

The Guide Board, an Artefact to Support the Continuous Improvement of an Agile Team's Culture

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Abstract. The Guide Board is an artefact that supports continuous improvement of practices and interactions within a team, with the same materials as classical agile artefacts. It represents the conclusions of a team's retrospectives as "guides" to make them tangible. By specifying how these guides are visualised and handled depending on their actual application, the Guide Board improves the production system efficiency by increasing the critical reuse of previous conclusions. A successful application substantially increases the team's self-awareness of its culture, and makes its habits more visible to other stakeholders, thus improving communication. Finally, it improves the readability of its social rules to newcomers, thus supporting integration of new hires and therefore growth.

Keywords: guide board, agile, artefact, continuous improvement, retrospective

1. Introduction

A few years ago, I started a highly constrained software project with a small team that had a strong agile potential. The team members were lacking most of the theory, but were eager to learn. I decided to gradually introduce concepts while development started. After presenting the bare minimum of Scrum to get a working Sprint 0 came the first retrospective. Along with it came the following question: how will I give my motivated but newbie team a feeling of tangible outcomes from this first occurrence of the most important ritual? How can I make them feel the crucial nature of this opportunity to reflect upon how they work and interact? How can I give the team a hint that this long-term investment will pay off, and that it is paving the way towards a better version of itself?

This is how the first version of the Guide Board came to be: by a simple facilitator's reflex of writing down the answers the team had given to its own questions on sticky notes, with a little playfulness in illustrating them. What made it more specific than a simple "reflection workshop output" [2] artefact was the column grouping under a sprint number card (Fig. 1), to give an idea that others would follow.

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Fig. 1. The “guides” of the first sprint (*top*), defining the expected times of the standup (*middle*) and lunch (*bottom*), as an answer to the waste the team members felt in waiting for each other.

Most agile teams rely on physical artefacts to help them visualise, inspect and improve their processes. Burndown charts provide input for continuous improvement. Happiness indexes increase the salience of its need. On the contrary, if there is a common ritual for the team to “reflect on how to become more effective”, there is no common way to help it “then tune and adjust its behaviour accordingly” [7].

The first role of the Guide Board is to help with formalising the retrospective decisions that have long-term effects. These decisions are crucial to continuous improvement, yet are hard to respect consistently enough¹ to yield the expected results, leading to the same type of problems being detected again and again. By offering a simple, well-defined format, the Guide Board decreases the barrier to entry to take such decisions and eases their inspection and adaptation in later retrospectives. More importantly, by making these decisions tangible and visible enough to influence day-to-day situations, the board nudges team members in respecting the decisions they took, even when they are focused on production rather than improvement.

Over months, the Guide Board truly became what allowed us to achieve the cultural changes we needed to overcome the obstacles that kept coming.

¹ Especially without external coaching.

2. The Board and its Making

2.1. Overview

From its original first column, our Guide Board kept on growing to the right, always as a repository of retrospective conclusions. It quickly took enough space to grant a specific place. Considering its use, it was obvious it had to be visible from everywhere. The large paper sheets covered in stickies ended up at the top of a wall, overlooking the workstations (Fig. 2).

This position felt right¹, but it brought a few readability issues. This is why, from iteration 23 on, most sticky notes are pasted sticky side down (Fig. 3), which makes them lean downwards and thus more readable from below.



Fig. 2. Our Guide Board, at the top of a wall.



Fig. 3. Sticky notes should be pasted upside-down.

2.2. Opening a Guide

After each retrospective, a column is added to the board, materialised by sticky notes of different colours (Fig. 4). On the first line, a red sticky note mentions the iteration number. The team then creates a new “guide” for every rule that it decides to adopt to enhance its strengths and reduce its weaknesses.

These guides are represented by a green sticky note covered by a few words accompanied by schematic drawings. After a discussion leading to a precise characterisation of the rule, the guide is added below the number of the current iteration. A guide is therefore the reification of a debate

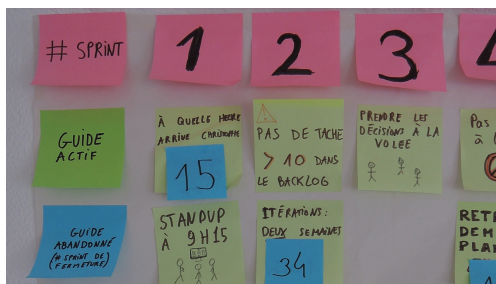


Fig. 4. Top left corner of the Guide Board.

¹ It actually has very good reasons for being there, one of them being friction isomorphism [5].

conclusion, *a reminder that a discussion took place*. These keywords and drawings are here to recall the agreement to participants, as a tangible trace of the decision.

We stopped drawing illustrations at some point. However, after a few weeks usage, it became clear that the illustrated guides were easier to memorise, and much easier to identify when glancing at the board. By starting to use them again, we realised that they were even more important than expected.

Indeed, agreeing on an illustration led to much deeper debates than agreeing on a sentence¹. Upon observing this improvement, we opened a guide stating that “The illustration defines the rule”: agree on the drawing first. The team will define the expected impact much more precisely, and the textual description will be obvious.

Interestingly, cognitive psychology confirms images strongly help in constructing mental models of processes [4], which is exactly what we are after here. Empirical evidence confirms this: illustrated guides were closed much less often than pure texts.

To avoid overload, we quickly had to define what was allowed on the board and what was to be kept as oral conclusions, or stored otherwise.

The first criteria is *actionability*. A guide defines an action, or refines how one should be done. For example, the guide “Describe bugs from the point of view of the user” defines the way the team considers most efficient to describe bugs. Simply stating “Bugs are not properly described”, while an acceptable retrospective conclusion if the team cannot come up with a solution yet, is not an acceptable guide.

The second criteria is *durability*. Anything that was to change durably our habits was in, any non-recurring or experimental action was out. Experiments are a good thing, but only the successful ones are stored as guides, once they have proven benefits. For example, “No story over 10 points in the backlog” is eligible, while “Split all stories over 10 points currently in the backlog” is not². The distinction is simple to grasp by remembering that a guide embodies a course of action the team wants to follow for the foreseeable future.

2.3. Using Guides

One usage of the guides is individual. A team member unsure about how to handle a given situation may first turn to the Guide Board as a repository of common agreed-upon policies before turning to colleagues.

¹ That may sound counterintuitive, but makes sense if you consider how much information can be encoded through drawings, as opposed to words, on a single sticky note.

² Even though adding the new rule implies the one-shot action, the latter is not added to the Guide Board but handled on its own.

For example, we observed far less rushed deliveries after opening the guide “Deliver and prepare the demonstration the day before the sprint ends”, as each team member knew what to focus on without waiting for others to be available to take a collective decision: the collective decision on priorities had *already be taken*.

Another usage is collective. When a team member believes that a debate has already happened earlier, she may simply point to a guide to end the discussion. This closes the debate without generating frustration, since it simply reminds a point that had already been agreed upon by all team members.

For example, our mean daily standup duration went down from 13'42" to 5'55" after opening the guide “Keep the stand-up under 6 minutes” [5]. The tangibility of the guide allowed team members to discretely point at it rather than interrupting a colleague being inadvertently too long.

Objectification of the collective decision decreases social risks on both the giving and receiving ends of a reminder: you are not accusing me, and I don't have to justify myself; you are simply reminding me something we all agreed on, and I had simply temporarily forgotten; now I remember, and have the opportunity to adjust my behaviour to be consistent with my own choices.

2.4. Closing a Guide

Obviously, even rules enacted with the best observations and intentions may fail on delivering value over time, would it be only because of external context changes. There is thus a need to stop observing obsolete rules. Yet, simple removal is a waste, as these modifications are also opportunities. Opportunities to improve decision-taking on later rules by observing the ones that failed. Opportunities to better characterise external pressures by observing their impact on our system. Opportunities to ensure external stakeholders are aware of a change in our processes.

The Guide Board defines a way to “close” past guides while maximising the value of such events. You may have noticed some of the guides are covered by blue sticky notes. These guides are closed, and they have been through the process that follows.

The team may decide to put a guide “under observation” if it considers, in a retrospective, that it failed to respect the embodied decision. The last line of the board is headed by a large exclamation mark, and includes all guides that are under observation for the current iteration (Fig. 5). These guides will be

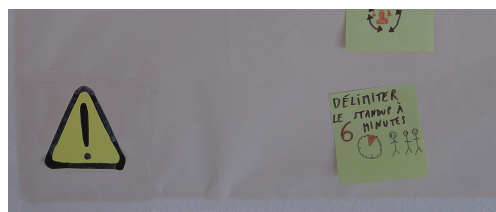


Fig. 5. The team had trouble respecting the 6-min standup duration it had as a guide (*bottom right*). Guide is thus put in the “under observation” line.

reinstated in their previous place at the end of the iteration if the team believes it finally respected them. Otherwise, they will be closed. Closure is achieved by covering the guide with a blue sticky note on which the closure iteration number is written. In such a case, repeating the mistake is avoided by also writing down the reasons for inadequacy of the guide to the current situation on the back of the sticky.

The closure iteration number has two roles. On one hand, it allows measurement of the time between opening and closure, and thus to check that a guide is not closed right after having been enacted, which would mean that guides are adopted too quickly. On the other hand, the iteration numbers are a reference to a set of experiences shared within the team. Therefore, reading that index often allows a team member to recontextualise the closure without consulting the reminder on the back.

This full reminder comes in handy to help the team grow over failing habits. When confronted with a specific type of problem, a human group often has a specific type of response. By having a tangible anchor for a past solution that failed, the team is able to spot similarities with a solution it could come up with to face a new problem. It is much easier to design a solution that learns from a past failure by reading the reasons identified at the time of closure than by trying to remember what went wrong later on.

3. Limitations and Open Questions

3.1. Team Maturity

Empirical evidence shows that theoretical knowledge of agile practices is not necessary to experience benefits from using a Guide Board. However, since its inputs are decisions taken collectively during retrospectives, the rewards are directly proportional to the quality and regularity of said retrospectives.

This means that the prerequisites for a return on investment in a Guide Board are the same as those for retrospectives. Goodwill, collective responsibility, personal safety [2] and regular inspection-and-adaptation are required. Only then can the benefits of objectification of collectiveness through an artefact be felt¹.

3.2. Adoption in Existing Projects

Teams that tried to adopt this artefact mentioned that it would probably be most efficient when used from the beginning of a project. This hypothesis is based on the

¹ More accurately, the prerequisite is system entanglement [5]: the ability of the team to modify its artefacts combined with the ability for the artefacts to prescribe members' behaviour.

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idea that an already-formed team may not benefit from a partial representation of its culture, as only the latest additions to it are made visible.

The representation of a team's practices will always be partial, as what is made tangible is only what the team deemed valuable enough to explicitly try preserving, and what it struggled with enough to discuss and try solving. Elements that don't emerge through discussion will stay invisible anyway, so those missing because they emerged before the board's presence should not bring specific problems. If an important element is not treated, it will come back in retrospectives until a decision is taken, and thus a matching guide is opened.

One team had success filling a Guide Board a posteriori upon adoption, highlighting important recent decisions, both that they struggled with and that were a success.

Starting with the latest retrospectives rather than an empty board could be good practice for existing projects, but this has to be done with the whole team. Otherwise, the guides will be only one member's understanding and fail to embody agreement.

3.3. Project Duration

I have often heard that due to its long-term benefits, the Guide Board is probably only worth using in projects that will be longer than a certain amount of iterations. If there is such a minimal investment number, it is not characterised yet. I can tell that we felt immediate improvement with the first, trivial guides that eased synchronisation for team-wide events, as they were what the retrospective made emerge as a priority.

Since the basis of a Guide Board is retrospectives and that its aim is to increase their impact, the question of whether it is worth using it in a specific project can probably be reduced to whether it is worth doing retrospectives at all for that project.

A question that is still open, though, is how much a board is specific to a *team* or to a *project*, which may change the phrasing to how much you want to invest in a team rather than in a project.

4. Conclusion

One may see the Guide Board as a generalisation of the Kanban principles [1] to the culture: make practices visible, reflect upon them regularly, characterise and measure failure. However, one must keep in mind that "guides" are not simply moving parts in a meta-production system that would make the best praxis emerge. A Guide Board is not a driving wheel, it has to be owned by a team willing to improve if it is to deliver any improvement [5].

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We like to think of it more as a “production style guide”: a growing set of parameters defining how software is to be produced, according to experience in how to avoid common failures (and bits of personal preference), collectively owned, maintained and enforced. It does not dictate end goals, nor is it a golden, immutable law that may never be transgressed. It is a style guide that does not address only code, but critical parts of software engineering too often forgotten [3]: the interactions between the people, machines and software that form the production system.

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