

ASSIGNMENT-6.1

[Deliverable-1]

Introduction to AGILE & SCRUM

Agile:- Principles

- ① Customer Satisfaction:- Deliver valuable software early and continuously.
- ② Welcoming Change:- Embrace changing requirements, even late in development.
- ③ Frequent Delivery:- Deliver working software frequently.
- ④ Collaboration:- Business people and developers must work together daily.
- ⑤ Motivated Individuals:- Build projects under skilled and motivated individuals.
- ⑥ Face-to-Face Communication:- Use face-to-face conversation as the primary communication method.
- ⑦ Working Software:- Primary measure of progress.
- ⑧ Technical Excellence:- Continuous attention to technical excellence and good design.
- ⑨ Simplicity:- Maximise the amount of work done.
- ⑩ Self-Organizing Teams:- Best architectures, requirements, and designs emerge from self-organizing teams.
- ⑪ Reflection:- Regular intervals to reflect and tune behaviors.

Scrum Framework:-

Scrum Roles :-

- Product Owner :-
 - Defines the product backlog.
 - Priorities needs based on stakeholders and customer inputs.
 - Ensures team delivers value.
- Scrum Master :-
 - Facilitates Scrum processes.
 - Removes impediments
 - Coaches team to follow Scrum practices
- Development Team :-
 - Self-organizing group responsible for delivering increments.
 - Typically 5-9 members.

Scrum Events :-

- Sprint :-
 - Time-boxed period (1-4 weeks) where a deliverable increment is created.
 - Regular duration throughout development.
- Sprint Planning :-
 - Team plans the work to be performed during the Sprint.
 - Defines the Sprint goal.

- Daily Scrum :-

- 15-minute time-boxed event for the team to synchronize activities.
- Focus on progress towards the Sprint Goal.

- Scrum Artifacts :-

- Product Backlog :-

- Ordered list of all work for the product.
- Dynamic and evolves as new requirements emerge.

- Sprint Backlog :-

- Set of product backlog items selected for the Sprint.
- Includes a plan for delivering the increment.

- Increment :-

- Sum of all the Product Backlog items completed during a Sprint.
- Must be "Done" and usable.

- Definition of Done (DoD) :-

- Shared understanding of what it means for work to be completed.
- Ensures transparency and quality.

Best Practices :-

- ① Time Boxing :- Strict time limits for events to increase focus and efficiency.
- ② Cross-functional Teams :- Ensure diverse skills within the team to handle all work.
- ③ Continuous Integration :- Frequently integrate and test changes to detect issues early.
- ④ Retrospective Actions :- Act on retrospective findings to continually improve.
- ⑤ Stakeholder Engagement :- Regularly involve stakeholders for feedback and alignment.
- ⑥ Automated Testing :- Reduces manual testing effort and increases reliability.
- ⑦ Agile Metrics :- Use metrics like velocity, cycle time, and lead time to drive improvements.