

# Scrum 1

# Scrum og SW udvikling

- Var er/en modreaktion imod daværende
  - Tunge systemer
  - Megen dokumentation
  - Meget stringente så on-the-fly ændringer var svære
  - Beregnet til store opgaver
  - At målet er 100% specificeret før start(kontraktunderskrivelse)
  - At når opgaven er løst har målet ændret sig
  - -> sure miner

We follow these principles:

**Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.**

**Welcome changing requirements, even late in development.**

Agile processes harness change for the customer's competitive advantage.

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

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

**Build projects around motivated individuals.**

**Give them the environment and support they need, and trust them to get the job done.**

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

## **Working software is the primary measure of progress.**

Agile processes promote sustainable development.

The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

Continuous attention to technical excellence and good design enhances agility.

## **Simplicity--the art of maximizing the amount of work not done--is essential.**

## **The best architectures, requirements, and designs emerge from self-organizing teams.**

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

## HINT TIL JERES PROJEKTARBEJDE

- Hav (også) kortsigtede mål
  - *“ at fredag kan vi demonstrere interface til accelerometer”*
  - *“ at vi nedbryder og laver del-eksperimenter for at nå målet”*

# An Introduction to Scrum

# An Introduction to Scrum

Presented by

Jens  
"today"

# We're losing the relay race



“The... ‘relay race’ approach to product development...may conflict with the goals of maximum speed and flexibility. Instead a holistic or ‘rugby’ approach—where a team tries to go the distance as a unit, passing the ball back and forth—may better serve today’s competitive requirements.”

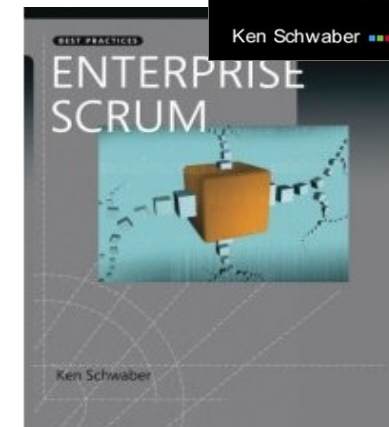
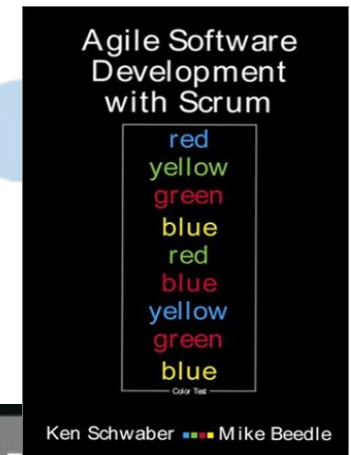
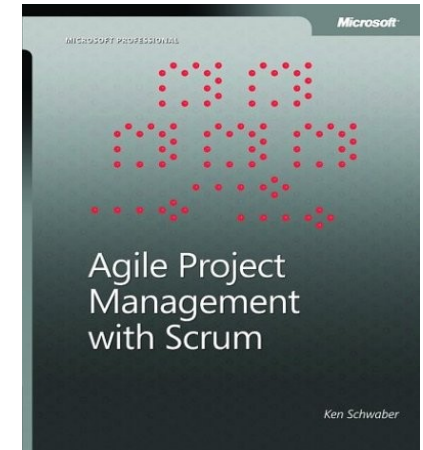
Hiroataka Takeuchi and Ikujiro Nonaka,  
“The New New Product Development Game”, *Harvard Business Review*, January 1986.



# Scrum in 100 words

# Scrum origins

- Jeff Sutherland
  - Initial scrums at Easel Corp in 1993
  - IDX and 500+ people doing Scrum
- Ken Schwaber
  - ADM
  - Scrum presented at OOPSLA 96 with Sutherland
  - Author of three books on Scrum
- Mike Beedle
  - Scrum patterns in PLOPD4
- Ken Schwaber and Mike Cohn
  - Co-founded Scrum Alliance in 2002, initially within the Agile Alliance



## Scrum has been used by:

- Microsoft
- Yahoo
- Google
- Electronic Arts
- Lockheed Martin
- Philips
- Siemens
- Nokia
- IBM
- Capital One
- BBC
- Intuit
- Nielsen Media
- First American Real Estate
- BMC Software
- Ipswitch
- John Deere
- Lexis Nexis
- Sabre
- Salesforce.com
- Time Warner
- Turner Broadcasting
- Océ

## Scrum has been used for:

- Commercial software
- In-house development
- Contract development
- Fixed-price projects
- Financial applications
- ISO 9001-certified applications
- Embedded systems
- 24x7 systems with 99.999% uptime requirements
- the Joint Strike Fighter
- Video game development
- FDA-approved, life-critical systems
- Satellite-control software
- Websites
- Handheld software
- Mobile phones
- Network switching applications
- ISV applications
- Some of the largest applications in use



# Characteristics

- Self-organizing teams
- Product progresses in a series of two- to four-week “sprints”
- Requirements are captured as items in a list of “product backlog”
- No specific engineering practices prescribed
- Uses generative rules to create an agile environment for delivering projects
- One of the “agile processes”



# The Agile Manifesto—a statement of values

Individuals and interactions

over

Process and tools

Working software

over

Comprehensive documentation

Customer collaboration

over

Contract negotiation

Responding to change

over

Following a plan

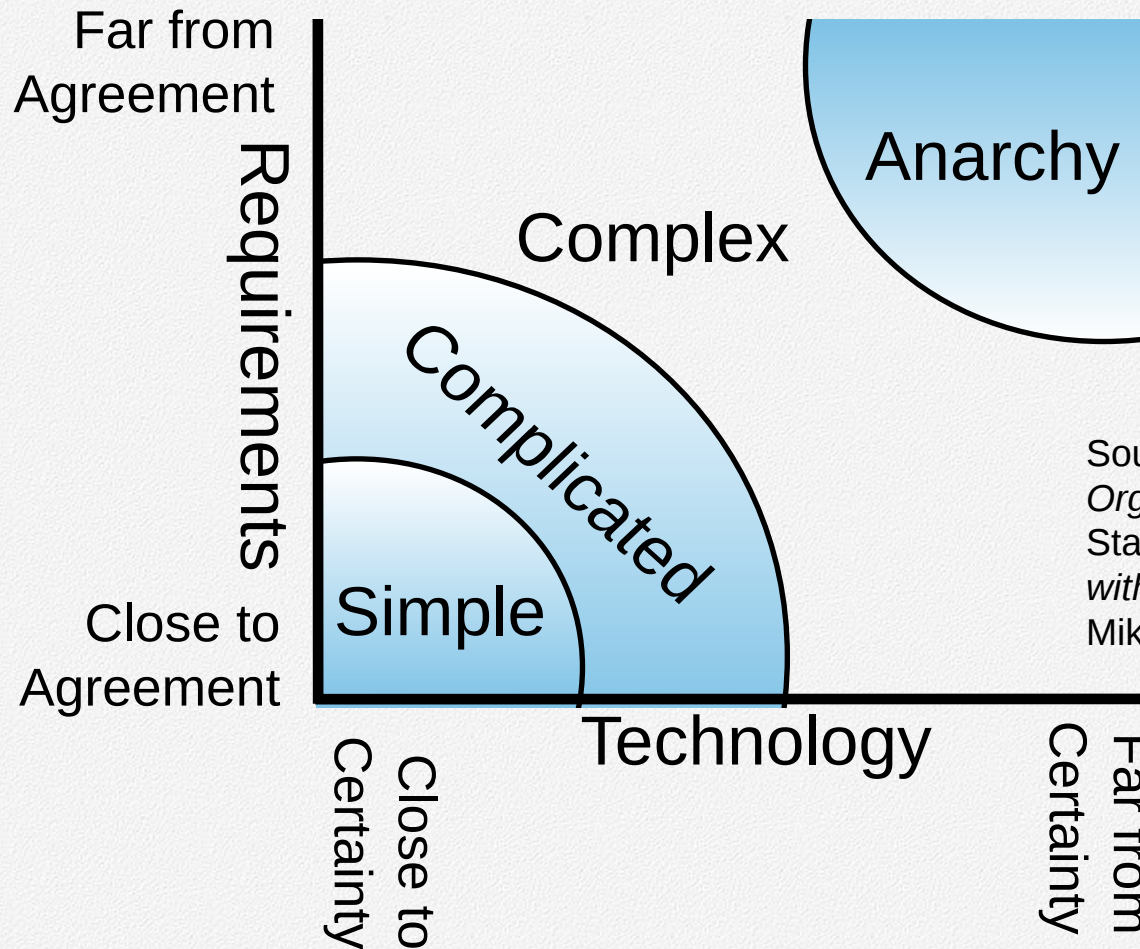


Source: [www.agilemanifesto.org](http://www.agilemanifesto.org)

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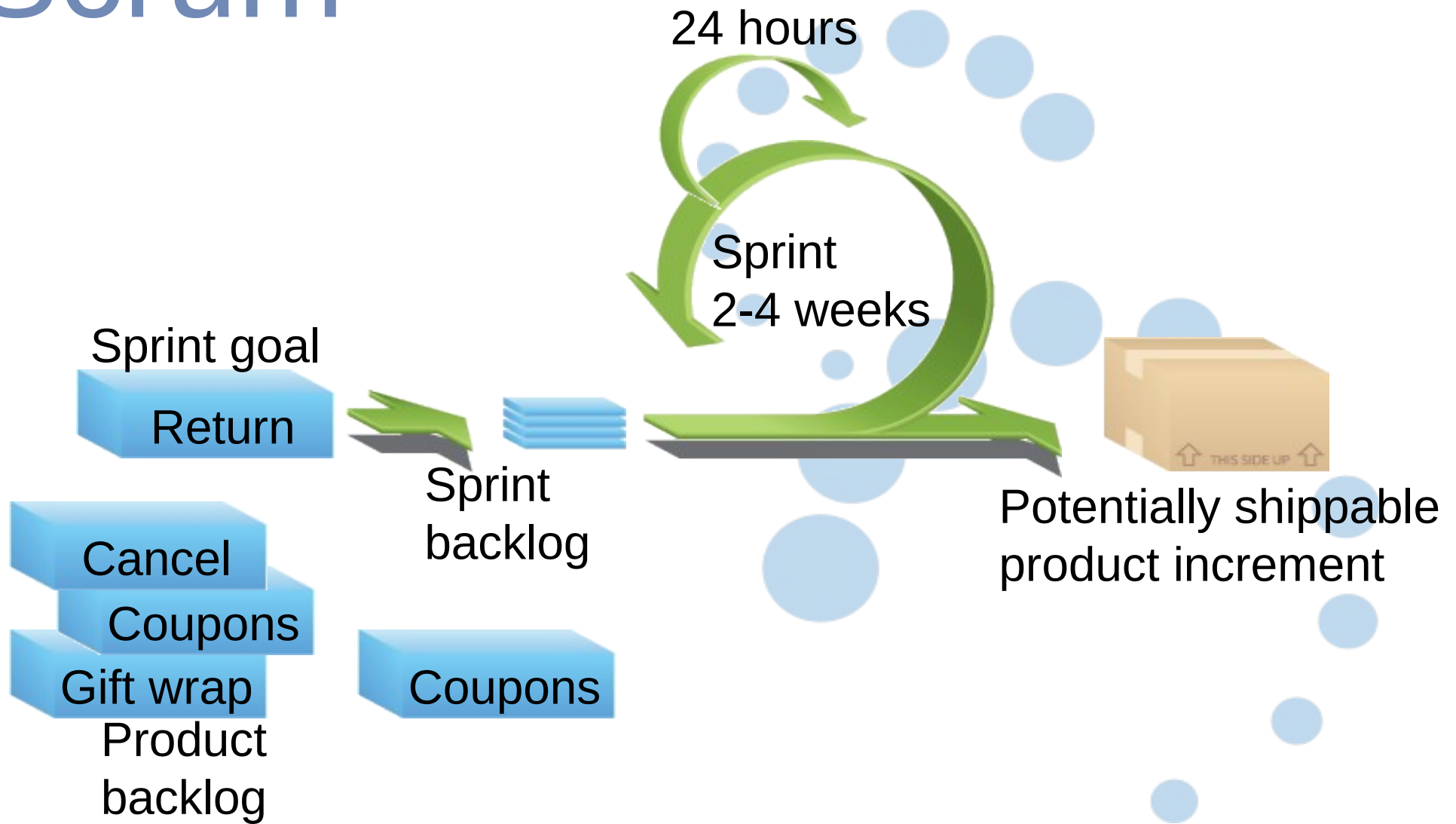


# Project noise level



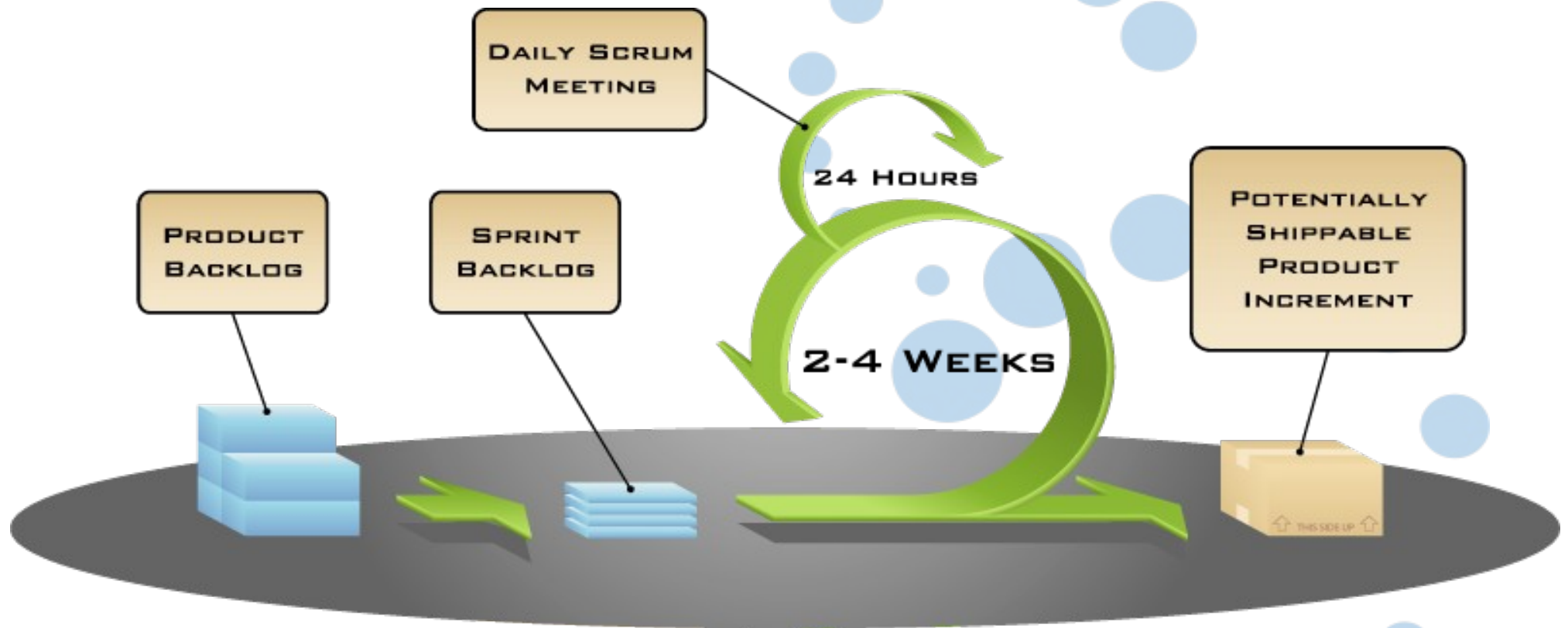
Source: *Strategic Management and Organizational Dynamics* by Ralph Stacey in *Agile Software Development with Scrum* by Ken Schwaber and Mike Beedle.

# Scrum





# Putting it all together



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Image available at  
[www.mountaingoatsoftware.com/scrum](http://www.mountaingoatsoftware.com/scrum)

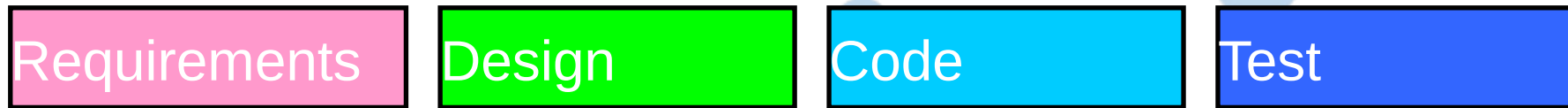


# Sprints

- Scrum projects make progress in a series of “sprints”
- Analogous to Extreme Programming iterations
- Typical duration is 2–4 weeks or a calendar month at most
- A constant duration leads to a better rhythm
- Product is designed, coded, and tested during the sprint



# Sequential vs. overlapping development



Rather than doing all of one thing at a time...

...Scrum teams do a little of everything all the time

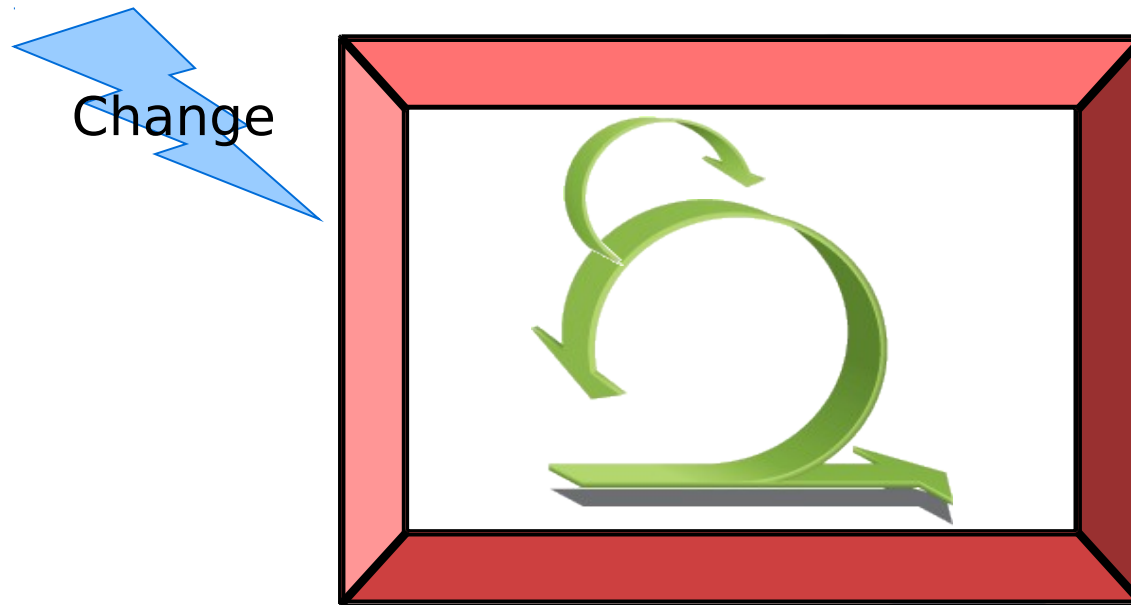
Source: "The New New Product Development Game" by Takeuchi and Nonaka. *Harvard Business Review*, January 1986.



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# No changes during a sprint



- Plan sprint durations around how long you can commit to keeping change out of the sprint



# Scrum framework

## Roles

- Product owner
- ScrumMaster
- Team

## Ceremonies

- Sprint planning
- Sprint review
- Sprint retrospective
- Daily scrum meeting

## Artifacts

- Product backlog
- Sprint backlog
- Burndown charts

# Scrum framework

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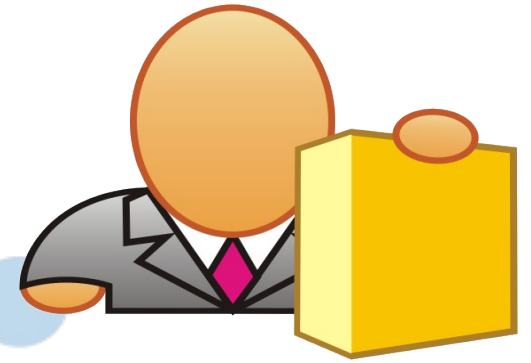
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# Product owner

- Define the features of the product
- Decide on release date and content
- Be responsible for the profitability of the product (ROI)
- Prioritize features according to market value
- Adjust features and priority every iteration, as needed
- Accept or reject work results



# The ScrumMaster



- Represents management to the project
- Responsible for enacting Scrum values and practices
- Removes impediments
- Ensure that the team is fully functional and productive
- Enable close cooperation across all roles and functions
- Shield the team from external interferences





# The team

- Typically 5-9 people
- Cross-functional:
  - Programmers, testers, user experience designers, etc.
- Members should be full-time
  - May be exceptions (e.g., database administrator)
- Teams are self-organizing
  - Ideally, no titles but rarely a possibility
- Membership should change only between sprints



# Scrum framework

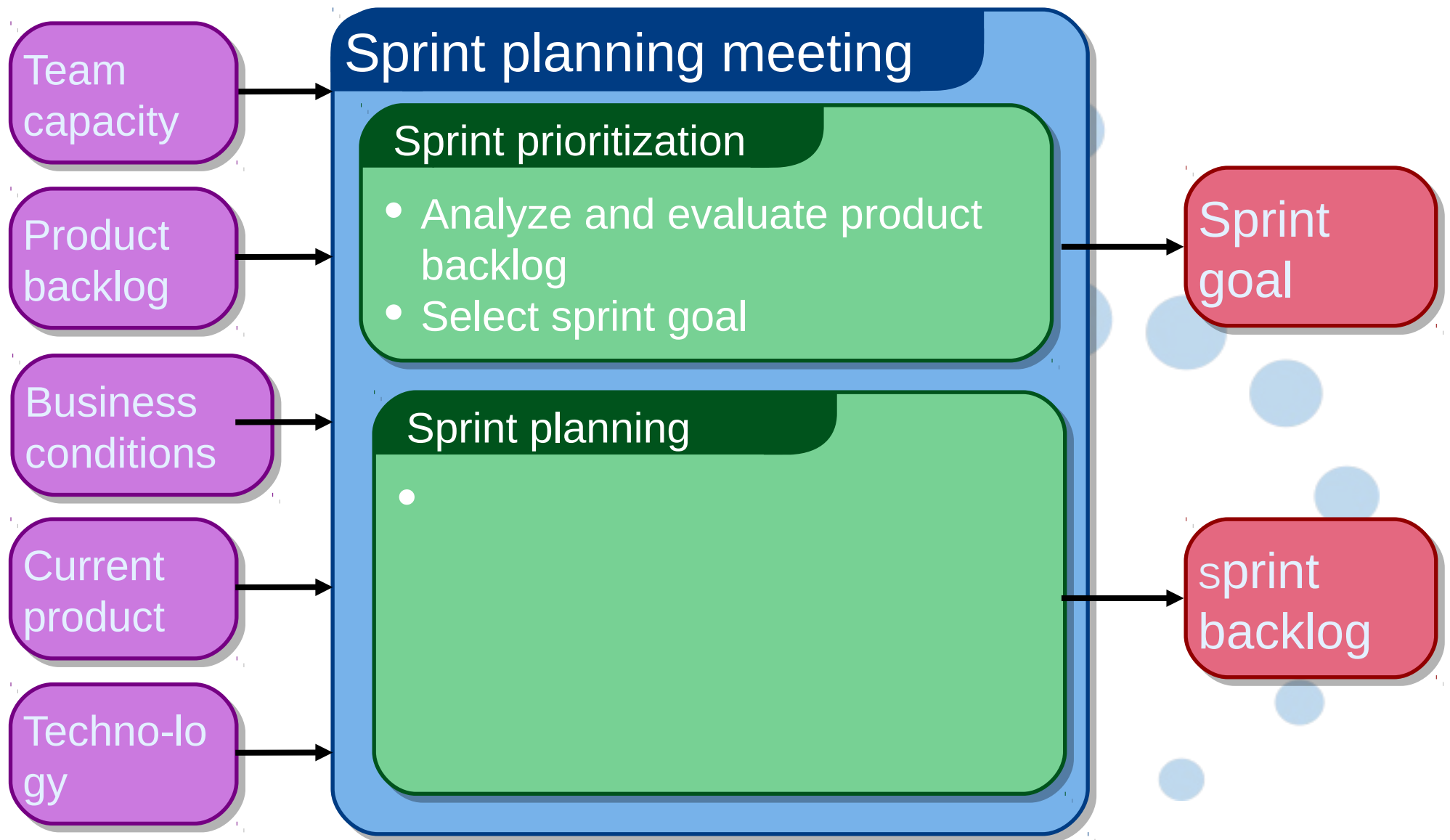
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# Sprint planning

- Team selects items from the product backlog they can commit to completing
- Sprint backlog is created
  - Tasks are identified and each is estimated (1-16 hours)
  - Collaboratively, not done alone by the ScrumMaster
- High-level design is considered

As a vacation planner, I want to see photos of the hotels.

Code the middle tier (8 hours)  
Code the user interface (4)  
Write test fixtures (4)  
Code the foo class (6)  
Update performance tests (4)



# The daily scrum

- Parameters
  - Daily
  - 15-minutes
  - Stand-up
- Not for problem solving
  - Whole world is invited
  - Only team members, ScrumMaster, product owner, can talk
- Helps avoid other unnecessary meetings



# Everyone answers 3 questions

1  
What did you do yesterday?

2  
What will you do today?

3  
Is anything in your way?

- These are *not* status for the ScrumMaster
- They are commitments in front of peers



# The sprint review

- Team presents what it accomplished during the sprint
- Typically takes the form of a demo of new features or underlying architecture
- Informal
  - 2-hour prep time rule
  - No slides
- Whole team participates
- Invite the world



# Sprint retrospective

- Periodically take a look at what is and is not working
- Typically 15–30 minutes
- Done after every sprint
- Whole team participates
  - ScrumMaster
  - Product owner
  - Team
  - Possibly customers and others





# Start / Stop / Continue

- Whole team gathers and discusses what they'd like to:

Start doing

Stop doing

Continue doing

This is just one of many ways to do a sprint retrospective.



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# Product backlog

- The requirements
- A list of all desired work on the project
- Ideally expressed such that each item has value to the users or customers of the product
- Prioritized by the product owner
- Reprioritized at the start of each sprint



This is the  
product backlog

# A sample product backlog

Backlog item	Estimate
Allow a guest to make a reservation	3
As a guest, I want to cancel a reservation.	5
As a guest, I want to change the dates of a reservation.	3
As a hotel employee, I can run RevPAR reports (revenue-per-available-room)	8
Improve exception handling	8
...	30
...	50



# The sprint goal

- A short statement of what the work will be focused on during the sprint

## Database Application

Make the application run on SQL Server in addition to Oracle.

## Life Sciences

Support features necessary for population genetics studies.

## Financial services

Support more technical indicators than company ABC with real-time, streaming data.



# Managing the sprint backlog

- Individuals sign up for work of their own choosing
  - Work is never assigned
- Estimated work remaining is updated daily
- Any team member can add, delete or change the sprint backlog
- Work for the sprint emerges
- If work is unclear, define a sprint backlog item with a larger amount of time and break it down

later



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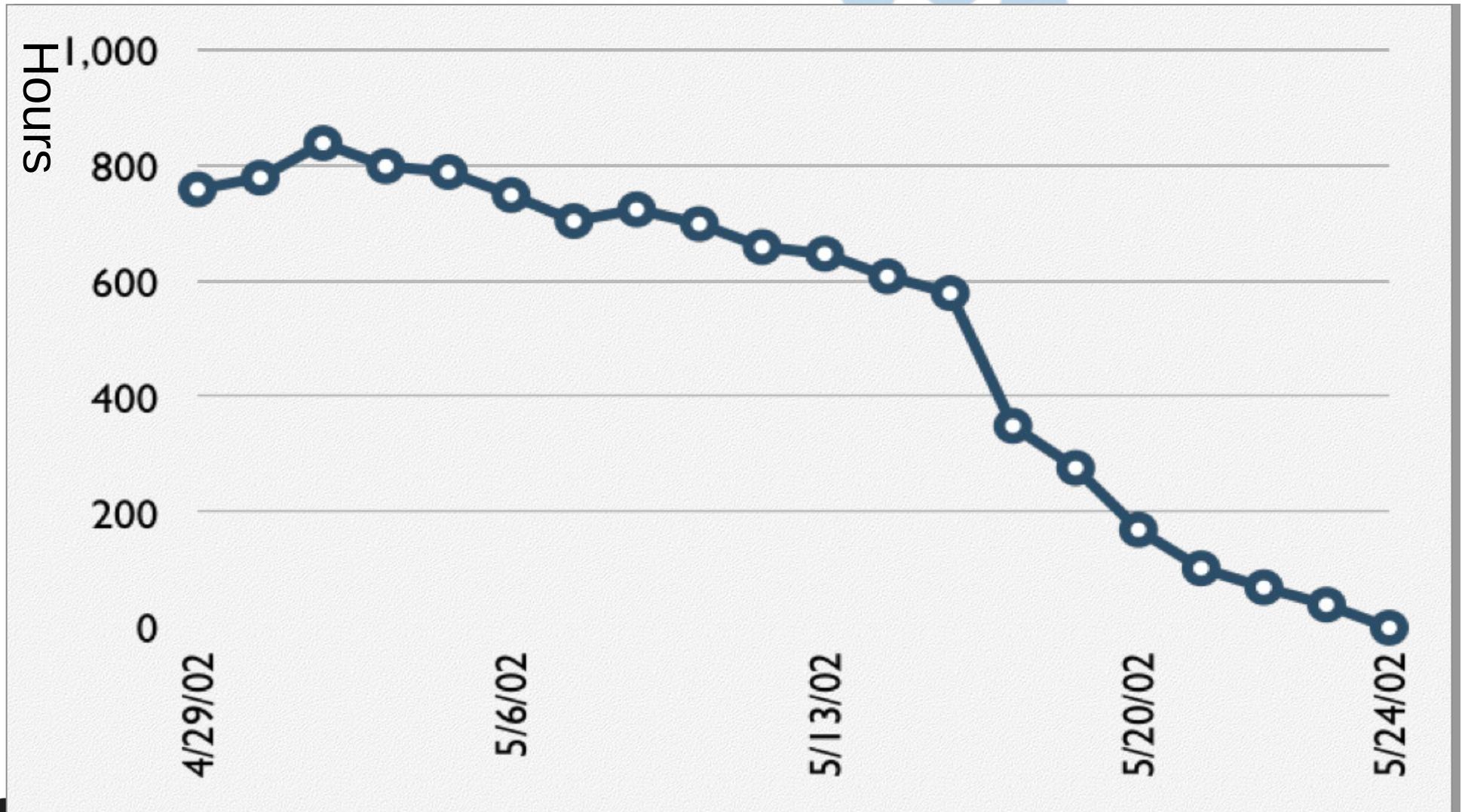


- Update work remaining as more becomes known

# A sprint backlog

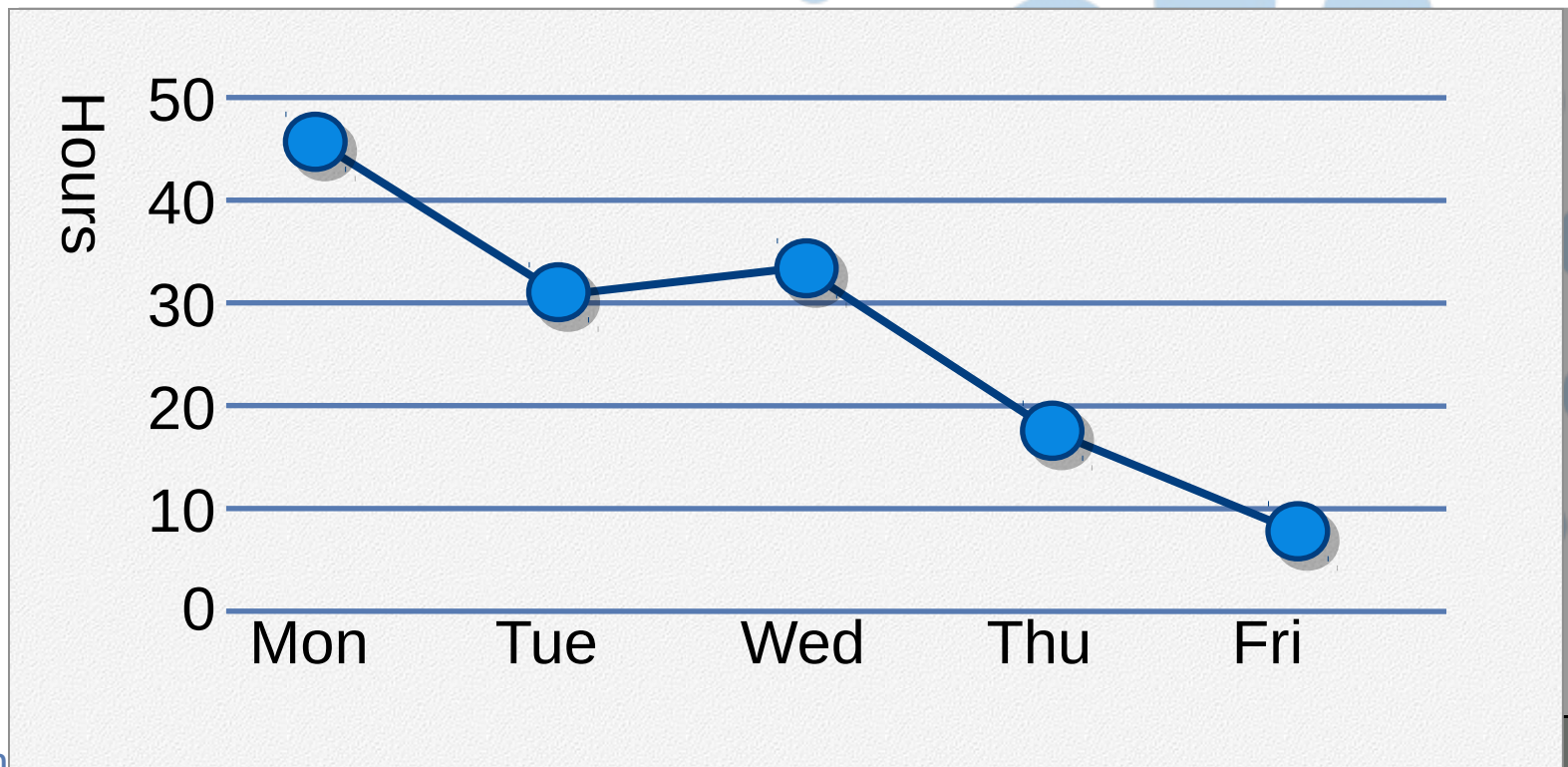
Tasks	Mon	Tues	Wed	Thur	Fri
Code the user iface	8	4	8		
Code the middle tier	16	12	10	4	
Test the middle tier	8	16	16	11	8
Write online help	12				
Write the foo class	8	8	8	8	8
Add error logging			8	4	

# A sprint burndown chart





Tasks	Mon	Tues	Wed	Thur	Fri
Code the user iface	8	4	8		
Code the middle tier	16	12	10	7	
Test the middle tier	8	16	16	11	8
Write online help	12				

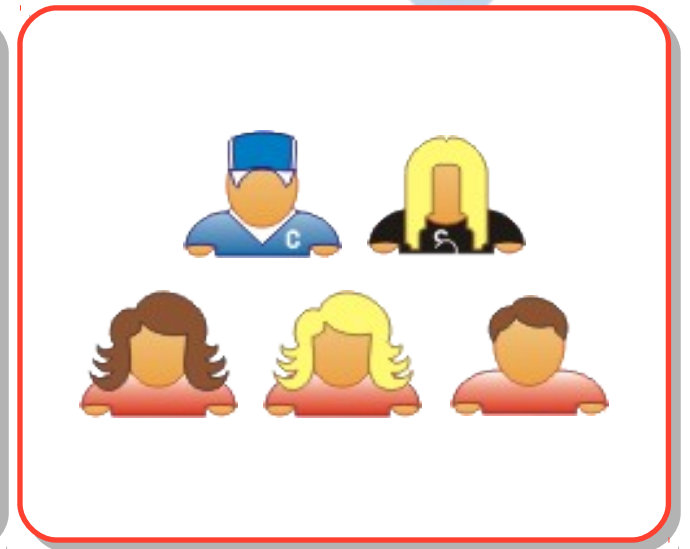
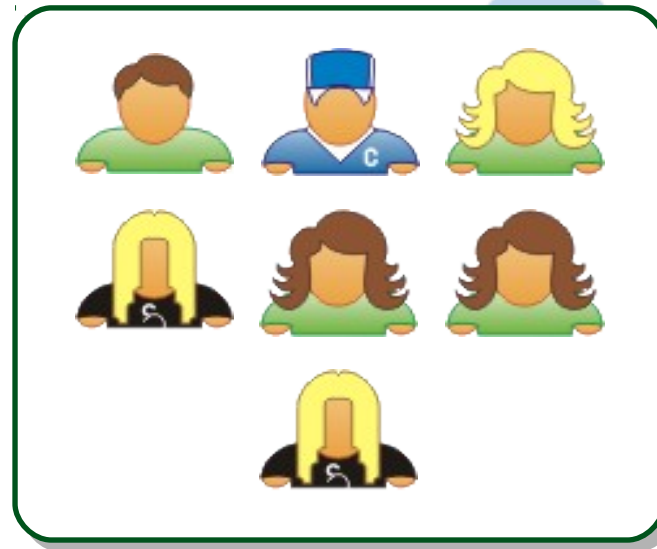
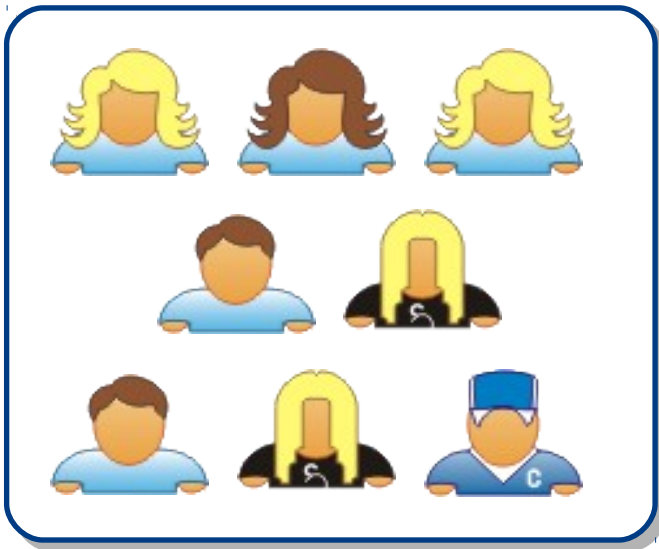


# Scalability

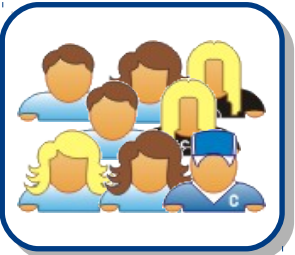
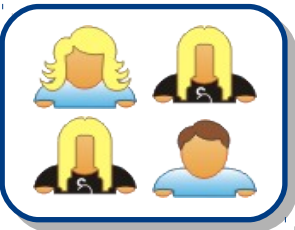
- Typical individual team is  $7 \pm 2$  people
  - Scalability comes from teams of teams
- Factors in scaling
  - Type of application
  - Team size
  - Team dispersion
  - Project duration
- Scrum has been used on multiple 500+ person projects



# Scaling through the Scrum of scrums



# Scrum of scrums of scrums



# Where to go next

- [www.mountangoatsoftware.com/scrum](http://www.mountangoatsoftware.com/scrum)
- [www.scrumalliance.org](http://www.scrumalliance.org)
- [www.controlchaos.com](http://www.controlchaos.com)
- [scrumdevelopment@yahogroups.com](mailto:scrumdevelopment@yahogroups.com)



# A Scrum reading list

- *Agile and Iterative Development: A Manager's Guide* by Craig Larman
- *Agile Estimating and Planning* by Mike Cohn
- *Agile Project Management with Scrum* by Ken Schwaber
- *Agile Retrospectives* by Esther Derby and Diana Larsen
- *Agile Software Development Ecosystems* by Jim Highsmith
- *Agile Software Development with Scrum* by Ken Schwaber and Mike Beedle
- *Scrum and The Enterprise* by Ken Schwaber
- *User Stories Applied for Agile Software Development* by Mike Cohn



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• Lots of weekly articles at [www.scrumalliance.org](http://www.scrumalliance.org)



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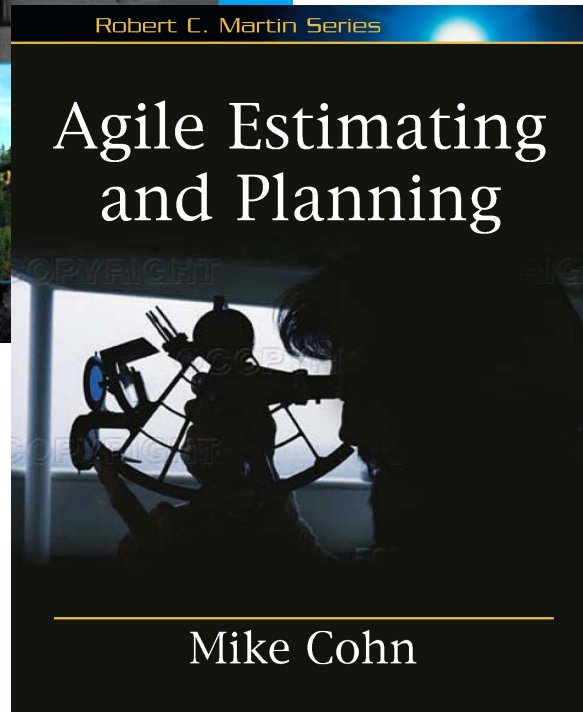
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