

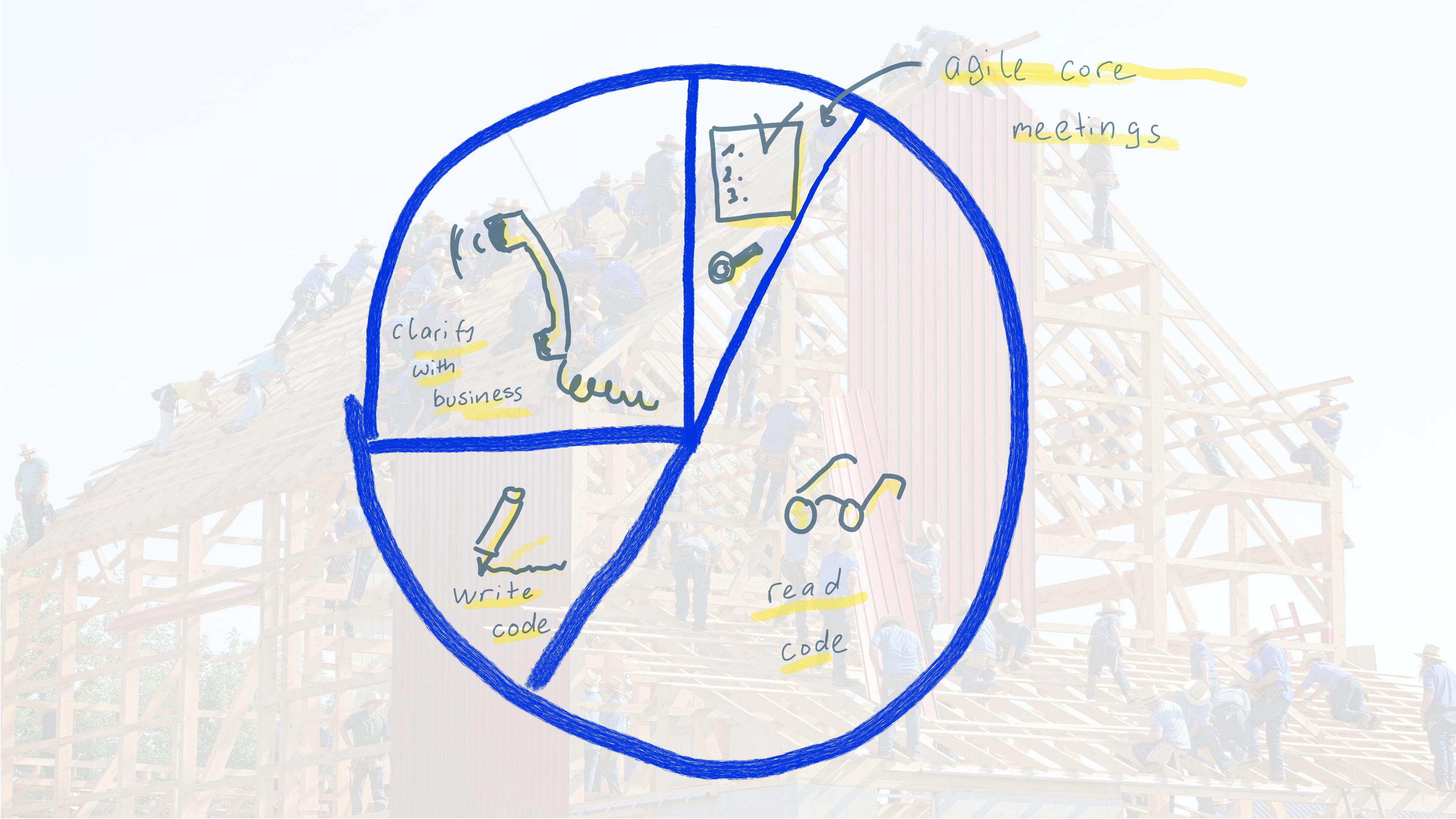


# v\_normal x80

## A typical development iteration in a nutshell

Alexander Arth  
Maximilian Imgrund

2020-06-16



clarify  
with  
business

write  
code

read  
code

agile core

meetings

# Outline

- ▶ Agile development
- ▶ Planning
- ▶ Implementation
- ▶ CI / CD
- ▶ Review

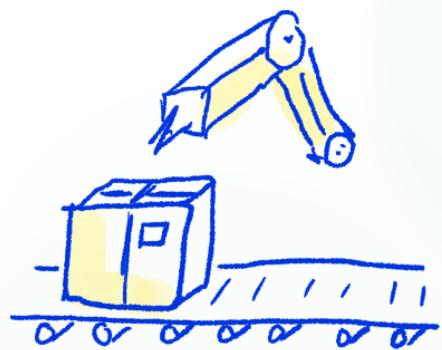
A dense cloud of blue text labels related to software development and technology, including:

- Training ExtJS
- JIRA Maven
- Java
- Scala
- Kanban
- TestDrivenDevelopment
- TNG Technology Gooly
- Consulting Cloud
- Agile Confluence
- C WebServices
- Sonar
- BusinessIntelligence
- TechDay
- JavaScript
- Coaching
- InnovationGames
- SQL
- BBQ
- Python
- MapReduce
- DevOps
- Retreat
- Ruby
- Grails
- Datawarehouse
- node.js
- Schokolade
- Eclipse
- CodeReview
- Per
- PHP
- Hibernate
- Team
- Vorlage
- Scrum
- Team
- C++

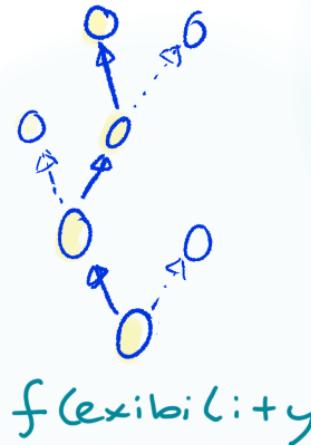




# Key aspects of agile development



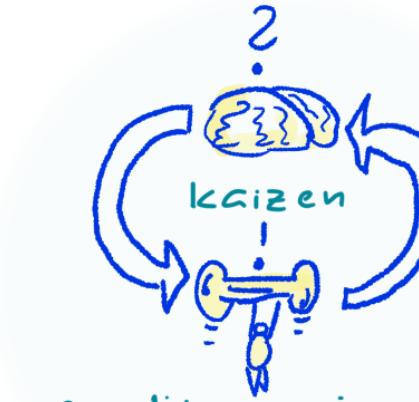
Automate everything



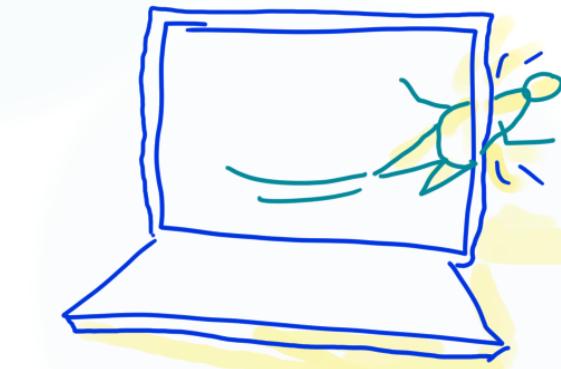
reviews



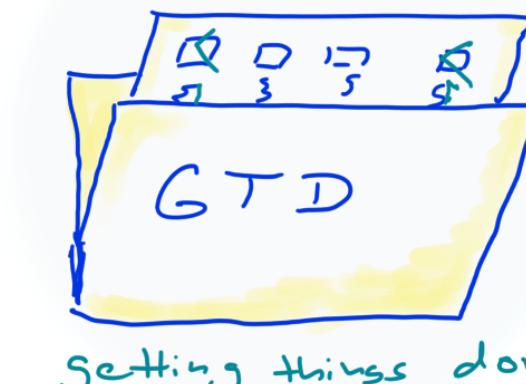
short feedback cycles



continuous improvement

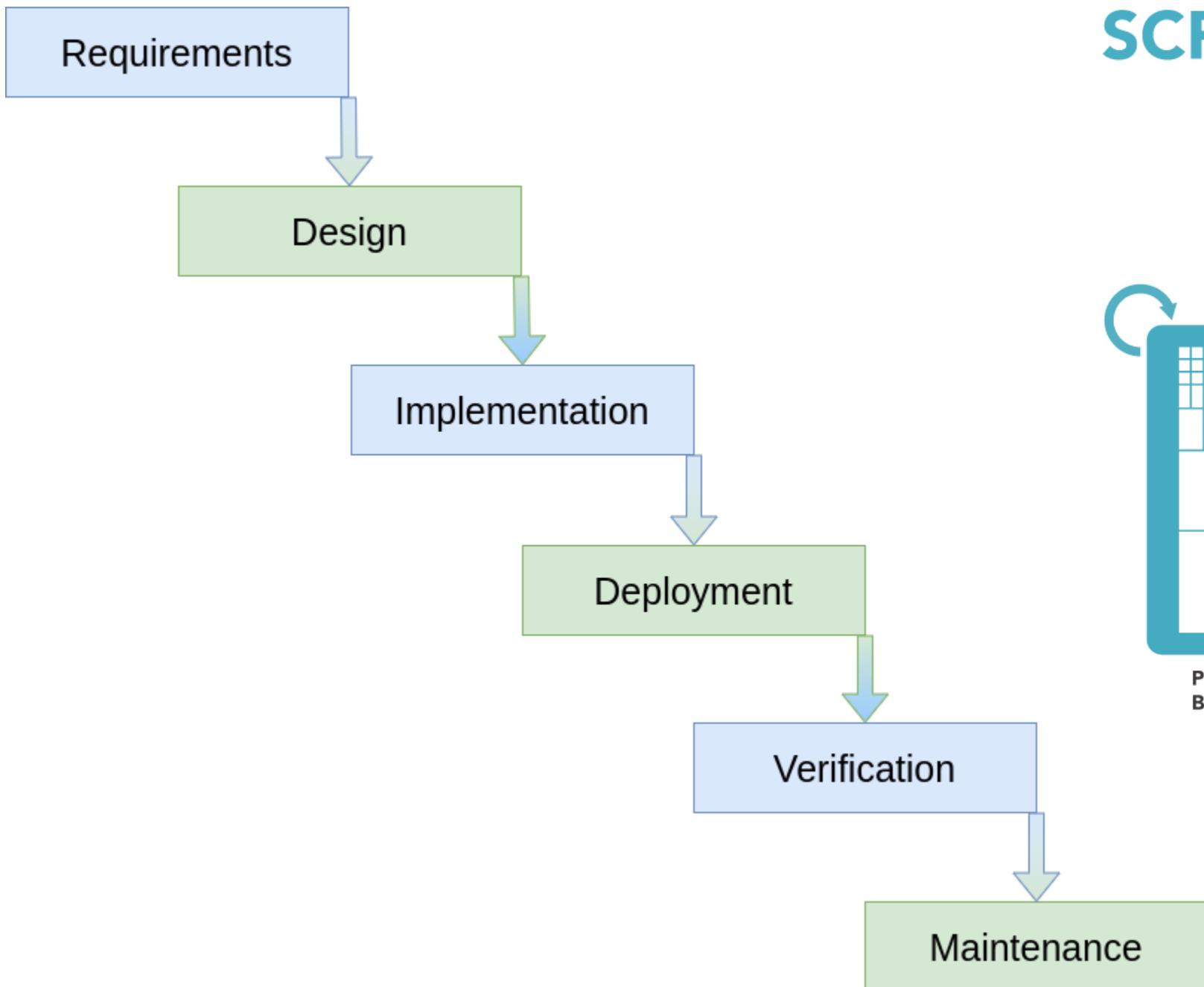


beyond software development



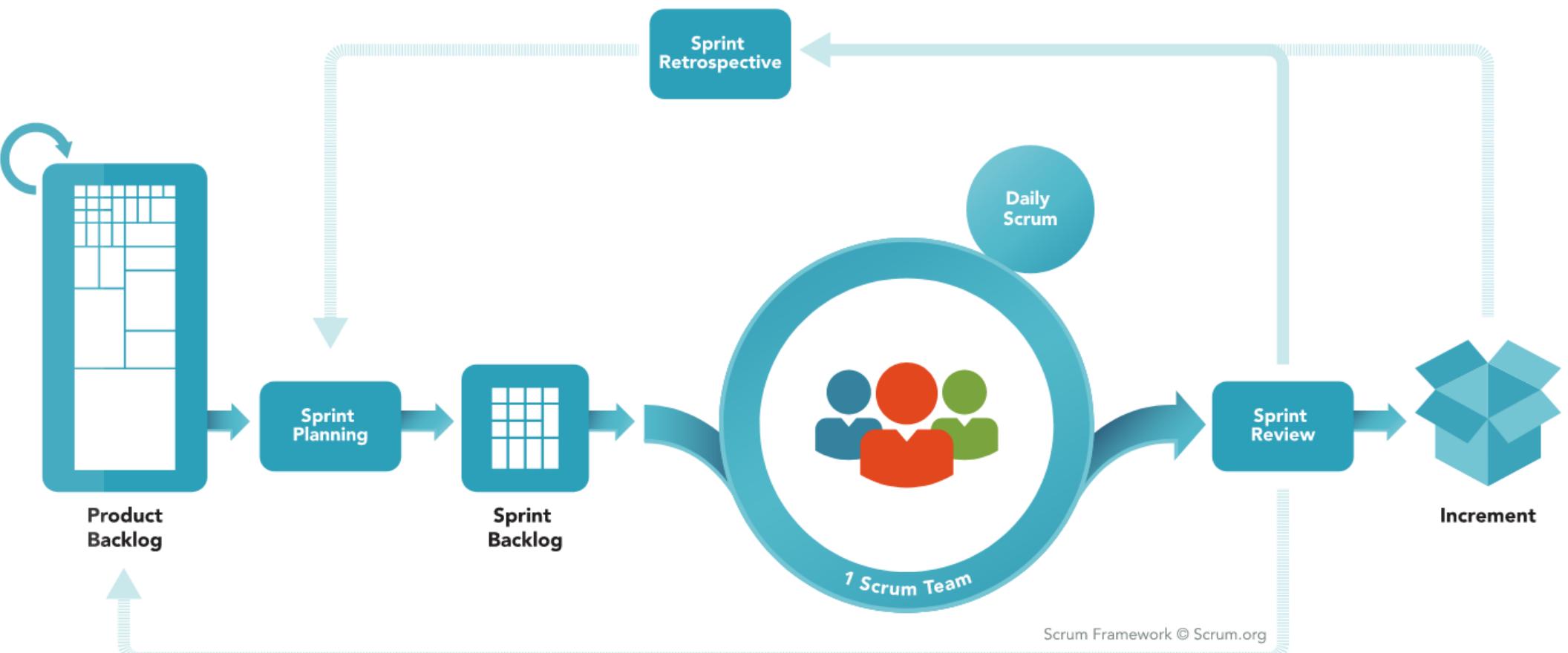
Getting things done

# Classical



# Agile: Scrum

## SCRUM FRAMEWORK

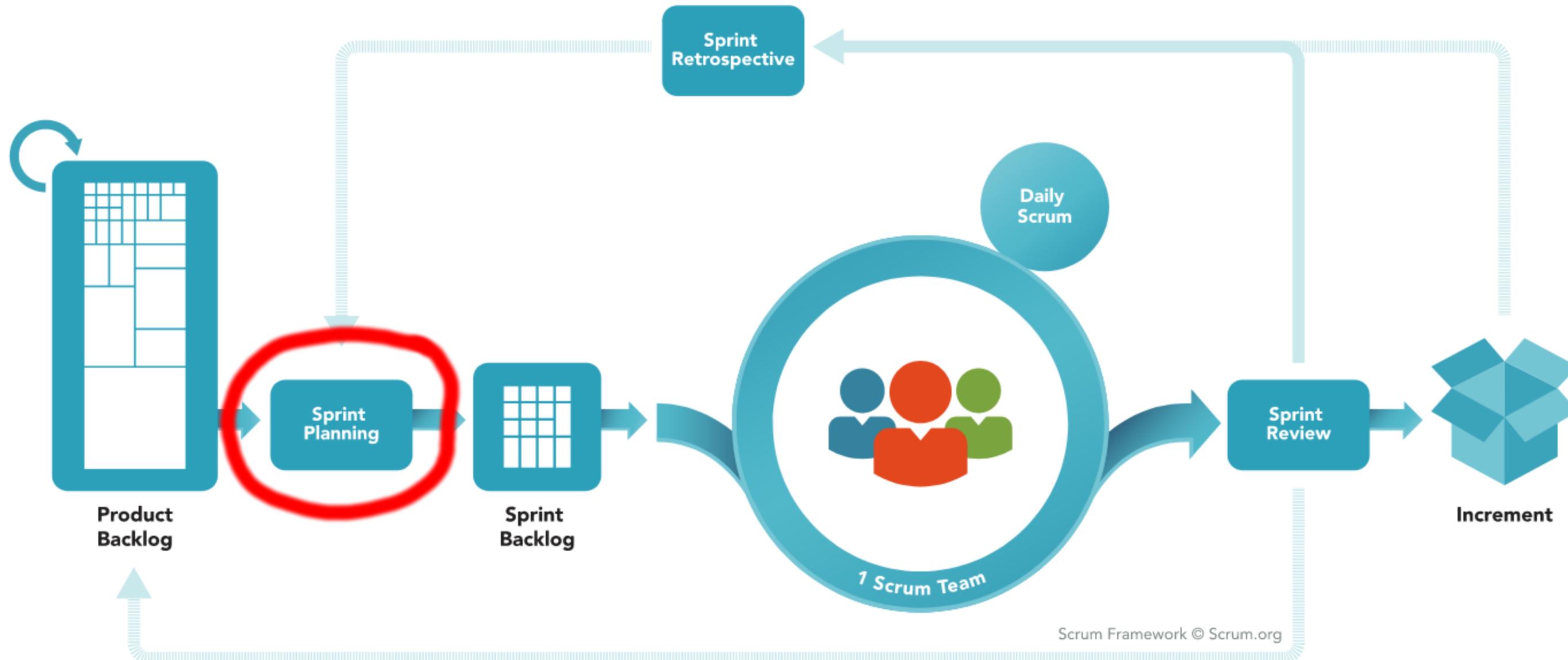


# Outline

- Agile development
  - Planning
  - Implementation
  - CI / CD
  - Review



# SCRUM FRAMEWORK



# User Story iceberg



# Refinement

## USM-1 Track error

As model designer I want to track model errors in order to ensure that model fits

## USM-1 Add statistical error analyzer

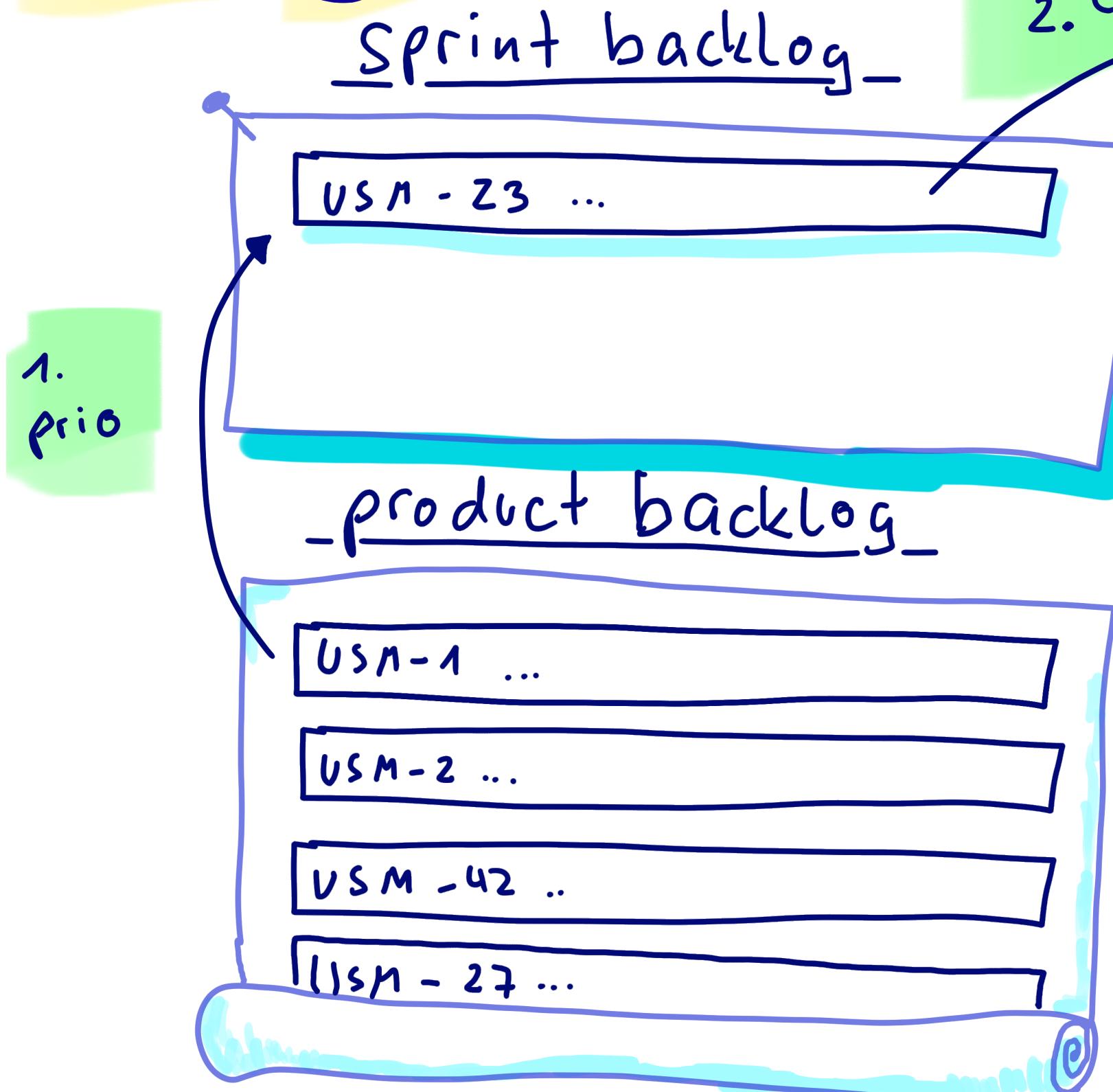
As honest scientist I want to

introduce an analyzer to track mean and sigma deviation of simulation and JHU-data in order to measure the quality of my model

acceptance criteria:

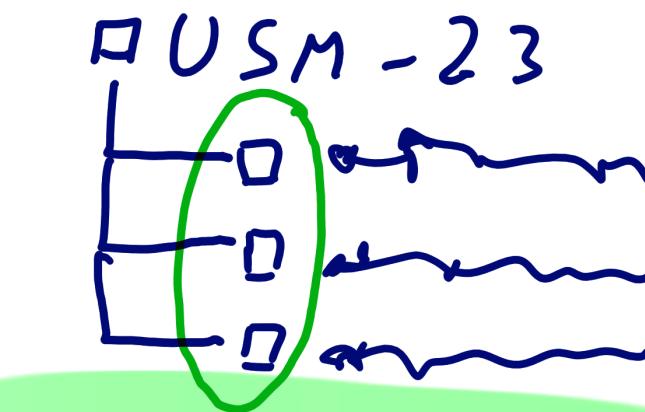
mean and sigma of model deviation is being printed to std::err when simulation is done

# Planning I



2. commitment

# Planning II

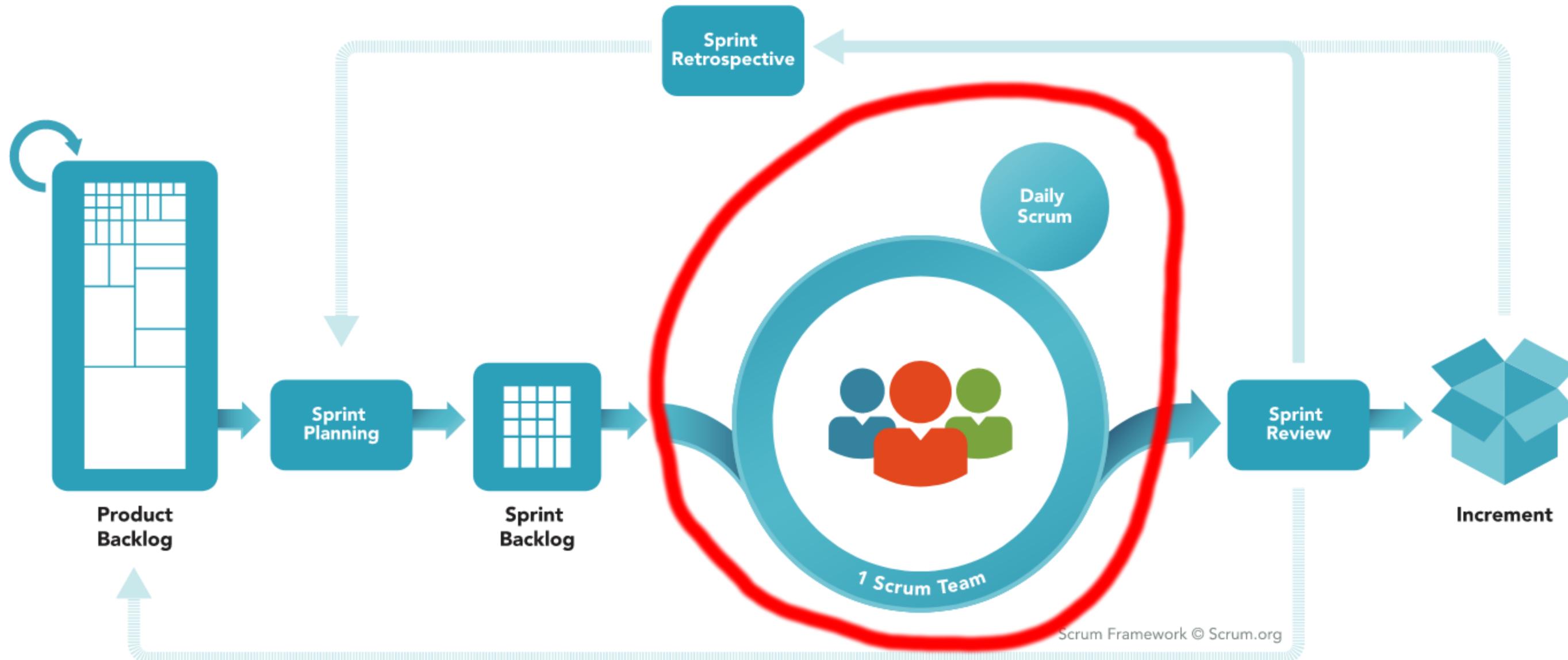


# Outline

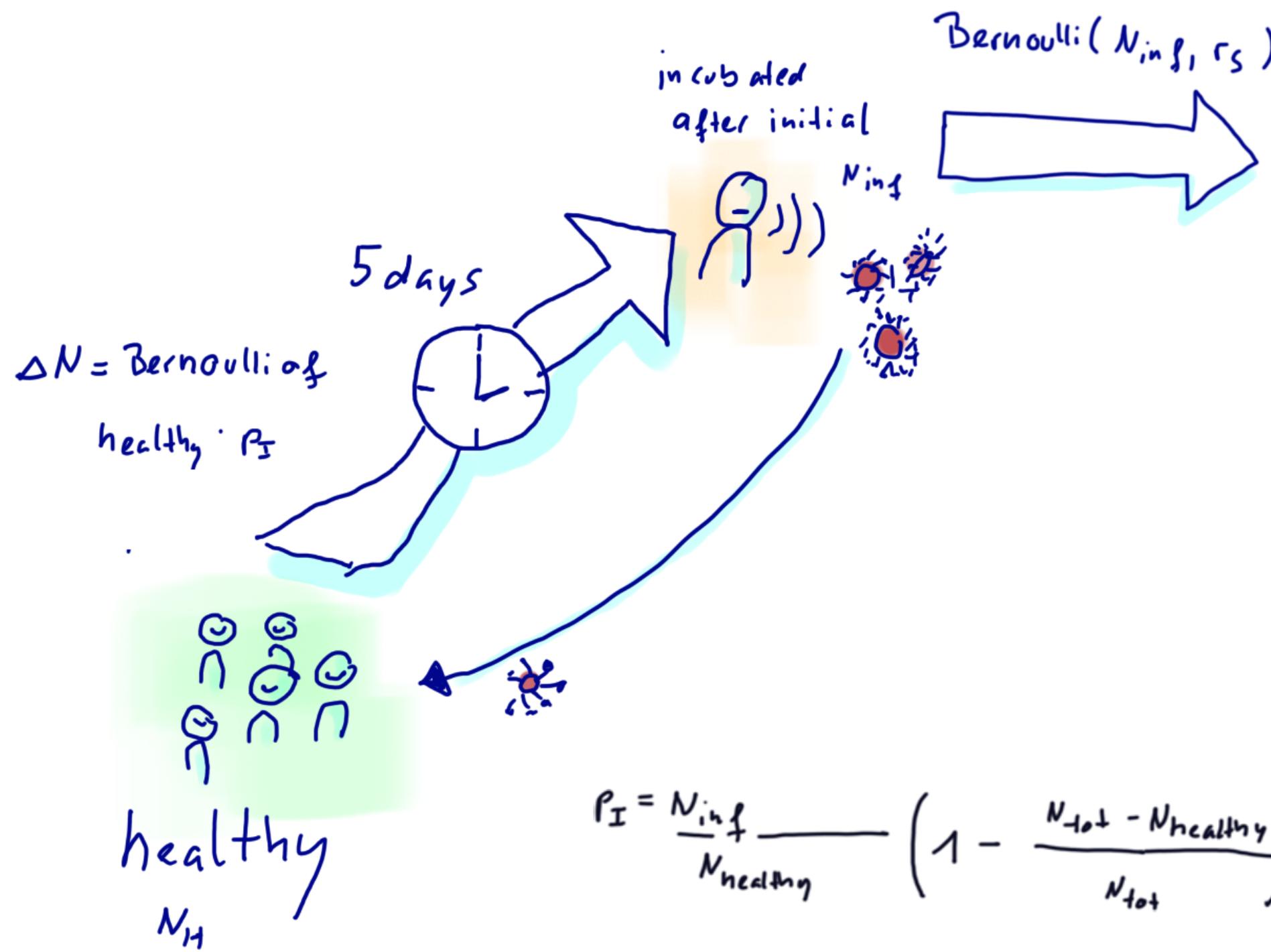
- Agile development
  - Planning
  - Implementation
  - CI / CD
  - Review



# SCRUM FRAMEWORK



## A covid-19 toy model



$$P_I = \frac{N_{\text{inf}}}{N_{\text{healthy}}} \left( 1 - \frac{N_{\text{tot}} - N_{\text{healthy}}}{N_{\text{tot}}} \right) \cdot r_s$$

# Outline

- Agile development
  - Planning
  - Implementation
  - CI / CD
  - Review



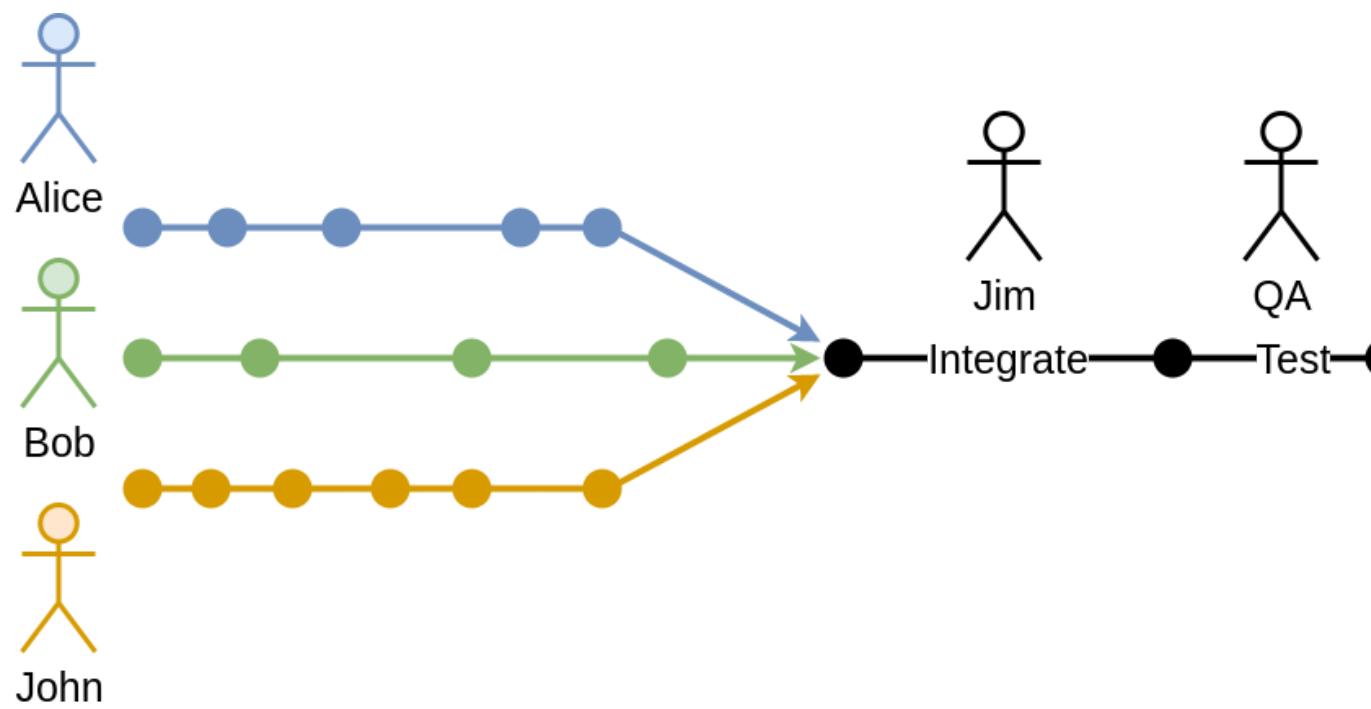
# Build



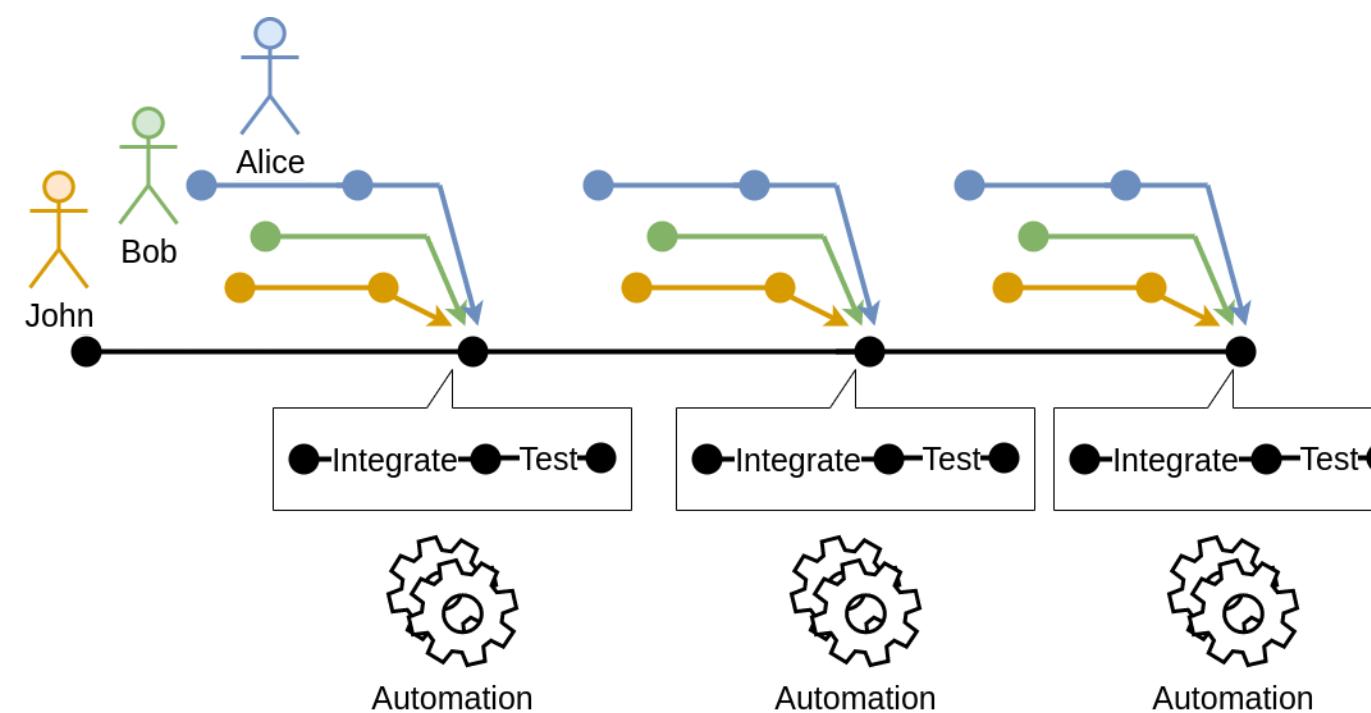
# Delivery



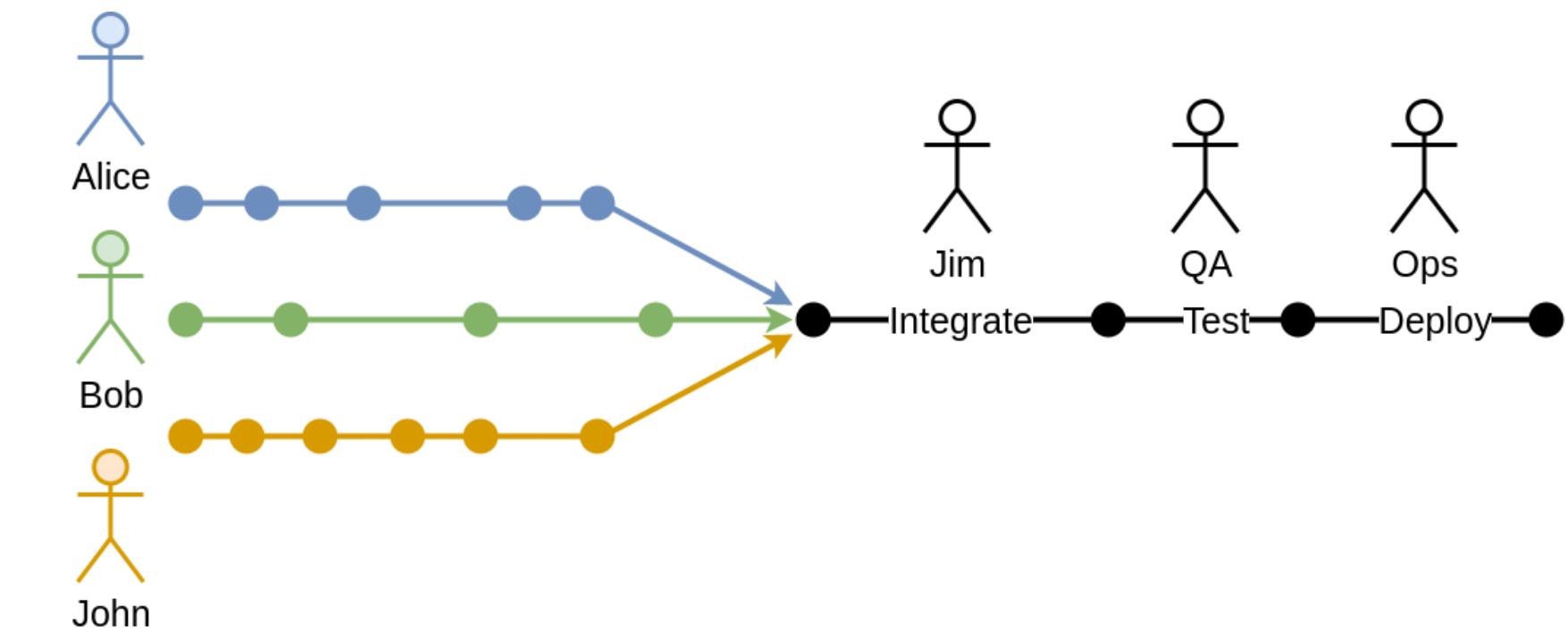
# Classical Integration



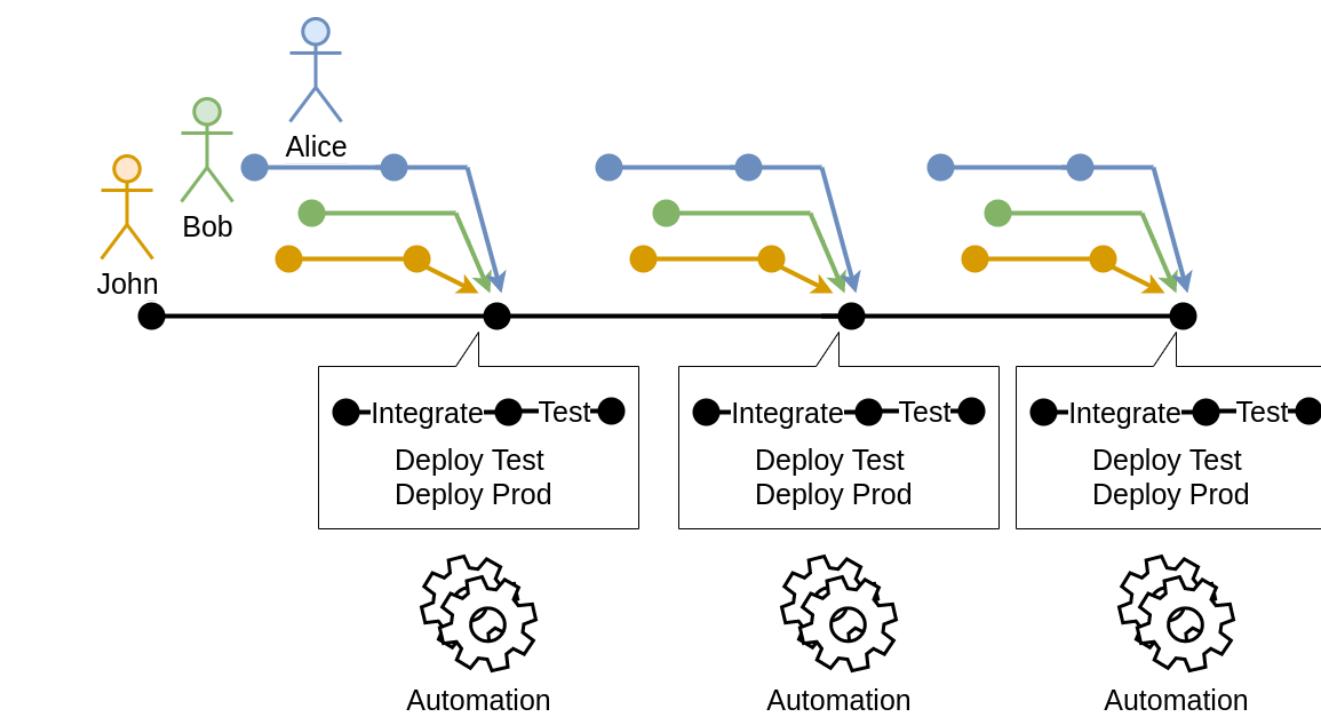
# Continuous Integration



# Classical Delivery

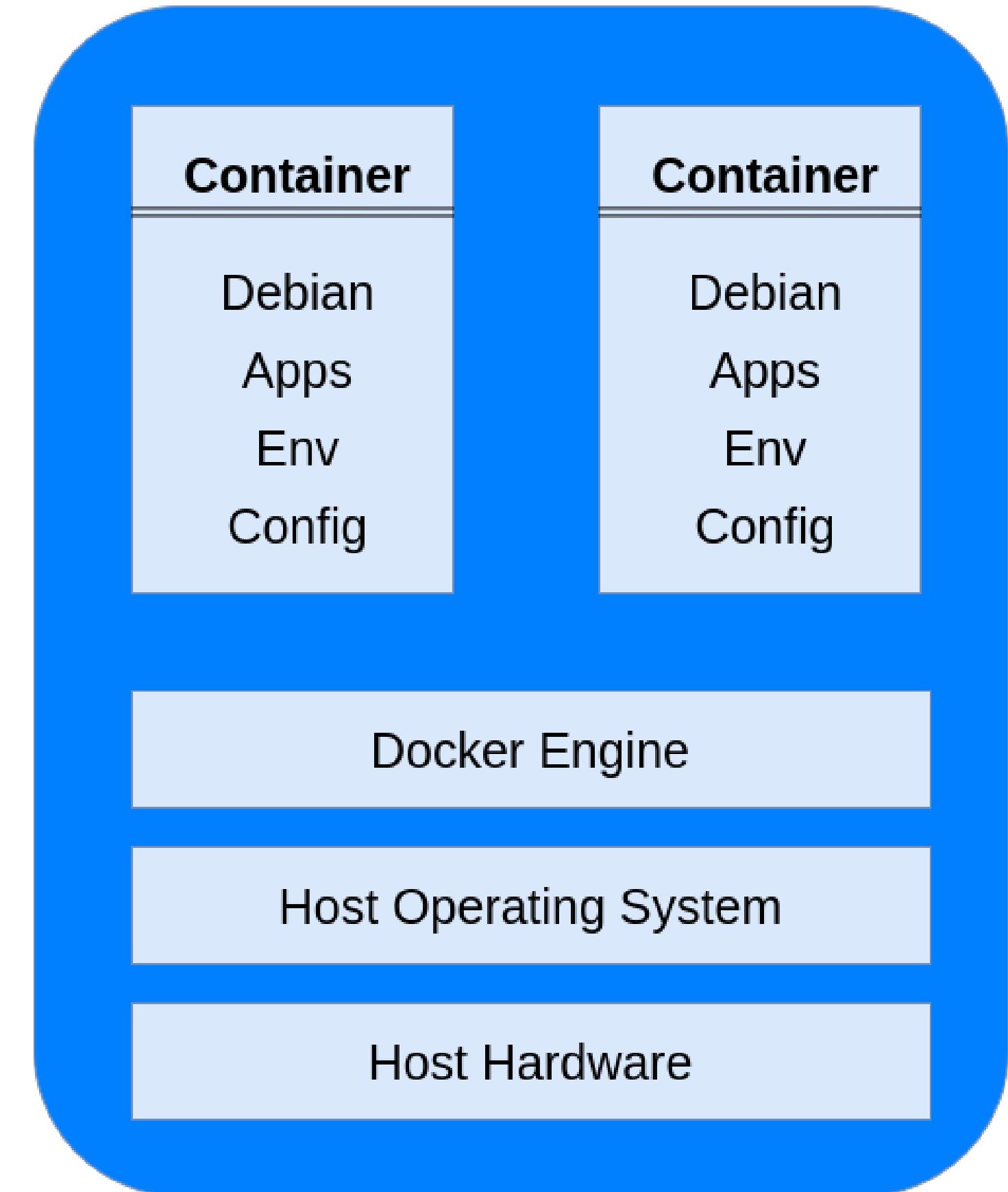
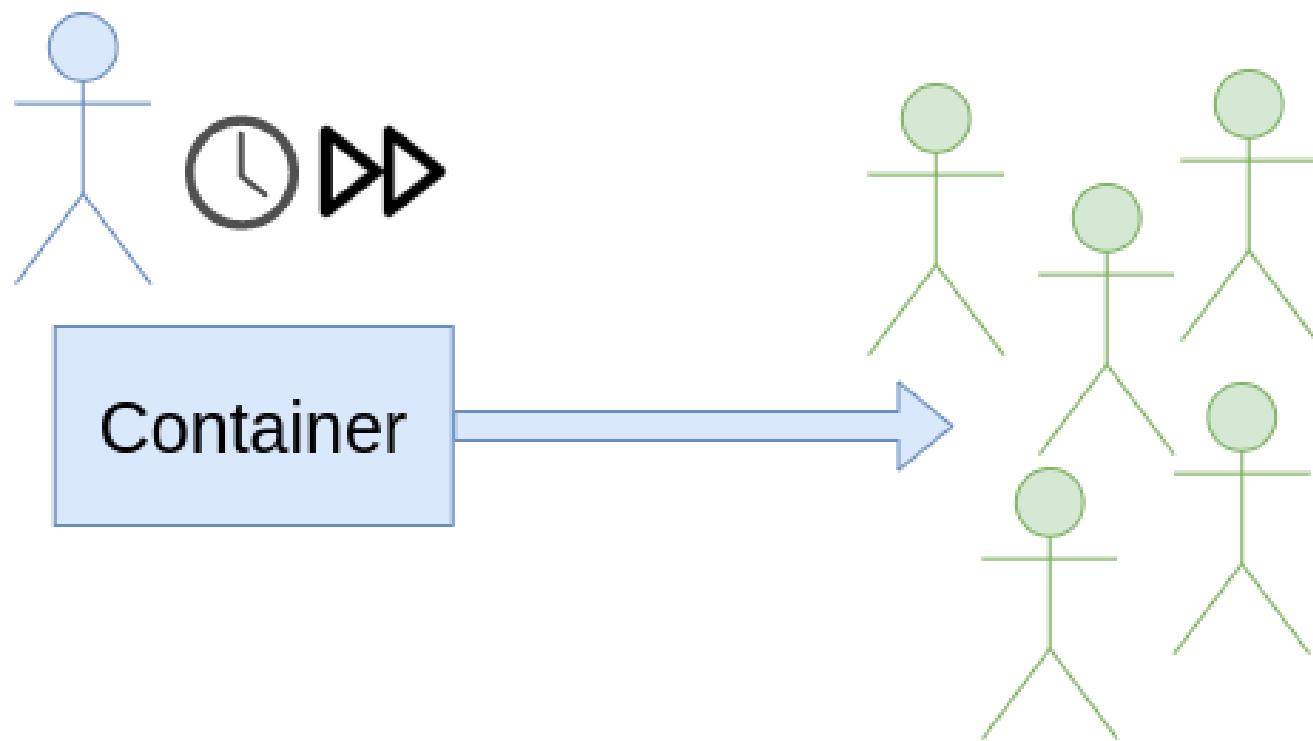


# Continuous Delivery

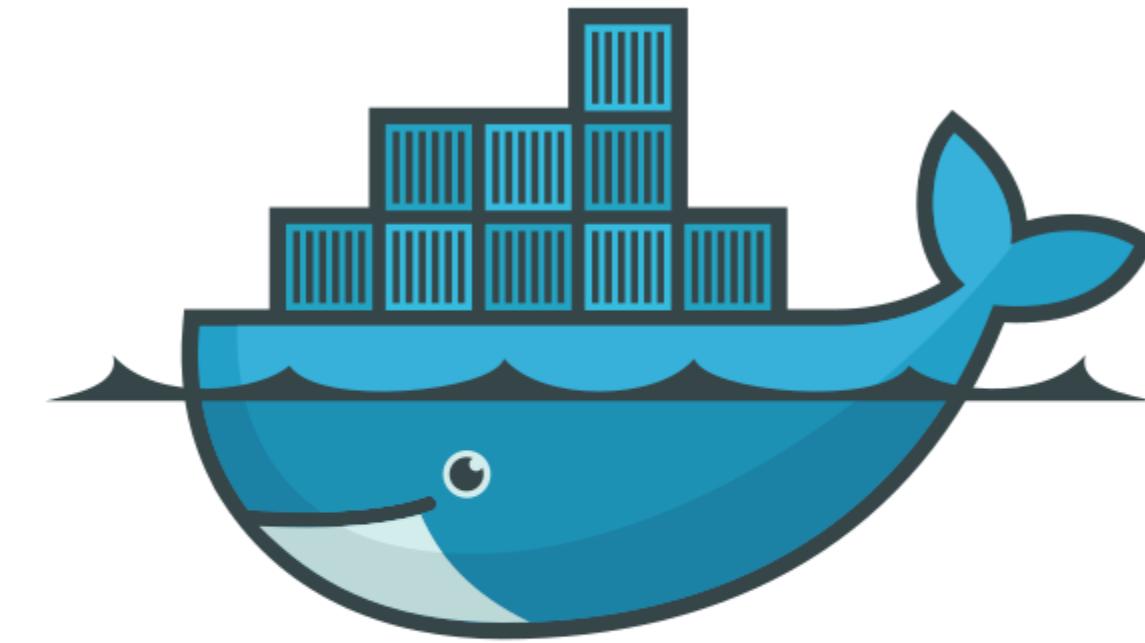




# Jenkins



# Demo



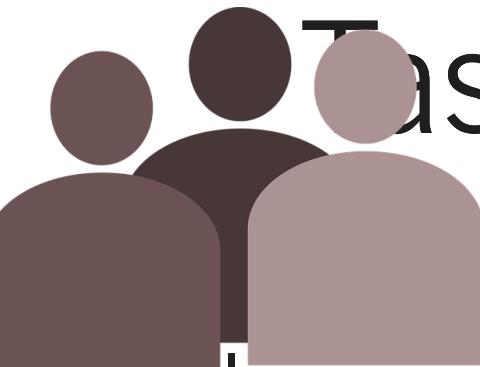
docker

# Outline

- ▶ Agile development
- ▶ Planning
- ▶ Implementation
- ▶ CI / CD
- ▶ Review

A dense cloud of blue text labels related to software development and technology, including Java, Agile, Scrum, TNG Technology Consulting, Sonar, WebServices, BusinessIntelligence, Scala, Kanban, TestDrivenDevelopment, Cloud, Confluence, C, JavaScript, Coaching, SQL, Python, Ruby, MapReduce, DevOps, Grails, Datawarehouse, node.js, Schokolade, InnovationGames, Retreat, Spring, Eclipse, CodeReview, Per, PHP, HHVM, C++, Team, Vote, and Agile.





## Task Review

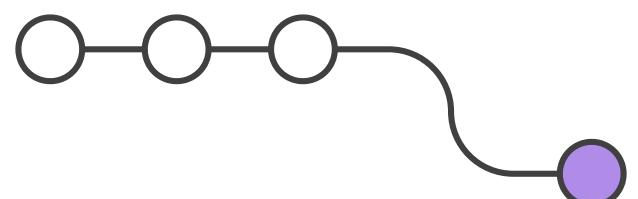
- ▶ Each day
- ▶ Code level
- ▶ Everyone on the Team
- ▶ Stakeholders
- ▶ Ensure quality of increment
- ▶ Required to merge and continue

## Sprint Review

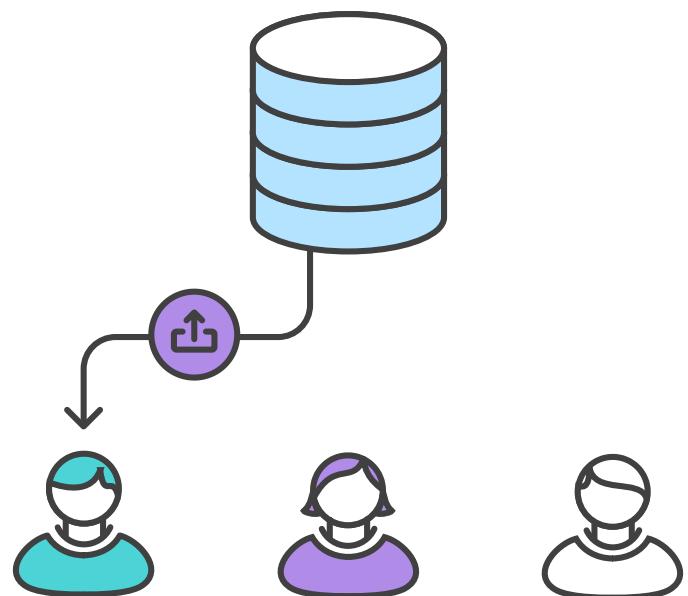
- ▶ Each sprint
- ▶ Functional level
- ▶ Product Owner / Stakeholders
- ▶ Ensure requirements are met
- ▶ Required for story completion

# Impl. Break

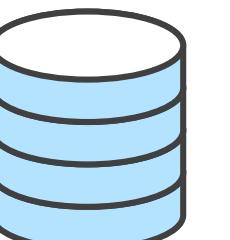
Feature Branch



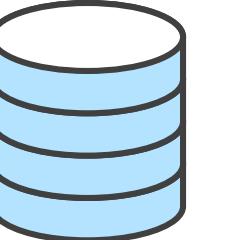
PR Review



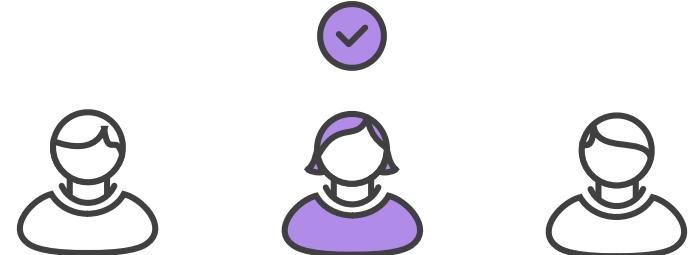
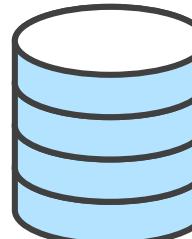
# Impl. Break



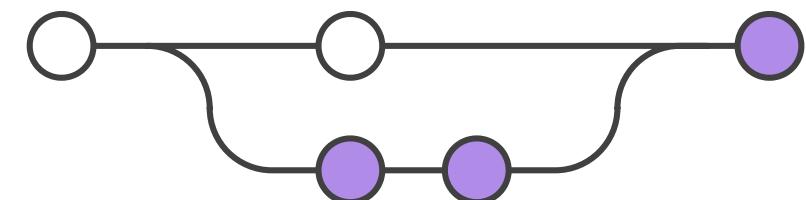
Review Impl.



Impl. Done



Acceptance



Source: atlassian.com

# Source Code Management



 Bitbucket

 Azure  
DevOps

## PR Support



Visual Studio Code

build passing

**Mustard - A Bitbucket CLI**

## Source Code Diff

Detail View  
What has been changed?  
Use IDE to get a feeling

## Tests

Automatic builds & tests green  
Test / Code Coverage  
Make Tests fail

## Commit History

Commit Messages -> Larger picture  
Split complex changes  
Get feeling for implementation flow

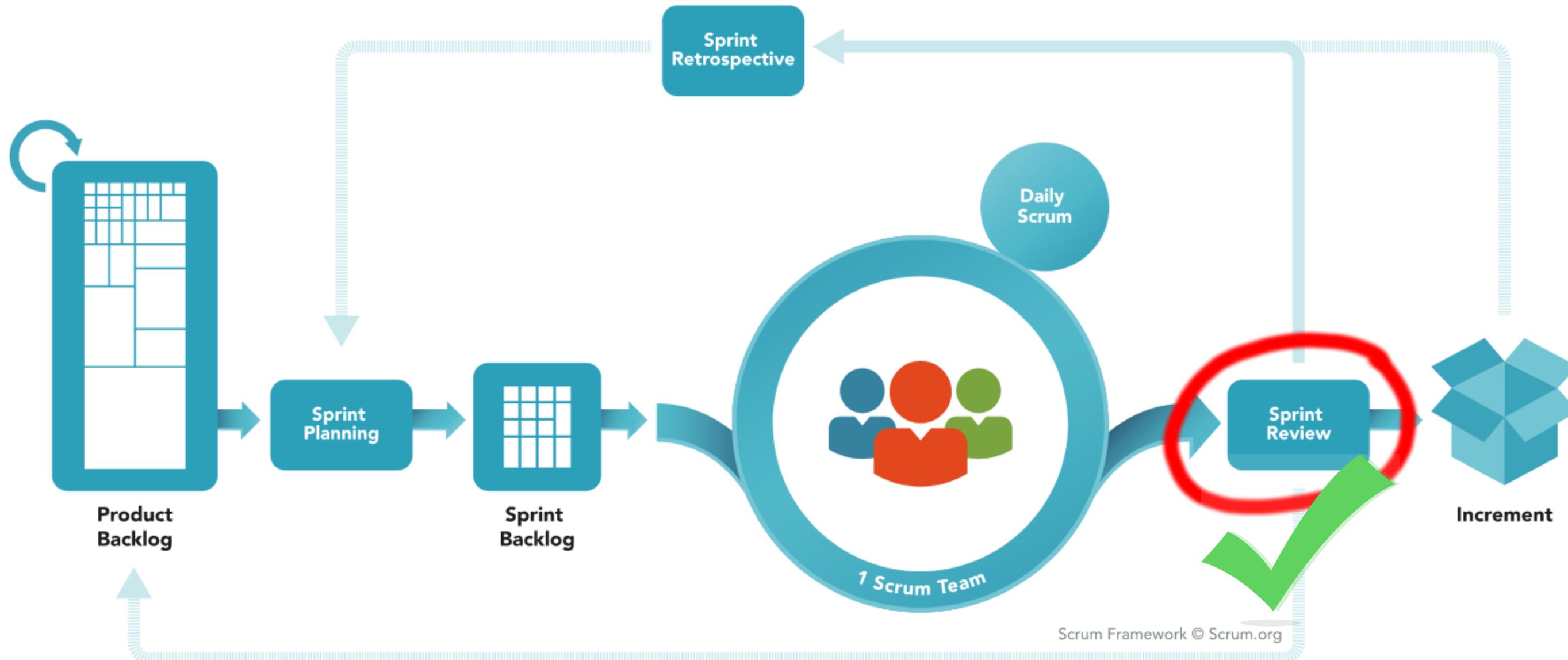
## Task Review

Is the actual task solved?

## Communication

Ask Questions  
Propose & discuss changes  
Be polite & constructive  
Pair Review

# SCRUM FRAMEWORK



# Sprint Review: Covid Analyzer Story

