IN5140

Smart processes and agile methods in Software Engineering

Group session 7

Agenda

First hour:

- Recap of deliverable 1
- Presentations
- Large-Scale Agile
- Weekly tasks

Second hour:

- Weekly tasks
- Retrospective
- Work on presentation

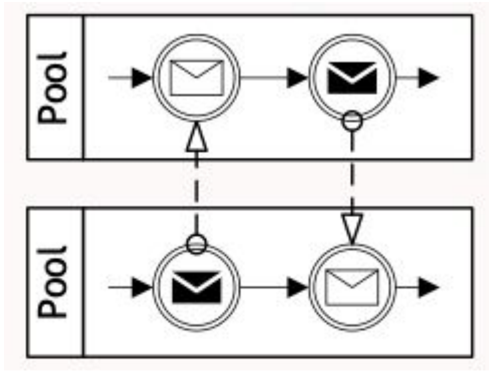
Feedback Deliverable 1

- Now published on Devilry
- If you have any comments/questions regarding your feedback, please ask us or contact your examiner (Yngve/Antonio)

Deliverable 1 - Points to consider

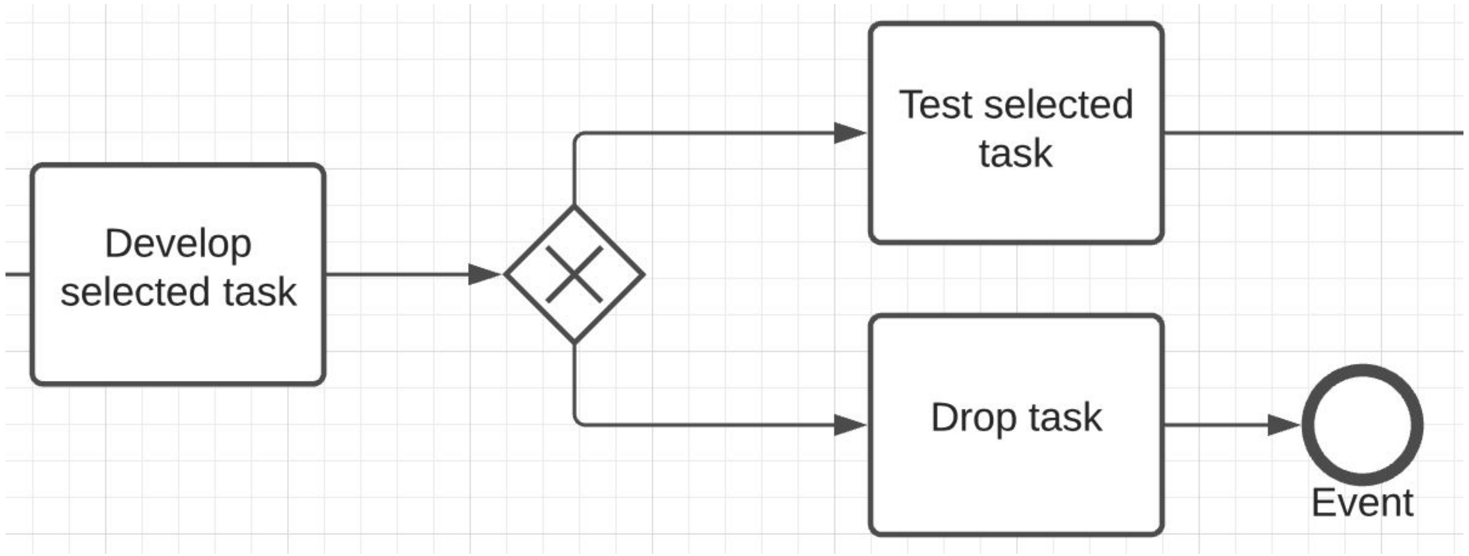
- **All** pools should have a start-event **and** end-event **with descriptions**
    - Important to visualize what initiates the process
    - Not necessary in swimlanes (but can be included)
    - Remember to name your pools!

- Dotted lines between **pools**, sequence flow between **swimlanes**.



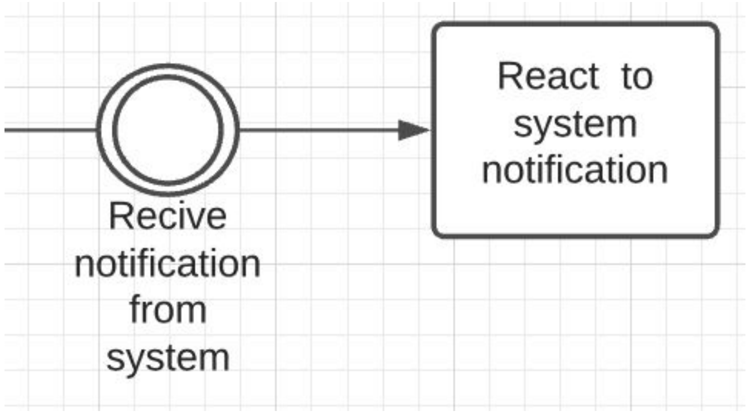
Deliverable 1 - Points to consider

- **All** gateways and events must have a description



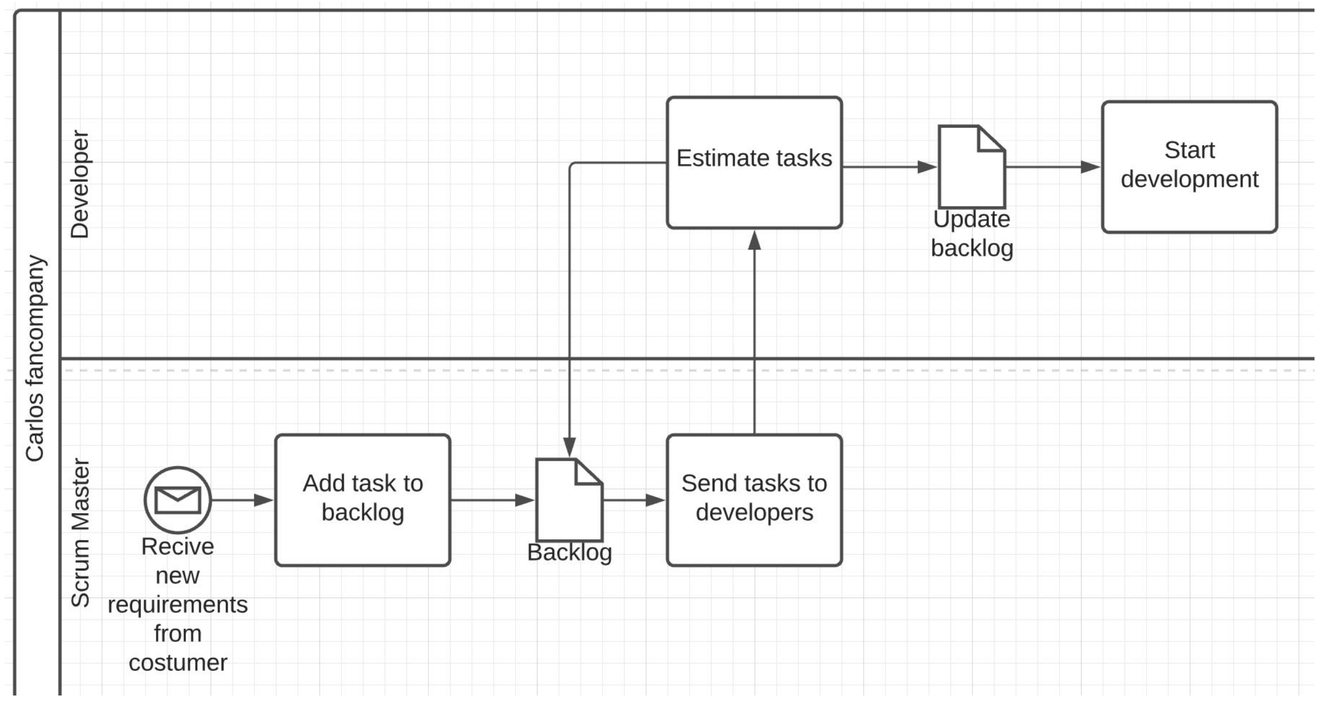
Deliverable 1 - Points to consider

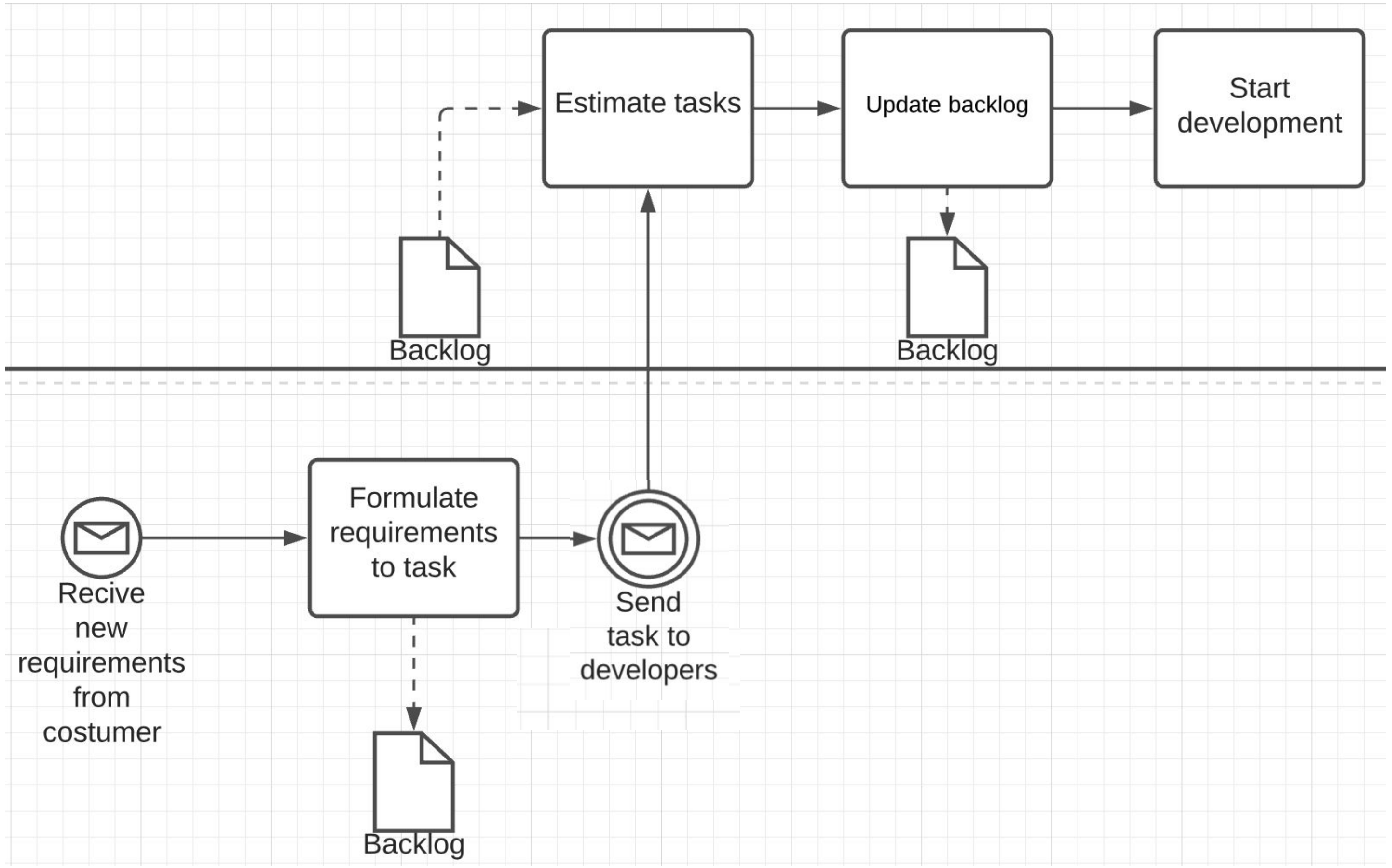
- Connect to data types using Data Association (dotted lines)
- In practise data and systems is used in most activities, you do not have to model all of them everytime
- Data should not "push" new flow directly
    - Alternative solutions to this:

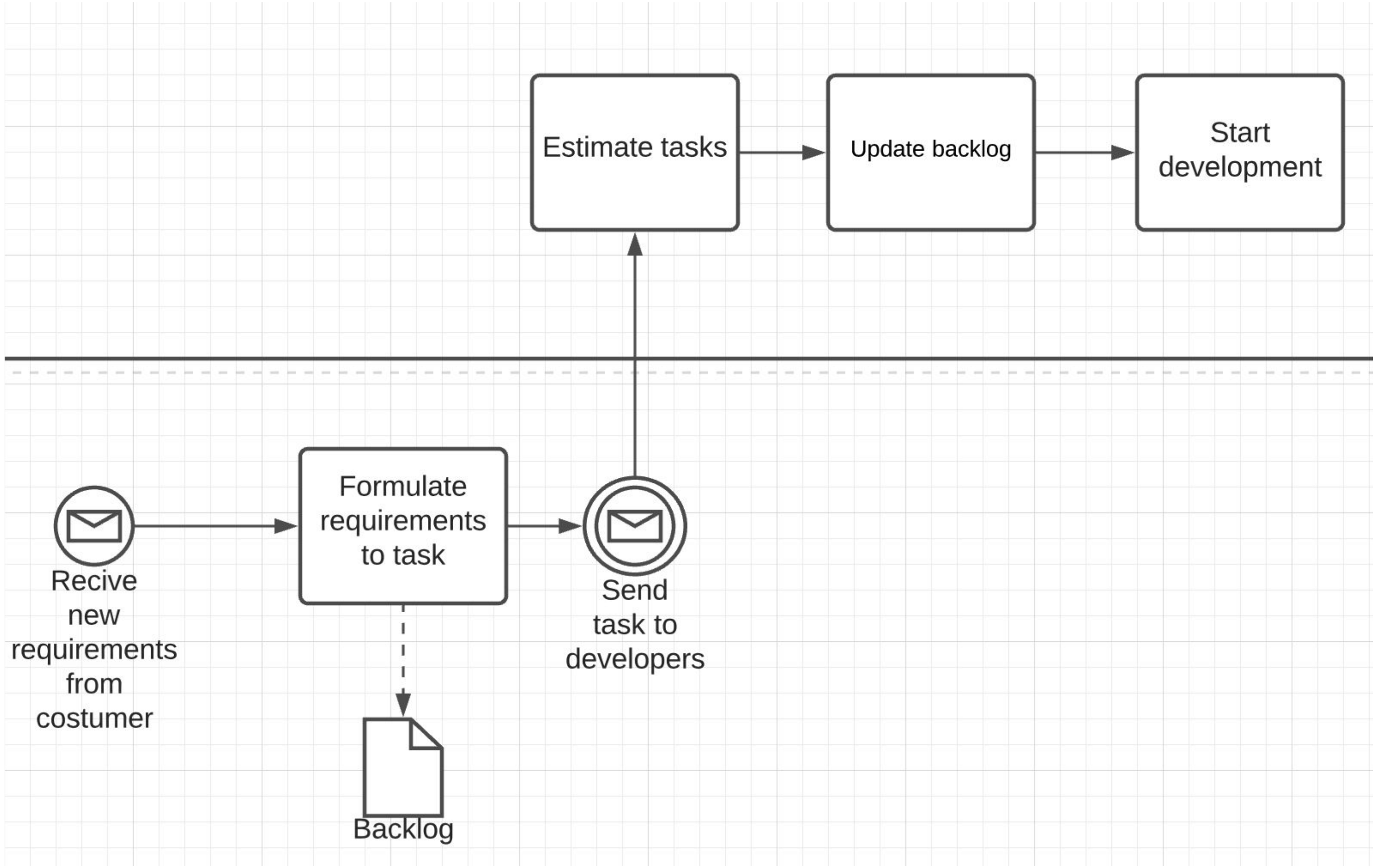


Deliverable 1 - Points to consider

- Data mistakes




Estimate tasks
Update backlog
Start development
Backlog
Backlog
Formulate requirements to task
Recive new requirements from costumer
Send task to developers
Backlog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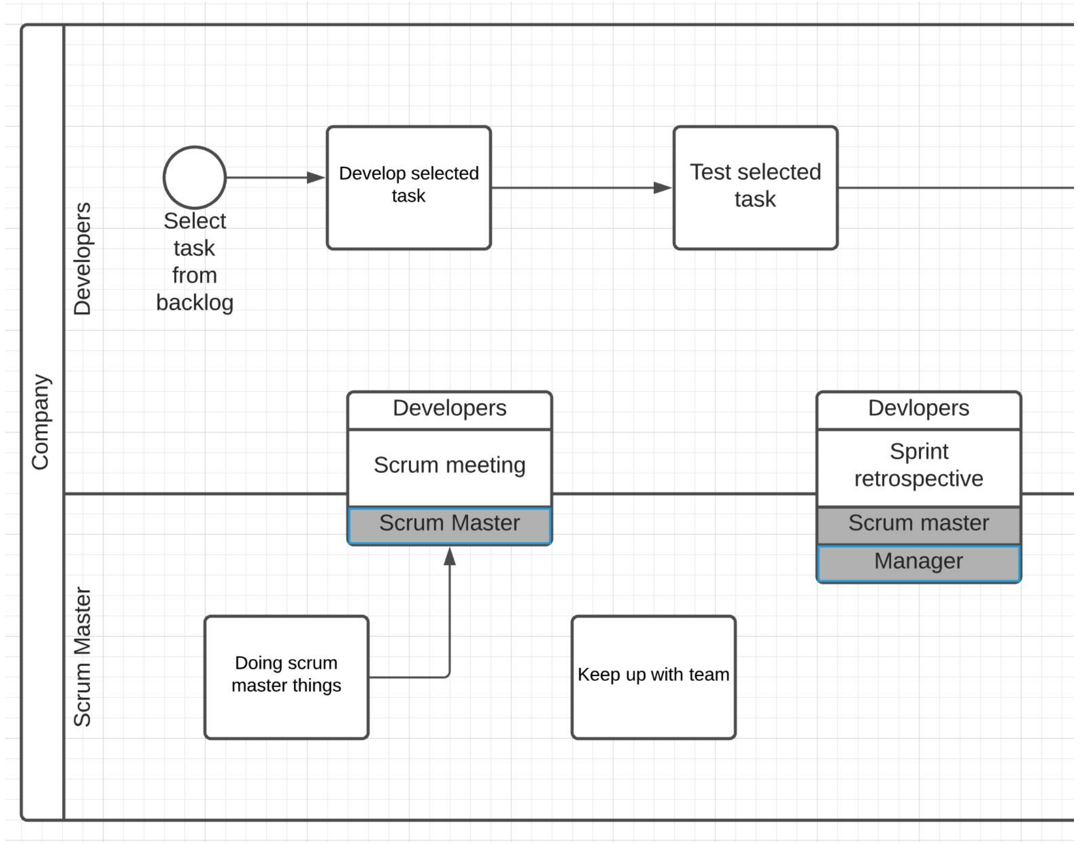
Send task to developers
Backlog

Deliverable 1 - Points to consider

- The goal of a BMPN diagram is to visualize a process (simplified)
  - Different stakeholders with different knowledge and experience
- It is therefore important to have a **readable** and **understandable** diagram. Keep it simple!
- Keep in mind “Are we adding **valuable** details or **unnecessary** clutter?”
- Examples of “over-complicating”
  - Unnecessary sub-processes (sub-processes within subprocesses)
  - Focus on your process and the problems! Adding detail is great, but make sure that the main process/problem is not lost (especially important for the exam)
  - The “flow” should make sense through the whole diagram.

Deliverable 1 - Points to consider

Example of flow mistakes and unnecessary activities



Presentations

- Time slots are already published in https://www.uio.no/studier/emner/matnat/ifi/IN5140/h22/beskjeder/presentations-2021-of-october.html
- The entire team has to attend all presentations of the bulk you are in
- We recommend that all team members speak during the presentation
- Each time slot is 10 minutes that includes
  - Presentation: 4-7 minutes
  - Feedback/questions: 3 minutes
- Language: English
- No grade, but mandatory exercise

Presentations

May include:

- Case description
  - Not necessary to go too much into detail on the project cases 1-3
- Identified problem(s)
- BPMN diagram of existing process
- Illustration of what is causing the problem
  - Eg. Fishbone diagram
- Metrics to measure improvement
- Possible solutions/ideas
- Plan for introducing and measuring solutions/ideas

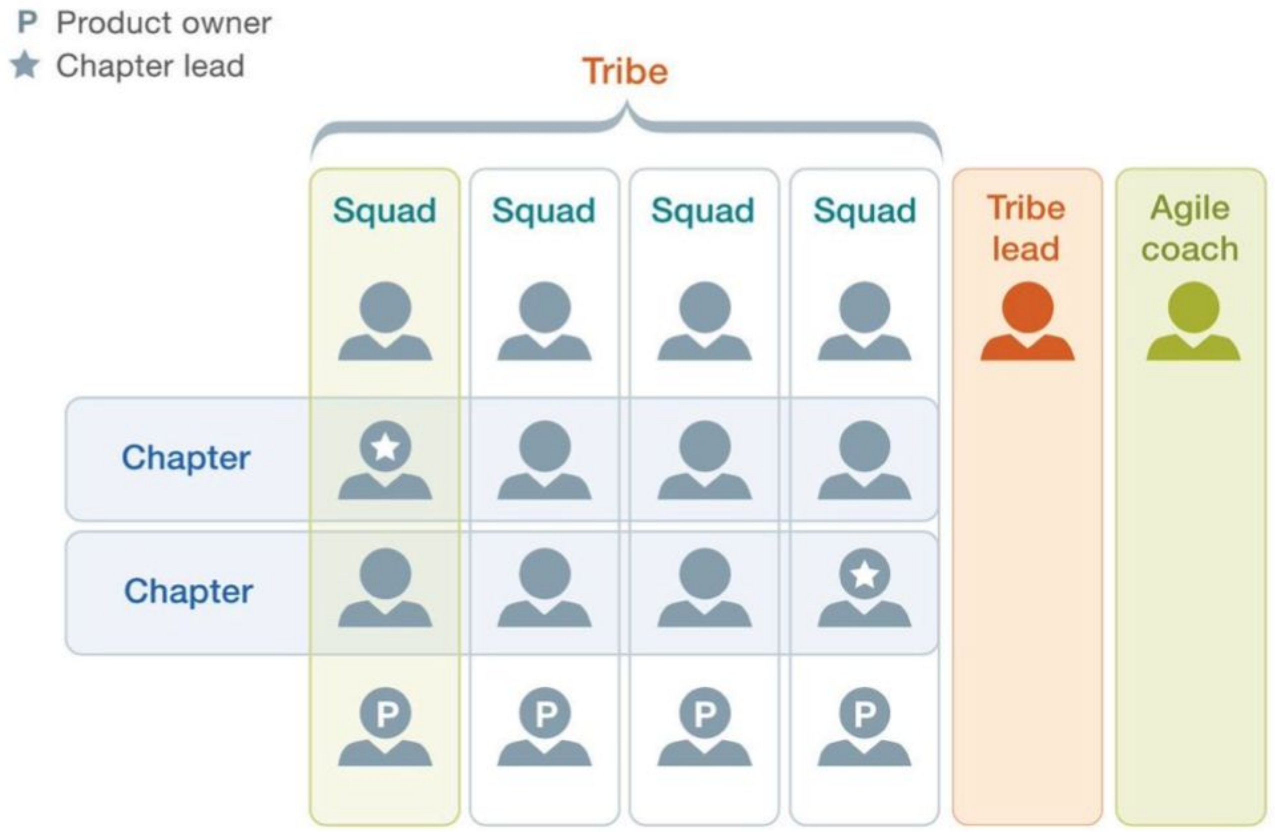
Feel free to structure the presentation differently!

Presentations

The presentation is an opportunity to get feedback and evaluate what you have come up with so far !

- What you are presenting is not the final solution to your project
- Get feedback on your structure, ideas, etc. It does not have to be perfect.

Large-Scale Agile

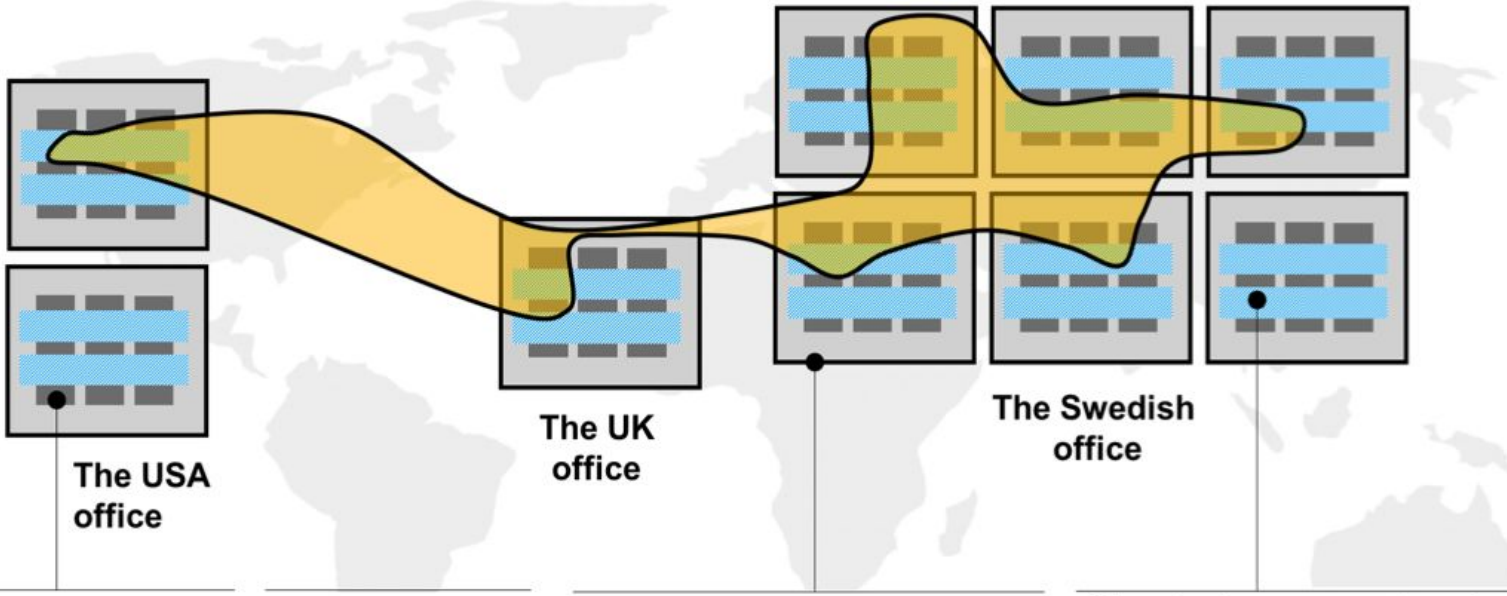


Tribe
(collection of squads with interconnected missions)

Squad
(basis of new agile organization)

Chapter
(develops expertise and knowledge across squads)

Basic organizational structures: ■ Squads ▨ Chapters □ Tribes ■ Guilds



Teams at Spotify are called **squads**, which should "feel like mini-startups", be self-organized and cross-functional, and ideally consist of 5-7 people

A **guild** is a group of people with similar skills and interests that share knowledge, tools or code across Spotify.

All squads are organized into **tribes** containing 30-200 people each. Tribes have a clear mission, set of principles, a senior experienced leader, and all skills needed to engineer working software features end-to-end.

Chapter is a group of engineers who have the same manager (Chapter Lead) and is focused on personal growth and skills development. Engineers in chapters share knowledge, learn from each other, and discuss common challenges.

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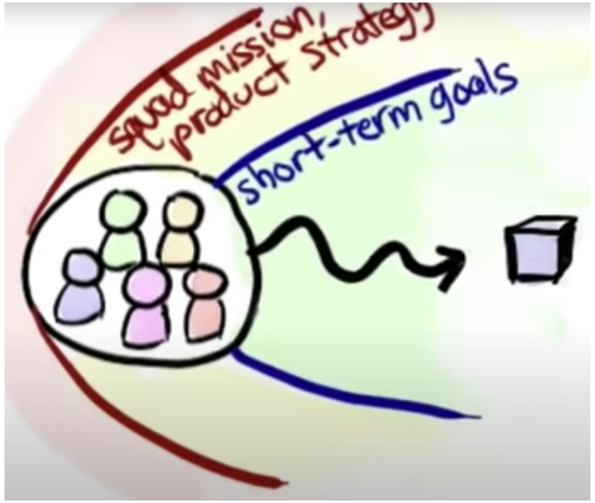
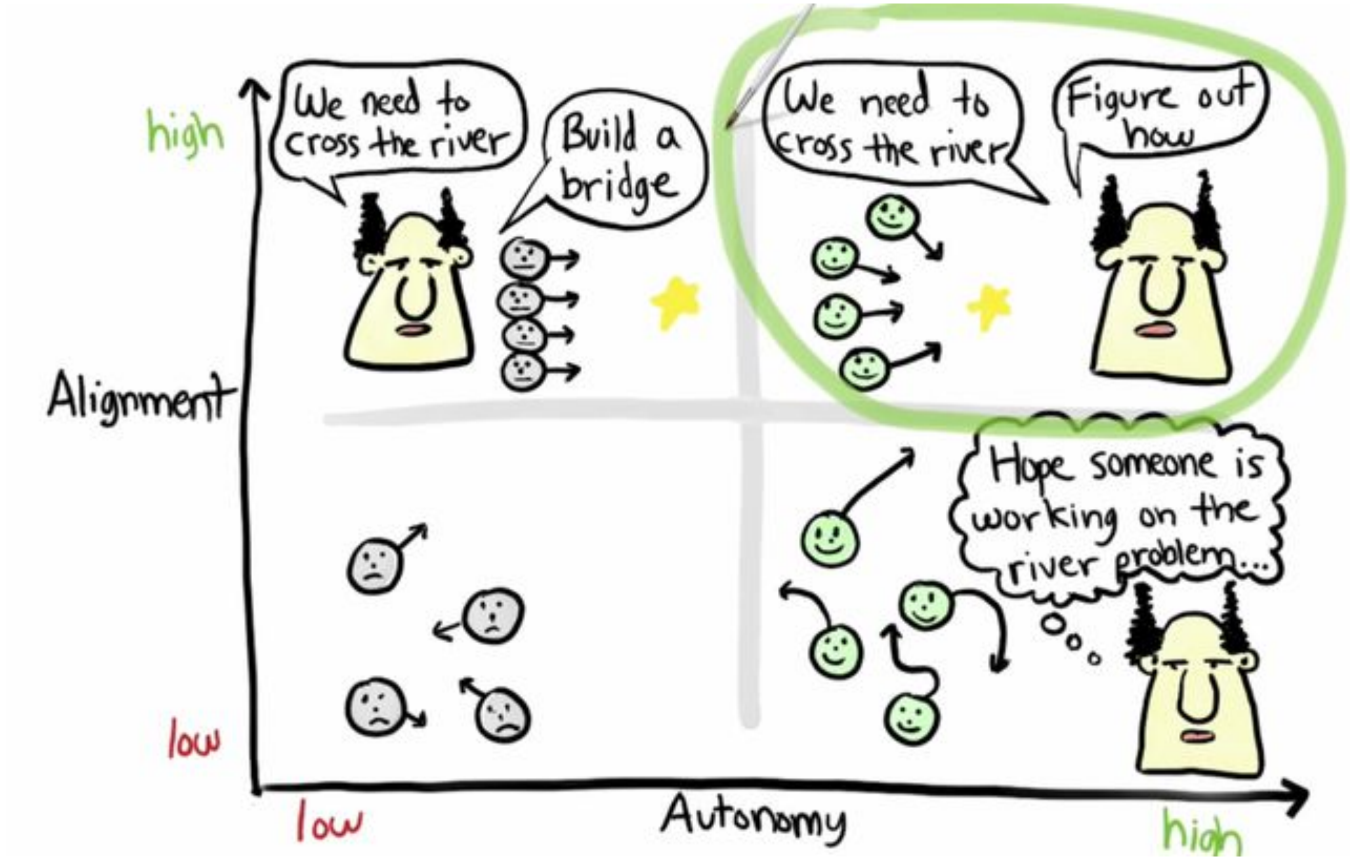
The Spotify Model

- Spotify Engineering Culture
- Key driving factor: Autonomous squad (cross functional, end to end responsibility)
    - Loosely coupled, tightly aligned squads
- Knowledge sharing

- Agile > Scrum
- Principles > Practises
- Cross-pollination > standardization
- Community > Structure




high
Alignment
low
We need to cross the river
Build a bridge
We need to cross the river
Figure out how
Hope someone is working on the river problem...
low
Autonomy
high

Weekly tasks

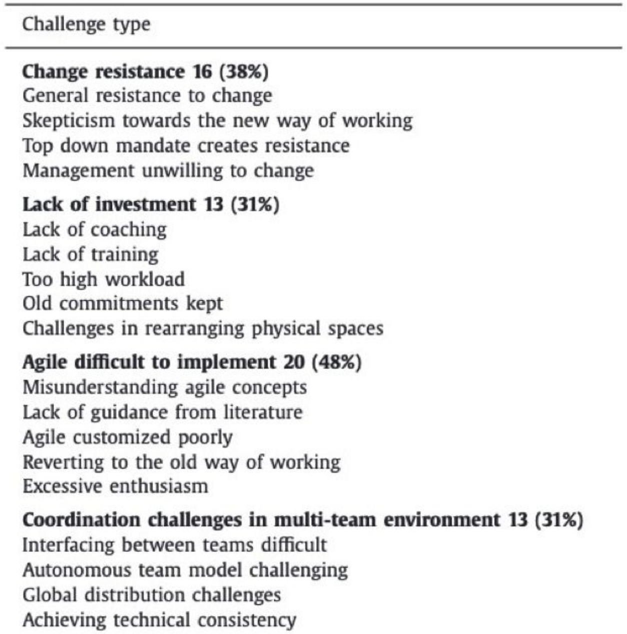
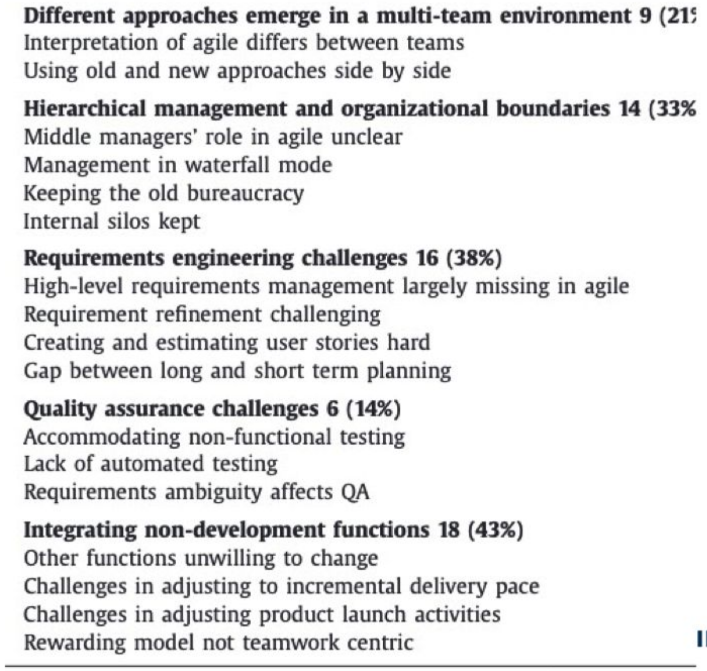
Weekly tasks

- Main challenges/issues when scaling up Agile?
- When should you make decisions about architecture?
- What drives the architecture?
- What does “continuous delivery” mean?

- What is Lean vs Agile, same or different?

Weekly tasks

Main challenges/issues when scaling up Agile?

Challenge type
Change resistance 16 (38%)
General resistance to change
Skepticism towards the new way of working
Top down mandate creates resistance
Management unwilling to change
Lack of investment 13 (31%)
Lack of coaching
Lack of training
Too high workload
Old commitments kept
Challenges in rearranging physical spaces
Agile difficult to implement 20 (48%)
Misunderstanding agile concepts
Lack of guidance from literature
Agile customized poorly
Reverting to the old way of working
Excessive enthusiasm
Coordination challenges in multi-team environment 13 (31%)
Interfacing between teams difficult
Autonomous team model challenging
Global distribution challenges
Achieving technical consistency
Different approaches emerge in a multi-team environment 9 (21
Interpretation of agile differs between teams
Using old and new approaches side by side
Hierarchical management and organizational boundaries 14 (33%
Middle managers' role in agile unclear
Management in waterfall mode
Keeping the old bureaucracy
Internal silos kept
Requirements engineering challenges 16 (38%)
High-level requirements management largely missing in agile
Requirement refinement challenging
Creating and estimating user stories hard
Gap between long and short term planning
Quality assurance challenges 6 (14%)
Accommodating non-functional testing
Lack of automated testing
Requirements ambiguity affects QA
Integrating non-development functions 18 (43%)
Other functions unwilling to change
Challenges in adjusting to incremental delivery pace
Challenges in adjusting product launch activities
Rewarding model not teamwork centric

(Dikert et al., 2016)

Team-related challenges

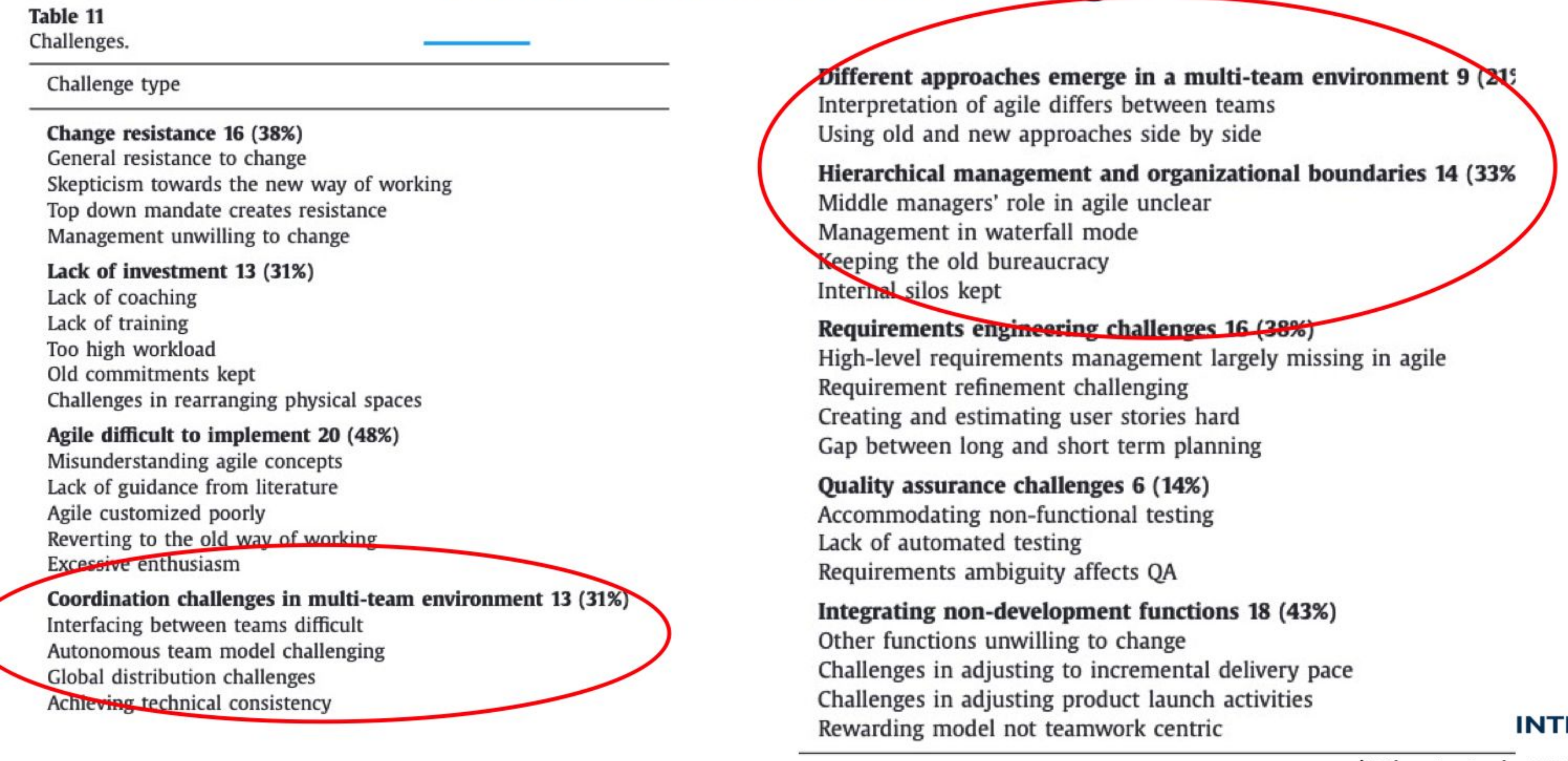


Table 11
Challenges.

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INTEF

(Dikert et al., 2016)

Weekly tasks

When should you make decisions about architecture?

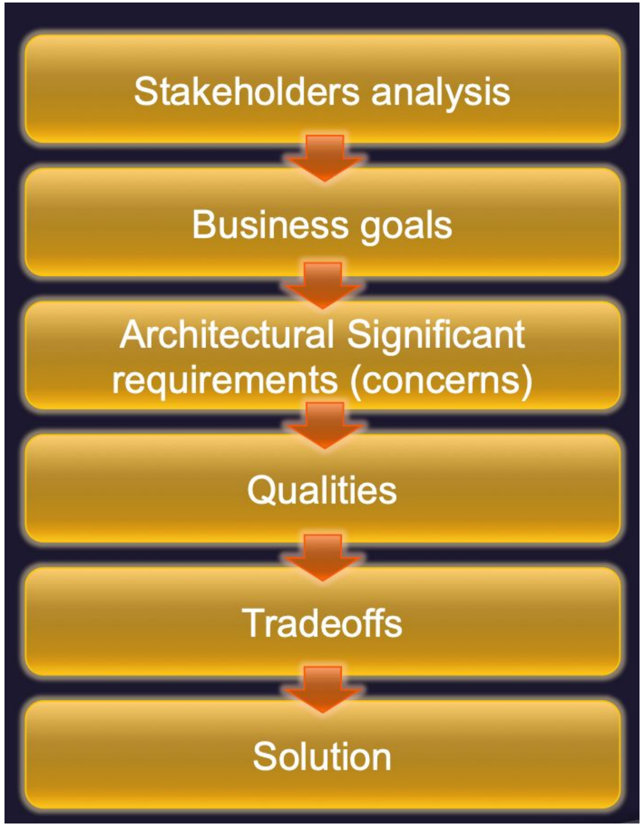
- Emergent architecture vs upfront architecture
- Postponing architectural decisions can increase the probability of being correct
- More information can change our perception of the risks

Weekly tasks

What drives the architecture?

- Business goals!
- Fancy architecture have little value if

if does not help with the business goals



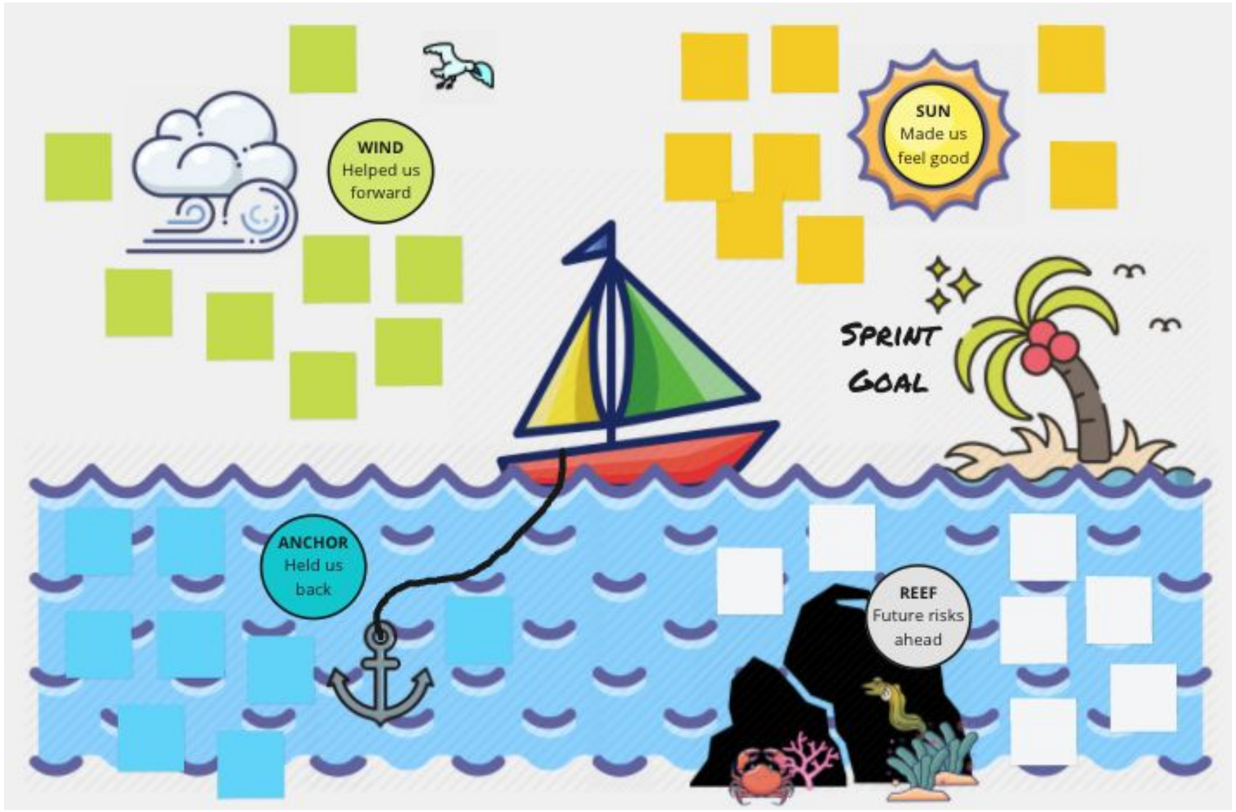
Weekly tasks

What does “continuous delivery” mean?

Continuous Delivery is the ability to get changes of all types—including new features, configuration changes, bug fixes and experiments—into production, or into the hands of users, safely and quickly in a sustainable way.”

15 min break ☕

The Sailboat Retrospective



Group Session Retrospective!

We want your feedback!

… and what better way to do it, than a Group Session Retrospective!

Project Report
Help-session