An Introduction to Scrum

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http://esecc.zcu.cz/

2013-2018

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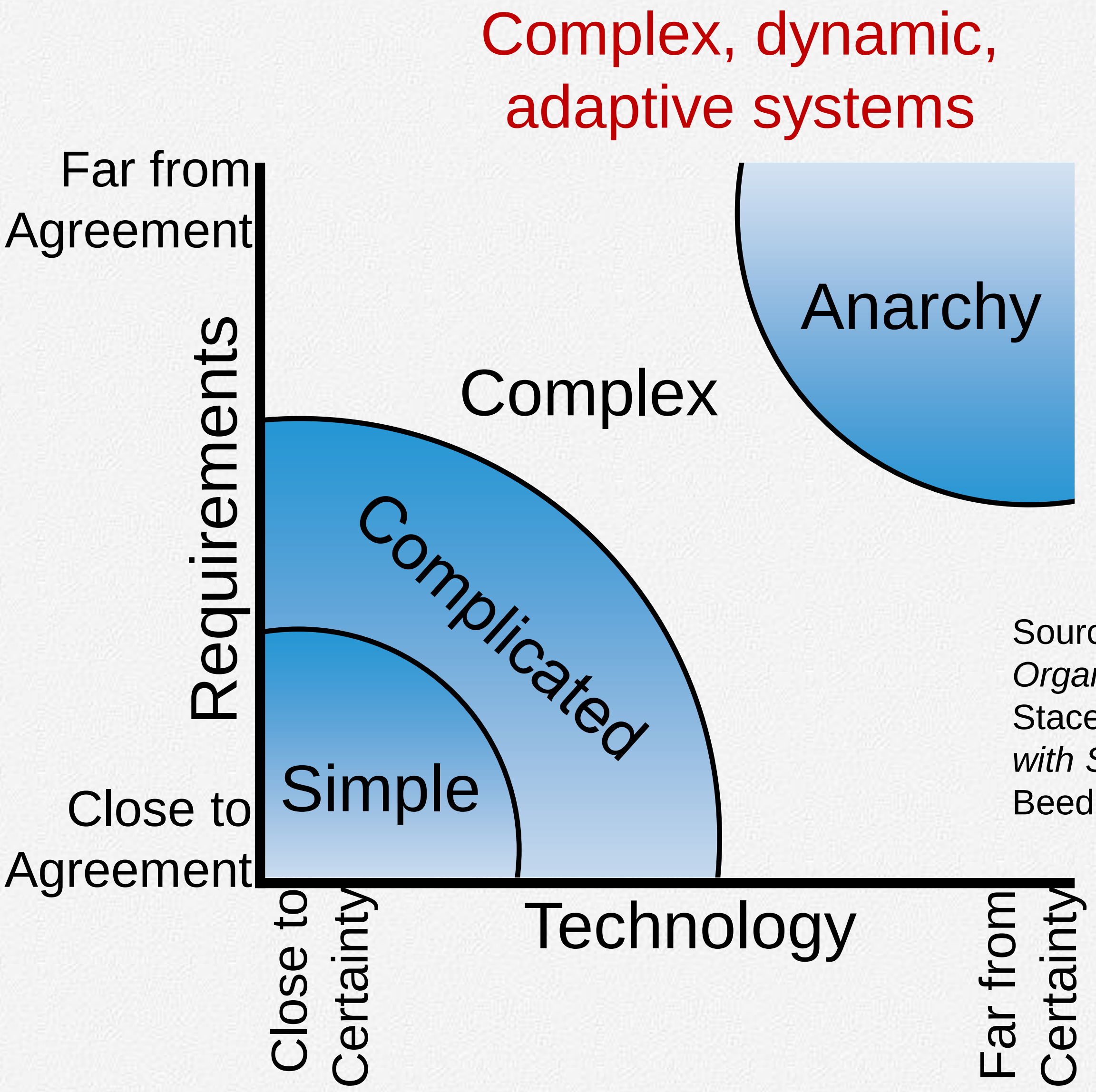
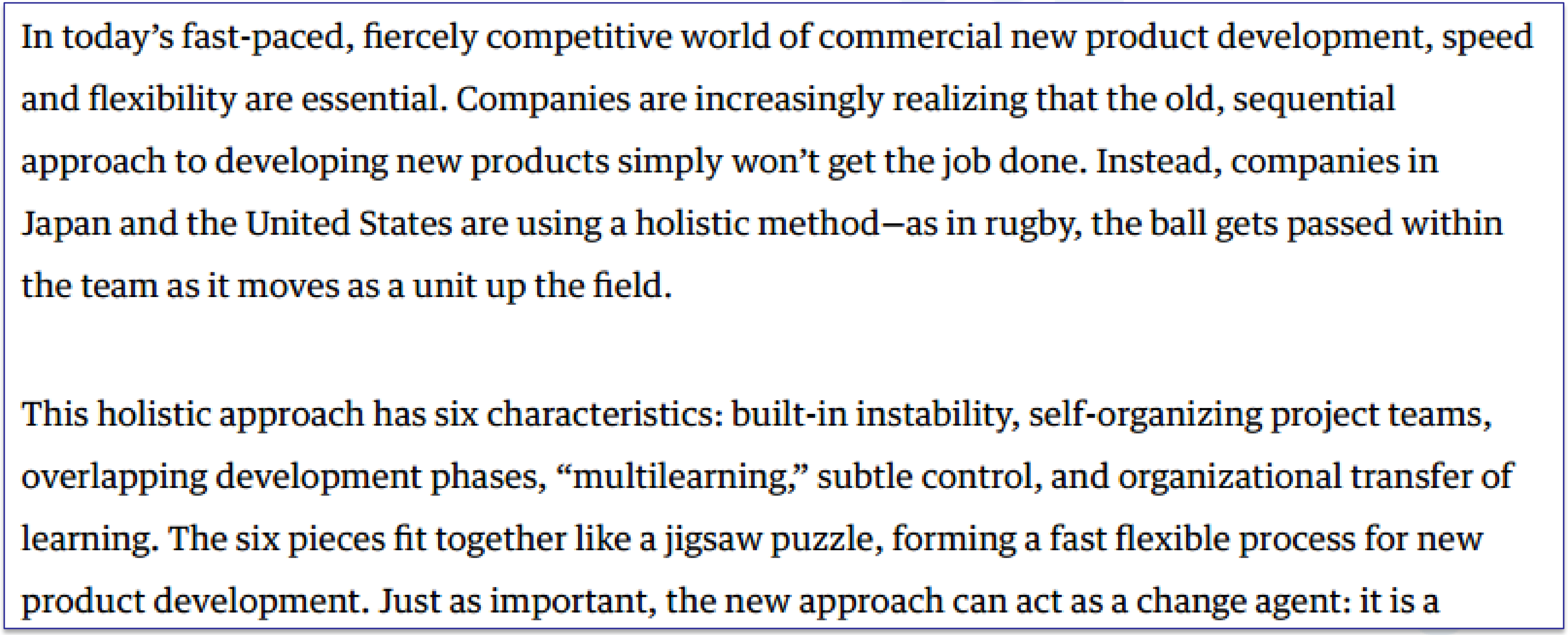
Project noise level



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

http://blogs.collab.net/agile/complexity-theory-and-scrum

Following a Defined Process?

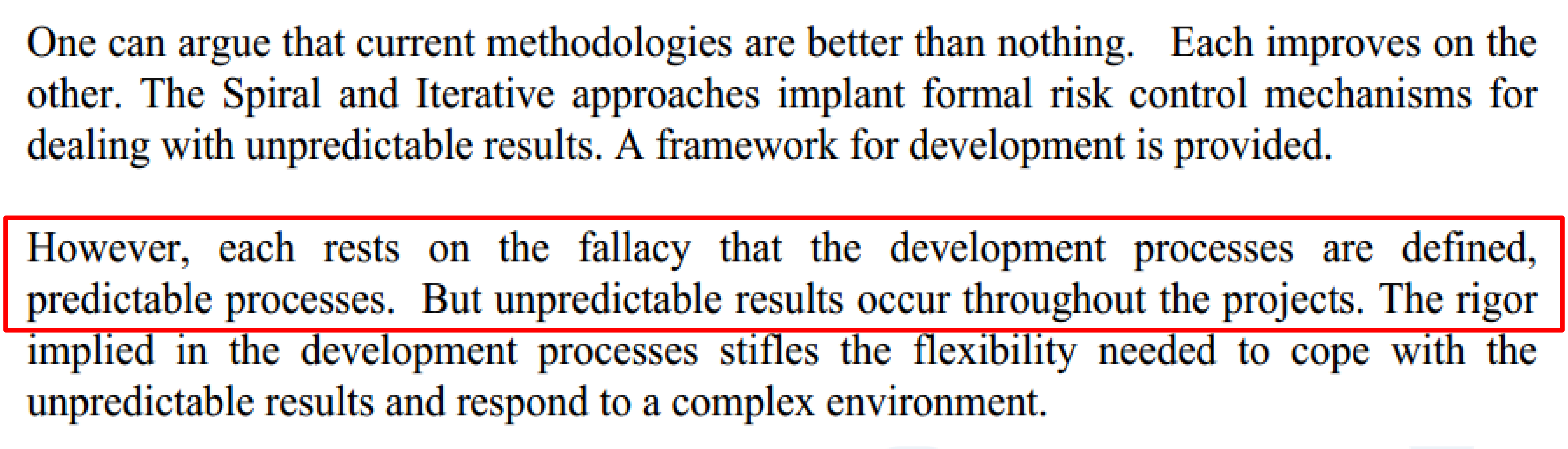


In today’s fast-paced, fiercely competitive world of commercial new product development, speed and flexibility are essential. Companies are increasingly realizing that the old, sequential approach to developing new products simply won’t get the job done. Instead, companies in Japan and the United States are using a holistic method—as in rugby, the ball gets passed within the team as it moves as a unit up the field.

This holistic approach has six characteristics: built-in instability, self-organizing project teams, overlapping development phases, “multilearning,” subtle control, and organizational transfer of learning. The six pieces fit together like a jigsaw puzzle, forming a fast flexible process for new product development. Just as important, the new approach can act as a change agent: it is a

Takeuchi, Nonaka: The New New Product Development Game.
Harvard Business Review, 1986

Following a Defined Process?



One can argue that current methodologies are better than nothing. Each improves on the other. The Spiral and Iterative approaches implant formal risk control mechanisms for dealing with unpredictable results. A framework for development is provided.

However, each rests on the fallacy that the development processes are defined, predictable processes. But unpredictable results occur throughout the projects. The rigor implied in the development processes stifles the flexibility needed to cope with the unpredictable results and respond to a complex environment.

Sutherland, Jeffrey Victor; Schwaber, Ken (1995). Business object design and implementation: OOPSLA '95 workshop proceedings. The University of Michigan. p. 118. ISBN 3-540-76096-2.

Core Idea of Scrum

- Attempts to impose a detailed methodology model on the development process [fail] because the development process is not completely defined.
- An approach is needed that enables development teams to operate adaptively within a complex environment using imprecise processes.
- 1993 first deliberate use (Sutherland)

OVERVIEW OF SCRUM

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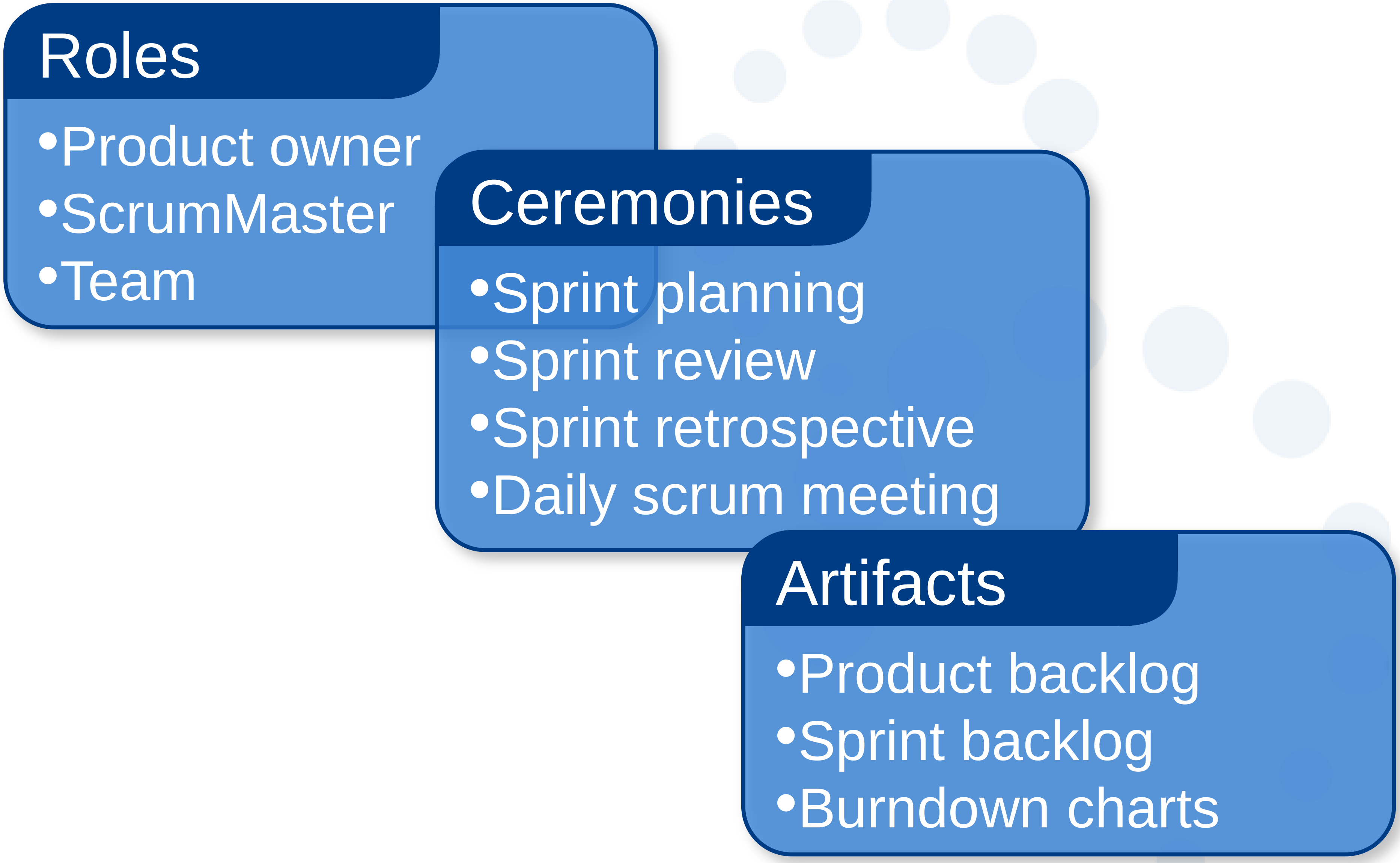
Scrum framework



Roles

- Product owner
- ScrumMaster
- Team

Ceremonies

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

Artifacts

- Product backlog
- Sprint backlog
- Burndown charts

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DETAILS ON PROCESS PARTS

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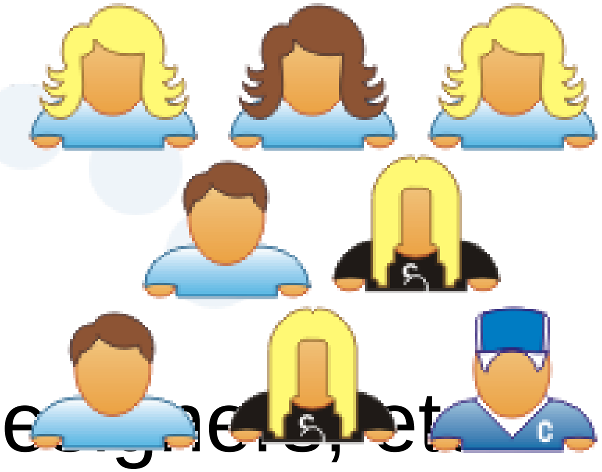
SCRUM FRAMEWORK

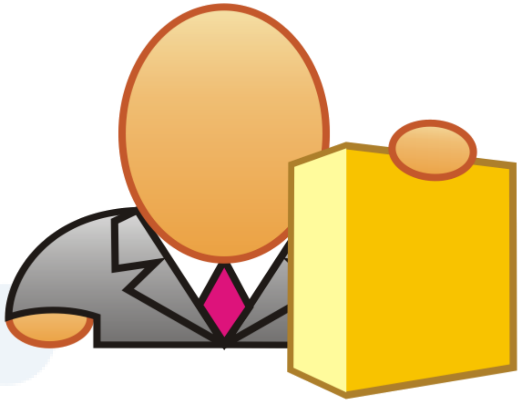
The team



- Cross-functional
  - Programmers, testers, UX designers, etc.
  - Ideally “no titles”
- Self-organizing
- Empowered + responsible
- Ideally full-time members
  - Strive for long-lived teams

The Team

Product Owner (PO)



- Responsible for the profitability of the product (ROI)

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

Product Owner

http://www.sportovninoviny.cz/zpravy/zemrel-compagnoni-dalsi-pribeh-hory-k2-je-uzavren/377734

The ScrumMaster

- Responsible for enacting Scrum values and practices

- Represents management to the project
- Removes impediments
- Ensure that the team is fully functional and productive
- Enable close cooperation across all roles
- Shield the team from external interferences

Scrum Master

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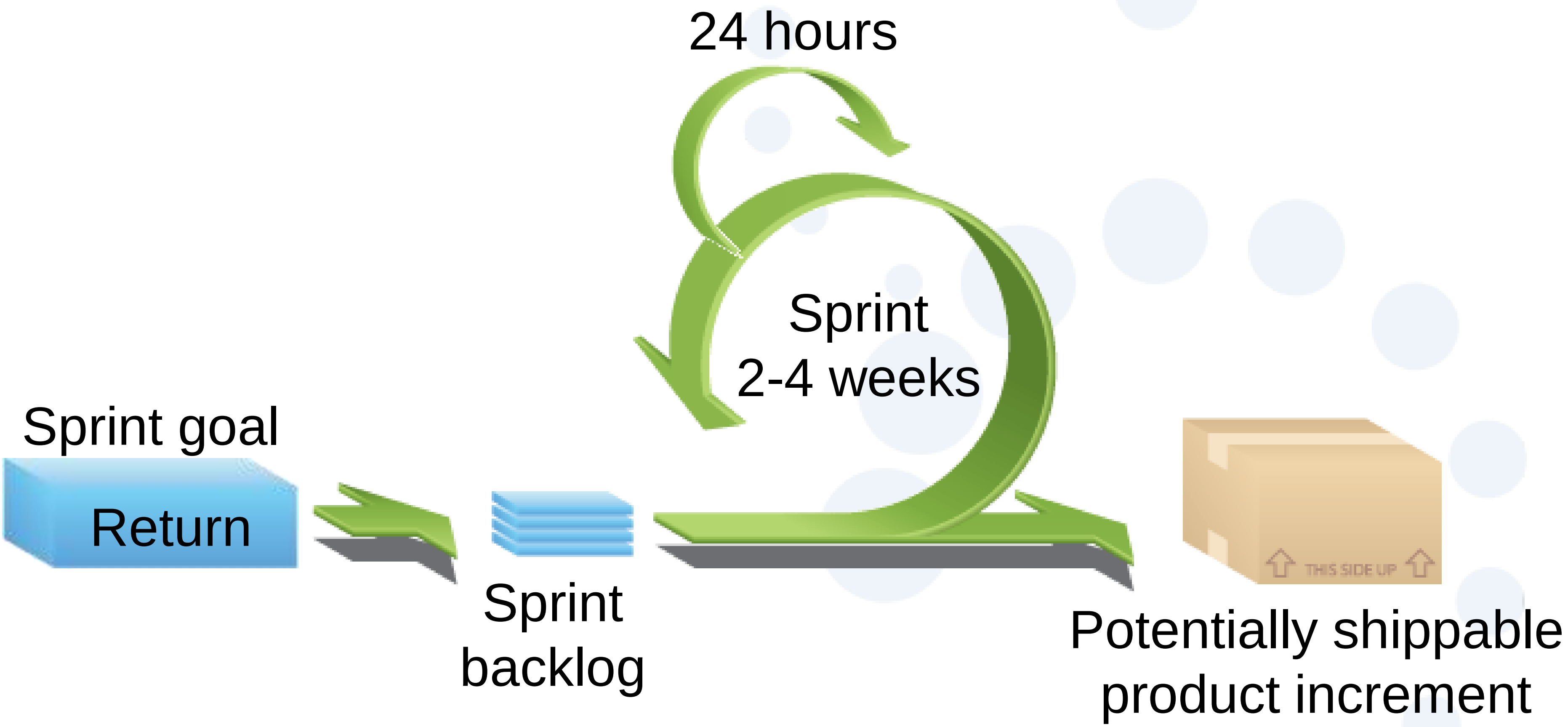
Sprints



24 hours

Sprint
2-4 weeks

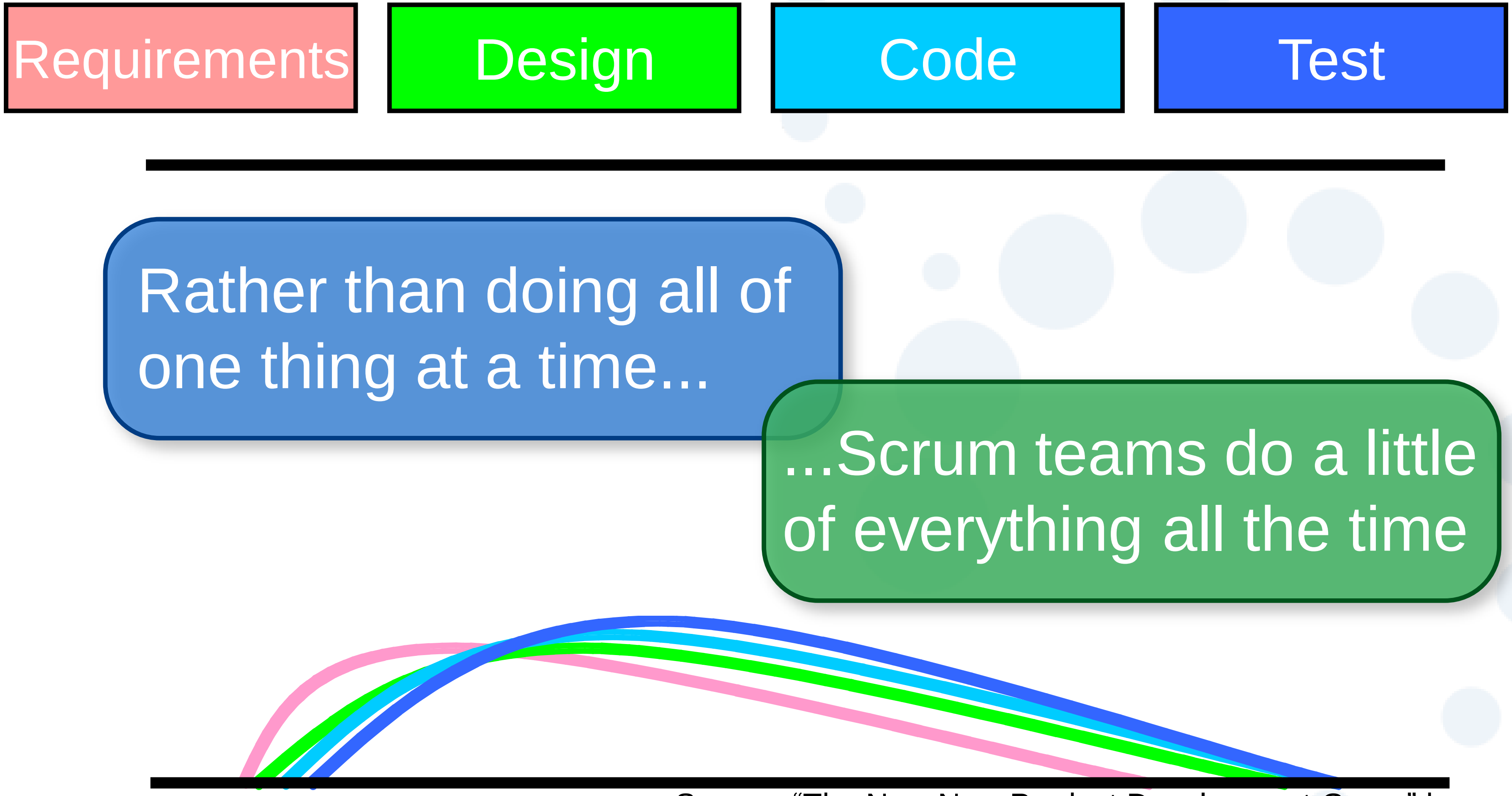
Sprint goal

Return

Sprint
backlog

Potentially shippable
product increment

Sequential vs. overlapping development



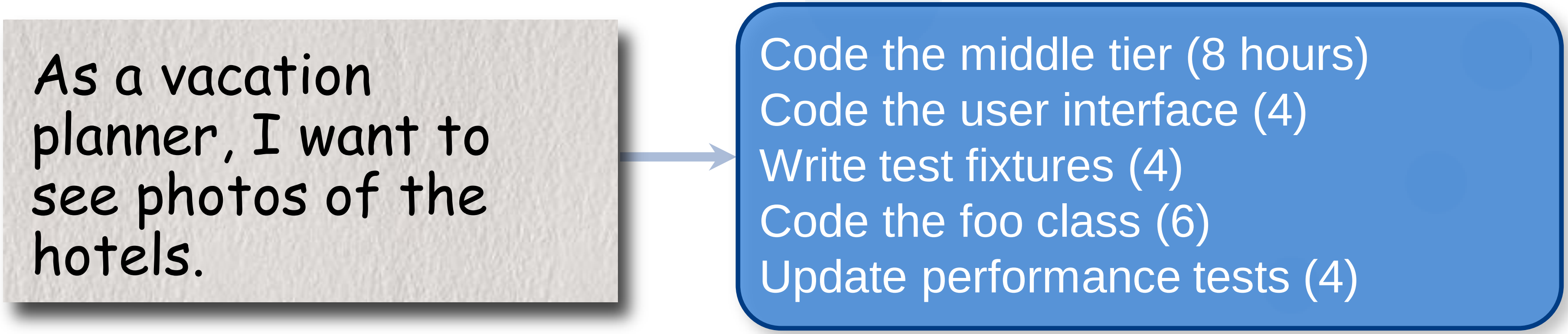
Rather than doing all of one thing at a time...

...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.

Sprint Planning

- PO explains product backlog items + Team discusses (collaboratively => “Planning game”)
- Sprint goal and backlog is created
  - Items from the product backlog which Team can commit to completing
  - Tasks are identified, each is estimated (1-16 hours)
- High-level design is considered
- Definition of DONE is needed



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)

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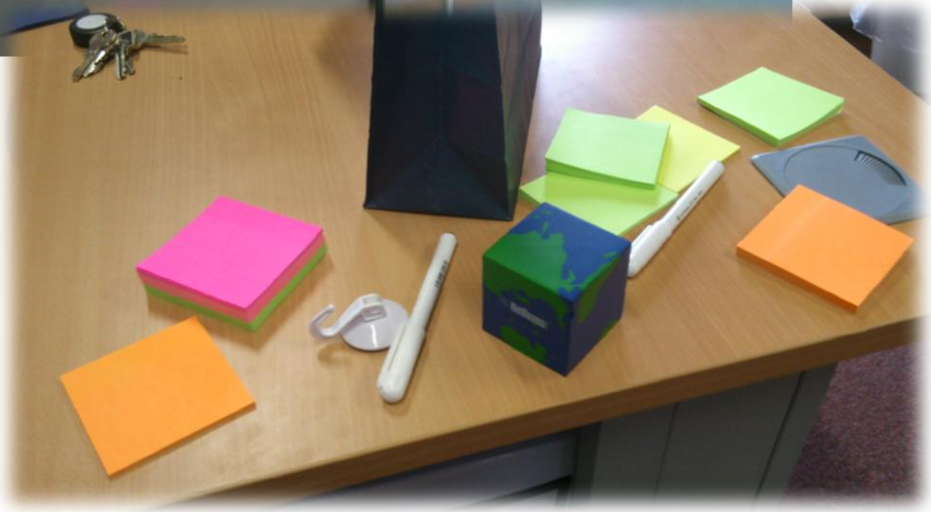
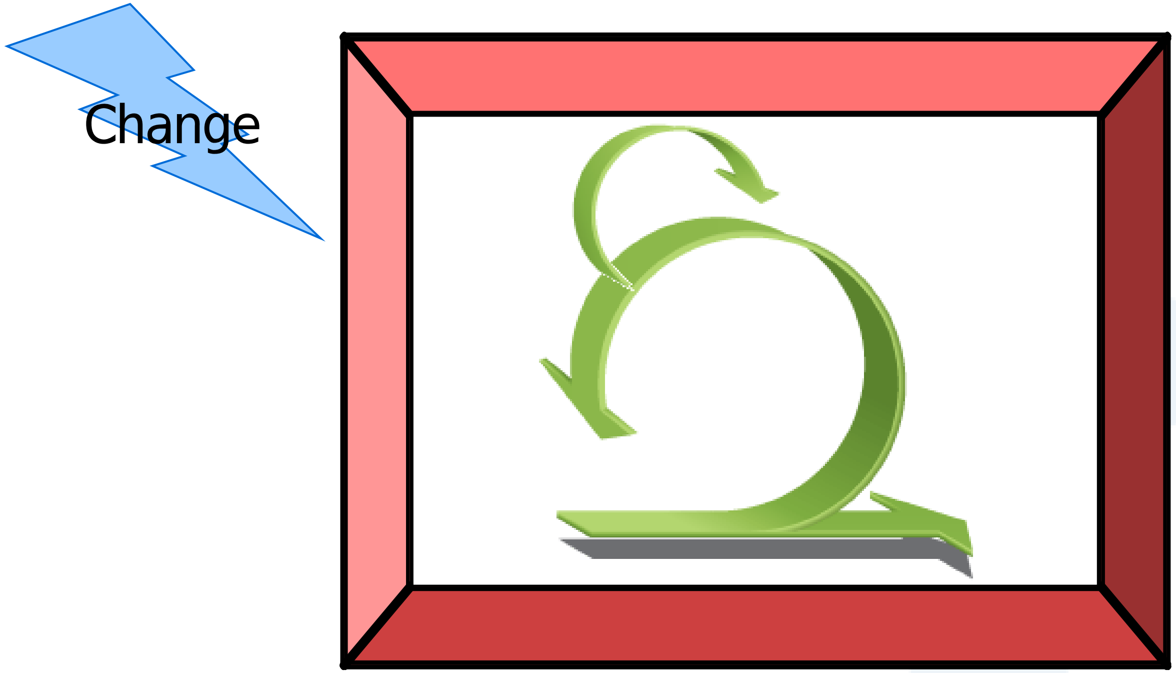
Planning Meeting



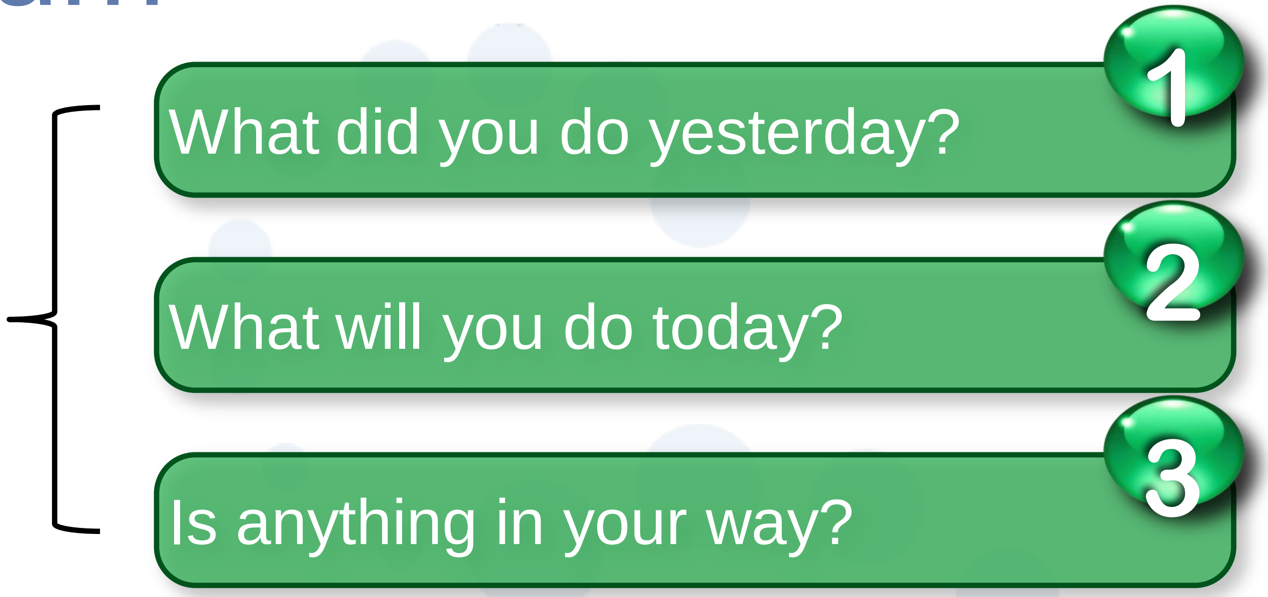
No changes during a sprint



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

The Daily Scrum

- Parameters
  - Daily, 15-minutes
  - Stand-up



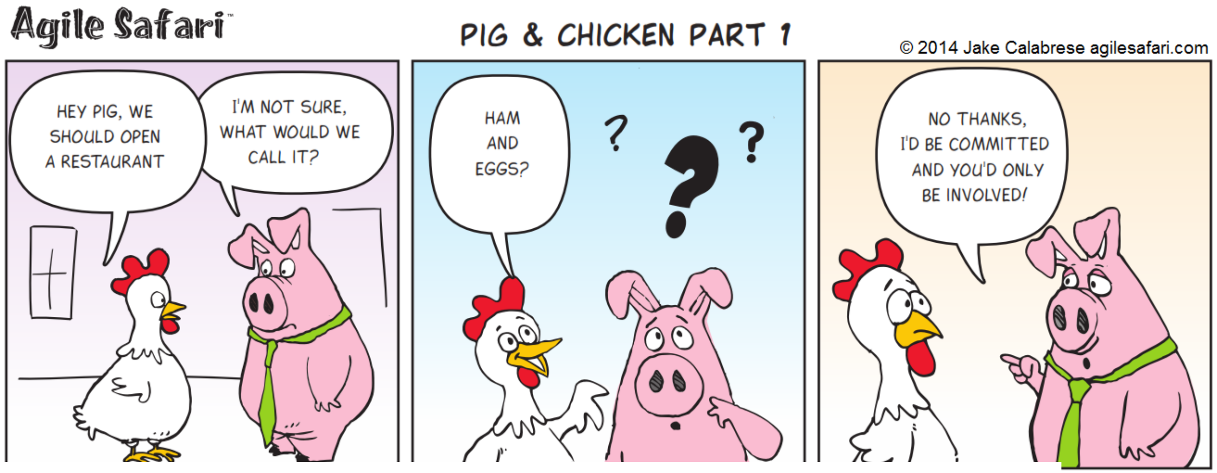
1 What did you do yesterday?

2 What will you do today?

3 Is anything in your way?

- Not reports to SM
  - Synchronization info for peers
  - Commitment in front of peers
  - Whole world is invited BUT only Team members (plus ScrumMaster, Product Owner) can talk
- Not for problem solving

The Daily Scrum


Agile Safari
PIG & CHICKEN PART 1
HEY PIG, WE SHOULD OPEN A RESTAURANT
I'M NOT SURE, WHAT WOULD WE CALL IT?
HAM AND EGGS?
? ? ?
NO THANKS, I'D BE COMMITTED AND YOU'D ONLY BE INVOLVED!

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https://agileforall.com/agile-commitment-scrum-pig-chicken-part-1/

FORMATIKY
Í TECHNIKY

The Sprint Review

- Team presents what it accomplished during the sprint (demo of new features)
- PO accepts – Definition of Done, Sprint Goal

- Informal
  - 2-hour prep time rule, No slides
- Whole team participates
- Invite the world

Sprint Review

Sprint Retrospective

- Periodically take a look back at what is and is not working
- After every sprint
- Whole team
  - ScrumMaster
  - Team
  - + Product owner
  - + Possibly customers and others

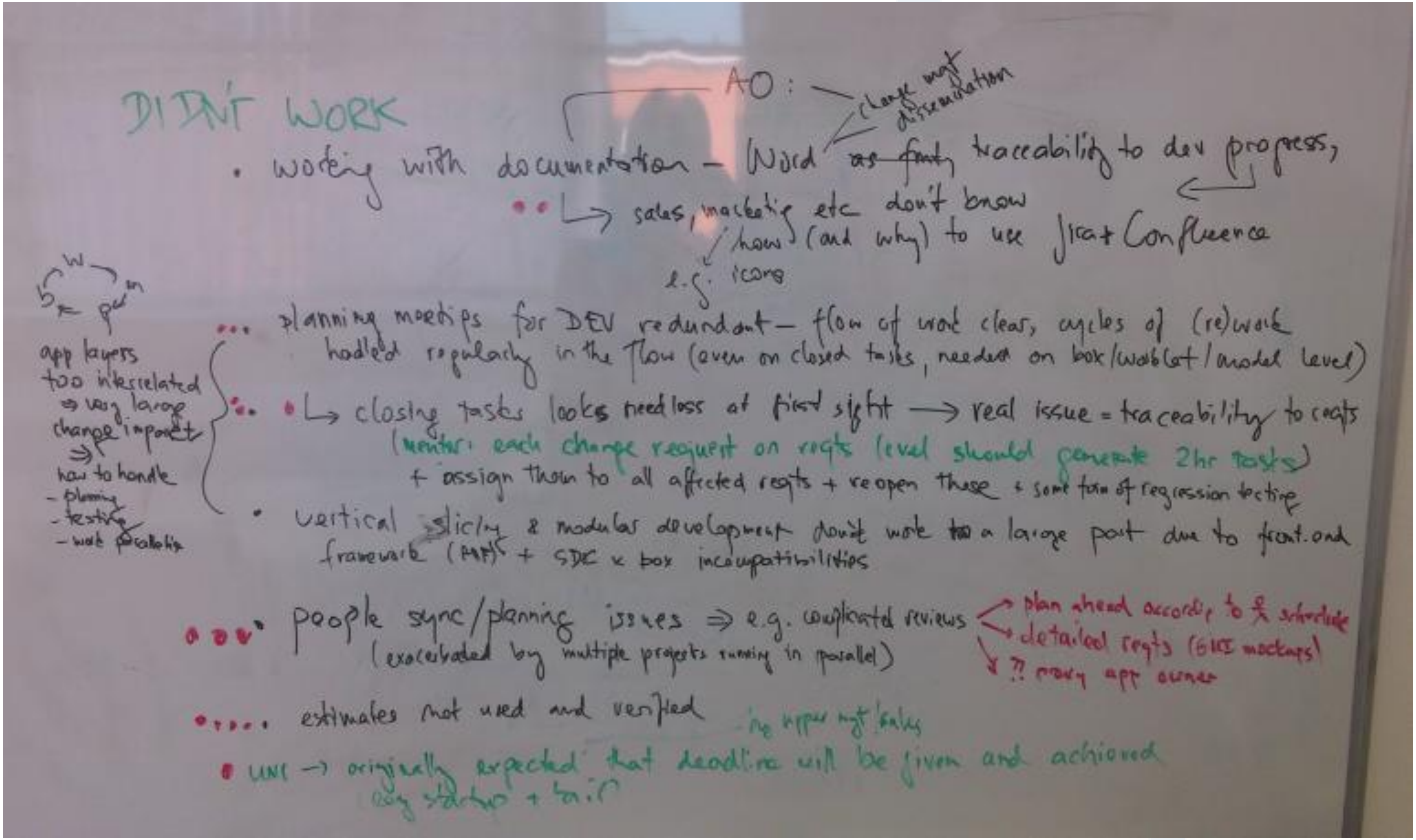
Start doing

Stop doing

Continue doing

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

Retrospective



DIDN'T WORK

- working with documentation – Word ~~as fonts~~ traceability to dev progress, AO: – change mgt dissemination
  - ↳ sales, marketing etc don't know (how and why) to use Jira + Confluence e.g. icons
- planning meetings for DEV redundant – flow of work clear, cycles of (re)work handled regularly in the flow (even on closed tasks, needed on box/wablet/model level)
  - ↳ closing tasks looks needless at first sight ⟶ real issue = traceability to reqts (mentor: each change request on reqts level should generate 2hr tasks) + assign them to all affected reqts + reopen these + some form of regression testing
- vertical slicing & modular development don't work to a large part due to front-end framework (AAF) + SDK × box incompatibilities
- people sync/planning issues ⇒ e.g. complicated reviews (exacerbated by multiple projects running in parallel)
  - plan ahead according to 🯅 schedule
  - detailed reqts (GUI mockups)
  - ?? many app owner
- estimates not used and verified – no upper mgt tasks
- UNI → originally expected that deadline will be given and achieved (e.g. startup + train)

w → m → pw → b

app layers too interrelated ⇒ very large change impact ⇒ how to handle
- planning
- testing
- work parallelism

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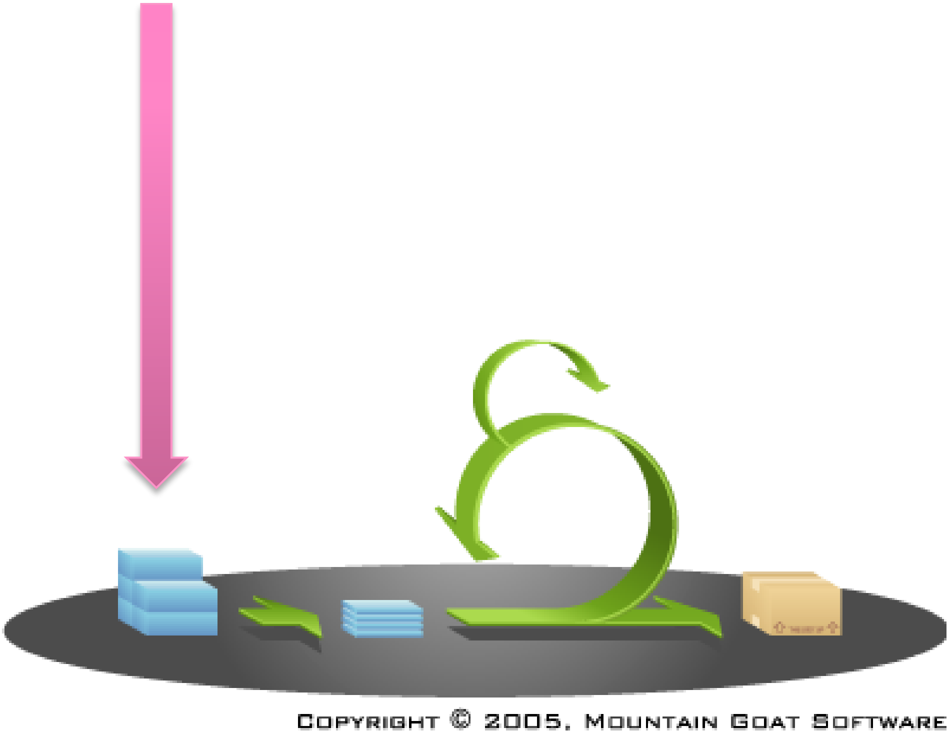
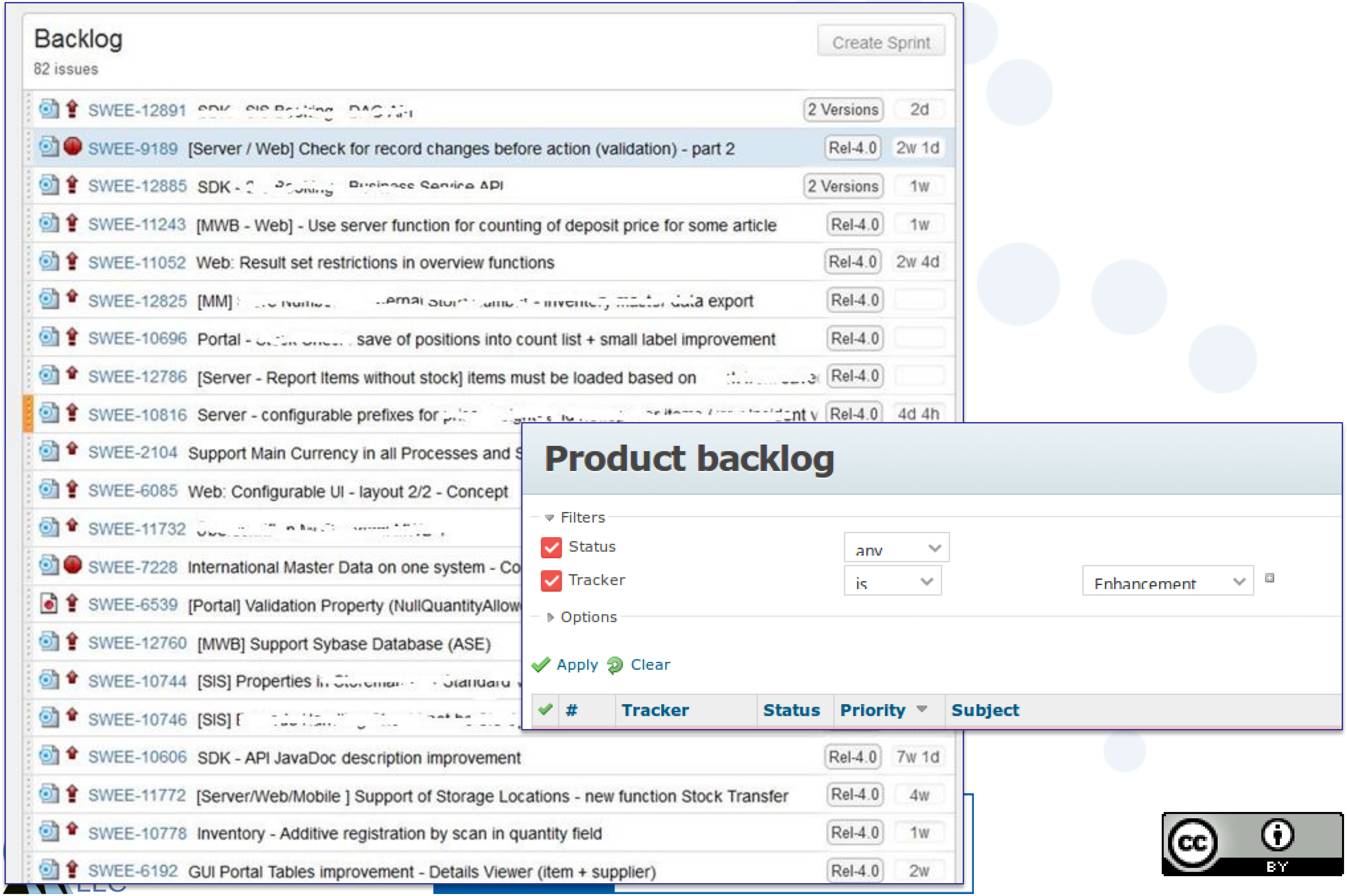
SCRUM FRAMEWORK

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

Product Backlog



Backlog

82 issues

Create Sprint

SWEE-12891	SDK - SIS Booking - DAO API	2 Versions	2d
SWEE-9189	[Server / Web] Check for record changes before action (validation) - part 2	Rel-4.0	2w 1d
SWEE-12885	SDK - S... Booking - Business Service API	2 Versions	1w
SWEE-11243	[MWB - Web] - Use server function for counting of deposit price for some article	Rel-4.0	1w
SWEE-11052	Web: Result set restrictions in overview functions	Rel-4.0	2w 4d
SWEE-12825	[MM] [illegible] Number [illegible] external Storage number - inventory master data export	Rel-4.0	
SWEE-10696	Portal - [illegible] save of positions into count list + small label improvement	Rel-4.0	
SWEE-12786	[Server - Report Items without stock] items must be loaded based on [illegible]	Rel-4.0	
SWEE-10816	Server - configurable prefixes for [illegible]	Rel-4.0	4d 4h
SWEE-2104	Support Main Currency in all Processes and S		
SWEE-6085	Web: Configurable UI - layout 2/2 - Concept		
SWEE-11732	[illegible]		
SWEE-7228	International Master Data on one system - Co		
SWEE-6539	[Portal] Validation Property (NullQuantityAllow		
SWEE-12760	[MWB] Support Sybase Database (ASE)		
SWEE-10744	[SIS] Properties in Storeman... - Standard		
SWEE-10746	[SIS] [illegible]		
SWEE-10606	SDK - API JavaDoc description improvement	Rel-4.0	7w 1d
SWEE-11772	[Server/Web/Mobile] Support of Storage Locations - new function Stock Transfer	Rel-4.0	4w
SWEE-10778	Inventory - Additive registration by scan in quantity field	Rel-4.0	1w
SWEE-6192	GUI Portal Tables improvement - Details Viewer (item + supplier)	Rel-4.0	2w

Product backlog

▾ Filters

☑ Status — any

☑ Tracker — is — Enhancement

▸ Options

✓ Apply Clear

✓	#	Tracker	Status	Priority ▾	Subject

The Sprint Goal

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

Life Sciences

Support features necessary for population genetics studies.

Database Application

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

Financial services

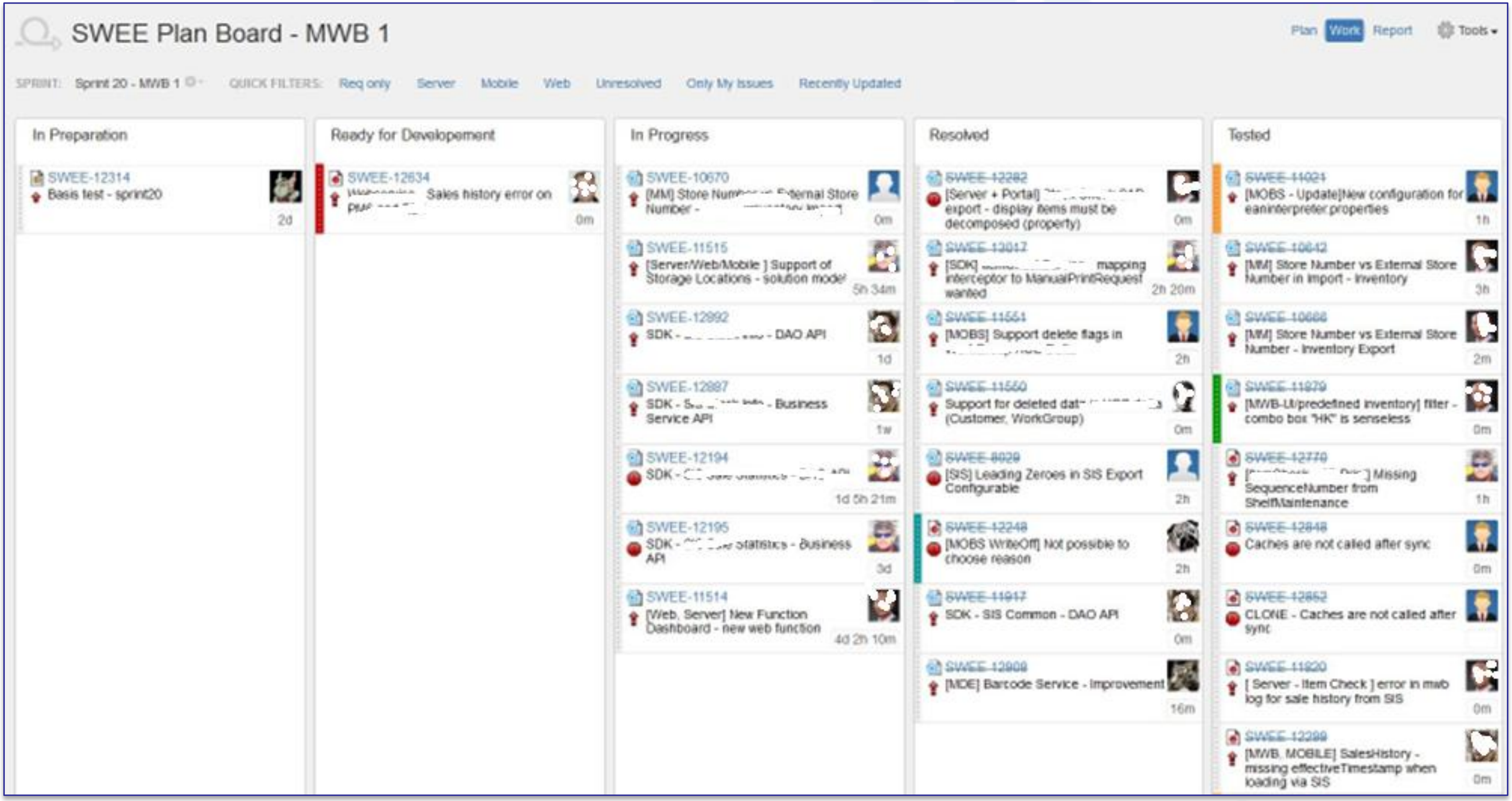
Support more technical indicators than company ABC with real-time, streaming data.

The Sprint Backlog

- Plan of the work to be finished during sprint (result of sprint planning)

- Sprint Backlog management
  - Individuals sign up for work of their own
  - Estimated work remaining is updated daily
  - New tasks can emerge
  - If work is unclear, create large item and update (split) along the way

Sprint Backlog



SWEE Plan Board - MWB 1

Plan Work Report Tools

SPRINT: Sprint 20 - MWB 1

QUICK FILTERS: Req only Server Mobile Web Unresolved Only My Issues Recently Updated

In Preparation

- SWEE-12314 Basis test - sprint20 — 2d

Ready for Developement

- SWEE-12634 [redacted] Sales history error on [redacted] — 0m

In Progress

- SWEE-10670 [MM] Store Number [redacted] External Store Number - [redacted] — 0m
- SWEE-11515 [Server/Web/Mobile] Support of Storage Locations - solution model — 5h 34m
- SWEE-12892 SDK - [redacted] - DAO API — 1d
- SWEE-12887 SDK - [redacted] - Business Service API — 1w
- SWEE-12194 SDK - [redacted] — 1d 5h 21m
- SWEE-12195 SDK - [redacted] Statistics - Business API — 3d
- SWEE-11514 [Web, Server] New Function Dashboard - new web function — 4d 2h 10m

Resolved

- ~~SWEE-12282~~ [Server + Portal] [redacted] export - display items must be decomposed (property) — 0m
- ~~SWEE-13017~~ [SDK] [redacted] mapping interceptor to ManualPrintRequest wanted — 2h 20m
- ~~SWEE-11551~~ [MOBS] Support delete flags in [redacted] — 2h
- ~~SWEE-11550~~ Support for deleted dat[redacted] (Customer, WorkGroup) — 0m
- ~~SWEE-8029~~ [SIS] Leading Zeroes in SIS Export Configurable — 2h
- ~~SWEE-12248~~ [MOBS WriteOff] Not possible to choose reason — 2h
- ~~SWEE-11917~~ SDK - SIS Common - DAO API — 0m
- ~~SWEE-12909~~ [MDE] Barcode Service - Improvement — 16m

Tested

- ~~SWEE-11021~~ [MOBS - Update]New configuration for eaninterpreter.properties — 1h
- ~~SWEE-10642~~ [MM] Store Number vs External Store Number in import - inventory — 3h
- ~~SWEE-10666~~ [MM] Store Number vs External Store Number - Inventory Export — 2m
- ~~SWEE-11979~~ [MWB-UI/predefined inventory] filter - combo box "HK" is senseless — 0m
- ~~SWEE-12770~~ [[redacted]] Missing SequenceNumber from ShelfMaintenance — 1h
- ~~SWEE-12848~~ Caches are not called after sync — 0m
- ~~SWEE-12852~~ CLONE - Caches are not called after sync
- ~~SWEE-11920~~ [Server - Item Check] error in mwb log for sale history from SIS — 0m
- ~~SWEE-12299~~ [MWB, MOBILE] SalesHistory - missing effectiveTimestamp when loading via SIS — 0m

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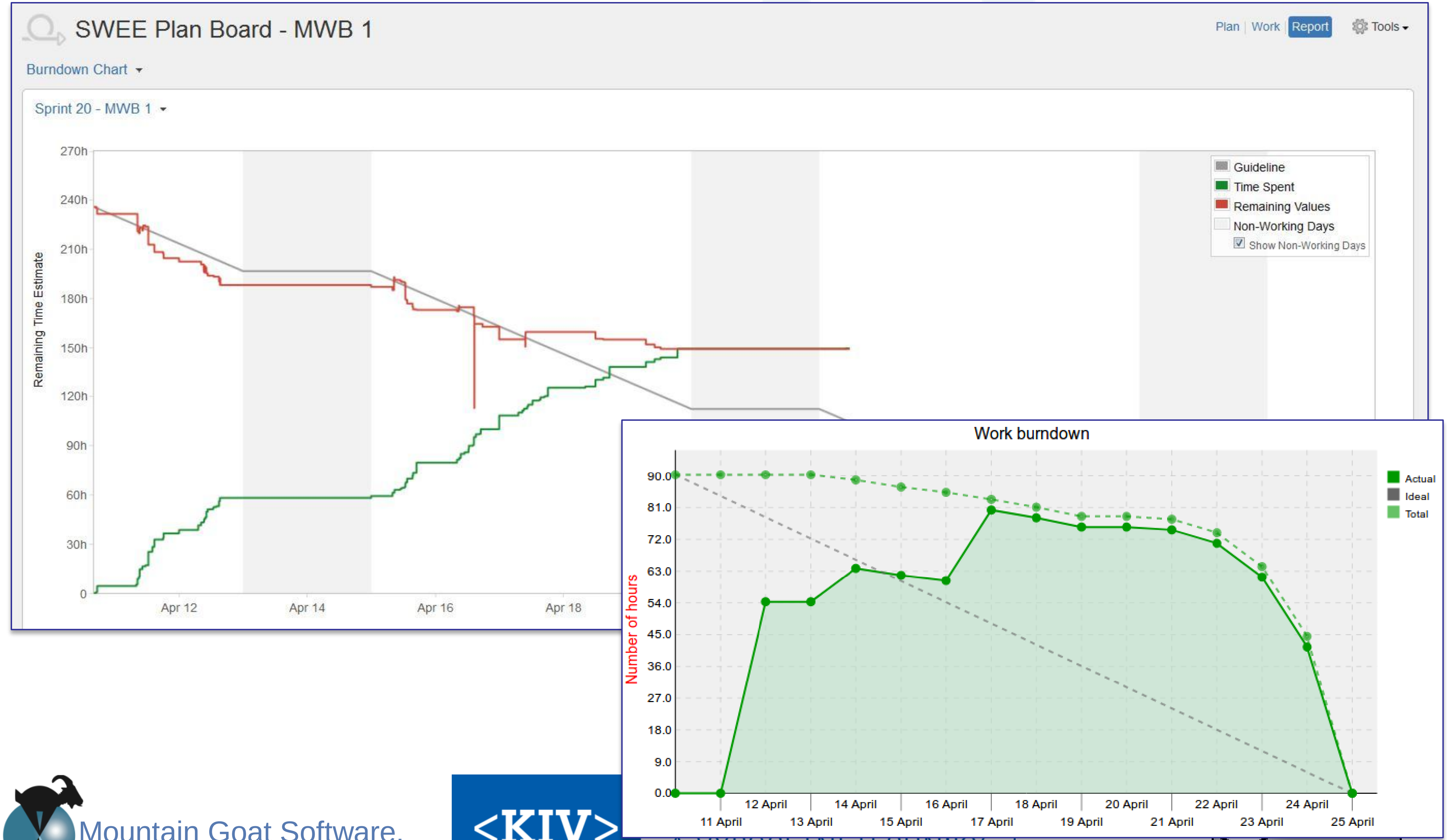
Tracking progress: Burndown

- Simple visual information on progress
  - Work remaining vs time available
- „Information radiator“
- Burnup chart: work (time spent) already finished

Burndown Chart



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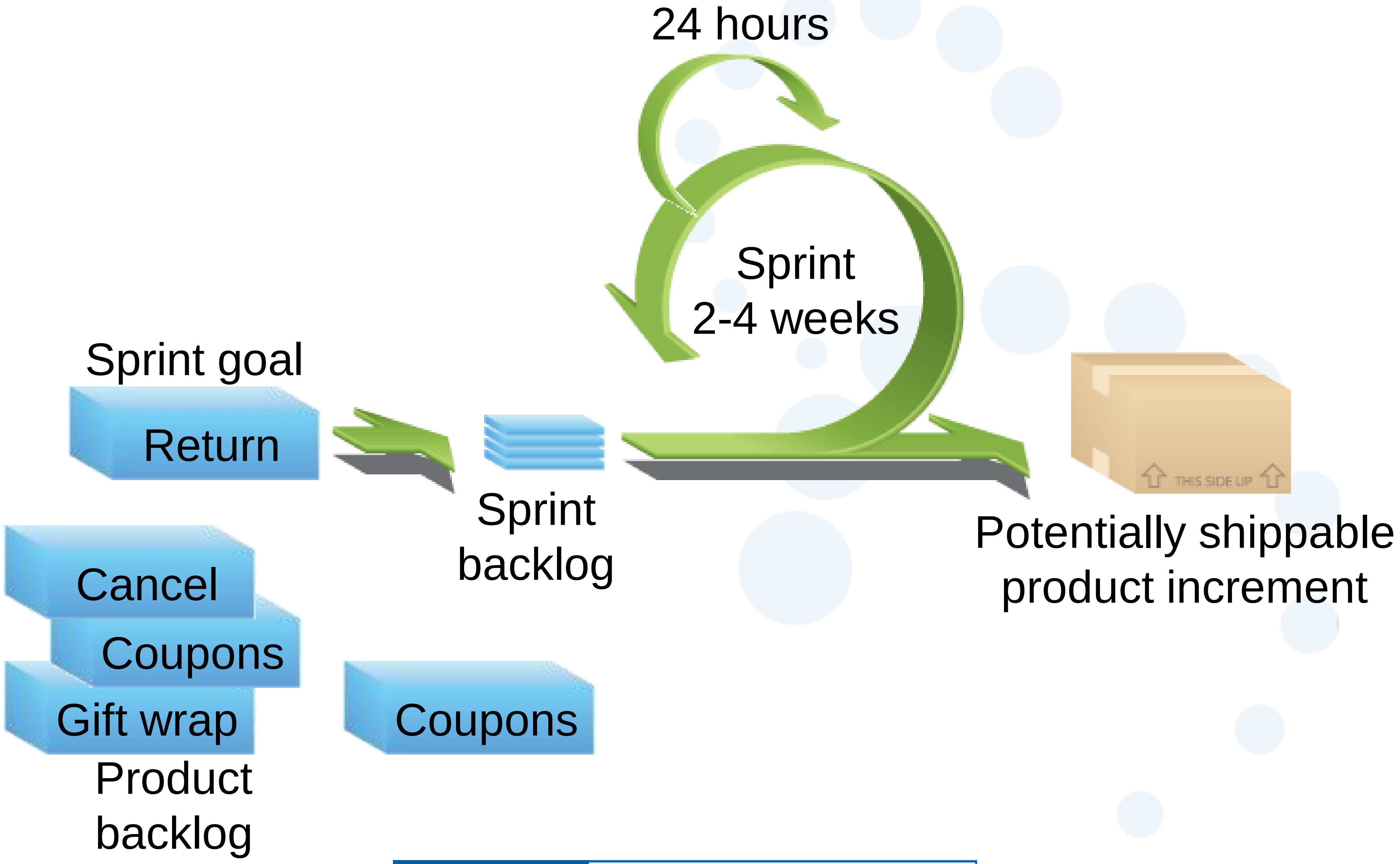
SUMMARY

Scrum in a Nutshell



24 hours

Sprint
2-4 weeks

Sprint goal

Return

Sprint
backlog

Potentially shippable
product increment

Cancel

Coupons

Gift wrap

Coupons

Product
backlog

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Applicability of Scrum

- SCRUM is a management, enhancement and maintenance methodology for an existing system or production prototype. It assumes existing design and code (…).
- “It may not apply to breakthrough projects that require a revolutionary innovation.
- “It may not apply to mammoth projects like those in the aerospace business, where the sheer project scale limits extensive face-to-face discussions.
- “It may not apply to organizations where product development is masterminded by a genius who makes the invention and hands down a well-defined set of specifications for people below to follow.” [Nonaka1986]

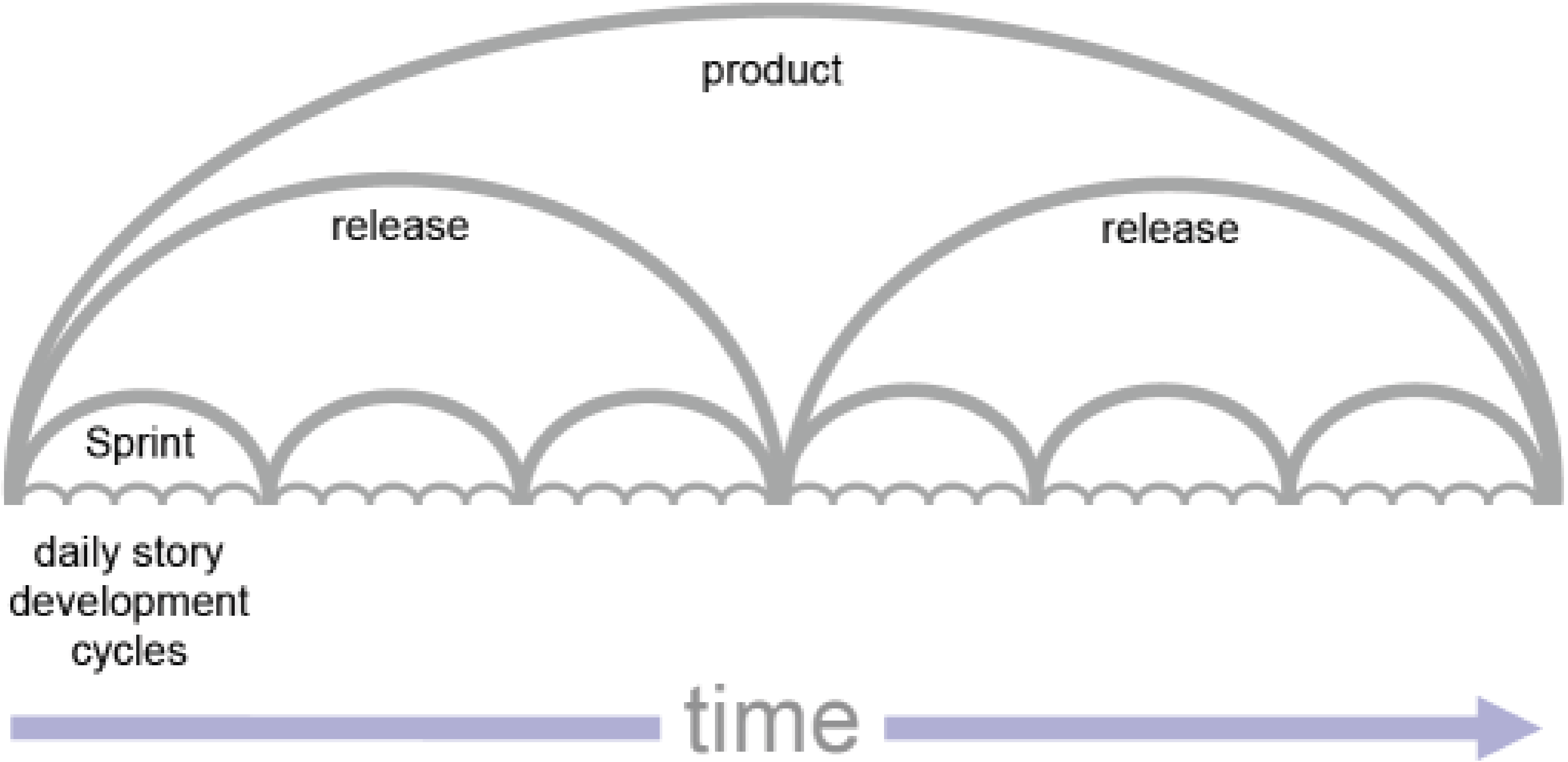
Common Issues

- Pre-game, Post-game
- Architecture vs Scrum
- Reacting to Disturbances

- “ScrumBut”

FURTHER TOPICS

Product Planning and Scrum



Distributed Teams

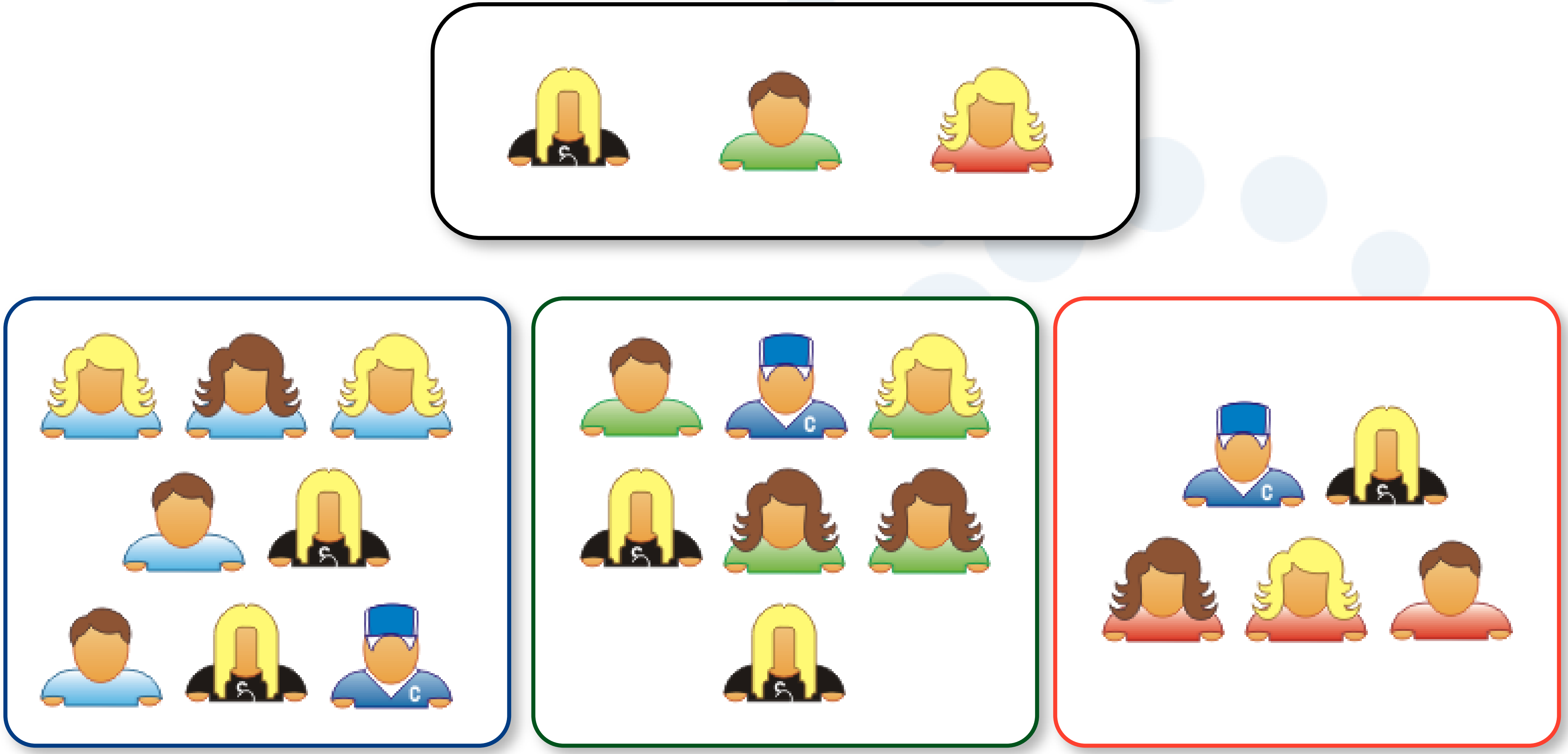
- Not ideal
- But possible

- Backlog in online tools
- Meetings via voice/video conference
- Communicate a lot (include “small talk”)
- Document more

Scalability

- Typical individual team is 7 ± 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



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Names and Books

- Jeff Sutherland
- Ken Schwaber
- Mike Cohn
- Craig Larman
- Henrik Kniberg

Thank You

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