The SNHU Travel Project

An Introduction to the Scrum-Agile Approach

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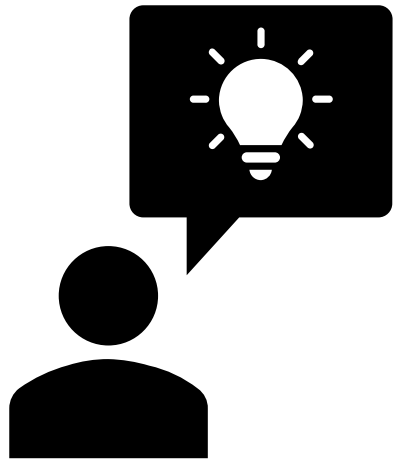
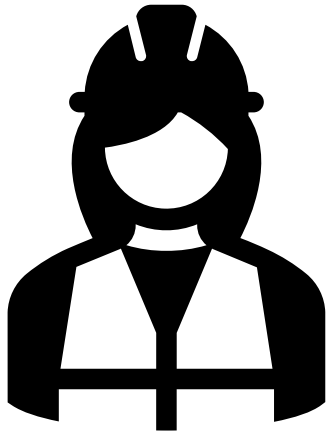
What Is The Scrum-Agile Approach?

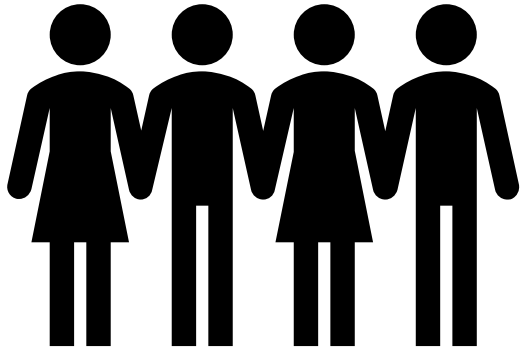
- Agile is a set of principles that follow an iterative and incremental approach to software development.
- Agile project management emphasizes frequent delivery of value, collaboration, adaptability.
- Rather than relying on rigid upfront planning, Agile project management enables flexibility and incremental delivery of value through continuous improvement.

- Scrum is a framework within Agile project management.
- Work is organized into short, fixed-length iterations called Sprints.
- Scrum defines specific roles, artifacts, and events to promote transparency, collaboration, and efficiency.

(Sutherland & Schwaber, 2020)







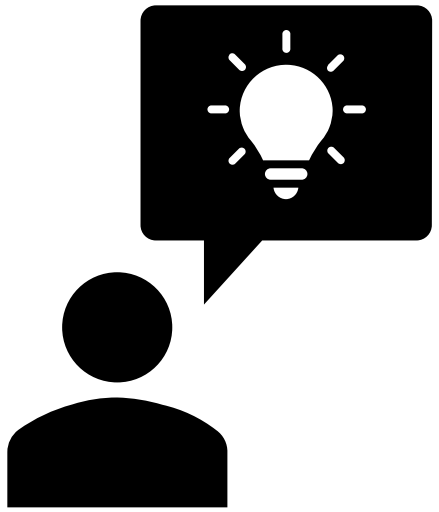
The Scrum Team

PRODUCT OWNER

SCRUM MASTER

TESTERS

DEVELOPERS



Product Owner

Owns the product vision and maximizes the value the product creates by representing the voice of the customer.

Creates and prioritizes the Product Backlog, setting product goals, collects feedback from users and stakeholders.

Clarifies requirements and ensures development efforts are focused on the highest-value features.

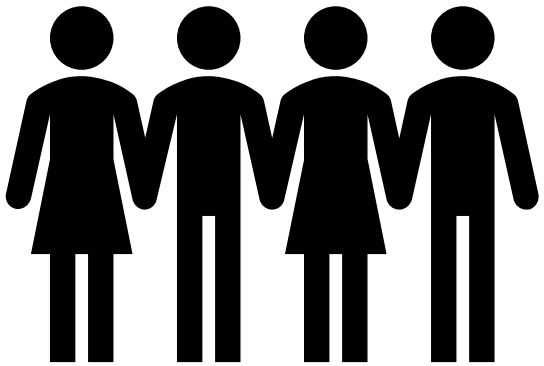
(Sutherland & Schwaber, 2020)

Scrum Master

Servant Leader and Coach

- Enforcing Scrum practices and rules
- Coaching the Scrum Team
- Facilitating Scrum Events
- Removing Impediments
- Protecting the team from distractions
- Enables communication and collaboration

(Scrum Alliance, 2025)



Developers

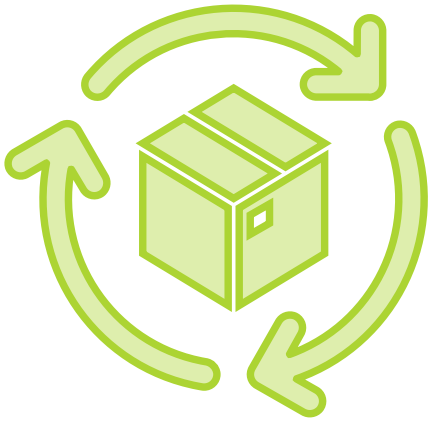
- Responsible for creating value
- Manages the Sprint Backlog
- Collective ownership for meeting Sprint Goal and Definition of Done
- Transform ideas into software

(Scrum Alliance, 2025)

Testers

- Integrated into Development Team
- Shared ownership
- Design and executes test cases
- Builds quality into the architecture to reduce risk
- Ensure each increment meets the Definition of Done
- Verify functionality meets acceptance criteria

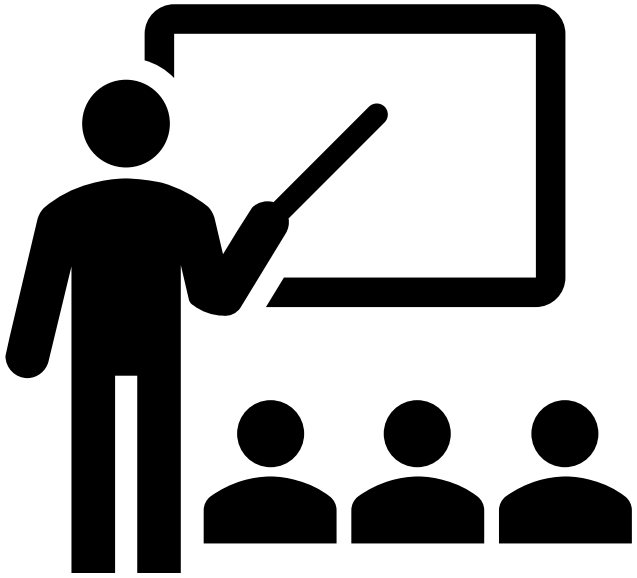
(Scrum Alliance, 2025)



The Agile Phases

- HIGH LEVEL PLANNING
- SPRINT PLANNING
- ANALYSIS AND DESIGN
- DEVELOPMENT AND TESTING
- REVIEW
- REFLECTION AND ADAPTATION

1. High Level Planning



- Before development, Agile teams engage in high-level planning using "rolling-wave planning."
- Product Owner creates Product Backlog, which is an ordered list of user stories.
- The Scrum Team estimates user stories.
- This phase establishes the product vision and high-level scope.
- Planning is done "just-in-time," and decisions are made at the last responsible minute to reduce waste.

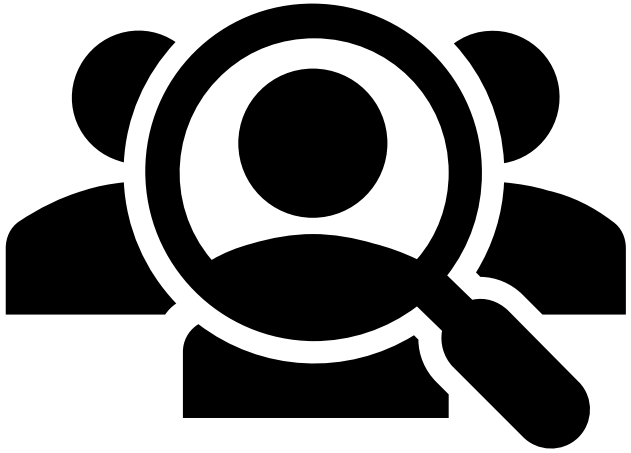
(Sutherland & Schwaber, 2020)

2. Sprint Planning

- This phase happens before every Sprint.
- Replaces long-term planning with short-term and high-certainty planning.
- Sprint Goal is defined.
- Product Backlog Items (PBIs)are selected for the current iteration.
- Developers decompose PBIs into actionable tasks.

(Sutherland & Schwaber, 2020)

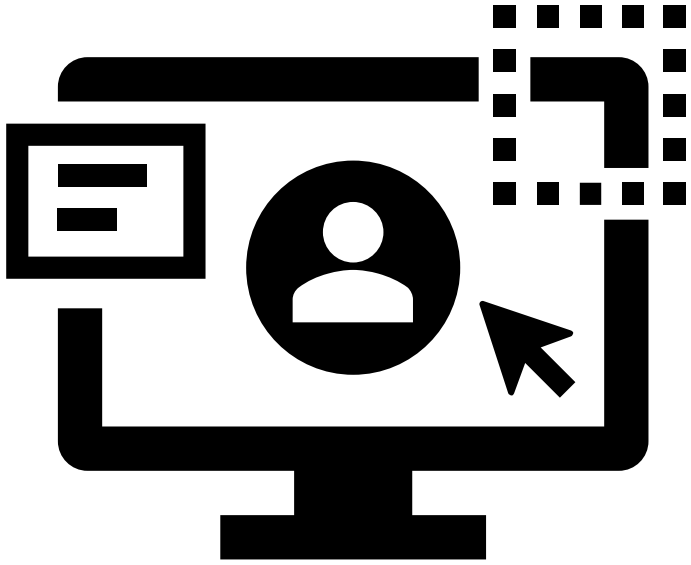
3. Analysis and Design



- Done continuously throughout each sprint.
- User Stories are refined based on priority.
- Current requirements in selected User stories are analyzed and understood in detail.
- Ensures design remains flexible to accommodate change.
- Avoids waste because the program architecture evolves as the product grows.

(Agile Modeling, 2002-2025)

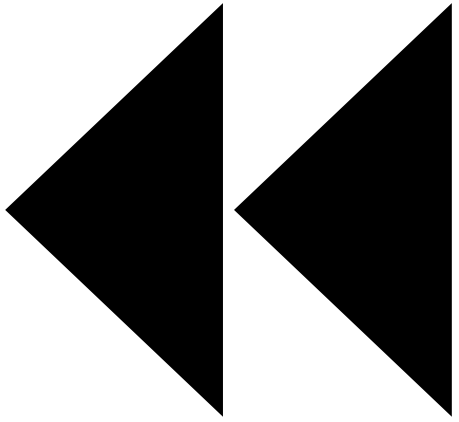
4. Development and Testing



- Developers turn PBIs into an Increment of value.
- This phase delivers working software that is continuously improved each Sprint.
- Testing is integrated into development process
- Work must meet the Definition of Done
- Ensures quality is built into architecture
- Early detection of bugs

(Cobb, 2015)

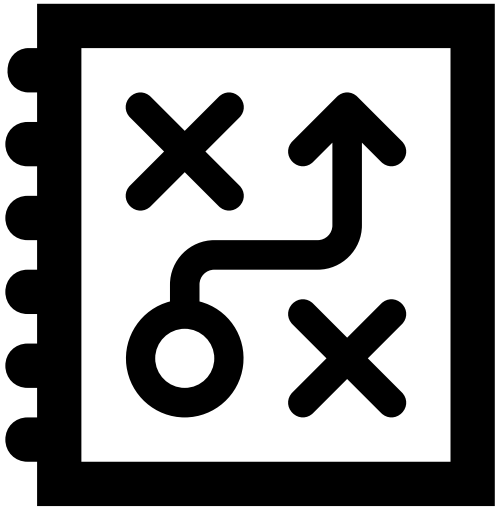
5. Review



- The increment is presented to Stakeholders for validation
- The Scrum Team receives feedback from Stakeholders
- Product Backlog is refined based on feedback
- This phase provides the feedback loop that ensures the product solves the need of the customer
- Allows the release of value early and often

(Agile Modeling, 2002-2025)

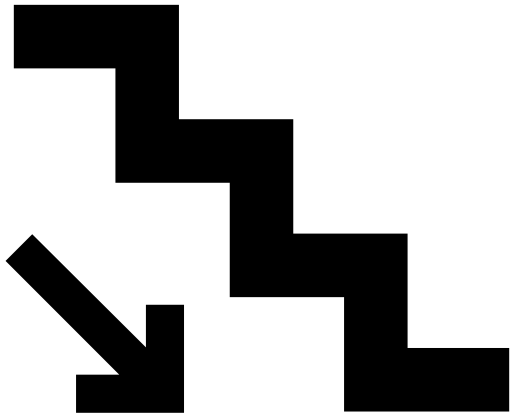
6. Retrospective and Adaptation



- Scrum Team meets to inspect the last Sprint
- Analysis of successes and improvements to be applied in the next Sprint workflow
- Ensures continuous improvement in team effectiveness over time
- Optimizes flow and quality

(Cobb, 2015)

THE WATERFALL MODEL



- Linear, sequential phases
- Extensive upfront planning
- Design and development completed before testing
- Changes late in process are costly and disruptive

(Cobb, 2015)

Waterfall Method in SNHU Travel Project

In a waterfall environment, SNHU travel would have faced a choice: deliver the original product (which management no longer wanted) on time, or deliver the desired "wellness" product late and missing the increased website traffic. The scrum-agile approach allowed the team to swap the content of the application while maintaining the schedule and deliver a high value product on time.

Factors to Consider

Choosing between a Waterfall and an Agile approach requires assessment of the project's specific characteristics rather than viewing one methodology superior. The decision is based on the following factors:

- Level of Uncertainty
- Customer Involvement
- Risk Management
- Changing Requirements
- Complexity

Projects that prioritize adaptability and rapid feedback benefit more from Agile, while Waterfall is better suited for stable, predictable environments.

(Cobb, 2015)

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