Agility and Agile Methods

Agile 102

Updated: October, 2019
Delivering value: plan-driven or “waterfall” development
Create customer value one small piece at a time and collect the pieces in one place.
* While you’re filling the bowl, periodically ask your customers what flavors they like...
Insanity!

If you want different results, you have to change what you are doing. Just wanting it doesn’t work.
Corollary

Every time you choose to ignore something fundamental about Agile, you are giving up some of the benefits.
The Agile Family Tree

Lean

Agile

Responding to Change
Interactions Between People
Working Software
Customer Collaboration

eXtreme Programming (Coding)
Scrum (Proj. Mgmt.)
Kanban (Process Mgmt.)

Waterfall
Scrum
What is a Scrum?
What is scrum?

- An Agile product development methodology
  - Follows the Agile Manifesto and Agile Principles
  - Scrum is Agile. Agile is not scrum.
- A product development process framework
- When you hear people say “we’re doing Agile” they usually mean “we’re doing Scrum.”
Scrum Process Framework

Product backlog

Iteration planning

Iteration review

Iteration (1 week to 1 calendar month)

Potentially Shippable Product
Delivering Value

Value

Time

Sprint 1
Sprint 2
Sprint 3

Sprint n
The Optimal Scrum Team

CROSS-FUNCTIONAL
SELF-ORGANIZING
Long-lived and stable
Dedicated
5 - 9 People
Co-Located
Daily Scrum
(aka Daily Standup)

A time and place for the team to self-organize each day.
What is this Kanban of which you speak?
Flow

Ideas
(Features, Requirements)

Value, Product
Basic, minimum kanban
An Enterprise Kanban Board
What A Kanban Implementation Must Do

- Make process visible
- Implement a *pull* system
  - Limit WIP
  - Match demand to capacity
- Identify bottlenecks and waste
  - make flow visible
- Stimulate change
Lean
“All we are doing is looking at the timeline from the moment the customer gives us an order to the point when we collect the cash. And we are reducing that timeline by removing the non-value-added waste” -- Taiichi Ohno
Lean is the application of TPS to the entire organization.
The Goal: Value

Sustainable shortest lead time. Best quality and value (to people and society). Most customer delight, lowest cost, high morale, safety.

Pillar 1: Respect for People
- don't trouble your customer
- develop people-then build products
- no wasteful work
- teams and individuals evolve their own practices and improvements
- build partners with stable relationships, trust and coaching lean thinking
- develop teams

Development Practices
- long-term great engineers
- mentoring mgr-eng-teacher
cadence
- cross-functional
- team room + visual mgmt
- entrepreneurial chief/product manager
- set based concurrent dev.
- create more knowledge

14 Lean Principles
Long-term philosophy, flow, pull, level workload, stop and fix, master norms, visual controls, tested tech, leaders-teachers from within, develop exceptional people, help partners be lean, go see, consensus and action, learning/reflection/kaizen

Pillar 2: Continuous Improvement
- Go See
- kaizen
- spread knowledge
- small, relentless,
- retrospectives
- 5 whys
- eyes for waste variability, overburden, NVA, (handoff, WIP, info scatter delay, multitasking, defects, wishful thinking...)
- perfection challenge
- Work to flow (smaller batch sizes, low cycle time)

Foundation: Management Support
Management applies and teaches lean thinking, and bases decisions on this long-term philosophy

Larman and Vodde (2000)
Adapted by Lellingwell, LLC. (2000)
Parting Thoughts
Synergy of the Big Three
Use Scrum when..

- Product Development
  - Particularly software
- Plannable Work
- You can support required culture and organizational change
Use Kanban when...

- Flow
- Lots of unplannable work or interruptions
  - Ops or maintenance work
- Lots of widely varying work
Use Lean when...

- Manufacturing
  - Not product development
- You are attempting to improve an entire business organization
- You are in a process-heavy environment
- Neither Kanban nor Scrum seem to apply well
Thanks!
Appendix
Product Backlog

Feature A
Feature B
Feature C

Product Owner
Waterfall Challenges

- Cost of change
- Cost of release
- Large decisions with least knowledge
- Predicting the future
- Illusion of progress
- Responding to change
- Ambiguous accountability
- Quality
“Waterfall” Methodology

Winston Royce, 1970
## The Toolbox is Full

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How much will we finish?

At our slowest velocity we’ll finish here

At our average velocity we’ll finish here

At our fastest velocity we’ll finish here

Most important stories here

Least important stories here

How much will we finish?
High-Level View

Start date

Fixed length

End date

Timebox of up to a calendar month

Sprint 1
Sprint 2
Sprint 3
Sprint 4
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