Automation Testing

Introduction to Agile

A Day in the Life of an Automation Test Engineer

John has decided to choose Agile methodology for his automation testing projects.

To complete his project, he has to learn the Agile methodologies that comprise a series of frameworks and principles and focus on delivering quality and value to the client and building a great team that is flexible and cohesive.

To achieve the above, he will learn a few concepts in this lesson that can help him to find a solution for the scenario.

Learning Objectives

By the end of this lesson, you will be able to:

- Describe Agile methodology
- Comprehend Agile testing methodology
- Classify Waterfall and Agile approaches
- Describe scrum roles, practices, and estimation

Agile Methodology

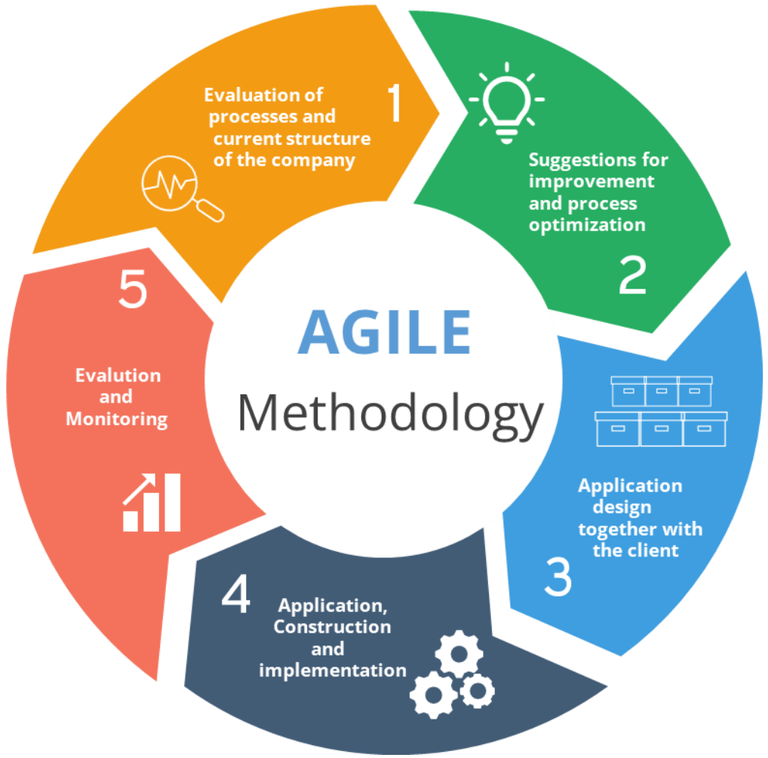
Agile Methodology

Agile methodology is a practice that encourages continuous development and testing throughout the project's software development life cycle.

Both development and testing operations are concurrent under the Agile style of software testing.

Agile Methodology

The methodology process includes:



Source link: https://www.exaosis.com/Pages/SoftwareTestingQA/AgileTesting

Agile Testing Methodology

Automation that is Agile Testing in software development is a test automation methodology used in agile processes.

The goal of agile automation testing is to improve the effectiveness and efficiency of the software development process while maintaining quality, time, and resource consumption.

Agile Manifesto

According to the Agile Manifesto, there are four fundamental principles of Agile software development:

- People and their interactions over procedures and equipment
- A functional program above thorough documentation
- A collaboration with the client during contract negotiations
- Following a plan as opposed to reacting to change

Agile Methodology

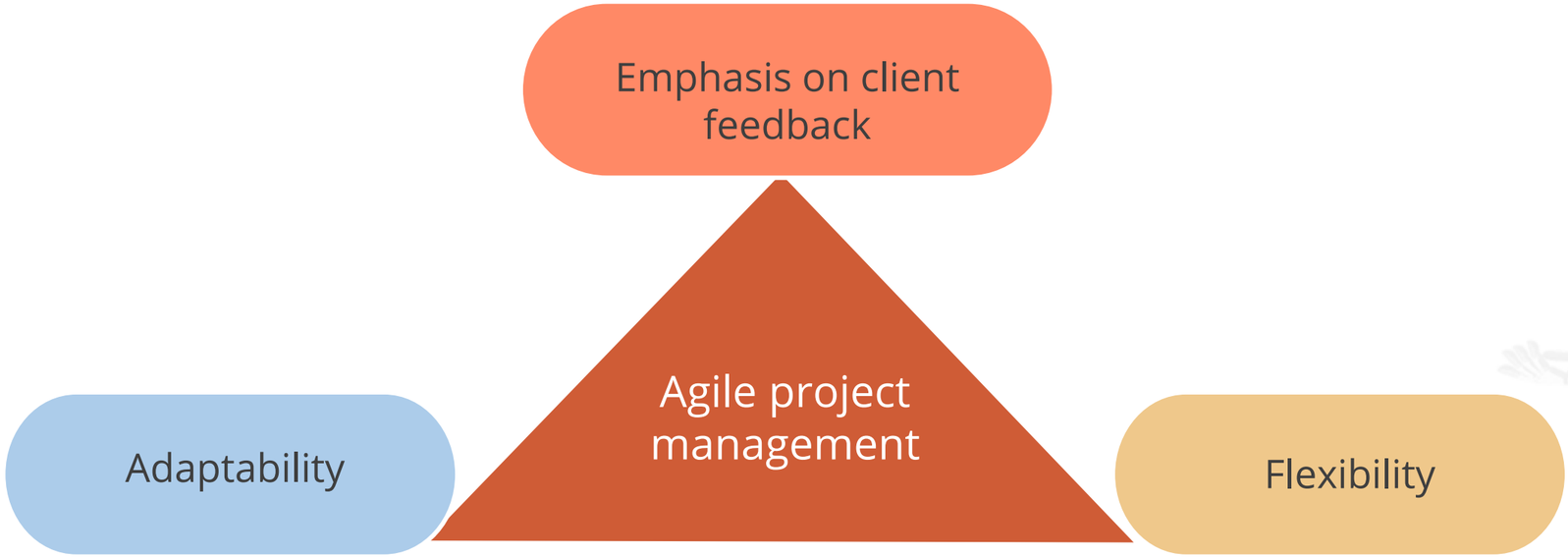
Agile project management techniques involves:

1. Active communication
2. Iterative development

Agile project management is based on the idea that a project can be improved continually throughout its **life cycle** with changes being made **swiftly and appropriately.**

Agile Methodology

Agile project management is among the most widely used methods because of its:



Differences between Waterfall and Agile Approaches

Differences Between Waterfall and Agile Approaches

Agile	Waterfall
The project development life cycle is split into sprints.	The software development process is divided into segments.
It takes a step-by-step method.	Waterfall technique is a method of sequential design.
Agile technique is well known for its adaptability.	Waterfall is a structured software development process; thus it can be extremely rigid at times.

Differences Between Waterfall and Agile Approaches

Agile	Waterfall
Agile can be thought of as a collection of many projects.	The development of software is done as one project.
Agile is a very adaptable strategy that allows for changes in project development requirements even after the original planning has been accomplished.	Once the project development begins, there is no way to change the specifications.

Scrum Roles

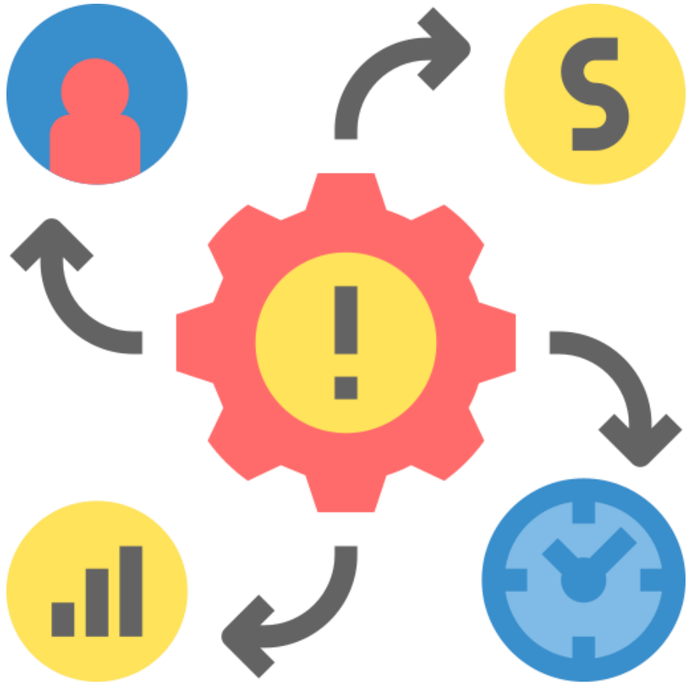
Scrum

Scrum is a methodology for addressing complex adaptive challenges while producing high-value solutions in a productive and creative manner.

Scrum is neither a process or a technique for creating goods; rather, it provides a framework within which multiple processes and techniques can be used.

Scrum

Scrum displays the relative effectiveness of your product management and development techniques, enabling organizations to improve.



Scrum Roles

The scrum team consists of three roles :

A Scrum Master

A Product Owner

The Team

Scrum Master

A Scrum Master ensures that a Scrum team maintains Scrum values that are achievable. This implies that they keep the team on track, schedule and lead meetings, and help resolve any roadblocks.

Scrum Masters may potentially play a bigger role inside an organization, assisting in the implementation of Scrum principles.

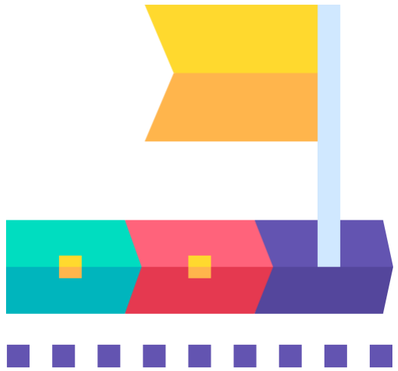
Scrum Master

A Scrum Master will have the following responsibilities:

1. Get rid of roadblocks to productivity
2. Organize sprint planning sessions
3. Conduct retrospective reviews
4. Conduct daily Scrum meetings
5. Communicate with stakeholders

Product Owner

A product owner ensures that the Scrum team is aligned with the broader product goals to which they are contributing.



They are aware of the product's business requirements, such as client expectations and market trends.

Product Owner

The following are the duties that product owners have:

Increasing the value of the work

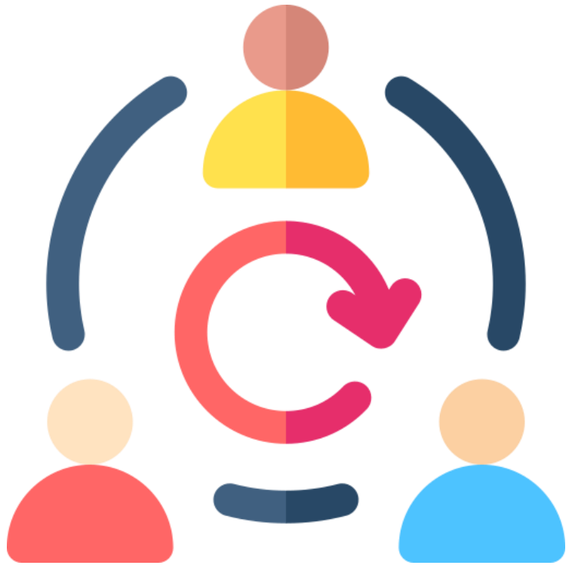
Setting the team's product vision

Ensuring that the team is focused on meeting product requirements by communicating and assessing progress

Contacting the external stakeholders and communicating their needs to the team

The Team

The team is cross-functional and self-organizing. This implies that the team will include analysts, designers, developers, testers, and others as needed and appropriate for the project.



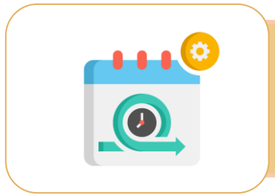
The Team

Cross-functional teams have all the skills needed to complete the task without relying on anyone outside the team, saving time and effort.

The team concept in Scrum is designed to enhance flexibility, innovation, and productivity.

The Team

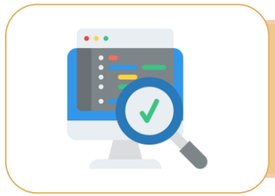
The Team is tasked with the following:



Support sprint planning and target setting

Contribute knowledge to the programming, design, or improvement of products

Determine the best development strategies using data

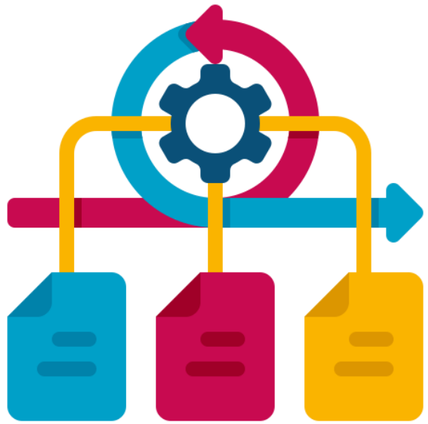


Include testing products and prototypes, as well as other methods

Scrum Practices

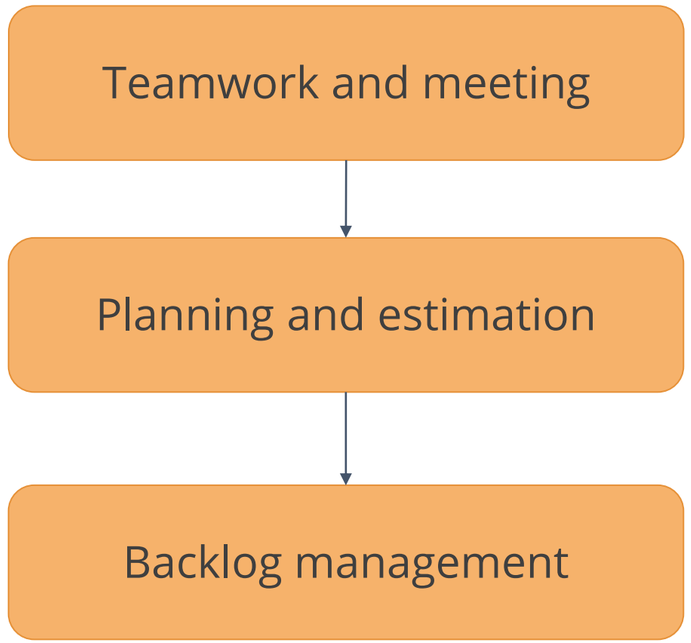
Scrum Practices

Whether it is a product owner, Scrum master, or team member, here are some best practices that assist in increasing the productivity and putting the team on the path to completion of any projects!

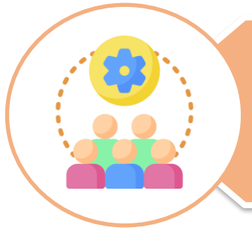


Scrum Practices

The practices includes three ways:



Teamwork and Meetings



Create a Product Backlog with the help of stakeholders

Include all stakeholders in scrum meetings

Avoid reorganizing teams

Work on developing your team

Scrum Estimation

Estimates and Planning

Keep stakeholders informed during the estimation process

Plan a new sprint only when the queue has enough items

Define the objectives

Schedule daily risk mitigation time

Backlog management

Keep the sprint and product backlogs distinct

Use approaches for task prioritization

Work with a Scrum board

Scrum Estimation

Scrum estimates the difficulty of each user story. A specific scale is employed to evaluate the degree of difficulty.

Project planning

Cooperation

Workflow Process

Scrum Estimation

In Scrum Estimation, a variety of scales are employed. Some examples are as follows:

1. Planning Poker
2. T-Shirt Sizes
3. Large or Uncertain or Small
4. The Bucket System
5. Dot Voting

Overview of Jira

Problem Statement:

You are working as an Agile Scrum Master and have been asked to track the progress of the ongoing project. Provide the overview of Jira to achieve the same.

ASSISTED PRACTICE

Assisted Practice: Guidelines

Steps to provide an overview of Jira are:

1. Create a Jira account

Sprint Planning in Jira

Problem Statement:

You are working as an Agile Scrum Master and have been asked to perform spring planning in Jira for one of the projects. Demonstrate the steps to perform the same in Jira.

ASSISTED PRACTICE

Assisted Practice: Guidelines

Steps to perform sprint planning in Jira are:

1. Create a backlog
2. Create new issues
3. Edit the sprint

Key Takeaways

- Agile methodology is a practice that encourages development and testing throughout the project's development life cycle.
- Agile project management methodologies like Scrum give teams a framework for incremental delivery while emphasizing effective planning, teamwork, and continuous improvement.
- Scrum is a methodology for addressing complex adaptive challenges while producing high-value solutions in a productive and creative manner.
- Scrum estimates the difficulty of each user story. A specific scale is employed to evaluate the degree of difficulty.