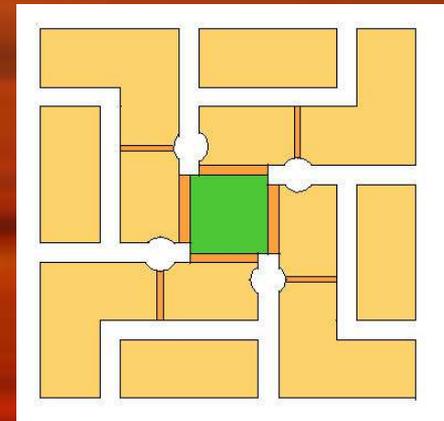


Patterns of Performance

The Secret Sauce of Hyperproductive Teams



Hosts: Jeff Sutherland
Joel Riddle

scruminc. *Who We Are*



Scrum Inc. is the Agile leadership company of Dr. Jeff Sutherland, co-creator of Scrum. We are based at the MIT Cambridge Innovation Center, MA.

COO/CST Alex Brown helps companies achieve the full benefits of Scrum leading our comprehensive suite of support services and leadership training:

- Adapting the methodology to an ever-expanding set of industries, processes and business challenges Training (Scrum Master, Product Owner, Agile Leadership, online courses, etc.)
- Consulting (linking Scrum and business strategy, customizing Scrum)
- Coaching (hands-on support to Scrum teams)



Chief Content Officer JJ Sutherland maintains the Scrum framework by:

- Capturing and codifying evolving best practices (Scrum Guide)
- Conducting original research on organizational behavior
- Publishing (3 books) and productizing ScrumLab



Principal Hardware Engineer Joe Justice leads our hardware consulting practice:

- Worldwide consulting at leading hardware companies
- 700-800% performance improvement in hardware development
- Builds 100 mpg cars in his garage with help from 500 people in 32 countries



We run our company using Scrum as the primary management framework, making us a living laboratory on the cutting edge of “Enterprise Scrum”

Find out more at www.scruminc.com.

Agenda

- Clarify the major problem in the Agile community
 - 80% of teams do not have working software – Bad Agile
 - Results in delays of 4-24 times optimal ship time
- Patterns are an easy way to improve performance
 - Problem/Solution pair that works in many companies
 - Captures global expertise in easy to adopt format
 - Not prescriptive – teams can inspect and adapt
 - Interactions and side-effects designed to give you change for free
- Patterns commonly seen in hyperproductive teams
 - When Venture Capitalists crunch the data they observe:
 - ***Teams that finish early accelerate faster***
- Examples from companies that have succeeded
 - Patterns seen at Agile companies - Google, Microsoft, Salesforce.com, Adobe, Yahoo, Spotify, Systematic, ScrumInc, ...

Waterfall vs. Agile

F-35 "Joint Strike Fighter" – Traditional Design



- \$143 billion over budget
- At least another year late (final systems integration)
- Cost of Navy F-35C grew from \$273 million in 2014 to \$337 million by 2015

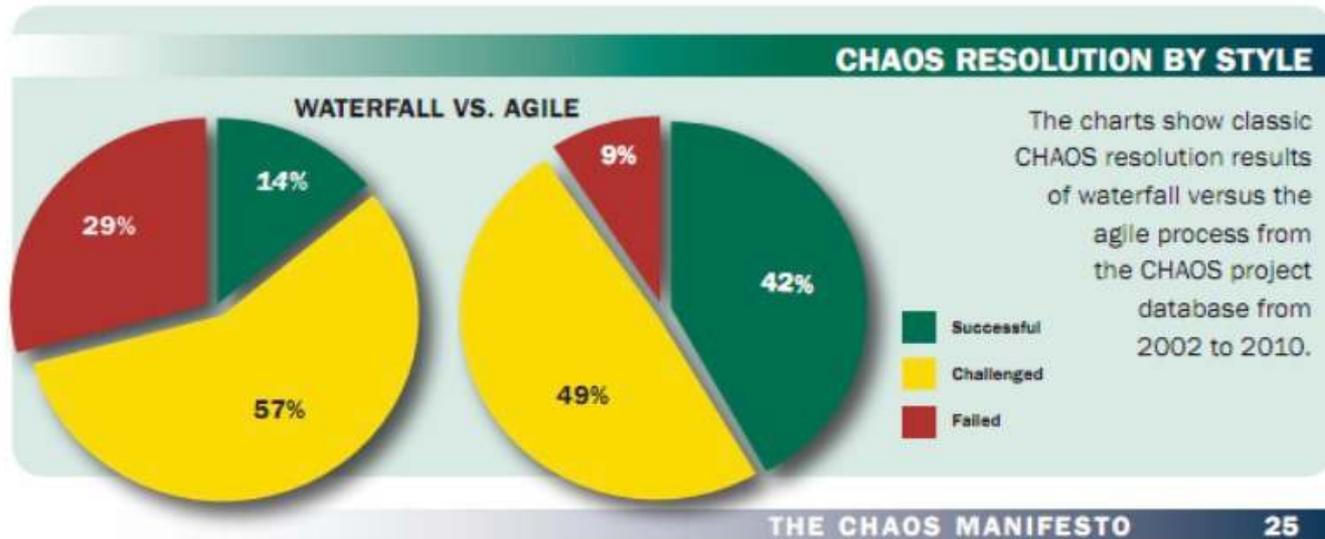
SAAB JAS 39E "Gripen" – Agile Design



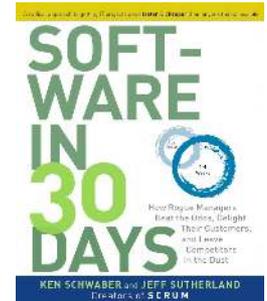
- Cumulative program cost of \$15 billion
- New iteration of all systems released every 6 months
- \$43M cost¹ (20% of F-35)

1. According to Jane's Aviation Weekly, the Gripen is the world's most cost-effective military aircraft

Is Your Project Agile?



49% of Agile is “Bad Agile”



Source:

What is the Primary Reason for “Bad Agile”?

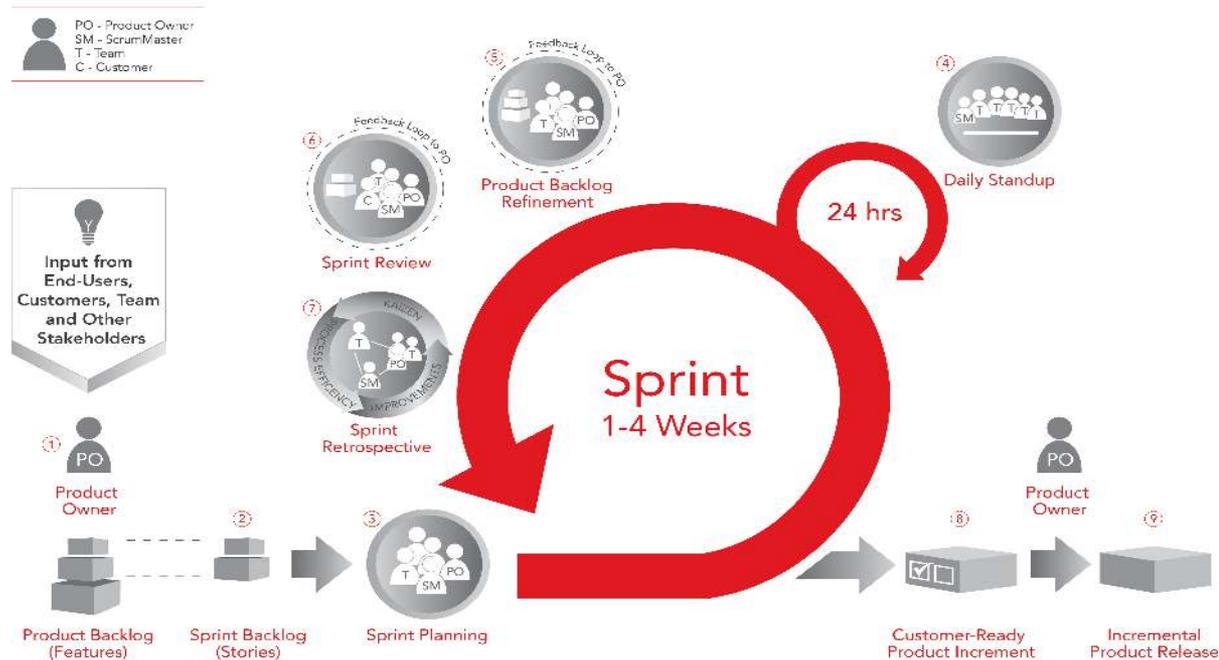
- Failure to implement the Agile Manifesto.
 - *Individuals and Interactions over Processes and Tools*
 - *Working Software over Comprehensive Documentation*
 - *Customer Collaboration over Contract Negotiation*
 - *Responding to Change over Following a Plan*
- *Teams do not work together to produce working software at the end of a sprint!*
- *Customers cannot try out the software at the end of a sprint!*
- *Teams cannot respond to customer feedback at the end of a sprint because the software doesn't work!*
- *Comprehensive documentation of bugs in a bug tracking system is a feature of “Bad Agile.”*



Scrum Framework Derives From Lean Product Development

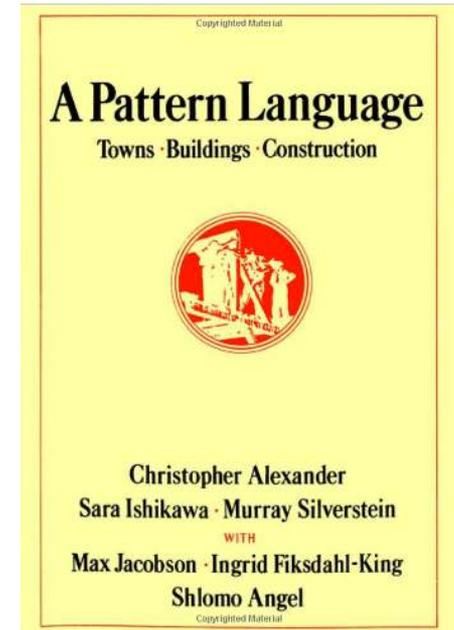
It's 3 roles, 3 artifacts and 4 ceremonies provide the absolute minimum deliverables for it to work. Patterns augment the framework and can help Teams accelerate.

How Scrum Works



Christopher Alexander and the Patterns Movement

- The architecture of buildings created the software patterns movement
- Good architecture has QWAN
 - it feels like home
 - it is intuitively easy to navigate
 - it is comfortable and cozy for the user
 - it grows through accretion and becomes more beautiful with age
 - it is a feeling the user gets that they want to repeat again and again
- A good Scrum team has QWAN



Why Is It So Important to Have Working Software?

- Scrum Inc. provides agile coaching to Openview Venture Partners (since 2006). All employees are on Scrum teams and all portfolio companies do Scrum.
- After running thousands of sprints, OpenView investors did a detailed analysis of data in Scrum tooling and discovered:



***Teams That Finish
Early Accelerate
Faster!***

It's Not About the Rules, It's How You Play the Game!

The Scrum Pattern Language of Programming : The PLoP movement codifies well known Agile practices that have been successfully implemented many times.

New product development is a cooperative game. Scrum provides one set of rules for one such way of playing the game. The Scrum Guide is the official rule book. However, the Scrum Guide doesn't tell you the rationale behind Scrum as a whole, or behind many of its successful practices. Those rationales come out of experience, community, and the insights of its founders and inventors. The ScrumPLoP mission is to build a body of pattern literature around those communities, describing those insights, so we can easily share them with the Scrum and Agile communities.



The rules are easy to describe, the magic not so much.

Stable Teams: Flow Work to Teams (not Teams to Work)

- It took years for Pink Floyd to play well enough to get a hit song.
- Whenever they lost a player they had to work hard to get the sound back!
- For software example see: [Sutherland, Downey, and Granvick. Shock Therapy: A Bootstrap for a Hyperproductive Scrum. Agile 2009](#) or check out [Google Tech Talk on Self-Organization](#).
- It is impossible to attain or maintain hyper-productive teams without stable teams.
- For example of a consultancy finding it impossible to maintain hyper-productivity see: [Jacobsen and Sutherland. Scrum and CMMI – Going From Good to Great. Agile 2009](#).
- It is impossible to get a hyper-productive team with 30% turnover when outsourcing to India or China.
- See [Sutherland, Victorov, Blount, and Puntikov. Distributed Scrum: Agile Project Management with Outsourced Development Teams. HICSS40, 2007](#).



Melissa Daimler @mdaimler · Jun 6

"Even the greatest musicians spend quite a bit of time tuning" --w/ @JonKabatZinn and all his wisdom @Wisdom2conf 2013
[youtube.com/watch?v=AjqDbJ...](https://www.youtube.com/watch?v=AjqDbJ...)

Yesterday's Weather

In most cases, the number of Points completed in the last Sprint is the most reliable predictor of how many Points will be completed in the next Sprint.

- Allows the Team to build a realistic Sprint Backlog based on past performance
- People are naturally ambitious and tend to pull in more work than they can accomplish
- Pulling into to much work can endanger the Sprint. Failing a Sprint demotivates the team and will lower Yesterday's Weather, pushing Velocity into a downward spiral



Swarming: One Piece Continuous Flow

Focus maximum Team effort on the highest value item in the Sprint Backlog to get it done as soon as possible.

- Having too much work in progress (WIP) often causes Teams to fail Sprints
- By focusing on just one PBI at a time, the Team is likely to move more to Done
- Whoever takes a PBI is Captain of the team. Everyone must help the Captain if they can and no one can interrupt them



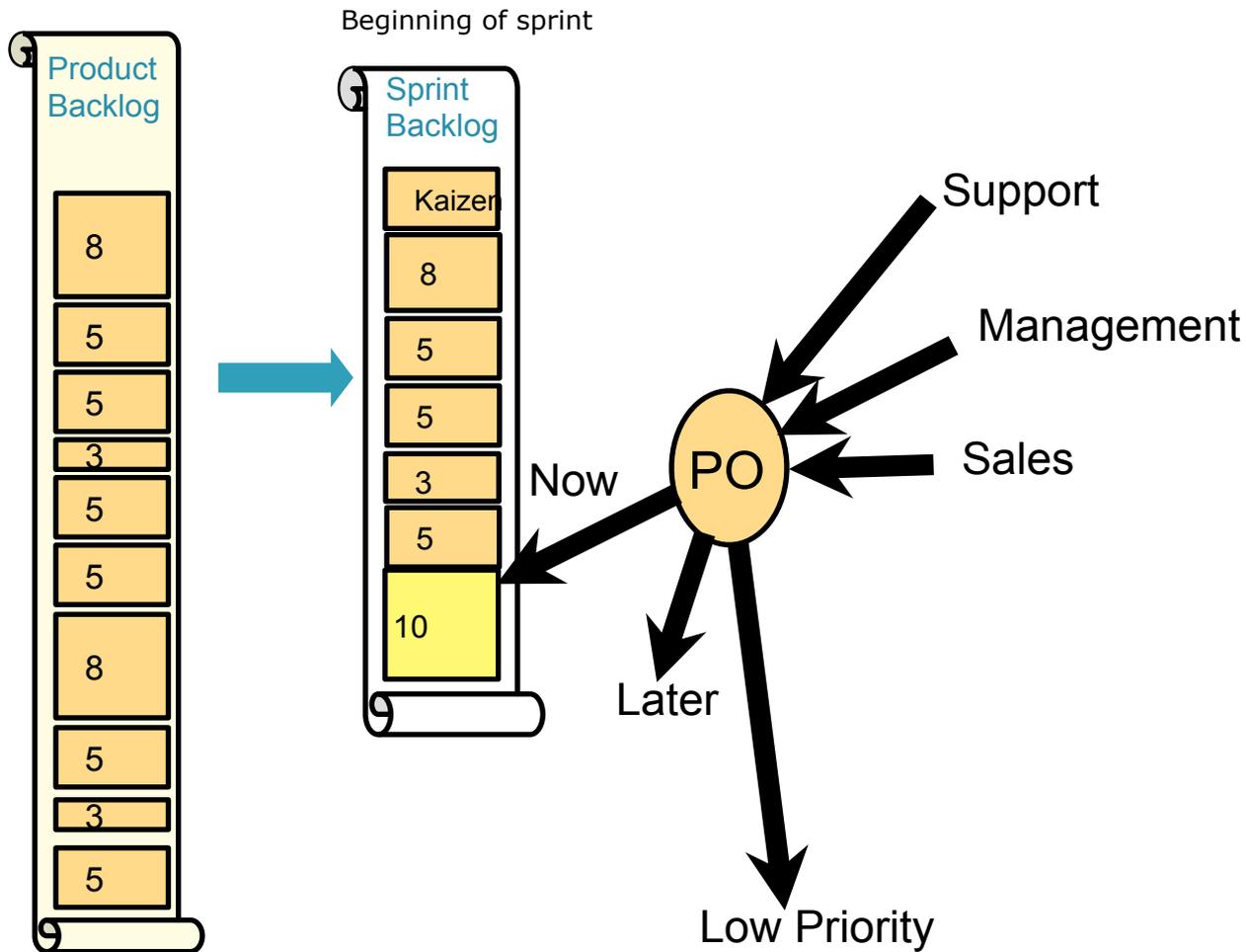
Illigitimus Non Interruptus

Interruptions happen. Allot space in the Sprint Backlog for them and do not allow the space to be exceeded.

- Track how many points of interrupts the team deals with each Sprint. Use the average over three Sprints to create a buffer
- All requests must go through the Product Owner for triage
- If the buffer overflows, the team aborts the Sprint and re-plans
- Notify leadership that dates might slip



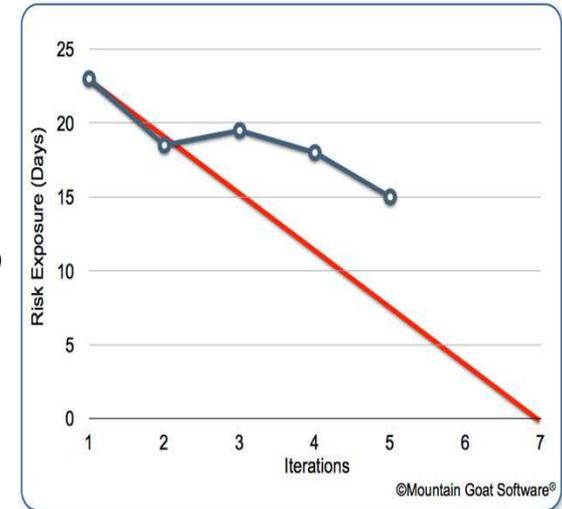
Illigitimus Non Interruptus



On Buffer Overflow **ABORT**, Replan, Dates Slip

Emergency Procedure

When high on the burndown, execute the emergency procedure. Do not delay trying to figure out what is wrong. It is the responsibility of the Scrum Master to make the call.

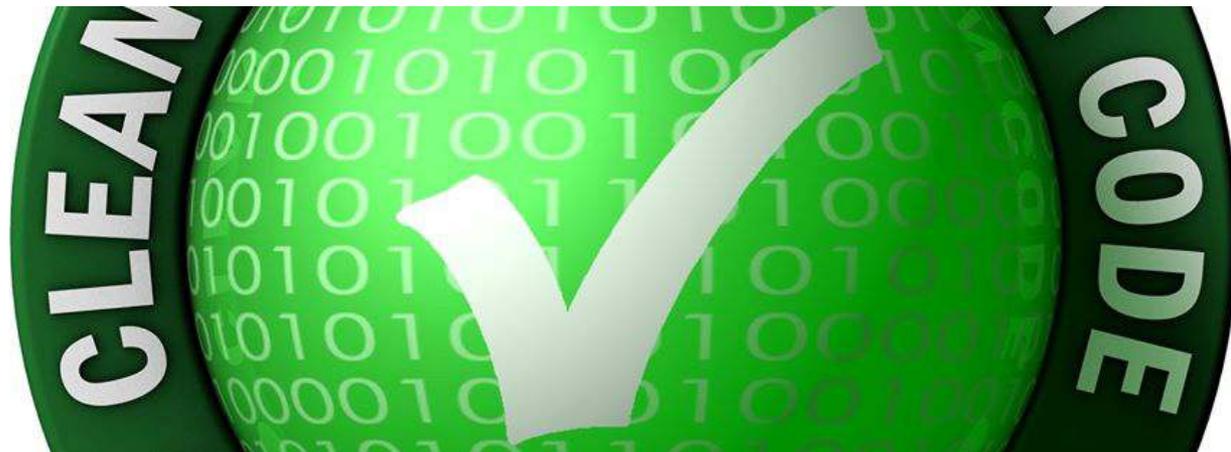


- Do something different
- Reduce scope by offloading backlog
- Abort the sprint and re-plan.
- Inform leadership that dates might slip

Daily Clean Code

Fix all bugs as you find them. Aim to have a completely clean code base at the end of the day.

- Technical Debt is one of the main drivers of waste
- Research at Palm, Inc. in 2006, showed that a bug that is not fixed the same day it is created can take as much as 24 times longer to correct three weeks later.



Scrumming the Scrum

Identify the single most important process improvement during Retrospective. Put it at the top of the Sprint Backlog with acceptance tests. Then evaluate the state of the story in the Sprint Review like any other story.

- This improvement is called the Kaizen
- Sometimes it might not be a process improvement but just an impediment. Treat it the same.
- By improving your Scrum just a little every Sprint, your Velocity will increase raising the base line of Yesterday's Weather

改善

kai zen
"change" "good"

Happiness Metric

Happiness is a great metric because its predictive. When people think about how happy they are they're projecting how they will feel in the future.

- In the Retrospective, each team member answers 2 questions:

- How happy are you with your role?
- How happy are you with the company



- If Team happiness dips, the Scrum Master has time to adjust course to prevent velocity from following
- Is the Team being pressured? Working at a sustainable pace? Is their autonomy being respected? Are they being supported by the organization? If the team isn't being treated with respect, they won't be happy and their performance will suffer.

Conclusions

- The cumulative effect of these patterns is far greater than the sum of the individual patterns.
- Scrum is designed to be fast, easy, and fun. Implementing these patterns makes it easy for a Scrum Master to have a constantly improving team.
- It is possible to build a hyper-productive team when implementing these patterns.
- Patterns are easy to understand and straightforward to implement.
- The challenge is to coach your team into implementing the patterns, one by one. Build on success.

Finish Earlier, Accelerate Faster

- *Teams often take too much work into a Sprint and cannot finish it. Failure prevents the Team from improving.*
- *Take less work into a Sprint. Then implement the four Patterns that reduce Impediments within the Sprint, which will systematically deal with any interruptions and help you finish early.*
- ***On early completion pull work from the Product Backlog which will increase the baseline of Yesterday's Whether.***

Questions?

SCRUM

**The Art of
Doing
Twice
the Work
in Half
the
Time**

The text is centered on a red background. Behind the text is a large, faint, circular arrow graphic that points clockwise, symbolizing a cycle or iteration. The text is in a bold, sans-serif font.

JEFF SUTHERLAND
Co-creator of Scrum

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