



The Scrum software development for small project teams

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Old model is not working...

Classical methods of software development have many disadvantages:

- huge planning phase
- poor reaction to changing environment
- treatment of staff as a factor of production

Agile development values...

- **Individuals and interactions** over processes and tools
- **Working software** over comprehensive documentation
- **Customer collaboration** over contract negotiation
- **Responding to change** over following a plan

What is Scrum?

- Scrum is an agile process that allows us to focus on delivering the highest business value in the shortest time.
- It allows us to rapidly and repeatedly inspect actual working software (every two weeks to one month).
- The business sets the priorities. Teams self-organize to determine the best way to deliver the highest priority features.
- Every two weeks to a month anyone can see real working software and decide to release it as is or continue to enhance it for another sprint.

Roles > **product owner**

- Defines the features of the product
- Decides on release date and content
- Is responsible for the profitability of the product (ROI)
- Prioritizes features according to market value
- Adjusts features and priority every iteration, as needed
- Accepts or rejects work results

Product Owners determine what needs to be built in the next 30 days or less

Roles > Scrum master

- Represents management to the project
- Responsible for enacting Scrum values and practices
- Removes impediments
- Ensures that the team is fully functional and productive
- Enables close cooperation across all roles and functions
- Shield the team from external interferences

Scrum Masters ensure this process happens as smoothly as possible, and continually help improve the process, the team and the product being created

Roles > **Development team**

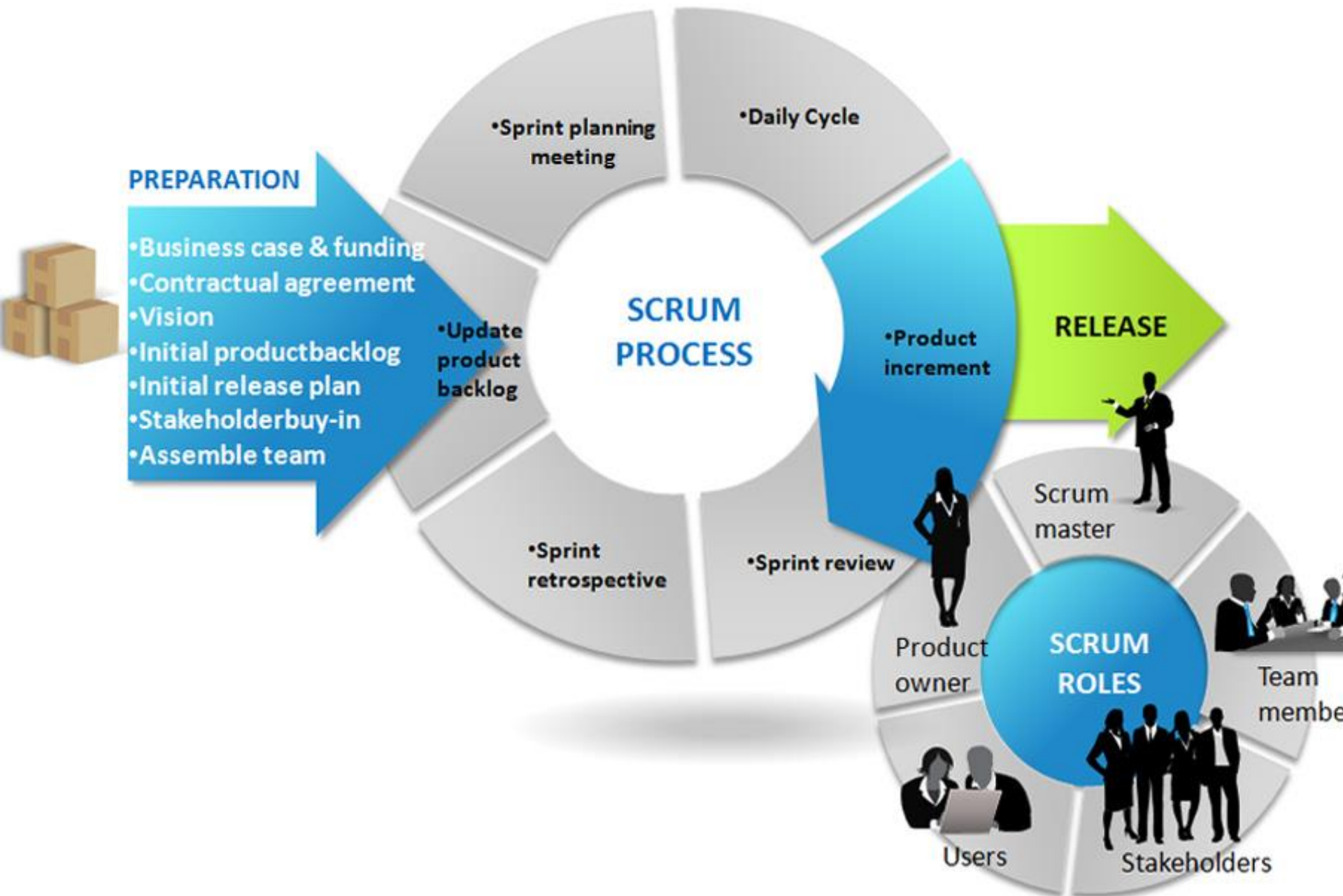
- Typically 5-9 people
- Cross-functional: (programmers, testers, user experience designers, etc.)
- Members should be full-time > may be exceptions (e.g., database administrator)

Development Teams build what is needed in 30 days (or less), and then demonstrate what they have built. Based on this demonstration, the Product Owner determines what to build next.

Daily meeting with **3 questions**

1. What did you do yesterday?
2. What will you do today?
3. Is anything in your way?

SCRUM PROCESS



Scrum and **social psychology**

What is the most effective size of team in software development or overall project management? The view is that small teams that work independently are more effective than very big teams.



Research in social dynamics supports this idea it has described the phenomenon called “**social loafing**”, empirically measured individual contribution to a group effort. Using a gauge attached to a rope, the study found that **individuals** pulling the rope averaged 138.6 pounds of pressure. However, **groups of three** averaged only 2.5 times the individual rate, and **groups of eight** averaged less than four times the individual rate.

For chaotic conditions

Study made by AG Communication Systems found that Scrum is appropriate for projects where we can't define requirements up front and chaotic conditions are anticipated throughout the product development life cycle.

Customer satisfaction + less time on work

Researchers at University Of Calgary: the empirical results from the case study showed that after Scrum was introduced the customer satisfaction increased while at the same time overtime for the developers decreased from 17% to 9%, allowing the developers to work at a sustainable pace.

Flexibility

Research made by Ken Schwaber found that the Scrum methodology is designed to be quite flexible throughout. It provides control mechanisms for planning a product release and then managing variables as the project progresses. This enables organizations to change the project and deliverables at any point in time, delivering the most appropriate release.

Problems

Scrum process needs knowledge about the roles and process and experienced Scrum Master to ensure the processes go smoothly. Beside that Scrum does not cover the whole product development lifecycle and therefore organizations find the need to add in additional processes to create a more comprehensive implementation.

Conclusions based on studies

Scrum enables organizations to change the project and deliverables at any point in time, delivering the most appropriate release, increased the customer satisfaction, improved team communication, decreased overtime for the developers and Scrum excellent training environment for all parties is provided.

Scrum methodology enables to
use group social dynamics
developing software in smaller
teams one piece at a time.

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