Creating Environments for Innovation to Flourish
Without change there is no innovation, creativity, or incentive for improvement. Those who initiate change will have a better opportunity to manage the change that is inevitable.

– William Pollard

Innovation is the central issue in economic prosperity.

– Michael Porter

Innovation is the specific instrument of entrepreneurship. The act that endows resources with a new capacity to create wealth.

– Peter Drucker

Learning and innovation go hand in hand. The arrogance of success is to think that what you did yesterday will be sufficient for tomorrow.

– William Pollard

Innovation is not the product of logical thought, although the result is tied to logical structure.

– Albert Einstein

Mindless habitual behavior is the enemy of innovation.

– Rosabeth Moss Kanter
If I had asked people what they wanted, they would have said faster horses.

Henry Ford
#aboutme
• Understanding the problem space

• My five step guide to making your organization more innovative

• Closing
Interactive hands-on deep dive into a real world discussion, using teamwork
We know Innovation drives growth and wealth creation for both organizations and people.

- How do we innovate?
- How can we set ourselves up for success in innovation?
- How do we create the next great product?
- How do we exploit technology as a competitive edge here?

#ProblemStatement
My BHAG (big hairy audacious goal)

Agility enables innovation.

on top of a peak called mount Aix
“Scrum is the Modern way to work”

October 2010
Mika Koivuluoma, VP Software Development and Tools Tieto
Exercise: Build Your Own Scrum

Build Your Own Scrum
brought to you by Adam Weisbart

Level set your Agile knowledge with your teammates (18 mins)
Roles, meetings, and artifacts

Image from CollabNet, Inc.
Step One – The Organization

• Become a Learning Organization
On Become a Learning Organization

- Scrum won’t solve your problems. Scrum will discover underlying problems in your organization. It’s your job as managers and executives to solve the problems Scrum unearths using a framework CollabNet can teach you.
- Scrum doesn’t work when:
  - You believe that your organization doesn’t have problems
  - Politically or culturally you can’t solve problems
- Scrum works when
  - You have a learning organization. One where the leadership sees solving problems as a means to a better company.
  - Being an Agile Business
    - A lesson about following the baton
If your company’s goal is to become fast, responsive, and agile, more efficiency is not the answer – you need more slack.

DeMarco (Peopleware), a management consultant, says that in today's competitive, fast-moving economy, managers work far less effectively than before. Responding to restructuring and staff reductions, managers overemphasize deadlines and rush employees, sacrificing quality. Instead, says DeMarco, executives should encourage teamwork, discourage competition and allow training time.
In *Drive*, Dan Pink examines the three elements of true motivation—

autonomy  mastery  purpose

#ThoughtLeader
Innovation is a typical bottom-up phenomenon. Publications like *Complexity and Innovation in Organizations*, and *Complexity Perspectives in Innovation and Social Change* emphasize that innovation is doomed to fail when launched by upper management as top-down programs of “special” people, assigned with the difficult task of inventing something new. This approach reflects a *causal deterministic view* of trying to take charge of what’s going to happen in the future. It usually doesn’t work.

The complex systems approach says that **innovation is not a planned result, but an emergent result**. Innovation just *happens* in self-organizing teams. But, for things to emerge there has to be something to emerge *out of*. And the key ingredients for innovation are: *knowledge, creativity, motivation, diversity, and personality.*


Jurgen Appelo

#ThoughtLeader
Step Two – The People

• Employee Retention
• Find employees who are intrinsically motivated and do everything you can to nourish and retain them

• Create a construct that includes slack, bottom-up ownership, and get out of the way

#EmployeeRetention
So how did SCM market play out?
Step Three – The Platform

• Implement Community Architecture
Implement Community Architecture

Wiki is the oldest and simplest software that lets a community of strangers work together to build something of surprising and lasting value.

2012
Ward Cunningham
Inventor of the Wiki

• Inner-source (Corporate Open Source)
• Transparency (breeds trust which drives reuse)
• Workspaces and Wikis (Federated)
Laszlo’s question:
When we spoke you mentioned you started with a wiki, SVN, and a mailing list. Why these three?

Brian’s response:
We started in 1995 with a mailing list, version control tool, and bug database. The “why” is pretty mundane – it’s because that’s the tools others were using at the time, they were *simple*, and they met people where they were. An email mailing list is *still* more interesting to me and I think more directly engaging for people, especially techies, than a forum on a website or a Facebook thread or whatever. SVN and Git are still essential. And a workflow-ish tool to systematically handle bugs and feature requests, essential then and essential now. But we weren’t inventing anything new in 1995 when it came to collaboration tools. But I still think those three tools are enough to build great software. Call me old-fashioned...
Exercise: Build Your Own Community Architecture

What are two things you can change inside your own company on Monday to create an environment of innovation?

(3 mins)
KEEP CALM WE'LL BE RIGHT BACK
Step Four – The Executive

• Have a Vision
Delighting Users

Give the people doing the work a clear line of sight to the people for whom the work is being done.

Steven Denning
Techniques to help Create & Foster a Vision

- Executive Vision Sessions
- Story Mapping
- Walking Skeletons
- Building Epics
Technique (a) – Vision Session

• Who are our primary users?
• What do they say they need?
• What do we know that they don’t?
• What is our product’s key benefit?
• Who are our primary competitors?
• What makes our product different?

Technique (b) – User Story Maps

- Arranges user stories into a useful model
- Helps you understand the overall functionality of the system
- Identifies holes and omissions in your backlog
- Helps effectively plan holistic releases that deliver value to users and business with each release.

#ThoughtLeader
Technique (c) – Walking Skeleton

A **Walking Skeleton** is a tiny implementation of the system that performs a small end-to-end function. It need not use the final architecture, but it should link together the main architectural components. The architecture and the functionality can then evolve in parallel.
Technique (d) – Epic Budgeting

Budgeting is used to set soft limits on scope goals within the broader context of a date-based milestone.

This technique is therefore a powerful tool for determining whether too much emphasis has been placed on a particular Epic in contrast to others in the release milestone.
Exercise: Be Your Own Boss

What are two things you can change inside your own company on Monday to create an environment of innovation (If you were the boss)?

(6 mins)
Step Five – Articulation

• Use User Stories
User Story Format

Story template form:

“As a <role> I want to <capability> so that <rationale>.”
Good User Stories Follow the INVEST Acronym

- Independent
- Negotiable
- Valuable
- Estimable
- Small
- Testable

Example user story that could be improved

I want the brochure to be colorful.

Drawbacks: not Independent, not Estimable (without knowing other features of brochure), not Small.

This is an easy trap for those of us who grew up with the habit of writing “the JFIDM shall comply with the IEEE-488 interface specification.”

Some nonfunctional requirements fit this category.

Better: Make “colorful” (and other cross-cutting requirements) an acceptance criteria on each of the specific features in the backlog.
1. The website shall allow a user to register.

2. The system shall allow a manager to reassign work from one employee to another.

3. A customer can change their mailing address from the website.

4. A tax payer can pay his/her federal taxes online.

5. A user can drag and drop a customer from one marketing group database to another.

Improve these User Stories. Don’t forget acceptance criteria!
User stories are often broken into tasks, the specific actions the team will perform to fulfill the story. User stories describe the “what” while tasks describe the “how”. For example:

“As a web customer, I want a way to make a payment online so I can make my payment the same day it is due.”

Task 1: build user interface
Task 2: build business logic layer
Task 3: connect UI and BL
Task 4: unit test new components
Task 5: code review
Task 6: test new components
Task 7: run regression tests

Tasks may have a lot or a little detail. Their purpose is to serve the team in articulating what needs to be done to complete a backlog item, and to track progress. They aren’t for management to micromanage.
Epics, Stories, Tasks...

Are the items below epics, stories or tasks? (5 minute group exercise)

1. Create a report to track inventory levels by day, week and month
2. Add a feature to our timekeeping system to require overtime to be submitted for approval
3. Implement single sign-on
4. Test the AddNewCust component
5. Get developer Susan up to speed on how to use CollabNet TeamForge
6. Create a way to track client contract expiration dates
Teams use a variety of methods to estimate stories:

- T-shirt sizes (XS, S, M, L, XL, XXXL aka “epic”)
- Fibonacci series style (i.e. – 1, 2, 3, 5, 8, 13, 21…)
- 2x style (1, 2, 4, 8, 16, 32…)
- Ideal days (not recommended: why?)

Teams’ estimates of user stories are often expressed as **story points**, a scale unique to each team.

The average number of story points completed by a team over a sprint is called the team’s Velocity.

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## Estimation Exercise

Please estimate the size of the following items (absolute, not relative)

<table>
<thead>
<tr>
<th>Item</th>
<th>Estimated Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of hairs on the average human head</td>
<td></td>
</tr>
<tr>
<td>Number of known species of shark</td>
<td></td>
</tr>
<tr>
<td>Average number of deaths recorded each year worldwide from snake bites</td>
<td></td>
</tr>
<tr>
<td>Price paid in 1987 for the painting “Iris” by Vincent Van Gogh</td>
<td></td>
</tr>
<tr>
<td>Rank of Dalmatians, in 2007, among most popular dog breeds registered by the AKC (out of 157 total breeds)</td>
<td></td>
</tr>
<tr>
<td>Calculated amount in lost sales by Amazon.com per hour of site downtime (based on 2008 projections)</td>
<td></td>
</tr>
</tbody>
</table>
Did you arrive at the right number?

<table>
<thead>
<tr>
<th>Please estimate the size of the following items (absolute, not relative)</th>
<th>ANSWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of hairs on the average human head</td>
<td>150,000</td>
</tr>
<tr>
<td>Number of known species of shark</td>
<td>370</td>
</tr>
<tr>
<td>Average number of deaths recorded each year worldwide from snake bites</td>
<td>125,000</td>
</tr>
<tr>
<td>Price paid in 1987 for the painting “Irises” by Vincent Van Gogh</td>
<td>$53.9 million</td>
</tr>
<tr>
<td>Rank of Dalmatians, in 2007, among most popular dog breeds registered by the AKC (out of 157 total breeds)</td>
<td>77</td>
</tr>
<tr>
<td>Calculated amount in lost sales by Amazon.com per hour of site downtime (based on 2008 projections)</td>
<td>$1.8 million</td>
</tr>
</tbody>
</table>
Relative Estimation

Group the following items by *price* into groups representing XS, S, M, L, XL:

- 2010 Audi R8
- Calloway FT-iQ Driver Golf Club
- One share of Berkshire Hathaway stock (NYSE: BRK-A)
- Round trip ticket from LAX to Auckland, NZ
- 3 nights for two (suite) at the Bellagio in Las Vegas, NV
- Trek Madone 6.9 Carbon Fiber Bicycle
- Eric Clapton Signature Stratocaster
- One year’s (2008/09) tuition at Harvard University
- Tiffany Jazz Diamond Platinum Bracelet
- Beneteau (1985) 42’ sailboat
Relative Estimation

- Calloway FT-iQ Driver Golf Club – $299
- 3 nights for two (suite) at the Bellagio in Las Vegas, NV – $1100
- Round trip ticket from LAX to Auckland, NZ – $1,200
- Eric Clapton Signature Stratocaster – $3,078
- Trek Madone 6.9 Carbon Fiber Bicycle – $8,600
- Tiffany Jazz Diamond Platinum Bracelet – $14,000
- One year’s (2008/09) tuition at Harvard university – $32,557
- Beneteau (1985) 42’ Sailboat – $82,000
- One share of Berkshire Hathaway stock – $119,000
- 2010 Audi R8 – $137,000
Why Relative Estimation Works

• Humans are terrible at absolute estimation but quite good at relative estimation
• It is generally faster — “What’s the use in being precise when you don’t even know what you’re talking about?”
• It gets a team thinking (and talking) as a group, rather than as individuals (group effort vs. individual person-hours)
• It encourages spending analysis time appropriately (analyzing and discussing)
Business Weight

• Relative business values associated to individual user stories
• Can be used as a roll up with Epics for program management

Dan Rawsthorne, PhD
Create a complete user story that you may help you in doing your job tomorrow

– Don’t forget to include:

All parts identified

Business Weight
Effort Estimation
Acceptance Criteria
Themes
What facilitator needs to bring

• Electrical Tape
• Poker Chips or Pennies (20)
• Build your own Scrum worksheets
• Pens, markets, sticky notes