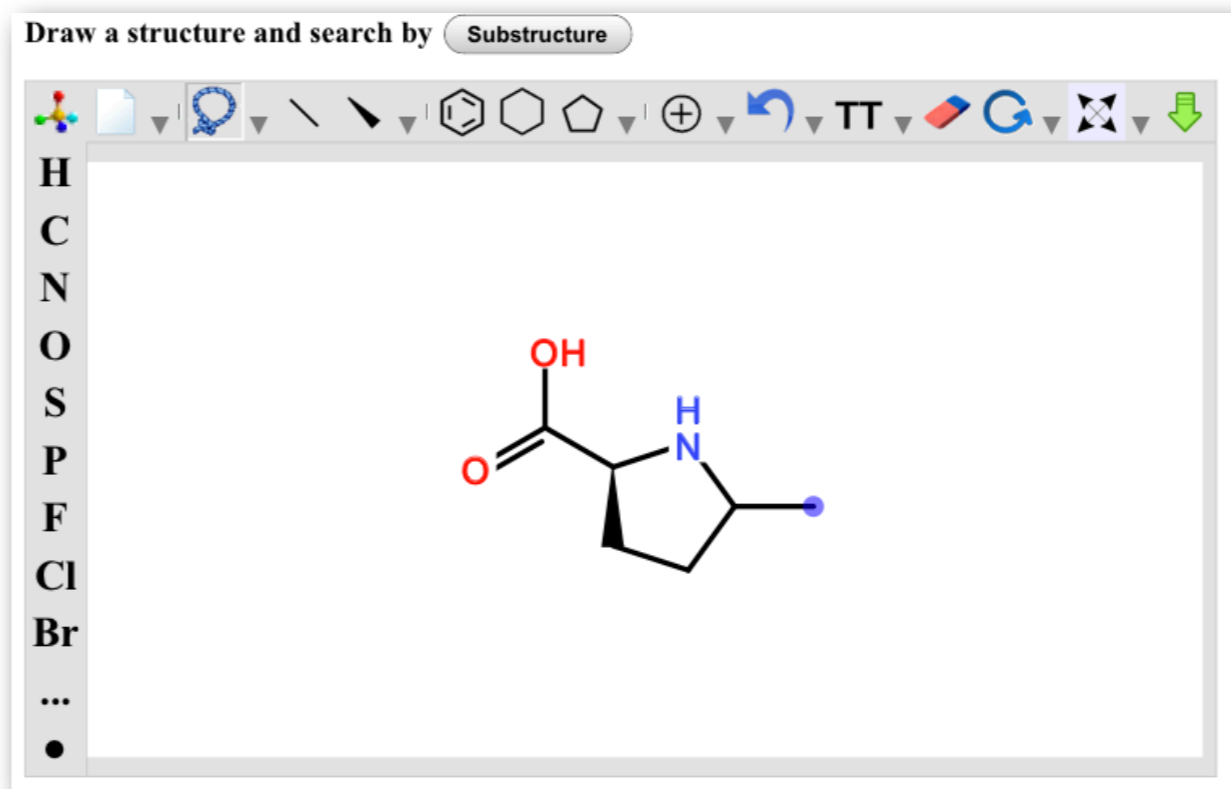
JSDraw (web-based)

The Cloud: Amazon AWS Growth

In January 2008, Amazon announced that the **Amazon Web Services** consume more bandwidth than its entire global network of **Amazon.com** retail sites

http://aws.typepad.com/aws/2008/05/lots-of-bits.html

AWS Free Usage Tier now includes Amazon MS-Windows Server EC2 instances

February 23, 2012

Amazon S3 grew 192% year-over-year

http://venturebeat.com/2012/01/31/amazon-aws-s3-growth-cloud/
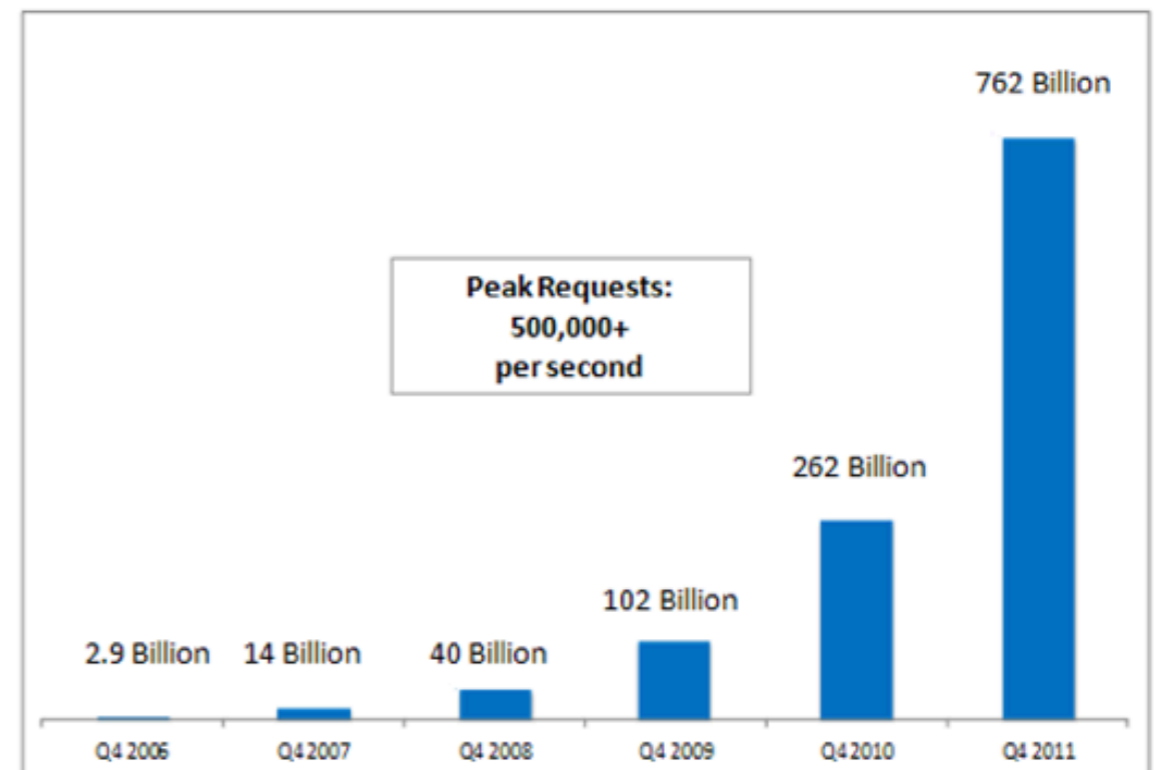
Cloud Computing - In Practice

Mobile-Cloud Infrastructure

- Internet Connection (Wi-Fi or 3/4G)

- Database/WebServer (e.g. GoDaddy/HostGator)
  - Apache + php
  - mysql

- Application Server (Amazon Cloud-LAMP)
  - Apache + php, EC2 instances
  - mysql, RDS instances
  - ChemAxon JChem + JChemWebServices (includes tomcat/axis2, etc.)
  - InfoChem SPRESI Web Services
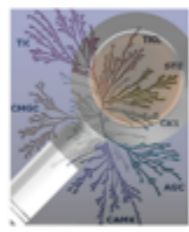 - JSDraw (javascript)

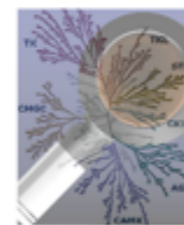# Eidogen-Sertanty's iPhone and iPad Apps
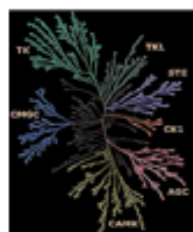
iKinase

iKinasePro

iProtein

iKinasePro

Mobile Reagents

Mobile Reagents

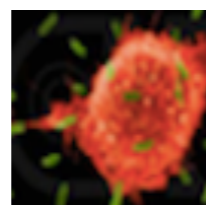**Reaction101**

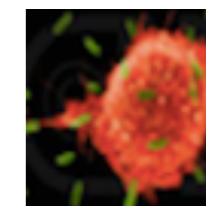**Yield101**

Reaction101

Yield101

SPRESImobile

iOncology

SPRESImobile

iOncology

* Reaction101, Yield101, and SPRESImobile - built collaboratively with Molecular Materials Informatics, Inc.

Eidogen Sertanty

App Awareness is Not Automatic

ELECTRONIC CHANNELS

Companies Offer Many Ways To Learn About, Use, And Purchase Consumables

Mobile technology is starting to put product information in researchers' hands literally through smartphones and tablets that are now appearing in labs. And instrument suppliers are creating software applications, or apps, to help customers search for and use reagents and consumable products.

Agilent Technologies has apps for calculating liquid and gas chromatography parameters to determine equipment setups. Likewise, Thermo Scientific has a GC column selector tool. And Waters has a part selector app that allows users to select ultra-performance LC sample plates, vials, filters, and columns. Once users find a desired configuration, they can save or e-mail it, or place an order.

In biosciences, Life Technologies has mobile apps for cell imaging and viewing; plotting and comparing spectra; and calculating common scientific parameters. Merck Millipore has an app for finding filters and another for finding data and research reagents for histone modification and epigenetics research. Another app allows customers to view its EMD Chemicals catalog, with supporting product documents and pricing.

Aggregated information on commercially available chemicals is accessible through Eidogen-Sertanty's MObile REagents app, which integrates with the firm's other chemistry apps. The MORE app covers about 6 million compounds from more than 50 suppliers. Chemical structure searches are possible through a mobile device's camera and the app's optical structure recognition capability. And by using mobile devices' ability to scan and print bar codes, Eidogen-Sertanty is trying to enable local inventory management.

Although ubiquitous in everyday life, mobile devices are just beginning to be adopted in the lab. "More and more companies are looking into bringing these devices into the labs," says Maurizio Bronzetti,

AT HAND A researcher uses the MORE app to search for chemicals.

Eidogen-Sertanty's business development director. Cost may be an issue and security a concern, especially in regulated industries such as pharmaceuticals.
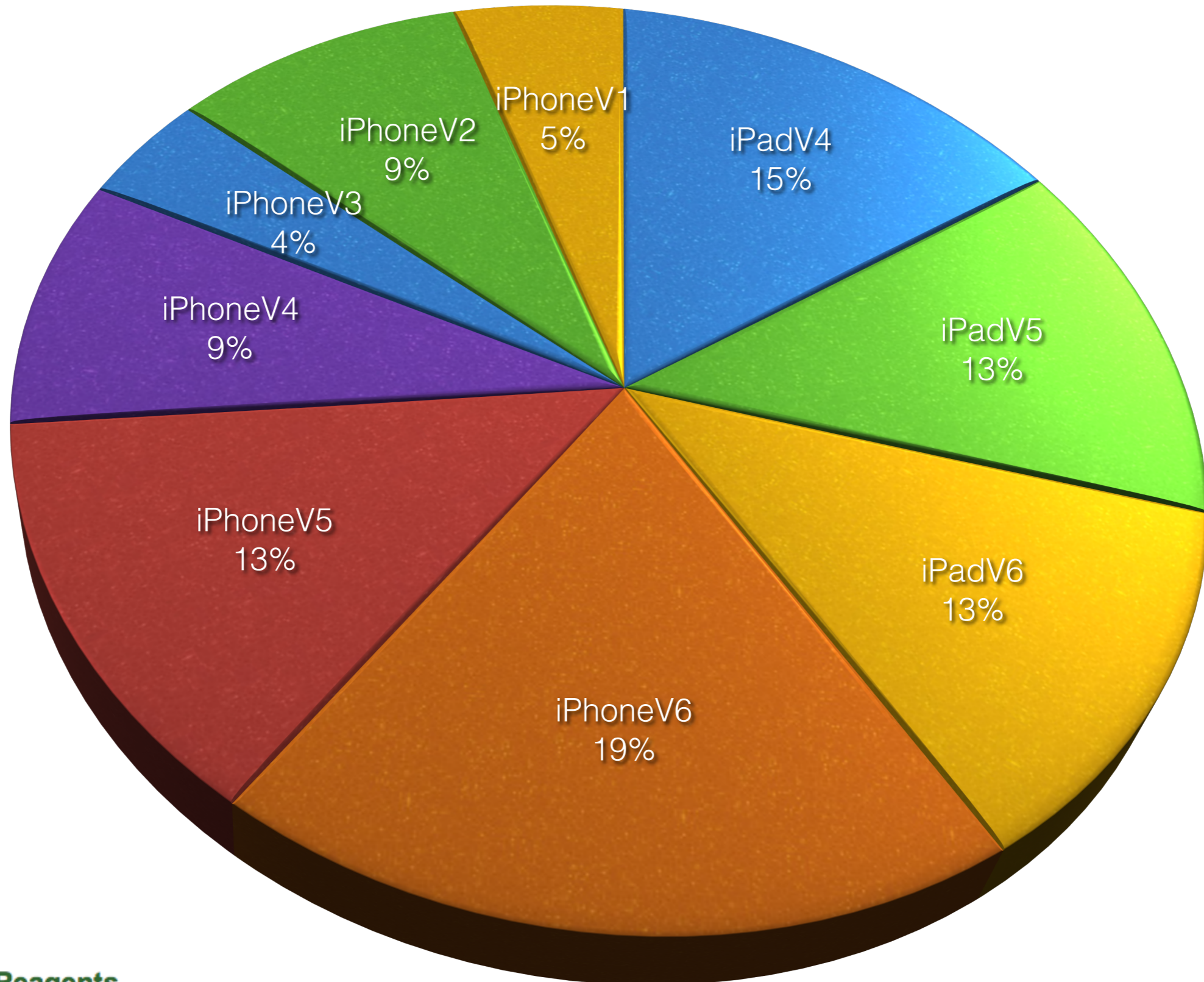
Even so, companies "recognize that bringing the device closer to the experiment has its advantages," Eidogen-Sertanty CEO Steven Muskal adds. And for scientists, "it is really important to be close to a device that gives them access to applications and content that helps them explore their ideas."
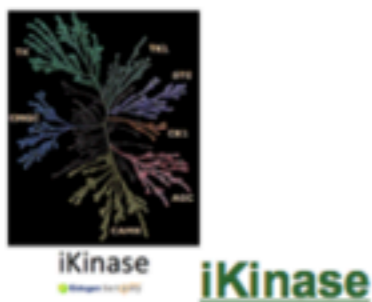
Online ordering remains popular, and suppliers continue to improve their websites to make it simpler for customers to find what they need. The "find and decide experience," which may happen on a mobile device, is often apart from the "buy experience," says Larry Milocco, senior market development manager at Life Technologies. Many researchers shop from their desks, but an agent completes the purchase. "We are trying to look at how our customers want to connect with us," he adds.

Mobile Reagents: Devices and Versions

iPhoneV1 5%
iPadV4 15%
iPhoneV2 9%
iPhoneV3 4%
iPadV5 13%
iPhoneV4 9%
iPadV6 13%
iPhoneV5 13%
iPhoneV6 19%

Mobile Reagents

MobileApps: Worldwide Marketing Vehicles!

iKinase

iKinasePro

iProtein

Mobile Reagents

Reaction101

Yield101

SPRESImobile

~ 25,000 People Use Eidogen Mobile Apps

New iPhone/iPad App - SPRESImobile

SPRESImobile: 410,000 Chemical Reactions Freely Available

Newly Submitted iPhone/iPad App - iOncology
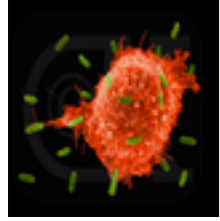
iOncology

OKB ID: 1377

Custom Structure Search   Register for e-mail Alert

OKB ID: 1377

Target	Type	Disease	Measure	
11 targets	Cell-Based	colorectal carcinoma	IC50	1 (
11 targets	Cell-Based	chronic myelogenous leukemia (cml)	IC50	1 (
11 targets	Cell-Based	carcinoma	IC50	2 (
11 targets	Cell-Free	adenocarcinoma	IC50	2 (

Data extracted from the **Eidogen-Sertanty Oncology Knowledgebase (OKB)** as of Fri May 11 18:53:05 E

OKB ID: 755

Substructure Search

iOncology

a

adenocarcinoma
Dp(s) in OKB: 1553 AVG: 6.40 STD: 0.97 Min: 2.00 Max: 9.05

adenocarcinoma, non-small cell lung cancer
Dp(s) in OKB: 24 AVG: 5.55 STD: 0.40 Min: 4.88 Max: 6.37

b

burkitt's lymphoma
Dp(s) in OKB: 3 AVG: 5.43 STD: 0.20 Min: 5.20 Max: 5.70

c

carcinoma
Dp(s) in OKB: 119 AVG: 5.65 STD: 0.92 Min: 3.00 Max: 8.91

carcinoma (lung)
Dp(s) in OKB: 28 AVG: 6.00 STD: 0.00 Min: 6.00 Max: 6.00

carcinoma, large cell lung cancer
Dp(s) in OKB: 8 AVG: 5.26 STD: 0.92 Min: 4.60 Max: 7.07

carcinoma, non-small cell lung cancer
Dp(s) in OKB: 36 AVG: 6.93 STD: 0.88 Min: 5.00 Max: 8.37

carcinoma, small cell lung cancer
Dp(s) in OKB: 122 AVG: 5.78 STD: 1.01 Min: 3.80 Max: 7.70

carcinoma/colorectal carcinoma
Dp(s) in OKB: 38 AVG: 6.13 STD: 0.00 Min: 6.13 Max: 6.13

chronic myelogenous leukemia (cml)
Dp(s) in OKB: 137 AVG: 5.85 STD: 0.42 Min: 4.30 Max: 6.40

colorectal adenocarcinoma
Dp(s) in OKB: 708 AVG: 5.78 STD: 0.71 Min: 4.00 Max: 7.75

colorectal carcinoma
Dp(s) in OKB: 947 AVG: 6.00 STD: 0.94 Min: 2.00 Max: 9.52

cutaneous t cell lymphoma
Dp(s) in OKB: 9 AVG: 6.54 STD: 0.59 Min: 5.58 Max: 7.35

cutaneous t cell lymphoma,mycosis fungoides
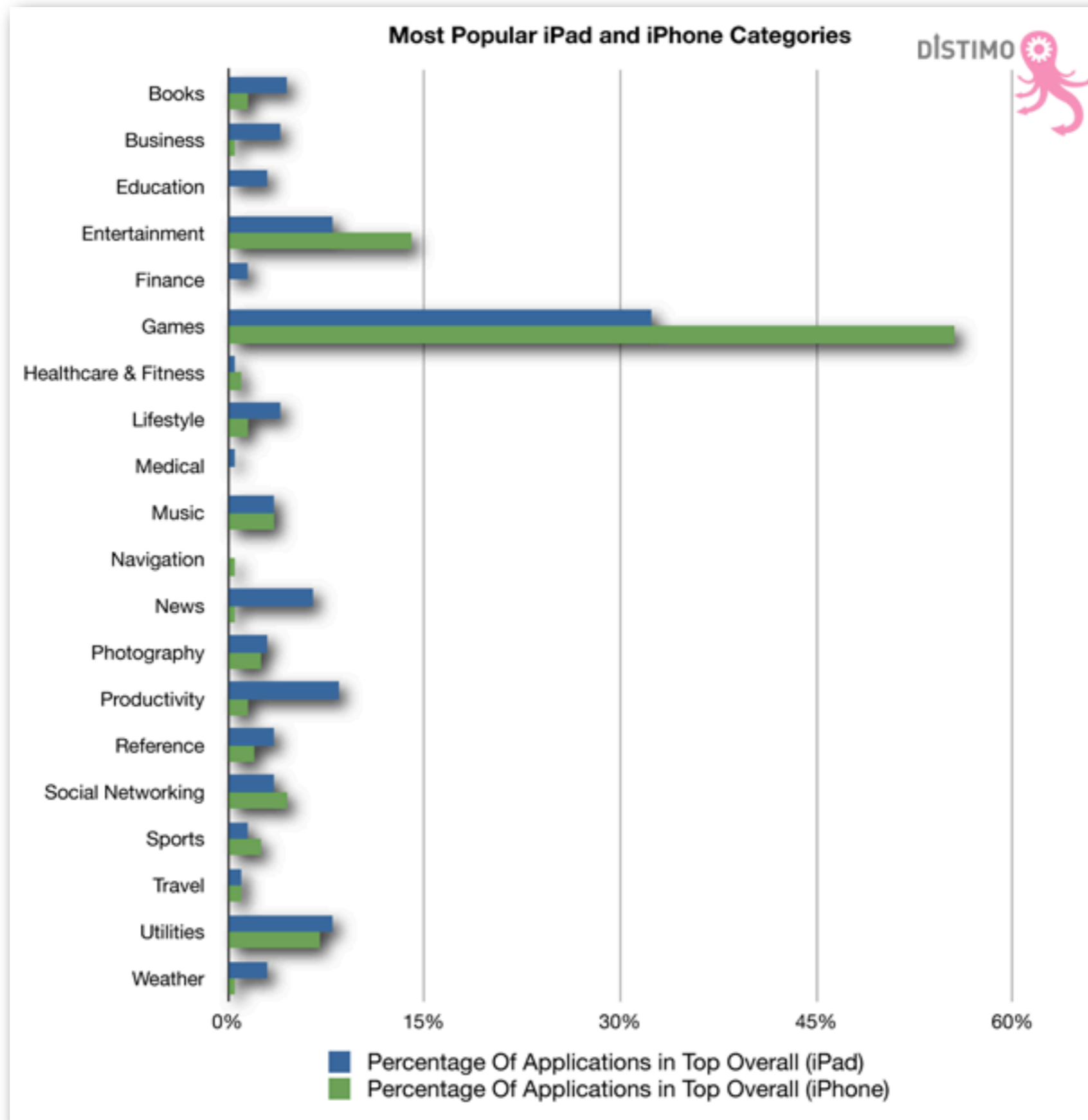Dp(s) in OKB: 9 AVG: 6.04 STD: 0.64 Min: 5.12 Max: 6.92

cutaneous t-cell lymphoma, acute myelogenous leukemia, hodgkin's disease,...
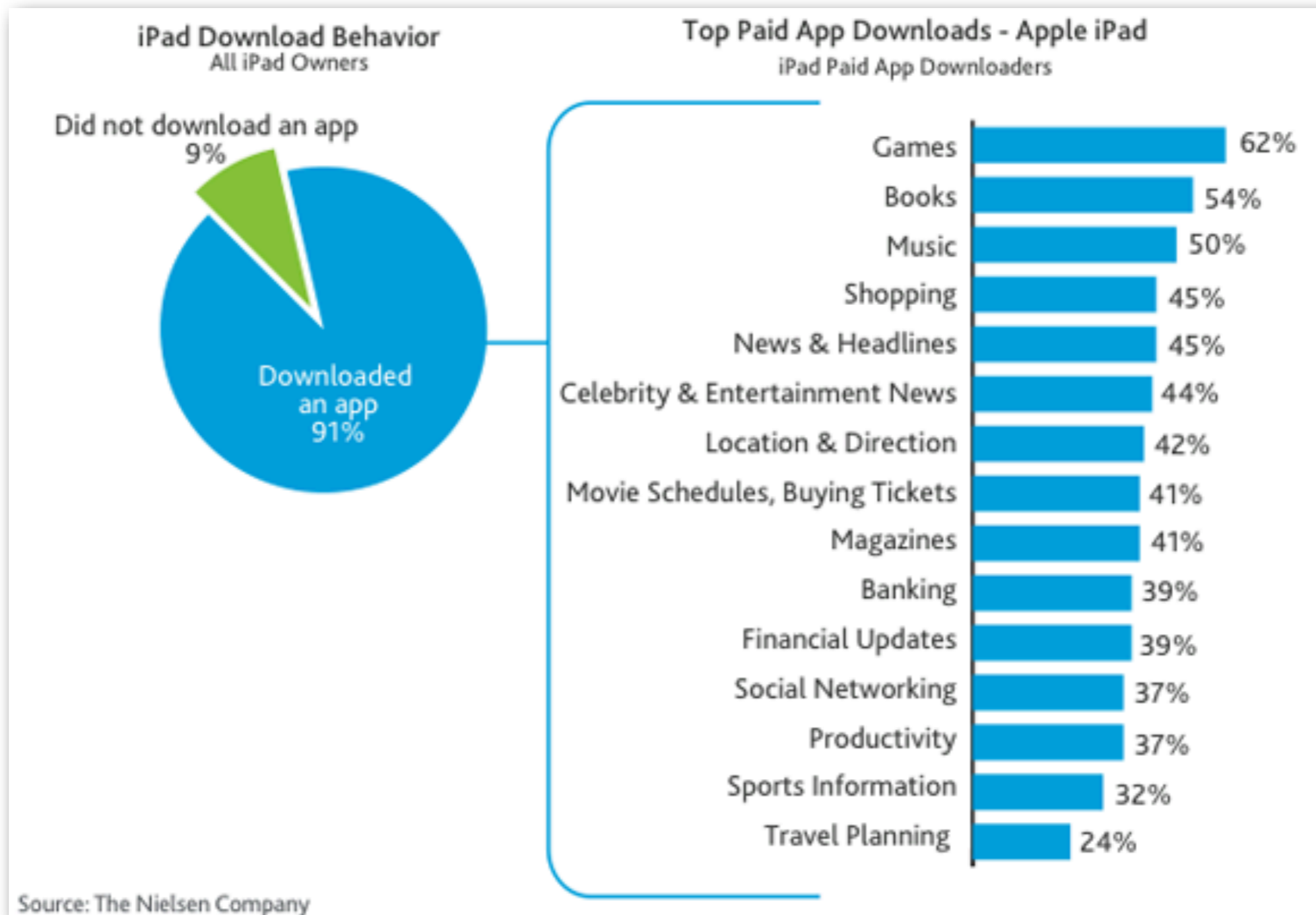Dp(s) in OKB: 420 AVG: 6.26 STD: 0.81 Min: 4.00 Max: 8.85

d

ductal carcinoma
Dp(s) in OKB: 98 AVG: 5.42 STD: 0.62 Min: 4.00 Max: 7.00

Structure Search

Molecule Last Searched

Significant Growth Opportunity in "Our" Space

Almost All Tablet Owners Download Apps

iPad Download Behavior
All iPad Owners

Did not download an app
9%

Downloaded
an app
91%

Top Paid App Downloads - Apple iPad
iPad Paid App Downloaders

Category	Percentage
Games	62%
Books	54%
Music	50%
Shopping	45%
News & Headlines	45%
Celebrity & Entertainment News	44%
Location & Direction	42%
Movie Schedules, Buying Tickets	41%
Magazines	41%
Banking	39%
Financial Updates	39%
Social Networking	37%
Productivity	37%
Sports Information	32%
Travel Planning	24%

Source: The Nielsen Company

October 26, 2010

How About Mobile/Gaming + Drug Discovery...

<u>Serious Dilemma</u> - **7 Billion** people depend on fewer than **500,000** people worldwide to discover and develop new medicines…

Consider this,

- Hundreds of Millions of Gamers Worldwide

- Hundreds of Millions of Smartphones+Tablets

- "Foldit Gamers Solve Riddle of HIV Enzyme within 3 Weeks"
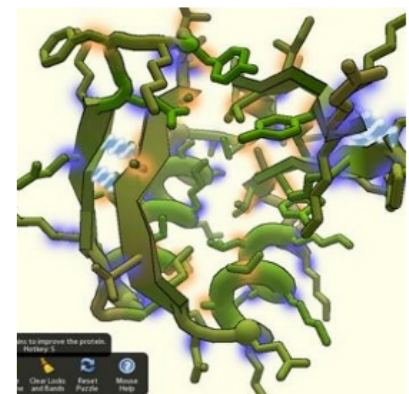
Gamers Unlock Protein Mystery That Baffled AIDS Researchers For Years

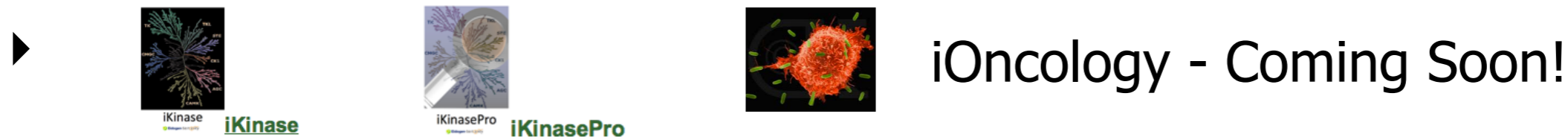By Leslie Horn   September 19, 2011 10:42am EST

Summary

- Post-PC revolution is here - Go Mobile!

  ➡ Apple sold $3M iPad3 in the first weekend of its debut!

- Apps can be phenomenal marketing vehicles

  ➡ People come to you, BUT don't expect large app revenue unless you tap into gaming

- Mobile and cloud computing pair well

  ➡ Server-side cloud (infinite) computing is a great enabler

- Many opportunities remain, but be patient...

  ➡ Don't expect 22.4M weekly users out of the gate

Acknowledgements

- <u>Dr. Rajan Sharma</u> and <u>Prof. Stephan Schurer</u>

  ▸ iKinase   iKinasePro   iOncology - Coming Soon!

- <u>Dr. Maurizio Bronzetti</u>

  ▸ Mobile Reagents   Reaction101   SPRESImobile

- <u>Dr. Alex Clark</u>

  ▸ MMDSLib: Mobile Reagents   iProtein

  ▸ Reaction101   Yield101   SPRESImobile

- <u>Dr. Tony Yuan</u>

  ▸ JSDraw: iKinasePro   Mobile Reagents   iProtein

- <u>Dr. Peter Löw, Dr. Josef Eiblmaier, et al.</u>

  ▸ SPRESImobile