



# Lean / Agile @ Work

Diego Pacheco

# About me...



- Cat's Father
- Principal Software Architect
- Agile Coach
- SOA/Microservices Expert
- DevOps Practitioner
- Speaker
- Author

 diegopacheco

 @diego\_pacheco

 <http://diego-pacheco.blogspot.com.br/>

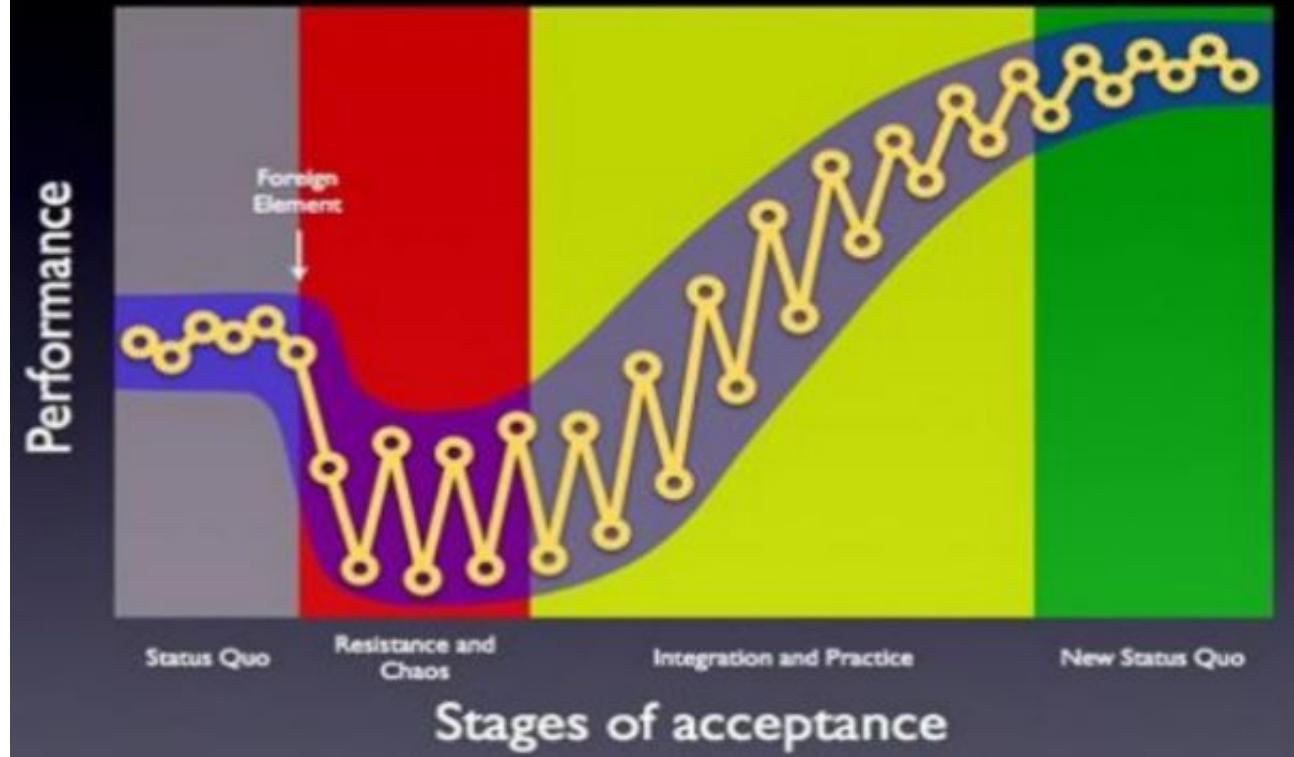


<https://diegopacheco.github.io/>



**DISCLAIMER**

# Satir Change Model



**QUE O DESAPEGO  
ESTEJA COM VOCÊ**



**EEEETA MAINHA**





Pastelaria

*do*  
**Beicola**

Av. Borges de Medeiros | 3497 | Centro | Gramado | RS

ATENDIMENTO: Sábado e Domingo 11:30 às 02h  
Segunda a Sexta 16h às 02h

**TELE ENTREGA**

54 3286 4290  
9 9225 1826

ATENDIMENTO  
terças à domingos 11h. à 0h.  
segundas 16h. à 0h.

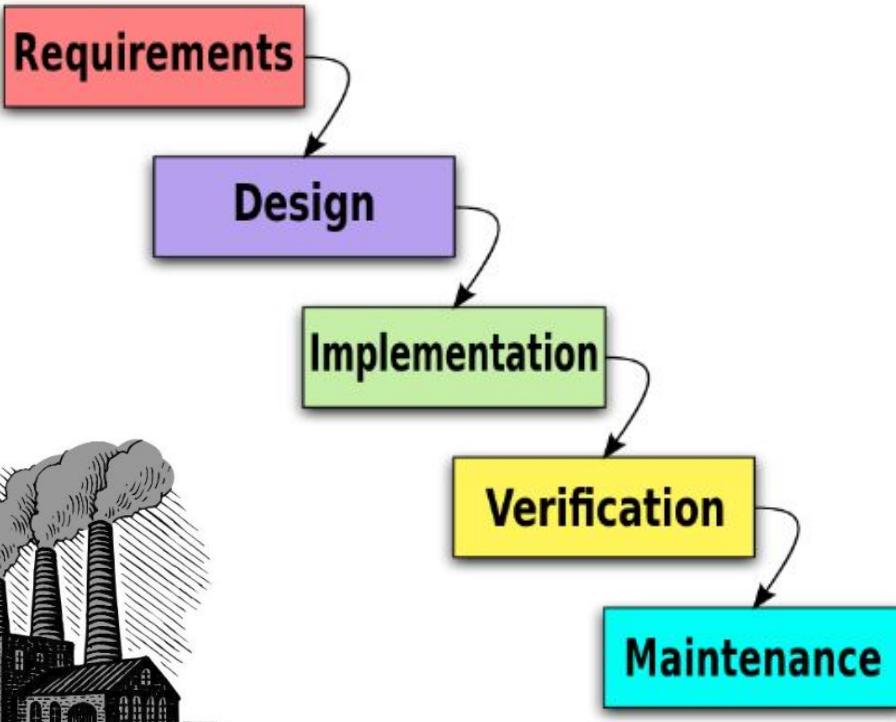
Leve a qualidade da Pastelaria do Beicola  
para sua Casa e Evento...

A cartoon character of a woman with glasses and a yellow shirt, holding a piece of food, is positioned above the logo.

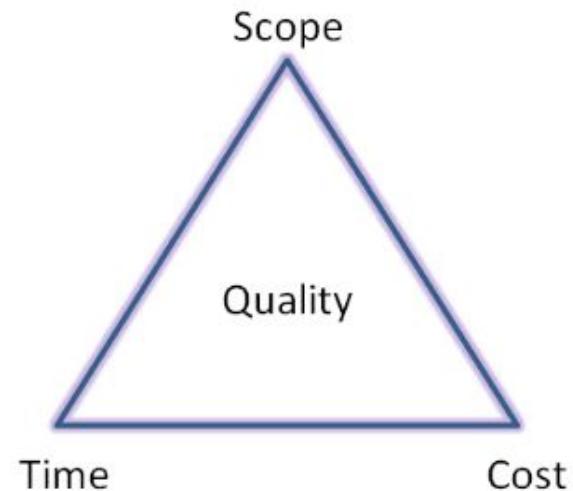
A basket of pastries is shown in the bottom right corner.



# Waterfall



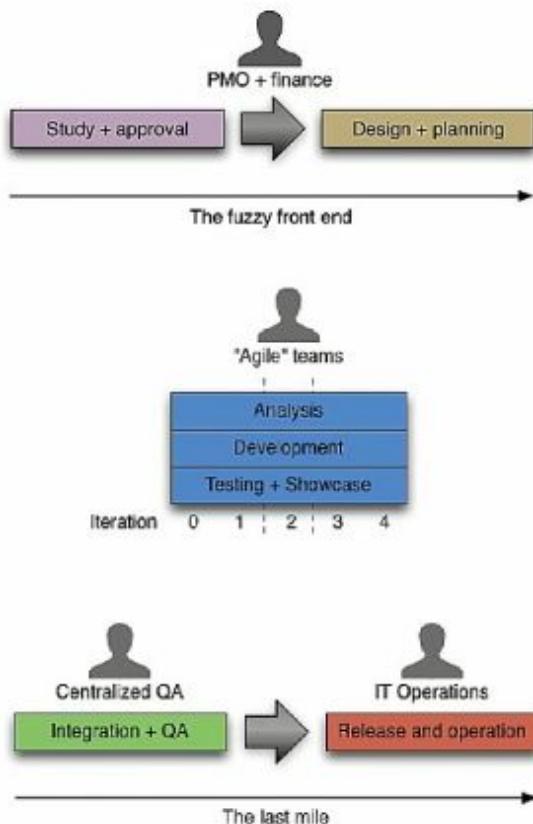
- What is software?
- Buy X Sell
- ALL FIXED
- Low Feedback
- BDUP
- Dev X Ops X ...



# Agile

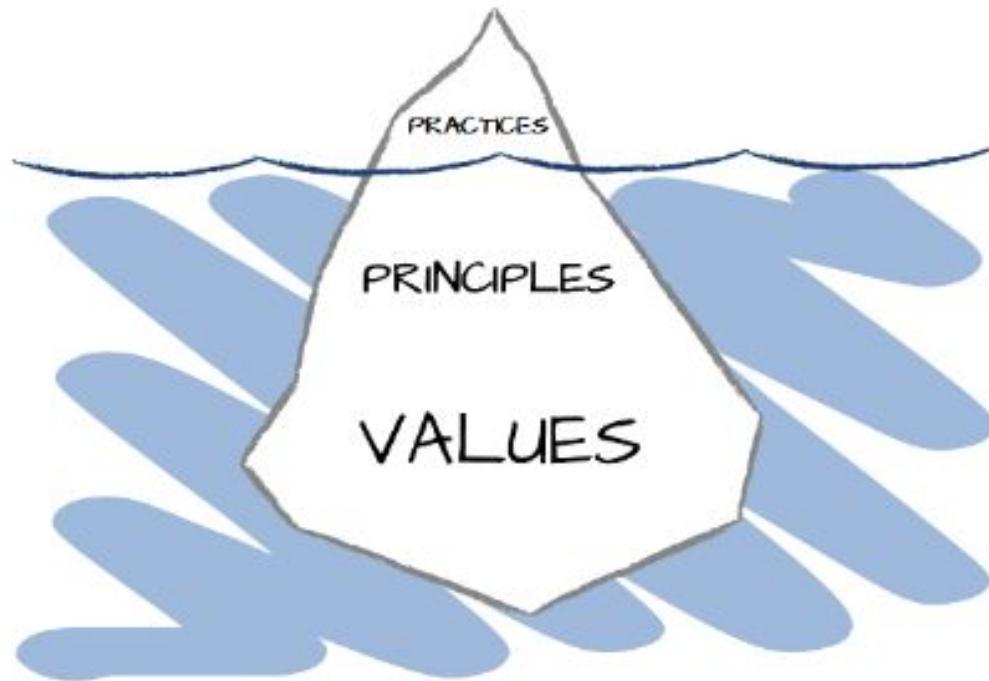


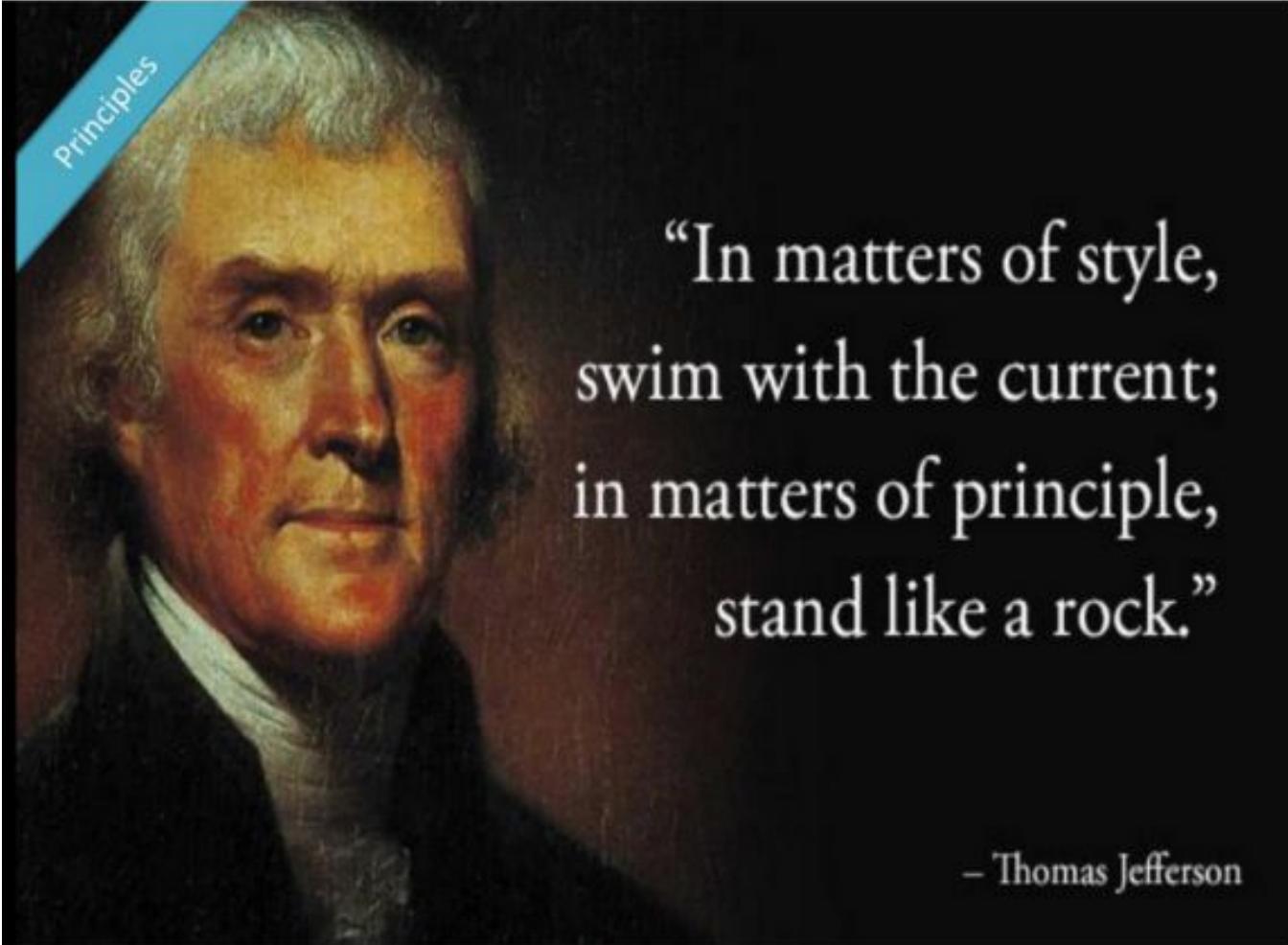
# Water-Scrum-Fall



water-  
scrum-  
fall





A portrait painting of Thomas Jefferson, the third President of the United States. He is shown from the chest up, wearing a dark blue or black coat over a white cravat and a white waistcoat. His hair is powdered and grey. The background is dark and indistinct.

Principles

“In matters of style,  
swim with the current;  
in matters of principle,  
stand like a rock.”

– Thomas Jefferson

A photograph showing a group of approximately ten people of diverse ages and ethnicities, all wearing headsets with microphones. They are gathered around a large table, looking down at a document or screen together. The scene is lit from above, creating a professional and collaborative atmosphere.

## **Manifesto for Agile Software Development**

We are uncovering better ways of developing software by doing it and helping others do it.

Through this work we have come to value:

**Individuals and interactions** over processes and tools

**Working software** over comprehensive documentation

**Customer collaboration** over contract negotiation

**Responding to change** over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

# The AGILE Manifesto

We are uncovering better ways of developing software by doing it and helping others do it.  
Through this work we have come to value:

**Individuals and interactions** over processes and tools  
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That is, while there is value in the items on the right, we value the items on the left more.

Ken Beck Mike Beedle Arie van Bennekum Alistair Cockburn Ward Cunningham Martin Fowler James Grenning Jim Highsmith Andrew Hunt Ron Jeffries Jon Kern Brian Marick Robert C. Martin Steve Meller Ken Schwaber Jeff Sutherland Dave Thomas

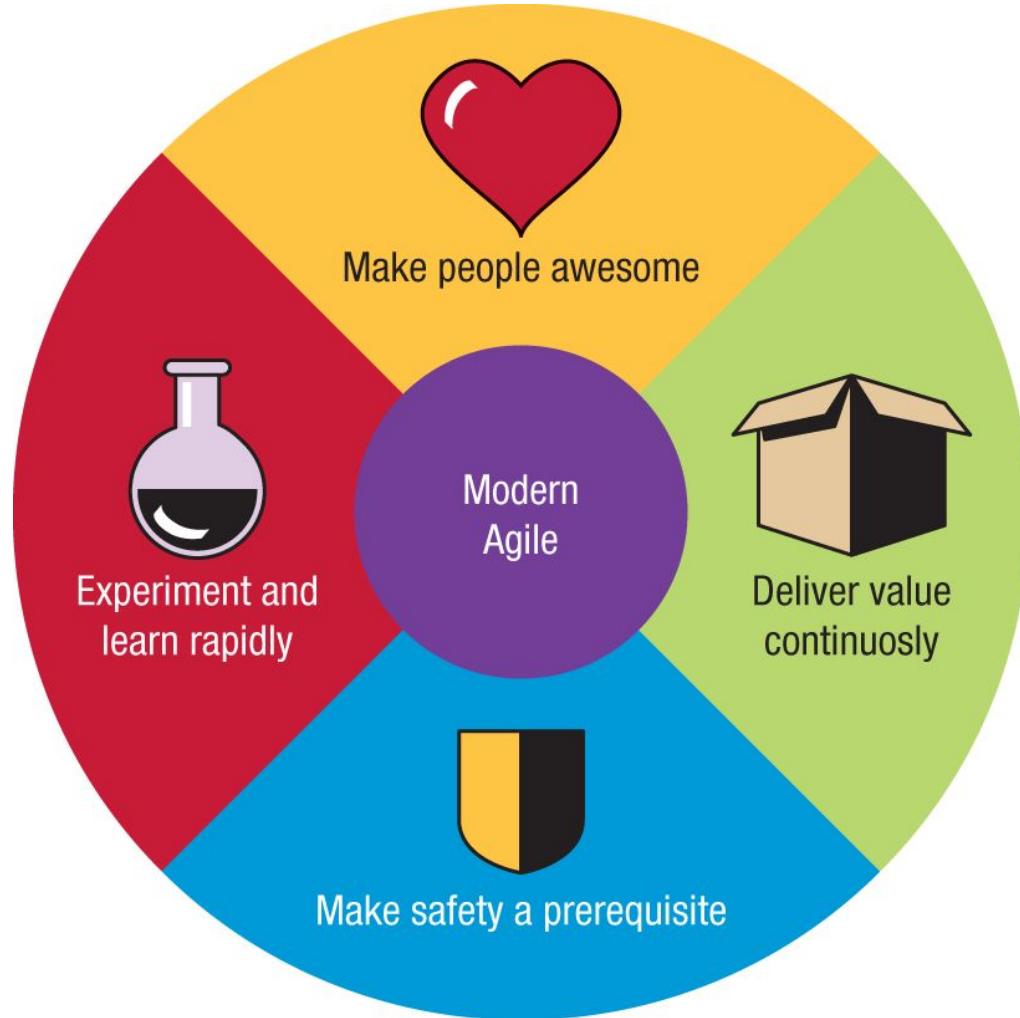


## 12 Principles of Agile Software

- 01** Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
- 02** Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
- 03** Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
- 04** Business people and developers must work together daily throughout the project.
- 05** Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.
- 06** Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
- 07** Working software is the primary measure of progress.
- 08** The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
- 09** Continuous attention to technical excellence and good design enhances agility.
- 10** Simplicity—the art of maximizing the amount of work not done—is essential.
- 11** The best architectures, requirements, and designs emerge from self-organizing teams.
- 12** At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

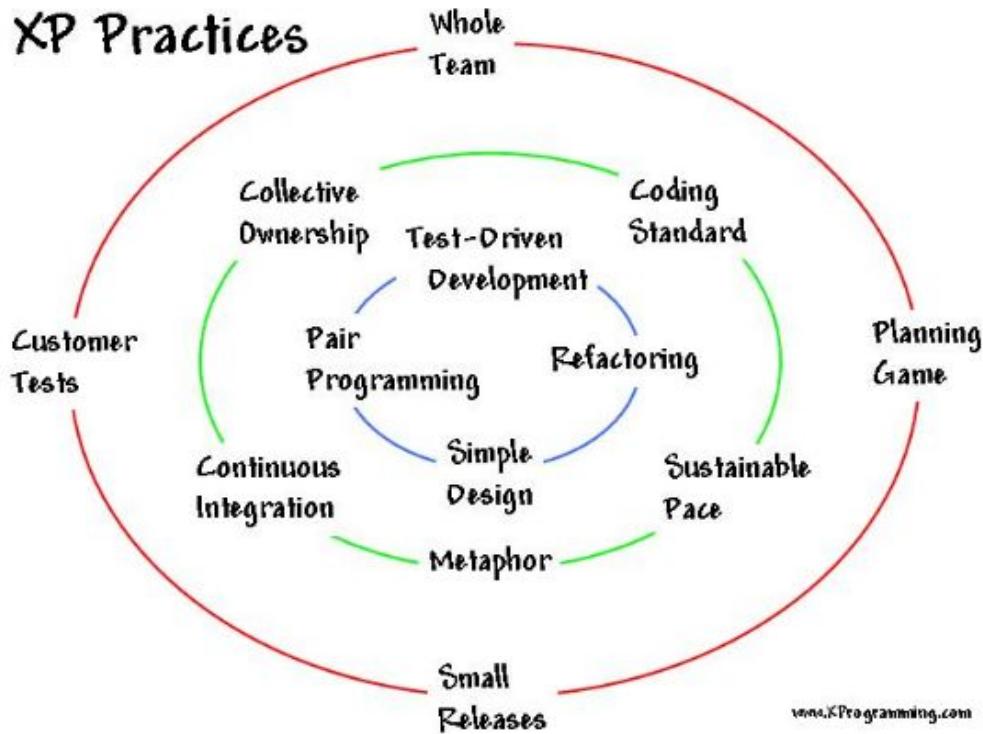
**“Discipline is doing  
what you don’t want  
to do when you  
don’t want to do it.”**

Posted in the wrestling room at  
Graham High School, St. Paris, OH

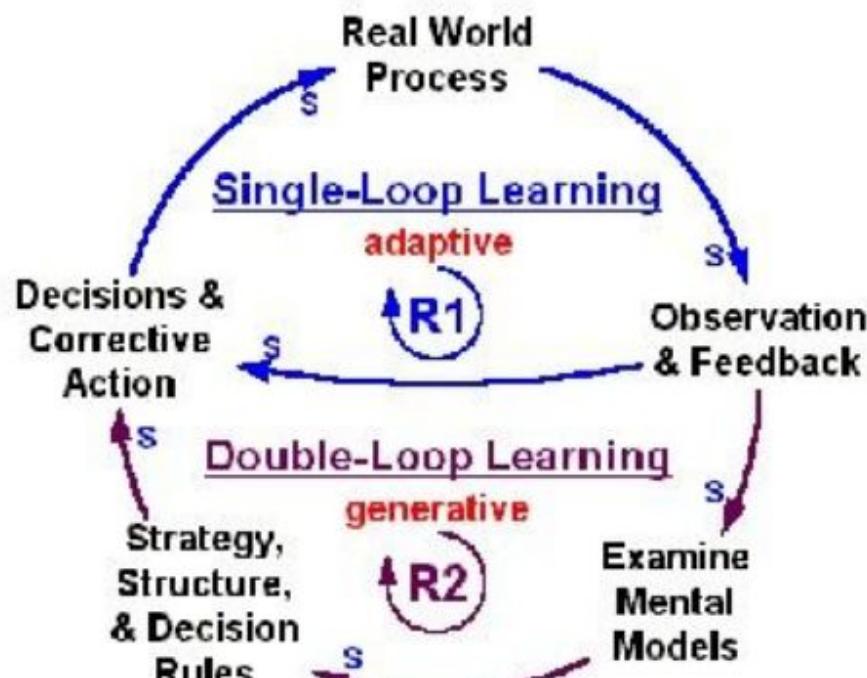
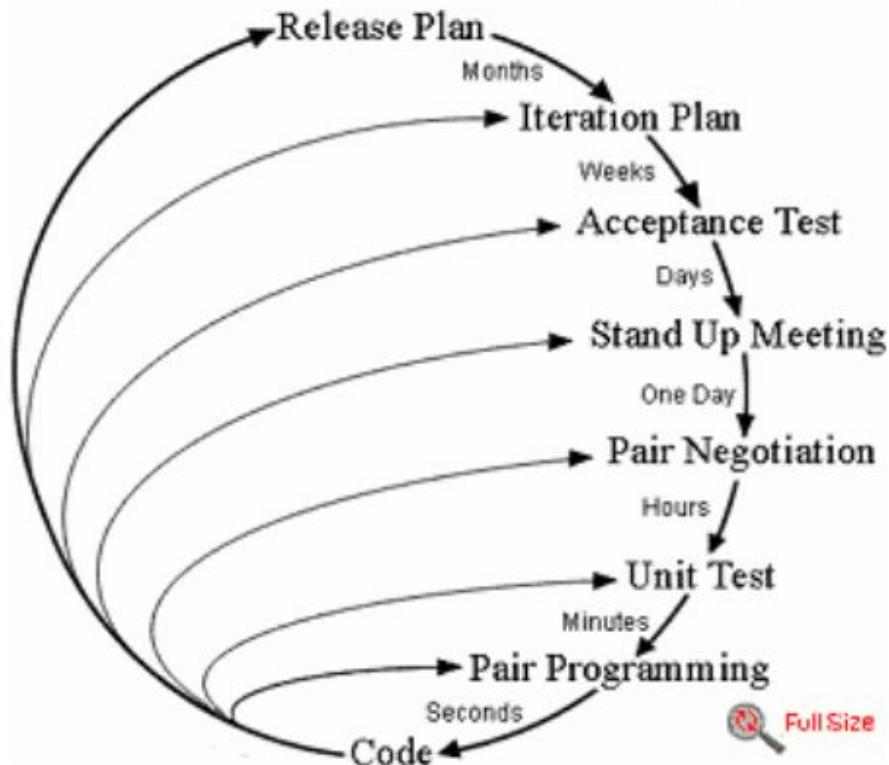


XP





## Planning/Feedback Loops



# XP Dimensional Quality

XP Evolutionary Approach



Chão Batido



Paralelepípido



Autoestrada



# pair programming

## driver

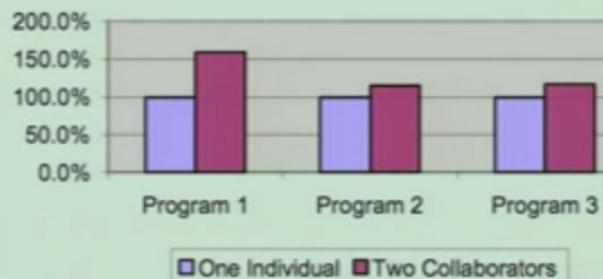
- typing
- micro-concerns
- syntax
- formatting
- line-by-line
- getting the test to pass

## navigator

- thinking
- macro-concerns
- right class?
- refactor?
- algorithm?
- using design patterns

# pair programming studies

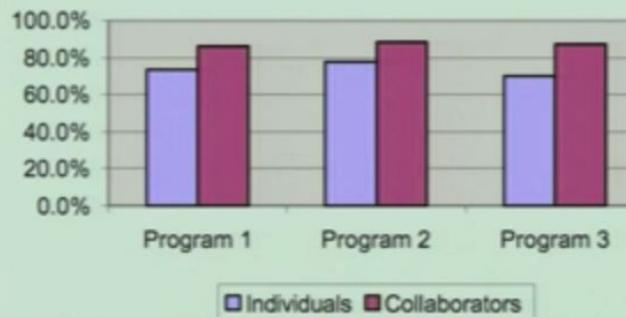
Relative Time: One Individual vs Two Collaborators



after adjusting, pairs produced code 15% more slowly than individuals...

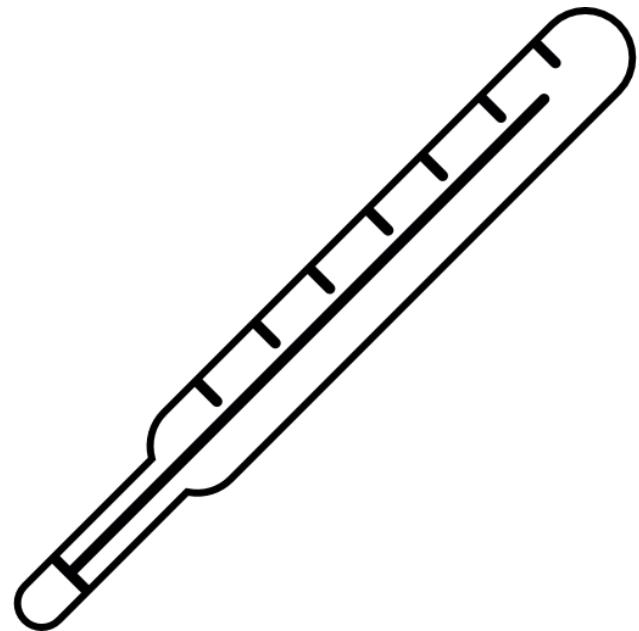
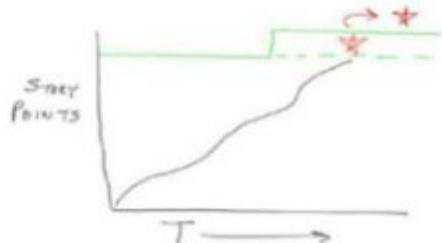
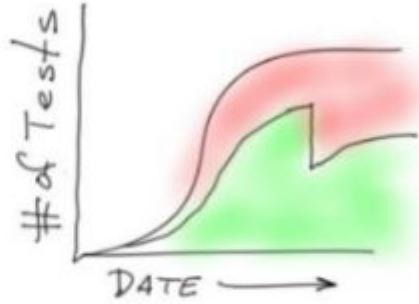
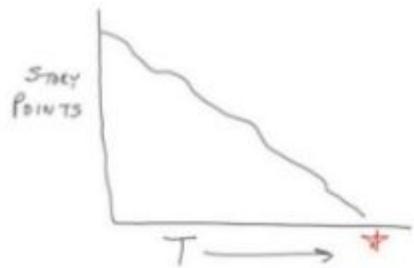
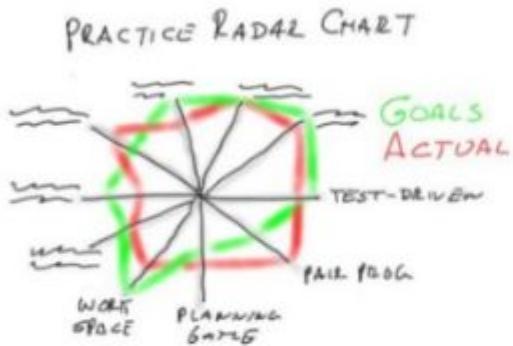
# pair programming studies

Post Development Test Cases Passed



...with 15% fewer defects

# Big Visible Charts



As who I want  
what so that  
why



As who I want  
what so that  
why

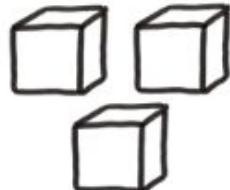
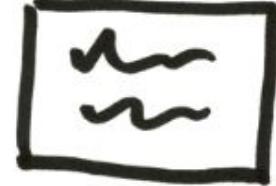
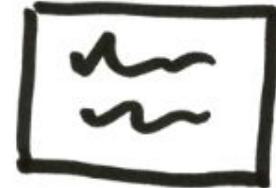
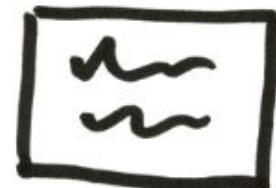
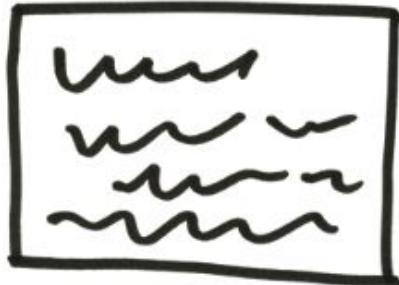




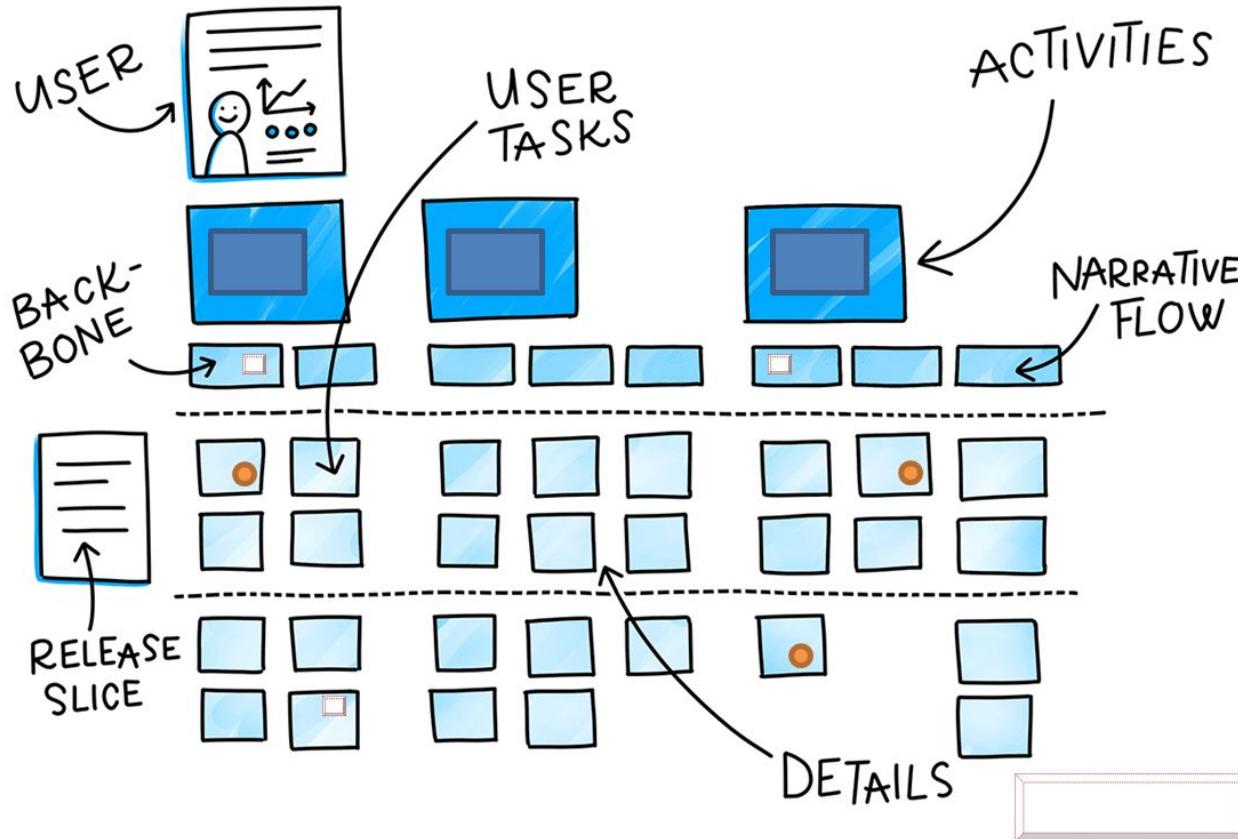
# themes      epics      user stories      features

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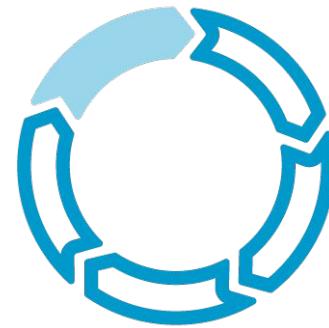
order  
processing



# USER STORY MAPPING



# Lean



**Assumption 1:** A mature organization looks at the whole system; it **does not** focus on optimizing disaggregated parts.

**Assumption 2** A mature organization focuses on learning effectively and empowers the people who do the work to make decisions.





Why do it at all ?  
Remove Waste

#1 Built-in Quality



## #2 Empower the Team



### #3 Deliver as Fast as possible



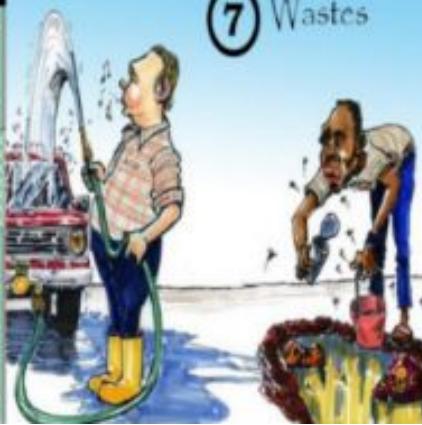
#### #4 Decide as Late as Possible



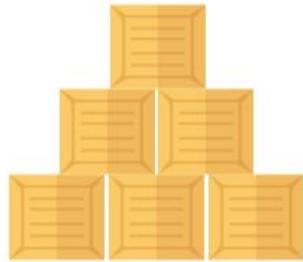
## #5 Optimize the Whole



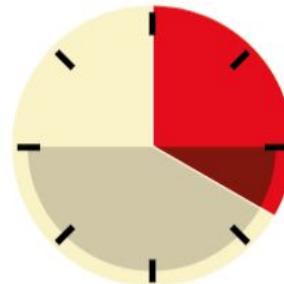
## ⑦ Wastes



# 7 Wastes of Lean



Inventory



Waiting



Defects



Overproduction



Motion



Transportation

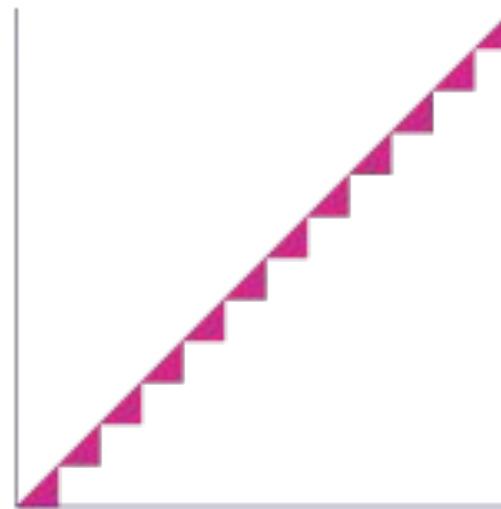


Over-processing

**Large Batches**

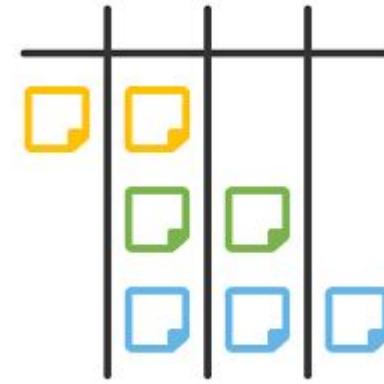


**Small Batches**

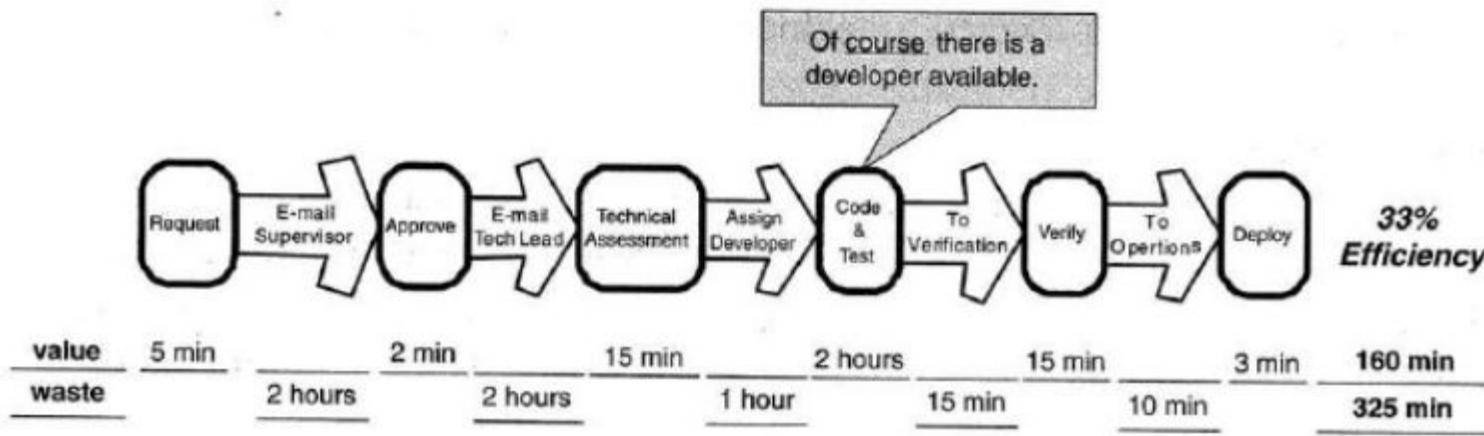


 Queue Size

# Kanban



1. Visualize the Workflow
2. Limit WIP
3. Manage Flow
4. Make Process Policies Explicit
5. Improve Collaboratively (using Models and the Scientific Method)



**Figure 4.3** *Value stream map of a small, high-priority feature change request—Organization A*





			
<p>Wip Max</p>	<p>Bug Hunt</p>	<p>Dojo</p>	<p>Wip 2</p>
		 One Piece Flow	 Dedo duro da semana
<p>Boi de Piranha</p>	<p>Pomodoro</p>		
	 One Piece Flow +  Pomodoro	 TDD Ping Pong	 Fireman

## Visualized workflow



Inbox	Specification	Ready for Development	Development			Code review	Test locally	Test on PreProduction	Ready for Release (3 pm tuesday)
5	2	2	Planned	In progress	Done	in progr.	Done	in progr.	Done
Write Start Date	Accept Criteria!	Plan pairing	Refactor	TDD					Released: -Remove tickets -Write end date -Review deploy - Update CFD, Defect rate and Cycle time
									Measure flow

**WIP limit = 2**

**Explicit policies**

Cover:  
Unitest.  
Int.. Test  
Code Coverage  
Depl. issue

Tester and Product Owner need 10 min. preparation

Only Core Functionality

## Kanban Metrics: Cumulative Flow Diagram



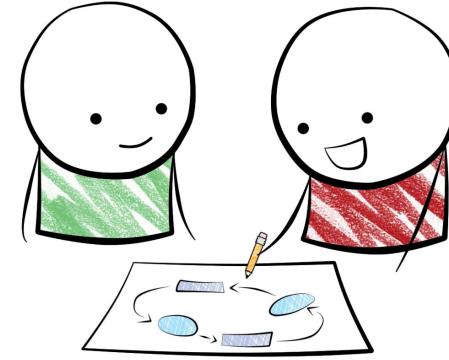
## 2014 Kanban Litmus Test

1. Have managers changed their behavior?
2. Has the customer interface changed?
3. Has the customer contract changed?
4. Has the service delivery business model changed?

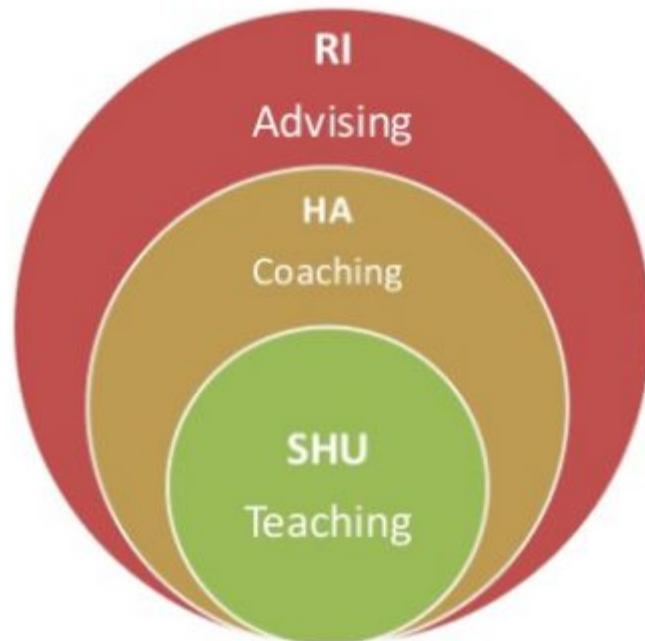
If you can't answer yes to at least 2 of these questions you aren't doing Kanban yet!



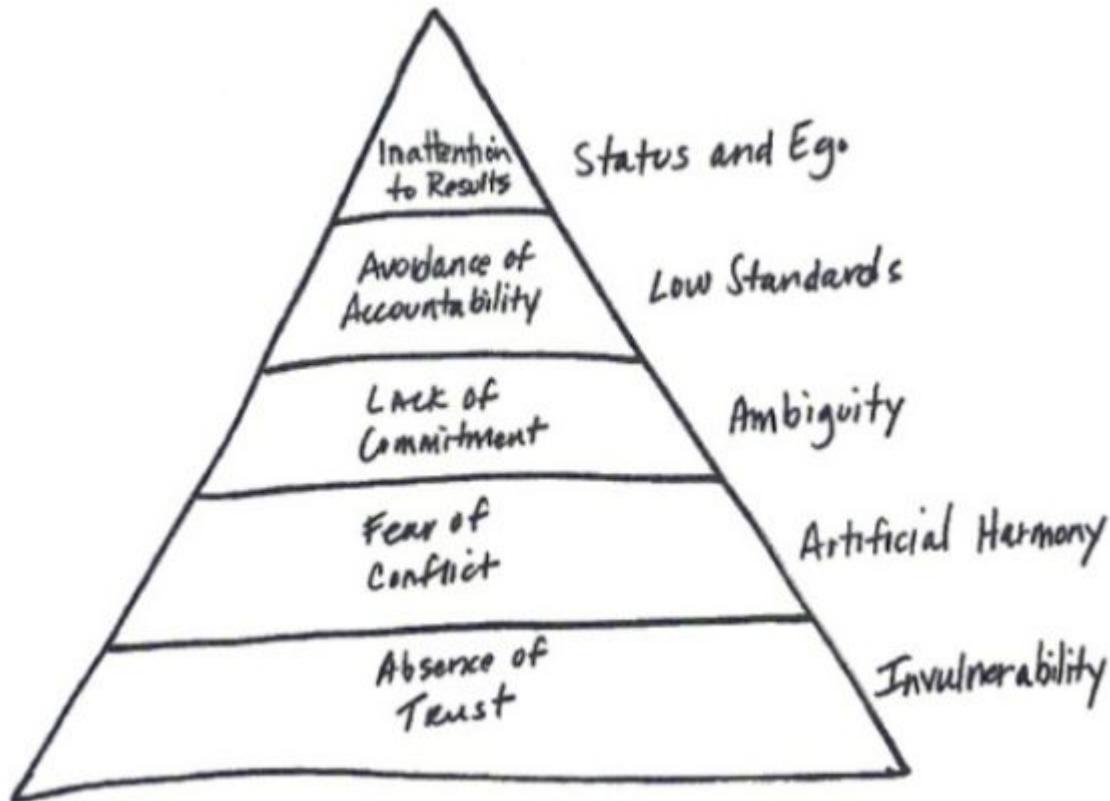
# Agile Coaching

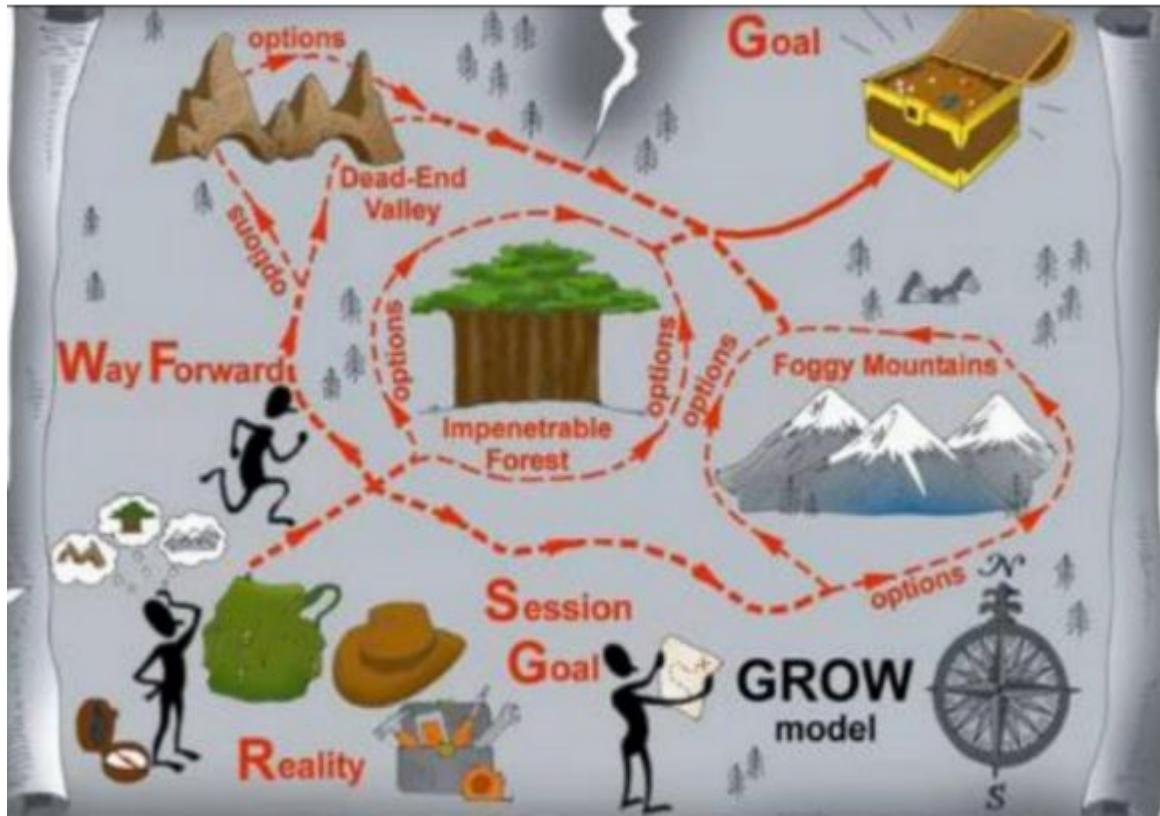


# 守破離









Id	Start	End	Diff Date	Type	Points	Backlog	Blocked	Design	Test&Code	CR	CR Ajustes	Acceptance	Real bug	Root cause
[US-1] [Jasper] [Reporting] [CSV]	8/11/2014	8/11/2014	1	Bug	1	0	0	0	4:00	0	0	0	Y	Endpoint configuration
[US-1] [Jasper] [Reporting] [CSV] [Print results]	8/11/2014	8/11/2014	1	Bug	1	0	0	0	8:00	0	0	0	N	Not a bug. A feature
[US-1] [Jasper] [Reporting] [CSV] [Print results] [Export to PDF for spe	8/12/2014	8/15/2014	4	Bug	2	0	0	0	14:00	1	0	0	Y	Issue on jasper
[US-1] [Jasper] [Reporting] [CSV] [Print results] [Export to PDF for spe] [E]	8/14/2014	8/14/2014	4	Bug	1	0	0	0	7:00	0	0	0	Y	Environment instability
[US-1] [Jasper] [Reporting] [CSV] [Print results] [Export to PDF for spe] [E] [Cache]	8/14/2014	8/14/2014	1	Bug	1	0	0	0	2:00	0	0	0	N	Cache not reflecting DB (outdated)
[US-1] [Jasper] [Reporting] [CSV] [Print results] [Export to PDF for spe] [E] [Cache] [H]	8/15/2014	8/18/2014	2	Bug	2	0	0	0	7:00	0	0	0	N	Not Reproducible
[US-1] [Jasper] [Reporting] [CSV] [Print results] [Export to PDF for spe] [E] [Cache] [H] [Tech Debt]	8/20/2014	8/20/2014	1	Tech Debt	0,5	0	0	0	2:00	0	0	0	-	-
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[US-1] [Jasper] [Reporting] [CSV] [Print results] [Export to PDF for spe] [E] [Cache] [H] [Tech Debt] [T] [Bug] [NPE] [RCH]	8/15/2014	8/20/2014	11	Bug	3	0	0	0	5:00	0	0	0	Y	Environment instability
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[US-1] [Jasper] [Reporting] [CSV] [Print results] [Export to PDF for spe] [E] [Cache] [H] [Tech Debt] [T] [Bug] [NPE] [RCH] [Not Reproducible] [Data coupled] [API] [Story] [Story] [Bug] [Story] [Story]	8/2/2014	9/8/2014	5	Story	3	0	0	8	22	0	0	0	-	-
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[US-1] [Jasper] [Reporting] [CSV] [Print results] [Export to PDF for spe] [E] [Cache] [H] [Tech Debt] [T] [Bug] [NPE] [RCH] [Not Reproducible] [Data coupled] [API] [Story] [Story] [Bug] [Story] [Story] [Bug] [Story] [Story] [Story] [Story] [Story] [Story] [Story]	9/11/2014	9/19/2014	7	Story	3	0	0	5	30	0	0	0	-	Logging
[US-1] [Jasper] [Reporting] [CSV] [Print results] [Export to PDF for spe] [E] [Cache] [H] [Tech Debt] [T] [Bug] [NPE] [RCH] [Not Reproducible] [Data coupled] [API] [Story] [Story] [Bug] [Story] [Story] [Bug] [Story] [Story] [Story] [Story] [Story] [Story] [Story] [Story]	9/19/2014	9/23/2014	3	Story	2	0	0	16	0	0	0	0	-	-
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[US-1] [Jasper] [Reporting] [CSV] [Print results] [Export to PDF for spe] [E] [Cache] [H] [Tech Debt] [T] [Bug] [NPE] [RCH] [Not Reproducible] [Data coupled] [API] [Story] [Story] [Bug] [Story] [Story] [Bug] [Story] [Story] [Story] [Story] [Story] [Story] [Story] [Story]	9/22/2014	9/25/2014	4	Bug	1	0	0	8	0	0	0	0	N	-
[US-1] [Jasper] [Reporting] [CSV] [Print results] [Export to PDF for spe] [E] [Cache] [H] [Tech Debt] [T] [Bug] [NPE] [RCH] [Not Reproducible] [Data coupled] [API] [Story] [Story] [Bug] [Story] [Story] [Bug] [Story] [Story] [Story] [Story] [Story] [Story] [Story] [Story]	9/26/2014	9/26/2014	1	Bug	1	0	0	3	4	0	0	0	Y	Wrong functionality
[US-1] [Jasper] [Reporting] [CSV] [Print results] [Export to PDF for spe] [E] [Cache] [H] [Tech Debt] [T] [Bug] [NPE] [RCH] [Not Reproducible] [Data coupled] [API] [Story] [Story] [Bug] [Story] [Story] [Bug] [Story] [Story] [Story] [Story] [Story] [Story] [Story] [Story]	9/24/2014	9/25/2014	2	Bug	3	0	0	0	1	0	0	0	N	-

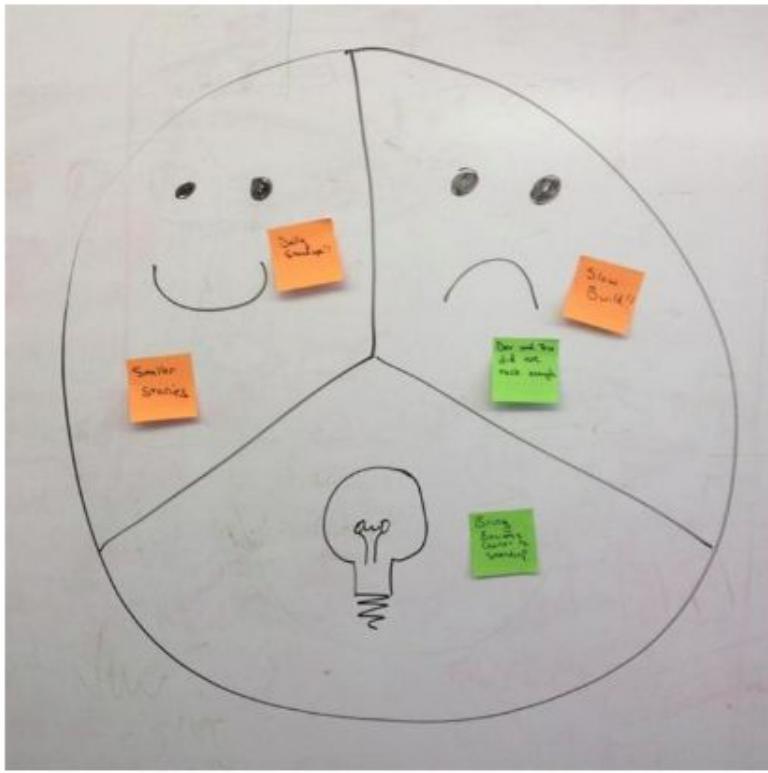


# Setlists

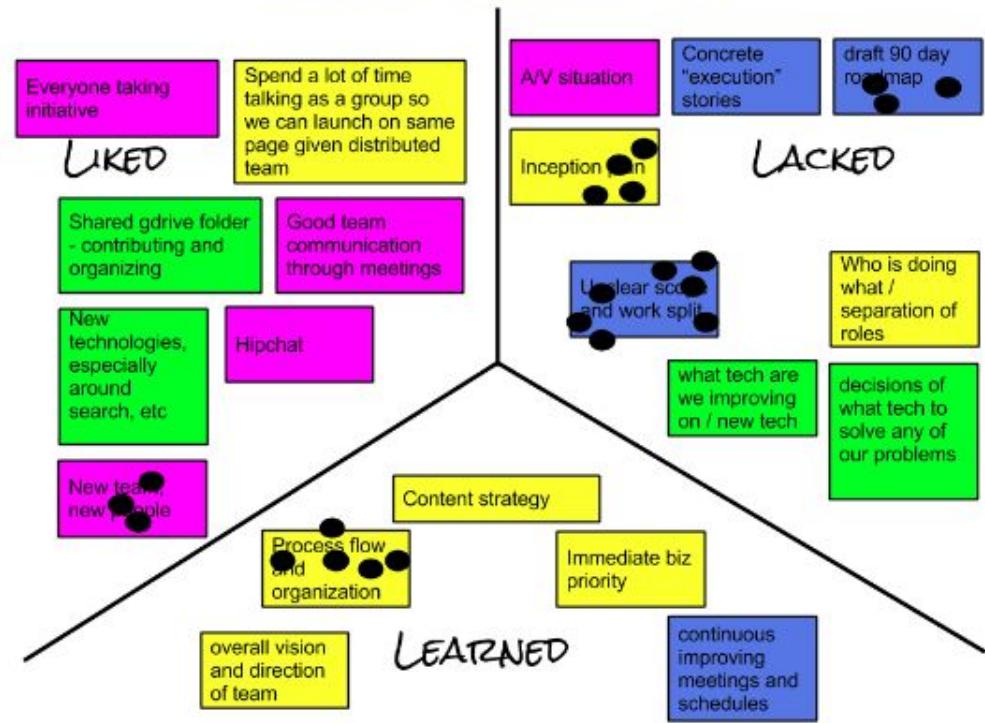
- Opening
- Ice-Breaker
- Process
- People
- Software
- Outside
- Aha-Moment
- ROTR



designed by freepik.com



### the 3 Ls activity: Liked – Learned – Lacked





### Speedboat Retrospective

Propellers: what moves us forward



Life Preserver: What can save or help us



Anchors: What holds us back



Rocks: Where can we crash

## Success and Failure



It's not about the first-mover advantage;  
It's about the fast-learner advantage.

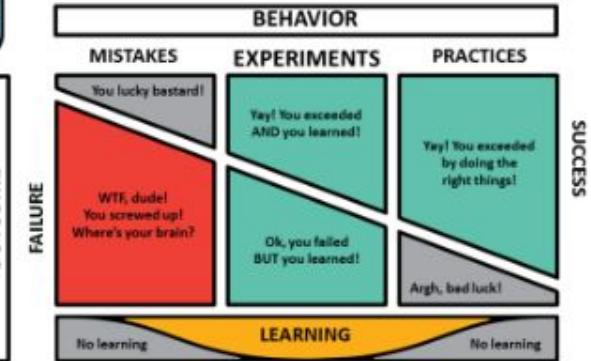


Don't change things;  
run experiments.

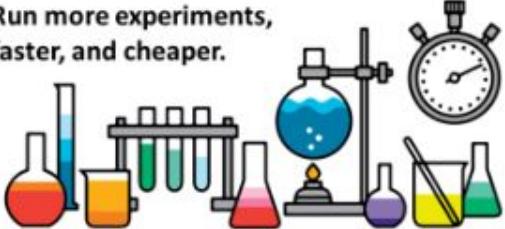


Create a safe-to-fail environment.

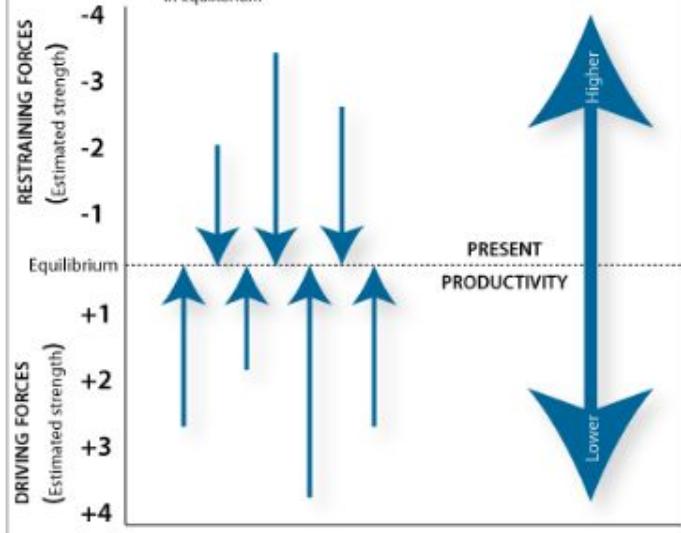
## CELEBRATION GRID



Run more experiments,  
faster, and cheaper.



Force Field Analysis Model  
Driving and restraining forces  
in equilibrium



**Vision:**

<b>Current State</b>	<b>Target State</b>	<b>Who's Affected?</b>
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Working with this change



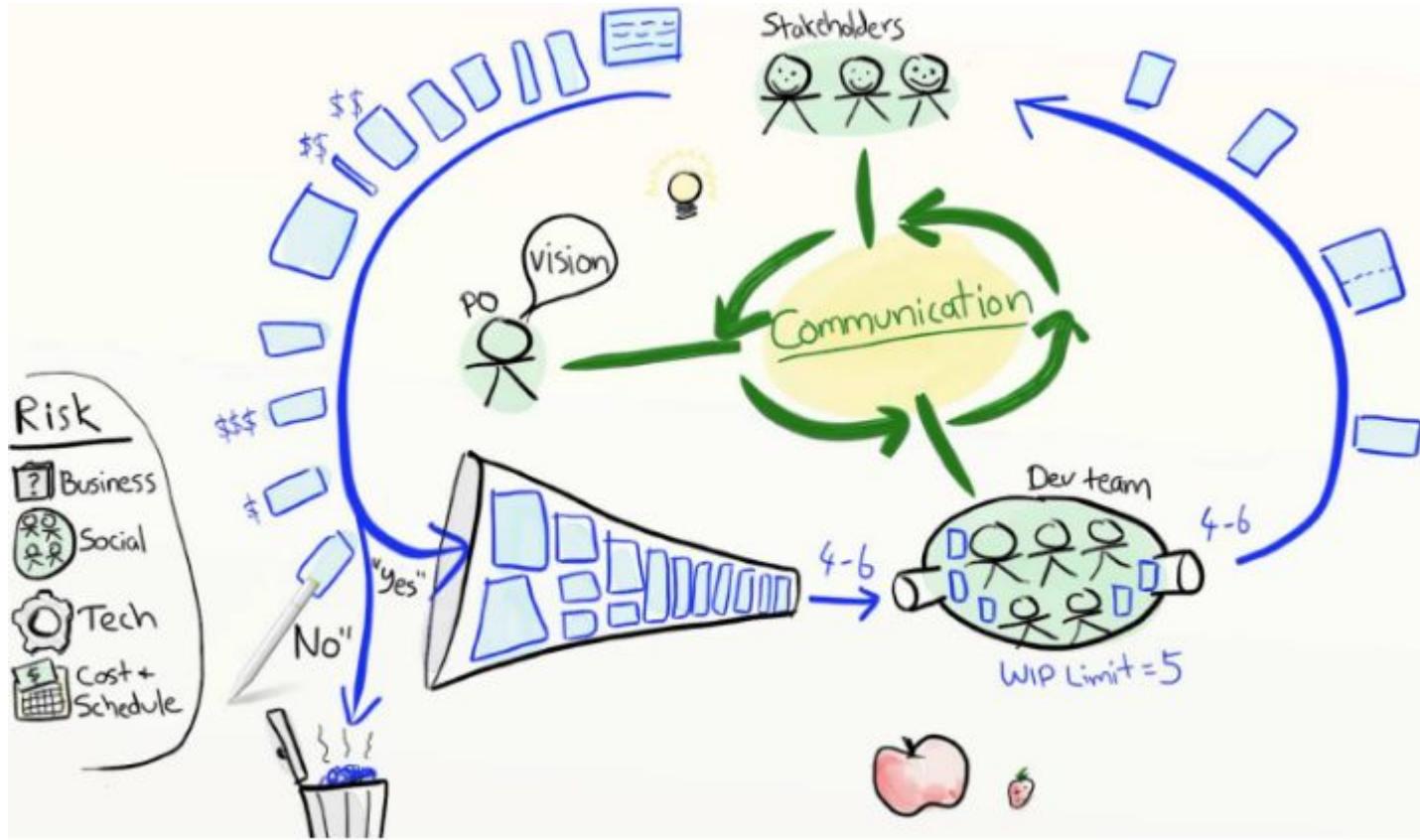
Working against this change

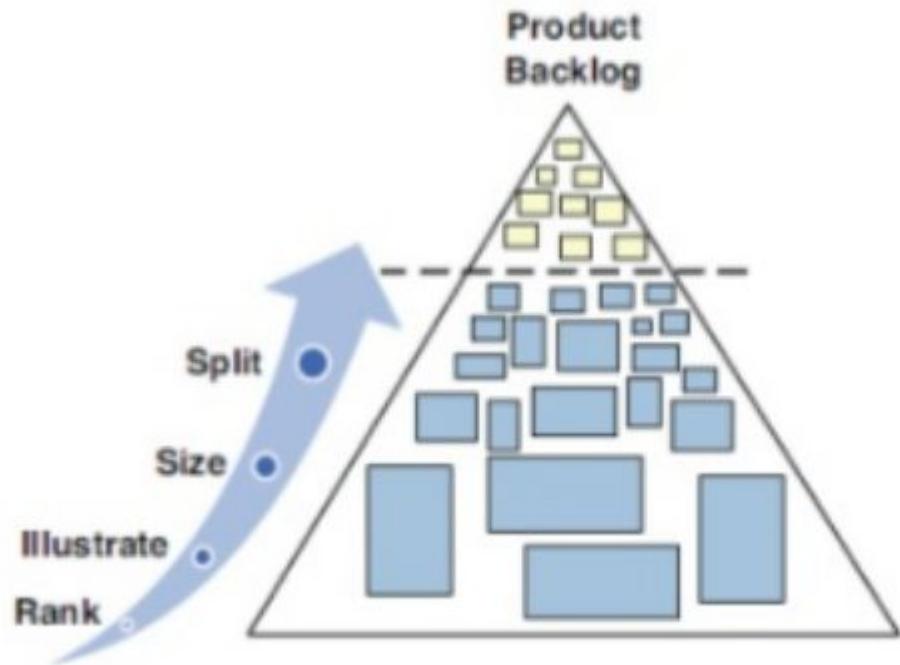


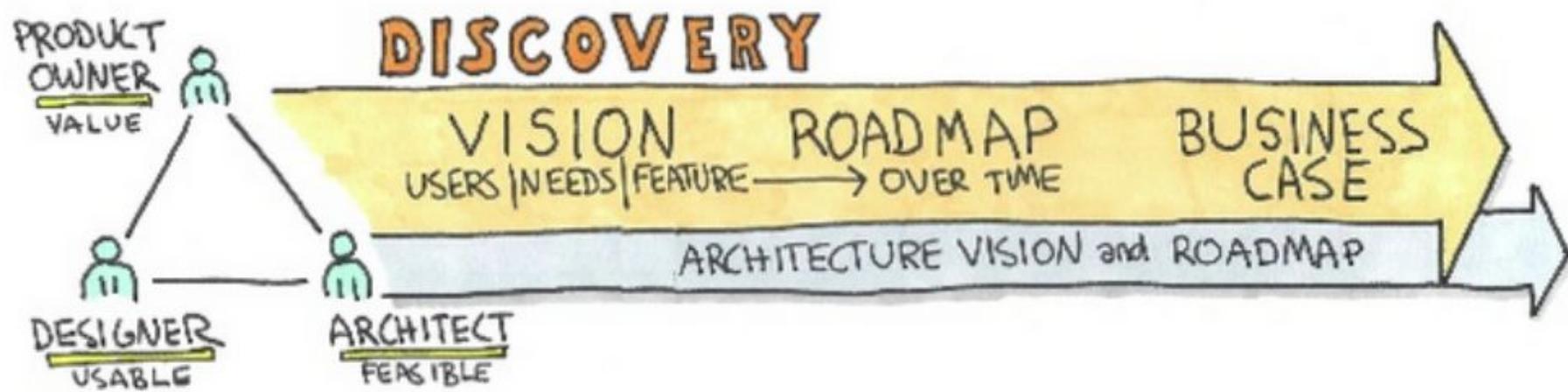
<b>Backlog</b>	<b>Next</b>	<b>Prepare</b>	<b>In Progress</b>	<b>Review</b>
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PO











50 % visitors  
see variation A



23%  
conversion

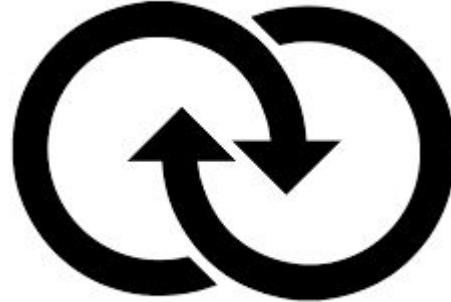


50 % visitors  
see variation B



11%  
conversion

# DevOps







- COST Oriented
- Short Term Focus
- Only focused on MGMT
- CHEAP Contractors
- Wrong Solutions (Not Specialists)
- High Process / Control
- Lack of Innovation and LED time

DevOps is not:

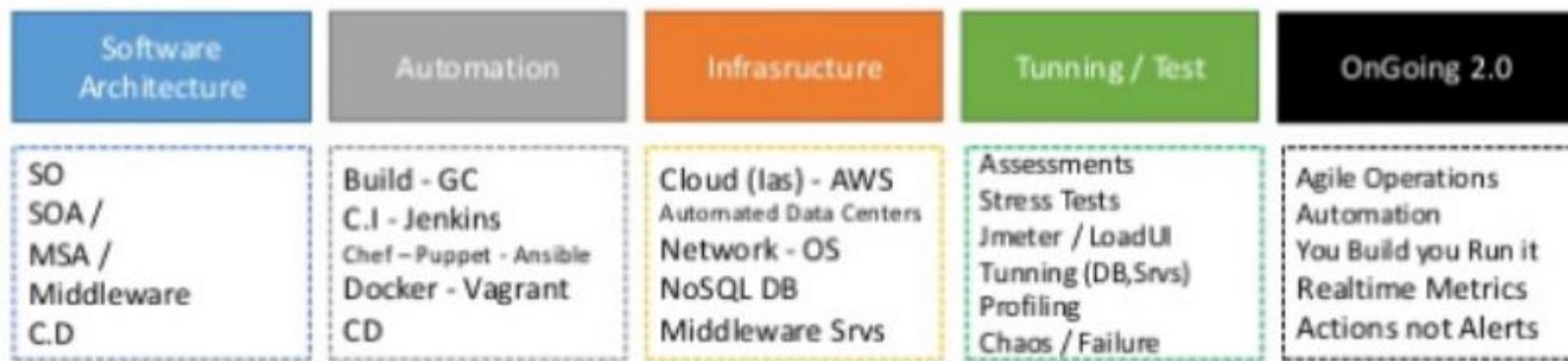
- A Process
- An Method
- A Methodology
- A Framework
- An Service
- A Tool
- Very Hard to Be certified
- Its not a ROLE
- Not a TEAM, NOT a Department





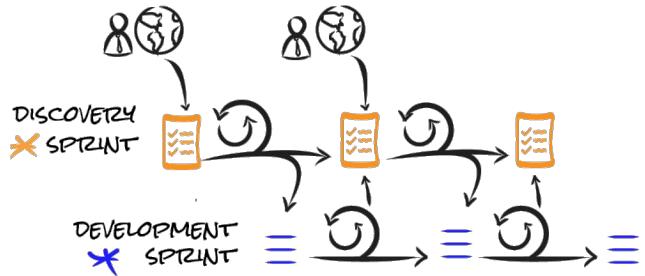
API

## DevOps: End-2-End

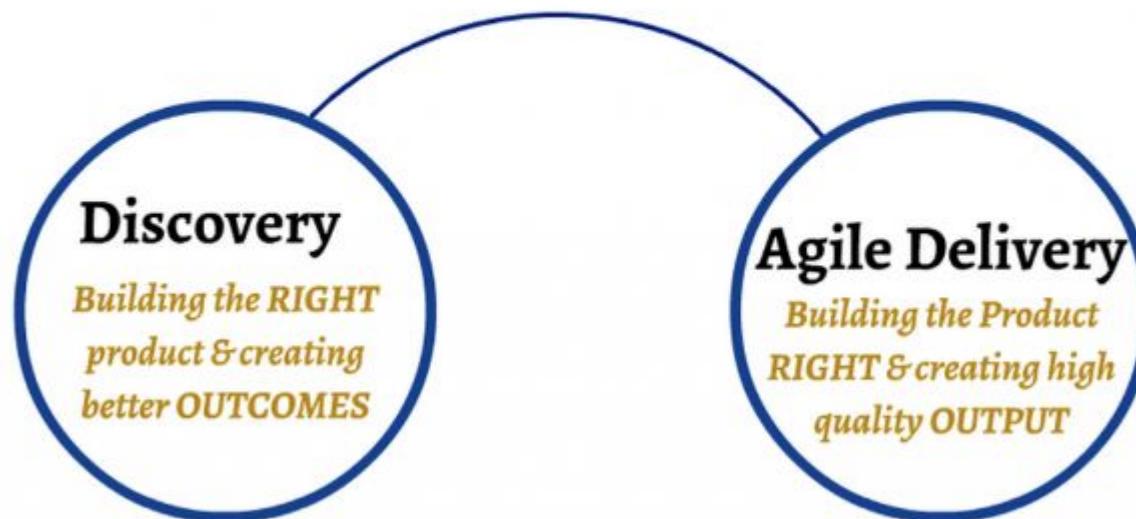


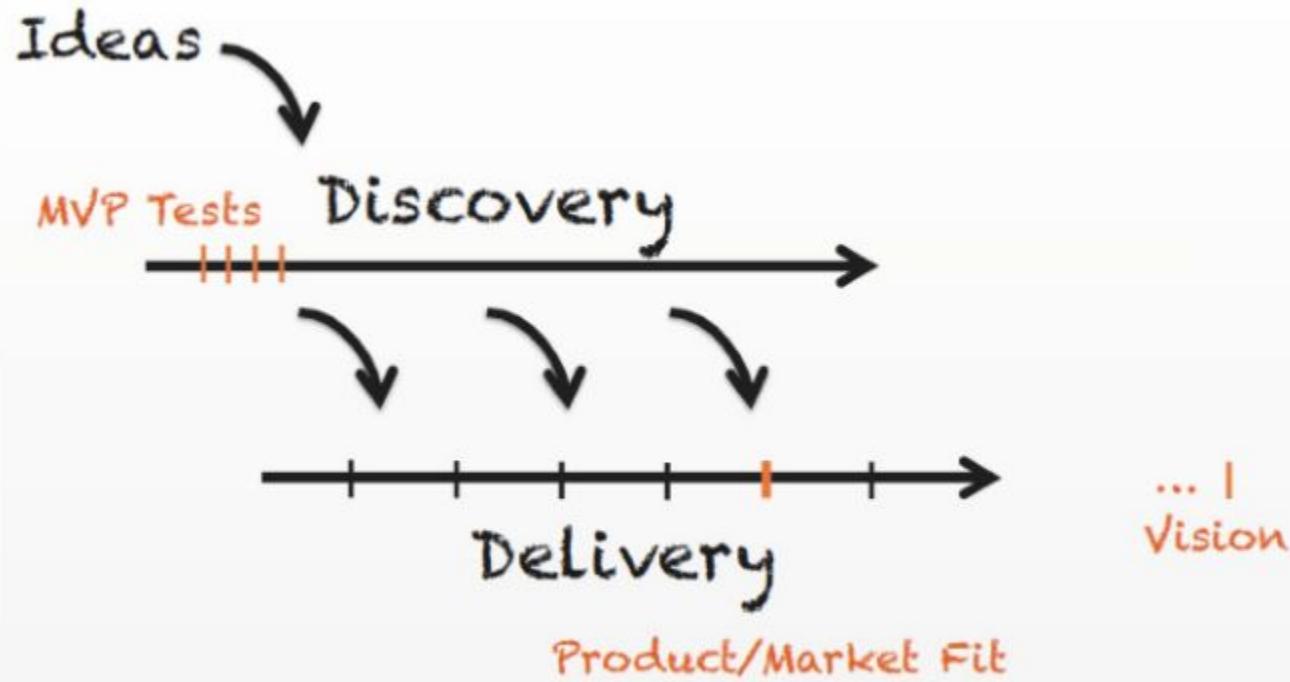
## Culture: DevOps/Lean/Agile

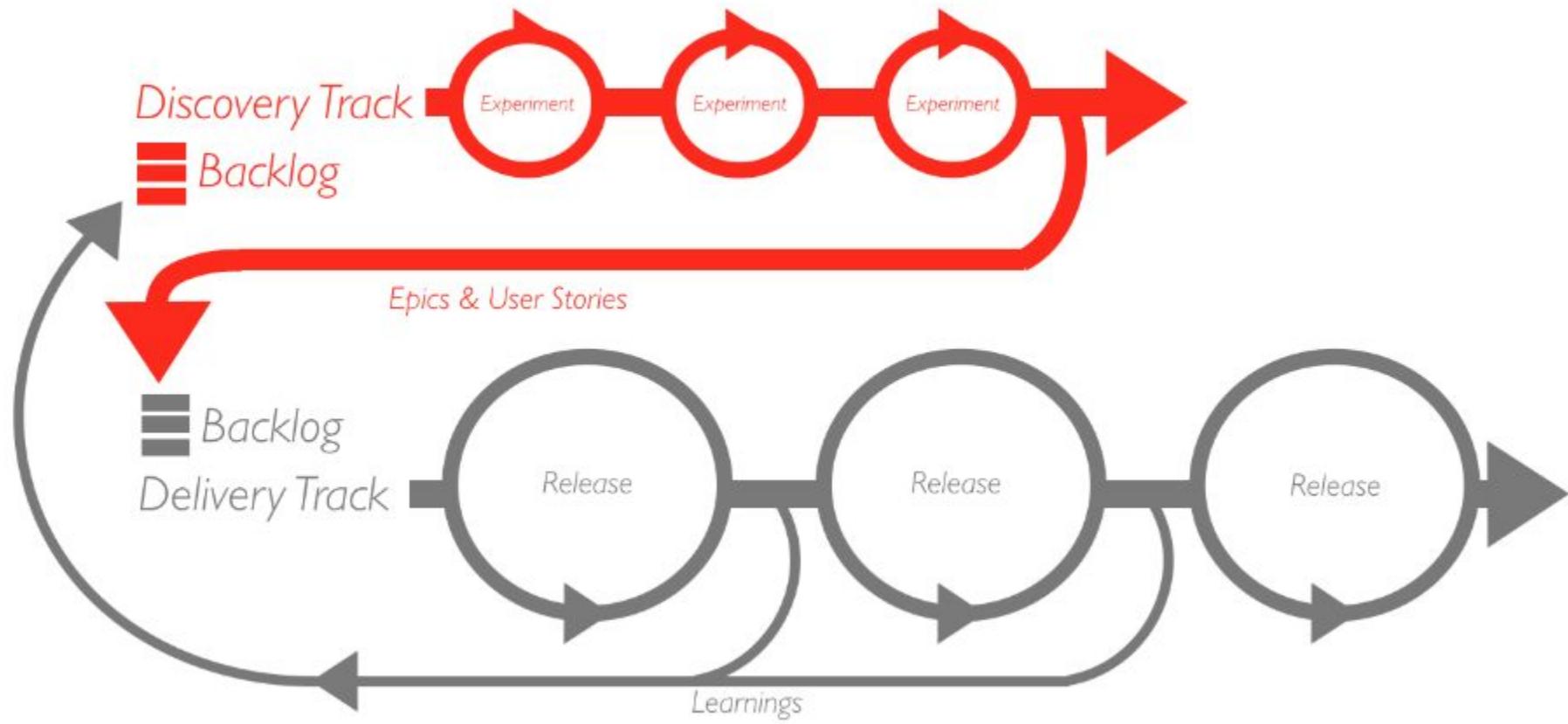
# DTA



# Balance

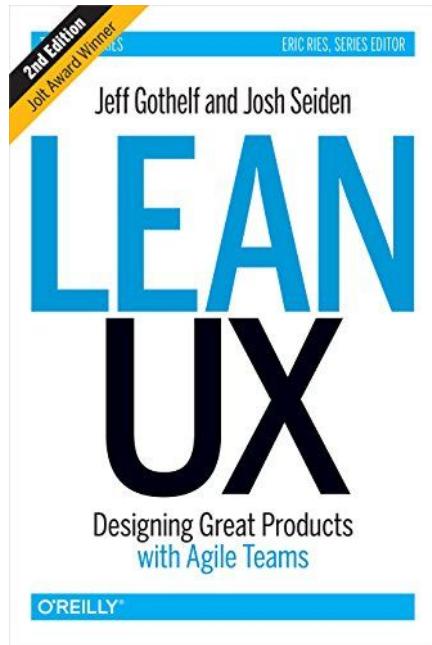
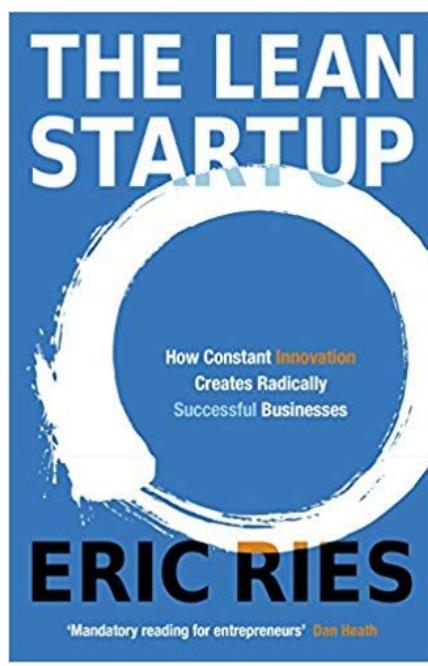
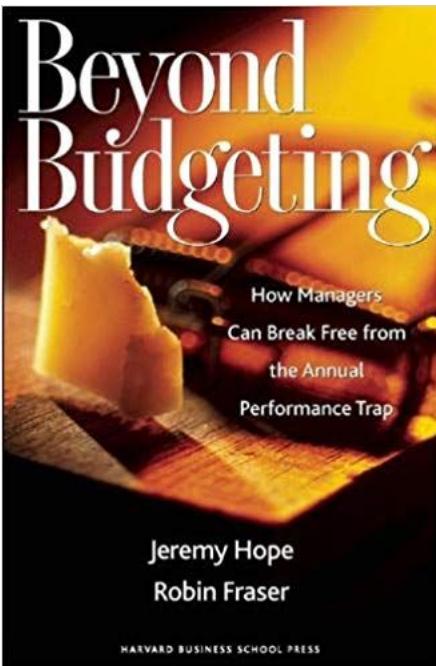
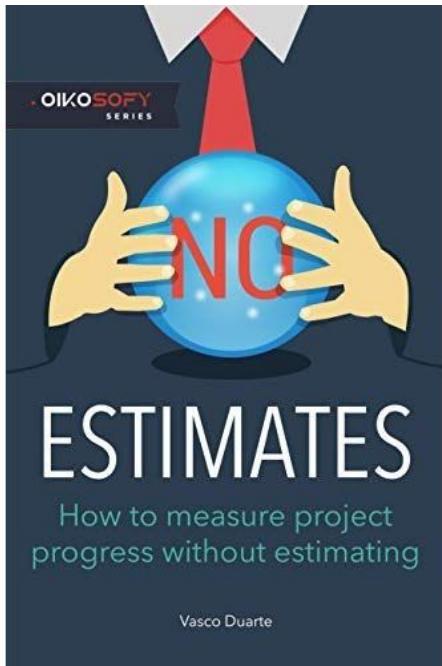


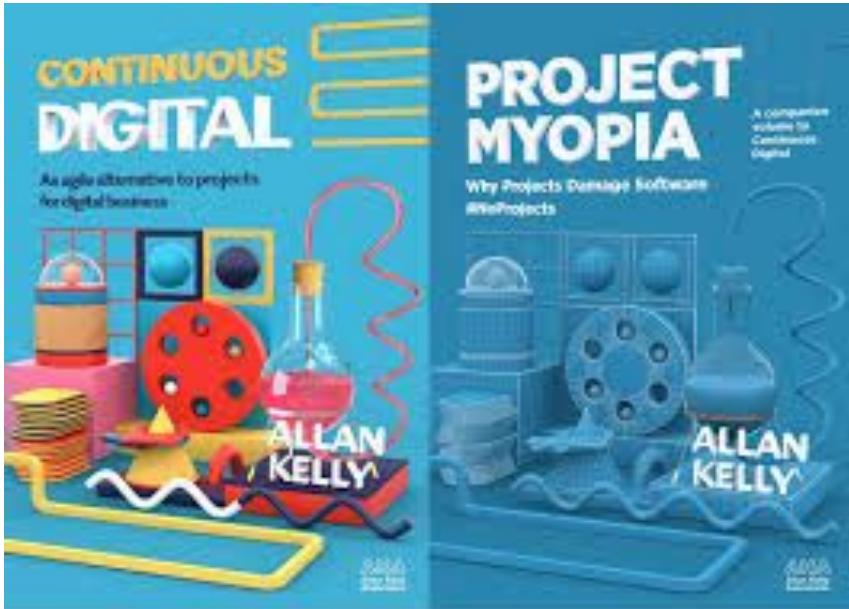




# Product Culture









\*planio

1. We Fail or we fail estimate?
2. What deliver on time means?
3. What about?
  - a. Customer Experience?
  - b. Does more features mean more Revenue?
  - c. What's the usage per Feature?
4. IF we deliver and people don't use it?
5. It's software or Bic Pens?



Milk is cheapest  
in BIG cartons



And small cartons  
of software  
reduce risk

Software is  
cheapest in  
lots of small  
cartons

## Temporary Organization?

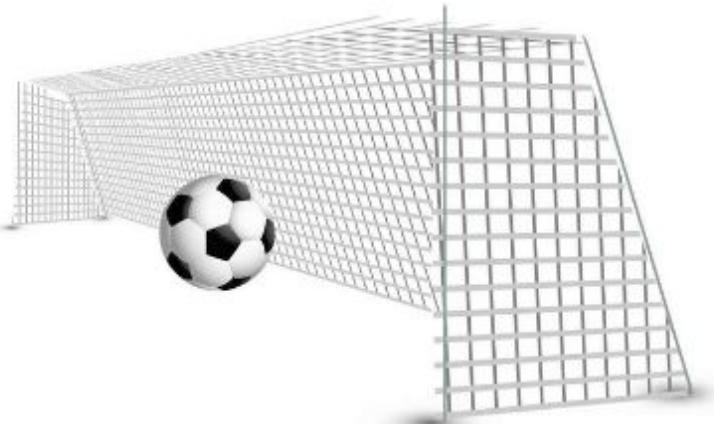
- Storming
- Norming
- Forming
- Performing
- Destroying

} Takes time &  
money!



*Why destroy performing teams?  
Why spend that money?  
Why lose knowledge?*

The Project  
model leads  
to...



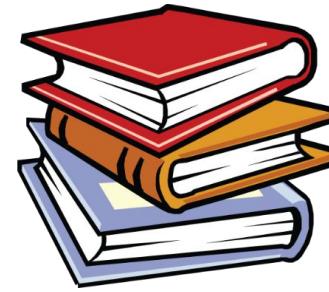
Conflict and....

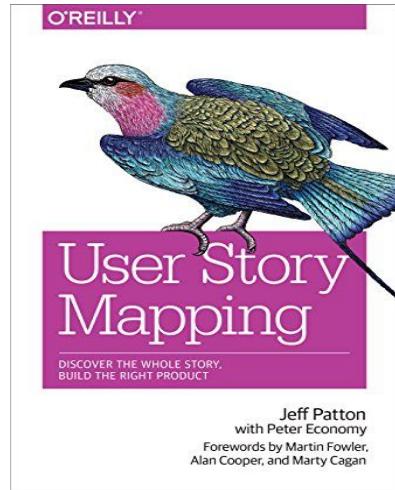
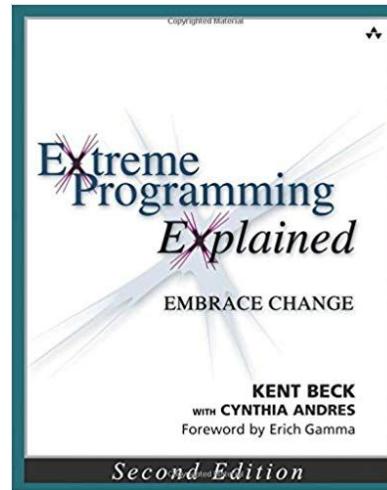
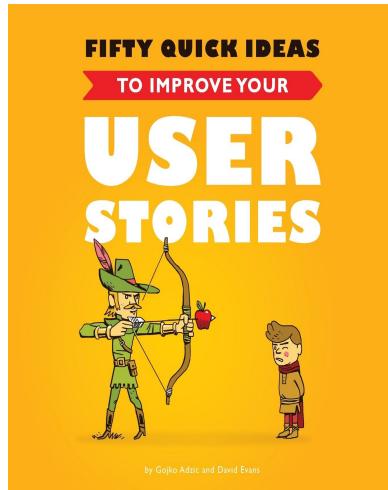
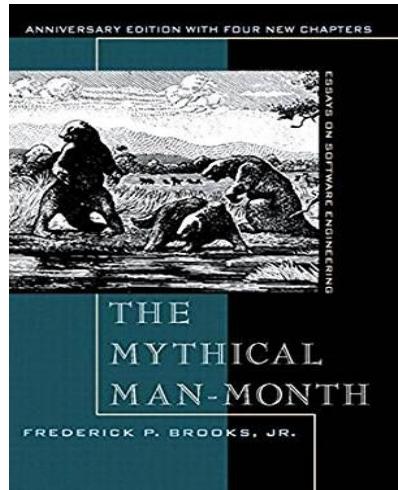
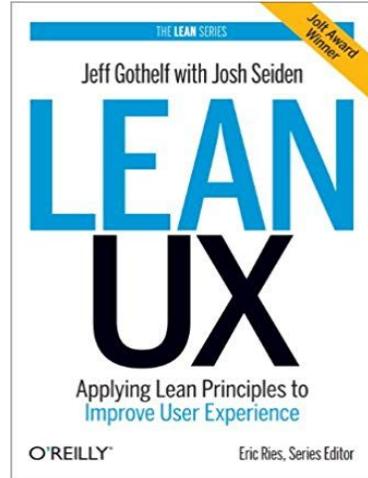
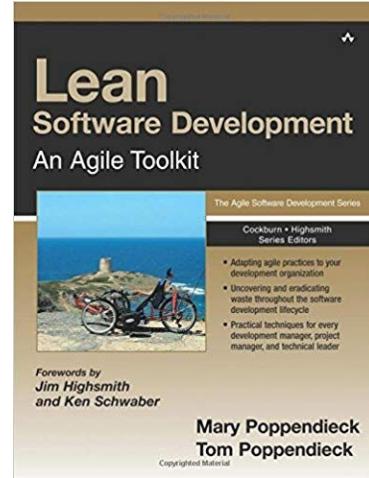
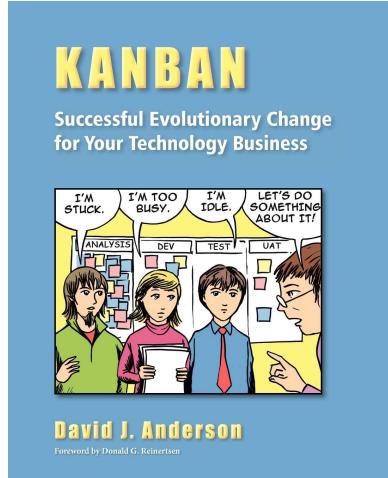
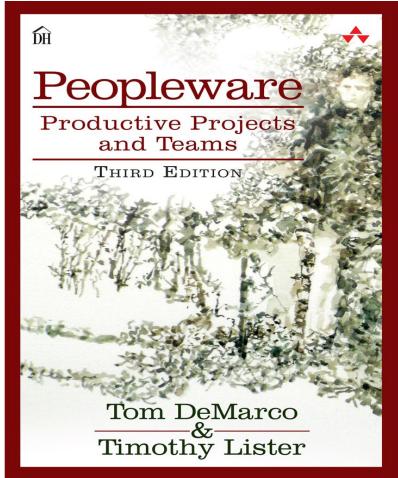
Goal displacement

- Chasing date over benefit
- Chasing time over benefit
- Chasing cost over benefit
- Chasing features over benefit

# Product VS Projects

# Books



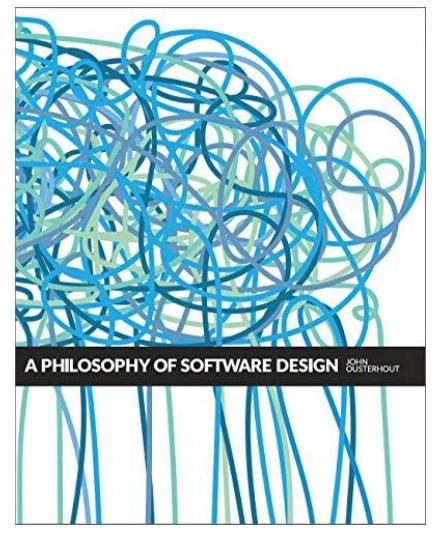
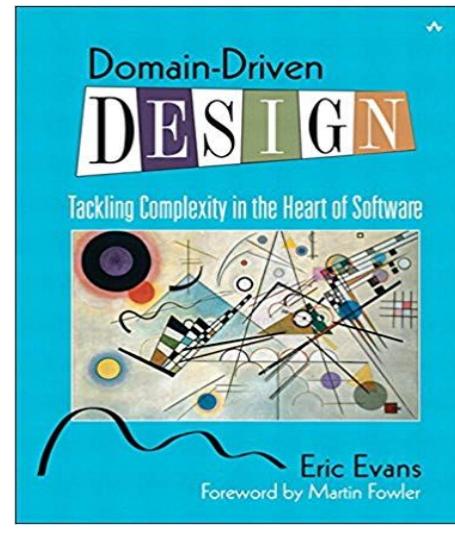
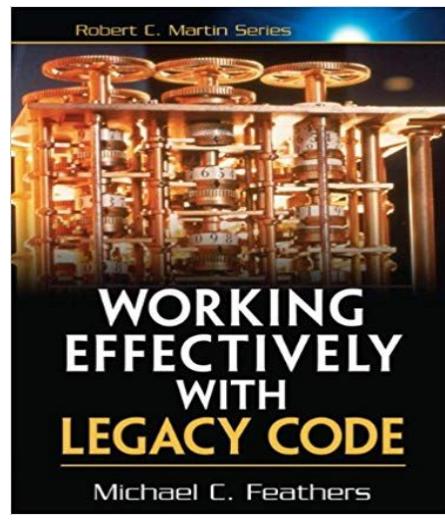
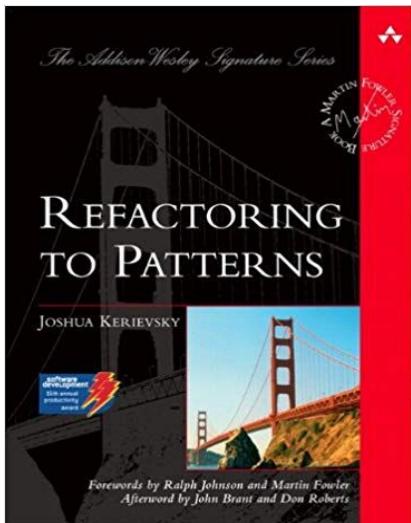
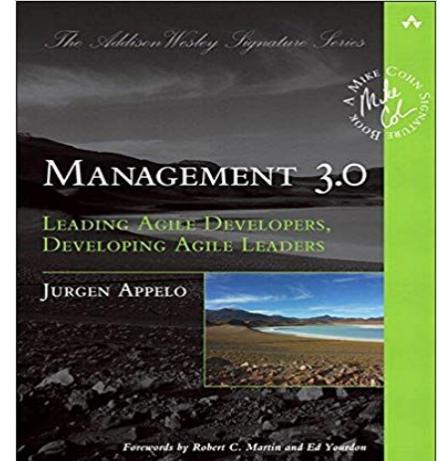
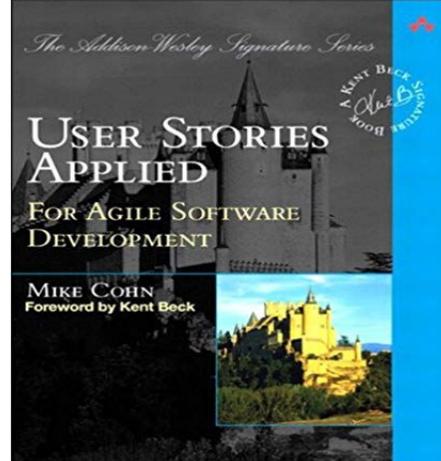
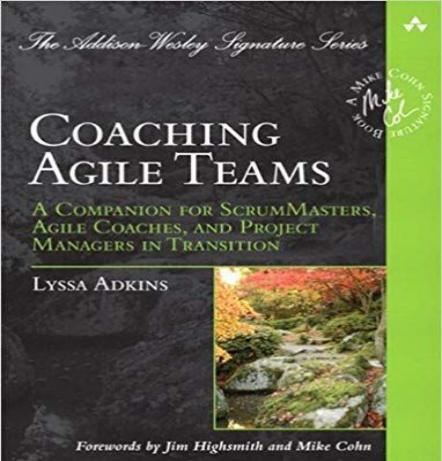


# Agile Retrospectives

Making Good Teams Great



Esther Derby  
Diana Larsen





# Lean / Agile @ Work

Diego Pacheco