AGILE SOFTWARE DEVELOPMENT

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WHAT IS AGILE ?

Agile software development refers to a **group of software development methodologies based on iterative development**, where requirements and solutions evolve through collaboration between self-organizing cross-functional teams.

WHY WE ARE USING AGILE ?

- Reduces Technical Debt
- Easily and Quickly Adapt to Change
- Using Agile for Mobile Application Development and Testing Creates Total Alignment and Transparency
- Agile Software Development and Test Minimize Risk
- Higher Quality Product

LIFE CYCLE OF SDLC (SOFTWARE DEVELOPMENT LIFE CYCLE)

- Stage 1 : Requirement collection and analysis
- Stage 2 : Feasibility study
- Stage 3 : Designing the Product Architecture
- Stage 4 : Building or Developing the Product
- Stage 5 : Testing the Product
- Stage 6 : Deployment in the Market and Maintenance

WATERFALL METHODOLOGY

- Requirements Analysis
- System Design
    a) High-level design phase
    b) Low-level design phase
- Implementation
- Testing
- Deployment
- Maintenance

WHAT IS SCRUM ?

Scrum is **a framework that helps teams work together**. Often thought of as an agile **project management framework**, scrum describes a **set of meetings, tools,** and roles that work in concert to help teams structure and manage their work.

A BEGINNER'S GUIDE TO SCRUM CEREMONIES

- Sprint Planning
- Daily Scrum (Scrum Meeting)
- Sprint Grooming
- Sprint Review
- Sprint Retrospective

SIMILARITIES BETWEEN AGILE AND WATERFALL METHODOLOGIES :-

AGILE METHODOLOGY

- Agile model follows the **incremental approach**, after the **iteration through every given time**.
- **Customer interaction** is very high.
- After every process , **Incrementation of the project is deployed** to the client.
- Agile model is **not suitable** model for **small projects.**

WATERFALL METHODOLOGY

- Waterfall model follows a **sequential design process.**
- Customer **interaction is very low**.
- The product is **delivered to the customer after overall development**.
- Waterfall model is **not suitable** for developing the **large projects**.

AGILE METHODOLOGY

- Its **more Flexible**. Also changes the requirement even after starting the development process.
- The **Test plan** is reviewed **after each sprint.**

WATERFALL METHODOLOGY

- Its **more Rigid**. We cannot change requirement once development process Started.
- The **Test plan** is reviewed **after full completion.**

ADVANTAGES OF AGILE METHODOLOGY :-

1. Client satisfaction is **rapid, continuous development** and delivery of useful software.
2. **Client, Developer, and Product Owner** interact regularly to emphasize **rather than processes and tools.**
3. Product is **developed fast and frequently** delivered (weeks rather than months.)
4. A **face-to-face conversation is the best** form of communication.
5. Daily and close **co-operation between business people and developers**.
6. **Regular adaptation** to changing circumstances.

DISADVANTAGES OF AGILE METHODOLOGY :-

1. It is not useful for **small development projects**.
2. There is a **lack of intensity** on necessary designing and documentation.
3. It requires an **expert project member to take crucial decisions** in the meeting.
4. Cost of Agile development methodology is **slightly more as compared to other development methodology.**
5. The project can quickly go **out off track if the project manager is not clear about requirements** and what outcome he/she wants.

SIMILARITIES BETWEEN AGILE AND SCRUM ?

AGILE METHODOLOGT :-

- Agile is a **Development Methodology,** based on **incremental Approach**.
- In the Agile process, **the leadership plays a vital role.**
- There is **not much room for frequent changes** .It is rigid method.

SCRUM IN AGILE :-

- Scrum is **one of the implementations of agile methodology** .Incremental builds is delivered to clients within two to three weeks.
- Scrum helps in **self-organizing and cross-functional team.**
- It's **more flexible , and adapts to quick change.**

ANY QUERIES ???