

Management Summary

In order to evaluate the qualitative success of a tool in a project, we need a better understanding of the human needs they cover. The developer's needs with regard to tool support must be identified and the different tools can be evaluated on how they match those needs.

Personal interviews

Personal interviews with 10 different people involved in Scrum were conducted. The duration of each interview was about 1 to 1 hour and 30 minutes. The interviews were done using an interview script (see Appendix A). For each interview partner only one Scrum project was chosen. In a first part, questions about the project's Scrum process were asked. Confrontation with the theoretical Scrum process helped to make them talk. In the second part we asked them about their tool landscape and we asked them what they consider good or bad points about those tools.

A common answer received when interviewing people involved in Scrum about tool support was that in Scrum there is no need for a computer-related tool.

When getting further in the interviews, we saw that almost all of them had some kind of computer-related tool, e.g. an issue tracker. Such tools were needed for example:

- for reporting
- because the Scrum team was distributed
- because of a non-agile context (i.e. with HERMES)
- for legal reasons / for documentation (i.e. a banking software)
- for collaboration with other teams (i.e. Scrum of Scrums)

Many people are talking of Scrum as a process, while someone understands Scrum as something more than a process, almost a philosophy. Scrum is furthermore seen as a way to collective knowledge. Another view received was that Scrum has few things that can be seen as the "core" parts of the Scrum process and many things that are rather best practices.

Online survey

Based on themes that often appeared during the personal interviews, we wanted to understand better the high important daily needs and the occasional - maybe of lower importance - needs of the participants. An online survey with duration from 5-10 minutes was done.

For the survey we picked up some key points from the interviews and broke them down to a concrete set of user needs (problem space):

- Reach consensus / take collaborative decisions
- Exchange information
- Retain long-term knowledge
- Assess progress
- Organize and track time of work/duty

- Know what I should do
- Get accurate and trustable documentation
- Know what the others are doing

In the survey was focused on the Scrum Wall and an issue tracker. Based on the interviews, a feature set for these tools was determined:

- Enter new work items / User Story
- Organize existing work items / User Stories
- Generate a dashboard or report / get an overview of the project status
- Find the relevant information available in the issue tracker/Scrum Wall
- Find the relevant information for the daily work available in other systems
- Browse changes/history for a specific issue
- Update the work items / User Stories to match with the latest decisions
- Be notified about certain changes (e.g. somebody starts working on an issue)
- Annotate, refine or comment an issue

Results

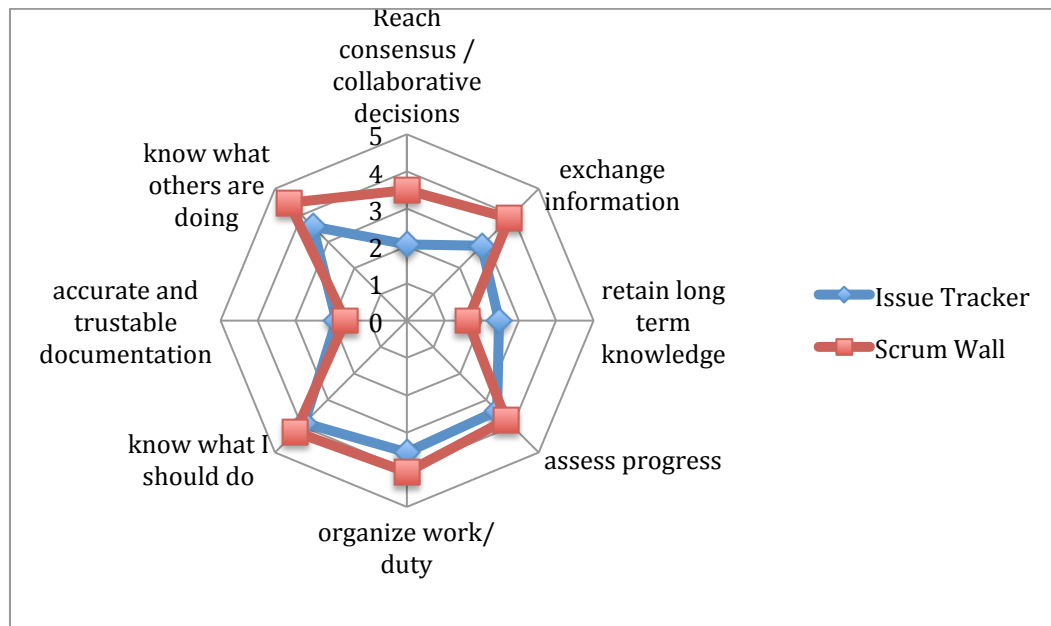
The survey was filled out by a total of 19 persons involved in Scrum projects. Of these 10 people, 3 were from Management, 9 were Team Members and 7 were Scrum Masters. The needs mentioned before can be categorized based on the survey as follows:

Important needs	Less important needs
Reach consensus/take collaborative decisions	Retain long-term knowledge
Exchange information	Assess progress
Know what I should do	Organize work/duty
Know what the others are doing	Accurate and trustable documentation

Reaching consensus, taking collaborative decisions, exchange of information and knowing what the others are doing let most of the participants feel involved. Conservation of long-term knowledge, reaching consensus, exchange of information and accurate and trustable documentation were seen as needs that are difficult to reach.

We verified in the survey how Scrum Wall and issue tracker fulfill the participant's needs. In order to have a common base to compare them, spider charts with the weighted average of the level of importance were created.

The Scrum Wall for example has great scores for the knowledge of what others are doing and the exchange of information. Also for knowledge about what I should do and the organization of work/duty it seems to work fine. On the other hand it fulfills less the conservation of long-term knowledge and the production of accurate and trustable documentation. It has to be mentioned that the Scrum Wall was never intended to do so.



A key point of the above-seen chart is that both the issue tracker and the Scrum Wall do not fulfill the accurate and trustable documentation. This lack of documentation leads to issues with regard to conservation of long-term knowledge.

Even though the conservation of long-term knowledge and the accurate and trustable documentation have been considered of average importance by most of the participants, they are still important enough to justify the use of another tool that is only slightly more adapted to fulfill those needs (e.g. issue tracker).

It seems that the features to support notification and dashboard/report generation in the issue tracker are not fulfilling the needs of the team, as they are used few.

Most participants see problems in the synchronization and the linking of information between different tools. Also the replication of information is seen as an issue.

When asking them about integrated platforms, there seem to be two main groups:

- the supporters of integrated platforms as for example Team Foundation Server
- the supporters of “take the best of each tool category”

People are aware that when it comes to interpersonal issues within the team, as for example a lack of communication, tools can maybe support but not resolve them.

Based on the personal interviews and the survey, the reaching of consensus/taking collaborative decisions, the conservation of long-term knowledge and the accurate and trustable documentation can be supported better by tools than the status quo does.

As part of this thesis, a prototype of a tool to synchronize between Scrum Wall and a spreadsheet is provided: Scrum Detector.