AGILE DEVELOPMENT with SCRUM

This 2-day course assures students understand what adopting Scrum will mean for their organization and themselves. The course begins with the concepts of iterative development and incremental development: developing and delivering portions of a total product according to a well-defined schedule and partitioning of product features based on business value and risk.

The course then discusses the principles and practices that define an agile approach to software development, including: delivering continual value to the customer, flexible and rapid response to change, short time-boxed iterations, and rapid feedback on project status. The course next covers each of Scrum's practices and, most importantly, the structure and flow of how a Scrum project is conducted according to agile principles. Comprehensive exercises allow students to plan a release, estimate user stories and tasks, plan and populate a sprint and understand how to conduct and end a sprint, with special consideration of software deployment options.

AUDIENCE

(1) Software Developers, Quality Assurance, Business Analysts, Project Managers, Program Managers
(2) Anyone who wants to efficiently manage projects that experience frequent changes in user requirements

PREREQUISITES

(1) A good understanding of software development practices and life cycle management

COURSE OBJECTIVES

(1) Provide a comprehensive introduction to the agile philosophy with special focus on Scrum, the leading agile method in practice today
(2) Coverage of Scrums roles, meetings and artifacts, and how they are applied in software development projects

CHAPTER 1
ITERATIVE & INCREMENTAL DEVELOPMENT
History of the Waterfall
Iterative & Incremental Development
What is an Iteration?
The Business Case for Iteration
Group Discussion

CHAPTER 2
THE AGILE PHILOSOPHY
What does it mean to be Agile?
The Agile Manifesto
4 Core Values and 12 Principles
Agile Practices
Group Discussion

CHAPTER 3
SCRUM
Scrum Practices
Structure of Scrum
3 Roles
3 Artifacts
4 Meetings
Group Discussion

CHAPTER 4
USER STORIES & REQUIREMENTS
What is a User Story?
What Does a User Story Look Like?
Where Do User Stories Fit in Scrum?

CHAPTER 5
PLANNING A SCRUM BUDGET
Introduce Course Case Study
The Product Backlog
Mapping Features to Product Backlog
Identify User Stories from Features
Estimating Effort for User Stories

CHAPTER 6
AGILE ESTIMATION
Story Points & Ideal Days
Example: Assigning Story Points
Estimating Velocity
Empirical Data & Velocity
Estimating with Planning Poker
Exercise: Applying Planning Poker
Group Exercise: Estimating User Story Effort
Group Exercise: Release Planning in Scrum

CHAPTER 7
PLANNING A SCRUM SPRINT
Mapping a Sprint Backlog to Tasks
The Sprint Planning Meetings
Example: Splitting User Stories into Tasks
Velocity-driven Planning
Commitment driven Planning
Group Exercise: Spring Planning in Scrum

CHAPTER 8
EXECUTING A SPRINT
The Task Board
The Daily Scrum
Updating the Burndown Chart
Team Empowerment
The Sprint Review
Finishing Early or Late
Testing within the Sprint
Bugs in an Iteration
Ending the Sprint
Deploying the Software

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