



**CHANDIGARH
UNIVERSITY**

Discover. Learn. Empower.

APEX INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Agile Practices (22CSH-292)

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Lecture 1.2: product design Development

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Learning Outcome of this lecture

CO1	Understand the Agile Methodology and comparing various other software development models with agile.
CO2	Examine Scrum and test driven development
CO3	Apply the various tools available to agile teams to facilitate the project
CO4	Analyze the method to improve results for a specific circumstance
CO5	Evaluate likely successes and formulate plans to manage likely risks or problems

Learning Outcome of this lecture

Unit	Name	Outcome
I	Understanding common Agile Practices in DevOps	<ul style="list-style-type: none"> • Introduction to Product Management, Product Design and Requirement gathering, Product Design Challenges, UX Design, Product Development Methodologies, Product Marketing and Presentation, Traditional Software Development Methodologies, Problem/issues with traditional approach, Agile Development, Agile Manifesto, Scrum Model, Agile Estimations and Planning, Soft skills in agile •
CO 1 Apply the Agile Methodology and comparing various other software development models with agile		

Agile Project Management

- ****Agile Principles****: Agile estimation and planning are rooted in the core principles of Agile project management, emphasizing flexibility, collaboration, and responsiveness to change.
- ****Iterative Development****: Agile estimation supports iterative development, allowing for continuous improvement and adaptation to evolving project requirements.
- ****Customer Collaboration****: Agile estimation involves close collaboration with customers to understand their needs and deliver value-driven solutions.



Estimation Techniques

- ****Relative Sizing****: Agile estimation techniques such as Planning Poker and Story Points enable teams to use relative sizing to estimate the effort and complexity of user stories.
- ****Velocity Tracking****: Velocity tracking helps teams measure their capacity and predict the amount of work they can complete in each iteration, facilitating better planning and forecasting.
- ****Probabilistic Forecasting****: Agile estimation involves probabilistic forecasting to account for uncertainty and variability in project delivery, enhancing predictability and risk management.

SWOT Analysis

- Strengths**: Agile estimation empowers teams to adapt to changing requirements and deliver incremental value, fostering customer satisfaction and project success.
- **Weaknesses**: Over-reliance on historical data for estimation may lead to inaccuracies, especially in complex and innovative projects.
- **Opportunities**: Agile estimation presents opportunities for continuous improvement, fostering a culture of learning and adaptability within the team.
- **Threats**: Inaccurate estimation may lead to project delays, cost overruns, and diminished stakeholder trust, impacting project outcomes.



Agile Planning

- ****Adaptive Planning****: Agile planning emphasizes adaptability and responsiveness to change, enabling teams to adjust their plans based on evolving priorities and feedback.
- ****Incremental Delivery****: Agile planning focuses on incremental delivery, allowing teams to deliver value early and frequently, mitigating risks and maximizing customer satisfaction.
- ****Collaborative Planning****: Agile planning involves collaborative sessions such as Sprint Planning and Release Planning, fostering alignment and shared understanding among team members.



Release Planning

- ****Product Roadmap****: Release planning involves creating a product roadmap that outlines the high-level features and delivery milestones, providing a strategic view of the project.
- ****Feature Prioritization****: Teams use feature prioritization techniques such as MoSCoW (Must have, Should have, Could have, Won't have) to align on the most critical features for each release.
- ****Risk Assessment****: Release planning includes risk assessment to identify potential obstacles and dependencies, enabling proactive risk mitigation strategies.



Text Books and Reference Books

T1 Agile Project Management with Kanban - Book by Eric Brechner

T2 Agile Foundations: Principles, Practices and Frameworks – Peter Measey

- Reference Books:

1 Agile Project Management with Kanban Eric Brechner
2nd Microsoft Press 2021

2 Agile Foundations Peter Measey(4th BCS,) The Chartered
Institute for IT 2015

References

- <https://www.mygreatlearning.com/blog/importance-of-design-thinking/>
- <https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process>



THANK YOU

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