

System Development and Project Organization (BSUP)

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# Scrum

## a detailed overview

# Outline

- Literature
  - Scrum Guide
- Origin of Scrum
- Scrum in details
  - Roles
  - Cerimonies
  - Artifacts

“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.

# We are loosing the relay race





- “Apple employees talk incessantly about what they call ‘deep collaboration’ or ‘cross-pollination’ or ‘concurrent engineering’”.
- “Essentially it means that products don’t pass from team to team. There is aren’t discrete sequential development stages. Instead, it’s simultaneous and organic”.
- “Products get worked on in parallel by all departments at once—design, hardware, software—in endless rounds of interdisciplinary design reviews”.

Source: “How Apple Does It.” Time Magazine.  
October 24, 2005 by Lev Grossman

## Scrum in 100 words

- Scrum is an agile process that allows us to focus on delivering the highest business value in the shortest time.
- It allows us to rapidly and repeatedly inspect actual working software (every two weeks to one month).
- The business sets the priorities. Teams self-organize to determine the best way to deliver the highest priority features.
- Every two weeks to a month anyone can see real working software and decide to release it as is or continue to enhance it for another sprint.



# 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
- IBM
- Lockheed Martin
- Philips
- Siemens
- Nokia
- 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:

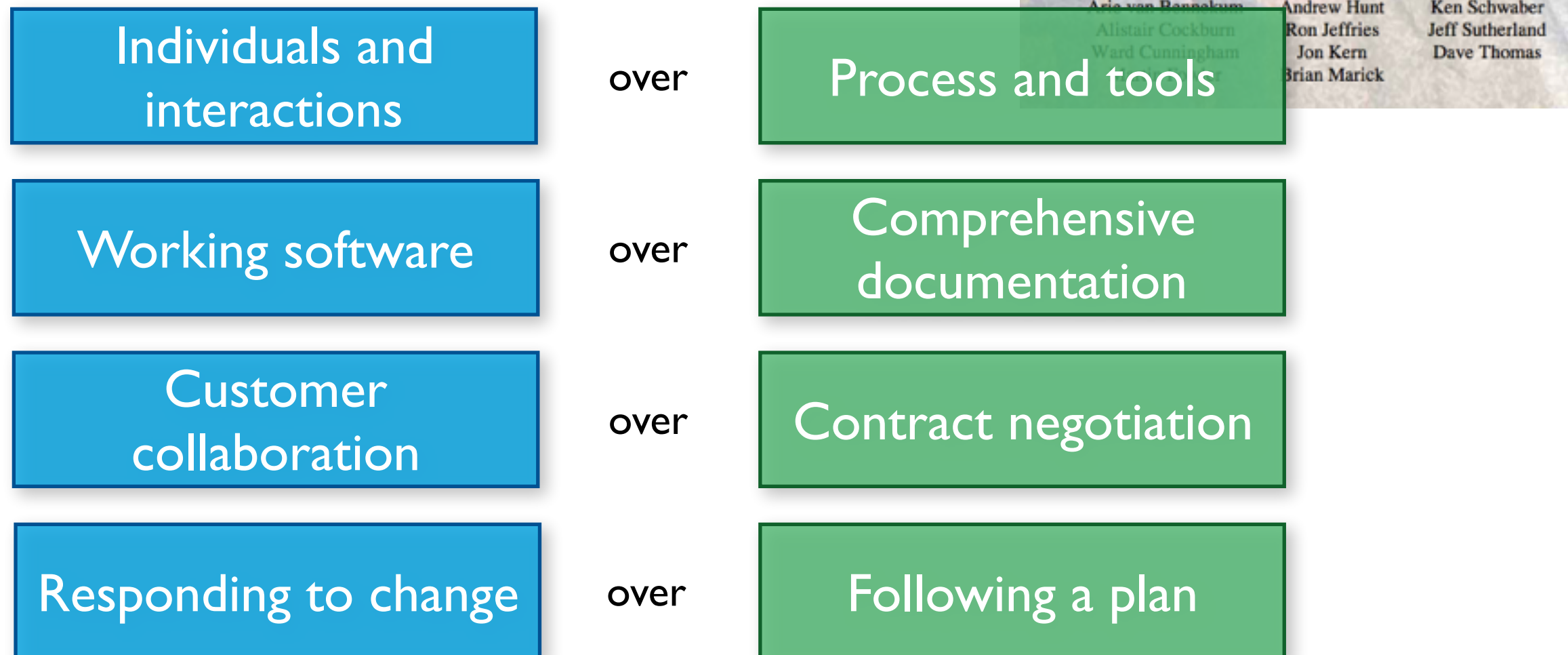
- Commercial software
- In-house development
- Contract development
- Fixed-price projects
- Financial applications
- ISO 9001-certified applications
- Embedded systems
- 24x7 systems with 99.999% uptime requirements
- the Joint Strike Fighter
- Video game development
- FDA-approved, life-critical systems
- 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 2-4 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”

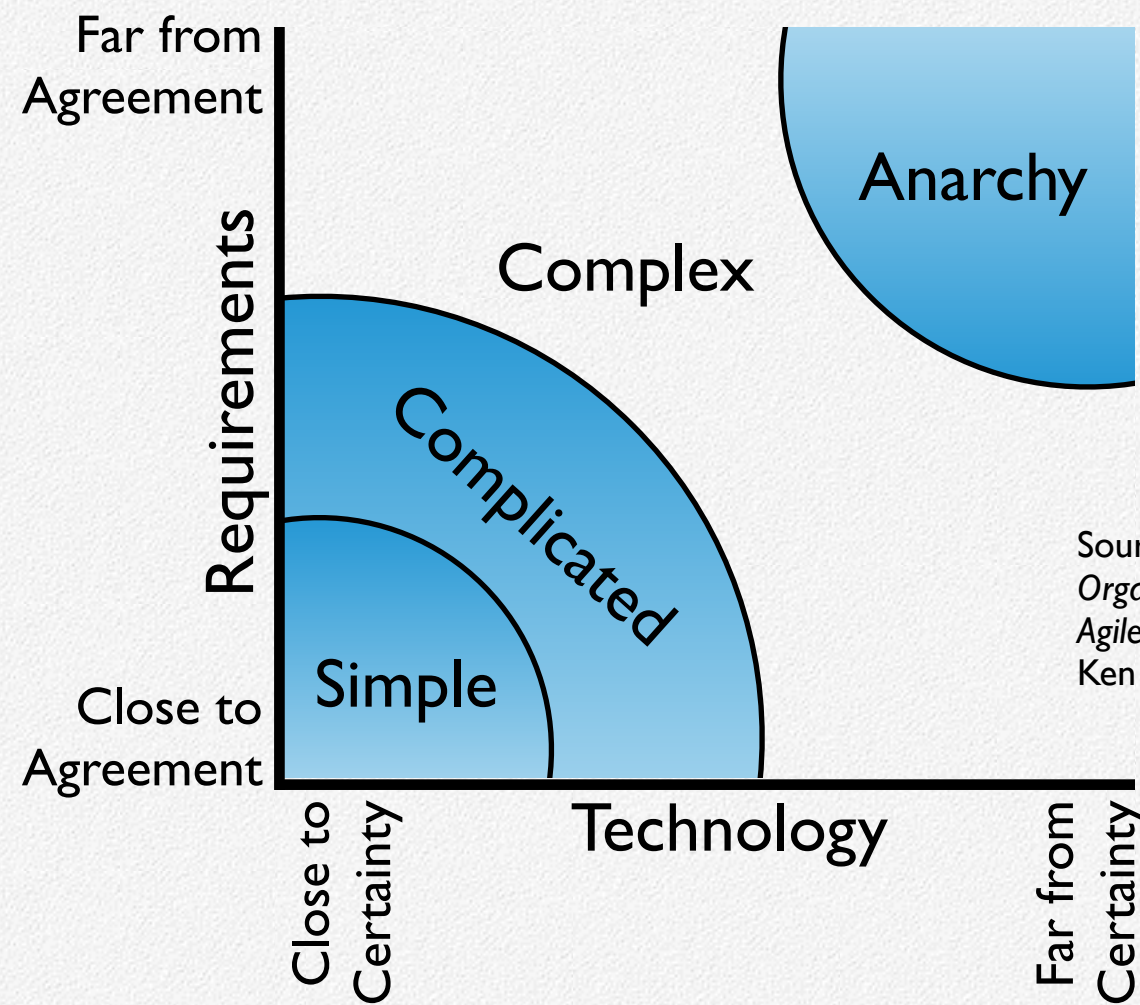
# The Agile Manifesto

## a statement of values



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

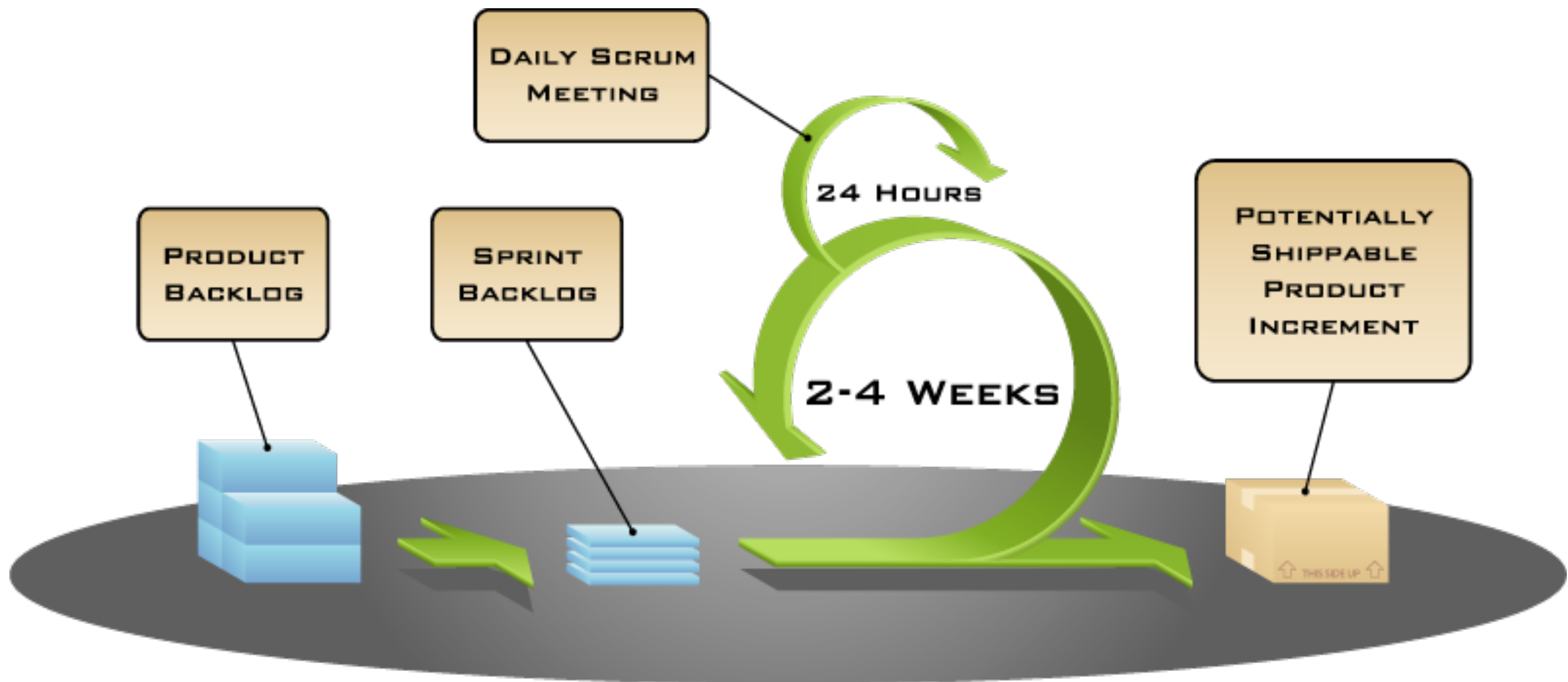
# Project noise level



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



# Scrum

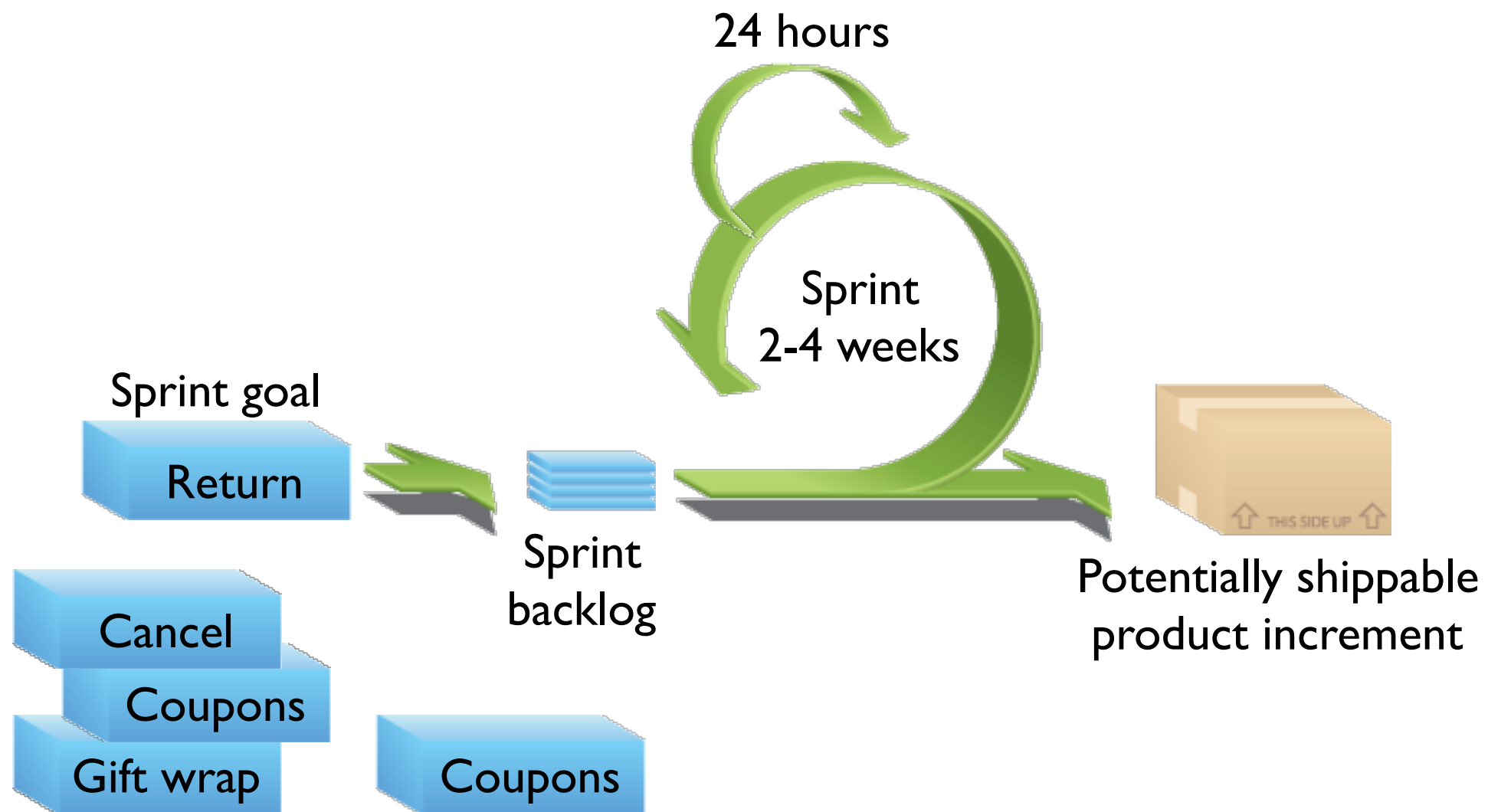


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[www.mountaingoatsoftware.com/scrum](http://www.mountaingoatsoftware.com/scrum)



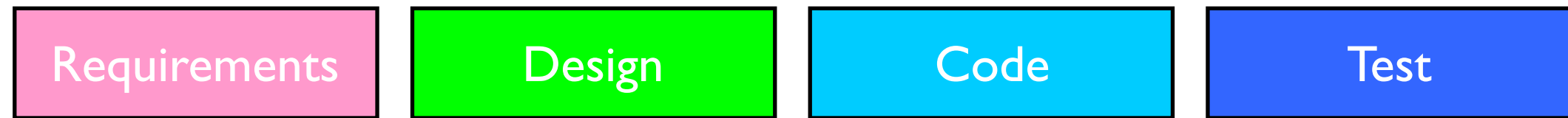
# Scrum - An example



# Sprints

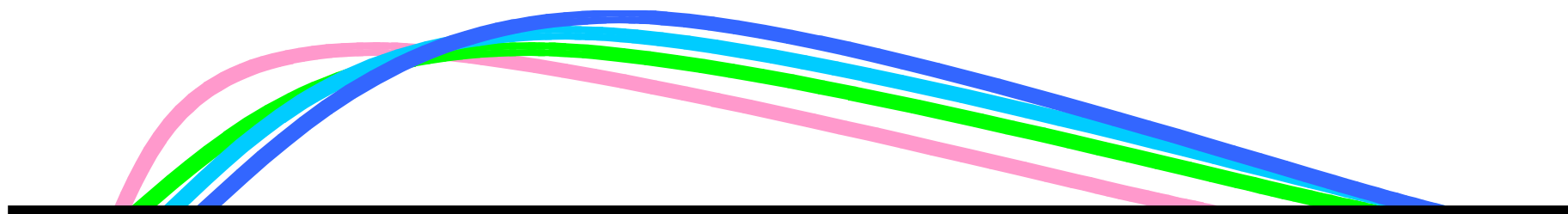
- Scrum projects make progress in a series of “sprints”
  - Analogous to Extreme Programming iterations
- Typical duration is 2–4 weeks or a calendar month at most
- A constant duration leads to a better rhythm
- Product is designed, coded, and tested

# Sequential versus overlapping development



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

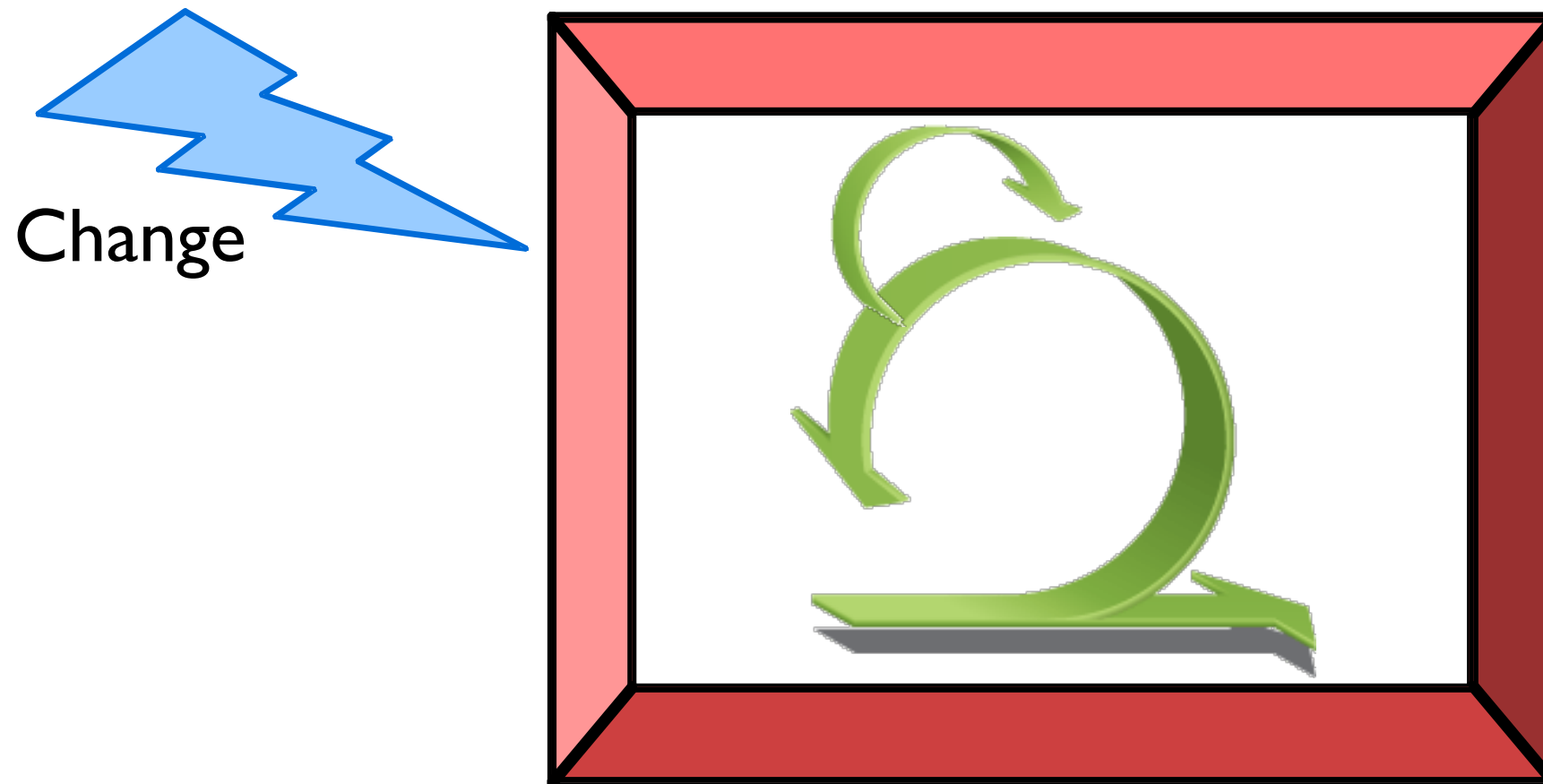
...Scrum teams do a little of everything all the time



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



# No changes during a sprint



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

# Concluding



# A Scrum reading list

- *Agile Estimating and Planning* by Mike Cohn
- *Agile Game Development with Scrum* by Clinton Keith
- *Agile Product Ownershio* by Roman Pichler
- *Agile Retrospectives* by Esther Derby and Diana Larsen
- *Agile Testing: A Practical Guide for Testers and Agile Teams* by Lisa Crispiin and Janet Gregory
- *Coaching Agile Teams* by Lyssa Adkins
- *Essential Scrum* by Kenneth Rubin
- *Succeeding with Agile: Software Development using Scrum* by Mike Cohn
- *User Stories Applied for Agile Software Development* by Mike Cohn
- Lots of weekly articles at [www.scrumalliance.org](http://www.scrumalliance.org)

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  - Scrum Guide
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- Next week
  - Scrum in details
    - Roles
    - Cerimonies
    - Artifacts
  - More on on user stories
  - More on estimation, velocity, burndown charts, and techniques for forecasting