UNIVERSITY INSTITUTE OF COMPUTING

Agile Methodology

(24CAT-656)

Unit-2- Syllabus

Unit-2	Agile	Lecture Hours:10
Agile Project Management	Project Management introduction, Agile Scrum, Project management methodology, Selection of right project management methodology, Continuous integration and continuous delivery (CI/CD) in agile development.	
Scrum	Scrum framework, Scrum Roles, Agile Kanban, Agile Vs. Scrum. Product Backlog, Scrum Practices, Process flow of Scrum Methodologies,\	
Agile Design	Agile Daily Stand-up, Sprint Review meeting vs Daily Stand-up meeting in Agile, Definition of Done, Agile Design, Retrospective in Agile development.	

- ## TEXT BOOKS

T1 David J. Anderson and Eli Schragenheim, Agile Management for Software Engineering: Applying the Theory of Constraints for Business Results, Prentice Hall, 2003.

T2 Hazza and Dubinsky, Agile Software Engineering, Series: Undergraduate Topics in Computer Science, Springer, 2009.

T3 Agile Software Development Ecosystems by Jim Highsmith, Addison-Wesley 2002, ISBN 0201760436.

- ## REFERENCES

R1 Craig Larman, Agile and Iterative Development: A Managers Guide, Addison-Wesley, 2004.

R2 Kevin C. Desouza, Agile Information Systems: Conceptualization, Construction, and Management, Butterworth-Heinemann, 2007.

Scrum Workflow

- Scrum is a framework that addresses complex problems, while creatively and productively delivering products of the finest possible value. It is developed for teams who divide their work into goals, that can be completed within timeboxed iterations called sprints, which lasts 2- 4 weeks.

- The scrum team tracks the progress of the project in 15-minute timeboxed meetings called daily Scrum. After sprint completion, the team holds a review meeting to demonstrate the work done and a retrospective to continually improve.

- Let's get to the next part of this "Scrum Workflow" article and learn about the important roles involved in the Scrum framework.
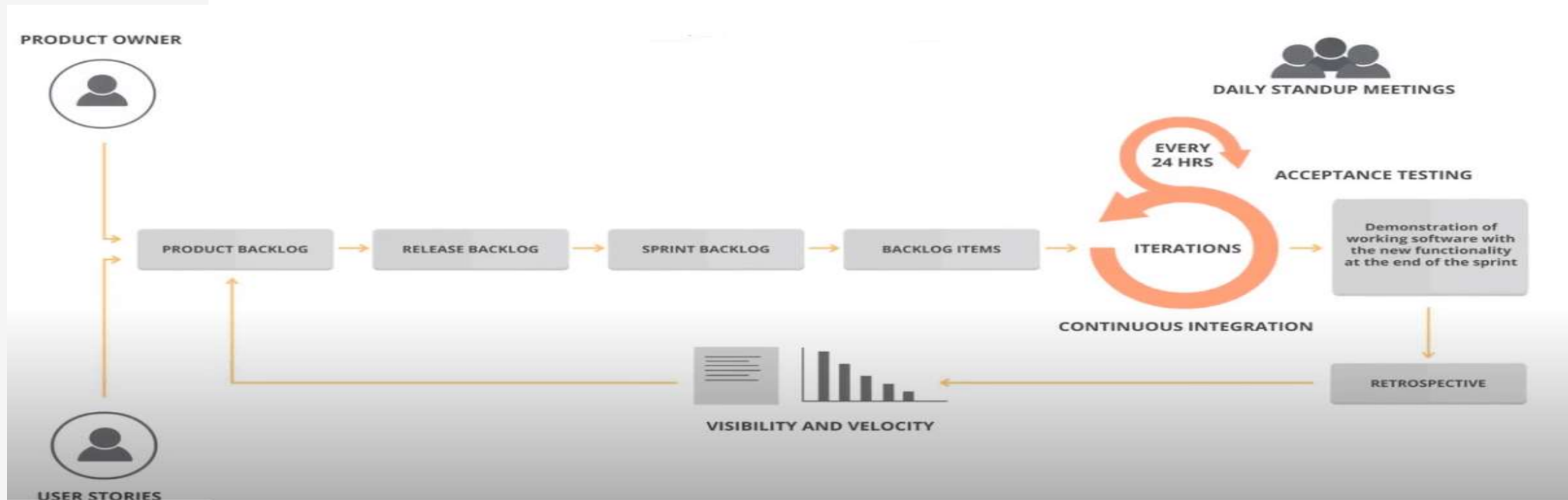
Scrum Roles

- **Product owner** - The product owner in the Scrum team is primarily responsible for working with the user group to determine the features to be included in the product release. They are the champions who manage the team and guide the project's progress toward success.

- **Scrum Master** - The Scrum Master in the team is responsible for promoting and supporting Scrum. They guide the team, product owner, and business on Scrum and look for ways to fine-tune their practice. An effective scrum master profoundly knows how the work is being performed by the team and helps the team in optimizing their transparency and delivery flow.

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Scrum Roles

- **Development Team** - The development teams are cross-functional and have the skills to deliver product increments. This team includes developers, testers, designers, etc., to have less dependency on the third party. All the members of the scrum team are self-organizing and ensure successful sprint completion by turning Product Backlog into increments of potentially releasable functionality.

Scrum Workflow Steps

- The below diagram depicts the step by step process involved in scrum workflow:

Scrum Workflow Steps

- **1. Product backlog creation**
- The first phase of the Scrum workflow process begins with the visioning phase, where the Stakeholders meet to decide the list of features that should be implemented and develop a product roadmap.
- **2. Release backlog**
- Based on the product roadmap developed, in collaboration with the product owner, the team decides how to group user stories into releases. The objective of release is to deliver a subset of product backlog known as release backlog

Scrum Workflow Steps

- **3. Sprint Backlog creation**
- A Sprint is a predefined timeframe within which the team performs a set of tasks from the Backlog. The duration of each Sprint lasts 2-4 weeks. Each Sprint takes a manageable chunk of release backlog and gets it a ship steady state. A set of product backlog items that must be delivered within a single sprint iteration is called Sprint backlog.
- **4. Working on sprint and scrum meetings**
- After the user stories for the current phase are selected, the development process begins. For tracking the current working process, a task board is commonly used, which represents particular user stories with a description of tasks needed for implementation.

THANK YOU