AGILE METHODOLOGY

❖ What is Agile Methodology?

The Agile methodology is a proper way of managing the project with breaking them into smaller phases which is iteration. It basically focuses on flexibility of the project which we can change and improve the team work regularly as per requirements.

What is Agile?

Agile is a Project Management and software development approach that aims to be more effective.

1. It focuses on delivering smaller pieces of work regularly instead of one big launch.
2. This allows teams to adapt to changes quickly and provide customer value faster.

Agile is not just a methodology; it’s a mindset. Agile isn't about following specific rituals or techniques. Instead, it's a bunch of methods that show a dedication to quick feedback and always getting better.

❖ What are the 12 Agile Principles?

There are 12 Agile Principles mentioned in the Agile Manifesto. Agile principles are guidelines for flexible and efficient software development. They emphasize frequent delivery, embracing change, collaboration, and continuous improvement. The focus is on delivering value, maintaining a sustainable work pace, and ensuring technical excellence.

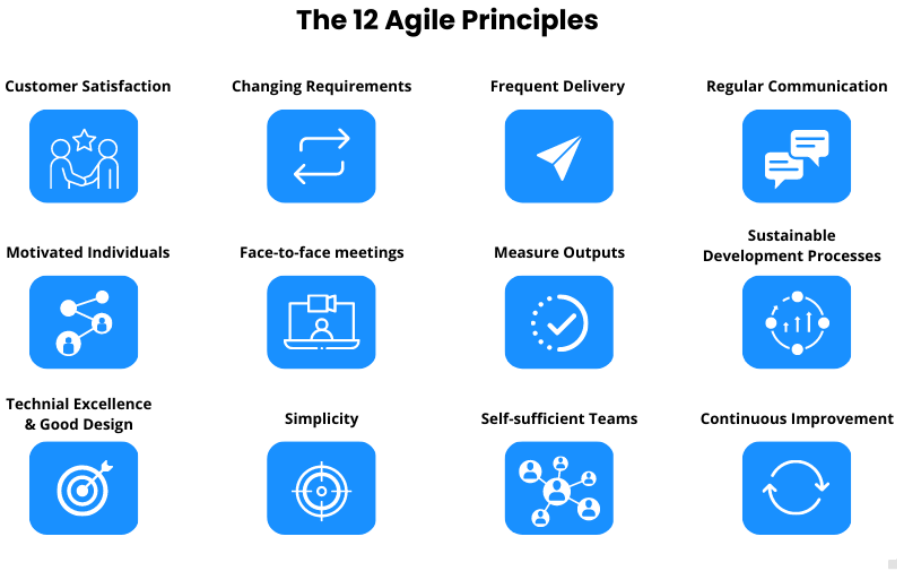

Fig: 12 Agile Principles

The Agile Alliance defines 12 lightness principles for those who need to attain agility:

1. Our highest priority is to satisfy the client through early and continuous delivery of valuable computer software.
2. Welcome dynamic necessities, even late in development. Agile Processes harness modification for the customer’s competitive advantage.

3. Deliver operating computer software often, from a pair of weeks to a couple of months, with a preference to the shorter timescale.
4. Business individuals and developers should work along daily throughout the project.
5. The build comes around actuated people. offer them the setting and support they have, and trust them to urge the task done.
6. the foremost economical and effective methodology of conveyancing info to and among a development team is face-to-face speech.
7. Working with computer software is the primary life of progress.
8. Agile processes promote property development. The sponsors, developers, and users will be able to maintain a relentless pace indefinitely.
9. Continuous attention to technical excellence and smart style enhances nimbleness.
10. Simplicity—the art of maximizing the number of work not done—is essential.
11. the most effective architectures, necessities, and styles emerge from self–organizing groups.
12. At regular intervals, the team reflects on a way to become simpler, then tunes and adjusts its behavior consequently.

❖ **Life cycle of Agile Methodology:**

The Agile Software Development Life Cycle helps you break down each project you take on into six simple stages:

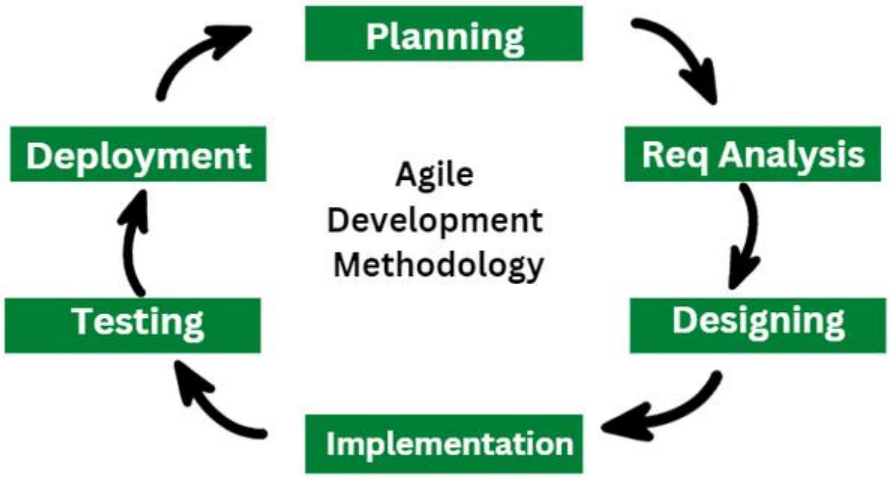

Fig: Lifecycle Agile Methodology

1. Requirement Gathering:

- In this stage, the project team identifies and documents the needs and expectations of various stakeholders, including clients, users, and subject matter experts.
- It involves defining the Project's Scope, objectives, and requirements.
- Establishing a budget and schedule.
- Creating a project plan and allocating resources.

2. Design:

- Developing a high-level system architecture.

- Creating detailed specifications, which include data structures, algorithms, and interfaces.
- Planning for the software's user interface.

3. Development (Coding):
- Writing the actual code for the software.
- Conducting unit testing to verify the functionality of individual components.

4. Testing:
This phase involves several types of testing:
- Integration Testing: Ensuring that different components work together.
- System Testing: Testing the entire system as a whole.
- User Acceptance Testing: Confirming that the software meets user requirements.
- Performance Testing: Assessing the system's speed, scalability, and stability.

5. Deployment:
- Deploying the software to a production environment.
- Put the software into the real world where people can use it.
- Make sure it works smoothly in the real world.
- Providing training and support for end-users.

6. Review (Maintenance):
- Addressing and resolving any issues that may arise after deployment.
- Releasing updates and patches to enhance the software and address problems.

❖ **Benefits of Agile development methodology**

The Advantages of the Agile Model are as follows:
- **Flexibility and Adaptability**: Agile can quickly adapt to changes, allowing teams to respond to new customer needs and market conditions.
- **Improved Collaboration**: Agile encourages constant communication between developers and stakeholders, ensuring the product meets user expectations.
- **Faster Delivery**: Agile ensures quicker releases, keeping customers engaged and their feedback incorporated early.
- **Enhanced Quality and Customer Satisfaction**: Agile focuses on customer feedback, ensuring the product meets their needs and delivering high-quality results.
- **Iterative Development**: Work is done in small, manageable steps, allowing for regular improvements and quick adjustments.