The Muddle of Agile Systems Engineering

Consulting & Training for Software and Systems Engineering

Germany
Hamburg
self-organized
corporate association
employee-owned
since 1998
c. 30 people

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Agenda

- Motivation
  - The History of Agile
    - Lean & Agile
      - The Waterfall?
      - Be agile & lean
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The Origin of Scrum, Kanban and Agile lies outside of Software Development

- Toyota Production System
- Lean
- The New New Product Development Game [H. Tekushi, I. Nonaka]
- Crystal
- XP
- FDD
- Scrum
- Kanban
- Agile Manifesto
- Kanban Method
- ESP
Manifesto for Agile Software Development

Items we have come to value:

Even more Value!

Twelve Principles of Agile Software

Values

Individuals and interactions  >  processes and tools

Working software  >  comprehensive documentation

Customer collaboration  >  contract negotiation

Responding to change  >  following a plan
Principles behind the Agile Manifesto

1. Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
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2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

3. Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

The environment they need
Principles behind the Agile Manifesto

4. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

5. Business people and developers must work together daily throughout the project.

6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
Principles behind the Agile Manifesto

7. Working software is the primary measure of progress.

8. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

9. Continuous attention to technical excellence and good design enhances agility.

Technical Excellence
Principles behind the Agile Manifesto

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.

Reflect and Adjust regularly
**Lean Principles**

*Value* - Capture the Value defined by the customer; Value is defined as the delivery of a complex system satisfying all stakeholders

*Value Stream* - Map the value stream and **eliminate waste**

*Flow* – Flow the work through the planned and streamlined value-adding steps and processes

*Pull* – Let customers pull value, [...] the ideal pull principle is implemented as a Just-in-Time delivery of parts and materials to the needing stations and to external customers

*Perfection* – Pursue perfection of all processes [...] bounded by the overall value proposition which defines when the output “is good enough”

*Respect people* – A Lean enterprise [...] recognizes that its people are the most important resources and [...] adopts high performance work practices

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**Lean & Agile**

<table>
<thead>
<tr>
<th>Lean Principle</th>
<th>Agile Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value</strong></td>
<td>Customer satisfaction as highest priority, welcome change, working software, Self-organizing teams</td>
</tr>
<tr>
<td><strong>Value Stream</strong> (Eliminate Waste)</td>
<td>Frequent delivery, daily together, face-to-face, reflect and adjust</td>
</tr>
<tr>
<td><strong>Flow</strong></td>
<td>Customersatisfaction by early and continuous delivery, constant pace, reflect and adjust</td>
</tr>
<tr>
<td><strong>Pull</strong></td>
<td>Welcome change, reflect and adjust</td>
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<tr>
<td><strong>Perfection</strong></td>
<td>Welcome change, working software, technical excellence, simplicity</td>
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<td><strong>Respect People</strong></td>
<td>Motivated individuals, daily together, Self-organizing teams</td>
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System Engineers love their V!!!

Is V = Waterfall?

AGILE MYTHS
Logical relationships of engineering information

Waterfall is not written with V
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Focus on the **Ends** and not on the **Means**!

Read the agile processes right!

For example – Myth #42:
You do not have to release a working system every 3 weeks!

**The Sprint**
The heart of Scrum is a Sprint, a time-box of one month or less during which a “Done”, useable, and potentially releasable product increment is created. Sprints have consistent durations

(Source: Scrum Guide)

Purpose: Get early feedback from your stakeholders!
Means: Simulations, Prototypes, ...

Make it feedbackable!

(Source: EDS.com)
Colocate!

Instead of creating requirement specification documents (handover) plan a colocated team!
Thank you! - And be agile & lean!

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