



MEIC, 2021-22

# Large Scale Software Development

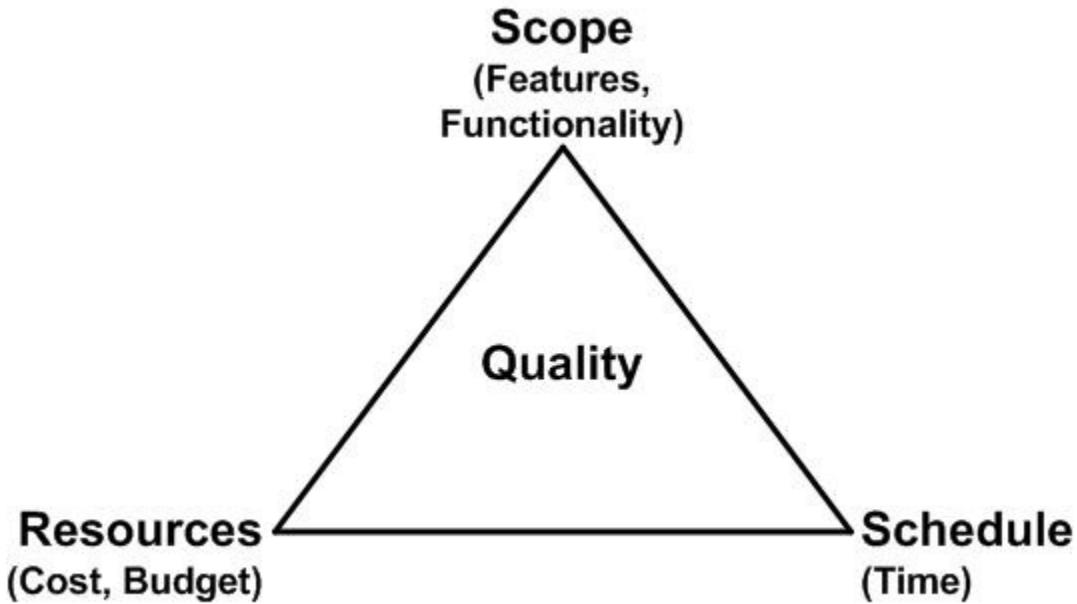
Ademar Aguiar, Hugo Ferreira, Daniel Pinho

# Managing in a VUCA World



# Agility

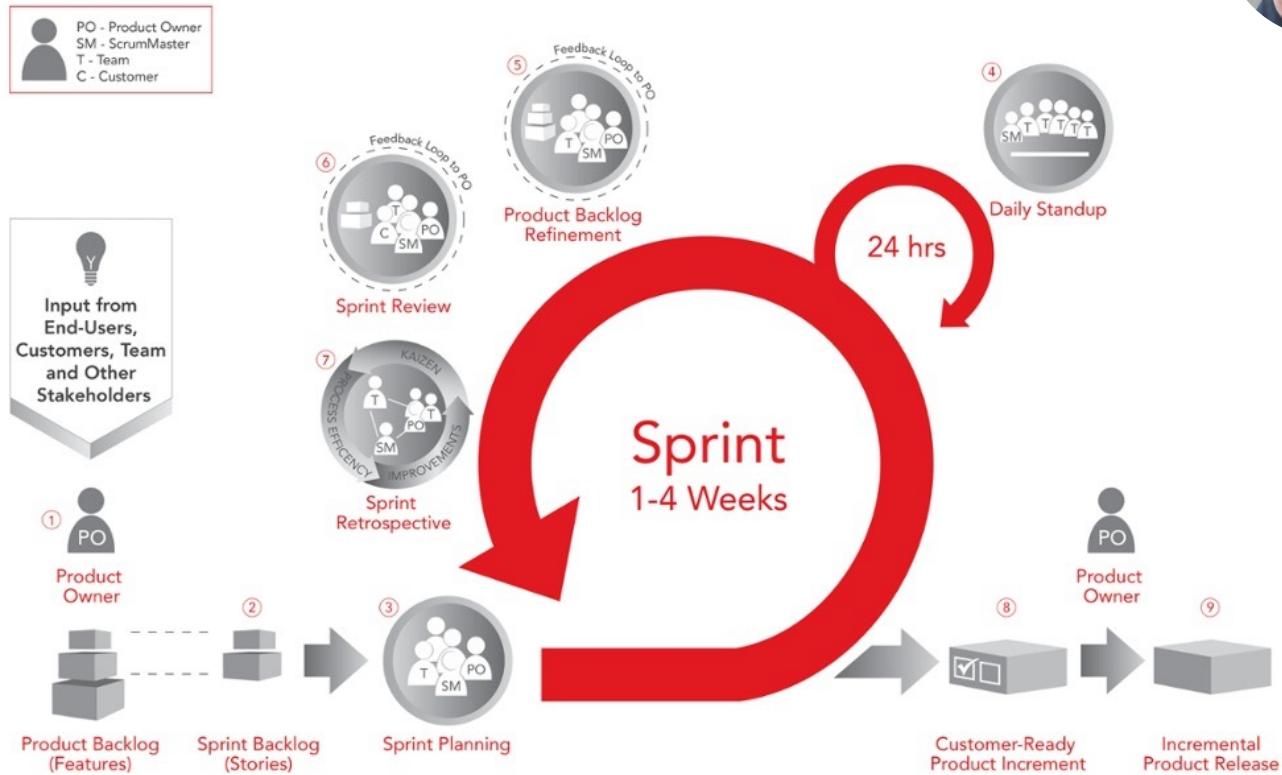
# The Iron Triangle



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# Scrum

# Scrum





Jeff Sutherland  
James O. Coplien  
The Scrum Patterns Group  
*edited by Adaobi Obi Tulton*

<https://pragprog.com/book/jcscrum/a-scrum-book>

## A Scrum Book

The Spirit of the Game

Jeff Sutherland  
James O. Coplien

Lachlan Heasman  
Mark den Hollander  
Cesário Ramos

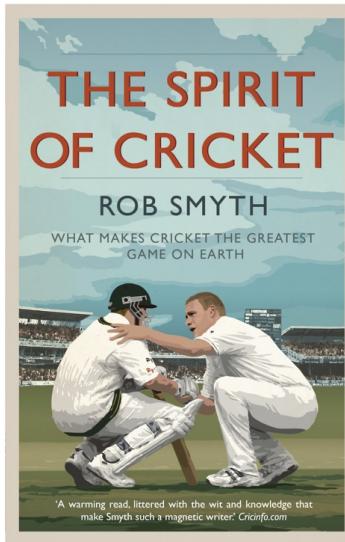
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June Kim, Alan O'Callaghan, Mike Beedle, Gertrud Bjørnvig,  
Dina Friis, Ville Reijonen, Gabrielle Benefield, Jens Østergaard,  
Veli-Pekka Eloranta, Evan Leonard, and Ademar Aguiar

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## ¶1 The Spirit of the Game

Confidence stars: \*\*



... the Scrum framework does not have all the answers, which means that the team cannot look to Scrum for direction when it does not give a final answer.



Written rules might give concrete guidance for how to work together, but *spirit* is part of culture that guides interactions and may be discerned only when ignored or violated.

Cricket is a game that owes much of its unique appeal to the fact that it

## discussion

## forces

Scrum requires a spirit of interaction between people that can be difficult to define. This spirit is part of the culture of the organization and may be indiscernible for the people within the culture. Though it may be difficult to define the spirit is easy to recognize when it is broken.

Changing habits is difficult. Moving from a command-and-control organization to [#16 Autonomous Teams](#) might feel uncomfortable for developers as they are faced with the need to think more for themselves, and it might make managers feel that they are losing power as the teams can make decisions without their approval. Individuals in the organization might balk at changing

Scrum is about teamwork, but some prefer to pursue personal success instead of team success, or even broader definitions of success.

## solution

*Therefore:*

When using Scrum the product community must focus on explicitly creating a culture in the organization where people know and follow the spirit of Scrum.

## resulting context

within the spirit of Scrum. When starting to use the Scrum framework the team will find it challenging to work within the spirit. It will feel uncomfortable for people, and will be arduous — again, it's about habits. To overcome this challenge it is essential to start with good [#19 ScrumMasters](#) and [#11 Product Owners](#), and it is necessary for everyone on the team to support each other to work within the spirit. A new culture emerges, where the spirit will be inherent in the ways of working and interacting.

In Scrum and Cricket there are clear rules for the game; in both, it is essential that the spirit is a guide for the people using these rules.

# ¶3 Fertile Soil



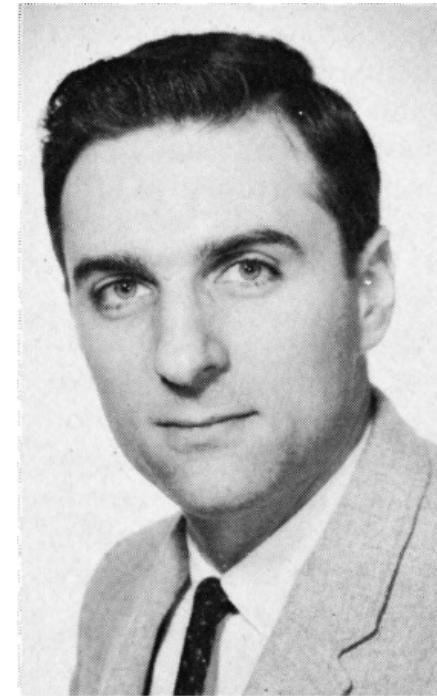
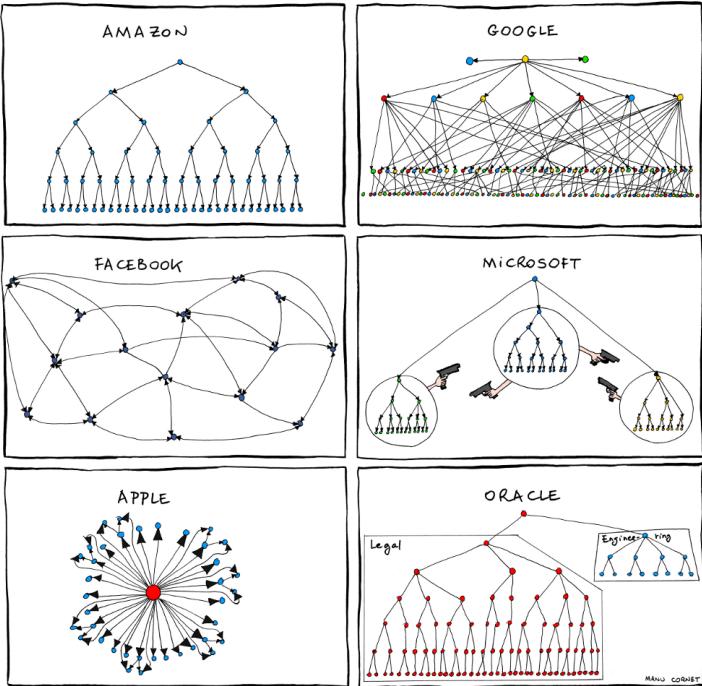
# ¶3 Fertile Soil

It is the moment by moment interactions of people working together on a product that build and sustain product organizations. Interaction qualities both reflect and define organization qualities.

*Therefore:*

Demonstrate the values of **Commitment, Focus, Openness, Respect** and **Courage** in your day to day behaviors and interactions (*Agile Software Development with Scrum [SB01]*). This helps create a virtuous circle that supports **transparency**, and that makes it possible to build on the **inspection and adaptation** at the core of effective Scrum efforts.

# ¶4 Conway's Law



# Value Stream Sequence

- ¶2 THE MIST
- ¶39 VISION
- ¶41 VALUE STREAM
- ¶45 PRODUCT ROADMAP
- ¶46 SPRINT
- ¶54 PRODUCT BACKLOG
- ¶55 PRODUCT BACKLOG ITEM
- ¶71 SPRINT GOAL
- ¶72 SPRINT BACKLOG
- ¶75 PRODUCTION EPISODE
- ¶84 RESPONSIVE DEPLOYMENT
- ¶135 SPRINT REVIEW
- ¶136 SPRINT RETROSPECTIVE \*
- ¶185 REGULAR PRODUCT INCREMENT
- ¶186 RELEASE STAGING LAYERS
- ¶189 VALUE AREAS
- ¶190 VALUE STREAM FORK
- ¶193 GREATEST VALUE
- ¶194 PRODUCT WAKE

139 Vision



# ¶39 Vision

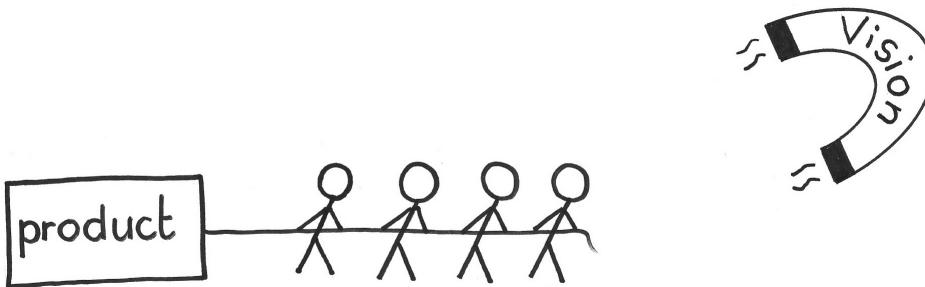
People thrive within constraints that channel their creativity and work towards a common good, but it's also true that overly specific constraints can turn contributors into subservient robots who blindly follow orders rather than following with their heart.

*Therefore:*

The **individual** who embodies the **passion** for this new **product** effort takes on the **role of ¶11 Product Owner**, around whom stakeholders and potential future coworkers rally to articulate and together to define and refine a *Vision*.

# ¶39 Vision

The *Vision* is a description of how the product supports a desired future towards which an envisioned future Product Organization Pattern Language advances.



# ¶41 Value Stream



# ¶41 Value Stream

The development process and the path from conception to market are as important to product success as the product idea itself.

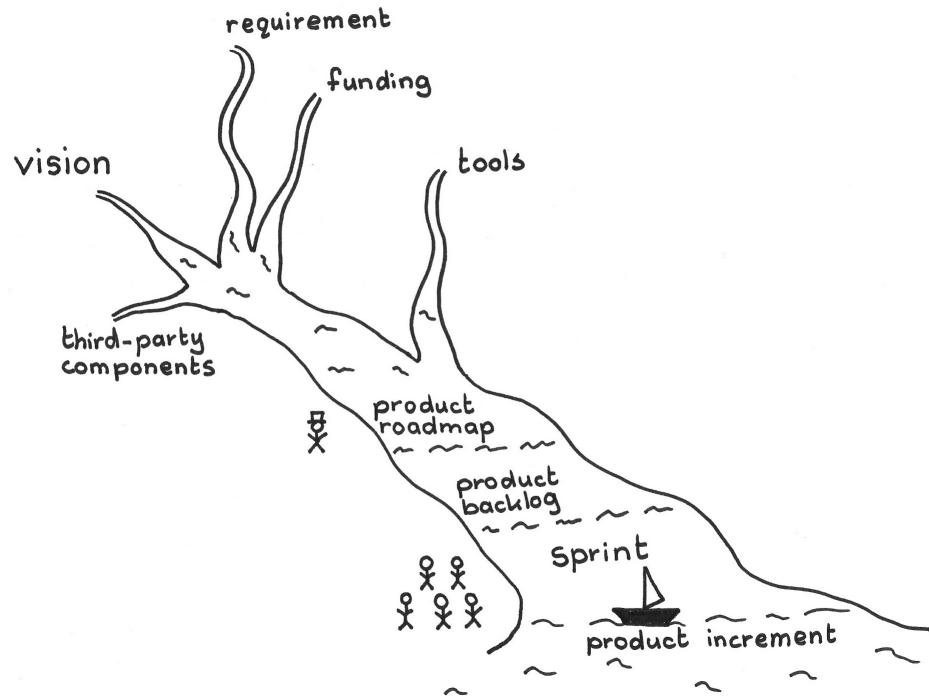
Therefore:

The **Product Owner** creates an **ecosystem** whose elements build on each other to **deliver ever-increasing value** in an evolving product. At the center of this ecosystem, there is a process to deliver ongoing and evolving streams of product increments to stakeholders: the **Value Stream**.

# #41 Value Stream

The building blocks include the artifacts (backlogs, product components) and the processes that guide and coordinate the creation of these artifacts (through events and joint work).

The people build the processes that guide the creation of the artifacts, themselves enact them, and are instrumental in evolving them.



# #54 Product Backlog



# ¶54 Product Backlog

At any given time, it is important that the whole team is aligned about what they need to deliver next, and that the direction be transparent. The *Development Team* can't do everything at once – in fact, you can't even do two things well at the same time. It's important to maintain focus.

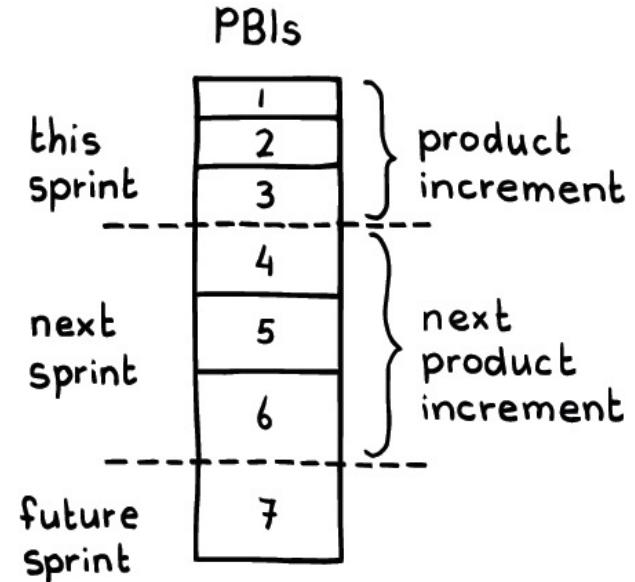
*Therefore:*

For each product, **create a single ordered list** called the ***Product Backlog*** – a list of *Regular Product Increment* contributions called **¶55 Product Backlog Items (PBIs)**, arranged in delivery order.

# ¶54 Product Backlog

The *Product Backlog* details the *Product Owner* vision for the product according to the expectations of all stakeholders, with each *PBI* describing a contribution to a deliverable *Regular Product Increment*.

The *Product Owner* has final authority over the content of the *Product Backlog*; however, he or she usually develops the *Product Backlog* in a joint effort with the *Development Team* during regular events convened to maintain a ¶64 *Refined Product Backlog*, as well as during ¶24 *Sprint Planning*.



# ¶85 Regular Product Increment



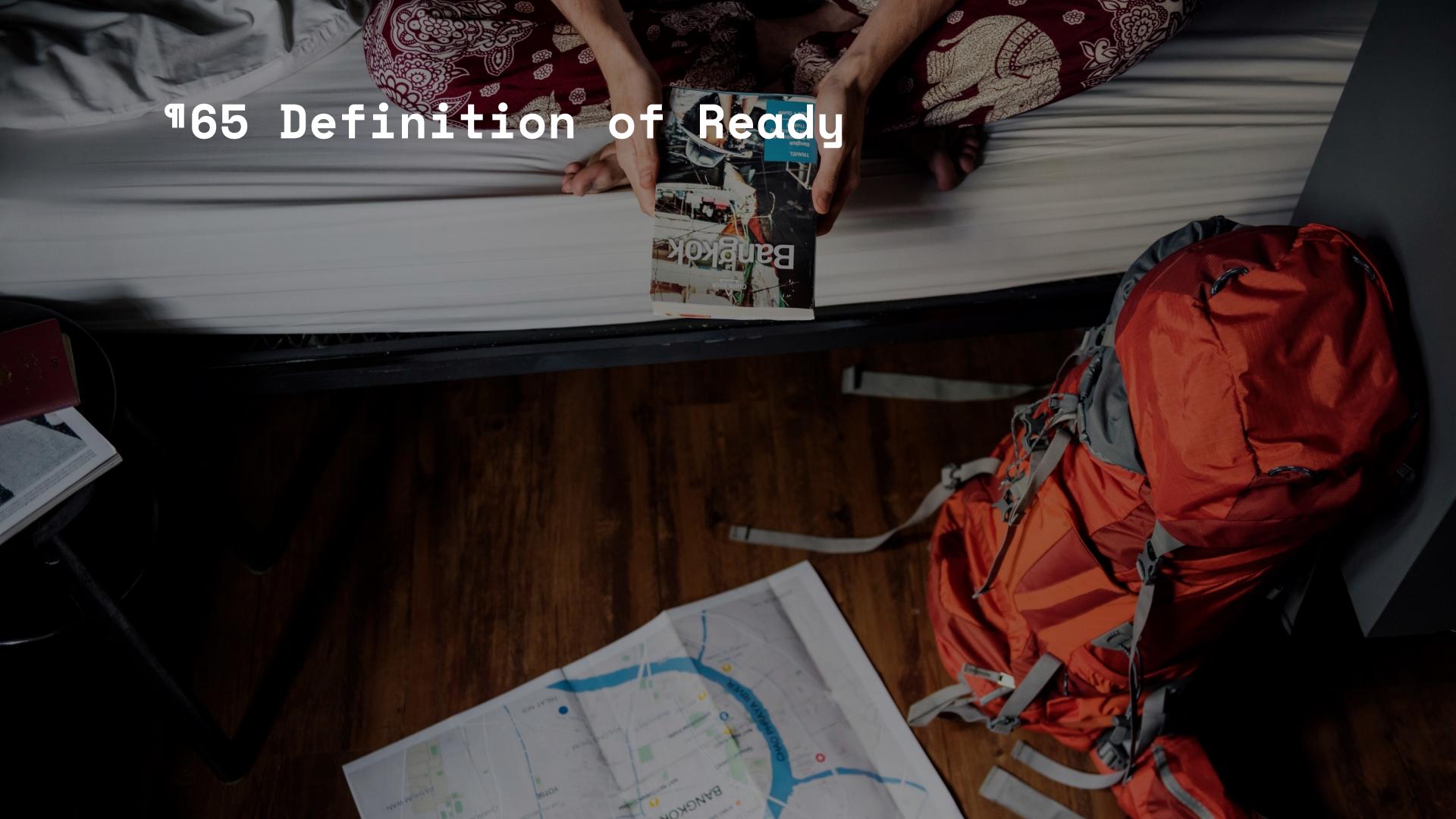
## ¶85 Regular Product Increment

It is often very difficult to validate if the team has created value in every ¶46 Sprint. However, the *Product Owner* wants to be sure that the product increases value, *Sprint after Sprint*.

Therefore:

Every Sprint the Scrum Team **creates** a ***Product Increment*** that is **Done** (see ¶82 Definition of Done), **usable** and potentially **releasable**. The team uses the *Product Increment* to validate if they have increased the value of the product, and to understand how the product actually performs in the market. In the long term the end users will be happier, and current use can hone foresight that can help the team head off many future risks.

# ¶65 Definition of Ready



# ¶65 Definition of Ready

If the *Development Team* does not precisely understand ¶55 *Product Backlog Items (PBI)*, development effort (and time) tend to balloon, which in turn cause the *Sprint* to miss the *Sprint Goal* or to not deliver what stakeholders expect.

Therefore:

Each **Product Backlog Item** must **meet** at least the **following criteria** before the *Development Team* can take it as a candidate for the work on the *Sprint Backlog* during ¶24 *Sprint Planning*:

1. The **work** is immediately **actionable** by the team.
2. The planned **deliverable** has **value**.
3. The ¶11 **Product Owner** and the *Development Team* have **discussed** it.
4. The *Development Team* has **estimated** it.
5. It is **testable**, and the **Product Owner** has **defined tests** for it.
6. The ¶7 *Scrum Team* has **sized** the **pieces appropriately** (see ¶58 *Small Items*).

¶46 Sprint



# #46 Sprint

The most fundamental human processes build on cadence.

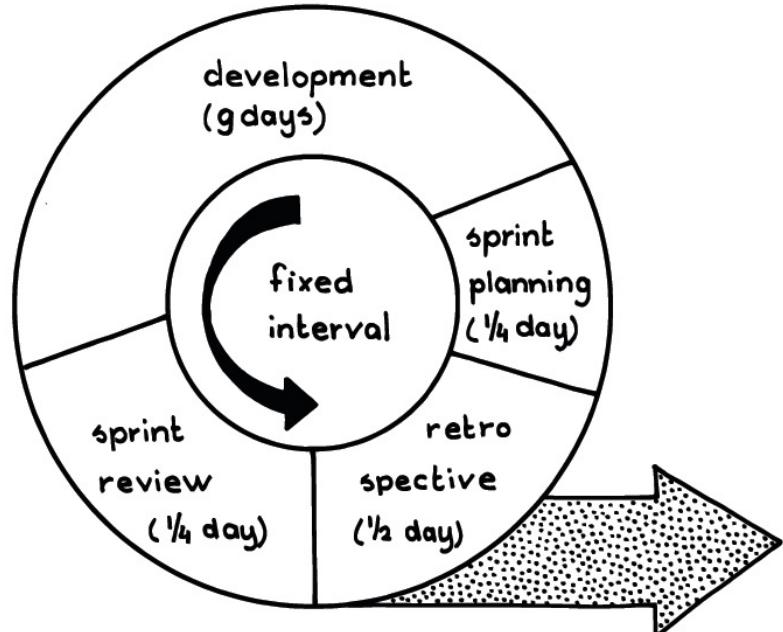
Human culture often realizes cycles in rituals and other visible events of its calendar.

Therefore:

**Organize development around recurring, frequent, fixed-length time boxed intervals** called ***Sprints***. The *Sprint* is both a single time boxed period of product *delivery effort* (duration) as well as a unit demarcating *delivery interval* on the release calendar (cadence).

# #46 Sprint

We can regard a *Sprint* in three ways: as a unit of time, as a unit of learning, and as a unit of *Product Increment*. It is first a unit of *time*: the implementation of a *Regular Product Increment*.



# #71 Sprint Backlog



171 SPRINT GOAL



# ¶71 Sprint Goal

The objective of a *Sprint* is to deliver value to the stakeholders. However, simply following a list of ¶73 *Sprint Backlog Items* (*SBIs*; e.g., tasks) does not necessarily result in the creation of the greatest value possible.

Therefore:

The ¶7 **Scrum Team** commits to a **short statement of the value** that they intend to **create during the *Sprint***. This becomes the focus of all work in the *Sprint*.

# ¶57 PIGS ESTIMATE



Gelukkig Nieuwjaar

# ¶57 Pigs Estimate

The team should ground its estimates in reality rather than assumptions or wishful thinking.

*Therefore:*

**Let the people who are committed to do the actual work do the estimation.** In the Scrum sense, it is pigs that estimate—not chickens ([1], p. 31; [2], p. 51; and [3], p. 123).

*A chicken and a pig are together when the chicken says, “Let’s start a restaurant!” The Pig thinks it over and says, “What would we call the restaurant?” The chicken says, “Ham n’ Eggs!” The pig says, “No thanks, I’d be committed, but you’d only be involved!” (From [5], p. 42)*

...



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