Managing Cloud Software in the Real World
Highlights

- David Taber
- Charles Darwin
- Fred Brooks
- Steve Jobs
- You
Who is David Taber?

- 35 years in High Tech
  - Virtually all experience in software and systems

- Lecturer, UC Berkeley Haas Graduate Biz School

- CEO of a CRM Management Consultancy
  - Implemented 125+ Salesforce.com systems

Salesforce.com
Secrets of Success
Best Practices for Growth and Profitability

David Taber

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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?

Diagram:
- Economics
- User Preferences
- Business & Marketplace Issues
- Technology & Engineering
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

Power & HVAC

New SW

Time

Not uniform scale
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

- Ext. Data System
- Phone System
- Service
- Integr8n
- Libraries & DLLs
- Application Server
- Configuration
- Code
- User Data

Client App
Libraries & DLLs

- Configuration
- Code
- User Data
SFDC and AppExchange Features

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
Waterfall versus
Agile: still you must manage
time, cost, and people
• 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
WE NEED THREE MORE PROGRAMMERS.

USE AGILE PROGRAMMING METHODS.

AGILE PROGRAMMING DOESN'T JUST MEAN DOING MORE WORK WITH FEWER PEOPLE.

FIND ME SOME WORDS THAT DO MEAN THAT AND ASK AGAIN.
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”
Best Practices
• **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
Your Career: Haiku #3

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
Where you choose to work
Can be more important than
What You’re working on
### The Software World...

<table>
<thead>
<tr>
<th></th>
<th>IT Dept</th>
<th>Integrator/consultant</th>
<th>ISV/SaaS app</th>
<th>ISV/SaaS Infr</th>
<th>Open Source</th>
<th>Independent</th>
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<tr>
<td><strong>Team Size</strong></td>
<td>2-99</td>
<td>2-99</td>
<td>10-299</td>
<td>10-499</td>
<td>2-20</td>
<td>2-9</td>
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<td>10-99</td>
<td>1-9</td>
<td>5-99</td>
<td>1-5</td>
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<td><strong>Design Life (yrs)</strong></td>
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<td>5</td>
<td>3-10</td>
<td>&gt;10</td>
<td>3-5</td>
<td>3-5</td>
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<tr>
<td><strong>Cost Sensitivity</strong></td>
<td>M</td>
<td>M-H</td>
<td>L-M</td>
<td>L</td>
<td>N/A</td>
<td>H</td>
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<tr>
<td><strong>Political Savvy</strong></td>
<td>M</td>
<td>H</td>
<td>L-M</td>
<td>L-M</td>
<td>L</td>
<td>L</td>
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<tr>
<td><strong>$$$/yr</strong></td>
<td>L</td>
<td>M-H</td>
<td>H</td>
<td>H</td>
<td>N/A</td>
<td>?</td>
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<tr>
<td><strong>Average IQ</strong></td>
<td>L-M</td>
<td>M</td>
<td>M-H</td>
<td>H</td>
<td>H</td>
<td>M-H</td>
</tr>
</tbody>
</table>

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How I Stopped Worrying and Learned to Love Venture Capital
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

All investments Paid off – Positive NPV

Funding Approved

Development

Launch

First sale

Breakeven Per-Unit Fixed Costs

Breakeven Variable Costs

+$M

0

-$M

Variable Costs

Sales

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Haiku #3.75

It’s not enough just to be correct—others must believe that you are
People are hard-wired to draw much more meaning from people than from the information that people present.

Source: Several studies conducted by UCLA Professor Albert Mehrabian
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?
People forget what you say
But they’ll always remember
How you made them feel
Uh-oh...

• “You have only 10 seconds to show you’re a Somebody.”

– Leil Lowndes
The Power of Story Telling

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

*You can change / improve these over time*
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
<table>
<thead>
<tr>
<th>Section</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>Steady eye contact, <strong>not</strong> sweeping U/D/L/R. Blink s-l-o-w-l-y!</td>
</tr>
<tr>
<td>Features</td>
<td>Animated, yet relaxed.</td>
</tr>
<tr>
<td>Head</td>
<td>Jaw relaxed, neck centered; nod occasionally.</td>
</tr>
<tr>
<td>Hands &amp; Arms</td>
<td>At sides, not body-wrapped; gesture; minimize repetitive movements.</td>
</tr>
<tr>
<td>Stance</td>
<td>Straight and balanced. <strong>Do not pace or shift!</strong></td>
</tr>
</tbody>
</table>
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
Unwords  Keep word count down!
Before I begin ...
This is a busy slide ...
Sorry about this graphic ...
Ummm ...
Disregard this ...
I’m running out of time ...
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!

ceo@saleslogistix.com

http://saleslogistix.com/company/press.html
Salesforce Testing Levels

Individual Modules
- Configuration
- Code
- Fake data

Unit Tests
- Web `Service API Calls
- Configuration
- Code
- Some Cust. Data

System Tests
- Web `Service API Calls
- Configuration
- Code
- Some Cust. Data

User Acceptance Tests
- Web `Service API Calls
- Configuration
- Code
- All Customer Data