The Role of Hybrid Collaboration in Agile Teams

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Abstract

This paper describes, what role hybrid collaboration plays in agile teams. Agile teams focus on an agile framework, which dictates a lot of structure concerning collaboration and communication. Most of the communication and meetings are meant to be held personally, however that cannot always be complied with. Most modern teams are not solely co-located anymore and therefore have to collaborate in a hybrid way. Not only meetings but also documents such as product backlogs, Kanban boards, etc. are held and maintained either fully virtually or hybrid.

Author Keywords

New Work, Agile Methods, Agile Communication, Hybrid Collaboration, Daily Stand-up

Introduction

Agile working methods are evolving to be a standard of project management in many disciplines. Even though they originate from software development, a lot of teams outside this discipline, e.g. marketing teams, are implementing agile frameworks. Agile working enables teams to react to change quickly, work according to the user's needs and design the product user centered. Agile frameworks follow an incremental and iterative approach: products are developed in iterations, which

also include feedback cycles and at the end of each developmental period a prototype or increment.

The frameworks give agile teams a very clear structure of how they should be working. A very common part of agile working is a daily stand-up meeting, which mostly takes place in person. Since many teams nowadays don't work in a co-located setting, this can be a challenge teams have to cope with. In my PhD research, I am evaluating how agile teams communicate and how their communication and collaboration can be enhanced through computer-mediation.

Collaboration in Agile Teams

Agile teams communicate and collaborate daily. One of the most commonly used agile working methods is SCRUM. When working according to SCRUM, teams follow a strict structure (Figure 1). One iteration, also called sprint, usually takes around 2-4 weeks.

A project starts with a vision, which is split into manageable small work packages. Those are worded in the product backlog. During the sprint-planning meeting, in which the whole SCRUM team participates, the sprint backlog is filled and maintained with work packages that are currently in progress and those that should be worked on during the next sprint. The planned work packages are prioritized according to the team's perception and available resources. All progress is documented in a table, which is often a physical board that team members have access to and can see on a daily basis at the office. If a team works remotely it usually decides to maintain the sprint backlog/board virtually.

After the sprint planning meeting daily work starts. In order to detect problems quickly, a daily SCRUM meeting takes place, often called daily stand-up meeting. At a daily stand-up meeting, team members talk about their achievements and problems from the previous day and their planned tasks for that day. Tasks are therefore reviewed regularly. In a retrospective meeting, learnings are made based on problems that occurred during the previous sprint. At the end of each sprint a prototype or increment is produced and released in order to collect feedback in an early developmental stage.

During the processing period of tasks, agile teams often communicate using virtual collaboration tools, such as Slack. This real-time chat platform offers a remote team the chance to collaborate synchronous and to exchange information immediately. Agile teams are self-organized. Therefore, a good communication and collaboration is vital for a positive project outcome.

In practice, agile teams mostly collaborate in a hybrid way, because most teams are working in a remote or hybrid environment. This can be due to home-office or different office locations within a country or even worldwide. Therefore, collaboration cannot always occur personally. On the other hand, a solely virtual collaboration is difficult as well. Often, team members struggle with solely virtual collaboration because of communication misunderstandings or failure of collaboration systems.

In summary one can say that agile teams collaborate and communicate on a day to day basis: in daily stand-up meetings, in sprint planning meetings and through virtual tools while working on tasks.
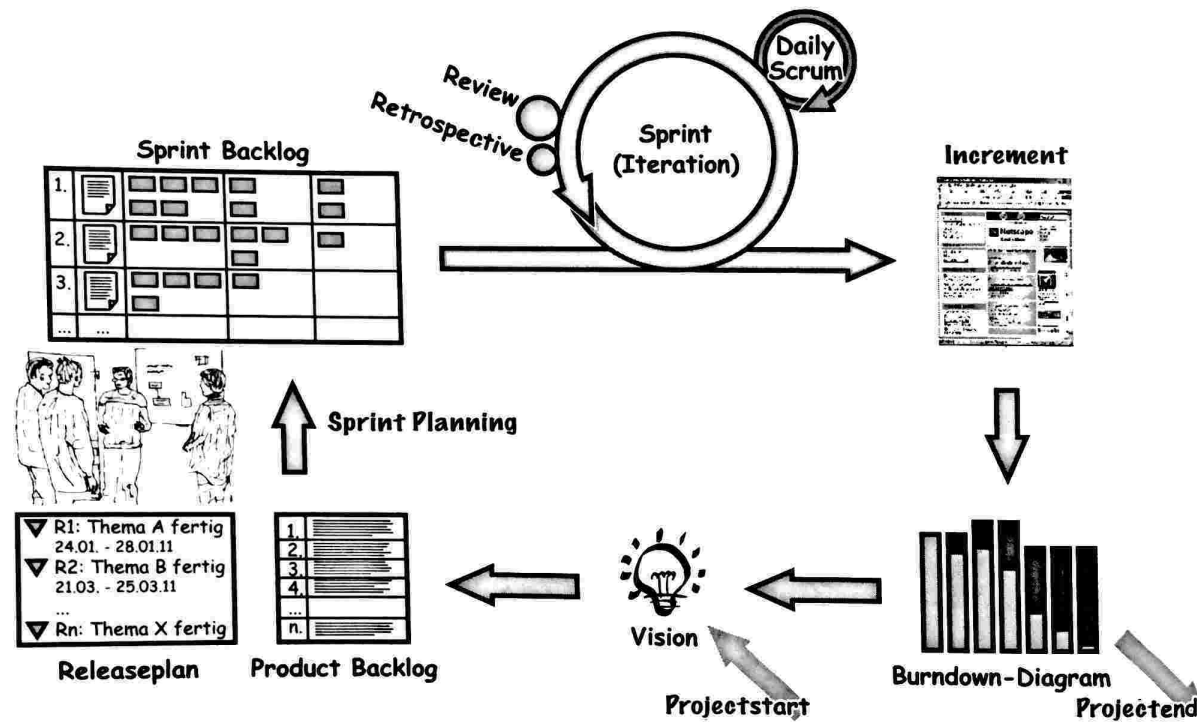
Figure 1: Project Management following SCRUM (Vigenschow 2015:90)

Challenges in Collaboration of Agile Teams and Possible Solutions

Especially during the sprint planning meeting, fully virtual communication and collaboration is very difficult, because team members might not have the chance to share their opinion in the same way they would, if it were a face-to-face meeting. Even hybrid collaboration brings a lot of hurdles at this point: team members meeting physically might forget or degrade team members that only take part virtually.

My PhD research focuses on how the discrepancy in a hybrid team between physically and virtually present team members can be improved through computer-mediation. A possible solution, which could be used as a basis for the development of further technology, is

the Rhythm technology developed by Alex "Sandy" Pentland and his team at MIT. They developed the so-called Rhythm badges, which every team member must wear during a meeting. The Rhythm technology/code records how much each team member participates based on the amount of speech and gives immediate feedback through an online tool, which is accessible to all team members. The evaluation of the collected data usually takes place through the team leader or meeting host. In an agile team the SCRUM master could be entitled to evaluate the communication data and assure equality in the amount of speech of team members. However, Rhythm badges fulfill their full potential when each team member receives feedback in real-time and can adapt to it. The online tool therefore should be accessible to all team members during the meeting.

The group's research shows, that equality in the amount of speech in a meeting of distributed teams effects the outcome of the meeting in a positive way. The technology however does not measure the quality of a team member's involvement. Some might argue that the duration of speech has no impact on its quality. The research conducted at MIT shows, that if team members are aware of the imbalance of involvement, less participating members are animated to engage more and often introduce perspectives that were not addressed previously and thus contribute to the project outcome. Therefore, I propose that it is essential that remote teams are aware of each other's participation in a meeting. Questions unanswered to this point are: How can agile team collaboration be studied in a naturalistic environment without disturbing or intervening a team's work? How can communication and collaboration in agile teams be improved through computer-mediation?

Contribution to the Workshop

I believe that I can offer great insights in the work and collaboration of agile teams based on the research already conducted. Since agile teams are often working remotely or hybrid and struggle with communication, they offer a great opportunity to be studied in greater detail. Additionally, agile methods are a trend that is spreading widely across disciplines and therefore should be a part of research conducted about hybrid collaboration. As a part of my PhD, I am planning on conducting research with agile teams from the industry in order to propose a solution for agile collaboration. Therefore, I would highly appreciate input from other researchers and practitioners on the execution of research in a naturalistic environment.

References

1. Korkala M., Abrahamsson P., 2007. Communication in Distributed Agile Development: A Case Study. Conference Paper, EUROMICRO 2007, 203-210.

2. Blomkvist J., Persson J., Aberg J., 2015. Communication through Boundary Objects in Distributed Agile Teams. CHI 2015, 1875-1884.

3. Lederman O., Calacci D., MacMullen A., Fehder D.C., Murray F.E., Pentland A., 2017. Open Badges: A Low-Cost Toolkit for Measuring Team Communication and Dynamics. http://www.rhythm.mit.edu/.

4. Pikkarainen M., Haikara J., Salo O., Abrahamsson P., Still J., 2007. The impact of agile practices on communication in software development. Journal article, Empirical Software Engineering, 303-337.

5. Vigenschow U., 2015. APM - agiles Projektmanagement: anspruchsvolle Softwareprojekte erfolgreich steuern. Heidelberg: dpunkt.verlag.

6. Whitworth E., Biddle R., 2007: The Social Nature of Agile Teams. Conference Paper, IEEE Xplore.