From Innovation to Production:

Making It Work Is Just the Beginning

Dennis G. Ravenelle
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Mark Zuckerberg - Forbes - Windows Internet Explorer
http://www.forbes.com/profile/mark-zuckerberg/
File Edit View Favorites Tools Help
Convert Select
Mark Zuckerberg - Forbes
1515 shares
Share
220 tweets
Tweet
+ Share
The World's Billionaires
Forbes 400 Richest Americans
World's Most Powerful People
World's Most Powerful Women
#51 Aliko Dangote
Browse list
Mark Zuckerberg
Net Worth $17.5 B As of November 2011
+ Follow Mark Zuckerberg
1073
At a Glance
Title: Founder, Facebook
Age: 27
Source: Facebook, self-made
Residence: Palo Alto, CA
Country of Citizenship: United States
Education: Drop Out, Harvard University
Marital Status: Single
Forbes Lists
#9 Powerful People
#14 Forbes 400
#52 Forbes Billionaires
#22 in United States
Profile
Powerful People: November 2011
What the CIA failed to do in 60 years, Zuck has done in 7:
knowing what 800 million people--more than 10% of the world's
Key Connections
People

Why are we here?

Introduction to the intellectual enterprises of computer science and the art of programming. This course teaches students how to think algorithmically and solve problems efficiently… Problem sets inspired by real-world domains of biology, cryptography, finance, forensics, and gaming.

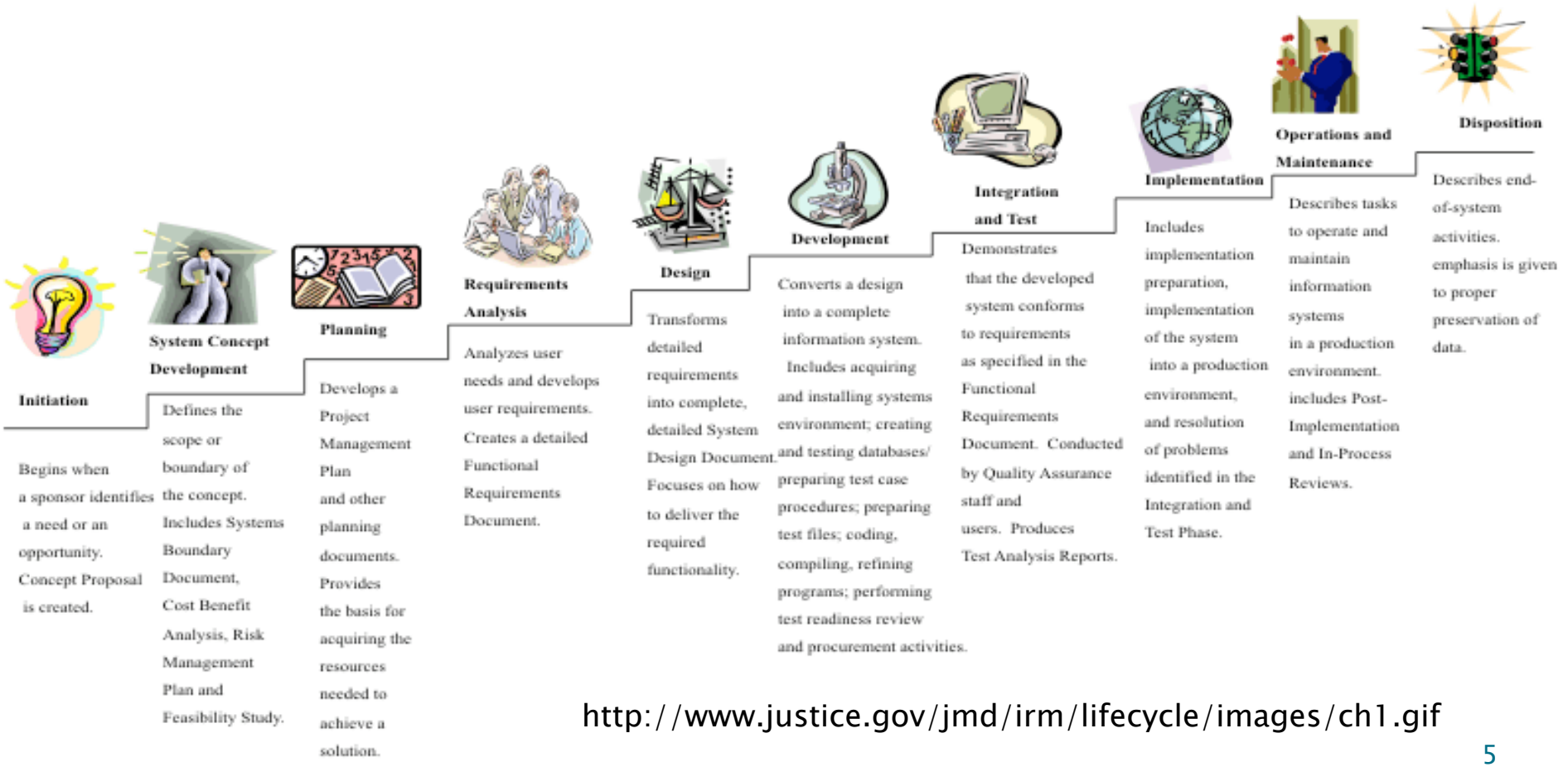
Systems/Software Development Life-cycle (SDLC)

- DevOps
- Agile
- Waterfall
- Incremental
- Spiral
- Prototyping
- RAD/JAD
- RUP

Plan → Design → Implement → Operate

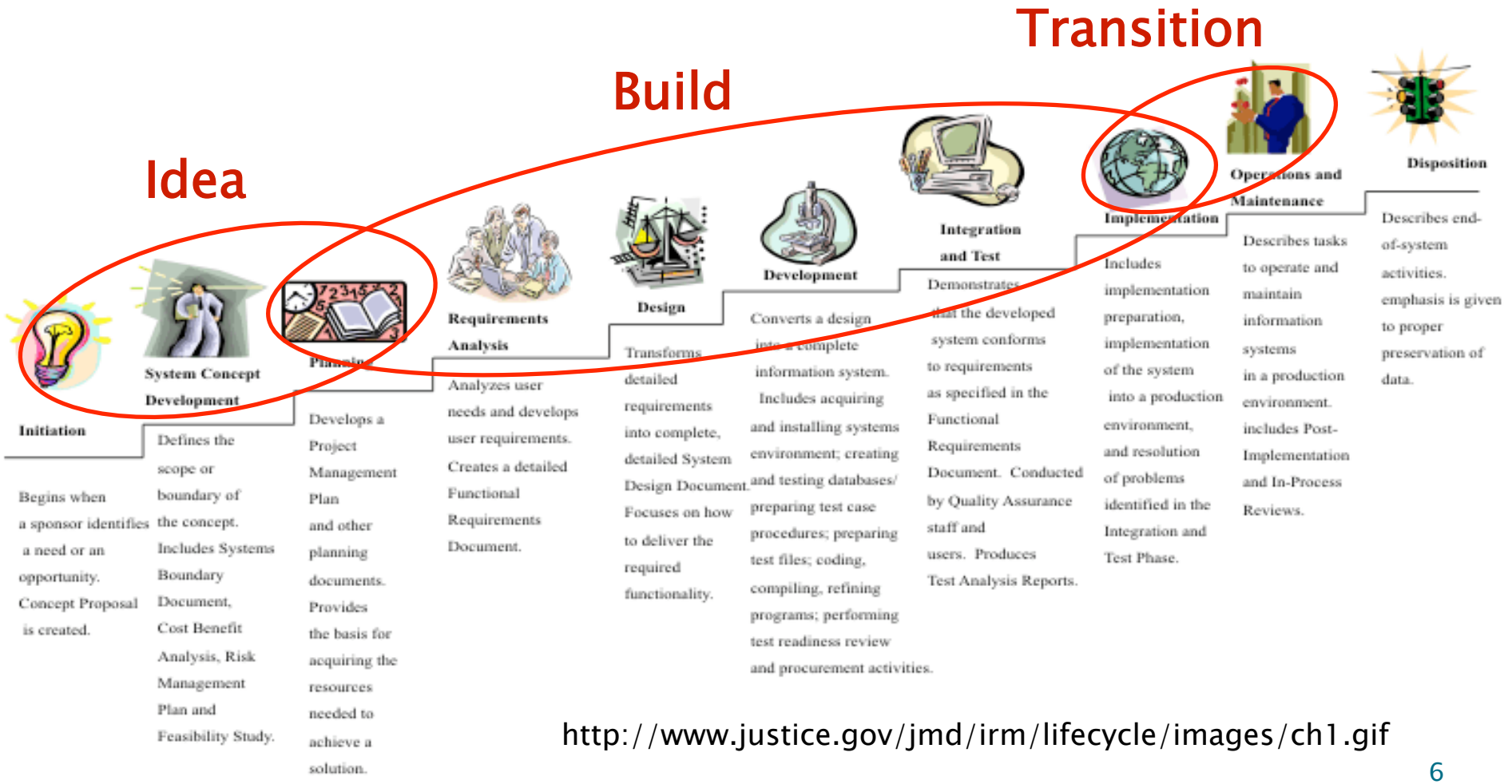
P D I O

Systems Development Life Cycle (SDLC)
Life-Cycle Phases



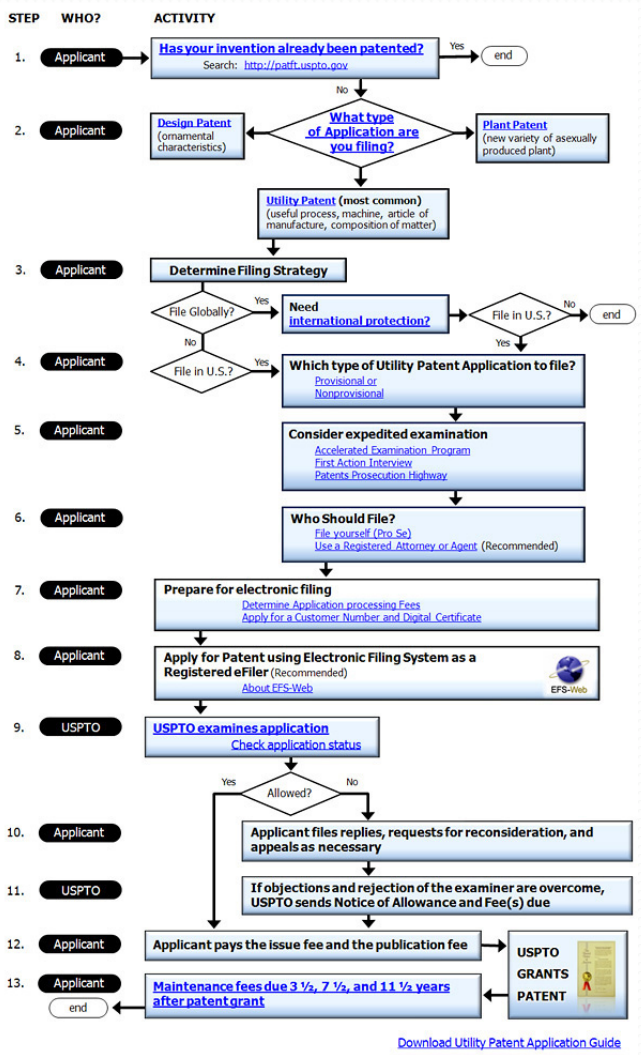
http://www.justice.gov/jmd/irm/lifecycle/images/ch1.gif

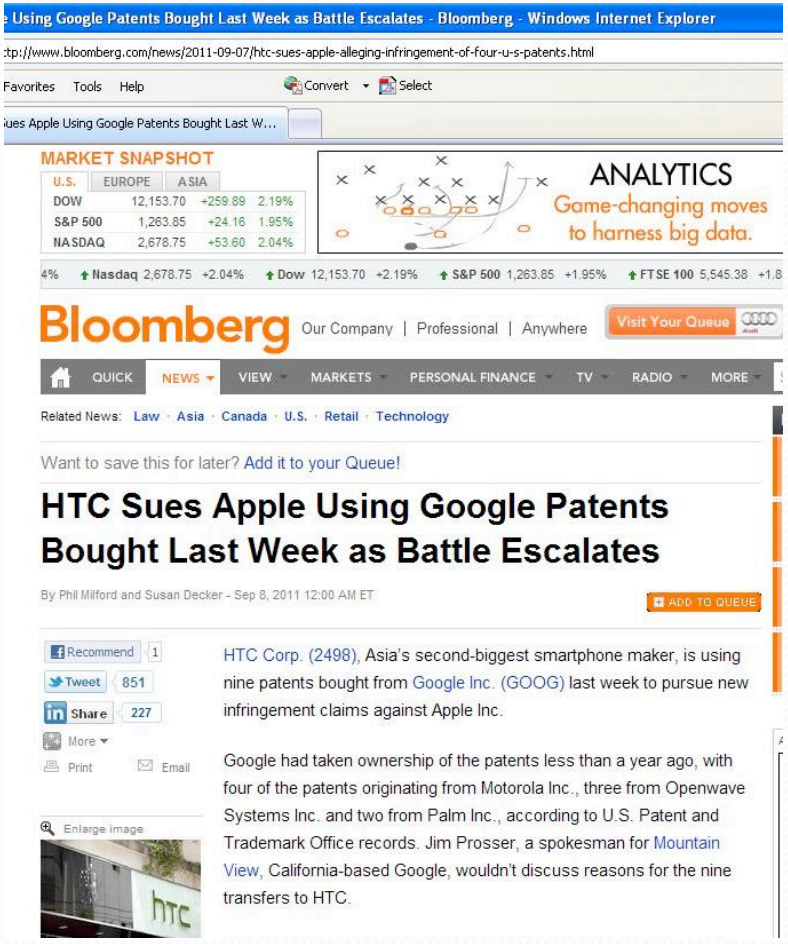
Systems Development Life Cycle (SDLC)
Life-Cycle Phases



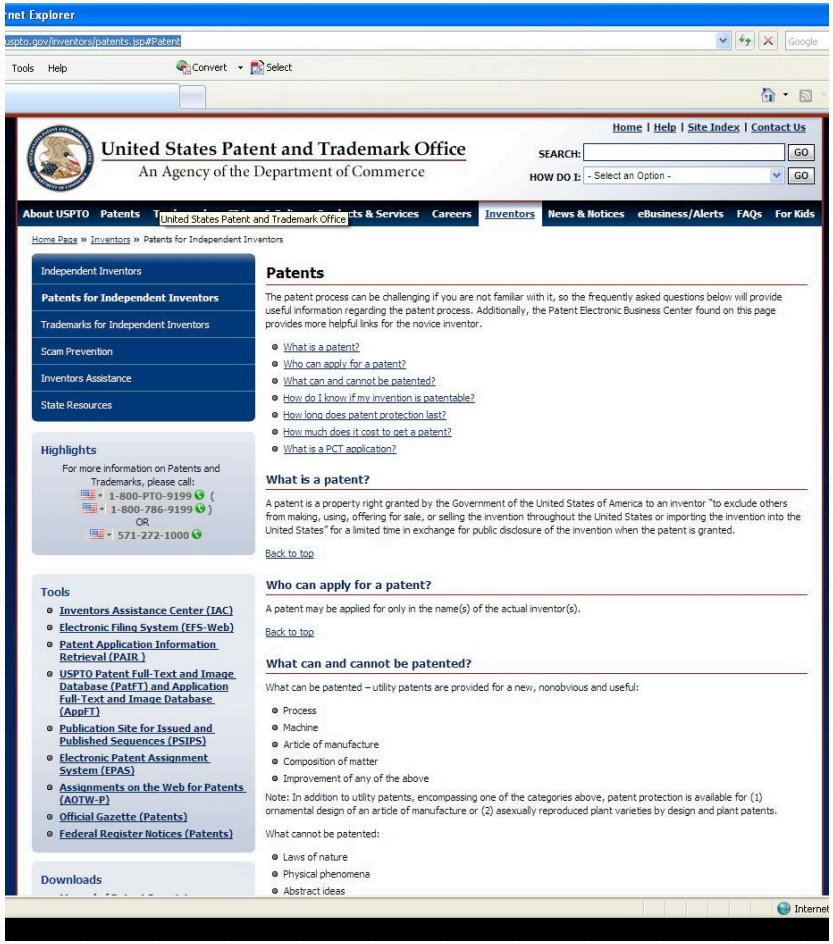
http://www.justice.gov/jmd/irm/lifecycle/images/ch1.gif

Patents, Copyrights & IP

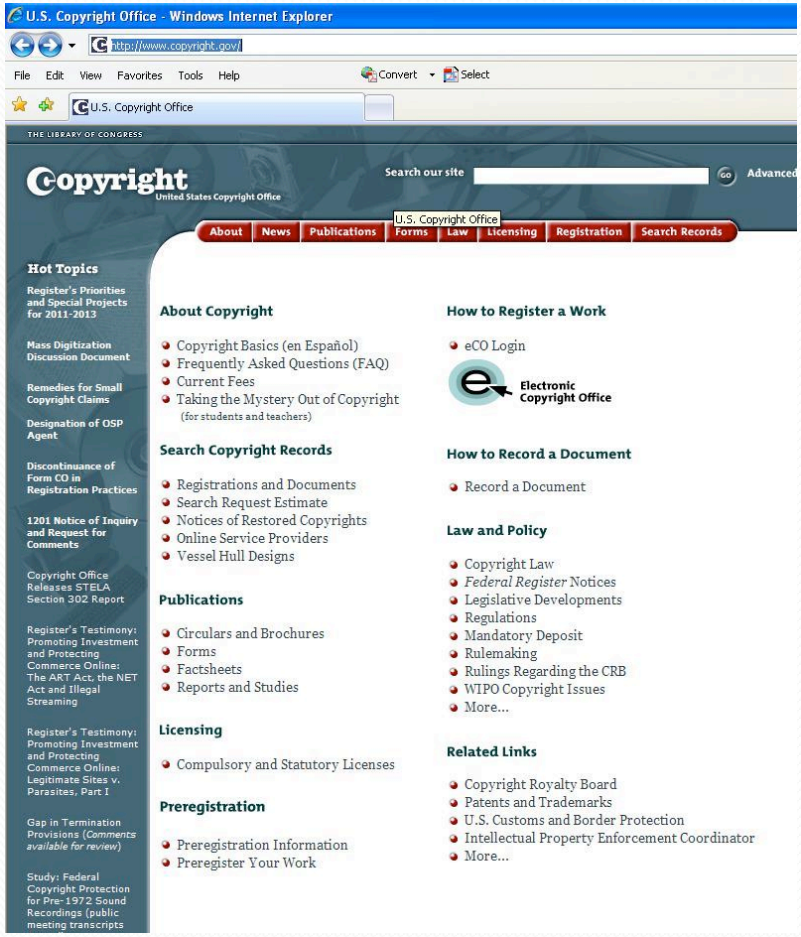




Patents, Copyrights & IP



http://www.uspto.gov



http://www.copyright.gov

Does it Scale?

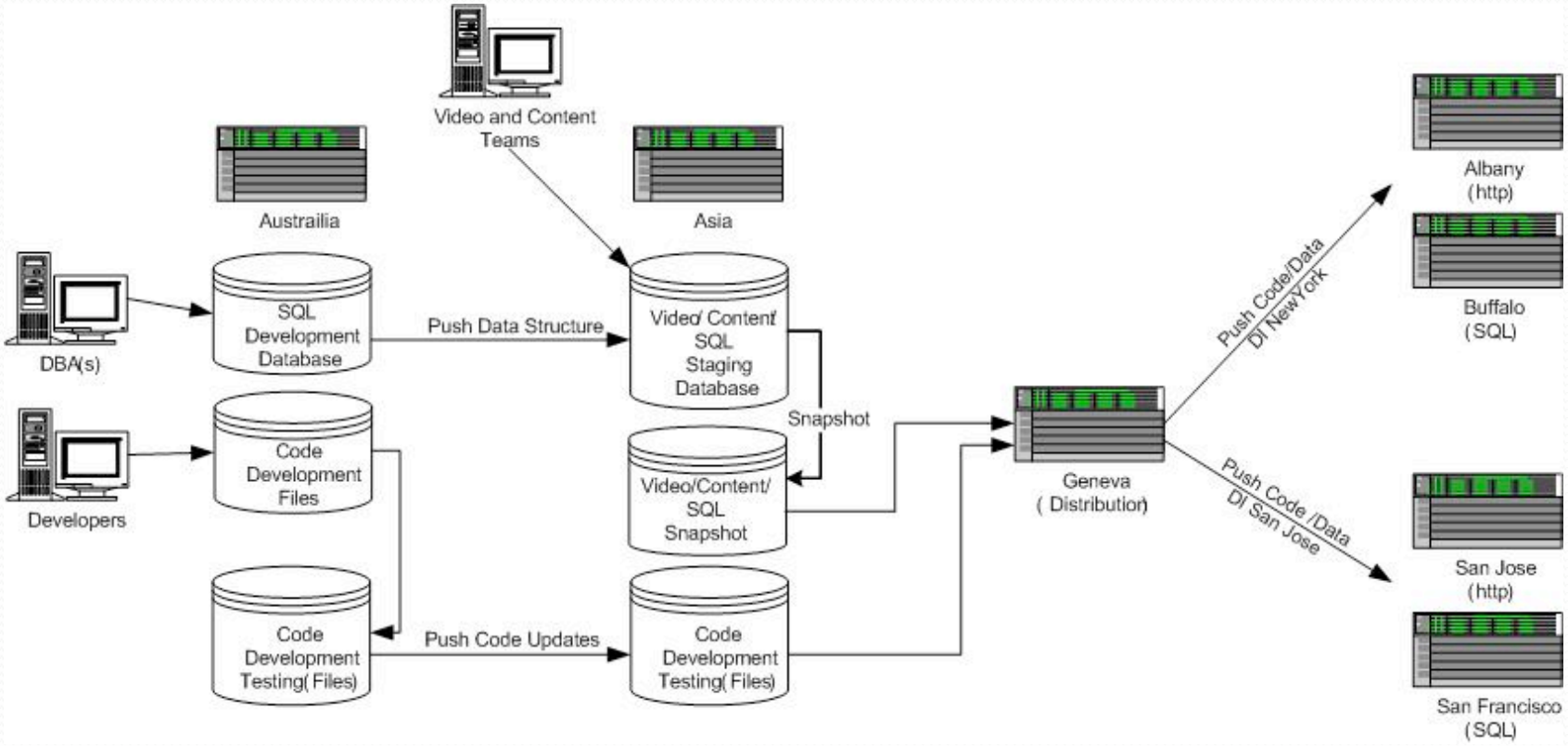
Micro

- Processor capacity
- Memory
- Threads
- Filesize
- Bandwidth

Macro

- Supportability and maintainability
  - Who's taking the calls?
  - Who's fixing it?
- Capacity
  - How many simultaneous users?
  - How many servers?
  - Load balancing
- Availability and Continuity

Testing


Video and Content Teams
Austrailia
Asia
DBA(s)
SQL Development Database
Push Data Structure
Video/ Content/ SQL Staging Database
Snapshot
Developers
Code Development Files
Video/Content/ SQL Snapshot
Code Development Testing(Files)
Push Code Updates
Code Development Testing(Files)
Geneva (Distribution)
Push Code/Data Dl NewYork
Push Code /Data Dl San Jose
Albany (http)
Buffalo (SQL)
San Jose (http)
San Francisco (SQL)

Testing

Functionality (exterior quality)	Engineering (interior quality)	Adaptability (future quality)
Correctness	Efficiency	Flexibility
Reliability	Testability	Reusability
Usability	Documentation	Maintainability
Integrity	Structure	

Table 1. Typical Software Quality Factors [Hetzel88]

[Hetzel88] Hetzel, William C., *The Complete Guide to Software Testing, 2nd ed.* Publication info: Wellesley, Mass. : QED Information Sciences, 1988. ISBN: 0894352423.Physical description: ix, 280 p. : ill ; 24 cm.

http://www.ece.cmu.edu/~koopman/des_s99/sw_testing/

Documenting and Source Code Protection

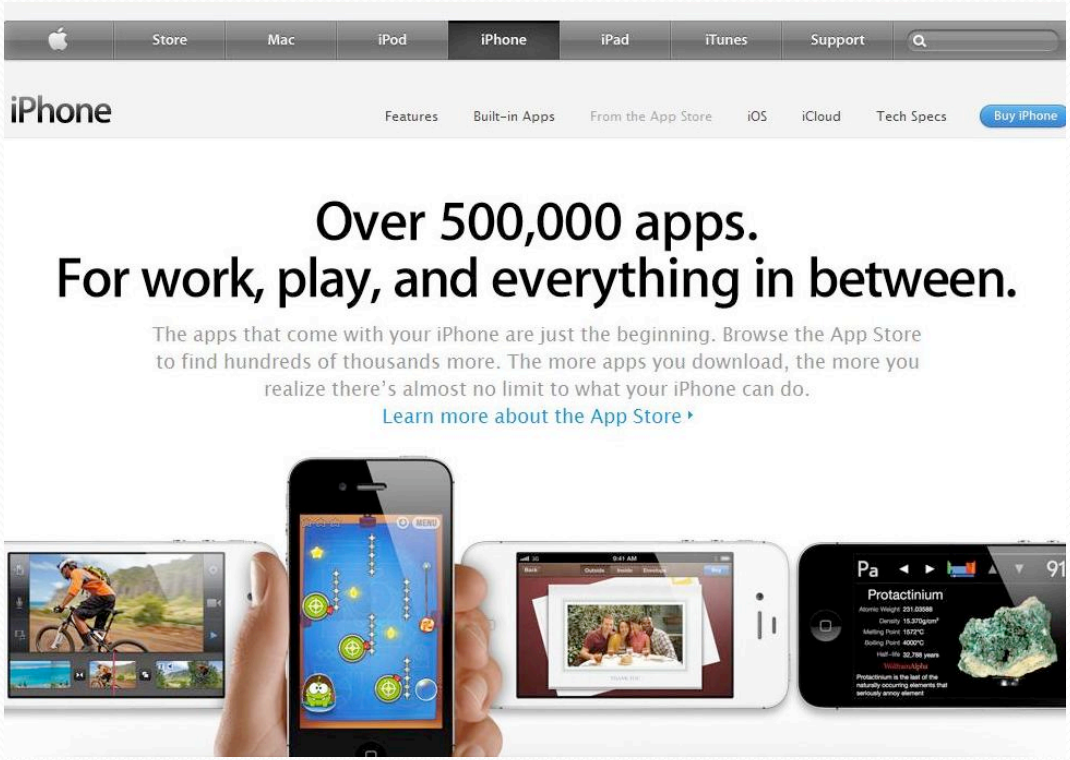
- In the code:
  - Comment, Comment, Comment!
  - Use good coding practices to make it readable
- External:
  - Flowcharts and diagrams
  - Narratives of what's happening
- Open Source Version Control tools:
  - GNU RCS
  - CVS
  - Vesta
- Commercial
  - VSS (MicroSoft)
  - ClearCase (IBM Rational)
  - Vault

Support

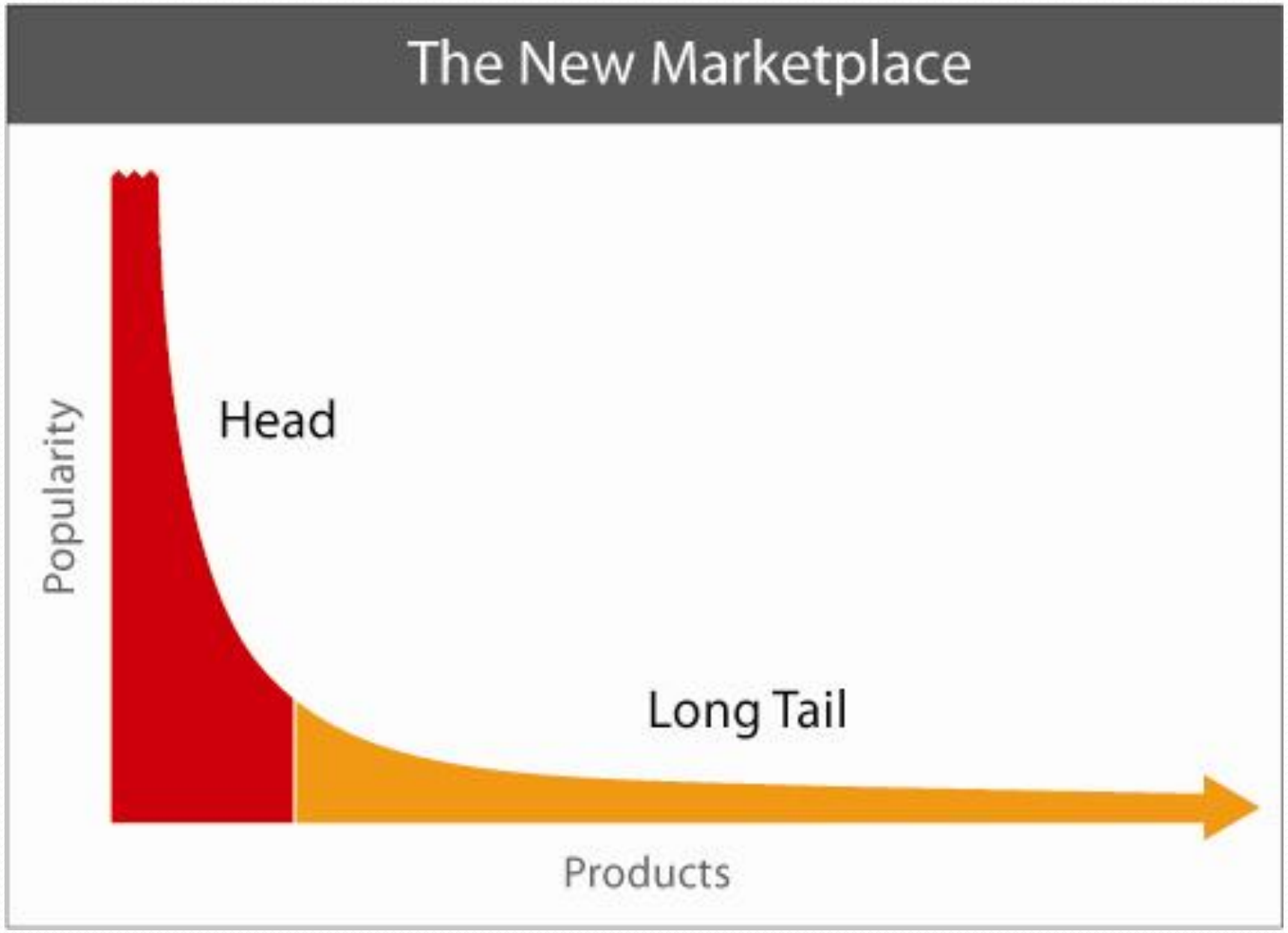
- Who?
- How?
- FAQs
- Known issues
- Error messages
- Diagnostics
- Logging
- Phone home
- Back doors
- Patching
  - OS/browser changes
  - Security

Economics

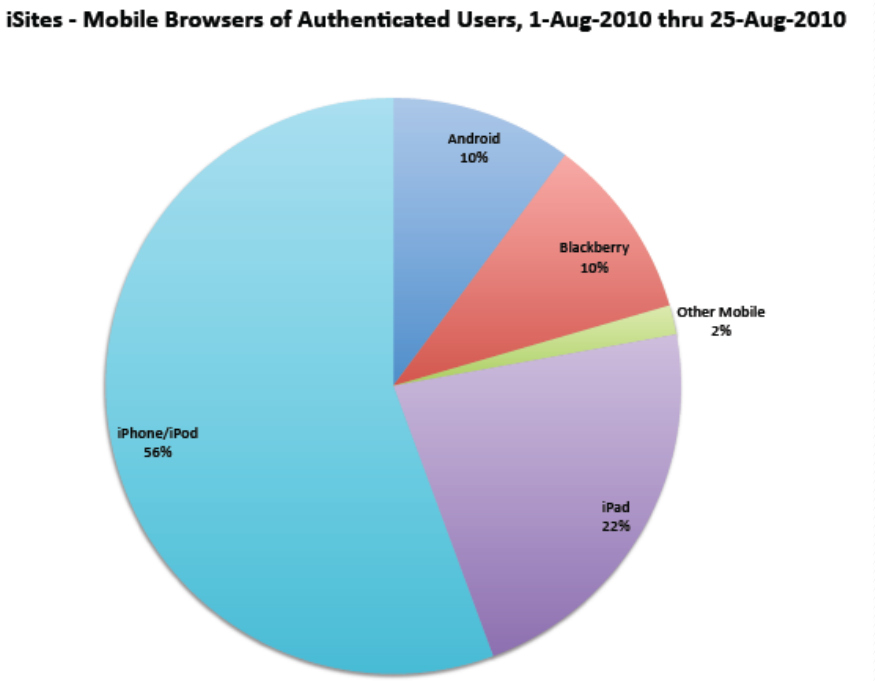
- June 2009: 50,000 iPhone Apps
- Today …

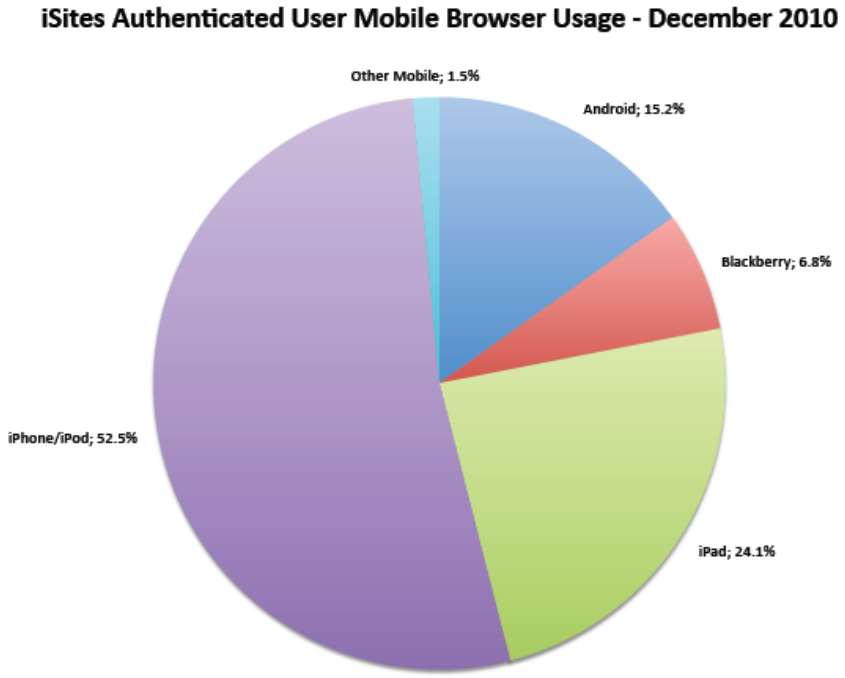


Economics

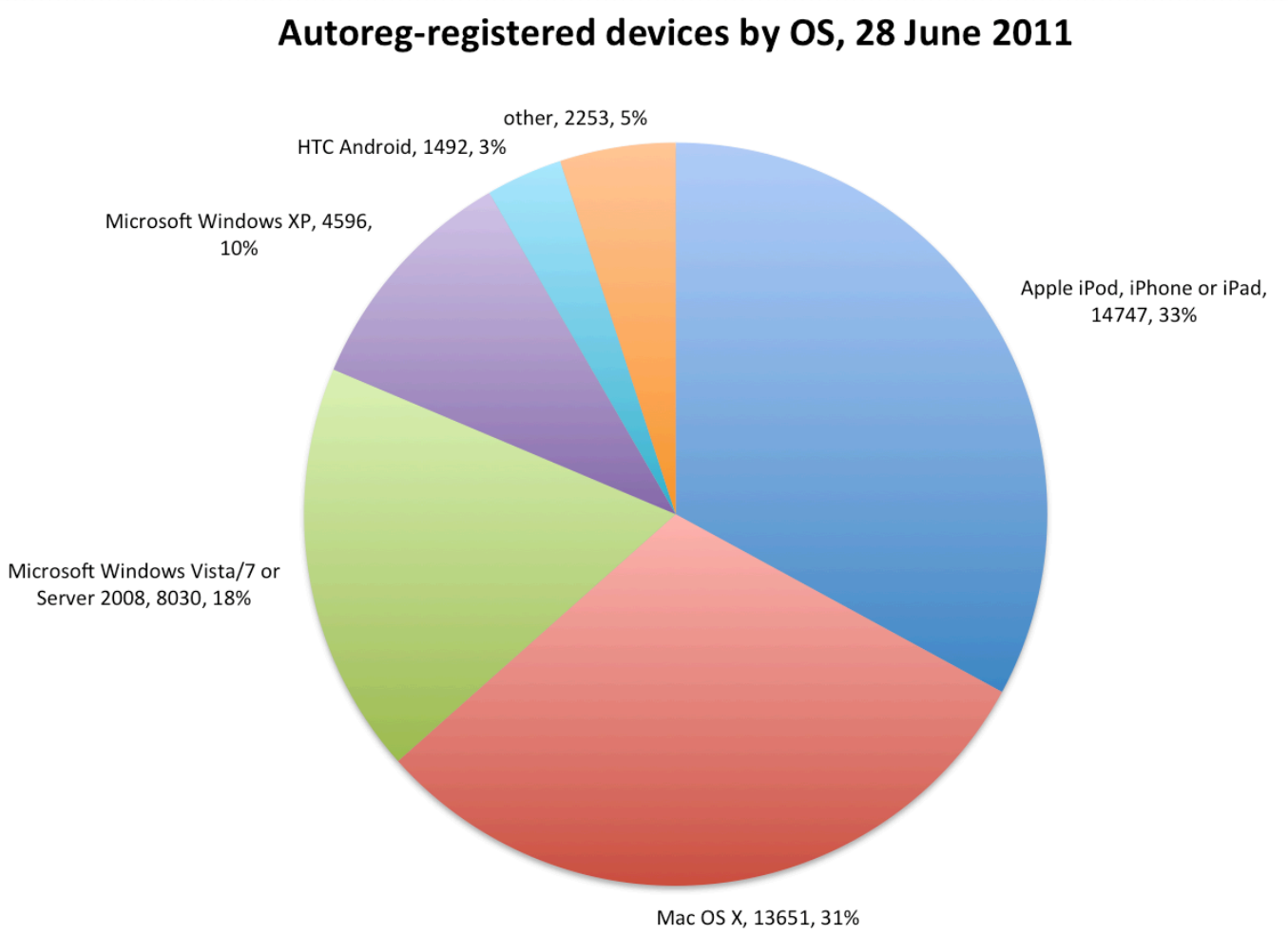


Economics – Market Data

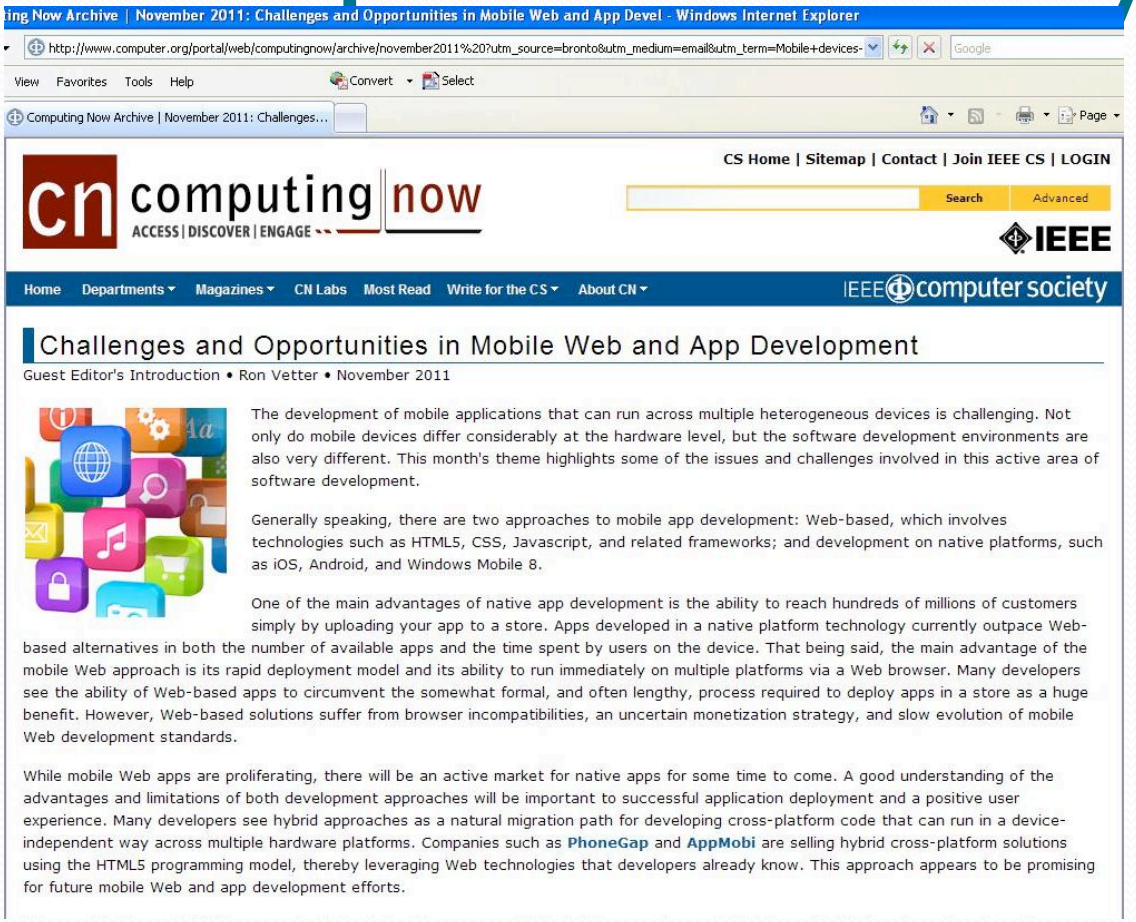




Economics – Market Data



IEEE Computer Society



http://www.computer.org/portal/web/computingnow/archive/november2011%20?utm_source=bronto&utm_medium=email&utm_term=Mobile+devices+differ+at+the+hardware+levelÂ

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WORKING KNOWLEDGE

Why Companies Fail--and How Their Founders Can Bounce Back

Published: March 7, 2011
Author: Carmen Nobel

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The statistics are disheartening no matter how an entrepreneur defines failure. If failure means liquidating all assets, with investors losing most or all the money they put into the company, then the failure rate for start-ups is 30 to 40 percent, according to Shikhar Ghosh, a senior lecturer at Harvard Business School who has held top executive positions at some eight technology-based start-ups. If failure refers to failing to see the projected return on investment, then the failure rate is 70 to 80 percent. And if failure is defined as declaring a projection and then falling short of meeting it, then the failure rate is a whopping 90 to 95 percent.

http://hbswk.hbs.edu/cgi-bin/print/6591.html

s start business, sell for $100 million - Business - Small business - msnbc.com - Windows Internet Explorer
http://www.msnbc.msn.com/id/43841557/ns/business-small_business/t/siblings-sell--year-old-startup-million/
View Favorites Tools Help
Convert Select
Teens start business, sell for $100 million - Business - ...
Home US World Politics Business Sports Entertainment Health Tech
Small business on msnbc.com
Siblings sell 6-year-old startup for $100 million
Digital yearbook site, founded 6 years ago, acquired by social network
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Recommend 144
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Email this to a friend
Share this on Facebook
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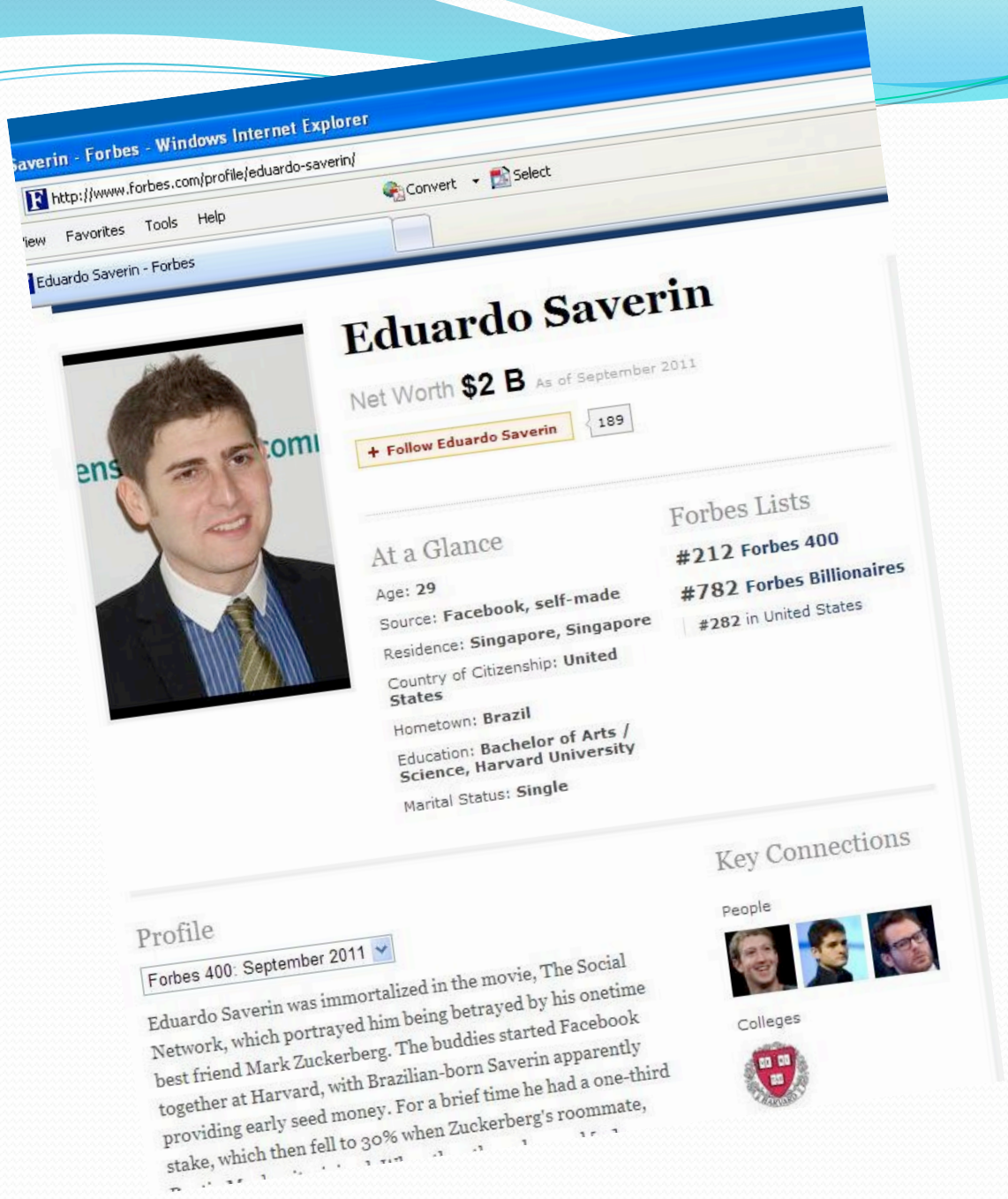
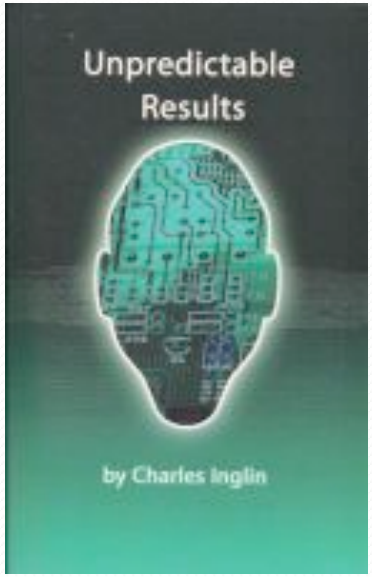

Saverin - Forbes - Windows Internet Explorer
http://www.forbes.com/profile/eduardo-saverin/
Convert
Select
View
Favorites
Tools
Help
Eduardo Saverin - Forbes
Eduardo Saverin
Net Worth $2 B
As of September 2011
+ Follow Eduardo Saverin
189
At a Glance
Age: 29
Source: Facebook, self-made
Residence: Singapore, Singapore
Country of Citizenship: United States
Hometown: Brazil
Education: Bachelor of Arts / Science, Harvard University
Marital Status: Single
Forbes Lists
#212 Forbes 400
#782 Forbes Billionaires
#282 in United States
Key Connections
People
Colleges
Profile
Forbes 400: September 2011
Eduardo Saverin was immortalized in the movie, The Social Network, which portrayed him being betrayed by his onetime best friend Mark Zuckerberg. The buddies started Facebook together at Harvard, with Brazilian-born Saverin apparently providing early seed money. For a brief time he had a one-third stake, which then fell to 30% when Zuckerberg's roommate,

Looking for money …

- Need:
  - Demo
  - Elevator Pitch (200 words or less)
  - Business Plan is helpful
- Where to look:
  - Angel Investors
    - http://blog.jonpierce.com/post/520863618/bostons-best-angel-investors
    - WPI (Worcester Polytechnic Institute) Venture Forum
    - LA Venture Association (www.lava.org)
    - Some law firms

- Unpredictable Results
  - Pentium long division
- Unintended Consequences
  - Trapster
- Disasters
  - 1987 Wall Street Crash



Discussion?

Thank you!

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