

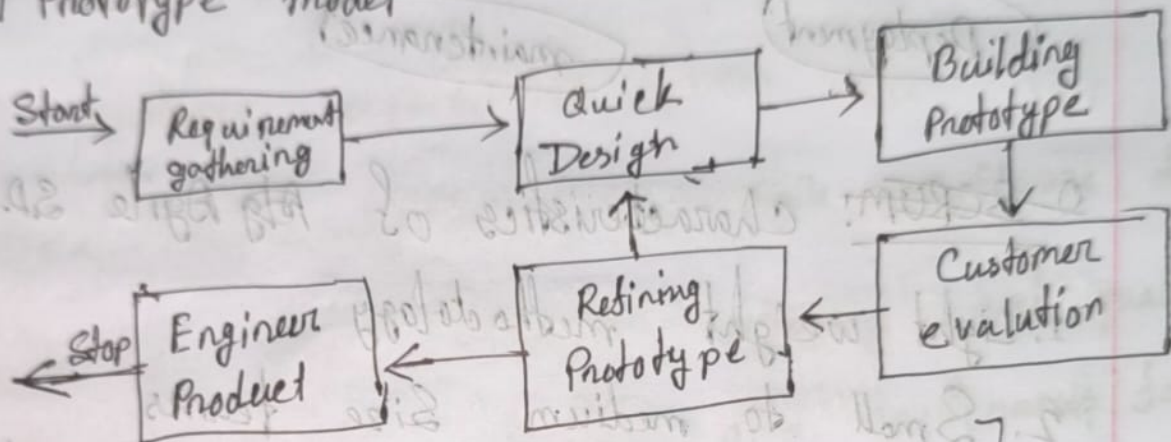
Class Test - 2:

Date: 22/10/2025

Mark: 15

Topic: Introduction to Software Engineering

⇒ □ Prototype model

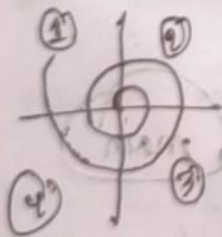


◦ iteration → ◦ Ambiguous →

◦ inadequate →

⇒ □ Spiral Development Model (Waterfall + Iterative)

4 Quadrants:



1. Objectives determination and identify alternative solutions (objective Defined)

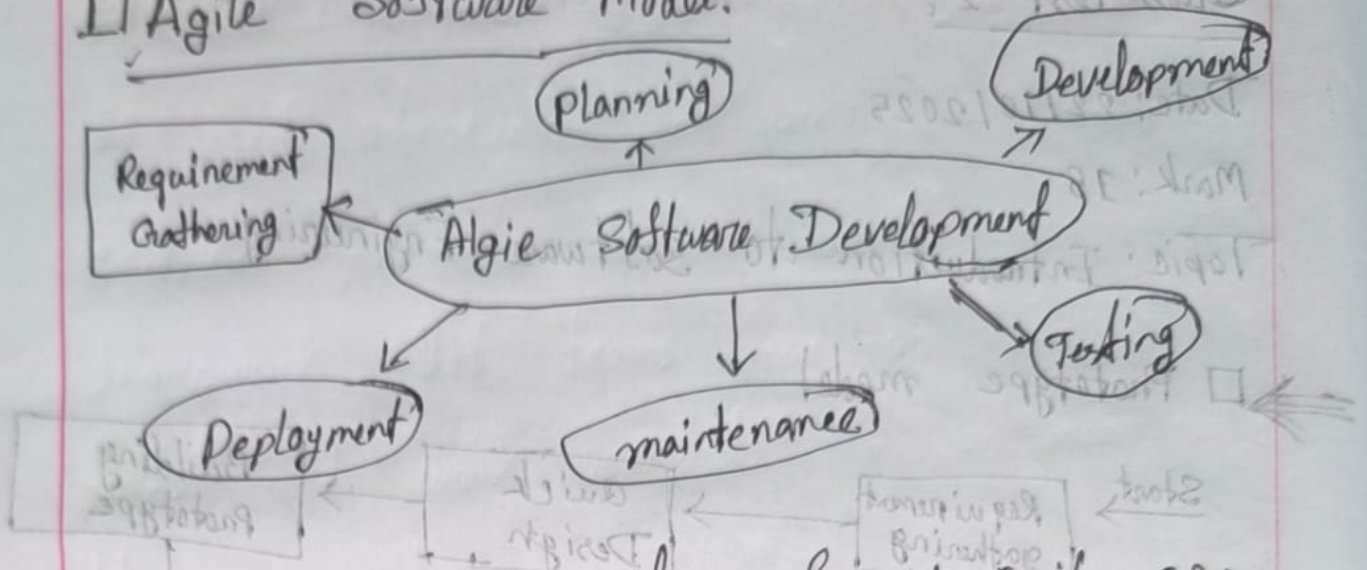
2. Identify and resolve Risks (Risk Analysis and Resolving)

3. Develop Next version of the product (Development and Validation)

4. Review and plan for the Next phase (Planning)

For: complex and large software development projects.

□ Agile Software Model:



o ~~Scrum~~ Characteristics of Agile SD:

1. Light weight methodology
2. Small to medium size teams
3. Vague and/or changing Requirements & Techniques
4. Simple design
5. Minimal system into production

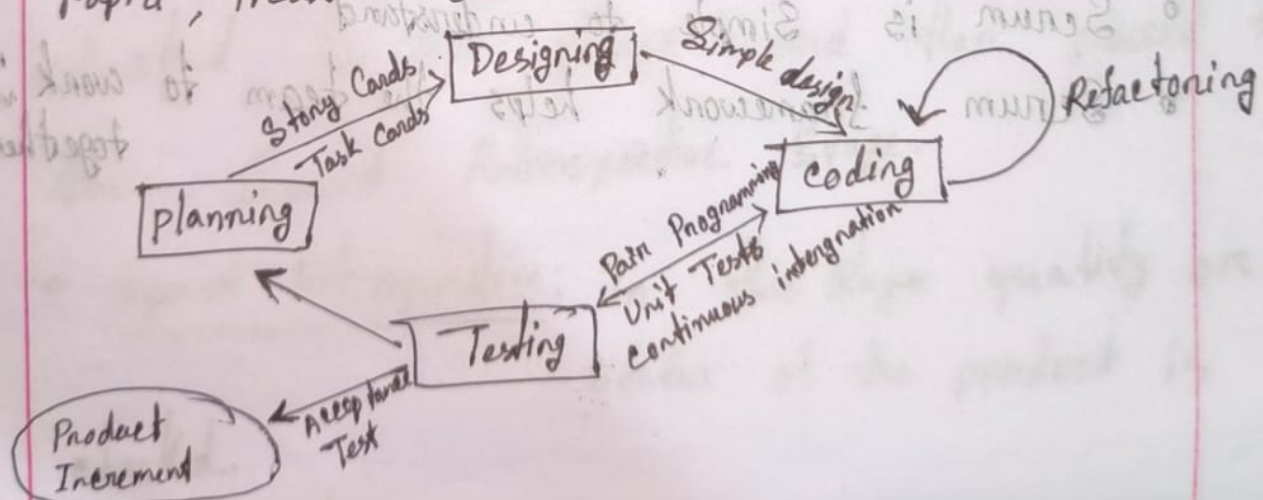
Existing Agile Method:

- o Extreme Programming (XP)
- o Scrum
- o Crystal Methods
- o Feature Driven Development
- o Lean Development
- o Dynamic Systems Development Methodology (DSDM)

Extreme Programming:

Extreme Programming (XP) is one of the most important software development frameworks of Agile models. It is used to improve software quality and responsiveness to customer requirements.

Extreme Programming (XP) is an Agile software development methodology that focuses on delivering high quality software through frequent and continuous feedback, collaboration and adaptation. XP emphasizes a close working relationship between the development team, the customer, and stakeholders with an emphasis on rapid, iterative development and deployment.



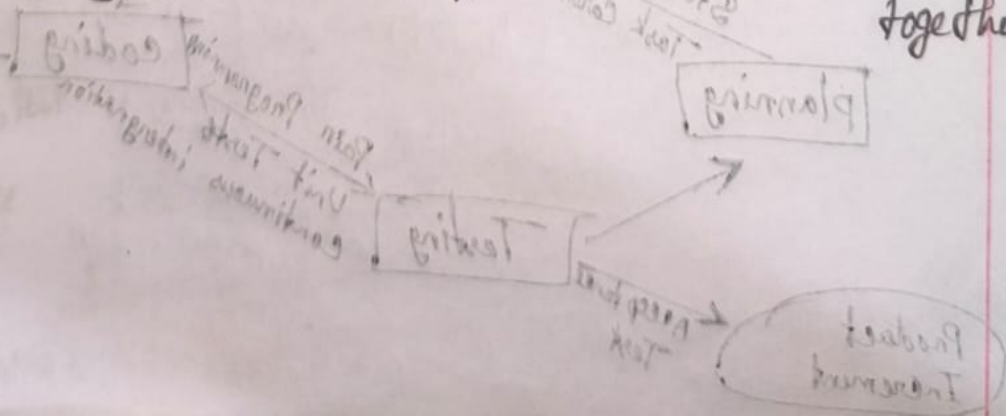
□ SCRUM: Scrum is a popular Framework that

is used whenever we want to develop complex products. Scrum is a management framework that teams use to self-organize tasks and work towards a common goal.

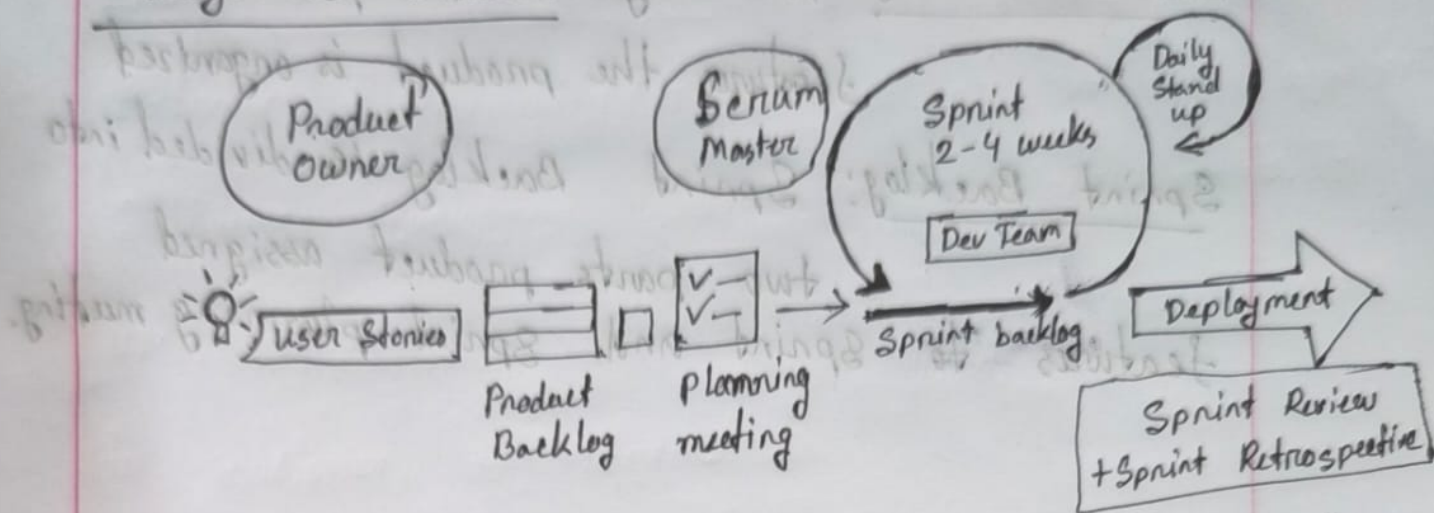
It is a framework within which people can address complex adaptive problems while the productivity and creativity of delivering products are at the highest possible value.

Features:

- Scrum is a light-weighted framework.
- Scrum emphasizes self-organization.
- Scrum is simple to understand.
- Scrum framework helps the team to work together.



Lifecycle of Scrum:



- Sprint: A sprint is a timebox of one month or less. A new sprint starts immediately after the completion of the previous sprint.
- Release: When the product is completed, it goes to the Release stage.
- Sprint Review: If the product still has some non-achievable features, it will be checked in this stage and then passed to the Sprint Retrospective stage.
- Sprint Retrospective: In this stage quality or status of the product is checked.

Product Backlog: According to the prioritize

features the product is organized
Sprint Backlog: Sprint Backlog is divided into

two parts product assigned
features to sprint and sprint planning meeting.

Sprint: A sprint is a timebox of one month or

less. A new sprint starts immediately after the

completion of the previous sprint.

Release: When the product is completed, it goes to

the release stage.

Sprint Review: If the product still has some

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Sprint Retrospective: In this stage quality or

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checked.

Definition

Prototype : A development model where a basic version of the system is built to gather user feedback and refine requirements.

Spiral : A risk-based development model that combines iterative development with systematic risk analysis at each stage.

XP : A type of Agile methodology focused on high-quality code through frequent releases, continuous testing, and collaboration.

Scrum : An agile framework that divides development into small cycles called sprints with defined roles and regular meetings.