Lean Software Development

An introduction

2009-05-14

Mattias Skarin
Who am I?

- **Coach**
  - Lean/Scrum
  - 10+ teams

- **Entrepreneur**
  - Extreme Solutions
  - Bizplant

- **Engineer**
  - 9 years software dev
  - Acting CTO

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Toyota and Lean thinking

“Only after American carmakers had exhausted every other explanation for Toyota’s success – an undervalued yen, a docile workforce, Japanese culture, superior automation – were they finally able to admit that Toyota’s real advantage was its ability to harness the intellect of ‘ordinary’ employees.”

“We get brilliant results from average people managing brilliant processes.

We observe that our competitors often get average (or worse) results from brilliant people managing broken processes.


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Why Lean?
Agile is hard to scale
Lean links functions together
A new look at
LEAN
In Lean operational decisions, value trumps flow, and flow trumps waste reduction
## Values, principles, practices

<table>
<thead>
<tr>
<th></th>
<th>Lean</th>
<th>Agile</th>
</tr>
</thead>
</table>
| **Values** | System thinking  
Respect people  
Always improve  
..          | Individuals & Interaction over process & Tools  
Responding to change over following a plan  
..          |
| **Principles** | Value trumps flow, and flow trumps waste reduction  
Match work to capacity | Simplicity is essential  
..          |
| **Practices** | Kanban  
A3 problem solving  
Value stream mapping  
Match work to capacity  
.. | Daily standup,  
Sprint planning  
.. |

Designed for software!  
Expandable to the enterprise

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Lean extends Agile

Across functions (not just software)

Flow

Deep understanding of Engineering practices

Visual management

Risk management through classes of service

Scaling to the enterprise
FLOW
Flow

Steady, continuous stream
From Batch to Flow

Step 1
- Change is expensive
- Flow is slow
- Problems hidden - discovered late

Step 2
- Change is cheap
- Flow is fast
- Problems surfaced quickly
Turbulence

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Thinking different

EXAMPLE
<table>
<thead>
<tr>
<th>Carrier</th>
<th>On time</th>
<th>Load factor</th>
<th>Flights</th>
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</thead>
<tbody>
<tr>
<td>Southwest</td>
<td>0.8172</td>
<td>0.7260</td>
<td>1,164,906</td>
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<tr>
<td>Delta</td>
<td>0.7565</td>
<td>0.8060</td>
<td>568,862</td>
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<tr>
<td>Continental</td>
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<td>0.8140</td>
<td>411,105</td>
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<tr>
<td>United Airlines</td>
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<td>0.8270</td>
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<tr>
<td>American Airlines</td>
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<td>0.8150</td>
<td>792,404</td>
</tr>
</tbody>
</table>

2007 Statistics

- Excellent customer service
- Fewest complaints
- Rated “most admired airline”

Sources: Poppendieck, FAA, SEC Filings, Fortune
We are committed to provide our Employees a stable work environment with equal opportunity for learning and personal growth. Creativity and innovation are encouraged for improving the effectiveness of Southwest Airlines. Above all, Employees will be provided the same concern, respect, and caring attitude within the organization that they are expected to share externally with every Southwest Customer.
Where do I start?

- Values?
- Principles?
- Practices?

Empirical evidence suggests starting with visual management using Kanban can initiate the learning process.
Thanks for listening!

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