Introduction to Scrum

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The Problems Many Companies Face

- Time-to-market for products is too long
- Project failure rate is unacceptably high
- ROI delivered frequently falls short
- Responding to change is difficult and costly
- Customer orientation is weak
- Software quality is poor
- Productivity could be higher
- Employee morale, drive and accountability is low
- Widespread micromanagement is required
- Employee turnover rates are too high

Many Companies Starting to Use Scrum to Achieve Success

- They are finding Scrum an effective tool for addressing these problems
- Rapid growth in last 3-5 years at leading global companies, including:
  - Google
  - IBM
  - Siemens
  - Nokia
  - Philips
  - Accenture
  - Microsoft
  - Infosys
  - Wipro
  - Motorola
  - Yahoo!
  - TCS

What Is Scrum Being Used For?

- Large-scale enterprise software projects
- Consumer software products
- US FDA-approved software for X-Rays, MRIs
- High availability systems (99.9999% uptime)
- Financial payment applications
- Large database applications
- Embedded systems
- CMMi Level 5 organizations
- Multi-location development
- Sustaining and Maintenance Projects
- Non-software projects

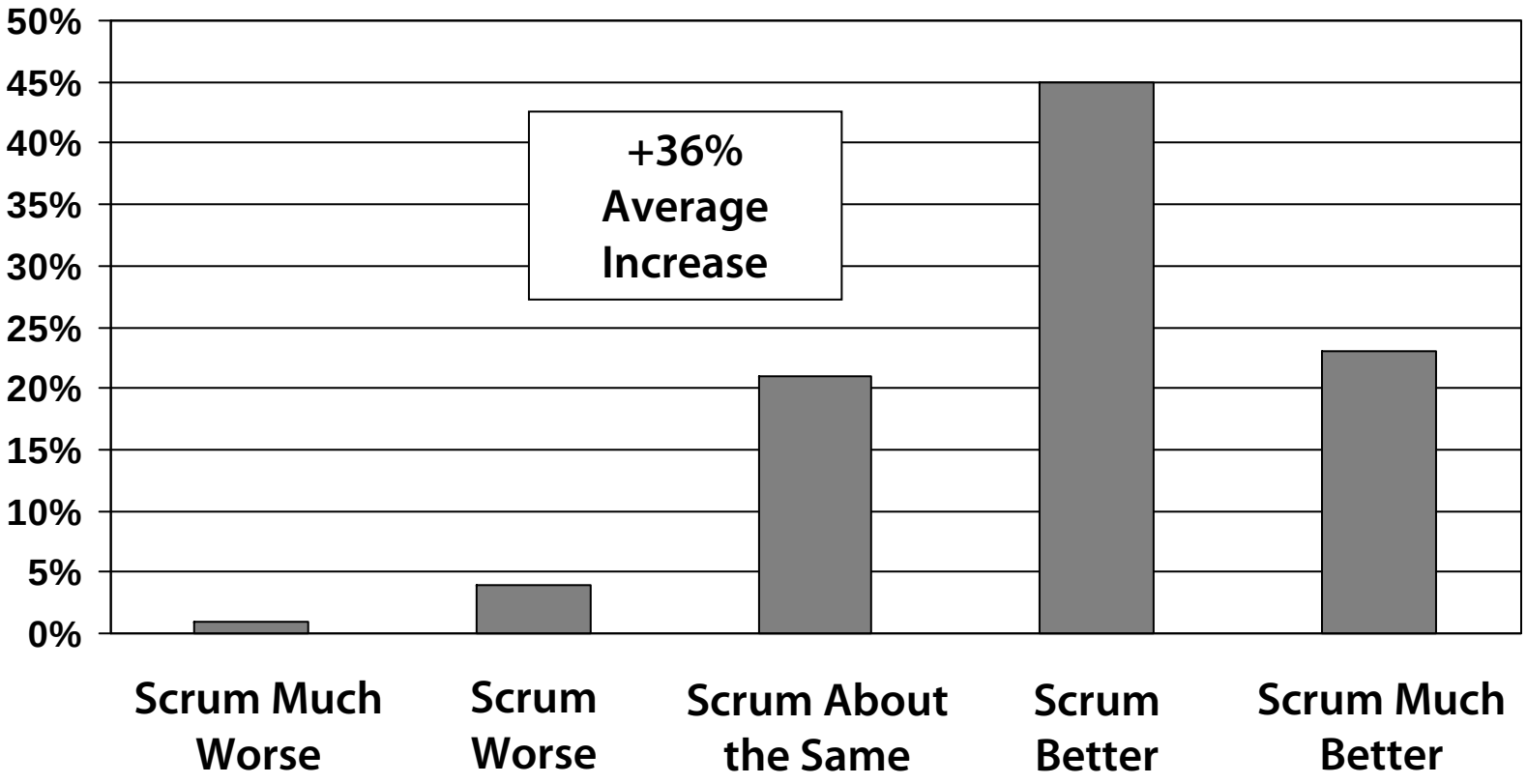
Scrum at Yahoo!

- Yahoo! has over 200 teams (>2000 people) around the globe using Scrum
  - User-facing projects
  - Major infrastructure projects
  - Distributed Projects
  - New Products
  - Maintenance Projects
- Survey data was gathered 18 months after adoption began
  - Reflects first 80 teams
  - Anonymous responses
  - 84% response rate

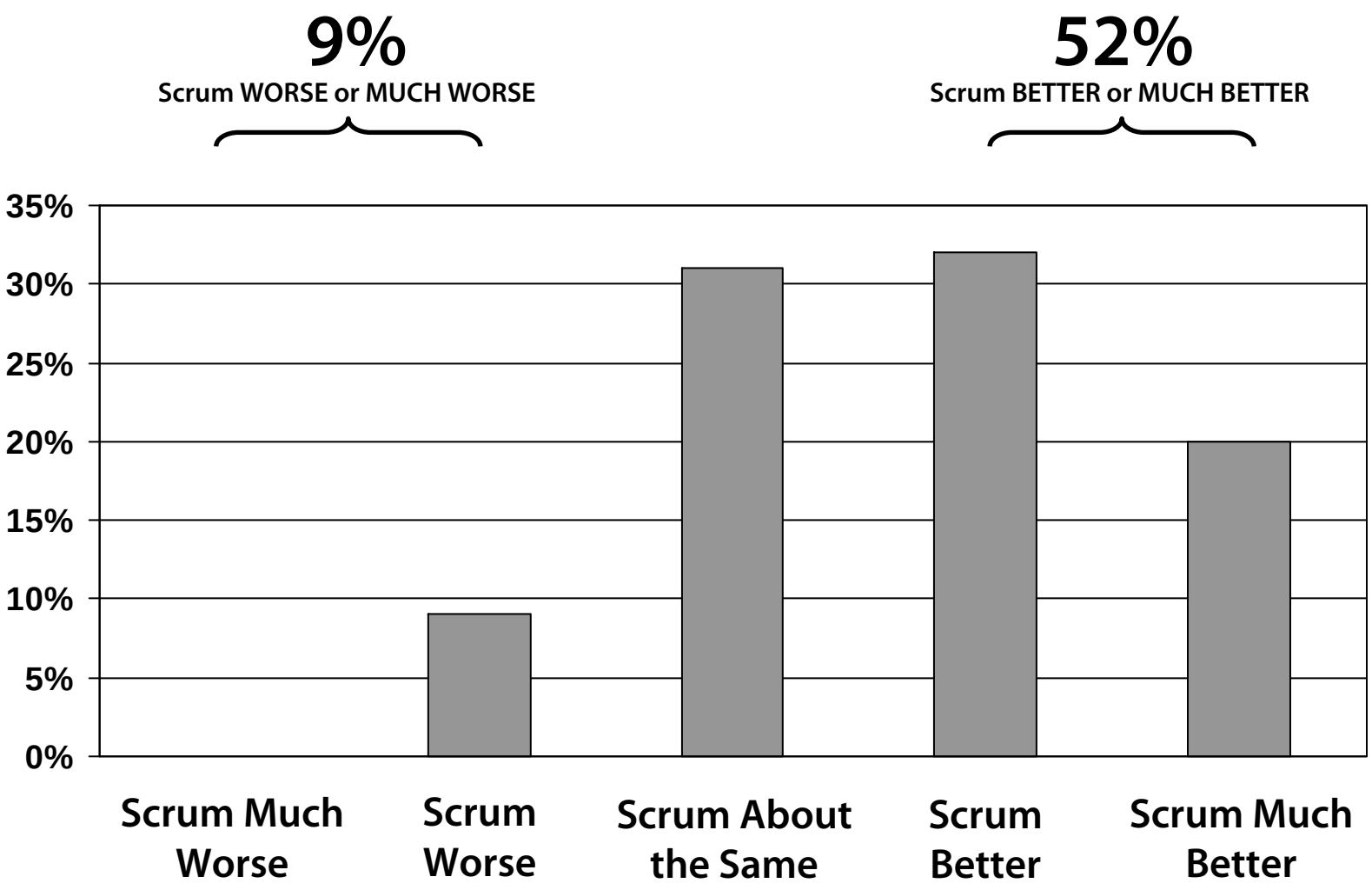
Scrum vs. Previous Approach:
Productivity / How much team got done?

5%
Scrum WORSE or MUCH WORSE

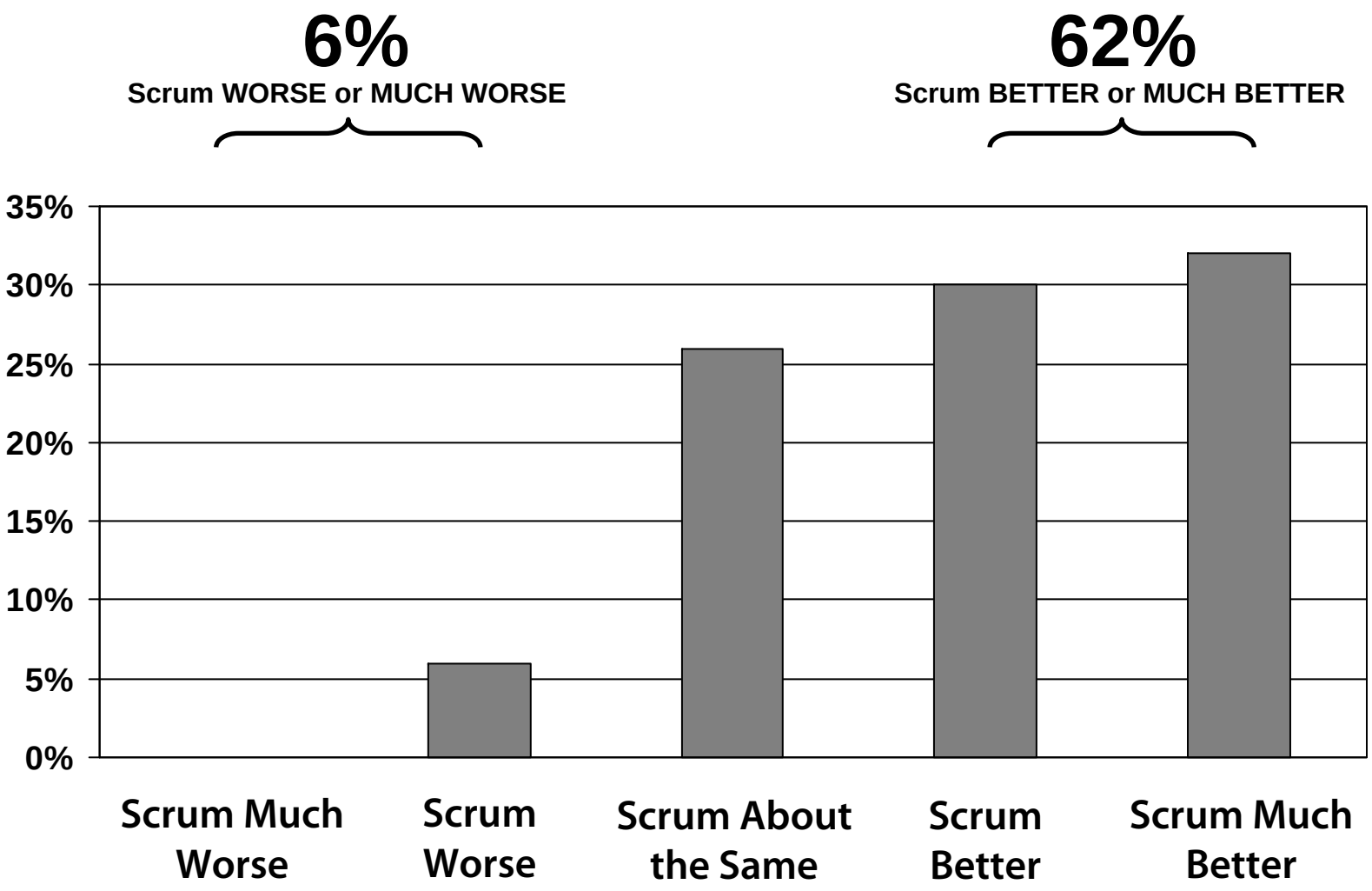
68%
Scrum BETTER or MUCH BETTER



Scrum vs. Previous Approach:
Morale?



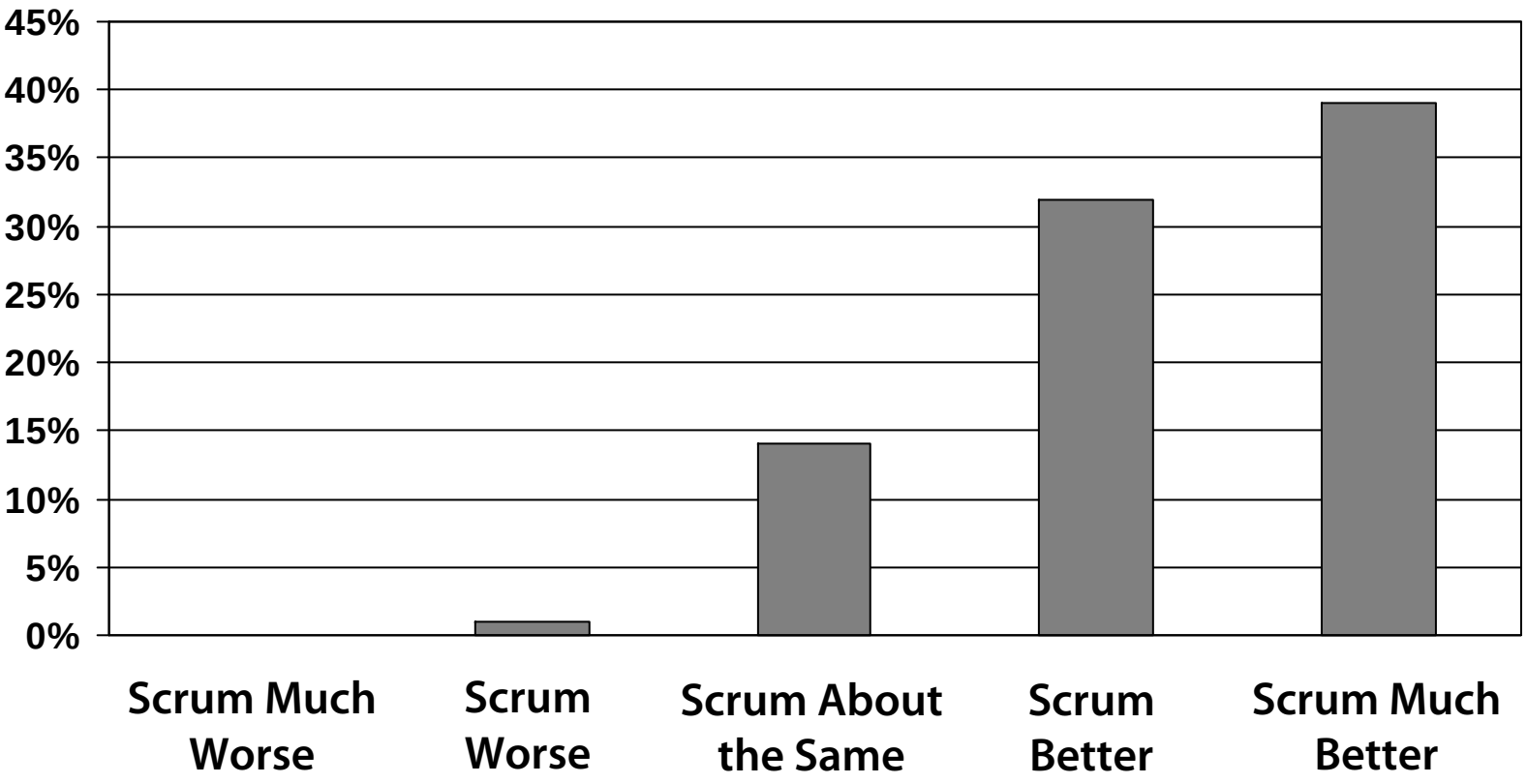
Scrum vs. Previous Approach:
Sense of accountability/ownership in project?



Scrum vs. Previous Approach:
Collaboration and cooperation in the team?

1%
Scrum WORSE or MUCH WORSE

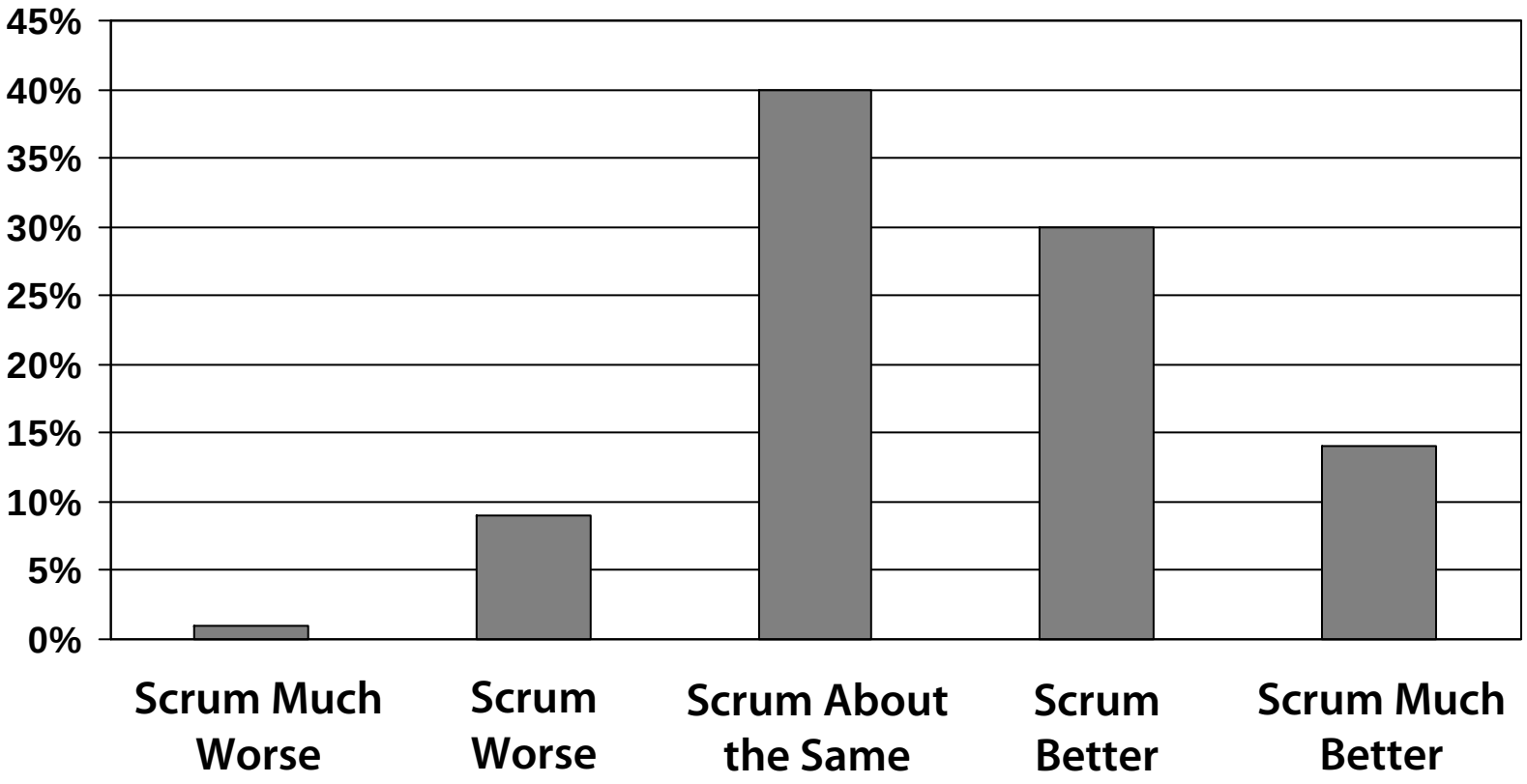
81%
Scrum BETTER or MUCH BETTER



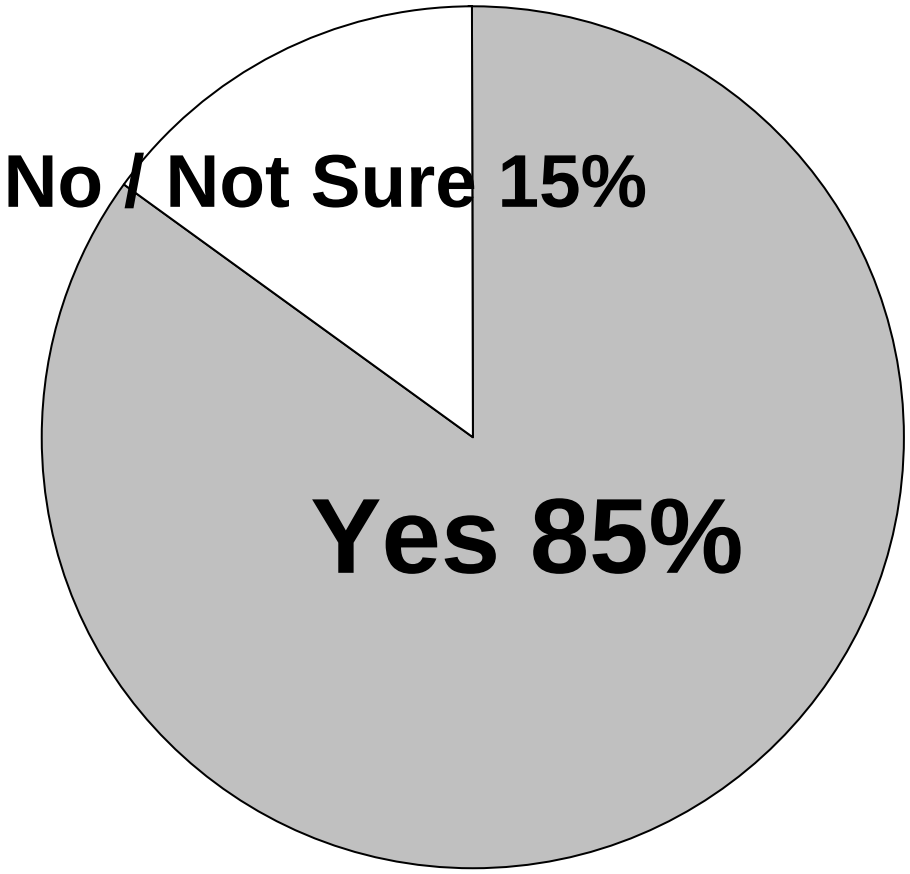
Scrum vs. Previous Approach:
Overall quality of what was developed?

10%
Scrum WORSE or MUCH WORSE

44%
Scrum BETTER or MUCH BETTER



If the decision were solely up to you, would your team continue using Scrum?



The Basics of Scrum

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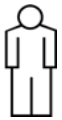
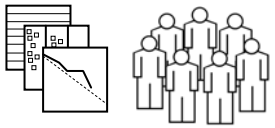
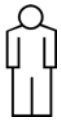
SCRUM



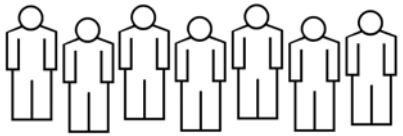
Scrum Master



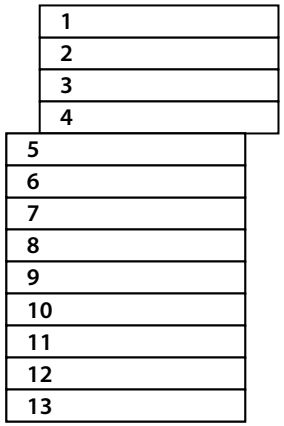
Daily Scrum Meeting



Product Owner



The Team



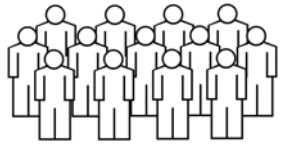
Product Backlog

Sprint Planning Meeting

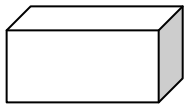
Sprint

No Changes

(in Duration or Deliverable)



Sprint Review



Potentially Shippable Product

Sprint Retrospective

- *Scrum allows teams of people to develop complex products in environments of uncertainty and change.*
- *Scrum is a simple but powerful framework for teams and customers to inspect and adapt as product is produced.*
- *Scrum provides a high degree of clarity and transparency to everyone involved – team, customer, management, and others.*
- *Scrum rapidly surfaces dysfunction, and enables teams and organizations to continuously improve their effectiveness.*

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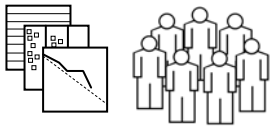
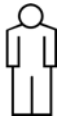
SCRUM

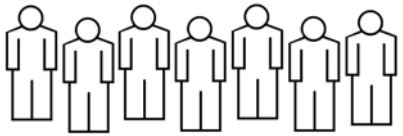
Scrum Master



Daily Scrum Meeting



Product Owner



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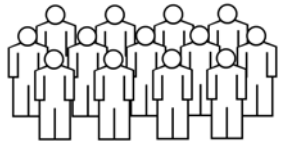

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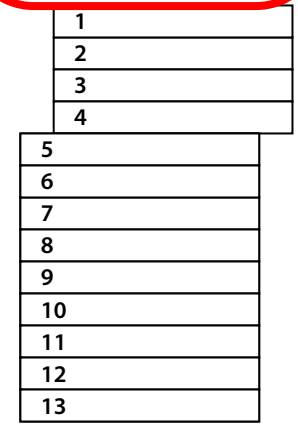

Product Backlog

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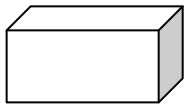
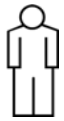


Potentially Shippable Product

Sprint Retrospective

- *The Product Owner owns the vision of what should be produced to achieve business success.*
- *Product Owner gets input from customers, end-users, team, managers, stakeholders, executives, industry experts, etc.*
- *The Product Owner turns this into a single list of what should be produced, prioritized based on business value and risk.*
- *This list is called the Product Backlog.*

SCRUM



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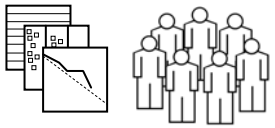

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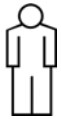

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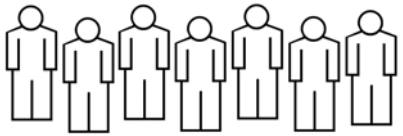

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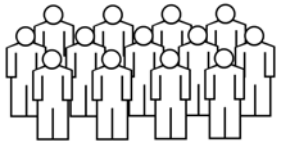
Sprint



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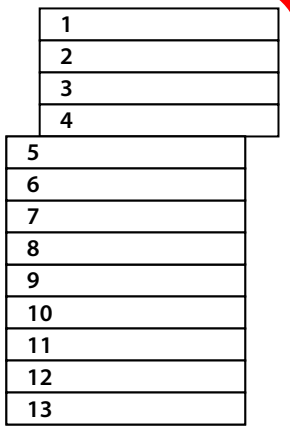

Product Backlog

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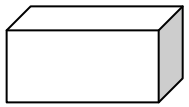
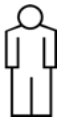


Potentially Shippable Product

- *The Product Backlog is the single master list of features, functionality, and other work required, prioritized based on business value and risk, in the judgment of the Product Owner.*
- *Items at the top of the list will be completed by the team soonest.*
- *The Product Backlog is constantly being revised (items added, removed, modified) by the Product Owner, to maximize the business success of the team's efforts.*

Sprint Retrospective

SCRUM



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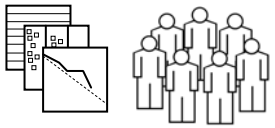

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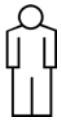

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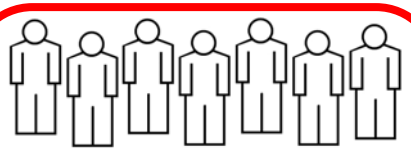

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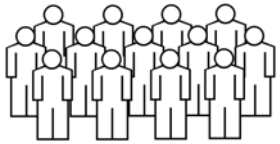
Sprint



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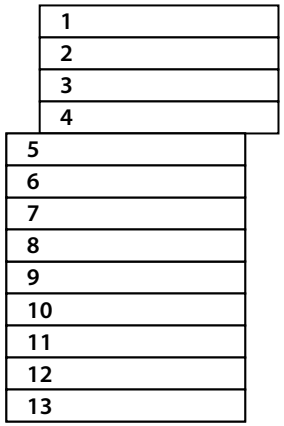

Product Backlog

Sprint Planning Meeting

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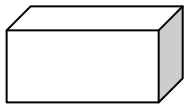
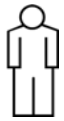


Potentially Shippable Product

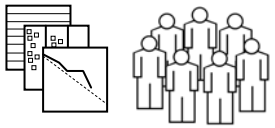
Sprint Retrospective

- *The ideal team size in Scrum is 7 people +/- 2*
- *The team is cross-functional. It has all the skills to produce finished product – designers, coders, testers, etc. – and everyone contributes based on competency, rather than just job title*
- *The team is self-organizing and self-managing. It is responsible for making a commitment and managing itself to hit the goal (or get as close as it can). Scrum provides tools to help team do this.*

SCRUM



Scrum Master



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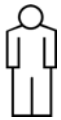
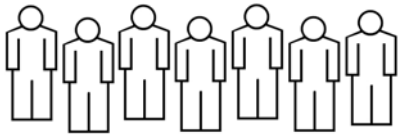
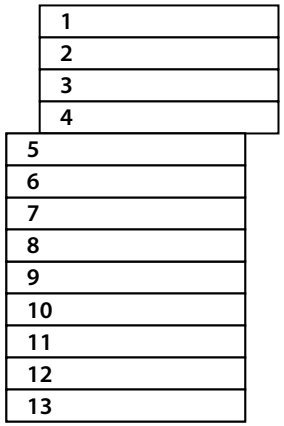


Product Owner

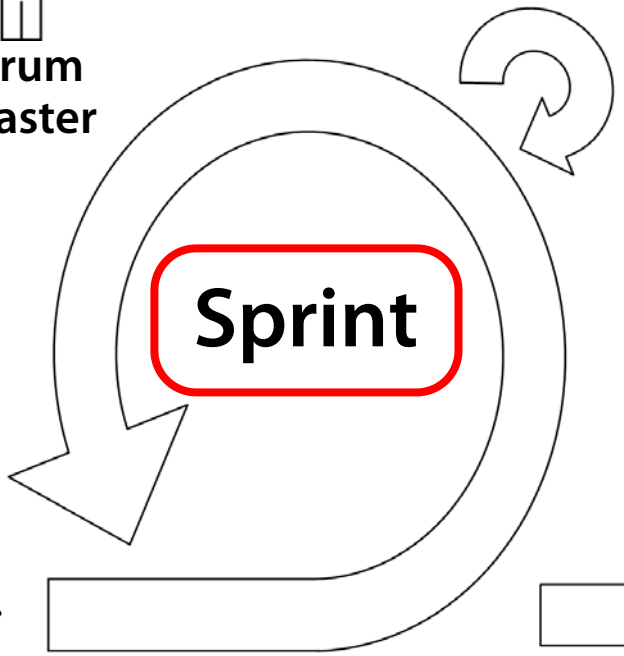


The Team



Product Backlog

Sprint Planning Meeting



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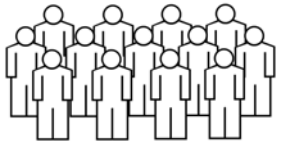
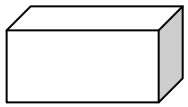


Sprint Review

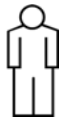


Potentially Shippable Product

Sprint Retrospective

- *The Team works for a fixed period of time, called a Sprint.*
- *Sprints are typically between 1- and 4-weeks in length. Some people recommend starting Scrum with 2-week Sprints.*
- *Sprints occur one after another, without any down-time between them. Working at a sustainable pace is very important to avoid team burn-out.*
- *Team and Product Owner decide the Sprint length in advance.*

SCRUM



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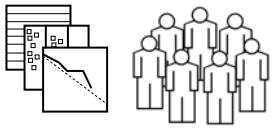

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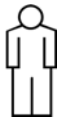
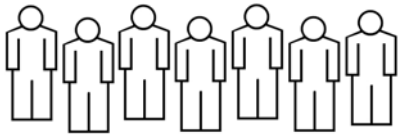
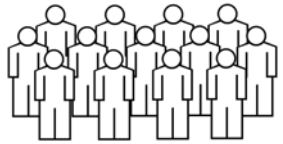


Product Owner



The Team

Sprint



Sprint Review

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2
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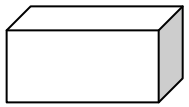
Product Backlog

Sprint Planning Meeting

No Changes

(in Duration or Deliverable)

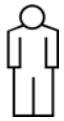


Potentially Shippable Product

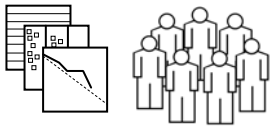
Sprint Retrospective

- *Before each Sprint, the team selects what it will commit to deliver by the end of the Sprint, starting at the top of the Product Backlog.*
- *The team creates a task-level plan for how they will deliver.*
- *The team works together to create an initial assignment of tasks, and compares total estimated task hours with total estimated available hours, to make sure the commitment is reasonable.*
- *Everyone on the team takes part, regardless of experience-level.*

SCRUM



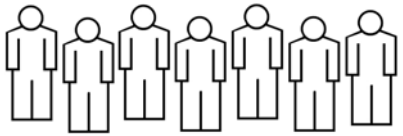
Scrum Master



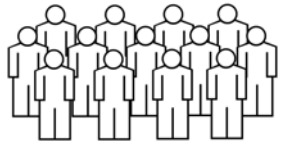
Daily Scrum Meeting

Sprint

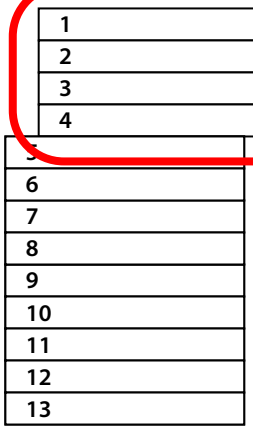
Product Owner



The Team



Sprint Review

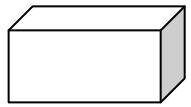


Product Backlog

Sprint Planning Meeting

No Changes

(in Duration or Deliverable)

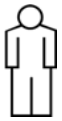


Potentially Shippable Product

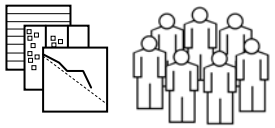
Sprint Retrospective

- *It is very important that the Product Owner not pressure the team into committing to more than they think is doable. If there is pressure, the team will over-commit and either not finish, or burn themselves out after a couple Sprints.*
- *Many managers are initially concerned that their team might under-commit. In reality, most teams have the opposite problem: it may take them several Sprints to learn to not over-commit.*

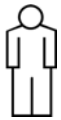
SCRUM



Scrum Master



Daily Scrum Meeting



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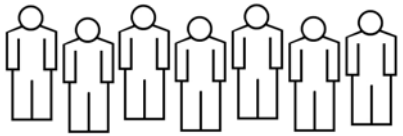
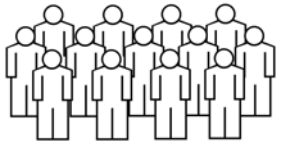


The Team

Sprint



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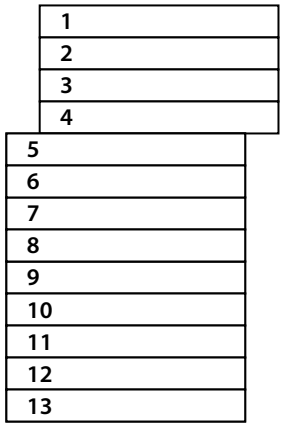

Product Backlog

Sprint Planning Meeting

No Changes
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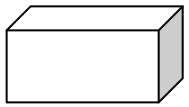
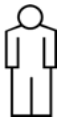


Potentially Shippable Product

- *During the Sprint, what the team committed to deliver does not change, and the end-date of the Sprint does not change.*
- *This enables team to make and keep commitments, it gives the team focus and stability during the Sprint, and it trains Product Owner to clearly think through what is on the Product Backlog.*
- *If something major comes up, Product Owner can direct the team to terminate the Sprint prematurely, and start a new one.*

Sprint Retrospective

SCRUM



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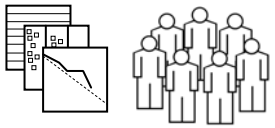

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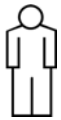

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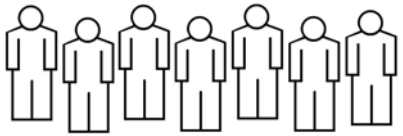

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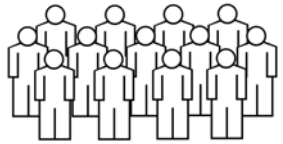

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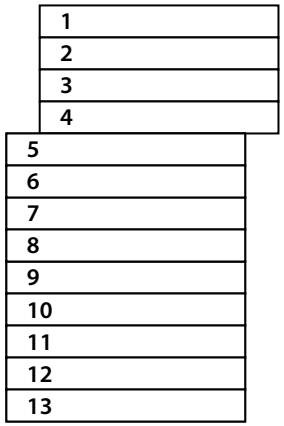

Product Backlog

Sprint Planning Meeting

Sprint

No Changes
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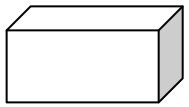
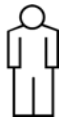


Potentially Shippable Product

Sprint Retrospective

- *In return for not making changes during the Sprint, Product Owner can make <u>any</u> changes they want to the Product Backlog before the start of the <u>next</u> Sprint.*
- *Product Owner can add, remove, reorder, or change items. They can also ask the team to re-implement work that's already been completed.*

SCRUM



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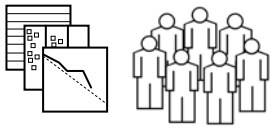
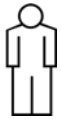


Daily Scrum Meeting

Sprint



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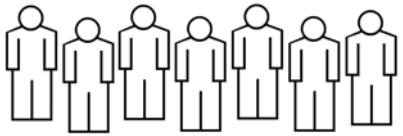

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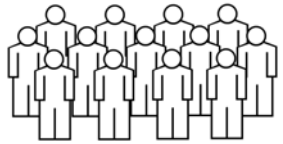

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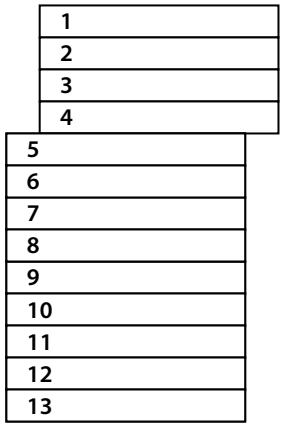

Product Backlog

Sprint Planning Meeting

No Changes

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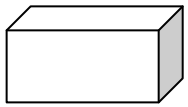

Potentially Shippable Product

- *Each day, the team has a short meeting to update each other on progress and surface blocks. They stand up, to keep it fast.*
- *To keep the meeting to <15 minutes, everyone reports just 3 things: done since yesterday, done by tomorrow, and blocks.*
- *ScrumMaster notes blocks, and afterwards helps resolve them.*
- *Others can attend the meeting if the team invites them, but they do not speak. This meeting is not for monitoring team.*

Sprint Retrospective

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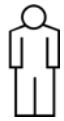
SCRUM

Scrum Master

Daily Scrum Meeting

Sprint



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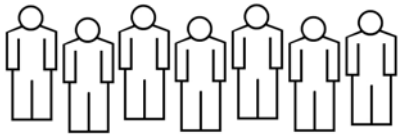

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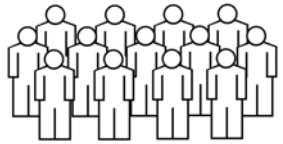
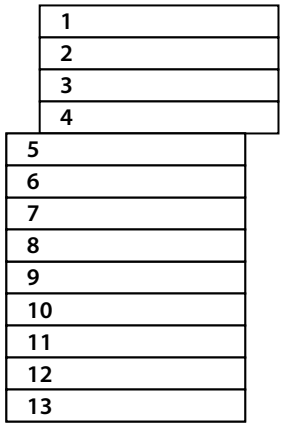


Sprint Review



Product Backlog

Sprint Planning Meeting

No Changes

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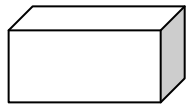

Potentially Shippable Product

Sprint Retrospective

- *Each day, the team updates simple charts that make visible how they are progressing towards their goal for the Sprint.*
- *The Sprint Backlog lists all the tasks, and the hours remaining for each. The Burndown Chart graphs the total hours left for all tasks. The Task Board shows where tasks are in progress.*
- *These charts enable the team to successfully self-manage and deliver what they committed to by the end of the Sprint*

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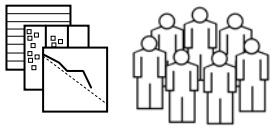
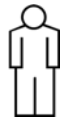
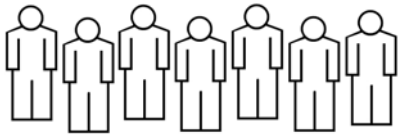
SCRUM



Daily Scrum
Meeting

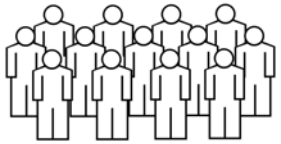


Product Owner

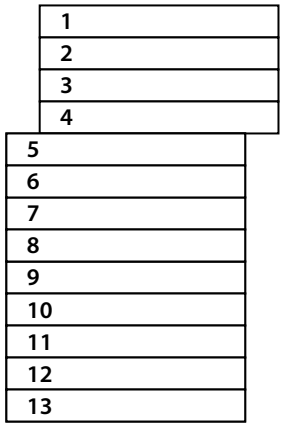


The Team

Sprint



Sprint Review



Product Backlog

Sprint Planning
Meeting

No Changes
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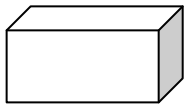
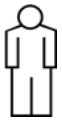


Potentially
Shippable
Product

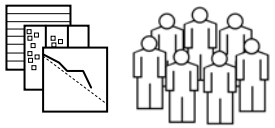
Sprint
Retrospective

- *The ScrumMaster is a new role. It can be played by an existing person (such as a former Project Manager or team-member).*
- *The ScrumMaster serves the team (helping them remove any and all impediments that surface), protects the team (from any outside disruption or interference), and teaches and guides the team's use of Scrum.*
- *Without a ScrumMaster, the team has a high risk of failure.*

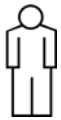
SCRUM



Scrum Master



Daily Scrum Meeting



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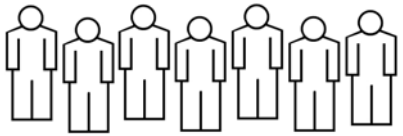

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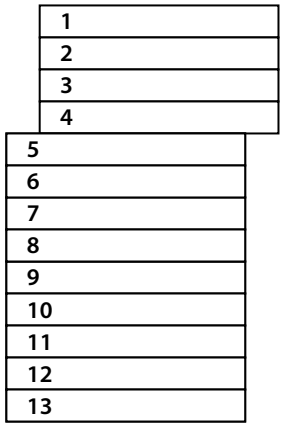

Product Backlog

Sprint Planning Meeting

Sprint

No Changes

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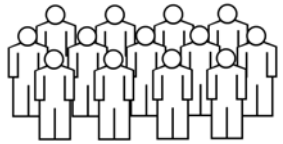
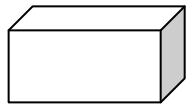


Sprint Review

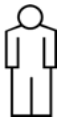


Potentially Shippable Product

Sprint Retrospective

- *The aim for the team is to complete 100% of what they committed to, ideally an increment of Potentially Shippable Product at the end of each Sprint.*
- *For software, this means functionality that has been designed, fully implemented, and fully tested, with no major defects.*
- *Few teams can do product Potentially Shippable Product from Sprint 1, but each Sprint they work to get closer to this goal.*

SCRUM



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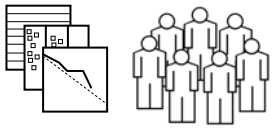
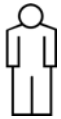
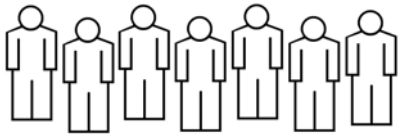


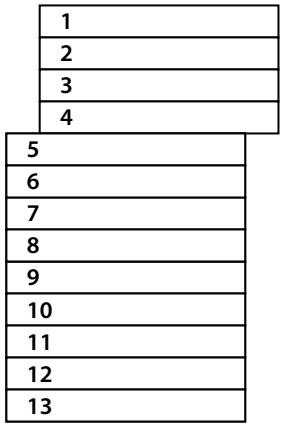
Daily Scrum Meeting



Product Owner



The Team



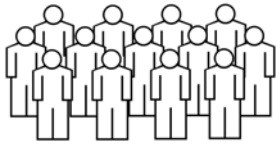
Product Backlog

Sprint Planning Meeting

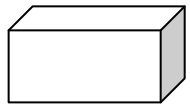
Sprint

No Changes

(in Duration or Deliverable)



Sprint Review

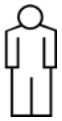


Potentially Shippable Product

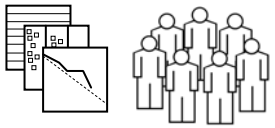
Sprint Retrospective

- *At the end of the Sprint, the Product Owner, Team, ScrumMaster, and Stakeholders come together and see a demo of what the team has produced.*
- *The Product Owner gathers feedback from everyone on ways to improve what's been built.*
- *This feedback is incorporated into the Product Backlog.*

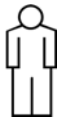
SCRUM



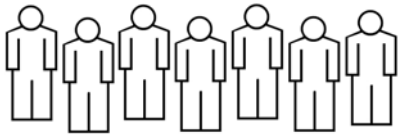
Scrum Master



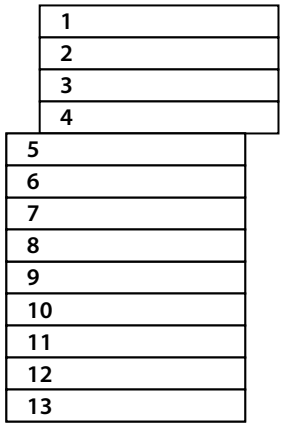
Daily Scrum Meeting



Product Owner



The Team



Product Backlog

Sprint Planning Meeting

Sprint

No Changes

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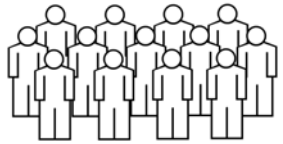
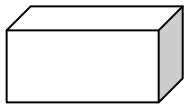


Sprint Review



Potentially Shippable Product

Sprint Retrospective

- *The Team, Product Owner, and ScrumMaster meet at the end of each Sprint to review their way of working, and look for ways to improve their effectiveness.*
- *This is the mechanism for continuous improvement, and also where critical problems are identified and addressed, or surfaced to management for assistance.*

goodagile> Certified Scrum Training and Consulting in India www.goodagile.com

What Improves Your Likelihood of Success with Scrum?

1. **High Quality Scrum Training**
   - Training for Teams, and also for Managers and Executives.
   - Important that everyone know the principles and practices thoroughly, and also be prepared for the challenges and issues.
   - Choose your training provider carefully – lots of low-quality providers are starting to enter the market.
2. **Active, Informed Support from Management**
   - Management role has to shift from micromanagement to macromanagement.
3. **Clear Executive and Organizational Buy-In**
   - Scrum surfaces organizational dysfunction, and executive team needs to provide leadership and support to address companywide issues that surface.
   - Support also required from HR, Finance, Budgets, Metrics.
4. **Coaching and Consulting Support**
   - Useful to have help from outside advisors on tough problems and bigger projects.
5. **Discipline and Commitment to Actually Doing Scrum**
   - A common mistake is to modify Scrum, or apply it only partially. This can cause unintended negative effects, or allow existing dysfunction to remain unaddressed.

Scrum Training

- Certified ScrumMaster (CSM) Training is the industry-standard training for Scrum
  - Provided by Certified Scrum Trainers, who have been vetted and approved by the Scrum Alliance (~50 worldwide)
  - Intensive 2-Day Training Course
    - Comprehensive training in principles and practices of Scrum
    - Strong familiarization with the challenges of introducing Scrum
    - Hands-on exercises and scenario simulations
    - Topics include release planning, estimation techniques, scaling Scrum to large projects, multi-location Scrum, Scrum and metrics, strategies for success with organization-wide adoption.
    - Strongly recommended for ScrumMasters, Product Owners, and functional managers and executives in organizations adopting Scrum
  - Full list of classes available at www.ScrumAlliance.org

About the Author

Pete Deemer

- Managing Director, GoodAgile
- Creating software products for 17 years
- Graduate, Harvard University
- Former Lecturer, University of California – Berkeley
- Co-leader of Yahoo!'s adoption of Scrum, now at >200 teams (>2000 employees) in the US, Europe, and India
- Certified ScrumMaster and Certified Scrum Trainer based in India and Asia
  - One of ~50 CST's worldwide
  - Sponsored by Ken Schwaber, co-creator of Scrum