



Agile - 1

Success isn't always about greatness. It's about consistency. Consistent hard work leads to success. Greatness will come."

Dwayne Johnson



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Did you finish
Agile (What is Agile? & Scrum Overview)
pre-class activity?



Students choose an option

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Would you prefer to work on a project for a few weeks or to combine several projects together?



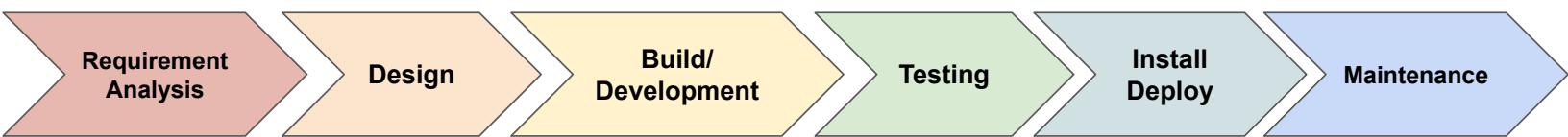
Students, write your response!

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Recap SDLC and Waterfall model

- SDLC is a structured way to create and develop software.



SRS

SDD

CODING

Test Plan

Product Deployment

Bug fix
Update

New features





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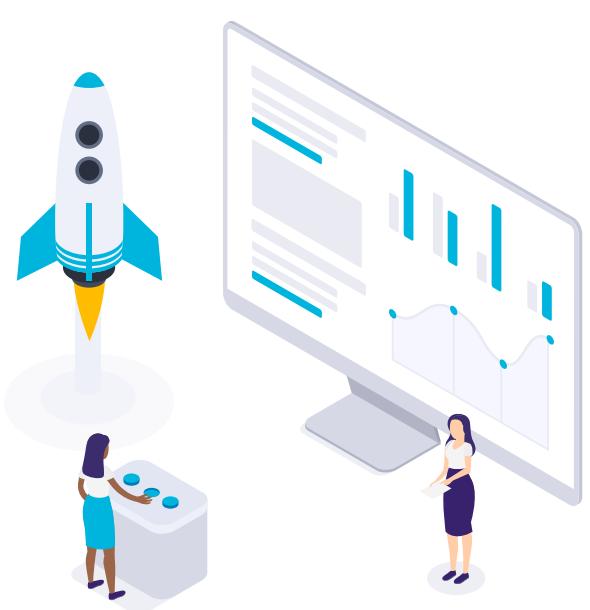
- ▶ Modernizing Project Management
- ▶ Agile Manifesto
- ▶ Agile Principles
- ▶ Overview of Agile Approach
- ▶ Scrum Overview
- ▶ Scrum Roles

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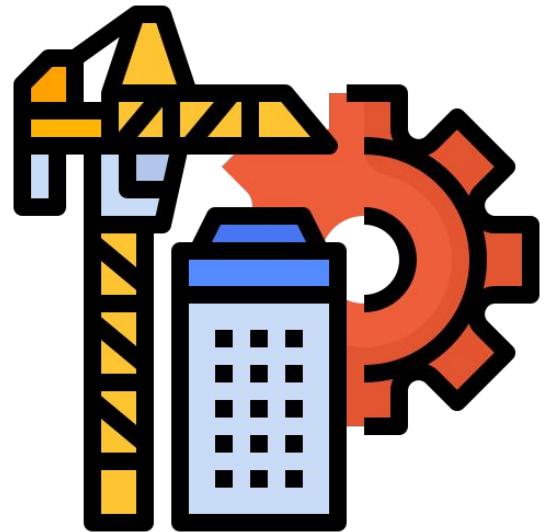
1 Modernizing Project Management



1

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**Have you heard the Agile approach before?
What is your history about Agile?**



Students choose an option

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► Modernizing Project Management ►



A project is a planned program of work that requires a definitive amount of time, effort, and planning to complete.



Goals & Objectives



Fixed period of time



Certain budget

Agile approaches are a response to the need to modernize PM.

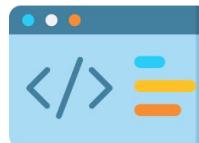
The Origins of Modern PM

WWII



step-by-step
manufacturing
models

1940-1950's



manufacturing
process

after 1970's

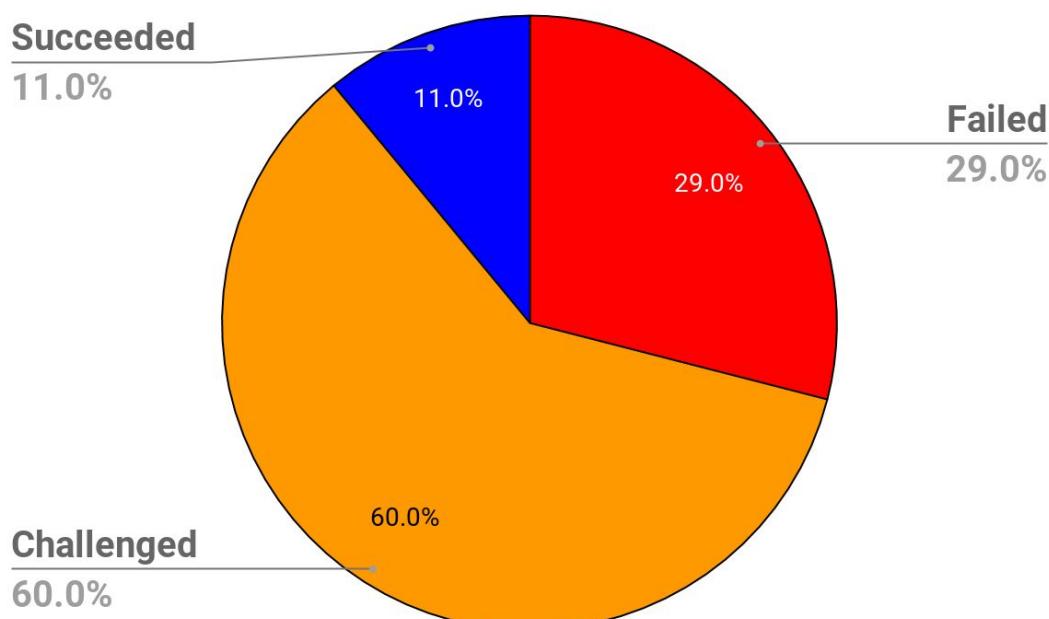


waterfall
model

On waterfall projects, you move to the next phase only when the prior one is complete — hence, the name waterfall.

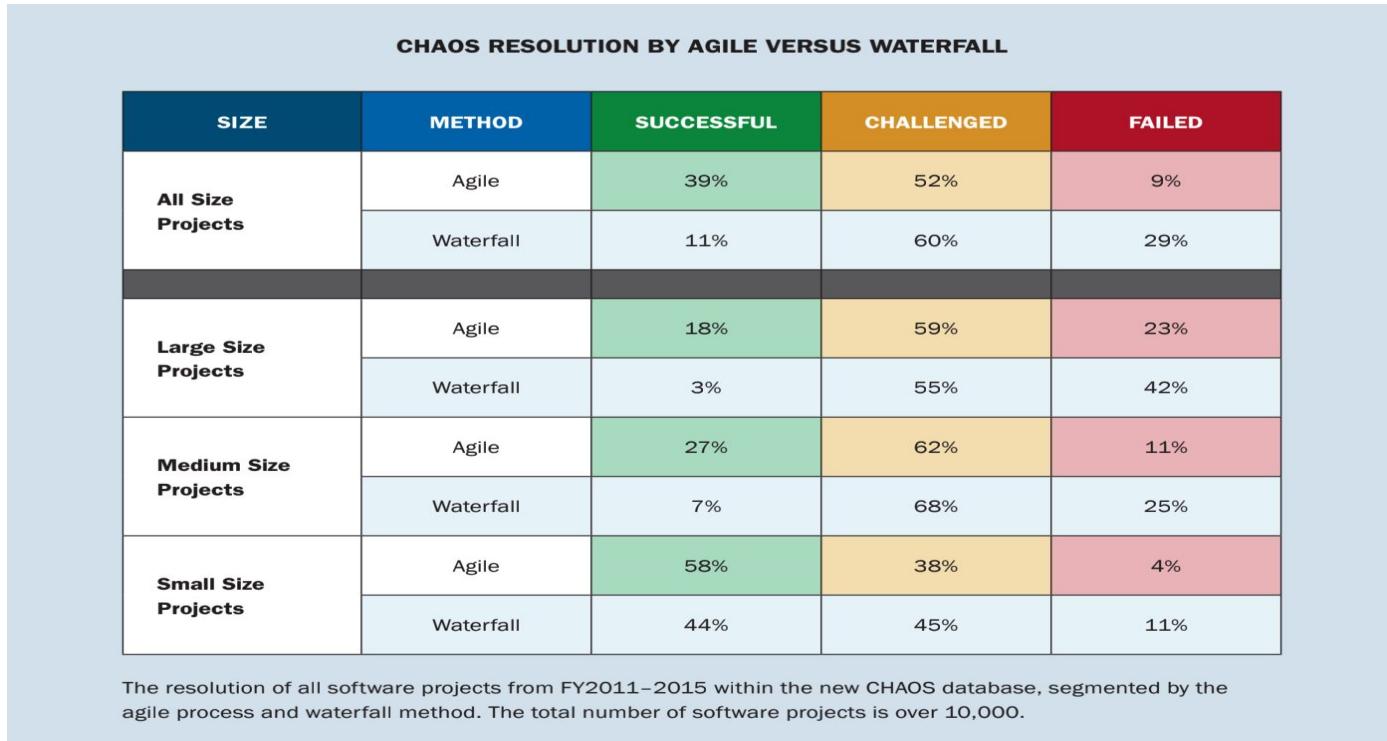
Software Project Success and Failure

Standish Group CHAOS Report



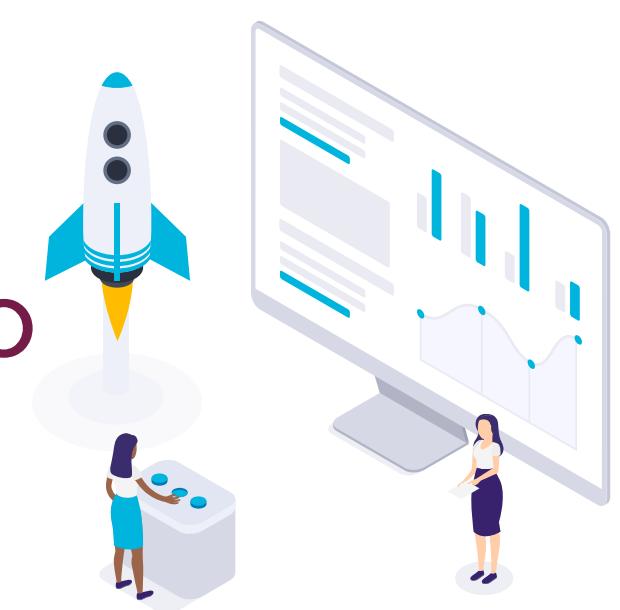
* CHAOS stands for the Comprehensive Human Appraisal for Originating Software

Software Project Success and Failure ➤



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2 Agile Manifesto ➤



The Agile Manifesto

A group of 17 people thought:

"We're all doing these different approaches to developing software. We ought to get together and see where there are commonalities in what we're thinking about."

The result was a meeting at a ski resort in Snowbird, Utah in 2001.



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The Agile Manifesto

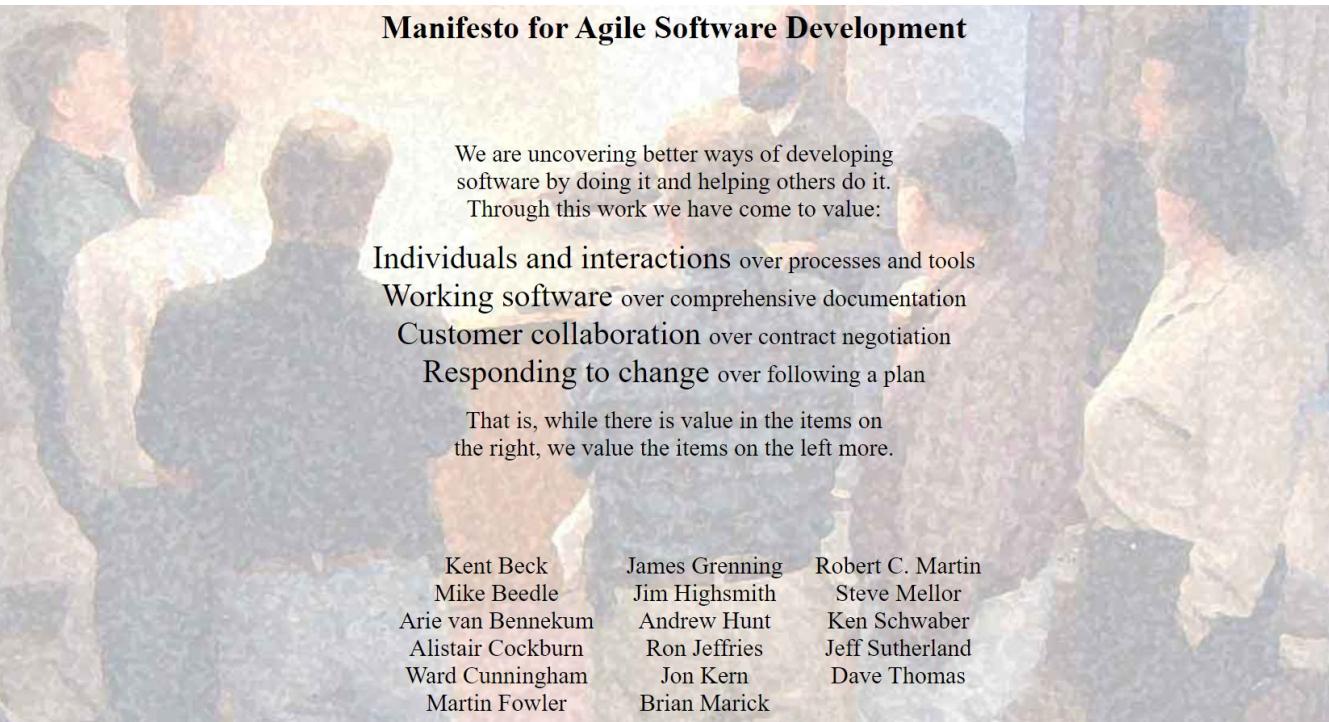
In this video, Ken Schwaber, co-creator of Scrum and original member of the group signing the Agile Manifesto in an interview with the Boston Business Journal discusses how it came about.



© Boston Business Journal

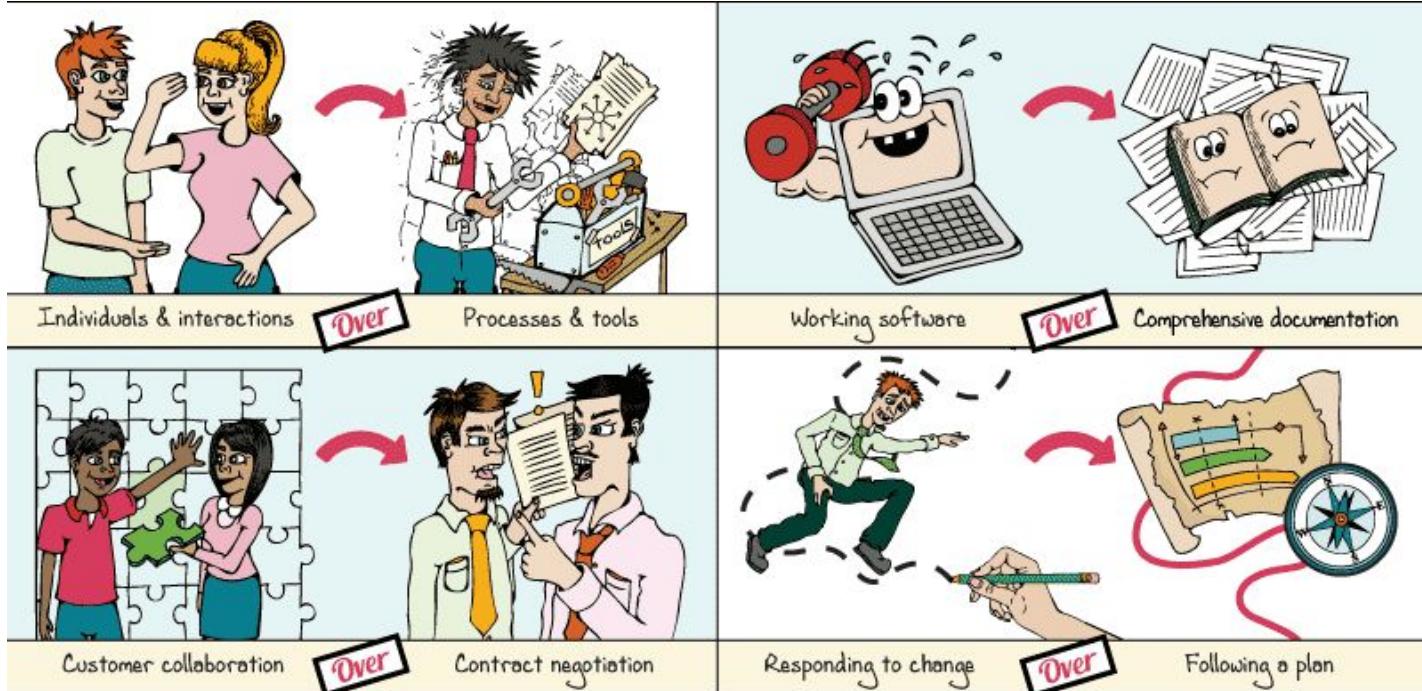
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The Agile Manifesto



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The Four Values of the Manifesto



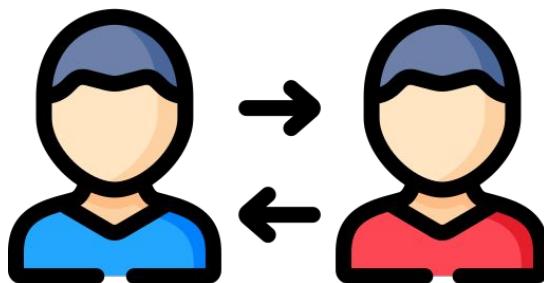
That is, while there is value in the items on the right, we value the items on the **left more**."

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Outlining the Four Values



Individuals and Interactions
over
Processes and Tools

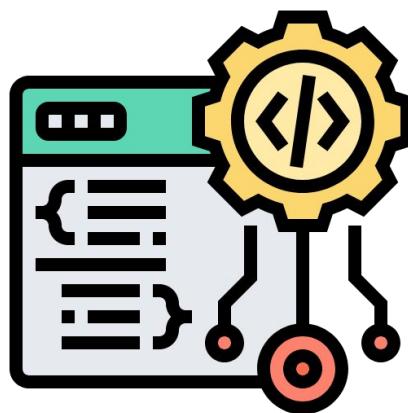


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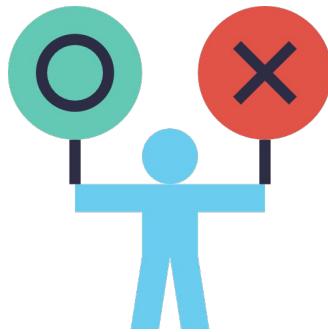
Outlining the Four Values



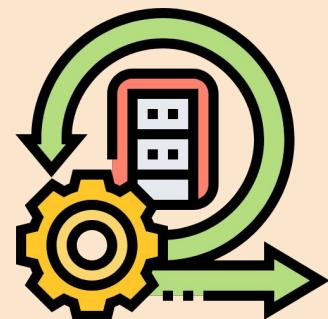
Working Software
over
Comprehensive Documentation



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Agile approaches can only be applied in software development, you can not use them for other types of products.



Students choose an option

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Outlining the Four Values



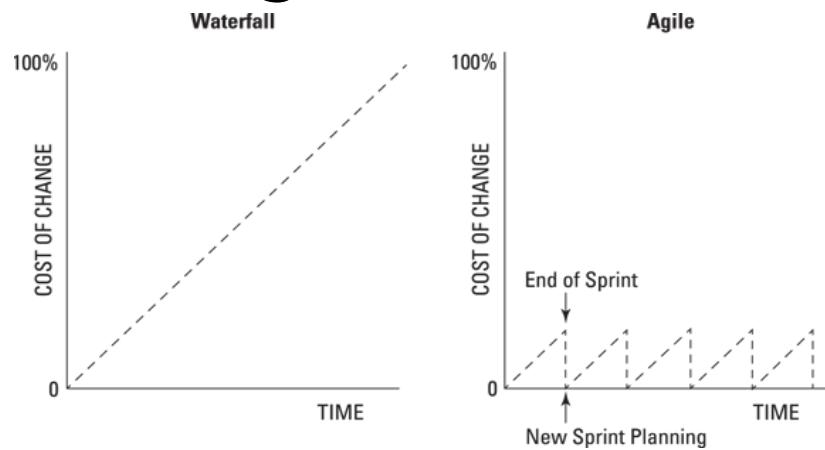
Customer collaboration
over
Contract Negotiation



Outlining the Four Values



**Responding to change
over
Following a Plan**



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Manifesto for Agile Software Development

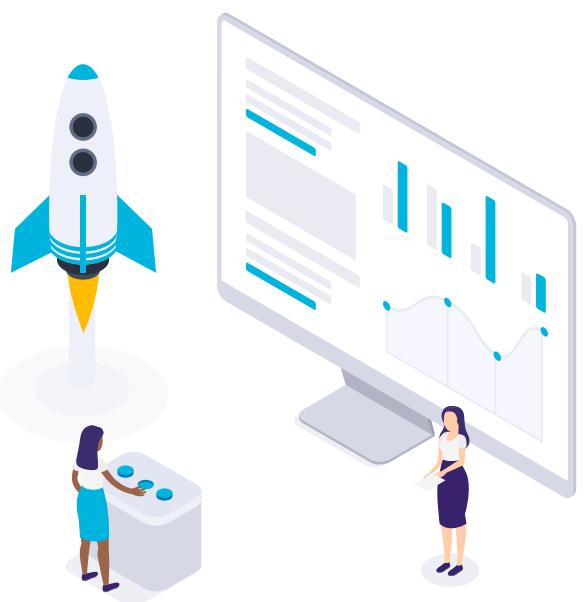
Individuals and interactions over processes and tools
Working software over comprehensive documentation
..... over contract negotiation
Responding to change over following a plan



Students choose an option



3 Agile Principles

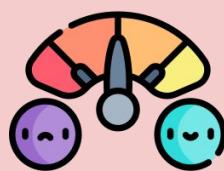


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Agile Principles



1 Our highest priority is to **satisfy the customer** through early and continuous delivery of valuable software.



2 **Welcome changing requirements**, even late in development. Agile processes harness change for the customer's competitive advantage.



3 **Deliver working software frequently**, from a couple of weeks to a couple of months, with a preference to the shorter timescale.



4 **Business people and developers must work together** daily throughout the project.



Agile Principles

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



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



7 **Working software** is the primary measure of progress.

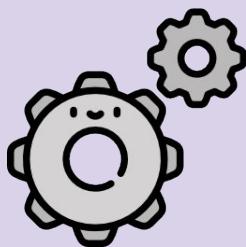


8 Agile processes promote **sustainable development**. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.



Agile Principles

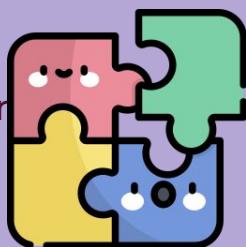
9 **Continuous attention** to technical excellence and good design enhances agility.



10 **Simplicity**--the art of maximizing the amount of work not done--is essential.



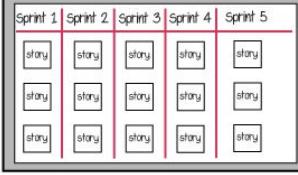
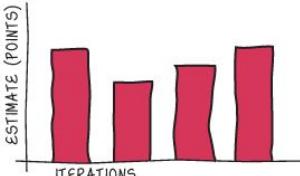
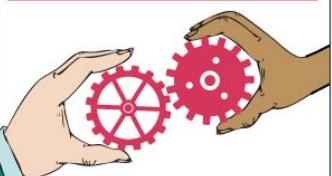
11 The best architectures, requirements, and designs emerge from **self-organizing teams**.



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



12 Agile Principles

| | | | |
|---|--|--|--|
| 1 Satisfy the customer  | 2 Welcome change  | 3 Deliver frequently  | 4 Work together  |
| 5 Trust and support  | 6 Face-to-face conversation  | 7 Working software  | 8 Sustainable development  |
| 9 Continuous attention  | 10 Maintain simplicity  | 11 Self-organizing teams  | 12 Reflect and adjust  |

Which one is NOT an Agile Principle?

- A. Satisfy the boss
- B. Welcome change
- C. Maintain simplicity
- D. Work together

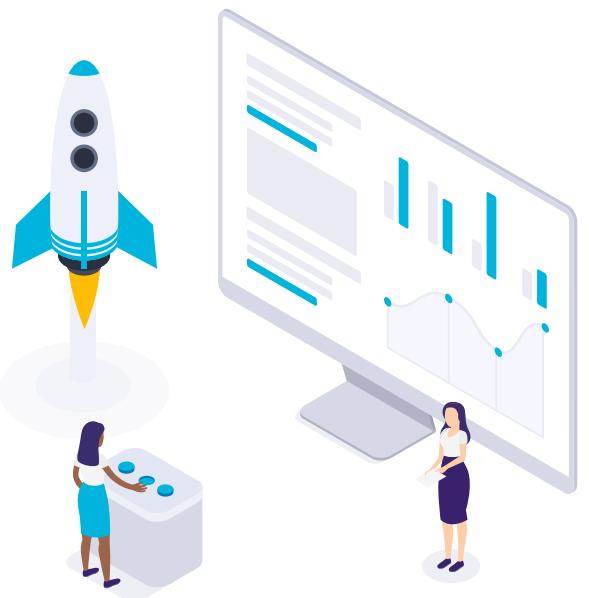


Students choose an option



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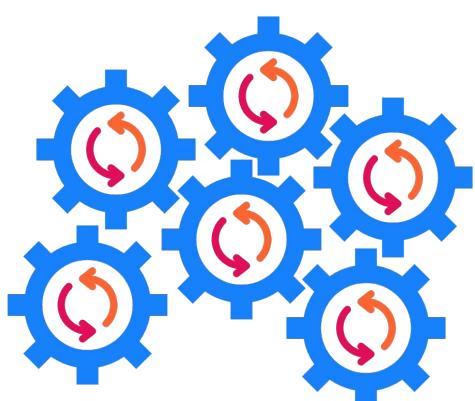
Overview of Agile Approach



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Changes as a Result of Agile Values ➤

Agile approaches changed attitudes toward project management processes.



Too much process



Problem

Solution

Changes as a Result of Agile Values

Agile approaches changed attitudes toward knowledge workers.



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Changes as a Result of Agile Values

Agile approaches changed the relationship between business and IT groups.



Business Team



IT Team

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Changes as a Result of Agile Values

Agile approaches corrected attitudes toward change.

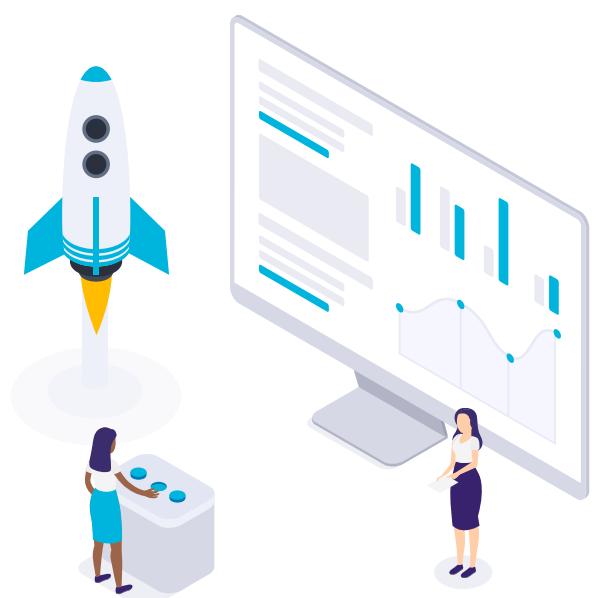


In one minute,
explain the most
important thing
about Agile.





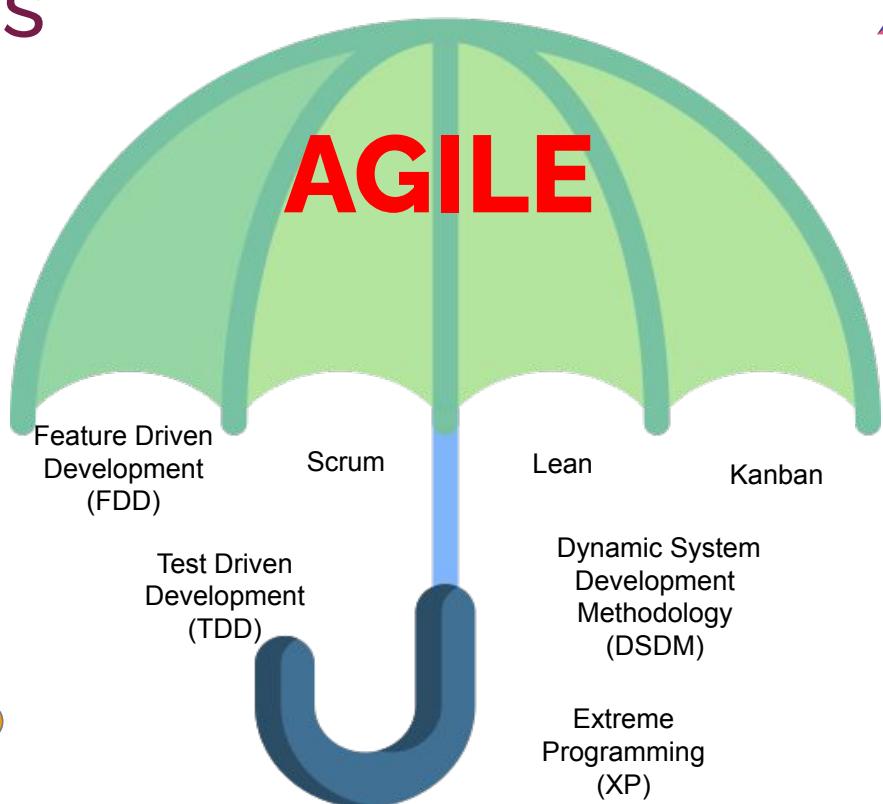
Agile Methods



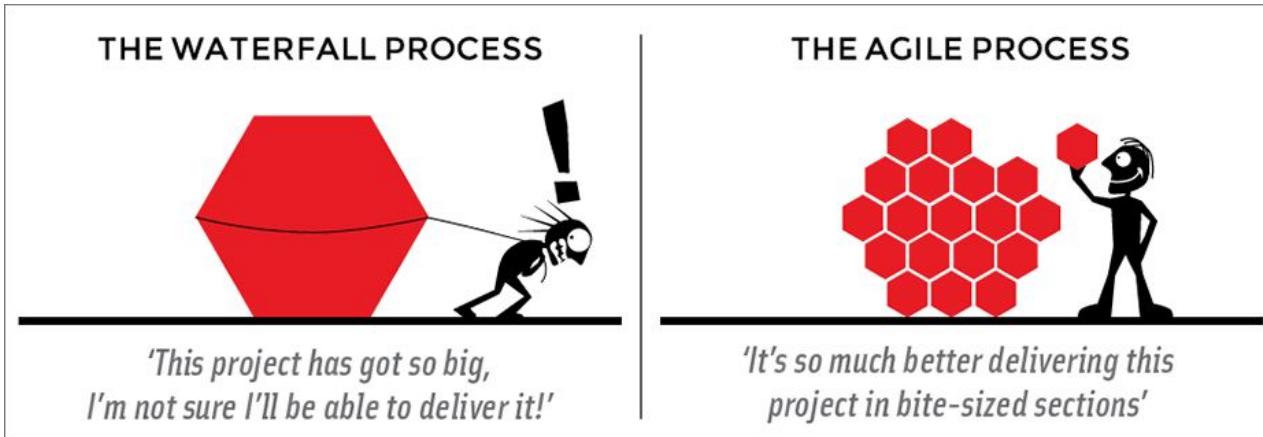
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Agile Methods

Agile is an umbrella under which many specific methodologies have been developed and are thriving.



Let's Wrap it Up



The product can be easily and rapidly developed and tested by dividing it into small pieces.

Small pieces are produced in iteration cycles.

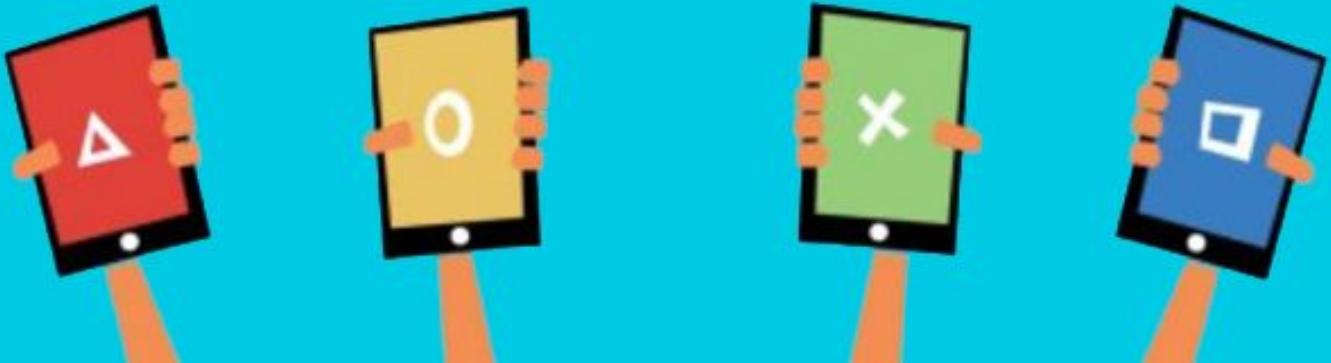
By using iterations, changes can be made without having to wait for the final product.

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Scrum Overview



Kahoot!



What is Scrum?

A framework within which people can address complex adaptive problems, while productively and creatively delivering products of the highest possible value.



Lightweight



Simple to understand

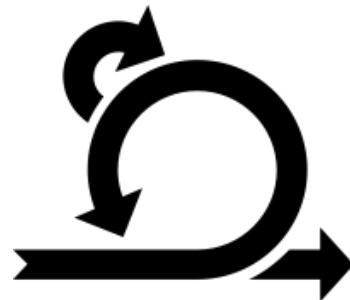


Difficult to master

What is Scrum?



Scrum emphasizes delivering business value frequently through short iterations known as sprints.



This gives visibility to the work that's being done and creates opportunities for feedback.

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Origin of Scrum



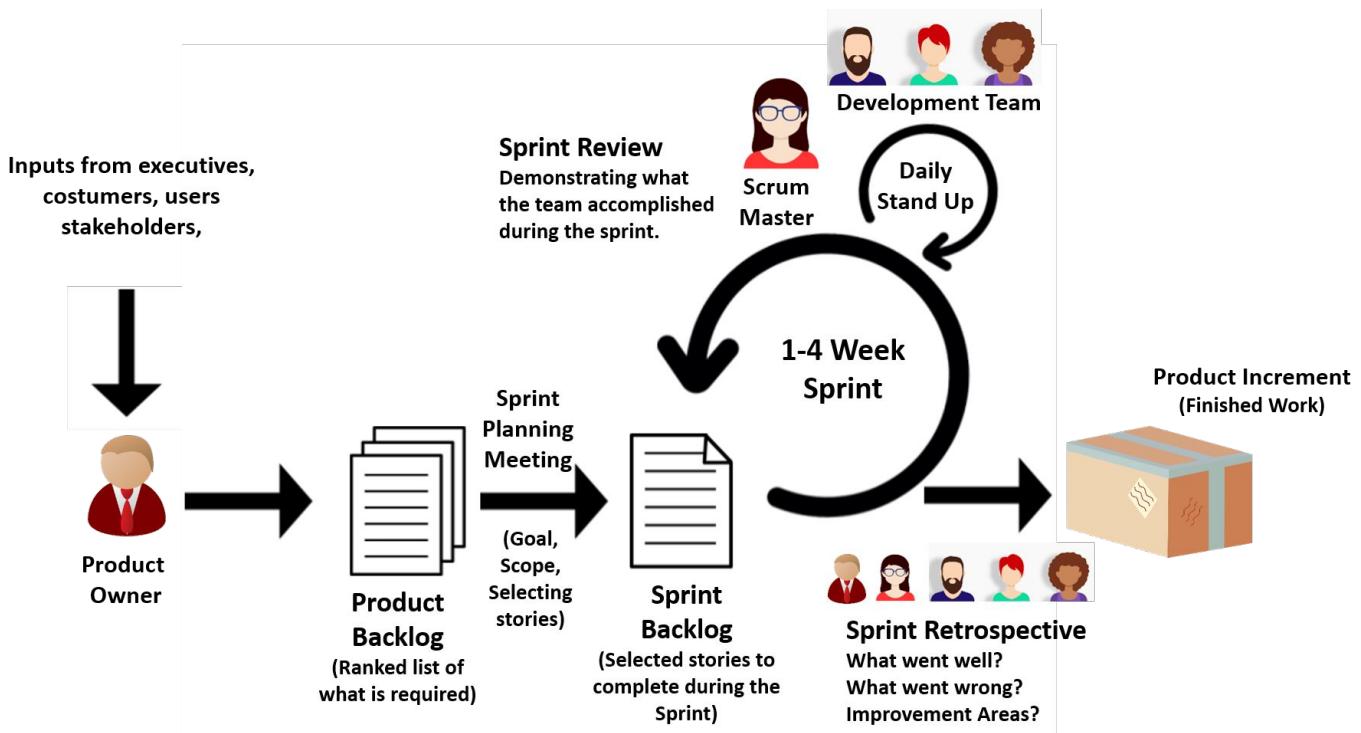
Scrum is one of the leading agile techniques developed by Ken Schwaber and Jeff Sutherland.



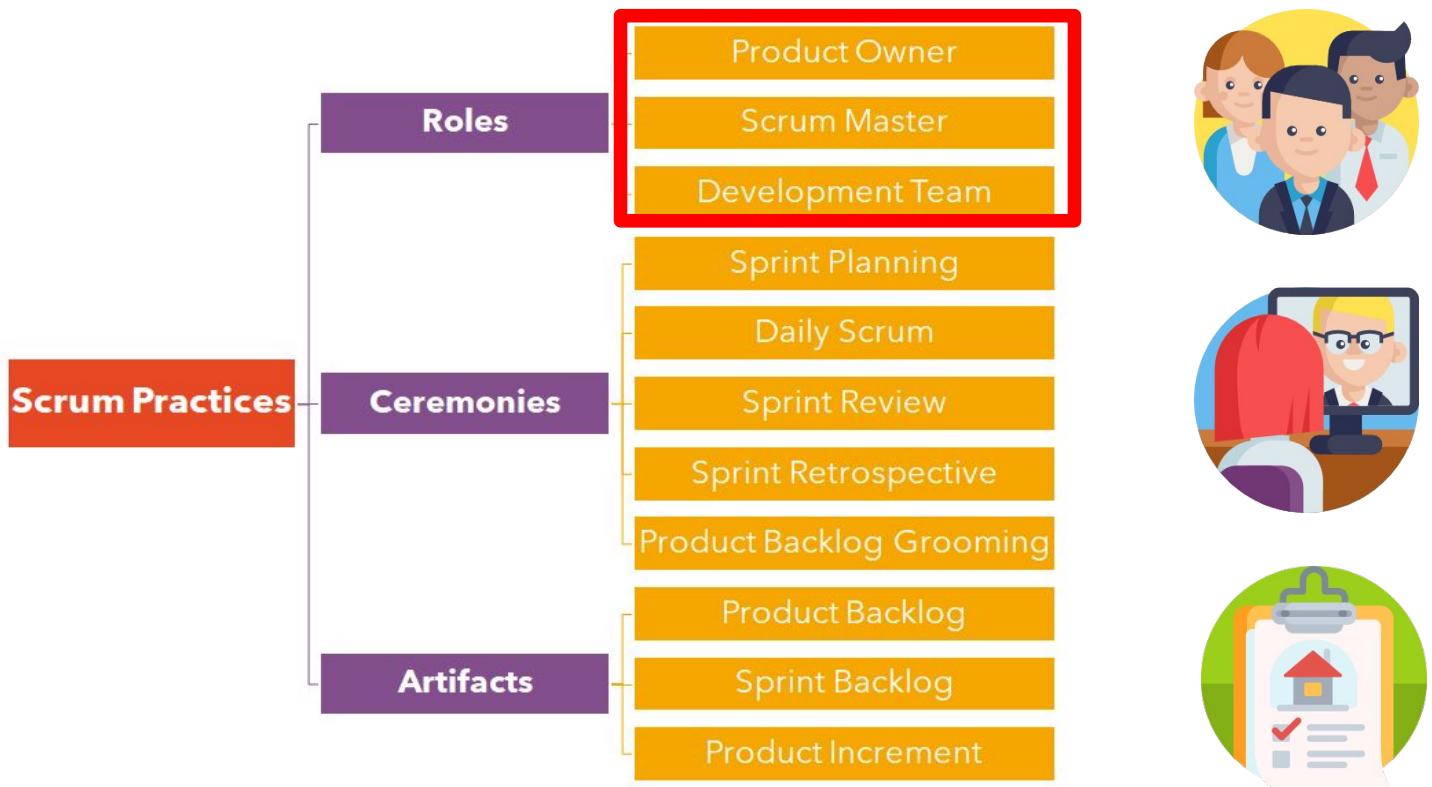
More than 50% of all projects use this methodology.

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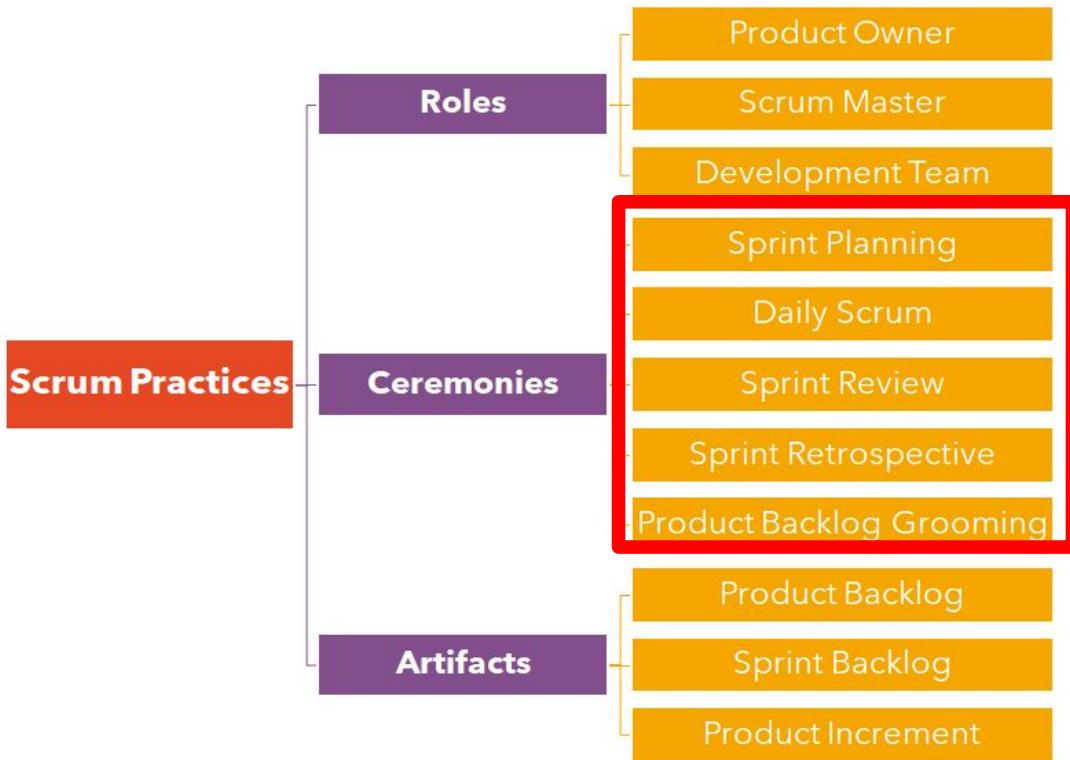
Scrum Framework



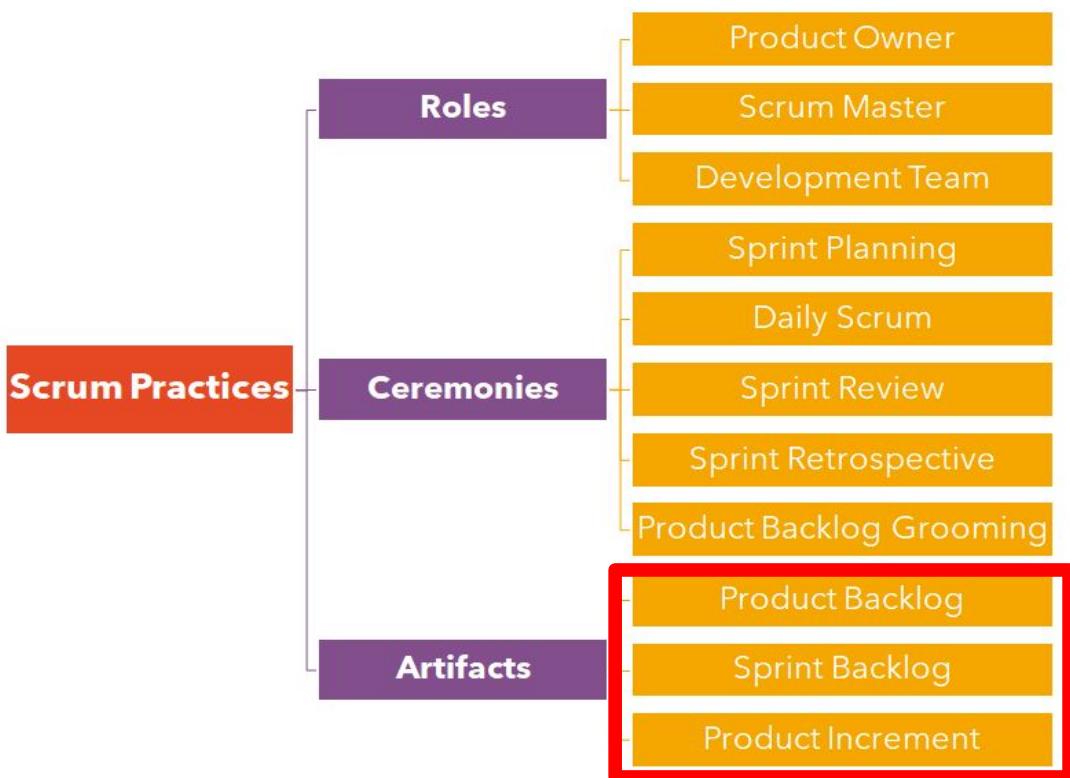
Scrum Practices

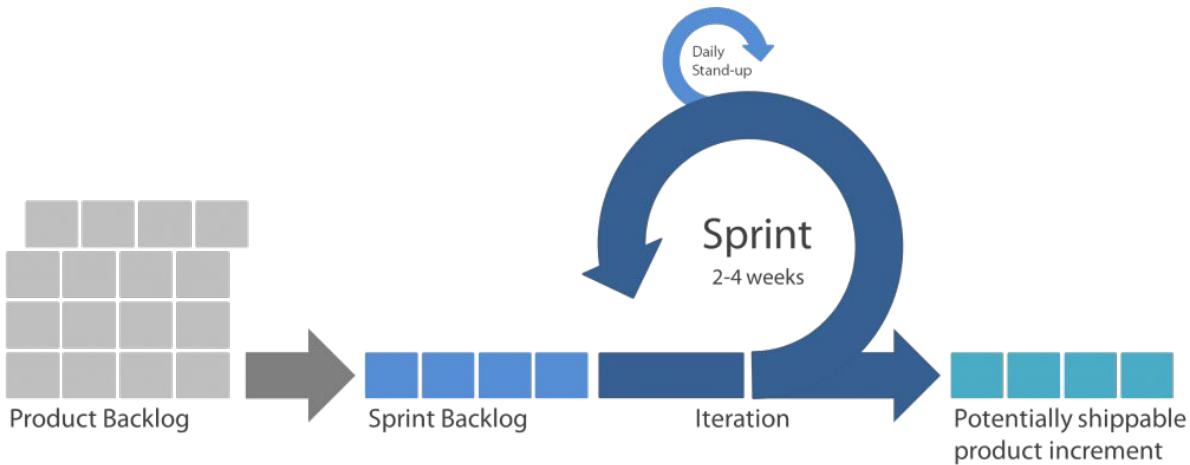


Scrum Practices



Scrum Practices





What is Scrum?



A Students choose an option

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Scrum Roles



Scrum Roles



Product Owner



Responsible for the project's success by defining the project vision, requirements, and priorities

Scrum Master



Accountable to the team to remove impediments that will prevent them from achieving the goals of the Product Owner

Development Team



Team comprises 3-9 people, with a mix of roles, and self-organizes to determine how to best meet the goals of the Product Owner

Product Owner

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Available

Product Owner

Decisive

Business Savvy

Empowered

Communicative

50

Product Owner



Clearly expressing Product Backlog items



Ordering the items in the Product Backlog to best achieve goals and missions



Optimizing the value of the work the Development Team performs



Ensuring that the Product Backlog is visible, transparent, and clear to all, and shows what the Scrum Team will work on next

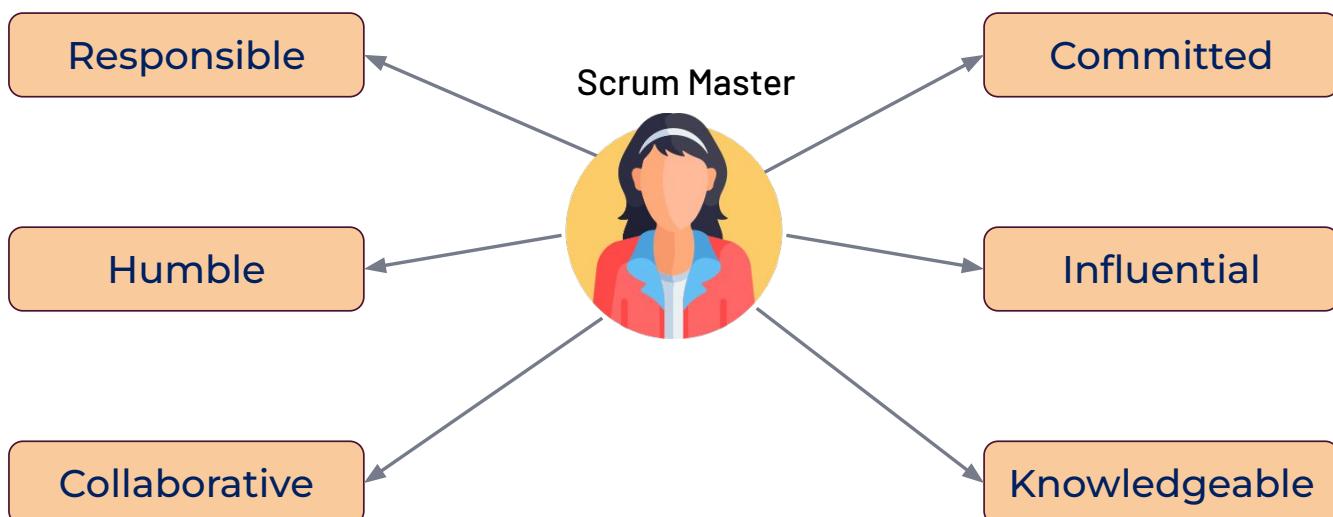


Ensuring the Development Team understands items in the Product Backlog to the level needed

Scrum Master



The Scrum Master is responsible for promoting and supporting Scrum



Scrum Master



Scrum Master Service to the Product Owner

- Ensuring that goals, scope, and product domain are understood
- Finding techniques for effective Product Backlog management
- Helping the Scrum Team understand the need for clear and concise Product Backlog items
- Understanding product planning in an empirical environment
- Ensuring the Product Owner knows how to arrange the Product Backlog to maximize value
- Understanding and practicing agility
- Facilitating Scrum events as requested or needed

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Scrum Master



Scrum Master Service to the Development Team

- Coaching the Development Team in self-organization and cross-functionality
- Helping the Development Team to create high-value products
- Removing impediments to the Development Team's progress
- Facilitating Scrum events as requested or needed
- Coaching the Development Team in organizational environments in which Scrum is not yet fully adopted and understood

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Which one looks at the project from the customer's perspective?



Students choose an option

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What is the role of the Scrum Master?



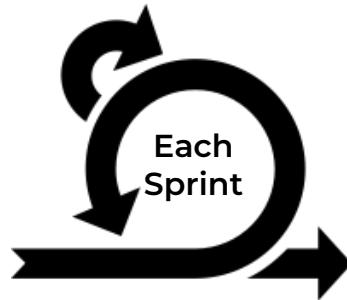
Students choose an option

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Development Team

The Development Team consists of professionals who do the work of delivering a potentially releasable Increment of “Done” product at the end of each Sprint.

Development Team



Product Increment



Development Team



They are self-organizing.



Development Teams are cross-functional.



Scrum recognizes no titles for Development Team members.

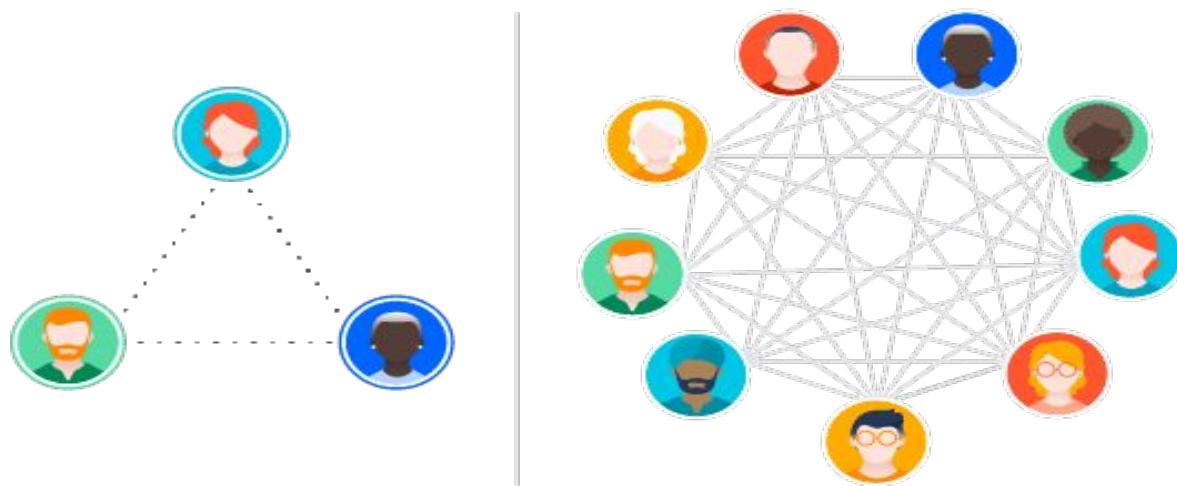


Scrum recognizes no sub-teams in the Development Team.



Accountability belongs to the Development Team as a whole

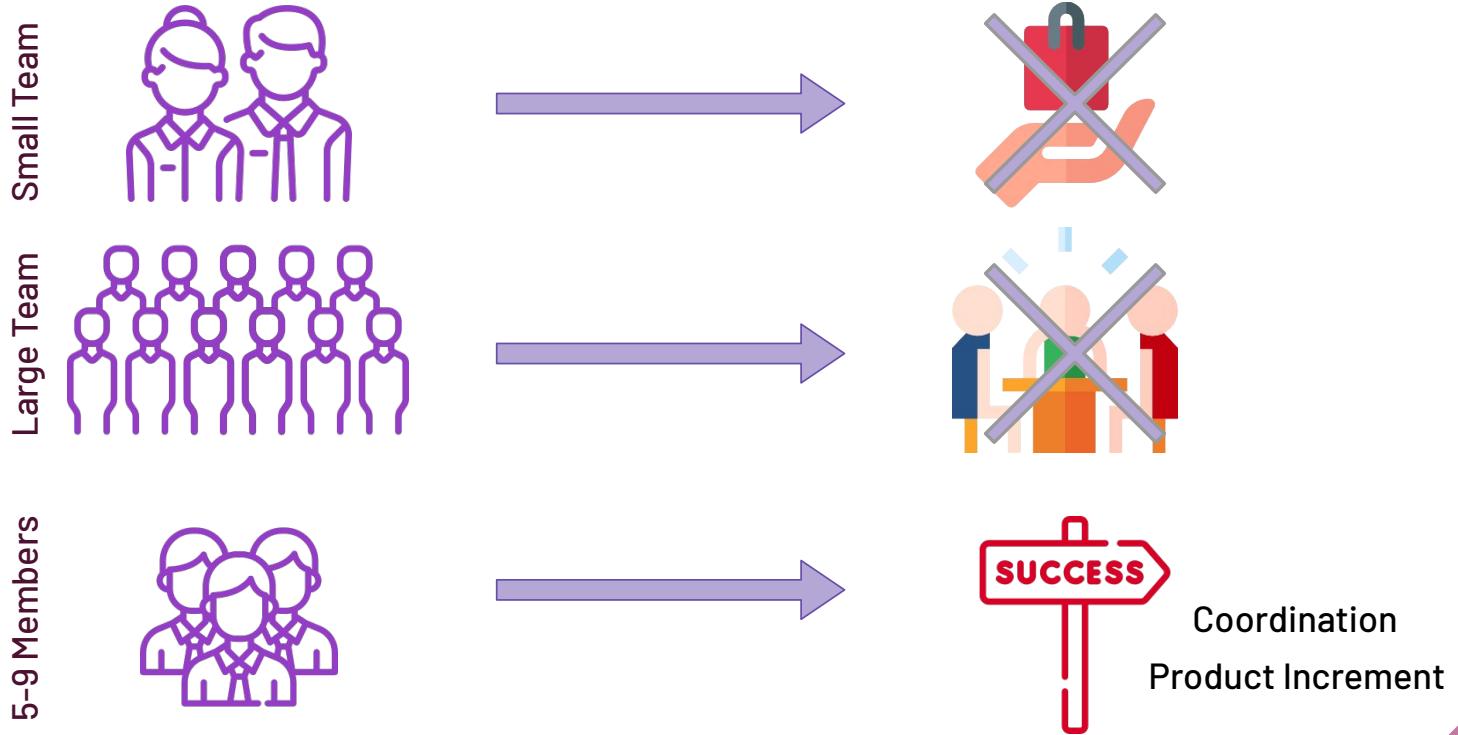
Team Size vs. Coordination



Equation: $N(N - 1)/2$

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Development Team Size



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Pretend your friend was absent from class today...

Write what you would say if you had to explain the lesson to your friend.



Students, write your response!

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How well did you like this lesson?



Students, drag the icon!

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THANKS!

Any questions?

