



DESIGNING
AN AGILE PORTFOLIO
AND PROGRAM COORDINATION SYSTEM
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Many otherwise astute agilists have struggled when faced with the challenge of scaling methods like Scrum to large, multiteam projects and programs. Luckily, this shared hardship has resulted in some creative solutions to the problems such efforts can pose. We will explore key aspects of creating a simple but effective agile-ready coordination system for managing such initiatives, based upon the authors' observations and experiences across widely differing companies.

Guiding Principles

The goals of an agile-appropriate portfolio coordination system might be stated as follows:

Build trust and engagement through transparency by making priorities, dependencies, and capacity visible and discussing them regularly.

Facilitate informed strategic guidance via clear communication to key stakeholders about current and potential delivery challenges.

Bridge silos and functional organizations with regular, coordinated collaborative touch points.

Provide rapid, targeted portfolio management with minimal time or capital investment.

We will explore how these objectives might be achieved in a process with minimal overhead and setup time.

The Scrum of Scrums Is Not Enough

Much of the early agile literature spoke from the perspective of a single team. Scrum, the most popular agile framework today, espoused a simple mechanism called the Scrum of Scrums for coordination between multiple teams. However, this mechanism is rather loosely defined and often is inadequate for complex dependency management across multiple releases and a portfolio of projects.

Originally, the Scrum of Scrums was described as a daily meeting between ScrumMasters across teams, which followed a similar structure to the daily scrum but focused on progress, plans, and blockers at the team rather than individual level. One key problem with this system was that it implicitly relied on ScrumMasters to know the details of every issue. Also, the fact that external stakeholders are often needed for negotiation, communication, or blocker removal can make their absence a progress-killing issue.

Many teams have moved beyond the Scrum of Scrums or modified it in ways that they find better suited to the complexities of their situations.

The Ubiquitous Visual Management System

Large, visible "information radiators" have been a common theme in agile implementations, and they figure perhaps even more prominently in the lean manufacturing implementations that inspired many agile values and practices.

For example, Japanese companies such as Toyota long shunned complex material resource planning systems in favor of simple paper charts, bins sized to fit just so many parts, and

other similarly low-tech tools. The persistent presence, ease of creation and change, and ability of such systems to facilitate group interactivity was hard to beat.

In today's agile teams, one continues to encounter physical Scrum taskboards being used alongside full-fledged software suites, proof of the efficacy and persistent appeal of physicality.

Creating a Portfolio Management System and Team

Let us tell a story by way of example: Nine teams are working together on the delivery of several major projects on an enterprise business intelligence platform. The teams are mostly focused on delivery of independent feature groups, but there are two exceptions. One team helps to create and manage shared data services and enterprise service bus integration; this team's backlog is populated by the other teams. Another team is a vendor that is implementing its software to provide some visualization pathways for mobile and tablet devices. It's operating on a slightly modified waterfall development lifecycle.

The rapid pace, continuous integration, and high information flow across a set of agile teams require an equally nimble coordinating structure. The teams also want to engage frequently with high-level stakeholders, so meetings have to be short and focused, which will be a welcome change in any case. The system as a whole will consist of a team, a process, and a visual management board.

THE PORTFOLIO MANAGEMENT TEAM

The first order of business is defining the portfolio management team's roles and responsibilities:

One chief ScrumMaster will lead the creation, maintenance, and facilitation of the portfolio management system.

Team ScrumMasters will provide insight into dependencies and blockers, as well as highlight process improvement and collaborative opportunities.

The project manager from the vendor waterfall team will provide updates on his team's status, focusing on frequent short-term deliverables, actionable information, and stable interfaces.

Team dependency representatives will be nominated by each team, changing as necessary each sprint, to provide insight into specific technical and process issues.

Stakeholder dependency representatives must attend when called upon by the teams. They will generally represent key customers and affected departments, such as sales, marketing, and operations.

Product owners will collaborate between themselves to optimize realization of their value propositions, adjusting scope and workloads as appropriate.

One strategic product owner will be responsible for facilitating high-level tradeoffs, ensuring smart release strategies across the teams and outbound communication to interested stakeholders.

The objective of this team is to ensure that the organization receives valuable incremental releases of the reporting system on a continuous basis, allowing beta users throughout the organization to test new functions and processes and then to see them refined as the program proceeds.

THE PORTFOLIO MANAGEMENT PROCESS

Everyone agrees that meeting in person is important, for reasons of transparency, effective group collaboration, and time. Team members agree to meet four times per two-week sprint, a cadence that will be reviewed and refined as necessary to keep up with the needs at hand. They craft the following agenda: Review action items from previous meetings; update visual management system, ensuring that each team's sprints are updated to reflect completed and planned items; review status and roadblocks by major feature set; and review new scope or action items that have been identified or suggested.

Team members recall the criticality of a short, focused meeting that doesn't waste anyone's time, so they agree on the following rules of conduct: All attendees will be present

in person, barring prior notice; attendees will come prepared with detailed information as needed according to their roles; the core meeting will be timeboxed to half an hour, with small group focus sessions occurring afterward as necessary; and problem resolution will be conducted offline by the necessary parties in these focus sessions.

THE VISUAL MANAGEMENT BOARD

The team has seen the importance and ease of physical tools for large group activities and works to create a board that will quickly and accurately represent current plans and activities and, more critically still, will facilitate actionable conversations. This board (illustrated in figure 1) will require careful design and continual refinement to ensure that it accomplishes its intended purpose into the future.

The team quickly sequesters a large magnetic whiteboard in a reasonably central conference room; team members will use this in concert with small magnets and index cards to visualize the flow of work and value. This setup has the advantages of being tactile and easy to change, facilitating impromptu sketches as a bonus.

A few design principles, philosophies, and assumptions

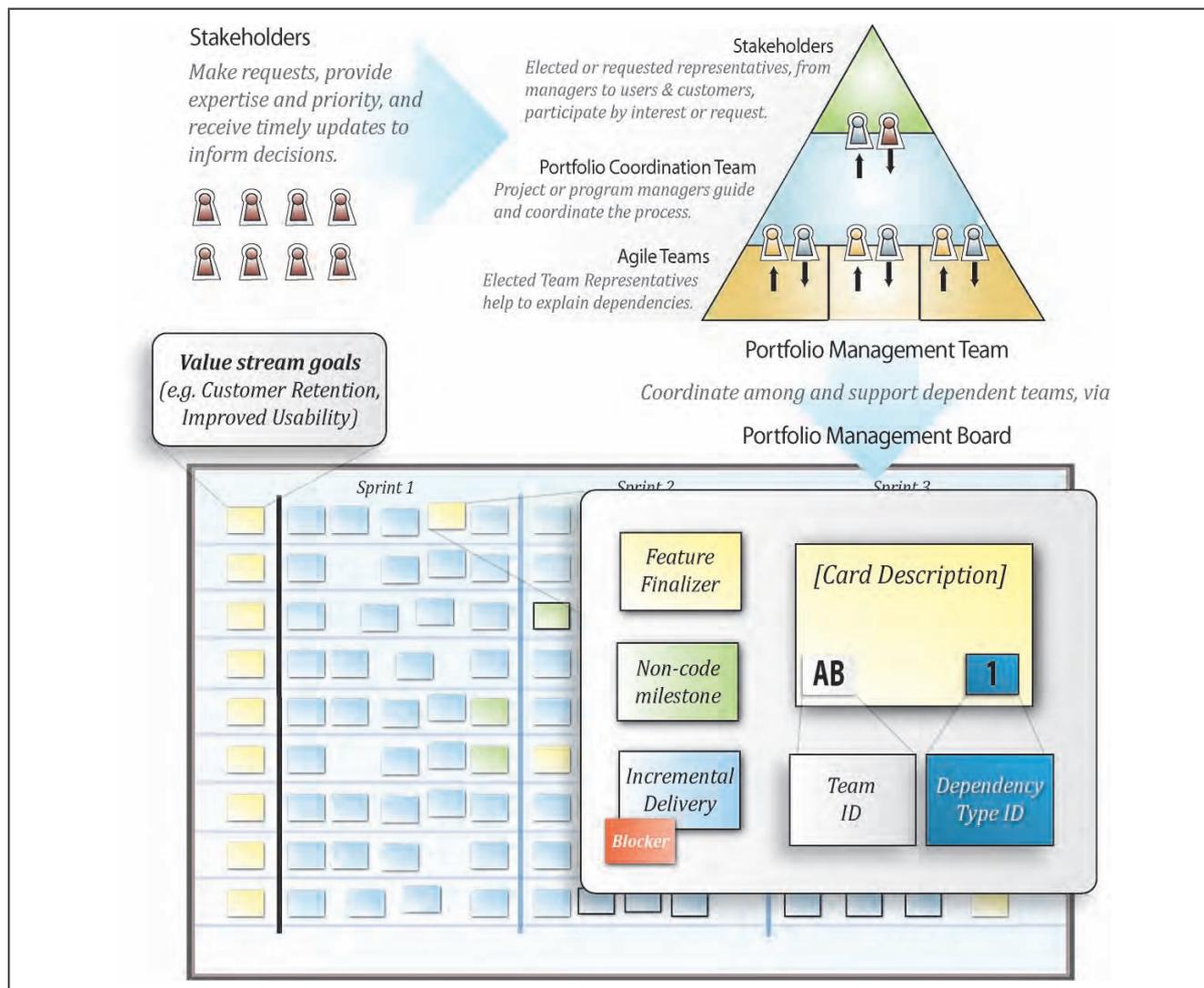


Figure 1: Portfolio management process and visual management board

guide the team's board design: Layout and lines should be neat and clean, it should be visible from a distance of ten feet, wall design should implicitly limit the amount of work in process, and five to ten portfolio cards will be the median output for most teams during a sprint.

The team defines the core elements of the visual management board:

Rows represent large dependent units of value, mostly a combination of department and report type in this case.

Columns represent timeboxes with decreasing granularity for the future, e.g., two-week sprints for the next three months, monthly for the following six months, and then quarterly after that.

Releases are represented by green cards at the top of each column, listing the major features of each release.

Value Cards represent units of value (e.g., features) that will contribute to a feature stream release or are required by dependent teams. These are not story cards but represent the externally consumable feature delivery by each team. Teams must work to make these concrete with some representing "soft" deliverables such as design checkpoints.

Dependencies are represented by tags.

Teams are denoted by stickers on each card.

Card Color denotes the type of delivery from the team, e.g., green for a card finalizing a particular release feature, blue for a technical dependency on another team, and yellow for non code milestones.

Blockers are represented by big red "X" magnets.

A SUBTLY WINDING ROAD

After a few months of use, stakeholders are happy with the lack of surprises and increased flexibility that this lightweight system has offered them. The face-to-face nature and reliance on concrete deliverables has increased accountability and greatly improved cross-team coordination and collaboration. The board itself has seen a healthy batch of tweaks and adjustments, keeping up with the rate of learning and change. The team is now looking at digital solutions for some of their distributed projects, hopefully replicating the success of this program.

Dealing with Distance

While most team members would prefer to be collocated with their fellows and dependent teams, this is, of course, often not the reality of the matter. However, all is not necessarily lost; a few options have been tried and worked, and others with promise lie on the horizon.

THE DIGITAL OPTION

Many agile lifecycle management products exist at this point, such as VersionOne Ultimate, the GreenHopper Jira framework by GreenPepper software, Thoughtworks' Mingle platform, Rally, and many others. Some of these offer robust portfolio and program management capabilities.

A key advantage to such systems, aside from the obvious facilitation of distance collaboration, is that they allow

deeper and more rapid reporting and analysis. One significant problem is that they don't allow for the multiperson parallel interaction often seen at such sessions. Also, it can be difficult to "see the big picture" easily across multiple teams given current display and view options.

Many teams have chosen to take the best of both worlds by using the board as the basis for the meeting then having folks update the tools as appropriate after each meeting. Given the focused nature of changes at this level and tight meeting duration, the volume of updates is not very high, so the costs of double entry are low.

THE MIRROR OPTION

When there are only two to three dependent locales, some teams have chosen to keep synchronized boards, or at least portions of them. This is generally done when there are significant changes at each locus but not a great deal between them. This can justify the high bandwidth interactivity of the physical medium while minimizing the amount of board synchronization necessary at any point in time.

Two Real-world Examples

LARGE ENTERPRISE

One of the world's largest insurance companies managed delivery of eleven major feature streams across seventeen agile and waterfall teams. Coordination between the teams was tracked on a visual management system they called the portfolio alignment wall. On-time delivery was achieved with higher than average stakeholder satisfaction.

AGILE STARTUP

A leading DC-area startup serving utility companies balanced workloads and managed dependencies between five teams working on widely differing systems. Meetings were weekly and generally lasted less than an hour, and scary surprises were rare.

Your Next Steps

Any company running multiple Scrum teams can use this basic pattern to their advantage. The physical board in particular has offered a surprising degree of transparency and focus in numerous organizations.

If you'd like to give the method a try, it's easy enough to get started: Find a group of work streams that could benefit from tight, lightweight coordination and form a coordination team as described above. Agree on your own goals, objectives, and design philosophies; put together a visual management system that supports them; and get started. Remember, no system is perfect on launch, so inspect and adapt! **{end}**

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