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Agile Development

The term "Agile" was used for a set of methodologies in 2001 when 17 software developer came together to discuss their shared ideas and various approaches to software development. The developers published manifesto for agile software development and twelve principles. They described agile as a set of values and principles making each decision based on the principles and values that the team has decided to follow.[1]

The values of agile manifesto are given below [2]

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

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

The 12 principles of agile manifesto are given below [2]

- Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
- Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
- Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
- Business people and developers must work together daily throughout the project.
- Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.
- The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
- Working software is the primary measure of progress.
- Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
- Continuous attention to technical excellence and good design enhances agility.
- Simplicity--the art of maximizing the amount of work not done--is essential.
- The best architectures, requirements, and designs emerge from self-organizing teams.
- At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.
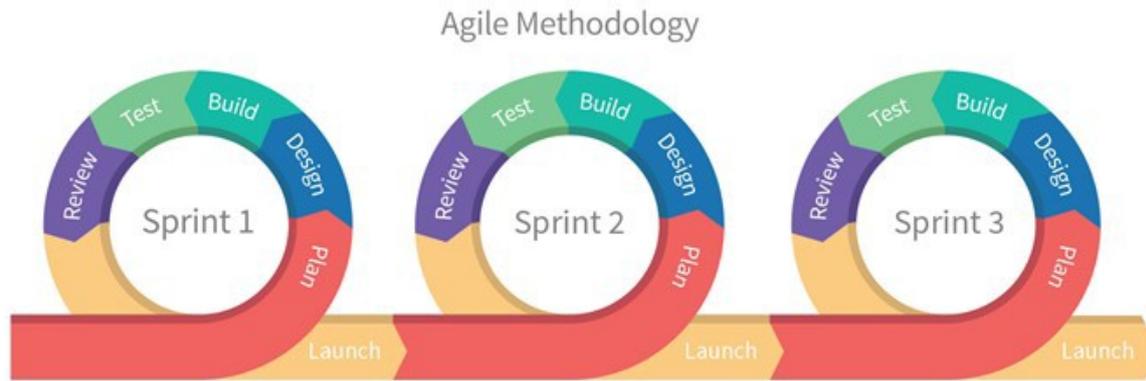
Figure 1: Agile development cycle

Agile methods are the incremental development methods in which the increments are small and new releases of the system are created in a short periods. They involve customers in the development process to get rapid feedback on changing requirements. Although agile methodologies are differs from each other in some perspective, they all share core values of agile manifesto. The most popular agile methodologies are Extreme Programming(XP), Scrum, Crystal, Dynamic system development method(DSDM).[3]

An agile lifecycle consist of iterative and continuous sprint shown Figure 1. Each sprint takes short period of time and new release of the system created after each iteration. A cycle start with planning and continue with design, implementation, test and review stages. Customer feedback are involved though software lifecycle so agile development provide rapid response to customer changes. The system evolves with new releases that satify customer needs.

References

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