Internet (Web) Startups:
Rational Software Engineering or Gun-Slinging in the 21st Century?

Wayne K. Yamamoto
Co-Founder, MerchantCircle
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If you are a software engineer, there are some great big technology companies to work for....

Google

Microsoft

facebook

YAHOO!

amazon.com
…but is there an even better alternative?

- Non-technology companies
- Mid-sized/small companies
- Tiny companies
- Starting your own company
Who am I?

• UW CSE grad (a long time ago!)
• Big company experience at Bell Labs (Lucent) and Sun Microsystems
• Start up experience as first engineer and chief architect at BroadVision
• Co-Founder, Chief Technology Officer at MerchantCircle
• Entrepreneur in Residence at Rustic Canyon Partners
• Starting a new company!
Small and smaller…

yelp

topix

twitter

MerchantCircle

iLike

wetpaint

YOU!
Now is a great time to start/work at an Internet (Web) startup!

• There is wide open playing field of opportunities
• The entry costs are low
• The potential for success is huge
• Small teams can win big
• CSE 403 is the perfect training ground for YOU!
Starting a company in 18 months

- You barely have an idea…
- But you want to do something in the Internet space!
- How can you build a “successful” company in 18 months?
  - Sell the company
  - Be self-sustainable
  - Raise some (more) money
- Build a product that does something “good!”
- This process is fundamentally different than building a software company in the past
Internet (web) companies vs. traditional software

• Cost of starting up is an order of magnitude cheaper
• Personnel required is smaller
• Software lifecycle is much shorter, transient, and maybe less formal
• Revenue models are based on advertising not selling software or services (maybe)
Global 18 month time line

0
Decide what to do
Select tools, dev environment
Write some documents
Start coding (immediately!)

4
First bring up

12
“Beta” release
Incremental roll out of product

15-18
Success?
See if works!
Rapid refinements
Continued feature development

Idea!

Yamamoto@kazabyte.com
The Internet startup team

- CEO/President (leader, chief bottle washer, biz person)
- Product Manager/Marketing person
- User Interface/Experience designer
- Systems developer
- Data(base) developer
- Application developer
- Engineering manager?
Who’s not on the team?

• No operations
• No network/systems administration
• No project manager
• No build specialist
• No explicit QA personnel
Less is more...

- Less money
- Less people
- Less time
- Less abstraction
- Less software

More constraints
The monthly development cycle

- Start of month: decide/prioritize what you are going to build and release for the month
- Mondays: Decide what you’ll build this week
- Code freeze 7 days before the end of the month – test, test, test!
- End of month: Release!
Observations from the trenches

• “Worse is Better”
• “Ship early, ship often”
• Let your customers debug your product
• Any hypothesis you have about consumer behavior is going to be wrong
• Measure, measure, measure – look at the numbers every day!
• “Build” and test continuously
• Regress, regress, regress*
• Always be cleaning up
• Backwards compatibility, sustaining engineering, patches make no sense! (Whew!)
More observations

• Top down planning is good – top down execution fails
• Pipelining is bad (don’t let weekly/monthly deliverables overlap)
• Branches are evil
• Trade offs between features, platform, and infrastructure are the tough calls
• Choose your tools and development environment carefully
  – Ubuntu, Postgres, Python, Trac, Subversion, Macs(!)
• MS Project, UML tools, DreamWeaver don’t help
• Formal specifications less valuable than face-to-face communication
• 4 week cycles might be too short
• Maybe a continuous release process is even better!
Four constraints on any project

- Product Offering
- Features
- Time
- Quality
- Resources
Topix: Success in 36 months

- Founded by 4 people, took no external funding, took no salaries
- Scrapped idea
- Launched beta
- Company launched: “Aggregator of all the news on the web”
- Sold for $60 million to Tribune, Knight Ridder, and Gannett
What about MerchantCircle?

• Internet media company – bringing every small business in America on line
• “Disrupter” in the Yellow Pages business
• Website, blogging tools, newsletters, business network, advertising distribution for every small business (20MM+) in the United States
• 500,000 customers, 10’s millions of page views/month, millions visitors/month
• Less than 20 people (less than 8 during first 2 years)
• Located in Los Altos, CA (heart of the Silicon Valley)
• Venture funded
First sixteen months at MerchantCircle

0 4 6  14 16

Ideal Closed $$ Started coding “Stealth” release First bring up Product release

Hired engineers
Select tools, dev environment
Write some documents
Started coding

Incremental roll out of product

Will it work?

Fund raising

yamamoto@kazabyte.com
The good, bad, and the ugly of starting up

- **1994:** Company founded -- $5MM venture capital
- **1996:** IPO -- Valuation of $200 million
- **2000:** Valuation of $20 billion
- **2006:** Taken private -- $50 MM valuation
Success is sweet, but....
“Failure” is an option!

“Being responsible for a gigantic failure and learning from it is a highly valued experience”

“I’d rather hire someone that failed in a startup than someone that took the ‘safe’ path of a big company”
Perspective from the trenches…
This is still relevant…
Resources

• “Hackers and Painters – Big Ideas from the Computer Age,” Paul Graham (www.paulgraham.com).
• “The Mythical Man Month,” Frederick P. Brooks.
• “The Rise of Worse Is Better,” Richard Gabriel (en.wikipedia.org/wiki/Worse_is_better)
• www.techcrunch.com
• www.valleywag.com
Questions?

• I want to hear your ideas!
• Interested in doing this for real?
• email: yamamoto@kazabyte.com