Scaling Agile Projects to Programs: Small-World Networks of Autonomy, Collaboration, and Exploration

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Agile and Lean Program Management: Scaling Collaboration Across the Organization
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What’s the Most Effective Way to Move Information in Your Organization
Rumor Mill
Imagine Managing the Flow of Features Through a Program ...
Teams Create Features and Integrate
Medium Programs
Big Programs
Nuts and Bolts of Agile Programs

- Think small to go big--short is beautiful!
  - Short iterations: \( \leq 2 \) weeks
  - Small stories: \( \leq 1-2 \) team days
  - Just in time, evolving architecture
  - Networks of cross-functional teams
  - Short planning horizons
  - Plan to replan

- Allows you to do continuous integration and planning across the program
How Do You Organize the Teams?

- Project teams can use iteration-based or lean approaches
- You don’t need branded agile
- I’m agnostic about how each team works, as long as they deliver
Feature-Done at Regular Intervals

- Demo/Release
- Assess risk
- Update the architecture
- Update the roadmap
- Change what teams work on
- ...

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The Core Team

- Program Manager
- Program Product Owner
- Software program manager (a program of cross-functional development teams)
- Anyone else for your program?
- Investor Relations/Corporate Communications
- Human Resources
- Finance
- Marketing
- Legal
- Deployment
- Sales
Technical Program Team
Each Feature Team

- Cross-functional
- Covers the roles
- Decides how they want to manage their own process
- Teams release completed features every day
Team Size Matters

- Communication Paths = \(\frac{N \times (N - 1)}{2}\)

- 4 people, \(\frac{(16-4)}{2} = 6\)
- 5 people, \(\frac{(25-5)}{2} = 10\)
- 6 people, \(\frac{(36-6)}{2} = 15\)
- 7 people, \(\frac{(49-7)}{2} = 21\)
- 8 people, \(\frac{(56-8)}{2} = 24\)
- 9 people, \(\frac{(81-9)}{2} = 36\)
- 10 people \(\frac{(100-10)}{2} = 45\)
How to Connect the Feature Teams?

• How can you take advantage of the rumor mill?

• How can you avoid hierarchy?

• We need another way that is self-organizing that scales
Small World Networks

Small world networks are more-and-less connected agile teams
Six Degrees of Separation

• How connected are you to everyone else?
  • Some of you are highly connected
  • Some less so
• We can take advantage of this and the rumor mill
Use Small World Networks

• Feature teams take responsibility
  • Use small world networks
  • Use communities of practice
• Requires roadmaps
• Requires transparency
• Requires facilitation
Agile Roadmap in the Large

- “Big Idea” of what the product will be
- Interesting and not sufficient
- Deliverables often too large and not specific
Agile Roadmap in the Small

- Deliverable-based planning (small slices through the architecture)
- Specifies value for different users
- Use for rolling wave planning
Transparency

• Each project can track its own velocity and learn what done means
  • Keep stories small
  • Limit WIP
  • Velocity is personal to a team
• Teams build trust across the program
• People and teams start with themselves and deliver, deliver, deliver

Cumulative Story Points Completed: Hockey Stick

Cumulative Story Points Completed: Steady Progress
Measure Completed Features

- Completed features (running, tested features):
  - Your customers use them
  - You can release them
  - They are valuable
- Include total and remaining features so we have a sense of where we are
- Depends on deliverables, not epics or themes
Product Backlog Burnup

• Real earned value
• Partial answer to “Where are we?”
• Shows value feature-by-feature
• Shows when features grow
What Do You Want Less of?

- Work In Progress (across entire program)
- Defects
- Other “Less of”:
  - Multitasking
  - ?
Recognize Inertia

- Inertia helps you see that things are stuck
- What can you deliver today?
- How can you help your team deliver today?
- Iterations help focus the team on short delivery cycles
Build Momentum

- Momentum helps each team deliver something to each other and build on micro-commitments.
- Goes back to extending trust.
Agile Programs Are About Collaboration

- Teams collaborate in the small to create products in the large
- Leverage each iteration’s learning to plan the next set of deliverables
- Roadmaps help
- Communities of practice help
- Demos are a must
- If you don’t know how to do agile as a small team, learn that first
Let’s Stay in Touch

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