Managing Cloud Software in the Real World

Highlights

- **David Taber**

- **Charles Darwin**

- **Fred Brooks**

- **Steve Jobs**

- **You**

Who is David Taber?

- **35 years in H...**
  - ➤ Virtually a... ...re and systems

- **Lectu...** ...**Graduate Biz Sch...**

- **CEO of a C... ...ent Consultancy**
  - ➤ Implemente... ...orce.com systems

Salesforce.com
Secrets of Success

Best Practices for Growth and Profitability

David Taber

No Really: Who is Dave Taber?

- **Undergraduate: Cowell College**
  - Medieval history and economics

- **Graduate: Haas B-school @ Berkeley**
  - Marketing and finance

- **Technology: all self-taught/OJT**
  - Analog electronics — 1960's and 70's
  - Digital electronics — 1980's
  - Software industry — 1990's
  - Coding — 1980's and 2000's

- **Managing Technology: vendors**
  - Project management — SRI
  - Product Team management — Sun Micro
  - Consulting management — SRI and SalesLogistix

What's this MOT Thing, Really?
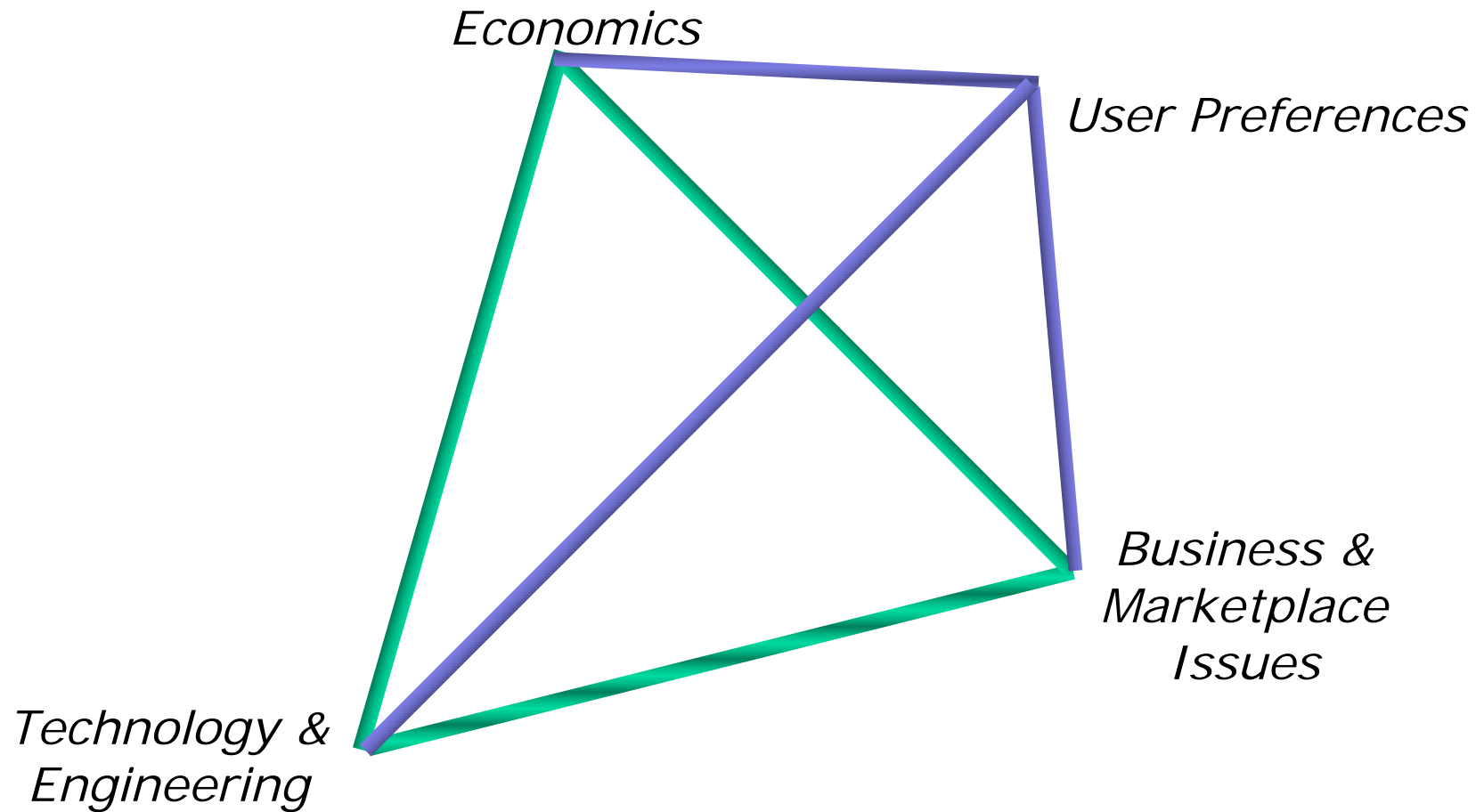
Haiku #1

*It's not the fittest
That survives, instead it's the
Most adaptable*

Some Stuff You Learned will Become Wrong

- ## Look at ancient history of what used to be taught to CS majors
  - ➢ CPU time is $150/hr
  - ➢ Disk access time averages 10 ms
  - ➢ Tape access time averages 10 seconds
  - ➢ "Nobody would ever need more than 640 k of RAM"

- ## Listen to what IBM forecasted
  - ➢ 1952: Total demand for computers is about 5
  - ➢ 1982: The annual demand for PCs is about 10,000

Cost Curves Since I Graduated

Security Breaches

Comm. $ / MB

Hardware

New SW

Power & HVAC

Time

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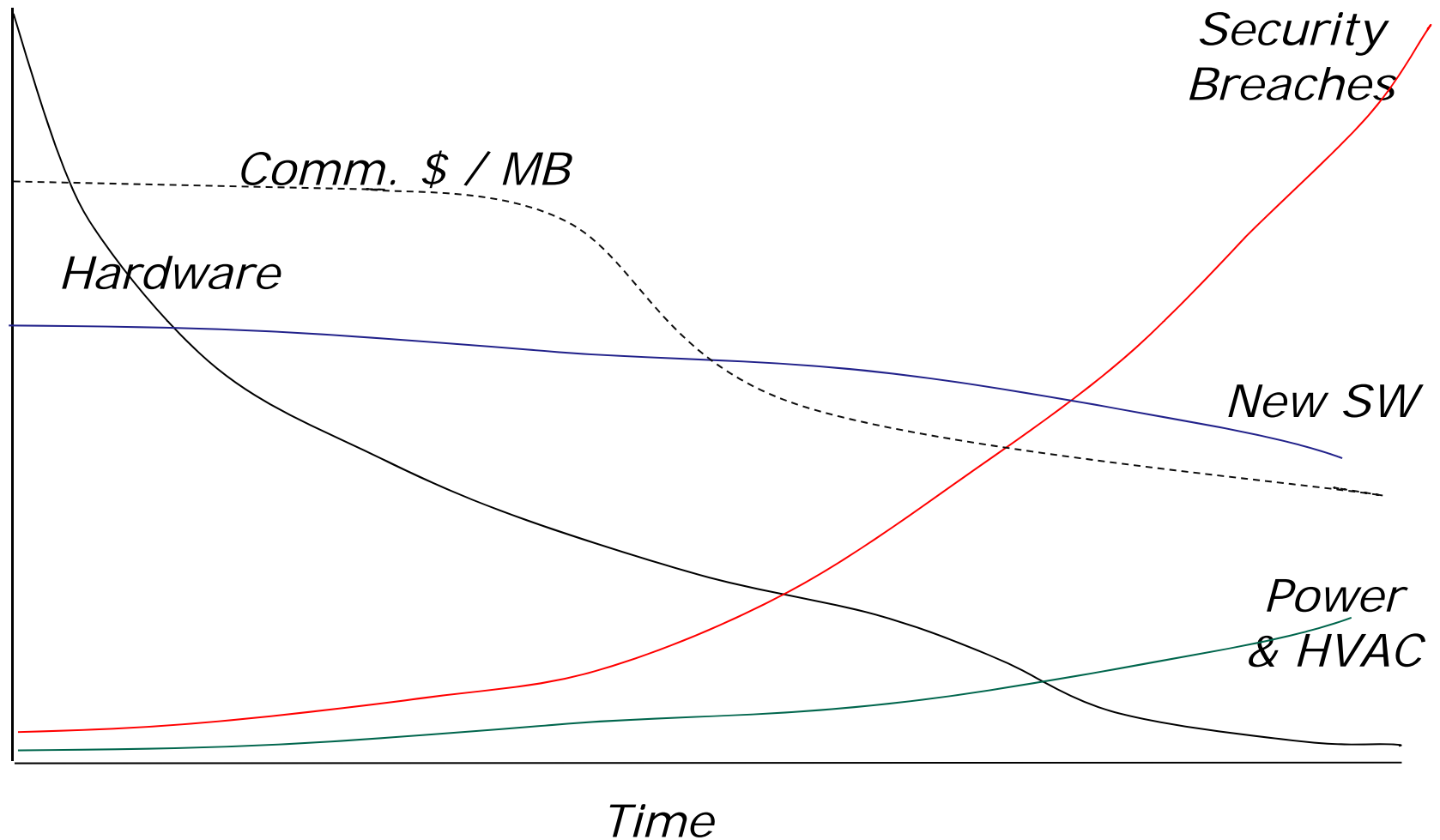
So, Much of IT Was Optimized Wrong

- **Developers would do anything to shave memory usage**
  - Remember Y2K?

- **Entire product categories were created to solve non-problems**
  - Hierarchical storage managers, virtual disks, software accelerators…

- **Financial types charged for the wrong things**
  - Chargebacks and allocations are silent killers of creativity
  - Economics must *not* be the dismal science

- **False optimization lead to crummy products and services**
  - Learn from the way TI and GOOG price things
  - Volume *really* matters (it trumps *every other advantage*)
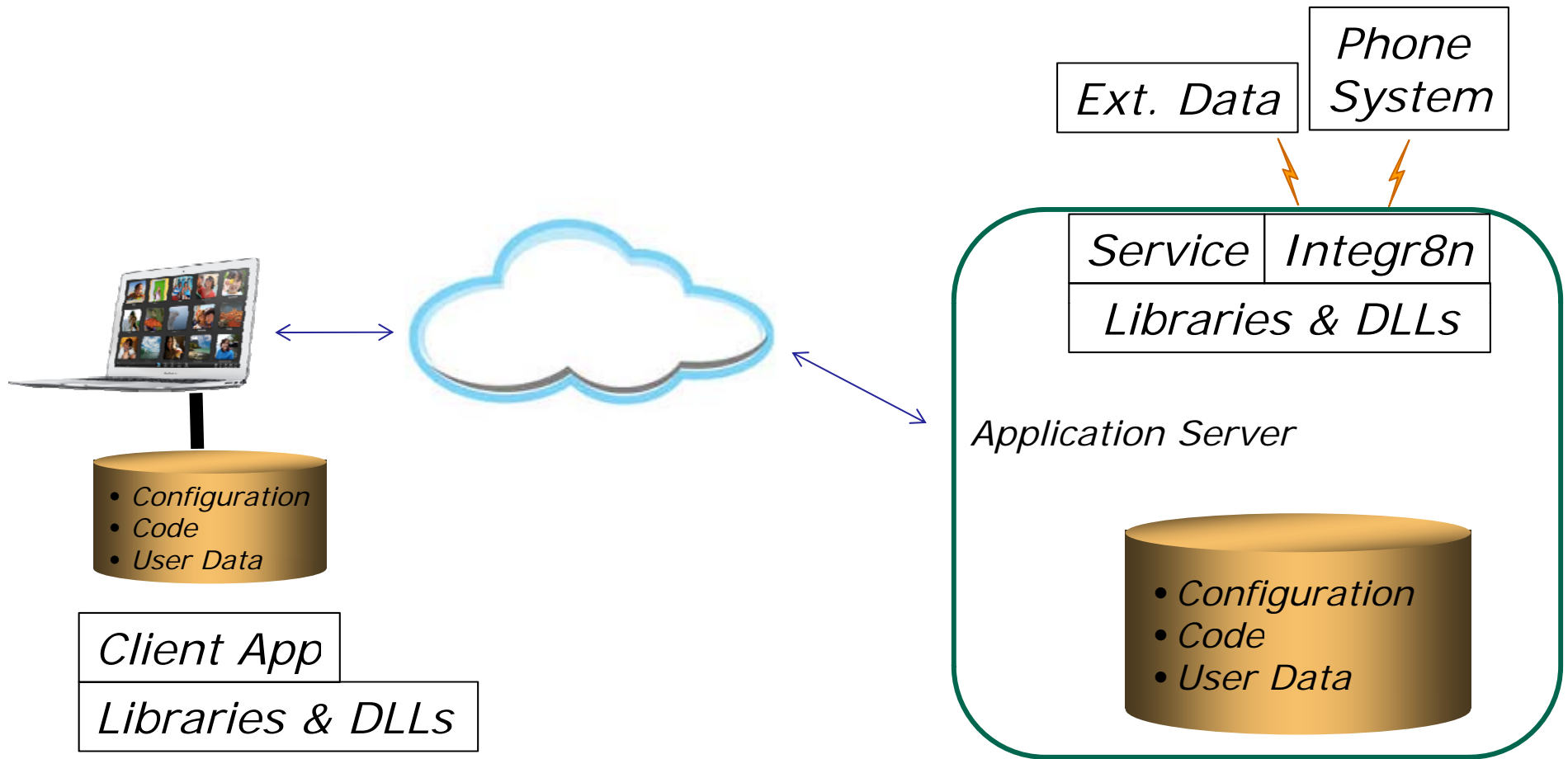
It's Hard to Acknowledge Big Changes

- **In your company's own field, everyone will over-focus on the short term**
  - ➤ Competitive minutiae dominate today's sales
  - ➤ Bonuses shape behavior…then thinking…then values…

- **But it won't be so hard to see big shifts coming in related fields**
  - ➤ "Everybody knows the price of X will go to zero"

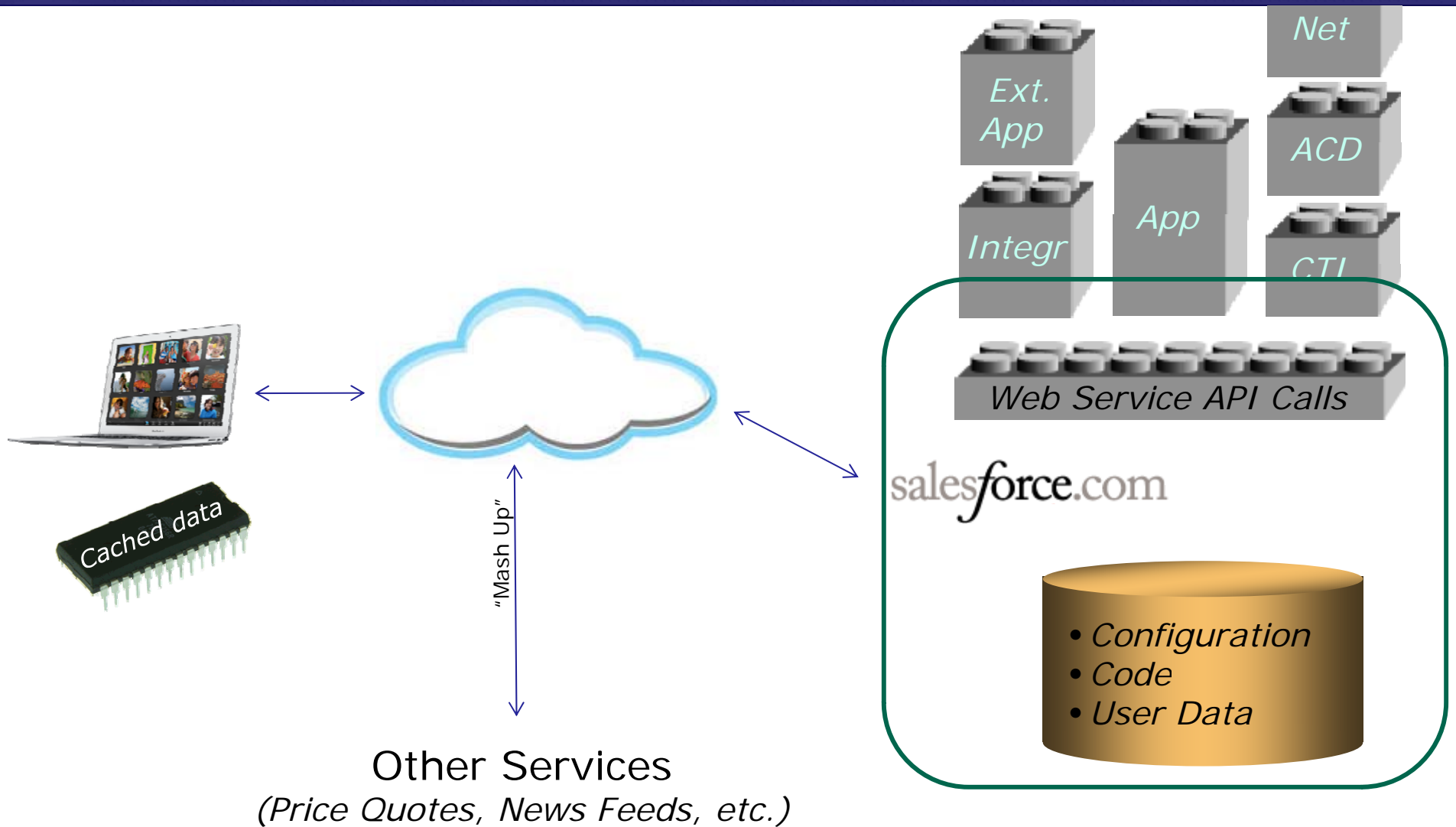- **Single most important book in this area:** *The Innovator's Dilemma*

Axioms Up-Ended by the Cloud

- "The smallest, tightest code is best"

- "Software must be built to last"

- "Proprietary beats standards"

- "Specialty beats commodity"

- "Time to Market is Everything"

- "The Best Technology Wins"

Classic Client-Server Applications

Phone System

Ext. Data

Service | Integr8n

Libraries & DLLs

Application Server

- Configuration
- Code
- User Data

- Configuration
- Code
- User Data

Client App

Libraries & DLLs

SFDC and AppExchange Features

Net

Ext. App

ACD

Integr

App

CTI

Web Service API Calls

salesforce.com

"Mash Up"

Cached data

- Configuration
- Code
- User Data

Other Services
(Price Quotes, News Feeds, etc.)

Cloud Best Practices: Release Strategy

- **Focus on a *few* browser versions**
  - ➤ No plug-ins

- **Have exactly four mobile versions**
  - ➤ iOS and Android, supporting only latest major releases

- ***Occasional* full releases**
  - ➤ "Everyone gets it" – no laggards
  - ➤ Emergency patches every few days to some nodes

- **Avoid "big-bang" feature releases**
  - ➤ Lower risk of over-investing & user fatigue

Cloud Best Practices: Deployment

- **Really thorough system-level testing**
  - ➢ Use all your customers' code as test cases
  - ➢ Use all your customers' data as test vectors
  - ➢ Deploy entire stack – use VMs to push to "bare metal"
  - ➢ Roll-backs = heads roll

- **Multi-Tenant is Great for SaaS vendors**
  - ➢ Debatable for the SaaS user

Darwin Says: Practice Brain Yoga

- Keep track of cost curves
- Watch for break-aways
- Develop diversity of *thought patterns*
- Keep learning

the
**mythical
man-month**

Essays on Software Engineering

Frederick P. Brooks, Jr.
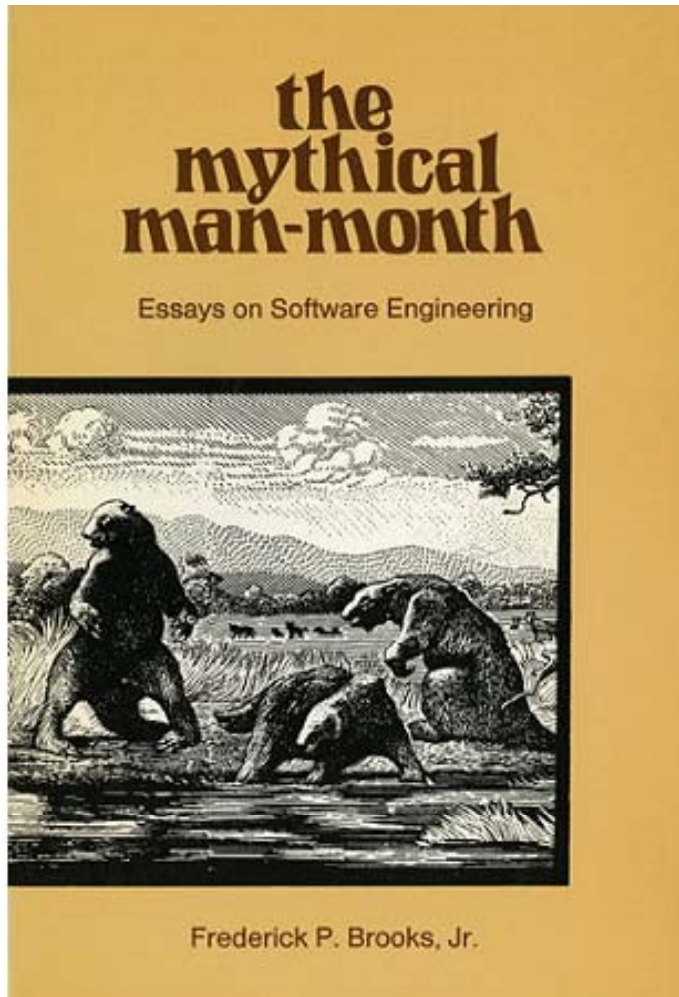
Waterfall versus
Agile: still you must manage
*time, cost, and people*

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Code Mortality Rates

- **Getting better, but…**
  - ➤ ½ the software you write will be thrown away
- **Most big software projects are failures**
  - ➤ Don't achieve goals / are cancelled
  - ➤ Run over budget (~50%)
  - ➤ Are late
- **Most software products are barely profitable**
  - ➤ Amazing considering 90% gross margin…
- **Agile is the only practical medicine**

Cool resource: Standish Group's CHAOS Reports
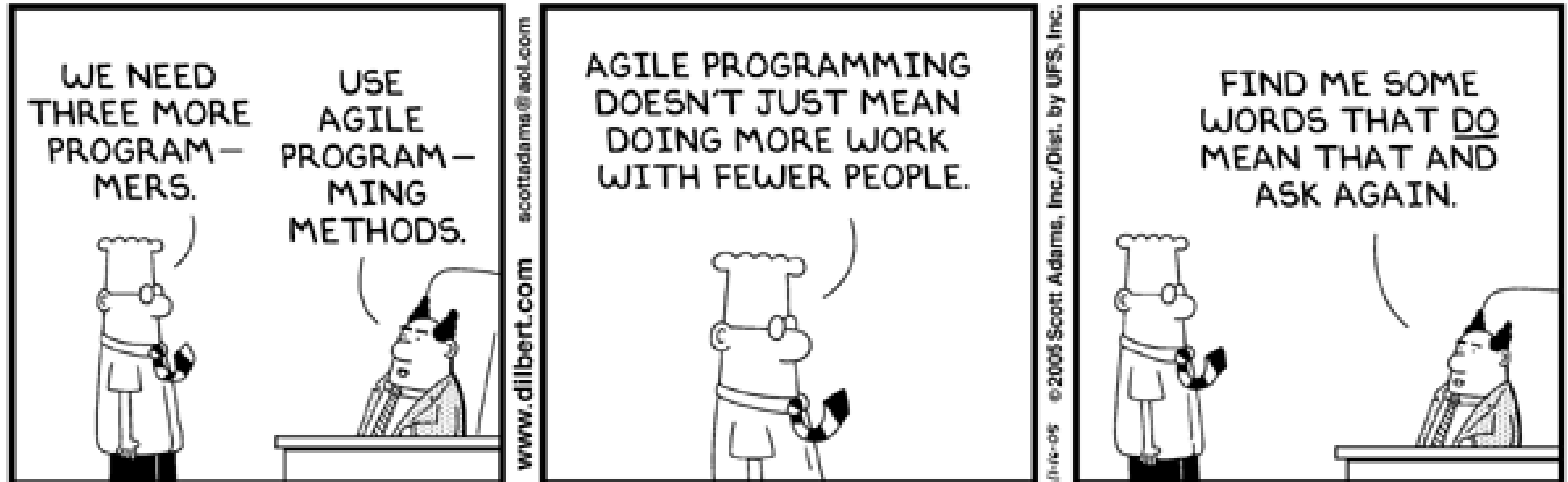
Are UCD and Iterative Dev Debatable?

- **Good news: the web changes everything**
  - Bye-bye Focus Groups
    - ❖ Hello Usability Labs
    - ❖ Hello Product Internal Click-Paths
  - Good riddance long product cycles
    - ❖ Hello Continuous Integration

- **UCD & Agile are still very controversial**
  - "Infrastructure and practices cost too much"
  - "Too risky – can't tell where we are"
  - "Say what you want: it'll be fixed price, fixed spec"

Making UCD & Agile Work

- **Constantly, actively manage expectations**
  - Users
  - Managers / budget holders
  - Best practice: "The Boss demos" in every sprint

- **Recruit the CFO**
  - Forget about the bean counters
  - Get to the person who thinks of cost *functions*
  - Persuade him/her that Agile = Cost Avoidance
    - Skips the things that don't matter to the business
    - Lowers cost of bugs
    - Improves business continuity

Making Agile Work

- **Almost never "pure Agile"**
  - ➤ Teams not trusted enough to really be self-determining
- **Go light on "management tools"**
  - ➤ Spreadsheets and simple timelines
  - ➤ Jira and "card walls"
- **Be serious about dev infrastructure**
  - ➤ Code repository
  - ➤ Collaborative dev
  - ➤ Continuous integration – "full test" nightly
  - ➤ Test code, test vectors, and VM stacks
  - ➤ Wall of Shame or Lava Lamps

The Four Mortal Enemies of Agile

- **Distance**

- **Delay**

- **Dithering**

- **Doubt**

The Hard Part: Agile Culture

- ## Executives
  - ➤ "Users be damned: I want my bright shiny object"
  - ➤ "Incrementalism is for wimps"
  - ➤ "I need a Big Bang—let's just get 'er done"
 - ➤ "You're just trying to avoid accountability"

- ## Users / Team Members
  - ➤ Agile requires high IQ, high engagement
  - ➤ Agile means thinking outside the box about risk
  - ➤ Agile feels weird

Managing Agile Take-Aways

- **Developers Love Agile**

- **It really does make for better software**

- **Most managers will be uncomfortable**
  - ➤ Don't believe it in the first place
  - ➤ Are frustrated by lack of visibility / "control"
  - ➤ Education by example is the answer
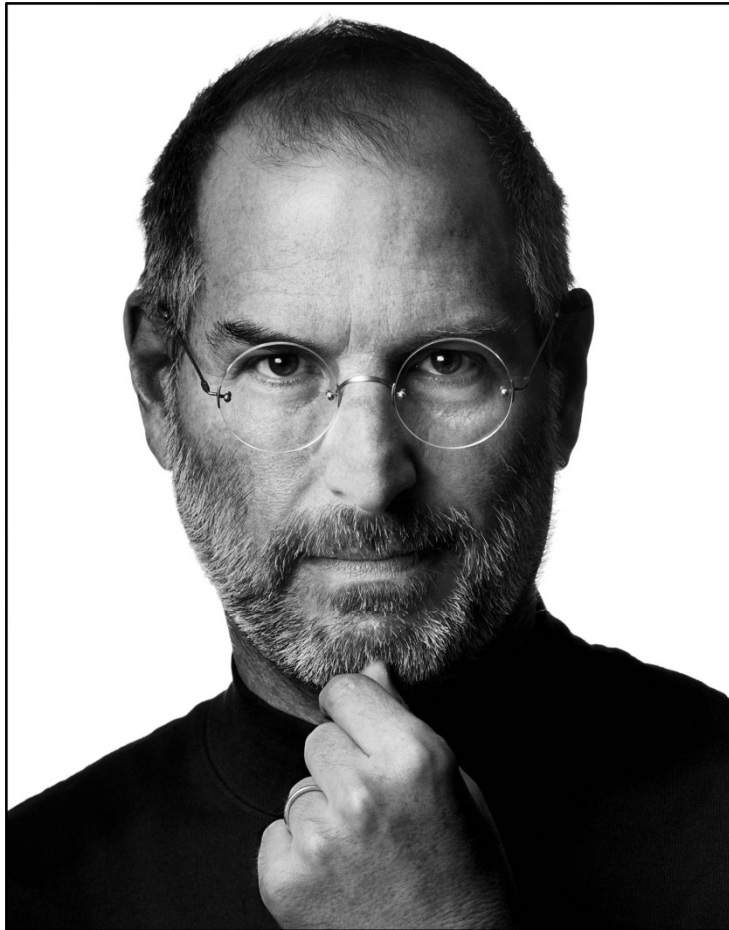
Just a string of roles?

Why not a bunch of mistakes

With a great mission?

The Magic of Timing

- **When to interview**

- **When to be in a company**

Haiku #3.5

Where you choose to work

Can be more important than

What You're working on

The Software World...

	IT Dept	Integrator/consultant	ISV/SaaS app	ISV/SaaS Infr	Open Source	Independent
Team Size	2-99	2-99	10-299	10-499	2-20	2-9
Typ. Code Base (Mloc)	1-20	10-99	1-9	5-99	1-5	<1
Design Life (yrs)	5	5	3-10	>10	3-5	3-5
Cost Sensitivity	M	M-H	L-M	L	N/A	H
Political Savvy	M	H	L-M	L-M	L	L
$$$/yr	L	M-H	H	H	N/A	?
Average IQ	L-M	M	M-H	H	H	M-H

VCs: Money is Rocket Fuel

- **The phrase "product launch" was invented during the space race**

- **VCs like quick hits, crash programs**

- **To fit, your business vehicle must *need* rocket fuel**
  - Nobody funds a bus

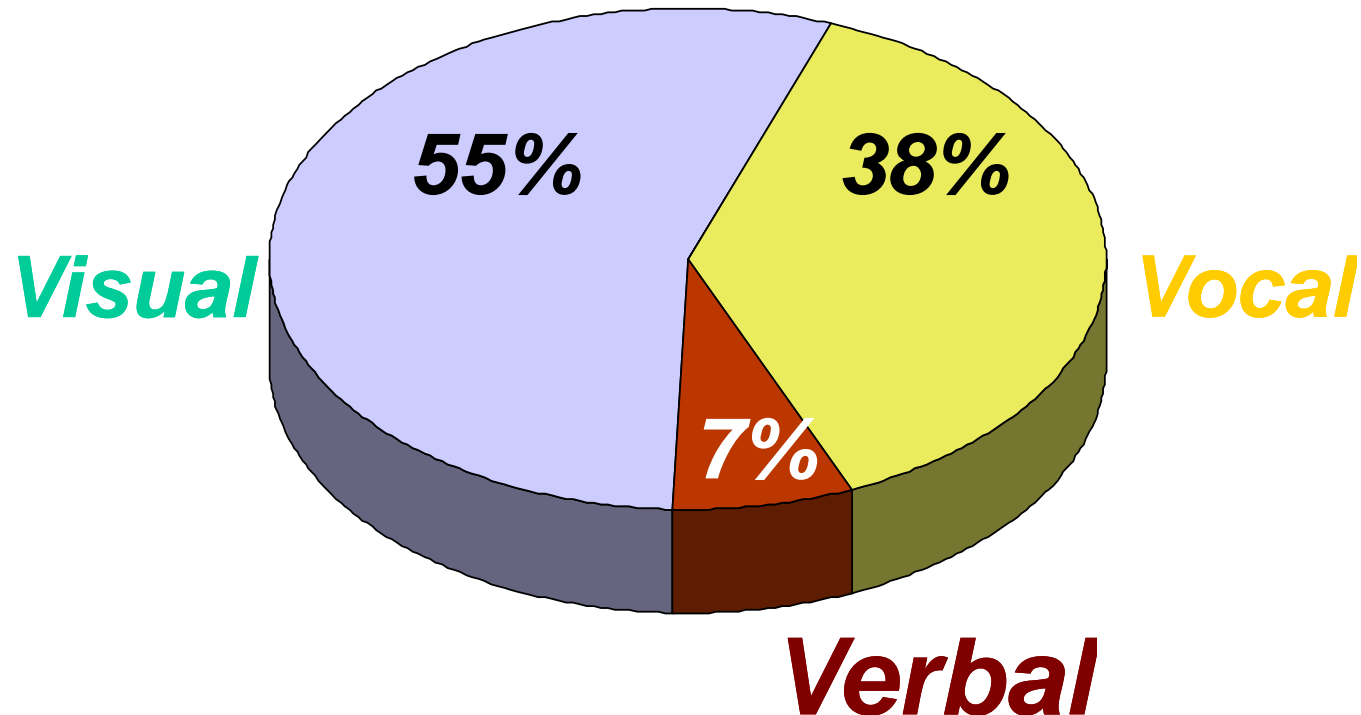# Understand Your Project's Economics
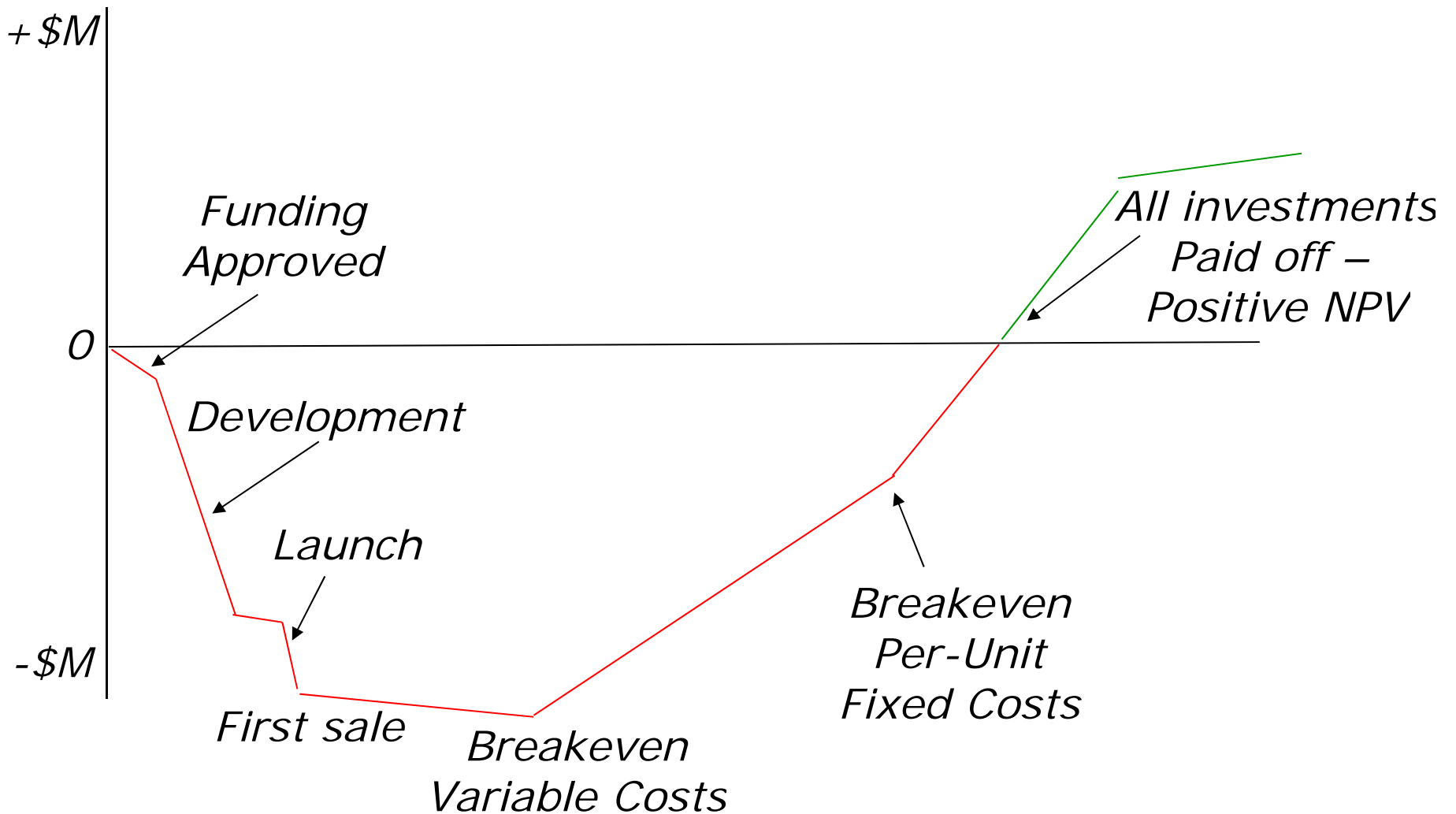
Haiku #3.75

It's not enough just
to *be* correct—others must
believe that you are

Presentations ←→ Presenters

People are hard-wired to draw much more *meaning* from <u>people</u> than from the information that people <u>present</u>.

55% **38%** **7%**

Visual *Vocal* **Verbal**

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The Hard Facts

- **If you're lucky, *someone* in the audience will understand 80% of what you say**
  - At the time…

- **If you're lucky, they'll remember 25% of *that* the next day**

- **So make sure that the 20% they remember (and act upon) is your most important message**
  - **Ruthlessly prioritize** – identify the ONE thing you want them to remember
  - **Hierarchy of points** – *all* reinforce your message
  - **Repetition is required** – same point three ways

"The key to effective communication:
 make it simple,

                         concrete,

                                   and surprising.

Go through your PowerPoint deck and
strike out *every single abstraction*."

Chip Heath, Stanford Professor of Organizational Behavior

A Personal Anecdote
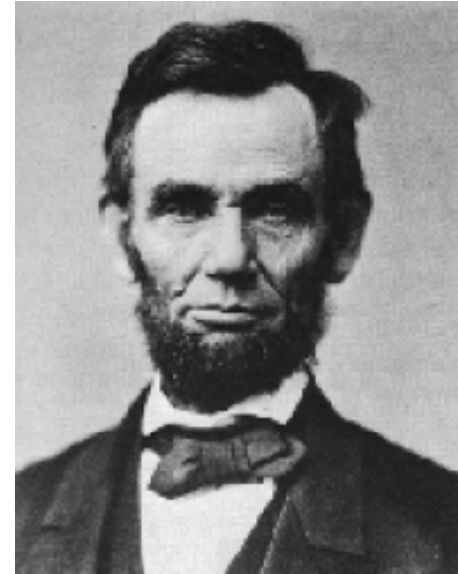
~13,500 words   *~275 words*

**~2.5 hours**   *~2.5 minutes*

November 19, 1863
Gettysburg, PA

Un-Learn Academic Style

- **Persuasion + Influence Trump Truth**
  - ➢ "Facts are boring things"
  - ➢ Assumptions, beliefs, and values are tough to shatter

- **Powerful Words. Short Sentences.**
  - ➢ Business people generally don't read
  - ➢ Your audience may not be as well educated as you

- **The Mind is a Serial Device**
  - ➢ You must grab attention in the first 100 seconds
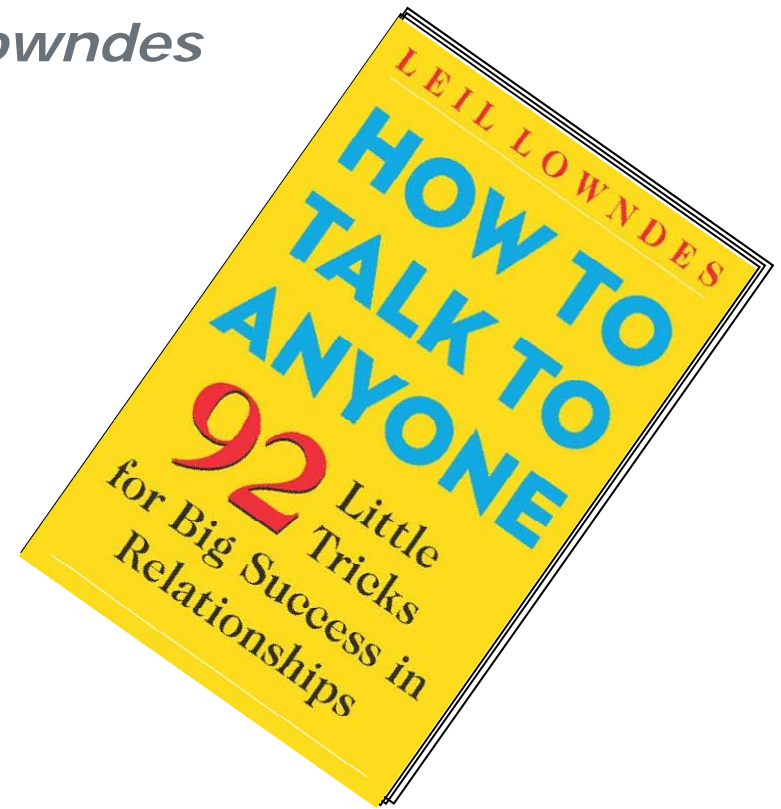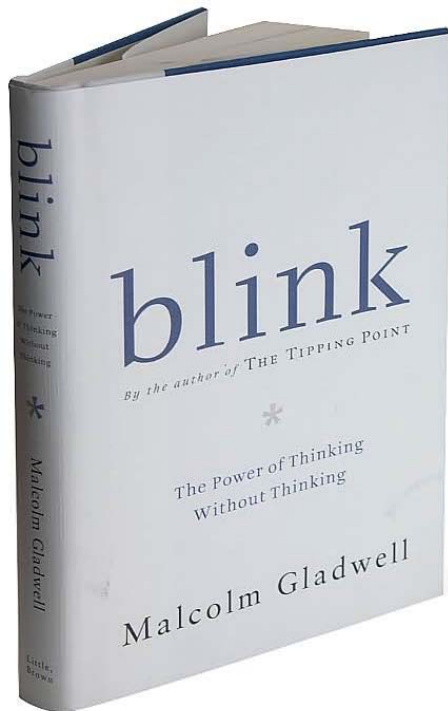 - ➢ Who gave you permission to bore the audience?
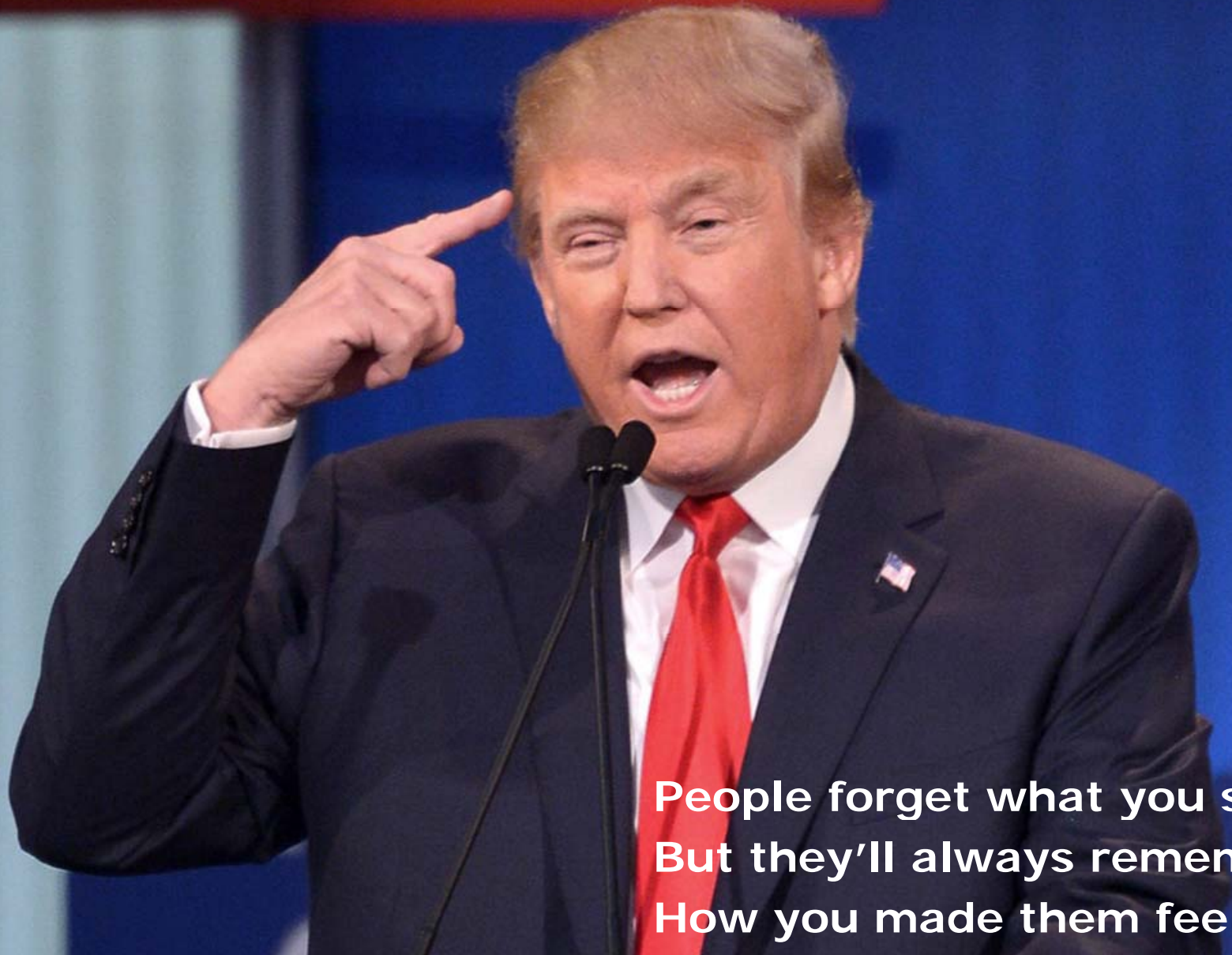
Uh-oh...

- "You have only 10 seconds to show you're a Somebody."

  — Leil Lowndes

The Power of Story Telling

Linear •	• *Creative*
Structure •	• *Brainstorm*
Analysis •	• *Impression*
Sequence •	• *Excitement*
Ranking •	• *Relationships*
Units •	• *Clusters*
Lines of Logic •	• *Arcs of Energy*

Left Brain ⟵⟶ **Right Brain**

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Why Not Take In a Film...

Great "power actors"

Brando – Pacino – Gandolfini – Crowe – Hamm – Spacey

Powerful People

- **Carry themselves well**
- **Don't physically do much or handle things**
  - ➤ Avoid details, technicalities
- **Do not move quickly or repetitively**
  - ➤ Intent, but never hurried
- **Exude control**
  - ➤ Fewer words than subordinates
  - ➤ No explanations
- **Are very effective time managers**
  - ➤ Big picture

Impressions Matter

Nixon Wins 1960 Presidential Campaign Debate?

- ➢ 80% of *newspaper readers*
- ➢ 60% of the *radio audience*
- ➢ 40% of the *TV audience*

Know Thyself

- **Audiences respond favorably to:**
  - Height (BUT…)
  - Age
  - Looks
  - Grooming*
  - Dress*
  - Poise*
  - Vocal pitch*
  - Posture and elegance of movement*
  - Eye control*
  - Vocal power and pace*
  - Intelligence / Wit*
  - Rhetoric*
  - Beautiful diction*
  - English accent
  - Executive Presence / Gravitas*
- **Ask women for counsel on these**

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Do at least one of these each year

- Acting class
- Singing
- Dance
- Exercise
- Martial arts or yoga
- Alexander technique
- Debating team
- Personal coach
- Record yourself speaking
- **Video yourself**

Visual Control

Eyes

*Steady eye contact, **not** sweeping U/D/L/R. Blink s-l-o-w-l-y!*

Features

Animated, yet relaxed.

Head

Jaw relaxed, neck centered; nod occasionally.

Hands& Arms

At sides, not body-wrapped; gesture; minimize repetitive movements.

Stance

*Straight and balanced. **Do not pace or shift!***

Vocal Control

Volume   *Dynamic, projecting*

Pitch   *Deep, resonant*

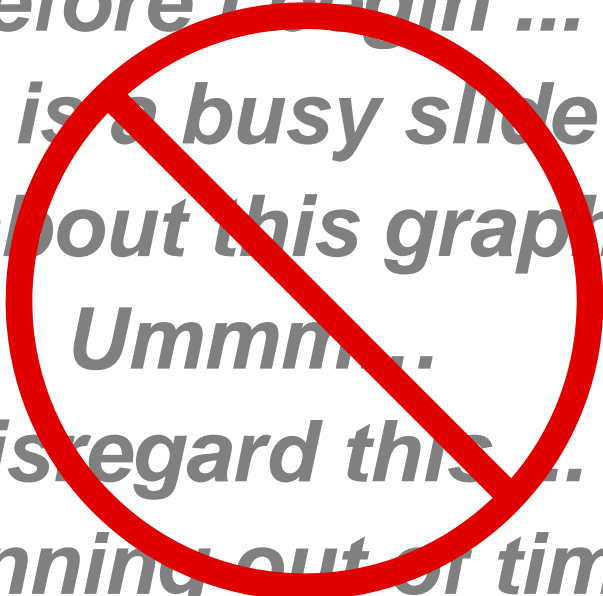**Inflection**   *Expressive, pitch changes on key words*

Tempo   *Intent but not hurried*

Pattern   *Vary by topic – use silence*

***Un*words**   *Keep word count down!*

Silence is Powerful

The right word may be effective,
but no word was ever as effective
as a rightly-timed pause.

- Mark Twain

Thank you for your time!

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http://saleslogistix.com/company/press.html

Salesforce Instances
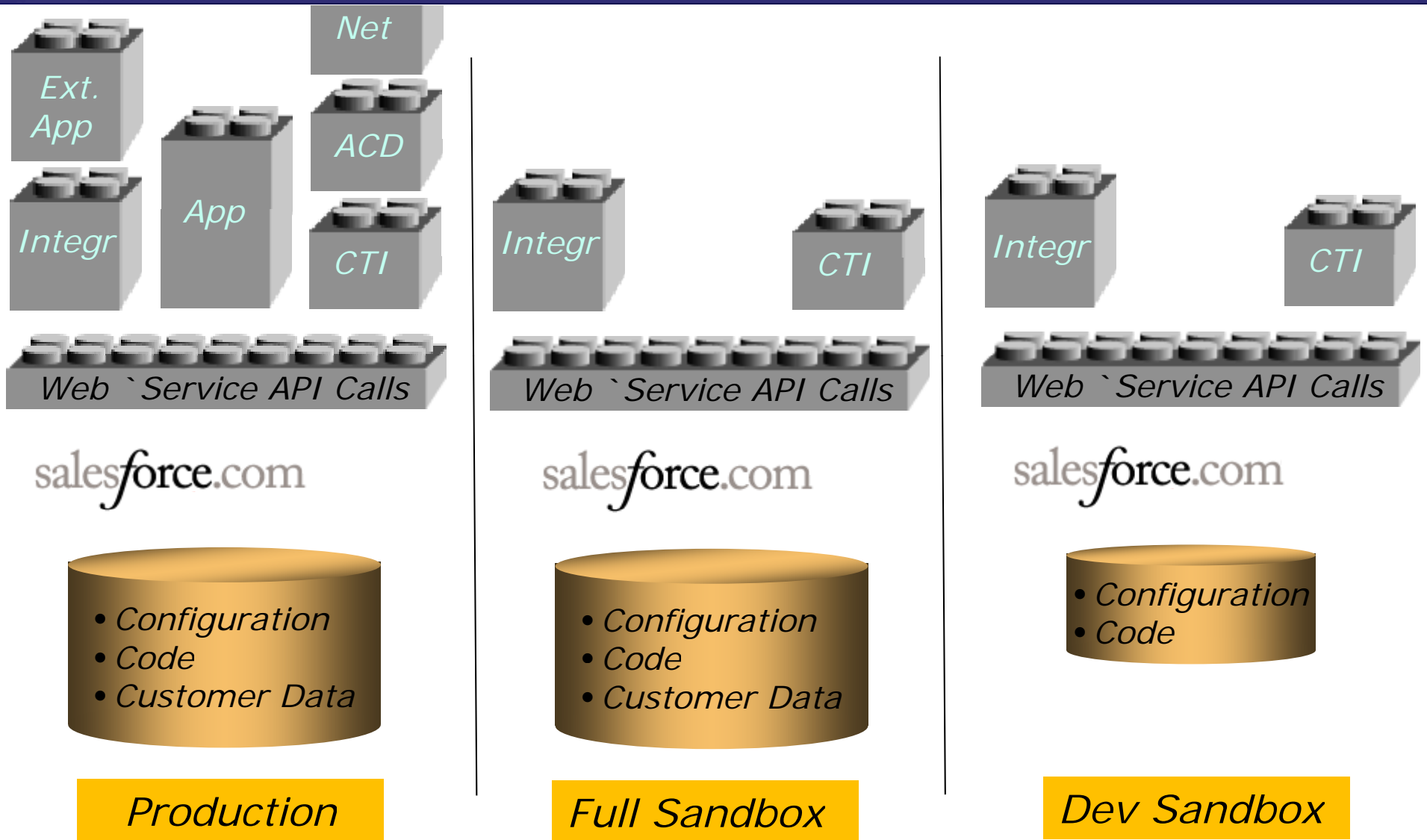
Salesforce Testing Levels

Individual Modules

- Configuration
- Code
- Fake data

Unit Tests

Integr

CTI

Web ` Service API Calls

- Configuration
- Code
- Some Cust. Data

System Tests

Net

Ext. App

ACD

Integr

App

CTI

Web ` Service API Calls

- Configuration
- Code
- All Customer Data

User Acceptance Tests

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