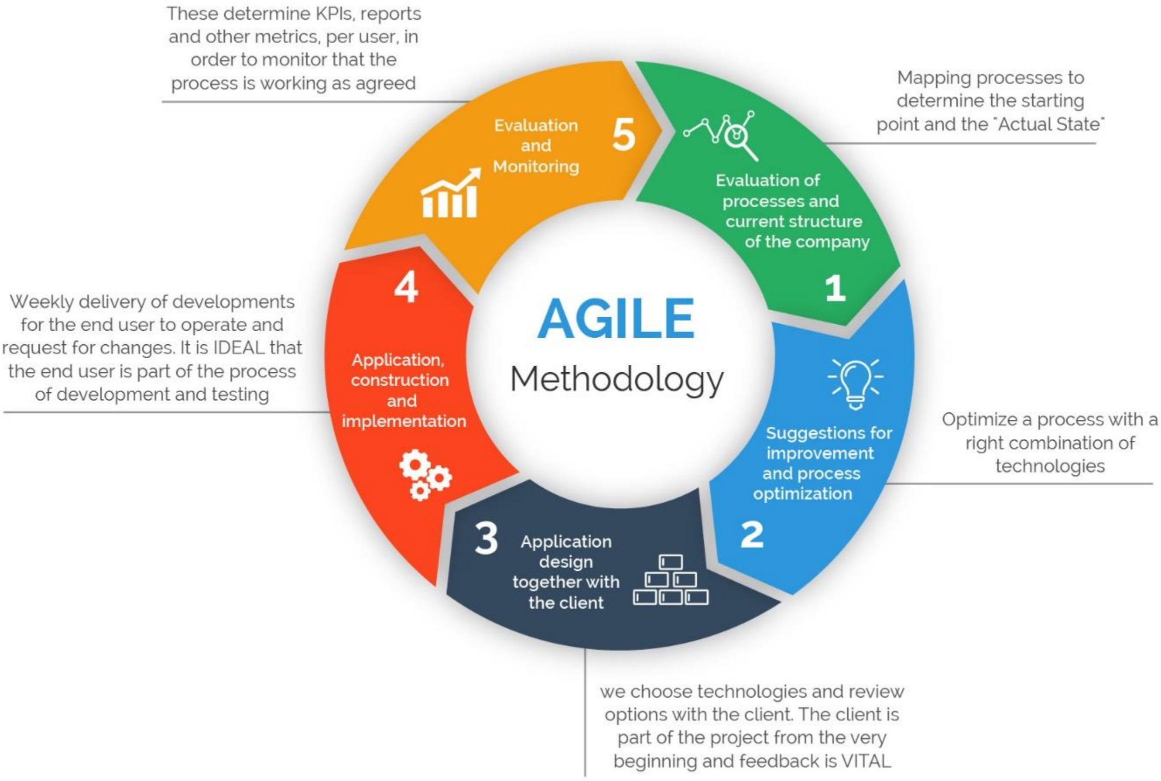
Agile Methodology



These determine KPIs, reports and other metrics, per user, in order to monitor that the process is working as agreed
Evaluation and Monitoring
5
Mapping processes to determine the starting point and the "Actual State"
Evaluation of processes and current structure of the company
1
Weekly delivery of developments for the end user to operate and request for changes. It is IDEAL that the end user is part of the process of development and testing
4
Application, construction and implementation
AGILE
Methodology
Suggestions for improvement and process optimization
2
Optimize a process with a right combination of technologies
3
Application design together with the client
we choose technologies and review options with the client. The client is part of the project from the very beginning and feedback is VITAL

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Methodology

The Methodology is the general research strategy that outlines the way in which research is to be undertaken and, among other things, identifies the methods to be used in it. These methods, described in the methodology, define the means or modes of data collection or, how a specific result is to be calculated.

To manage a project efficiently, the manager or dev team must examine many software development methodologies to choose the one that will work best for the project at hand. All methodologies have different strengths and weaknesses and exist for different reasons. Some Methodology are described below:

Waterfall development methodology

The Waterfall model is a popular version of the systems development life cycle model for software engineering. Often considered the classic approach to the systems development life cycle, the waterfall model describes a development method that is rigid and linear. Waterfall development has distinct goals for each phase of development where each phase is completed for the next one is started and there is no turning back.

Rapid application development methodology

"Rapid-development language" is a general term that refers to any programming language that offers speedier implementation than do traditional third-generation languages such as C/C++, Pascal, or Fortran. Rapid-Development Languages (RDLs) produce their savings by reducing the amount of construction needed to build a product. Although the savings are realized during construction, the ability to shorten the construction cycle has project wide implications: shorter construction cycles make incremental lifecycles such as Evolutionary Prototyping practical. Because RDLs often lack first-rate performance, constrain flexibility, and are limited to specific kinds of problems, they are usually better suited to the development of in-house business software and limited-distribution custom software than systems software.

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Agile development methodology

Agile software development is a conceptual framework for undertaking software engineering projects. There are a number of agile software development methodologies e.g. Crystal Methods, Dynamic Systems Development Model (DSDM), and Scrum. Most agile methods attempt to minimize risk by developing software in short time boxes, called iterations, which typically last one to four weeks. Each iteration is like a miniature software project of its own, and includes all the tasks necessary to release the mini-increment of new functionality. At the end of each iteration, the team reevaluates project priorities.

DevOps deployment methodology

According to the DevOps culture, a single group of Engineers (Developers, System Admins, QA's. Testers etc) has end to end responsibility of the Application right from gathering the requirement to development, to testing, to infrastructure deployment, to application deployment and finally monitoring & gathering feedback from the end users, then again implementing the changes. This is a never ending cycle and the logo of DevOps makes perfect sense to me.

Introduction and Definition of Agile Methodology

Agile Methodology is one of the most popular Software Development Methodology in worldwide. Agile development methodology provides opportunities to assess the direction of a project throughout the development lifecycle. By focusing on the repetition of abbreviated work cycles as well as the functional product they yield, agile methodology is described as “iterative” and “incremental”. In waterfall, development teams only have one chance to get each aspect of a project right.

In February 2001, Seventeen people met at a resort in Snowbird, Utah to discuss about lightweight development methods to find alternative Software Development Methods and together they published the Manifesto for Agile Software Development (The Agile Manifesto, 2001). They considered rigid, heavyweight and too focused on documentation. Their response, summarized in the manifesto, clarifies their focus by valuing:

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

In 2004 they analyzed the home grounds of Agile and traditional approaches based on application characteristics, management characteristics, technical characteristics, and personnel characteristics. Further, they assert that the choice of traditional or agile methods for a given project is largely contingent on five factors:

- ✓ The size of the systems development project and team
- ✓ The consequences of failure (i.e., criticality)
- ✓ The degree of dynamism or volatility of the environment
- ✓ The competence of personnel
- ✓ Compatibility with the prevailing culture

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In 2013 they also pointed out that barriers to Agile adoption include an inability to change an organization’s culture, followed by general resistance to change and trying to fit agile into a non-agile framework. The framework for organizational change articulated by Adler and Shenhar (1990) is useful for assessing the effort required to meet these challenges. The biggest concerns about Agile include lack of upfront planning, loss of management control, and management opposition. Other reasons include communication problems between development teams and other areas of the business and problems with the Scrum master.

In most cases agile is implemented in the form of a working framework known as scrum, over short work beats called sprints.

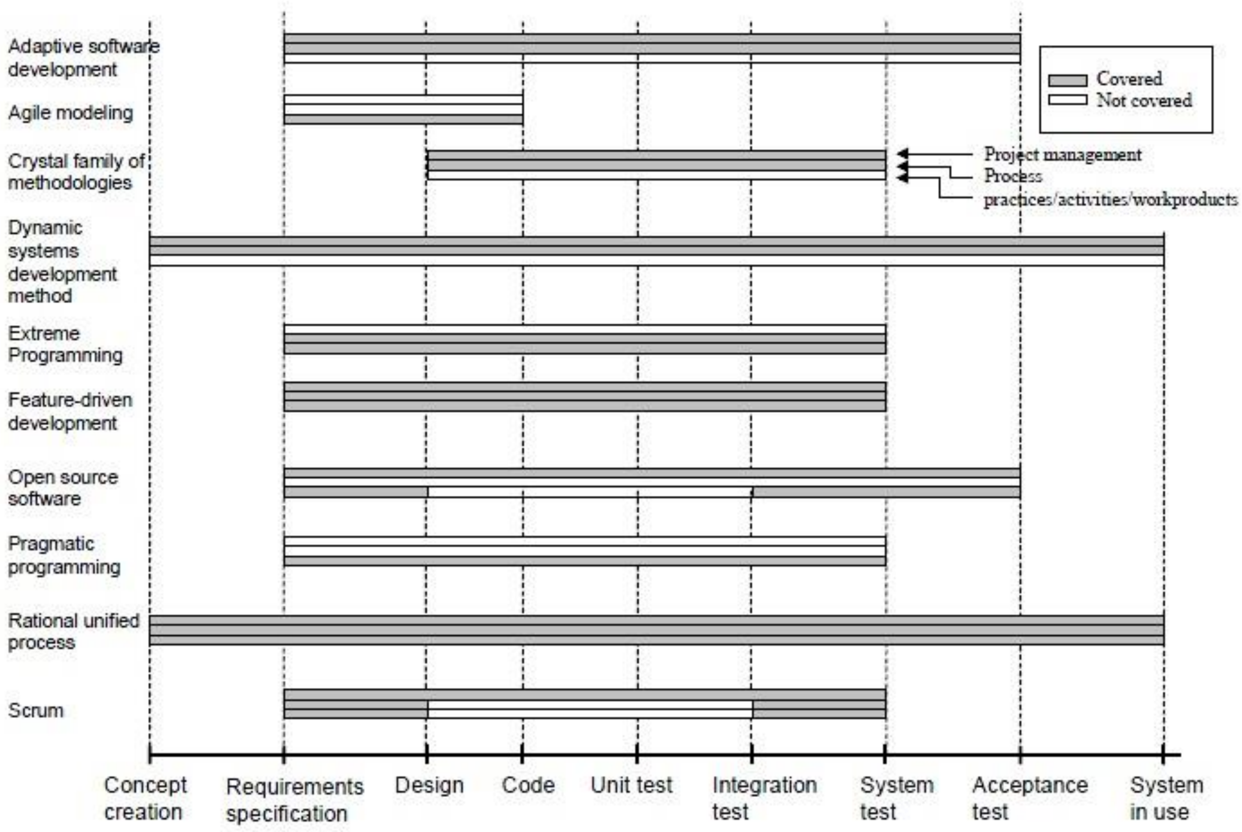
Scrum is a lightweight working framework used by small, usually interdisciplinary teams to collaborate on multi-faceted projects. Originally used by software engineers in the late 20th Century, scrum is now prevalent in a variety of industries thanks to its proven ability to facilitate teamwork, problem-solving and adaptability.

Agile Development Methods

Agile software development methods support a broad range of the software development life cycle.[42] Some focus on the practices (e.g., XP, pragmatic programming, agile modeling), while some focus on managing the flow of work (e.g., Scrum, Kanban). Some support activities for requirements specification and development (e.g., FDD), while some seek to cover the full development life cycle (e.g., DSDM, RUP).

Popular agile software development frameworks include (but are not limited to):

- Adaptive software development (ASD)
- Agile modeling
- Agile unified process (AUP)
- Disciplined agile delivery
- Dynamic systems development method (DSDM)
- Extreme programming (XP)
- Feature-driven development (FDD)
- Lean software development
- Kanban
- Rapid application development (RAD)
- Scrum
- Scrumban



Conclusion

Use of Methodologies in software development made the development more efficient, cost effective and more upgradeable. However having strength and weakness made each type of methodology’s to be used for a specific task. Methodologies are generally chosen based on Software Architecture, Purpose, Application User and Application Usability Duration .Currently in Bangladesh most of the corporate companies are moving into the DevOps Deployment Methodologies as it consumes cost of the Application development. But most of the Software firms are using Agile Methodologies to keep their Application Project Running and Risk Free.

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