TEST05 : Testing Requirements

Description :

NEW Participants will leave the course with a better understanding of how to capture stakeholder expectations and how their expectations are related to software testing.

Instructor :

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Training Date : **25-26 March 2024**

fee : **15000 ฿** (ราคายังไม่รวม Vat 7%)

Days & Duration : **2 Day(s) | 12 Hour(s)**

Time : **09:00:00 - 16:00:00**

Language : **English**

Venue : **Online**

Type : **Online**

Category : **Software Testing**

Objectives :

Testing Requirements

Essential Techniques for Agile and Waterfall Teams

Course Overview:

This course is for agile and waterfall teams who want to improve their ability to meet stakeholder expectations. It focuses on three ways this can be achieved: by checking that the solution requirements will satisfy stakeholder needs; by checking that the team is implementing the solution accurately; and by checking that a suitable solution has been implemented.

Central to the course is the relationship between software requirements and testing - sometimes known as Requirements Based Testing or Test Driven Requirements. The course explains the different approaches that agile and waterfall teams can follow, and highlights where a common approach works for both.

Participants will leave the course with a better understanding of how to capture stakeholder expectations and how their expectations are related to software testing.

Previous versions of this course were called Requirements Based Testing and Requirements Verification.

Course Features:

- Clarifies the relationship between software requirements and testing.
- Offers proven, practical strategies for meeting stakeholder expectations.
- Suitable for graduates, Business Analysts, Software Developers, Test Analysts and Quality Assurance Staff moving into these roles for the first time; as well as experienced staff who need to update their skills, attend a refresher or simply get some new ideas.
- Available as face-to-face course or as a virtual course with collaborative exercises based on a virtual canvas.

Target Group :

Course Duration:

- 2 days full time

Who Should Attend:

- Those who are currently members of agile or waterfall teams who want to deliver software solutions that meet the expectations of their stakeholders, such as Business Analysts, Software Developers, Test Analysts and Quality Assurance Staff
- Those who want further develop their careers as agile or waterfall team members, such as, Business Analysts, Software Developers, Test Analysts
- Those who need to plan and manage delivery of software solutions that meet stakeholder expectations such as Product Owners, Product Managers, Scrum Masters, Program Managers, Project Managers and Project Sponsors
- Those who need to approve Requirements Specifications, Test Plans and Test Specifications; as well as those who manage software development activities such as Product Owners, Product Managers, Program Managers, Project Managers, Test Managers, Engineering Managers and Project Sponsors
- Those who want to gain an understanding of requirements based testing, such as, Chief Information Officers (CIO), Business Architects, Enterprise Architects and Data Architects

Benefits :

Participant Benefits:

- Understanding of the role of software requirements and how these relate to software testing.
- Understanding of how the agile life cycle resolves issues with the waterfall life cycle related to requirements and testing.
- Ability to identify and document software requirements using natural language, use cases, user stories and formal requirements statements.

- Able to apply practical strategies to ensure that solution requirements will satisfy stakeholder needs; the team is implementing the solution accurately; and that a suitable solution has been implemented.
- Ability to develop a state chart model of a software solution and use the model to generate test scenarios.
- Hands-on experience gained from discussions, examples and short exercises based on a case study.

Course Outline :

Overview of requirements and testing

- Requirements at different levels
- Objectives of software testing
  - Checking software meets its expectations
  - Identifying failures by exploring risks
- Building confidence in the reliability of the software
- Requirements Based Testing and Test Driven Requirements

Software development life cycles

- The Waterfall life cycle and traditional test levels
- The Agile life cycle and agile testing quadrants
- Checking that the solution requirements will satisfy stakeholder needs
  - Waterfall life cycle
  - Agile life cycle
- Checking that the team is implementing the solution accurately
  - Waterfall life cycle
  - Agile life cycle
- Checking that a suitable solution has been implemented
  - Waterfall life cycle
  - Agile life cycle

Software requirements

- Software features
  - Capabilities
  - Constraints
  - Components vs. features
  - Describing software features
    - Natural language
    - Use case diagrams
    - User stories
    - Formal requirements statements
  - Comparing approaches
- Describing detailed requirements

Checking software meets its expectations

- Waterfall life cycle issues
  - Test planning
  - Iterative nature of testing
- Agile life cycle improvements
  - Incremental delivery
  - Three amigos
  - Conversations
  - Implementation immediately follows understanding
- Software testing
  - Test cases
  - Testing and the waterfall life cycle
    - System Testing
    - Acceptance Testing
  - Testing and the agile life cycle
    - User story testing
    - Checking quality attributes are fit for the intended purpose
    - Scenario based testing

- - ■ Exploratory testing
  - ○ Software testing summary
    - ■ Components vs. features
    - ■ Stand alone vs. end to end tests
- Additional techniques
  - ○ The limitations of software testing
  - ○ Workshops
  - ○ Prototyping
  - ○ Reviews
    - ■ Types of review
    - ■ Document reviews
    - ■ Source code reviews
    - ■ Reviews and "error seeding"
    - ■ Reviews and test case design

Model based testing

- Modelling business object life cycles
- State charts
  - ○ States
  - ○ Transitions
  - ○ Mapping to features
  - ○ Decisions and conditions
  - ○ Sub-states
- Using state charts to check that the team is implementing the solution accurately
- Using state charts to check that the solution requirements will satisfy stakeholder needs

Scenario based testing

- Comparing feature and test scenarios
- Using scenarios to check
  - ○ The end to end integration of features is accurate
  - ○ The end to end implementation of business rules is accurate
  - ○ A suitable solution has been implemented
  - ○ The solution provides value
- Generating scenarios from state charts
  - ○ Scenario steps
  - ○ Scenario coverage

Automated testing

- Managing change
  - ○ "Freezing" the specification
  - ○ Version control
  - ○ Change and the Product Backlog
- Regression testing
  - ○ Change and regression testing
    - ■ Checking that the team IS STILL implementing the solution accurately
    - ■ Checking that a suitable solution IS STILL being implemented
  - ○ Full regression test
  - ○ Impact analysis and partial regression test
  - ○ Test automation
  - ○ Automated vs. manual testing
  - ○ Test automation tools
    - ■ Cucumber
    - ■ Graph Walker

Exploratory testing

- What is Exploratory Testing?
- Exploratory vs manual and automated testing
- Types of exploratory testing

- When is exploratory testing performed
- Exploratory testing and scenarios

Payment Condition :

Payment can be made by:

1. Cash or Credit Card or Bank Cheque payable to **"สำนักงานพัฒนาวิทยาศาสตร์และเทคโนโลยีแห่งชาติ"** (a post-dated cheque is not accepted) on the first day of the service or within the last day of the service.
2. Account transfer and send the proof of the payment (the deposit slip) **via email** ttd@swpark.or.th
   - **ธนาคารกรุงเทพ** สาขาอุทยานวิทยาศาสตร์
     Saving Account Number: **080-0-00001-0**
     Account Name: **สำนักงานพัฒนาวิทยาศาสตร์และเทคโนโลยีแห่งชาติ**
   - **ธนาคารกรุงไทย** สาขาตลาดไท
     Saving Account Number: **152-1-32668-1**
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Notes:

- Withholding tax (3%) is exempt.
- Should you need to withdraw, you must send the notice of the withdrawal in writing no later than 7 working days before the commencement date. The cancellation less than 7 days will be subject to a fine of 40% of the fee.
- Software Park Thailand reserves the rights to cancel courses due to unforeseen circumstances.

Contact Person :

For more information, contact our course coordinator on:

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You are encouraged to use the course schedule as a guide to plan your training. The schedule is accessible at www.swpark.or.th for more information.

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