

Having a Mobile App Presence: Necessary or Nice to Have?

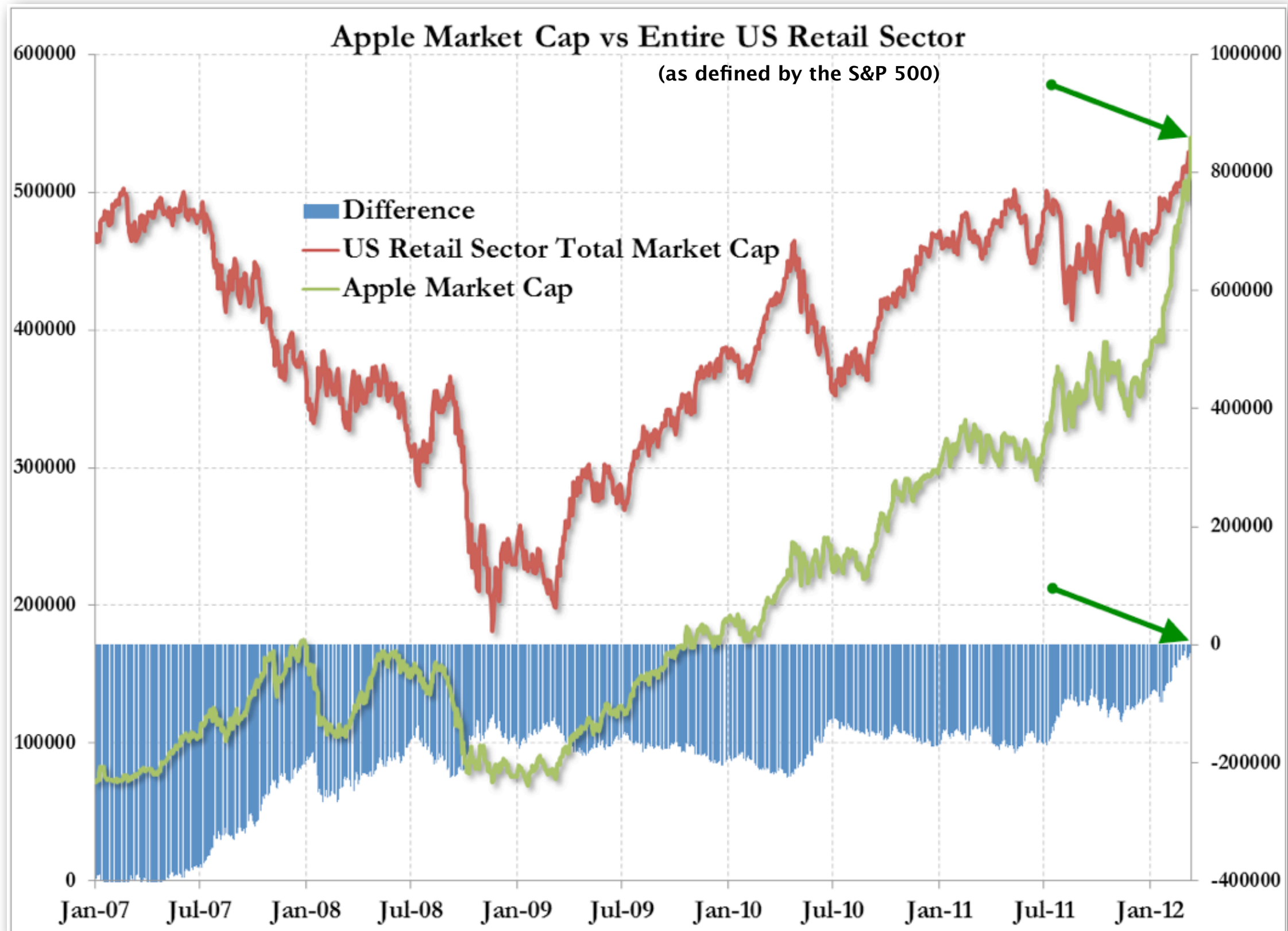
Dr. Steven Muskal

Chief Executive Officer

Eidogen-Sertanty, Inc

smuskal@eidogen-sertanty.com

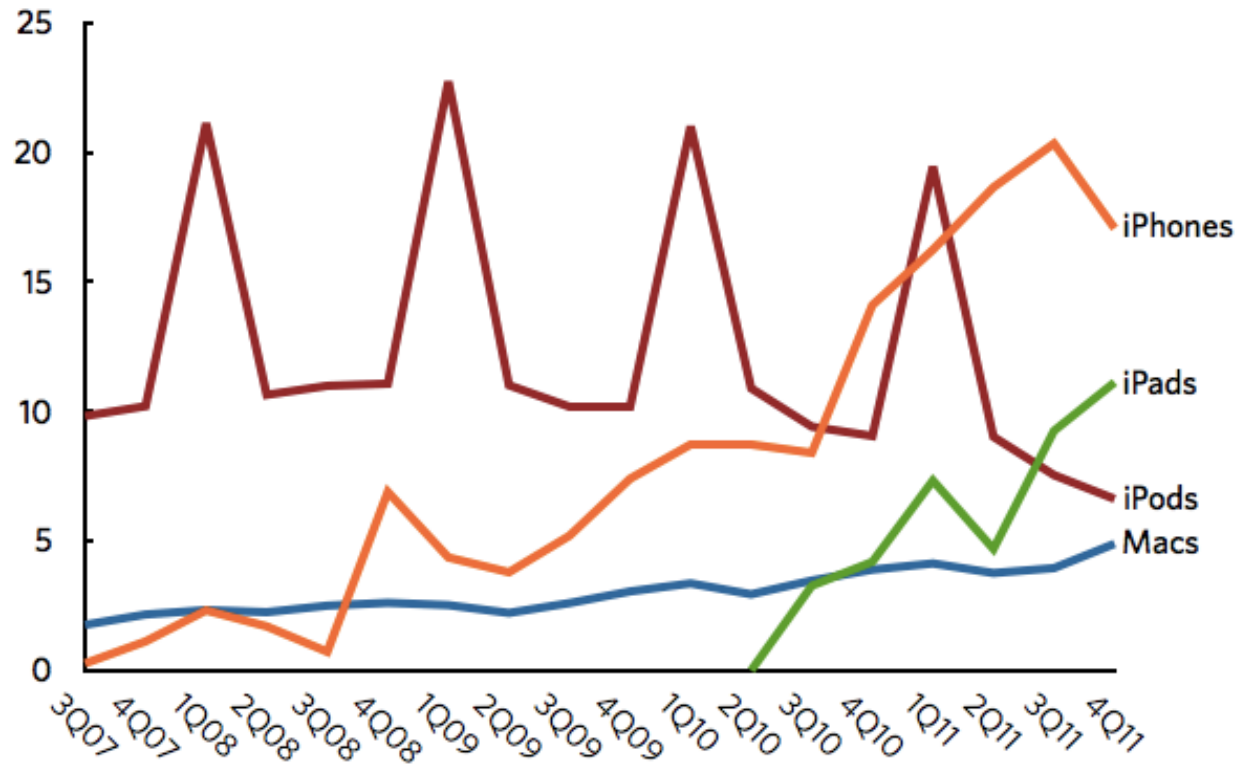
Apple Market Cap = US Retail Sector Total Market Cap



Source: <http://www.zerohedge.com/news/its-official-apple-now-bigger-entire-us-retail-sector>

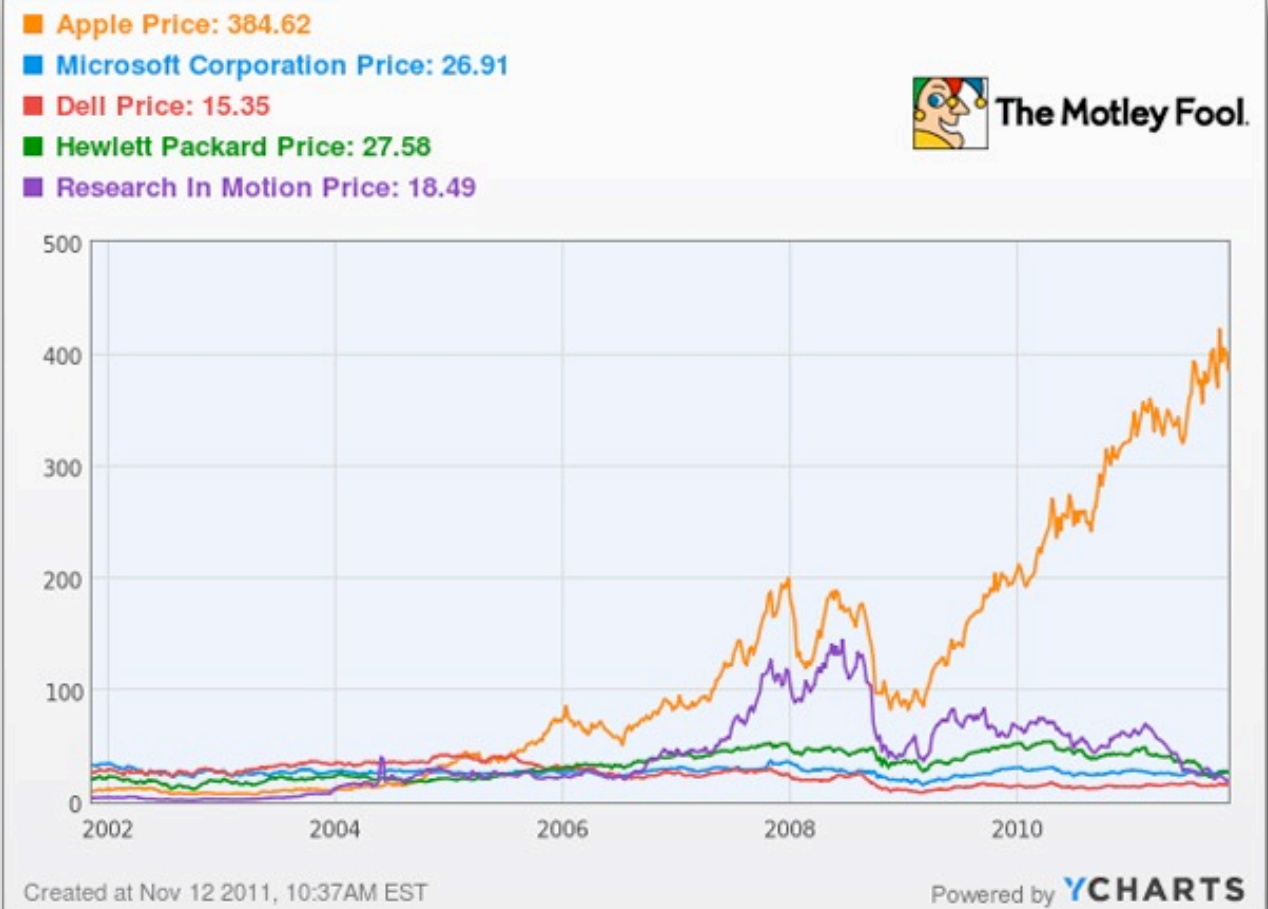
Apple Product Unit Sales Trends

Millions



Most of Apple Revenue is from Mobile Devices

Apple is Crushing the Competition



Thursday, March 15, 2012

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

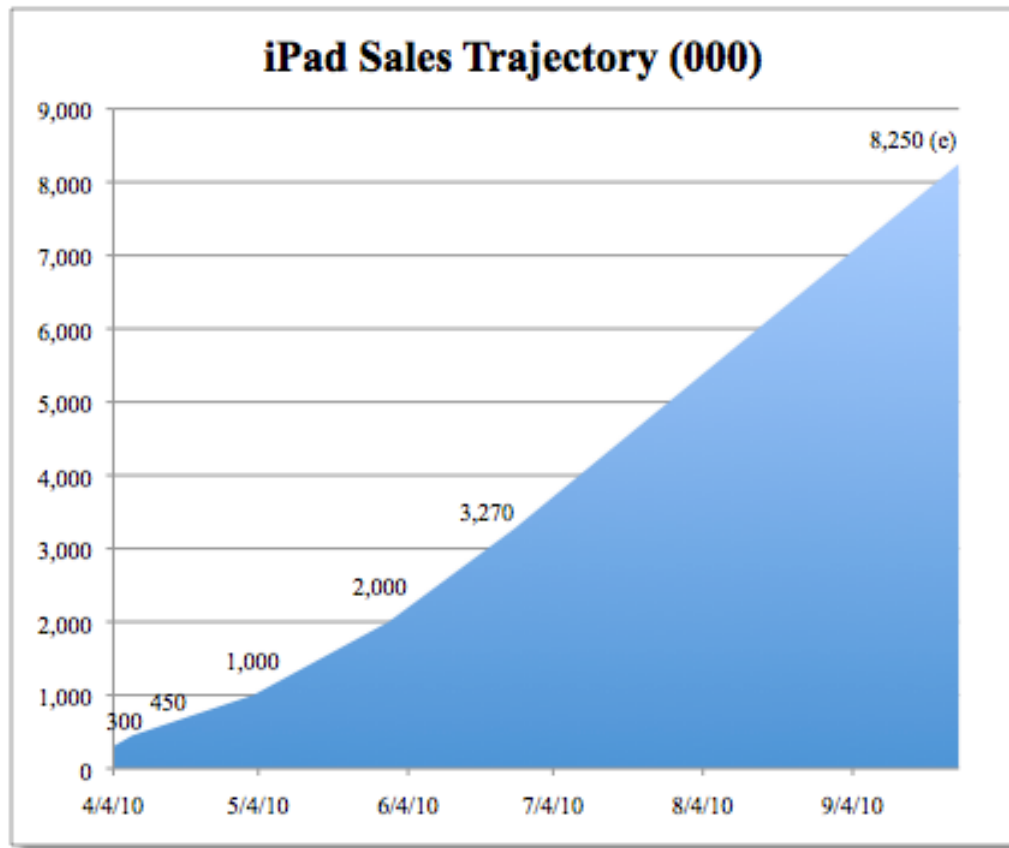
What if I had bought Apple stock instead?

April 24, 2010

Product	Release Date	Original Price	Stock Value Today
Apple PowerBook G3 250 (Original/Kanga/3500)	1997-11-10	\$5700	\$330,563
Apple Mac Server G3 266 Minitower	1998-03-02	\$4499	\$214,141
Apple Mac Server G3 300 Minitower	1998-03-17	\$4999	\$205,444
Apple Power Macintosh G3 266 Minitower	1997-11-10	\$3000	\$173,981
Apple PowerBook G3 292 (Wallstreet)	1998-05-06	\$4599	\$164,320
Apple Mac Server G3 233 Minitower	1998-03-02	\$3349	\$159,404
Apple PowerBook G3 300 (PDQ - Late 1998)	1998-09-01	\$4999	\$158,720
Apple Mac Server G3 333 Minitower	1998-09-01	\$4599	\$146,020
Apple Xserve G4/1.33 DP (Slot Load)	2003-02-10	\$3799	\$143,298
Apple Power Macintosh G3 233 Desktop	1997-11-10	\$2400	\$139,185
Apple Power Macintosh G3 233 Minitower	1997-11-10	\$2400	\$139,185
Apple Power Macintosh G3 266 Desktop	1997-11-10	\$2400	\$139,185
Apple Mac Server G4 1.25 DP (MDD)	2002-08-27	\$3499	\$127,542
Apple Mac Server G4 533 DP (Digital Audio)	2001-01-09	\$3999	\$125,936
Apple Mac Server G3 400 (Blue & White)	1999-01-05	\$4999	\$125,012
Apple Power Macintosh G4 1.25 DP (MDD)	2002-08-13	\$3299	\$122,393
Apple Mac Server G3 450 (Blue & White)	1999-06-01	\$4999	\$120,882
Apple PowerBook G4 1.0 17" (AI)	2003-01-07	\$3299	\$120,251
Apple Mac Server G4 800 DP (Quicksilver)	2001-09-08	\$3799	\$118,399
Apple Power Macintosh G3 300 Desktop	1998-03-17	\$2750	\$113,017

“Apple's iPad Sales Blow Past Projections”

San Jose Business Journal March 14, 2011



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>



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/>

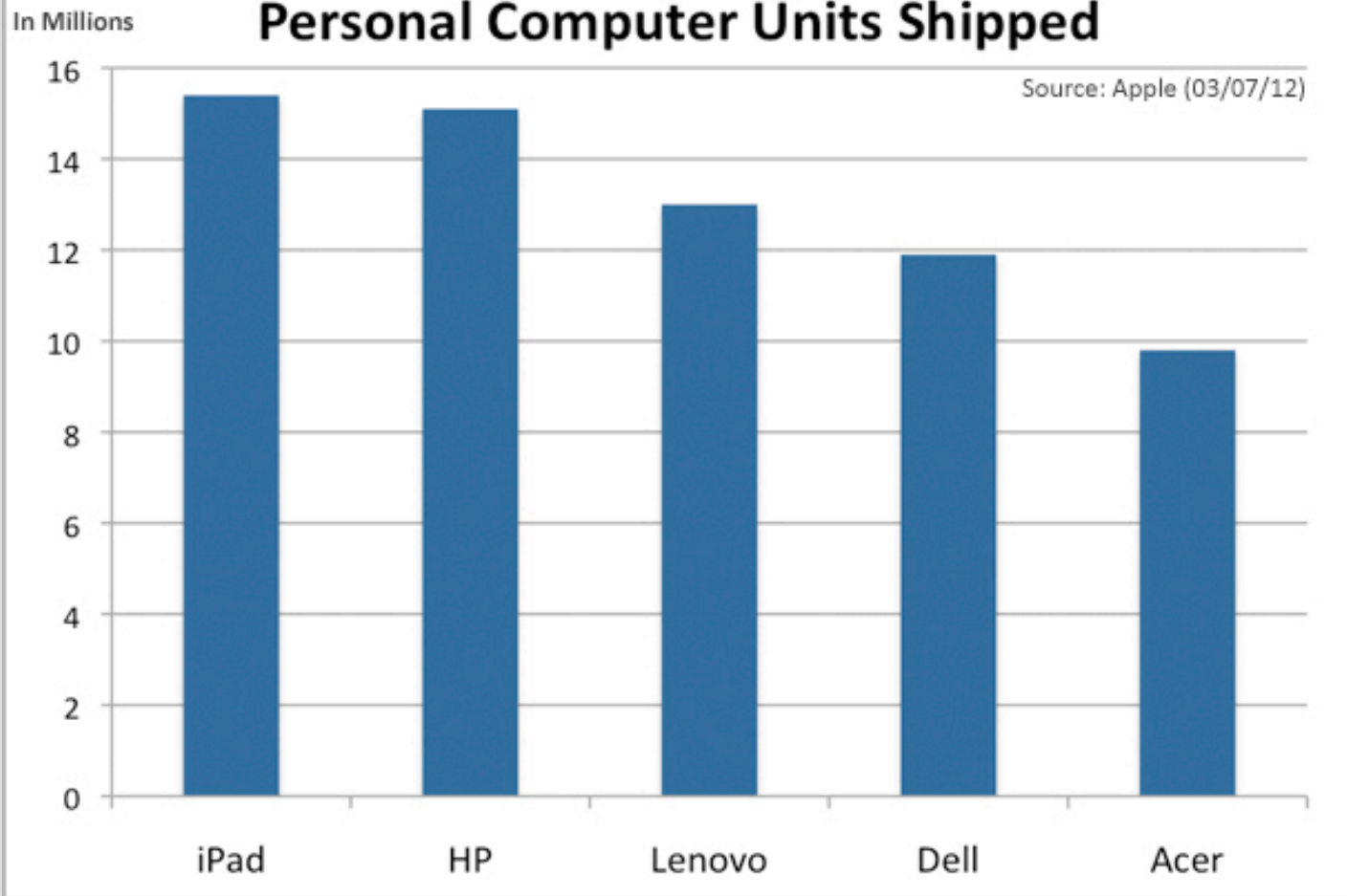
<http://www.publishersweekly.com/pw/by-topic/industry-news/financial-reporting/article/44882-ipad-total-nears-7-5-million.html>

<http://www.dailyfinance.com/story/company-news/apple-ipad-sales-projected-to-hit-28-million-in-2011/19626822/>

The Post-PC Revolution Is Here...

Silicon Alley Insider  Chart of the Day

Personal Computer Units Shipped

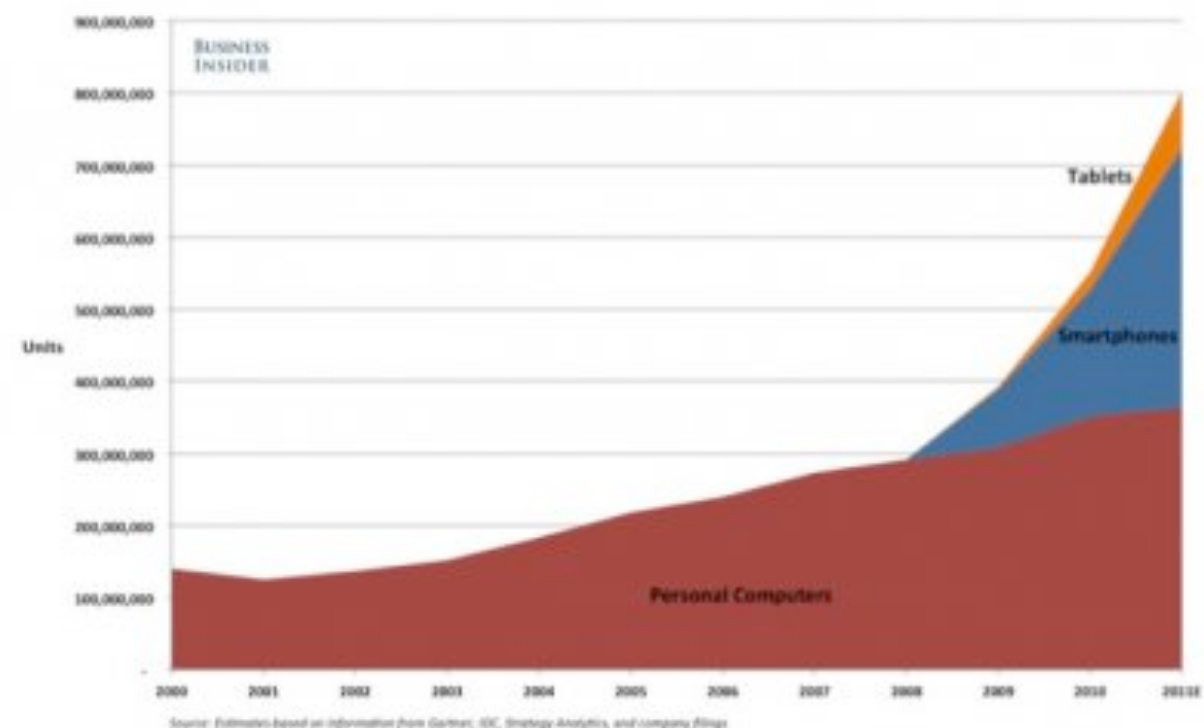


Apple Sold More iPads In Q411 Than Any Single Manufacturer Sold PC Devices

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

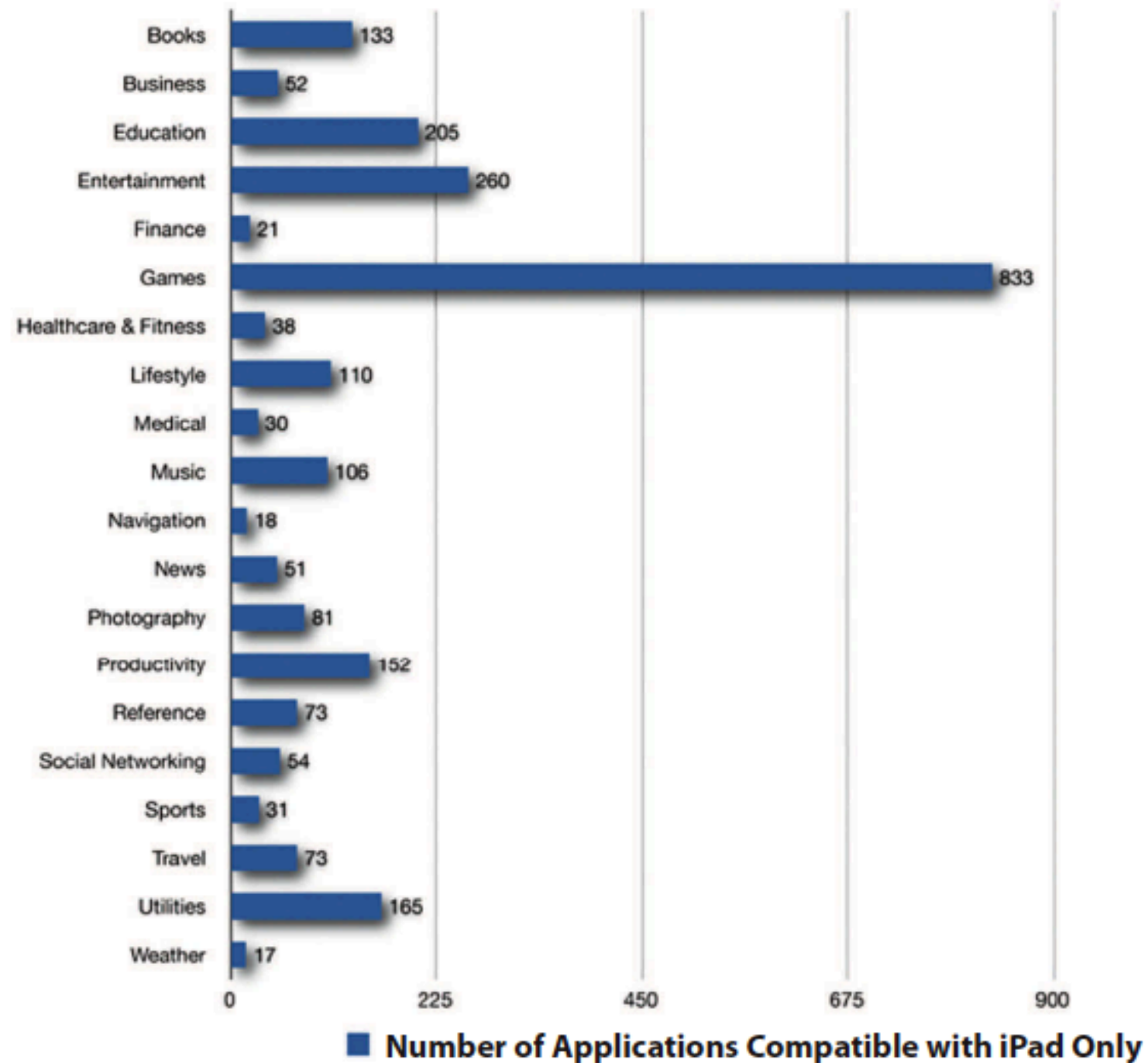
http://articles.businessinsider.com/2012-02-14/tech/31057828_1_tablet-sales-post-pc-era-lower-prices

Global Internet Device Sales



Significant Growth Opportunity in “Our” Space

Number of iPad Applications

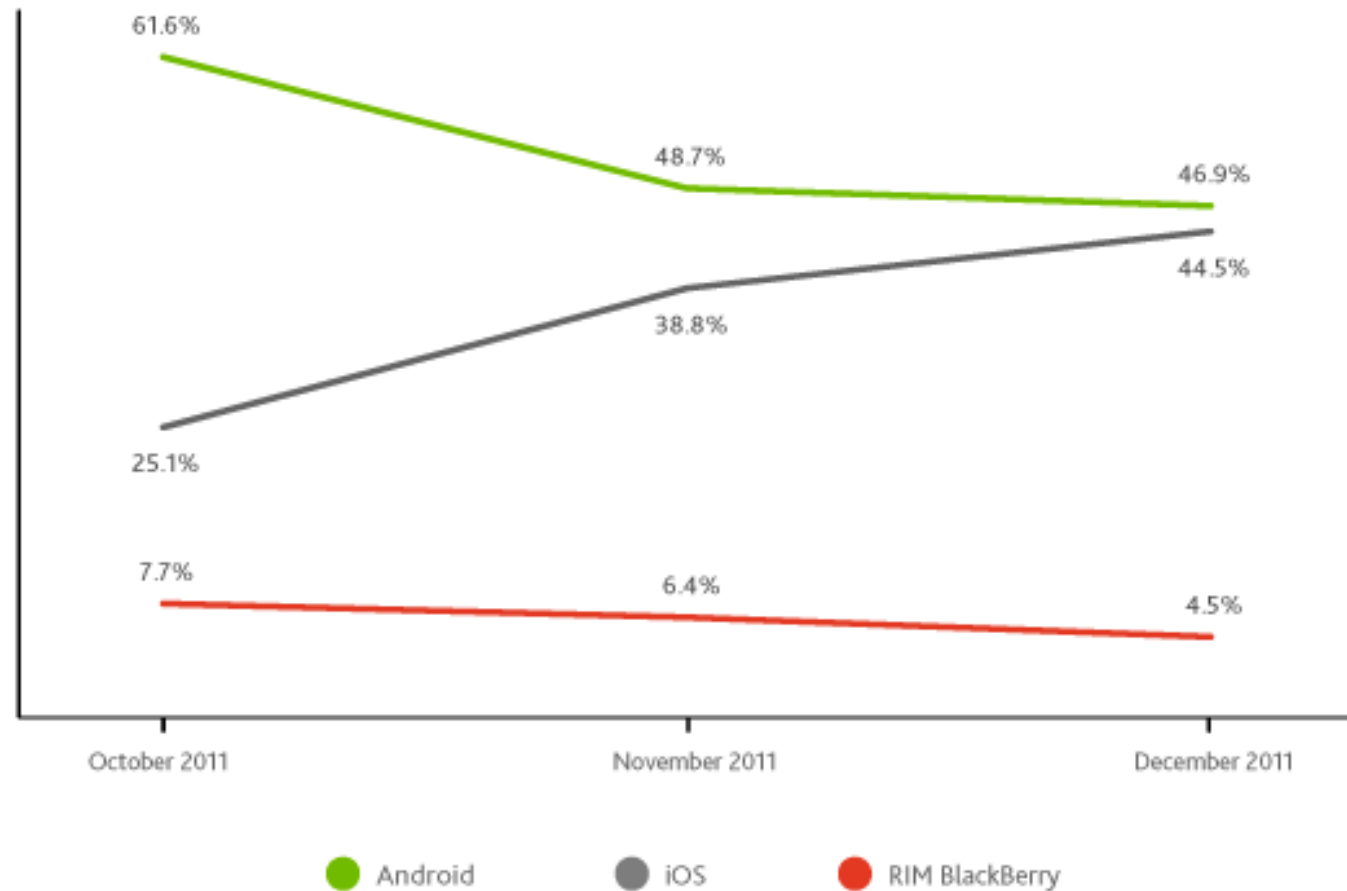


Source: **NeuroSoftware**

iOS v. Android - The Numbers Vary

Smartphone Operating System Share – Recent Smartphone Acquirers

Oct - Dec 2011, Nielsen Mobile Insights

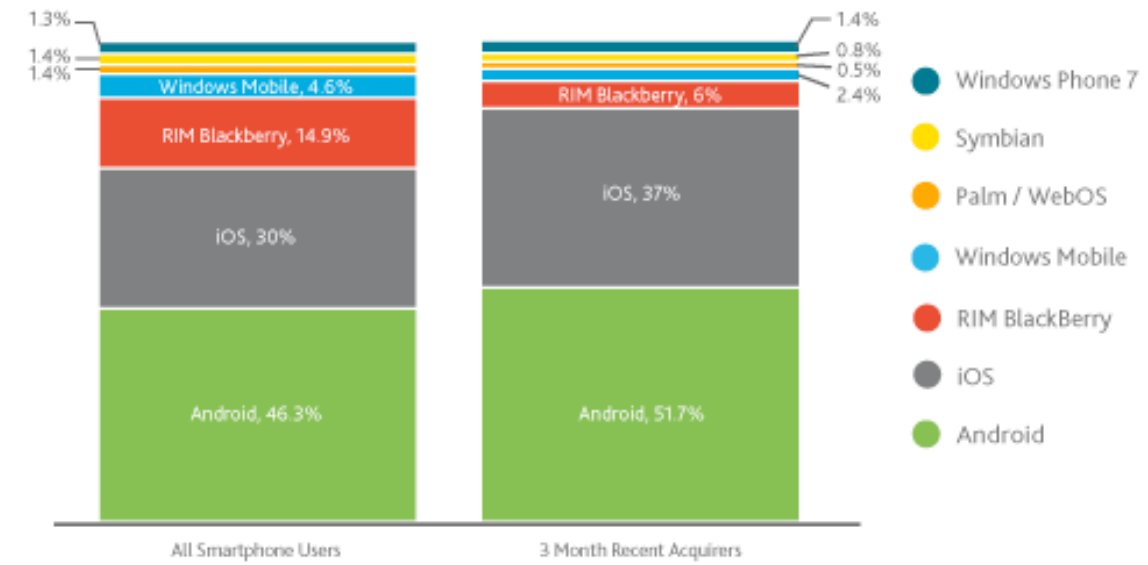


Source: Nielsen



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

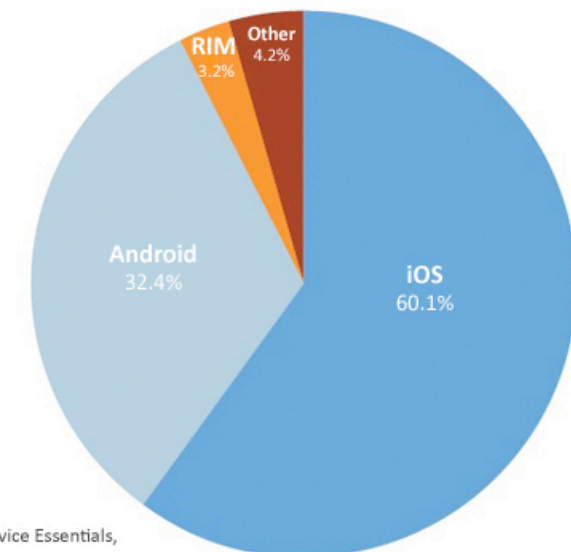
Q4 2011, Nielsen Mobile Insights



Source: Nielsen

Silicon Alley Insider Chart of the Day

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



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

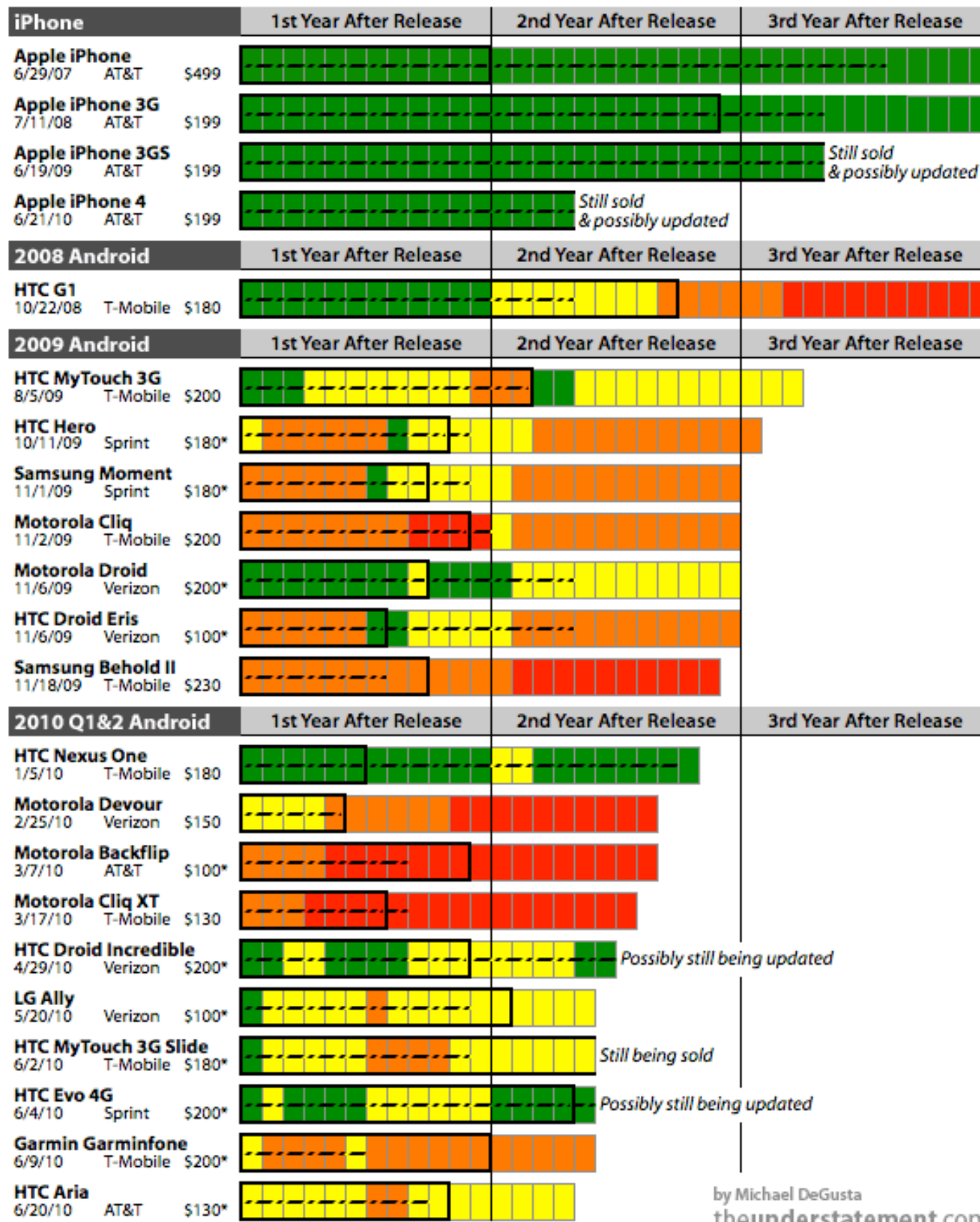
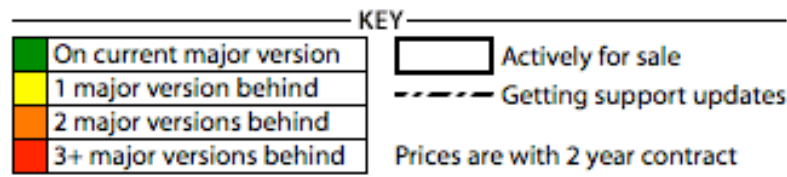
<http://blog.nielsen.com/nielsenwire/consumer/more-us-consumers-choosing-smartphones-as-apple-closes-the-gap-on-android/>

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.



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

by Michael DeGusta
theunderstatement.com
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Advantages iOS

- Minimal fragmentation
- Nice development environment
- Apple is a powerhouse

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

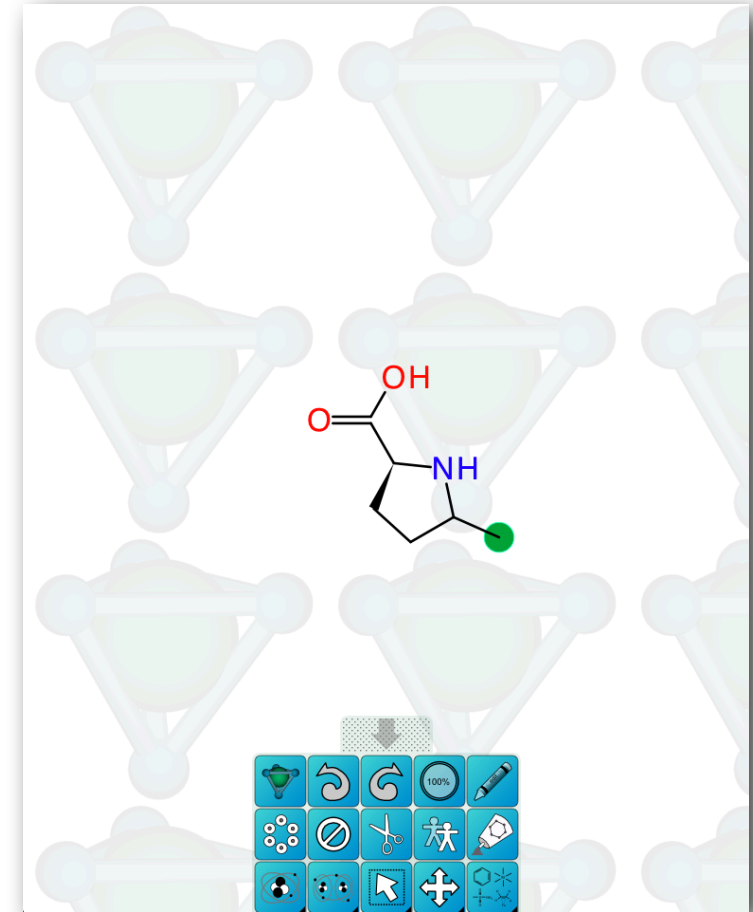
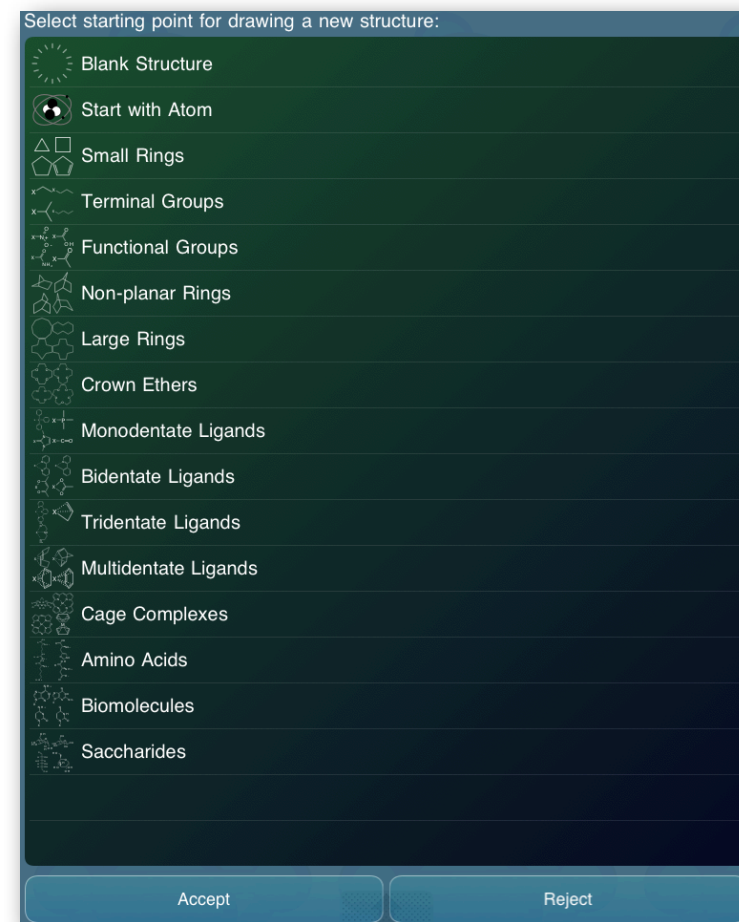
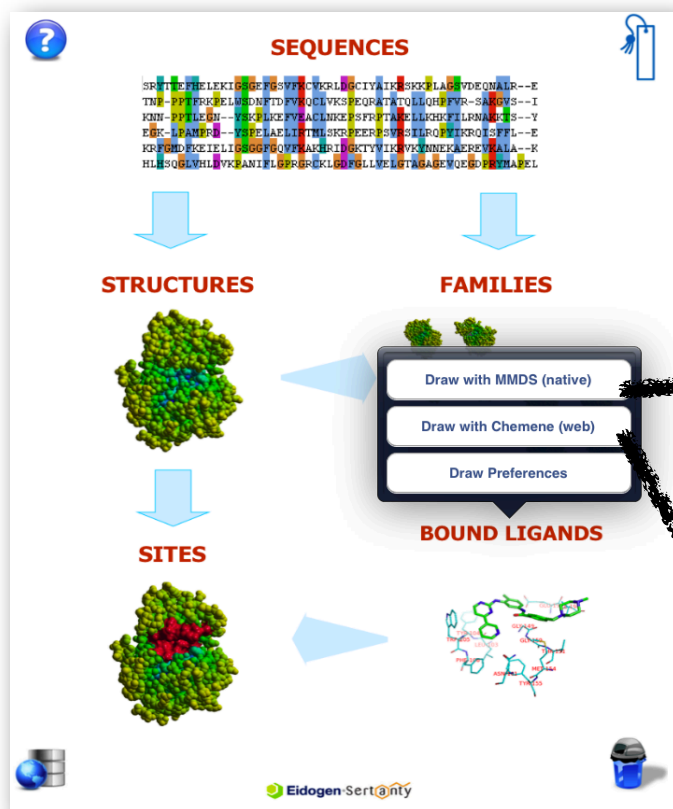
Advantages Android

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

Web Apps v. Native Apps

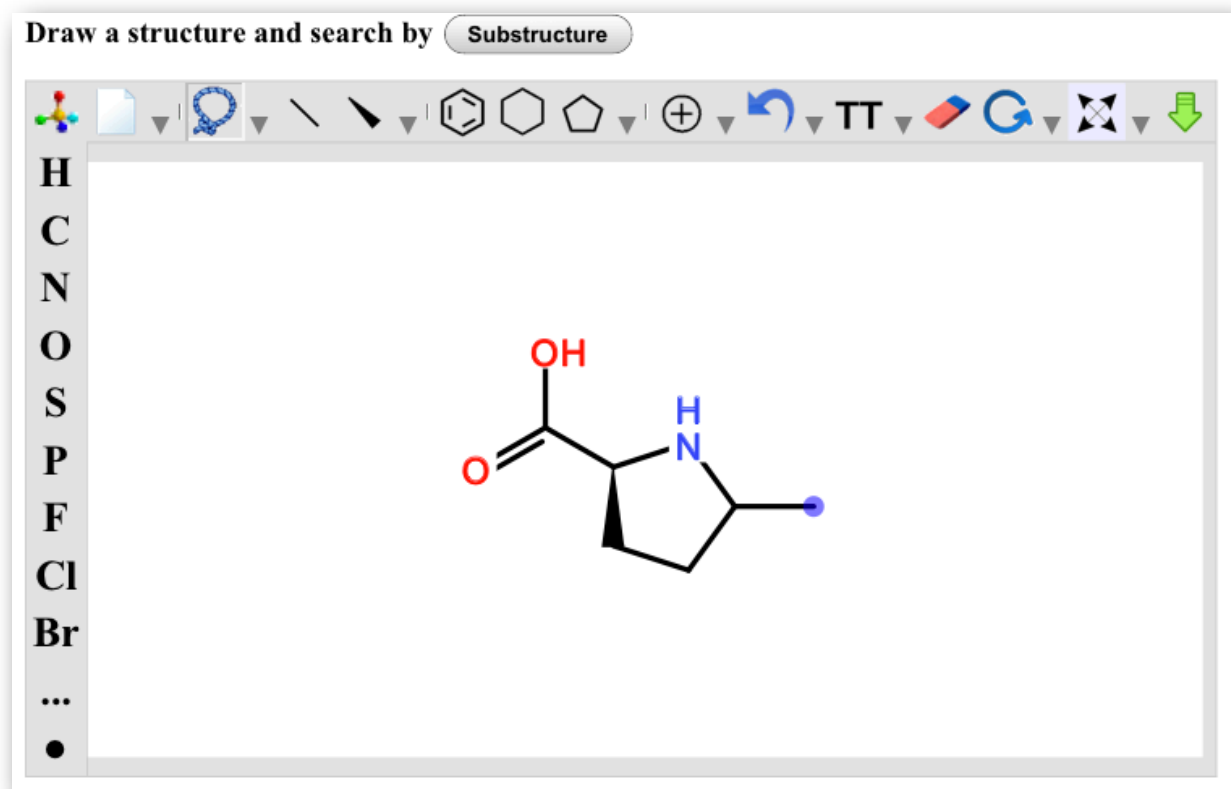
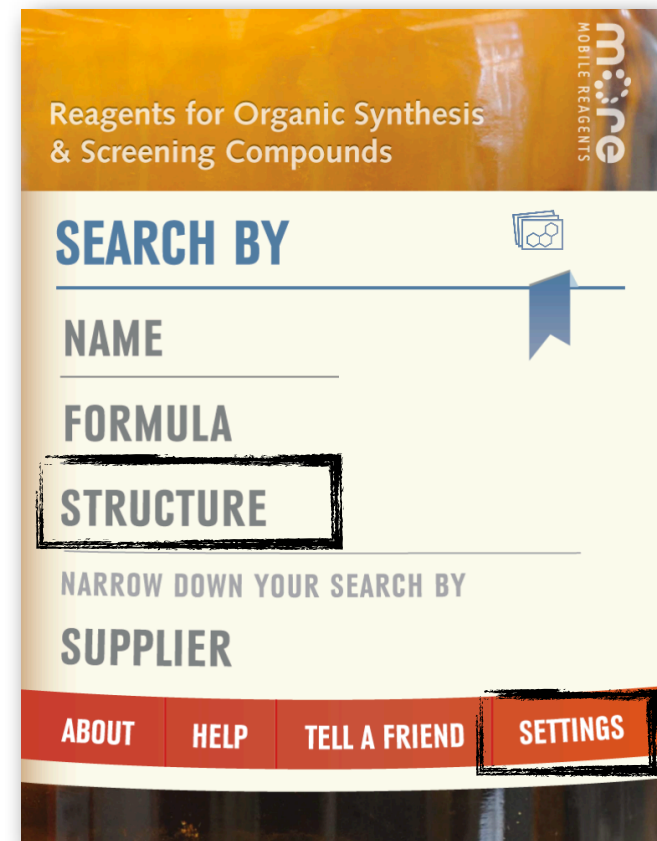
Web Advantages	Web Disadvantages
Central Management	InterApp Communication Difficult
Device Agnostic	Can't Maximize Device Features (e.g. Gestures & Motion)
No App Store Approval	URL exposed
HTML5 is very powerful	No App Store promotion

Hybrid → Native Apps with WebViews



iProtein: > 8600 users
70% JSDraw/30% MMDS

MMDSLlib (native, template-based)

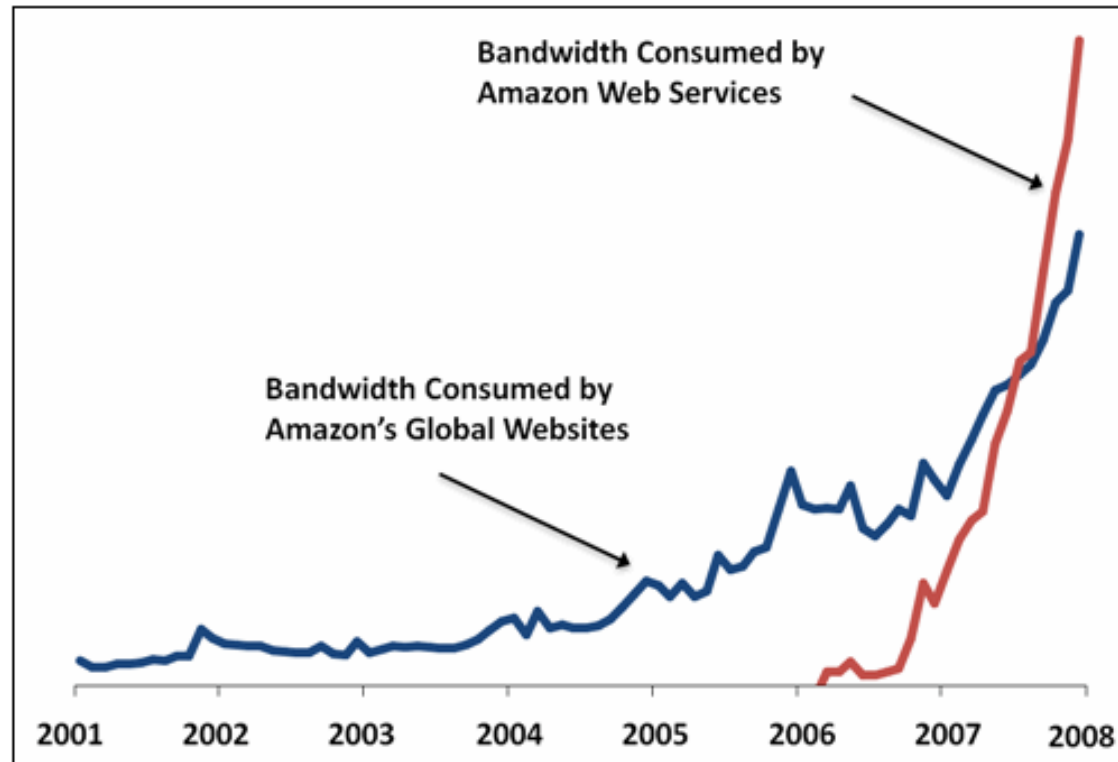


MobileReagents: > 6000 users
5% JSDraw/95% MMDS

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



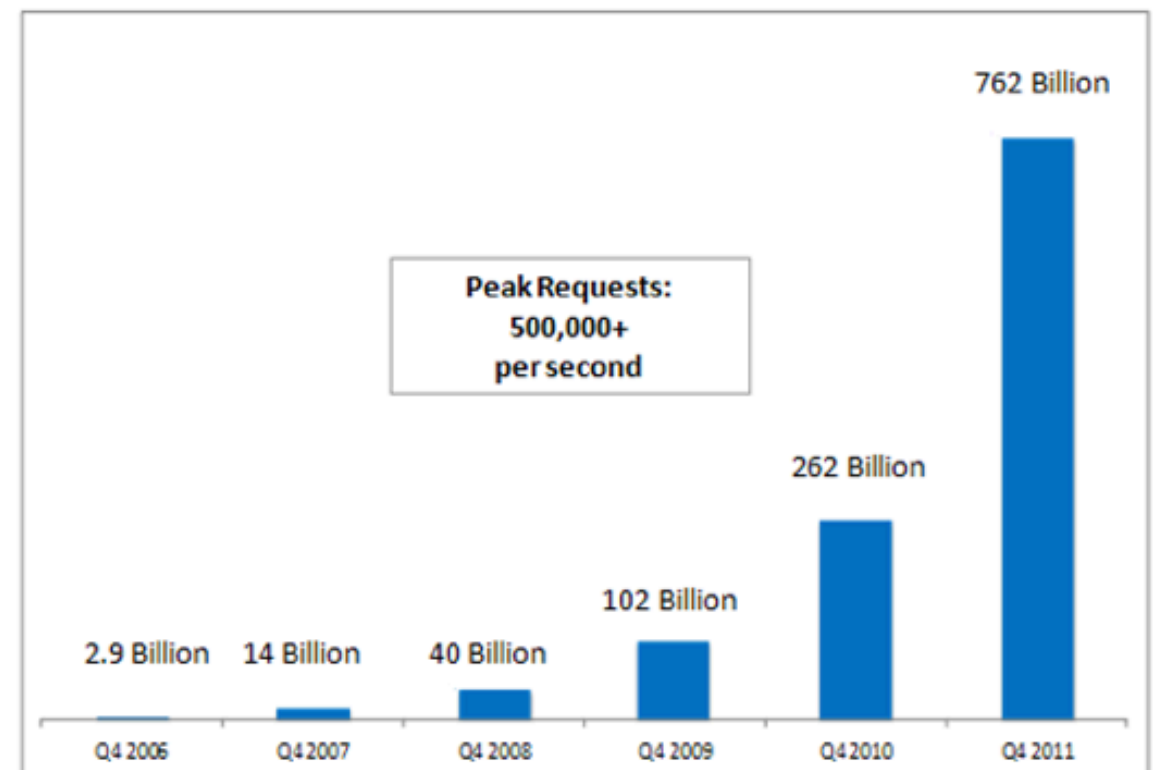
<http://aws.typepad.com/aws/2008/05/lots-of-bits.html>

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

February 23, 2012

Amazon S3 grew 192% year-over-year

Total Number of Objects Stored in Amazon S3



<http://venturebeat.com/2012/01/31/amazon-aws-s3-growth-cloud/>

Cloud Computing - In Practice

AWS Management Console > Amazon EC2 Steven Muskal | Help

Navigation: Elastic Beanstalk, S3, **EC2**, VPC, CloudWatch, Elastic MapReduce, CloudFront, CloudFormation, RDS, ElastiCache, SQS, IAM, SNS, SES, Route 53, DynamoDB, Storage Gateway, SWF

Navigation

Region: US East (Virginia)

EC2 Dashboard

- Events
- INSTANCES
 - Instances
 - Spot Requests
 - Reserved Instances
- IMAGES
 - AMIs
 - Bundle Tasks
- ELASTIC BLOCK STORE
 - Volumes
 - Snapshots
- NETWORK & SECURITY
 - Security Groups
 - Elastic IPs
 - Placement Groups
 - Load Balancers
 - Key Pairs
 - Network Interfaces

Amazon EC2 Console Dashboard

Getting Started

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

[Launch Instance](#)

Note: Your instances will launch in the US East (Virginia) region.

Service Health

Service Status

Current Status	Details
✔ Amazon EC2 (US East - N. Virginia)	EBS API errors View complete service health details

Availability Zone Status

Current Status	Details
✔ us-east-1a	Availability zone is operating normally
✔ us-east-1b	Availability zone is operating normally
✔ us-east-1c	Availability zone is operating normally
✔ us-east-1d	Availability zone is operating normally
✔ us-east-1e	Availability zone is operating normally

My Resources

You are using the following Amazon EC2 resources in the US East (Virginia) region: [Refresh](#)

- 5 Running Instances
- 8 EBS Volumes
- 5 Key Pairs
- 0 Placement Groups
- 5 Elastic IPs
- 5 EBS Snapshots
- 0 Load Balancers
- 3 Security Groups

Events

US East (Virginia): No events [Refresh](#)

Related Links

- > Getting Started Guide
- > Documentation
- > All EC2 Resources
- > Forums
- > Feedback
- > Report an Issue

Avg CPU Utilization (Percent)

Avg Disk Reads (Bytes)

Avg Disk Writes (Bytes)

Max Network In (Bytes)

Max Network Out (Bytes)

Mobile-Cloud Infrastructure

- Internet Connection (Wi-Fi or 3/4G)
- Database/WebServer (e.g. GoDaddy/HostGator)

- Apache + php
- mysql

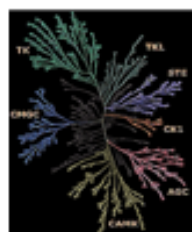


- Application Server (Amazon Cloud-LAMP)

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

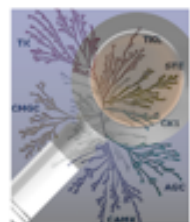


Eidogen-Sertanty's iPhone and iPad Apps



iKinase

iKinase



iKinasePro

iKinasePro



Mobile Reagents



Reaction101



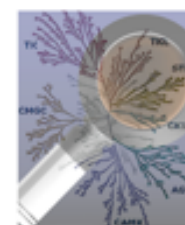
Yield101



SPRESImobile



iProtein



iKinasePro

iKinasePro



Mobile Reagents



Reaction101

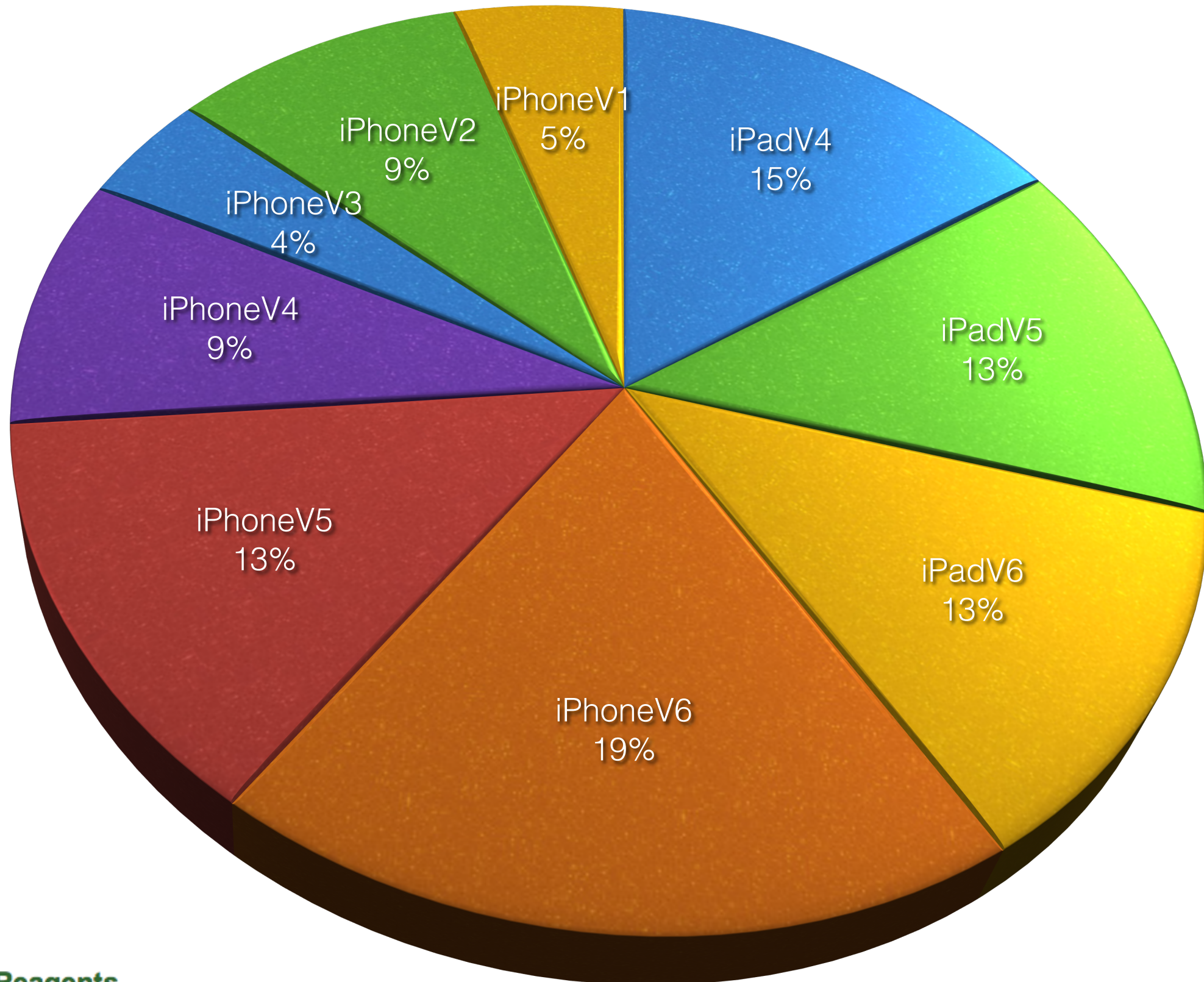


Yield101



SPRESImobile

Mobile Reagents: Devices and Versions



MobileApps: Worldwide Marketing Vehicles!



> 25,000 People Use Eidogen Mobile Apps

App Awareness is Not Automatic

COVER STORY

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 sci-

entific 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, 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."



EIDOGEN-SERTANTY

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

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.

New iPhone/iPad App - SPRESImobile



SPRESImobile: 410,000 Chemical Reactions Freely Available

15 of 100

Name & Synonyms (5)
2-Methyl-6-methoxyquinolin
2-Methyl-6-methoxyquinoline
6-Methoxy-2-methylquinoline
6-Methoxy-2-methylchinolin

Journal Articles (29)
Wang Xiao-Bing, Zhou Yong-Gui, "Synthesis of Tunable Bisphosphine Ligands and Their Application in Asymmetric Hydrogenation of Quinolines", *J. Org. Chem.*, vol. 73, pp. 5640-5642 (2008)
<http://dx.doi.org/10.1021/jo800779r>
Li Zhi-Wei, Wang Tian-Li, He Yan-Mei, Wang Zhi-Jian, Fan Qing-Hua, Pan Jie, Xu Li-Jin, "Air-Stable and Phosphine-Free Iridium Catalysts for Highly Enantioselective Hydrogenation of Quinoline Derivatives+", *Org. Lett.*, vol. 10, pp. 5265-5268 (2008)
<http://dx.doi.org/10.1021/ol802016w>
Zhou Haifeng, Li Zhiwei, Wang Zhijian, Wang Tianli, Xu Lijin, He Yanmei, Fan Qing-Hua, Pan Jie, Gu Lianquan, Chan Albert S. C., "Hydrogenation of quinolines using a recyclable phosphine-free chiral cationic ruthenium catalyst: enhancement of catalyst stability and selectivity in an ionic liquid", *Angew. Chem., Int. Ed. Engl.*, vol. 47, pp. 8464-8467 (2008)
<http://dx.doi.org/10.1002/anie.200802237>

Information
Registration No.: 0006298-800
Molecular Formula: C₁₁H₁₁NO
Molecular Weight: 173.21

Calculated Properties
Calculated Log P: 2.3599999
Rotatable Bonds: 3
H-Acceptors: 1
H-Donors: 0

Patents (1)
Butera John A., Bagli Jehan F., "N-quinolinyl alkyl-substituted 1-aryloxy-2-propanolamine and propylamine derivatives possessing class III antiarrhythmic activity" (1993) Patent owner: American Home Products Corp. Patent country: US Patent number: 5084463

Commercial Availability (6)
Apollo Scientific <http://www.apolloscientific.com>
Sigma-Aldrich <http://www.sigmaaldrich.com>
VWR <https://www.vwrsp.com>

7 of 21

Calculated Properties
Yield: 53%

Journal Articles
SHCHUKINA M. N.; VASIL'EVA V. F.; ZAGRUTDINOVA R. A., "SUBSTITUIERTE 1,2,3,4-TETRAHYDRO-CHINOLINE. 3. 2-(BETA-DIALKYLAMINOETHYL)-DERIVATE.", *KHIM. FARMATSEUT. ZH.*, vol. 9, pp. 24-26 (1975)

Reactant 1
MW: 173.211
MF: C₁₁H₁₁NO

Reactant 2
MW: 45.0837
MF: C₂H₇N

Product 1
MW: 230.306
MF: C₁₃H₁₅N₂O

WIN AN iPad

Collect all puzzle pieces, search for the name of the structure and win an iPad!



HOW DOES IT WORK?

- 1** Collect the four different puzzle pieces at the following booths:
a. InfoChem 1033 – b. Thieme 1029 – c. Oakwood 1102
- 2** Search our products for the name of the molecule represented:
a. SPRESImobile, SPRESImobile – b. Science of Synthesis – c. Chemicals Catalog
- 3** Fill out the form on the puzzle flyer
- 4** Bring the solution to the InfoChem booth
The winner will be drawn at 4 pm on Tuesday March 27
at the InfoChem booth

Visit InfoChem

Booth: 1033

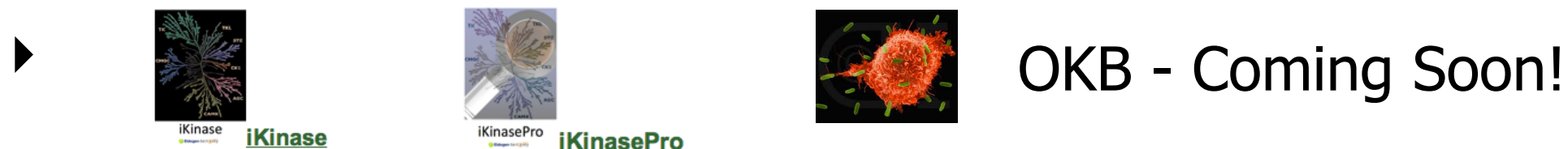


Summary

- 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
- Patience is important...
 - ➔ Don't expect 22.4M weekly users ;)

Acknowledgements

- Dr. Rajan Sharma and Prof. Stephan Schurer



- Dr. Maurizio Bronzetti



- Dr. Alex Clark



- Dr. Tony Yuan



- Dr. Peter Löw, Dr. Josef Eiblmaier, et al.

