RG Freeman group

Course Title:

Agile for Developers

Course ID: Agile-23D
Duration: 2 days
Course Level: Intermediate/Advanced

Course Description:
This 2-day course explores how adapting Agile values and principles will improve product development. It contrasts traditional SDLC methods with the most popular Agile methods to set the stage for benchmarking performance. Then it introduces a comprehensive set of Agile techniques and practices, and gives attendees the opportunity to simulate an end-to-end project while using them. Attendees discuss significant issues such as how to transition traditional roles of development within an Agile Framework.

The strength of this course comes from various exercises and discussions that give attendees hands-on experience with practical situations. The complete product life cycle is covered from inception to release planning and deployment, from managing a backlog to demonstrating results, and from prioritizing requirements to changing them. Attendees provide estimates using several techniques at successively lower levels of detail. They experience what it is like to participate in self-managing teams. Instructor-led discussions will debrief each exercise and apply learning to the attendee's environment. The class will also discuss the organizational, cultural and management implications of implementing Agile practices.

Learn How to Apply Agile to Current Projects: Produce work products and artefacts based on actual situations that demonstrate how to make the transition to an Agile environment.

Intended Audience: The course is intended for Developers, Project Managers and other team members involved in the development of a product or service.

Prerequisites:
None. However, it is recommended that participants have a basic understanding of a development product cycle, project management, business processes, business analysis or other IT functions.

Course Context:
Many of today's Project Management, Developers and related IT professionals are preparing themselves to lead, manage or contribute to Agile development teams. They have found that many of the tools and techniques applied during a traditional project management approach no longer work as effectively, or at all. In order to do more than survive in this iterative development environment, today's professionals must employ new approaches to project management and business analysis tools and techniques. Business clients expect improved product delivery and need to be fully engaged in the process.

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This course will explore how your projects can make the transition to an effective Agile environment.

Agile is an incremental, iterative framework for aligning project priorities and software development - where requirements and solutions evolve through collaboration between self-organizing cross-functional teams. This disciplined project management process involves:

- A leadership philosophy that encourages teamwork, self-organization and accountability
- A set of engineering best practices intended to allow for rapid delivery of high-quality software
- A business approach that actively ties development to customer needs and company goals.

Using a case study of their choice, participants learn how to plan and manage an Agile framework. Your role in an agile project will look much different in a self-directed team. Continuously collaborating with your clients helps manage and deliver business value throughout the product life cycle.

Learning Objectives Using Agile Practices and Principles:

- Ensure your project delivers **required functionality with less waste**, and adds value to the business
- Plan, manage and close requirements at every development stage
- Minimize project uncertainty and risk with **improved estimating and planning**
- Create an environment of self-management for your team so that they will be able to continuously align the delivered product with desired business needs, easily **adapting to changing requirements** throughout the process
- Measure, evaluate and communicate status based on working, tested software, while creating **higher visibility and accountability** into the process

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Course Elements

Section 1: Introduction – Fundamentals of Agility

- Why Agile?
- Agile Manifesto, Agile Principles and Waterfall vs. Agile comparison
  Exercise 1a: Agile SCRUM Terms and Concepts Cheat Sheet

- The Scrum framework, roles, and Agile Product Life Cycle
  Exercise 1b: Challenges to building end-to-end systems with Agile

- Introducing Agile to the organization

Section 2: Value Driven Delivery – Identify Case Study and Team Members

- Value-driven development: Understand why agile focuses so heavily on working products
- Agile Scrum characteristics
  Exercise 2a: Selecting the Case Study (selected by participants from current projects; basis for subsequent exercises)

- Assemble the Agile team
- Committed and Non-Committed members
- Product Owner responsibilities, characteristics and examples
  Exercise 2a: Select the "Product Owner"

- Building the Scrum team
- Scrum Master and committed team members
- Team collaboration
- Redefining traditional roles
  Exercise 2c: Agile PM and Developer (handouts; discussion)

  Exercise 2d: Build the Scrum Team (Scrum Master and Committed Members)

- Contrast with Waterfall using RACI matrix

Section 3: Stakeholder Engagement – Envision the Product

- Understand the motivation behind stakeholder expectations and high-level functionality
- Business motivation model
- Product envisioning
- Evaluate functioning solutions for improvement opportunities
- New product vision and scope. Breakdown epics into features and stories
- High-level business and technical functionality
  Exercise 3a: Product Vision Goals and Strategies

- Agile coordination
  Section 3b: Review Agile Checklist: Strategy, Release Planning, Sprint Planning, Agendas and Guidelines

Section 4: Initiate an Agile Project – Planning Releases

- Envision the product and project outcomes, common practices that work
  Exercise 4a: Adapting a Change-Driven Project Plan that Works

- Agile Product Development Life Cycle planning
- Compile the Product Backlog
- Decision and acceptance criteria for user stories
- Planning Releases
- Prioritize Releases first, then Product Backlog items. Factors to consider
- Order Product Backlog items for initial Release Plan
  Exercise 4b: Create Release Plan

- Release Planning as an iterative planning process

Section 5: Coarse-Grain Estimating and Time-Boxing

- Estimate high-level items at sufficient detail for planning and prioritizing
  Exercise 5a: Elaborate Business Functionality (10 or more User Stories and associated technical functions)

- Estimate relative complexity
- Planning poker using story points
  Exercise 5b: Estimate Complexity (coarse-grain)

- Team velocity
- Establish the project time-box. Considerations: hours worked, resource availability …
- Embrace the high-level Vision and Release Plan
  Exercise 5c: Establish Project Time-Box

Section 6: Plan the Iteration (Part I)

- Day 1 Sprint planning with the Product Owner
- Contrast sequential and overlapping development
- Create an accurate backlog at the Iteration level
  Exercise 6b: Sprint "Zero" Activities

- Anticipate Spikes
- Create a Master Test Plan
  Exercise 6c: Review Iteration Planning Checklist

- Sprint planning meeting
- Elements of successful Sprint planning
- Prioritize user stories and identify PBIs for the Sprint
  Exercise 6d: Confirm and Refine High-Priority Backlog Items

  Exercise 6e: Post-Chapter Activity: Conduct a Daily Review and Retrospective

Section 7: Plan the Iteration (Part II)

- Day 1 Sprint planning with committed team
- Plan and estimate Iteration tasks
- User stories and associated tasks
- Sprint planning, story size and task size
- Produce task list
- Estimate relative effort (fine-grain by team)
- Planning poker using ideal days
- Sprint backlog example

  Exercise 7a: Identify and Estimate Sprint Backlog Tasks

- Commit backlog items to the Sprint
- Finalize the Sprint Plan

  Exercise 7b: Review the Sprint Plan

Section 8: Tools and Techniques for Managing Scrums

- How to approach techniques in an Agile environment

  Exercise 8a: Discussion – Project Activities for Scrum (communications, analysis and design, product quality, soft skills)

- Sprint goal
- Manage the Sprint backlog – key points
- Information radiators and project status
- Daily Scrum meeting
- Scrum task board
- Sprint Burn Down Chart
- Product Burn Down Chart reflecting scope change

  Exercise 8b: Create a Scrum Task board – Identify Work Streams

Section 9: Running the Sprint

Exercise 9a: Discuss Success Criteria for Self-Managed Teams

- Self-managed teams
- Paradigm shift in managing requirements
- Team facilitation activities
- Elaborate requirements details
- Non-functional requirements
- Select 'next priority task' and re-estimate task length (team member)
- Challenges and opportunities in a global environment
- Managing Scrums
- Daily Scrum rules (committed v. non-committed speakers, handling issues)

  Exercise 9b: Hold a Daily Scrum and Update Task Board

- Authority to change the Sprint Backlog
- How to manage requested changes during the Sprint

Section 10: Sprint Review

- Working product is showing progress

Exercise 10a: Discuss Review Planning Checklist

- Prepare for Sprint Review
- Assess whether organization is ready for change
- Verifying and validating requirements
- Create test scenarios and test cases
- Customer acceptance and sign-off
- Definition of Done
- Update the product backlog - Rework the high-level (coarse-grain) plan
- Input for the next Sprint

Exercise 10b: Conduct a Sprint Review

Exercise 10c: Post-Chapter Activity: Conduct a Daily Review and Retrospective

Section 11: Sprint Retrospective

- Sprint Retrospective
- Key process indicators and Kaizen
- Continuous improvement and measuring PDLC maturity

Exercise 11a: Review Retrospective Planning Checklist

Exercise 11b: Conduct a Sprint Retrospective

Exercise 11c: Pop Quiz!

Section 12: Boost Team Performance

- Dangers of Agile Scrum – It's hard!
- Agile performance – integrated perspective
- Leading causes of failed Agile projects
- Is your organization ready for Agile? Preconditions required

Exercise 12a: Process Issues

- Boosting team performance
- Ensuring integrity of Scrum practices
- No outside changes during a Sprint

Exercise 12b: People Issues

- Coaching the Team – How to keep them motivated and moving forward towards the desired outcome
- Engaging everyone in status

Exercise 12c: Remove Impediments to Progress

- Communicate status
- Remove impediments
- Coach team to recognize barriers to further adoption of Agile
- How to integrate Agile into current methodologies
- Scaling Scrum teams – Scrum of Scrums

Exercise 12d: Review Agile Exercises

Section 13: Transitioning from Waterfall

- Waterfall Cultural roots
- Significant trends in "successful" projects and ability to deliver value
- Inverting the iron triangle and improving ROI
- Agile adoption from tactical to strategic
- Agile methodologies are evolving
- Lean development focus on value chain
- Lean principles and techniques
- Organizational alignment enables efficiency (congruence model)
- Agile adoption survey results and updates: greatest concerns, leading causes of failed projects, and barriers to adoption

Exercise 13a: Current Issues and Next Steps

Section 14: Wrap-up and Additional Information

- Glossary
- Agile reading list