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FACULTY OF EGINEERING

SOFTWARE ENGINEERING
LECTURE-13

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OUTLINE

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Agile Model

The meaning of Agile is swift or versatile."Agile process model" refers to a software development approach based on iterative development. Agile methods break tasks into smaller iterations, or parts do not directly involve long term planning. The project scope and requirements are laid down at the beginning of the development process. Plans regarding the number of iterations, the duration and the scope of each iteration are clearly defined in advance.

Each iteration is considered as a short time "frame" in the Agile process model, which typically lasts from one to four weeks. The division of the entire project into smaller parts helps to minimize the project risk and to reduce the overall project delivery time requirements. Each iteration involves a team working through a full software development life cycle including planning, requirements analysis, design, coding, and testing before a working product is demonstrated to the client.

Agile Model

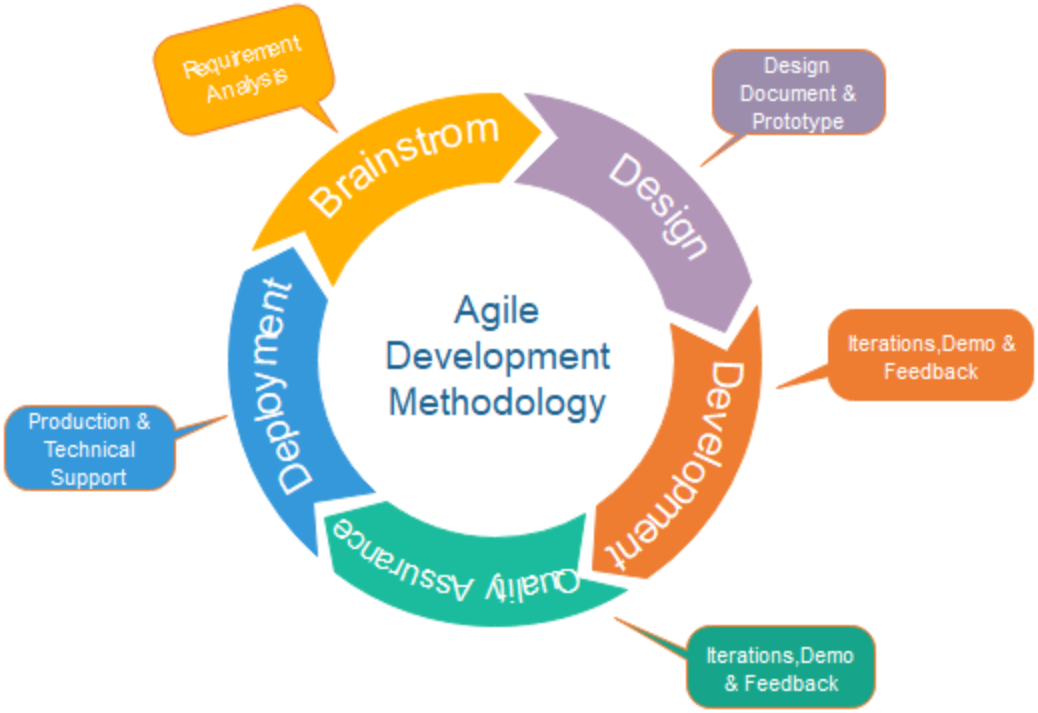

Fig. Agile Model

Phases of Agile Model

- Requirements gathering
- Design the requirements
- Construction/ iteration
- Testing/ Quality assurance
- Deployment
- Feedback

Phases of Agile Model

1. Requirements gathering: In this phase, you must define the requirements. You should explain business opportunities and plan the time and effort needed to build the project. Based on this information, you can evaluate technical and economic feasibility.

2. Design the requirements: When you have identified the project, work with stakeholders to define requirements. You can use the user flow diagram or the high-level UML diagram to show the work of new features and show how it will apply to your existing system.

3. Construction/ iteration: When the team defines the requirements, the work begins. Designers and developers start working on their project, which aims to deploy a working product. The product will undergo various stages of improvement, so it includes simple, minimal functionality.

Phases of Agile Model

4. Testing: In this phase, the Quality Assurance team examines the product's performance and looks for the bug.

5. Deployment: In this phase, the team issues a product for the user's work environment.

6. Feedback: After releasing the product, the last step is feedback. In this, the team receives feedback about the product and works through the feedback.

Agile Testing Methods

- Scrum
- Crystal
- Dynamic Software Development Method(DSDM)
- Feature Driven Development(FDD)
- Lean Software Development
- Extreme Programming(XP)

Use The Agile Model

- When frequent changes are required.
- When a highly qualified and experienced team is available.
- When a customer is ready to have a meeting with a software team all the time.
- When project size is small.

Advantage(Pros) of Agile Method

- Frequent Delivery
- Face-to-Face Communication with clients.
- Efficient design and fulfils the business requirement.
- Anytime changes are acceptable.
- It reduces total development time.

Disadvantages(Cons) of Agile Model

•Due to the shortage of formal documents, it creates confusion and crucial decisions taken throughout various phases can be misinterpreted at any time by different team members.

•Due to the lack of proper documentation, once the project completes and the developers allotted to another project, maintenance of the finished project can become a difficulty.

MCQ

1. How is WINWIN Spiral Model different from Spiral Model?

a) It defines tasks required to define resources, timelines, and other project related information

b) It defines a set of negotiation activities at the beginning of each pass around the spiral

c) It defines tasks required to assess both technical and management risks

d) It defines tasks required to construct, test, install, and provide user support

2. Identify the disadvantage of Spiral Model.

a) Doesn’t work well for smaller projects

b) High amount of risk analysis

c) Strong approval and documentation control

d) Additional Functionality can be added at a later date

3. Spiral Model has user involvement in all its phases.

a) True

b) False

MCQ

4. How is Incremental Model different from Spiral Model?

a) Progress can be measured for Incremental Model

b) Changing requirements can be accommodated in Incremental Model

c) Users can see the system early in Incremental Model

d) All of the mentioned

5. If you were to create client/server applications, which model would you go for?

a) WINWIN Spiral Model

b) Spiral Model

c) Concurrent Model

d) Incremental Model

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