PLM - Agile
Agile Development

- Evolved in the 1990s as a response to “heavyweight” methodologies.
- In 2001 representatives of various new methodologies met to discuss the need for lighter alternatives. The Agile Alliance, promoting Agile development, was formed.
- Agile Development is a term used to describe a number of methodologies based on iterative and adaptive development. Examples:
  - Extreme programming (XP)
  - Agile Unified Process (AUP)
  - Dynamic Systems Development Method (DSDM)
  - Scrum
- While all the above are unique methodologies, they share the following key principles:
  - Iterative Development
  - Collaboration
  - Organization Adoption
  - Self-organization
  - Individual Accountability
PLM - Agile

Deliverables - Functional Users & Information Technology

Project Initiation

- Define and authorize a project's objectives, scope, purpose, and deliverables.

Sprint 0

- Define requirements, perform system design, develop and test the system.

Design

- High Level Project Plan
- Product Backlog

Code

- Sprint 0 User Acceptance Testing (UAT)
- Product Backlog
- Design
- Code
- Test

Test

- Sprints 1, 2, 3, 4.....
- Updated Project Plan
- Sprint Backlog
- Unit Test Plan
- Defect Log
- Deployment Plan

User Acceptance Testing (UAT)

- Prepare for implementation of the developed system through UAT.

Deployment & Closing

- Deploy the developed system in production and close the project.

Outputs

- Updated Project Plan
- Updated Defect Log
- Production Readiness Checklist
- Project Close Checklist
  - Project Metrics
  - Lessons Learned Document

Outputs

- Update Project Plan
- Defect Log
- Deployment Plan

Outputs

- Updated Project Plan
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  - Project Metrics
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Scrum

- Scrum is one of the most adopted methodologies following Agile Software Development principles.
- The term Scrum comes from a formation used in Rugby. The formation is used to bring an out-of-play ball back into play.
- The main roles in Scrum are:
  - **Scrum Master aka Project Manager**: Scrum facilitator whose main responsibility is to remove impediments for the team.
  - **Product Owner aka Functional Lead**: Stakeholder representative whose main responsibility is to prioritize items on the Product Backlog.
  - **Team aka Project Team**: A group of cross-functional resources whose main responsibility is to develop requested functionality.
Sprints

- Scrum projects consist of one to many equal short iterations called Sprints.
  - Each Sprint results in a potentially shippable set of functionality.
  - Each Sprint is usually 30 days long.
  - Project may contain one to many Sprints depending on project scope.
  - First Sprint, called Sprint 0, is used to develop an initial Product Backlog.
  - Sprint begins with a Sprint Planning Session and ends with a Sprint Review Session.
Product Backlog

- **Product Backlog** lists all of the things that the system should include and address.
  - Prioritized list of all requirements that contains features, defects, complaints, functionality, and technology.
  - Never finalized as it evolves along with the project.
  - Items on the Product Backlog are estimated by the Scrum Team.
  - Only the **Product Owner** can prioritize the backlog.

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Sprints Planning Session

- Each Sprint begins with a **Sprint Planning Session**.
  - Sprint Planning Session takes place on the first day of the Sprint with the Scrum Team, Scrum Master, Product Owner, and stakeholders.
  - High priority Product Backlog items are discussed to fully understand requested items.
  - During the first half of the meeting, Scrum Team selects a number of the high priority Backlog items they can deliver in one Sprint.
  - During the second half of the meeting, the Scrum Team develops a list of tasks, estimates, and assignments to deliver selected Product Backlog items at the end of the Sprint. The output is called **Sprint Backlog**.
Daily Scrum

- During a sprint, the Scrum Team meets daily for a short status meeting, called the Daily Scrum. The purpose of this meeting is to share status, make others aware of work that may impact them, and notify the rest of the team of any impediments.
  - Daily Scrum is 15 minutes long. Daily Scrum takes place at the same time and same location every day.
  - Daily progress is reviewed and impediments are identified during the meeting.
  - Anyone is welcome to attend to observe how much progress a team is making.
  - Only the Scrum Team members may speak.
  - During the meeting, each team member answers three questions identified below.
Sprint Review Sessions

- **Sprint Review Session** takes place at the end of each Sprint.
  - Sprint Review Session is attended by the Scrum Team and stakeholders
  - Completed work is demonstrated to the stakeholders
  - Work planned but not completed as well as any additional suggestions are added to the Product Backlog for future Sprints or possibly future projects
  - The meeting is informational. Criticism of the completed work or individual performance discussions are not part of this meeting.
Q & A