



FAST
AGILE

SCALING AGILE VIA SELF-ORGANIZATION

The FAST Guide

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What is FAST Agile™?

FAST Agile™ is a system for organic collaboration on creative endeavours - from the small scale to the large.

FAST facilitates self-organization of people around work via Open Space.

High-Level Overview of the FAST Agile Process

FAST differentiates itself from other agile scaling models by creating a dynamic network structure instead of a forced grouping of people into static teams. We form a team of teamsⁱ instead of a command of teams.

To move from static teams to a dynamic network, merge the teams into a tribe. The tribe participates on cadence in the FAST meeting; an event borrowed from Open Space. The FAST meeting is a planning and synchronization meeting in which the highest priorities are called out, and teams dynamically form (called swarms) around these priorities. The swarms break away, plan, and then deliver what value they can for the time allotted to the iteration. At the end of the iteration, the tribe comes back together, and each swarm shares their progress with the tribe so everyone is in sync with the current state of development.

FAST recommends that the tribe discover the shortest cadence achievable. Two-day iteration length has been popular and proven. A two-day iteration matches the agile practice of having stories sized small enough to be done in two days.

FAST Theory

Complexity Science and Simple Rules

FAST aimed to mimic methods of organization and scaling found in the natural world, that is - complex adaptive systems. According to systems theory, complex adaptive systems are created by following a set of simple rulesⁱⁱ.

Complex - the behavior of the ensemble is not predicted by the behavior of the components.

Adaptive - the individual and collective behaviour mutate and self-organizes corresponding to a change-initiating event or collection of events.

Open Space Technology (OST) and Self-organization

Open Space Technology is a lightweight Liberating Structureⁱⁱⁱ that can facilitate large-scale self-organization. An understanding of Open Space Technology^{iv} helps with comprehending the mechanics of FAST.

Dunbar's Number and Tribe Size

Research from British anthropologist Robin Dunbar suggests that humans have a social channel capacity limit of around 150. Based on the study of W. L. Gore and Associates^v, Dunbar's Number was chosen as the maximum tribe size. An organization may have multiple tribes.

Dynamic Assembly / Dynamic Reteaming

To form cross-functional teams, FAST facilitates swarms to dynamically assemble around work. Drawing from the tribe's talent pool, the right mix of people swarm to deliver value. The swarms stay together only as long as they need to and membership is fluid based on what is required for each iteration.

Intrinsic Motivation and Autonomy

FAST creates an environment in which work can only happen via self-direction (autonomy). Autonomy has been shown to be one of the key motivators for knowledge workers^{vi}.

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

F.A.S.T. Acronym

Fluid - Fluid formation and re-formation of teams within a network

Agile - As defined by the Agile Manifesto (<http://agilemanifesto.org>)

Scaling - Spreading and coordinating work across people, teams and tribes.

Technology - from Open Space Technology

FAST Values, Pillars, and Rules

FAST Values

Autonomy, Mastery, Purpose, Connection, Collaboration, Self-organization, Experimentation, Continuous Improvement

FAST Pillars

- Agile Manifesto
- Modern Agile (<http://modernagile.org/>)
- Face to face communication
- Team of Teams
- Natural Leadership
- Dynamic Reteaming^{vii}
- Extreme Programming^{viii}
- Complex Adaptive Systems (System Theory)
- Simple Rules^{ix}
- Open Allocation^x
- Lean Software Development^{xi}
(Flow efficiency over resource efficiency, Visualizing Work, Slack, Work as a pull system, Just In Time, Small batches)

FAST Rules

- Do the right thing
- Be a mentor and be mentored
- Be T-shaped (a generalizing specialist)
- Strive for excellence in your craft

FAST Artefacts

*Information radiators make problems visible, telegraph progress,
and are an enabling mechanism for self-directing work
Mary and Tom Poppendieck - Lean Software Development: An
Agile Toolkit*

Release Map

A Release map is very similar to a story map^{xii}. The difference being that a release map contains high-level elements only, e.g. epics, features, aspects. The finer grained details of the features are represented in individual Feature Trees.

The release map is a way to visualize what scope is in/out of a release. What is must have versus nice to have. And, what has started, finished and not started, all at a glance.

Feature Trees

When a new feature starts, a feature tree is created. We break the feature down just enough and just in time (JIT). The goal is to understand what the requirements of the feature are and how to deliver it incrementally with a visual representation.

The feature tree is, in fact, a feature set as we label each thin vertical slice of delivery a feature. As we break down a high-level requirement into its components recursively, it forms a tree structure of branch nodes and leaf nodes.

Branch nodes become a series of goals and sub-goals. By marking nodes visibly as started, not started, completed (or removing leaf nodes as completed), at a glance the current state of progress made toward a feature set is obvious. Thus, a feature tree can provide data for status reporting and/or used as a forecasting tool when effort is recorded against completed items and a delivery pattern emerges.

Marketplace

Marketplace comes directly from Open Space Technology and is the underlying process for facilitating self-organization at scale. At a glance, we can see what is happening in the current iteration and who is working on what.

To constrain work in progress (WIP), the marketplace will have a set number of slots that typically represent physical areas for development teams to work.

Decision Log

Record when and what decisions were made.

Tribe Agreements/Constitution

The Tribe Agreements is a living document that describes the rules and mechanics of working in the tribe.

How do we want to be treated by one another?

How do we make decisions?

How do we resolve conflict?

How do we change the tribe agreements/constitution?

FAST Roles

Tribe Director

The Tribe Director is a leadership role. The main responsibilities of this role are to inspire, communicate vision and direction, and to provide feedback. A FAST Tribe director is required to have Product Management skills in addition to leadership skills.

Member

A tribe member is an active team player committed to delivery, collaboration, learning and mastery within the tribe.

Swarm Steward

A natural leadership¹ role where a tribe member has chosen to steward some work in the upcoming iteration. You become a steward by declaring intent at the FAST meeting during the marketplace phase. Being a swarm steward is an additional role to Tribe Member.

Feature Steward

Because of dynamic reteaming, it can make sense for at least one person to stay static with a feature to see it all the way through. The feature steward becomes a point of contact for questions from the business and provides continuation of at least one person between iterations. Being a feature steward is an additional role to Tribe Member.

¹ FAST is an environment that allows for the emergence of natural leadership. Natural leadership is a core piece of Open Allocation (one of the Pillars of FAST).

Agile Coach

The role of the coach is to observe the system from the outside and offer suggestions. Mentor the tribe in Agile and FAST but do so in a way that will do yourself out of a job. Coach the tribe to become self-sustaining and in control of their processes. The coach is not responsible for facilitation, rather for teaching others how to facilitate.

Tribe Resource

On occasion, the tribe may need help from outsiders. During this interaction period, these people assume the role of Tribe Resource.

FAST Meeting

There is one meeting in FAST - the FAST meeting. In this meeting, an iteration is closed and the next opened. The meeting is facilitated by the FAST Tribe Director.

The FAST meeting goals:

- Shared Consciousness: synchronization point for the tribe
- Dynamic Assembly: dynamic reteaming – teams form around work
- Shared Vision: repetition of vision and direction
- Empowered Execution: self-organization around the work that needs to be done (doing the right thing)

Show and Tell Phase (Closing the Iteration)

A representative from each swarm briefly presents the outline of the goal the swarm took on and the highlights of value delivered. Show and tell may include a demonstration of working software.

Each swarm representative removes their swarm goal from the marketplace during show and tell so that once all presentations are completed, the marketplace should be clear. While clearing the board, you may want to record and accumulate effort spent against a feature were you to use this mechanism for tracking progress against a forecast.

The iteration is now closed.

Set Direction and Reiterate Vision Phase (Opening Next Iteration)

The FAST Director requires strong leadership skills: communication, motivation, encouragement, clear vision, direction setting. The FAST meeting is a chance to "rally the troops" and inspire the tribe. Remind the tribe again of the overall mission and purpose and set the direction for the upcoming iteration. Highlight priorities and use the Release Map as a visual guide.

Marketplace Phase

The marketplace phase of the meeting comes directly from Open Space Technology.

Any tribe member can stand up in front of the tribe and declare their intention to steward a swarm and what the swarm goal is that they are passionate about. The swarm goal is likely to be related to priorities just communicated. Or not, for example a swarm may decide to do some refactoring. Do the Right Thing rule is always assumed to have been followed.

This repeats until either all swarm slots on the marketplace have been filled or no-one else chooses to lead. It is not imperative that all swarm places are filled.

Once the marketplace is populated, members self-organize into which swarm team they would like to join. Members put their names into the slot associated with the goal they are most interested in working on.

Swarms may be component or feature based. Whatever is needed to move the product forward and is the right thing to do.

This way of working comes from Open Allocation and represents a pure pull system, using lean terminology.

Adjustment Phase (If needed)

During this phase, the FAST Director can adjust or change the marketplace if it is deemed incongruent with current priorities. Adjustments should be rare and avoided as the goal of FAST is to encourage self-organization and self-direction (Autonomy).

Announcements (Optional)

While the tribe is all together, it is an opportunity to make announcements that affect the tribe. These may be unrelated to work in the iteration, but relevant to the organization. For example - don't forget that open enrolment for health insurance starts this week.

Closing Phase

The Director approves the iteration and closes the meeting with words of encouragement.

The meeting is closed.

Start Work, Resolve Conflicts and Emerge Design

The dynamically formed teams (swarms) now go to their chosen development area and plan. That is, task out what work to do and agree on how to collaborate. Should a swarm identify that they have dependencies on the work of another swarm, or believe they are likely to clash, the swarms meet and discuss.

To resolve, they might:

- merge into one larger swarm
- drop one item and go pick up something else
- have a design discussion (emergent design) and come up with a clear plan on how to divide the labour among the swarms against this design

The best architectures, requirements, and designs emerge from self-organizing teams.

Uses of FAST

FAST is a system of organic collaboration for creative endeavours, from the small scale to the large. Creative endeavours include software products but can be anything creative. Go experiment!

FAST Pre-requisites

Co-location

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

Supportive Management

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

Managers in FAST should focus on creating the environment - workspace and tools that will help the tribe be high performing. Provide support by removing impediments and asking the tribe "How can I help? What do you need to get better?" i.e., be a Servant Leader.

Office Layout / Facilities

You will require a large enough area to facilitate the FAST meeting and collaboration areas where the swarms can work. It is ideal to have a static physical Release Map up in a central location to the Tribe.

FAST's Two Modes:

Small and Large Scale

There are some differences in working between small and large-scale modes. It must be recognized when you are transitioning from the small to the large scale.

Small-Scale FAST (6-14 people)

Though not exact, the definition of small-scale is less than fourteen people in the tribe. Small-scale FAST can be used in place of Scrum^{xiii}.

In small-scale FAST, a slot is typically filled by a pair or a small mob (mob programming^{xiv}).

Large-Scale FAST and Dunbar's Number

In large-scale FAST, each work item presented at marketplace is a goal for a swarm of around 3-9 people. Suggested minimum swarm size is two, i.e. a pair (pair programming is a recommended practice from Extreme Programming).

The maximum size of a tribe is Dunbar's Number - 150. Once a tribe exceeds this number, split and spin off a new tribe. The result becomes a portfolio of tribes. Each tribe should own the entirety of a product or products.

In a portfolio, FAST Directors meet on cadence for portfolio management discussions and planning.

Reflect & Improve

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behaviour accordingly.

In Scrum, reflect and improve is implemented by the retrospective meeting. FAST however, is not prescriptive on how you implement this agile principle. FAST leaves this for you to discover what is right for your tribe.

Some ideas/options you may try are:

- FAST Guild
- Reflect and Improve regular Open Space Events
- Add a "Turn Up the Good" section to the FAST meeting

Setting Up For Success

Becoming a Learning Organization

Mastery is one of the core values of FAST. Being excellent in one's craft is one of the rules. The more that individuals invest in their craft and pursuit of excellence, the more the organization benefits. Encourage and invest in ways for people to get better in their craft.

Invest in Training

A FAST implementation will go much easier if you invest in training to ensure everyone understands the process going in.

Build Slack In

Optimizing for flow works best when there is slack in the system. Creating time for learning and research shows that these are important and creates a level of slack.

Quality Coding Practices and Extreme Programming

Scrum left quality practices out to its detriment. While FAST does not spell out any practices, it did build Mastery in as a core value. Extreme Programming is a core pillar and foundational to software as a craft / software artisanry.

Experimentation

FAST wasn't designed to be a destination. It's a starting point on your agile journey. The real destination is a mindset and culture of continuous experimentation and improvement.

Spotify, Valve, Netflix, Red Hat all have cultures and methods that they cultivated themselves through experimentation. You can do it too. Start with FAST and see where it takes you. Make incremental changes to your process via experiments.

Remember: you can't buy or copy high performance. You will need to develop your own capabilities as you pursue a path that fits your particular context and goals. This will take sustained effort, investment, focus, and time. However, our research is unequivocal. The results are worth it.^{xv}

References

ⁱ *Team of Teams: New Rules of Engagement for a Complex World* by Chris Fussell, David Silverman, Stanley A. McChrystal, and Tantum Collins

ⁱⁱ *Simple Rules: How to Thrive in a Complex World* by Kathleen M. Eisenhardt

ⁱⁱⁱ Liberating Structures - <http://www.liberatingstructures.com/>
The Surprising Power of Liberating Structures: Simple Rules to Unleash A Culture of Innovation
by Henri Lipmanowicz, Keith McCandless
Open Space Technology is one of the Liberating Structures in the book

^{iv} *Open Space Technology: A User's Guide* by Harrison Owen

^v *The Tipping Point* by Malcolm Gladwell
Chapter 2 Gladwell talks about Dunbar's Number

^{vi} *The new economics for industry, government, education* by W. Edwards Deming
Deming talks of Intrinsic Motivation in his books and video series

Drive: The Surprising Truth About What Motivates Us by Daniel H. Pink
According to Pink - Autonomy, Mastery and Purpose are the driving motivators for high performance

^{vii} *Dynamic Reteaming: The Art and Wisdom of Changing Teams* by Heidi Helfand

^{viii} *Extreme Programming Explained: Embrace Change* by Kent Beck

^{ix} *Simple Rules: How to Thrive in a Complex World* by Kathleen M. Eisenhardt

^x Open allocation refers to a management style in which employees are given a high degree of freedom in choosing what projects to work on, and how to allocate their time. They do not necessarily answer to a single manager, but to the company and their peers.

^{xi} *Lean Software Development: An Agile Toolkit* by Mary Poppendieck and Tom Poppendieck

^{xii} *User Story Mapping: Discover the Whole Story, Build the Right Product* by Jeff Patton and Peter Economy

^{xiii} What Comes After Scrum? by Ken Schwaber Oct 5 2012
<https://kenschwaber.wordpress.com/2012/10/05/what-comes-after-scrum/>
"Scrum is not the be-all and end-all process for software and product development. ... Scrum can be replaced or superseded by anything that also supports its underlying principles"

^{xiv} Mob programming is a software development approach where the whole team works on the same thing, at the same time, in the same space, and at the same computer. Mob programming was discovered by Woody Zuill and his team.

^{xv} *Accelerate: The Science of Lean Software and DevOps: Building and Scaling High Performing Technology Organizations* by Nicole Forsgren Ph.D. and Jez Humble