

⇒ AGILE AND SCRUM CONCEPTS

1. AGILE PRINCIPLES

- Customer satisfaction : deliver valuable software early & continuously.
- frequent delivery : deliver working software frequently, from a couple of weeks to a couple of months.
- Collaboration : business people and developers must work together.
- face-to face conversation : the most efficient method of conveying info.
- Self-organizing Teams : the best architectures, requirements, and designs emerge from self-organising teams.

2. SCRUM FRAMEWORK

- Scrum Roles
 - (i) Product owner (defines the product backlog)
 - (ii) Scrum Master (facilitates the process)
 - (iii) Development Team (delivers potentially shippable product)
- Scrum Artifacts
 - (i) Product backlog (prioritized list of desired project outcomes)
 - (ii) Sprint backlog (items selected for the sprint)
 - (iii) Increment (sum of all the product backlog items)
- Scrum Events
 - (i) Sprint
 - (ii) Sprint Planning
 - (iii) Daily scrum
 - (iv) sprint review
 - (v) sprint Retrospective

3. SPRINT PLANNING IN SCRUM

- Sprint Planning Meeting
 - Purpose : Define what can be delivered in the sprint and how that work will be achieved.
 - Participants : Product owner, scrum master, development team.
 - Output : Sprint goal, sprint backlog

• Steps :-

- (i) Determine capacity : assess team's capacity for the sprint.
- (ii) Select backlog items : product owner presents backlog items, team selects items based on capacity.
- (iii) Define tasks : Break down selected items into actionable tasks.
- (iv) Create sprint goal : formulate a cohesive goal for the sprint.

4. PROJECT INITIATION AND PLANNING

• Key Activities (i) Vision statement

(ii) Stakeholder Identification

(iii) Product backlog creation

(iv) High level release planning

• Planning Tools

- user stories : short descriptions of features from the user's perspective.
- Story points : Estimate effort for each user story.
- velocity : measure of team's capacity based on previous sprints.

5. SPRINT PLANNING

- Inputs
 - Product backlog (prioritized list of user stories)
 - Team Capacity (available hours for the sprint)
 - Past performance (previous sprint velocity)

- Outputs
 - Sprint goal (what the sprint aims to achieve)
 - Sprint backlog (detailed plan of work to be completed)

- Activities
 - Backlog Refinement (clarify and estimate user stories)
 - Task Breakdown (decompose stories into smaller tasks)
 - Task Assignment (assign tasks based on team members strength and availability)

6. SPRINT EXECUTION

- Daily Activities
 - Daily Scrum : 15 min stand-up meeting to review progress & plan the day.
 - Task updates : continuously update task status
 - Collaboration : constant communication within the team.
- Monitoring Progress
 - Burndown chart : Visual representation of remaining work
 - Task Board : Track task through "To Do", "In Progress", and "Done" columns.
- Handling Issues
 - Impediment Tracking : Identify and address blockers.
 - Scrum Master Role : facilitate resolution of impediments.

7. AGILE AND SCRUM BENEFITS

- Agile Benefits
 - Flexibility : Easily adaptable to changing requirements
 - Customer focus : Regular feedback ensures customer needs are met.
 - Higher Quality : continuous testing and integration.
- SCRUM Benefits
 - Transparency : frequent updates and reviews enhance visibility.
 - Improved collaboration : daily meetings and team involvement.
 - Faster delivery : Regular sprints deliver functional increments.

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