



Scrum-Agile Framework

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Scrum-Agile vs Waterfall



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Introduction

Scrum is a framework sometimes used with the agile methodology for project management of software development products and services (Schwaber & Sutherland, 2020). There are key differences in the Scrum framework compared to a traditional project management (waterfall) one.

After going over the roles and phases of the Scrum-agile framework, we will compare it to the waterfall approach and learn what considerations will help in deciding which is best for your specific requirements.



Scrum-Agile Team Roles



Product Owner

- *Ensures team understands PBIs
- *Responsible for Product Backlog Grooming & assigning estimates



Scrum Master

- *Facilitates comms & collaboration via Scrum events
- *Coaches & mentors team
- *Removes barriers to productivity



Developer(s)

- *Creates a usable product
- *Defines non-functional requirements, design, & scope
- *Creates Sprint Backlog



Tester(s)

- *Performs User Acceptance Tests using Acceptance Criteria and Definition of Done (DoD)
- *NOTE: Each member may perform the job of both Developer and Tester

Agile Phases

Software Development Lifecycle (SDLC)

- Planning & Requirements/Risk Analysis
- Software Requirement Specification (SRS)
- Architectural Design
- Product Development/Testing
- Product Deployment
- Product Maintenance

Agile SDLC (Beck, 2001)

- Product Vision
- Product Backlog (and ongoing grooming)
- Incremental/iterative development:
 - Sprint Planning
 - Sprint
 - Daily Stand-Up
 - Sprint Review
 - Sprint Retrospective



Agile SDLC Significance

- **Sprint Planning:** Ensures team is aligned on the project goals, requirements, and estimates by planning work for the next Sprint and creating a Sprint Backlog.
- **Sprint:** This is where the actual product development and testing is done and ensures a working deliverable of value to the shareholders and end users.
- **Daily Stand-Up:** Short 15-minute meeting where the development team members answer: What did I do? What will I do? What impedes me? This keeps the team on track and allows the Scrum Master to remove any obstacles in the way of the team's development.
- **Sprint Review:** Development team demonstrates the work they have completed. This is a great opportunity to get feedback from the Product Owner, shareholders, and end users to make sure the product with the most value is being developed.
- **Sprint Retrospective:** The team reflects on the previous Sprint and uses the feedback obtained via the Sprint Review to make changes to the Product Backlog and identify ways to improve the next Sprint, leading to the best product possible!

Waterfall vs. Agile SDLC

Waterfall is a linear approach using sequential and rigid phases, and Agile uses smaller, incremental (iterative) development instead. Agile leads to reduced time to market and lower costs. This is an effect of Agile adaptability. For example, in the SNHU Travel app, changes to the graphical user interface (GUI) would not have been realized until late into development, when the shareholders and end users finally had a chance to use the product and provide feedback that would lead to the changes seen in the final product. This is a waste of time and money and does not provide an optimized system of the software development lifecycle in most cases. If flexibility and user satisfaction are major concerns for your software development requirements, then Agile is the best methodology to use. On the other hand, if the app is well-planned and does not have much need for adaptability and frequent releases are not necessarily required, then a waterfall approach may suffice.



References

Beck, K. (2001). *Manifesto for Agile Software Development*. Agile Manifesto. Retrieved June 13, 2023 from <https://agilemanifesto.org/>

Schwaber K. & Sutherland, J. (2020, November). *The Definitive Guide to Scrum: The Rules of the Game*. The Scrum Guide. Retrieved June 13, 2023 from <https://www.scrum.org/resources/scrum-guide>





Thank you!

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