

Software Testing Methods and Tools

Course Summary

Description

This course teaches students several testing techniques that can be applied to many different types of software projects from stand-alone, client server, object oriented, web applications, GOL applications, e-commerce applications, embedded systems and IT systems.

Students will learn how to choose and implement testing methods including application accessibility and the tools applicable to your project. The course covers all aspects of software testing as part of the entire development process. Techniques covered include formal inspections, which can be used at any time in the development cycle – even before the first line of code is written – to help you find and fix important bugs early! Risk based and exploratory testing techniques are covered. The course will teach you how to design and implement test cases for all aspects of your application. Several analytic and heuristic techniques are covered.

Objectives

At the completion of this course, the student will be able to:

- Identify which testing technique to apply to your project.
- Integrate testing into your software development process, even if you don't have a development process!
- Design test cases including exploratory, data driven, automated and analytic methods.
- Apply different methods to different testing objectives.
- Apply basic risk analysis techniques to help you spread minimal testing resources across the entire testing effort.
- Implement test automation.
- Implement a bug tracking system and bug prioritization process.
- Implement scenario based testing strategies.
- Implement testing so as to cover several different hardware platforms How to with no additional testing effort

Topics

- Test Techniques
- Testing in the Software Development Process
- Test Planning
- Test Case Design
- Test Case Design Test Coverage
- Formal Inspections
- Bug Reporting
- Bug Prioritization
- Test Automation
- Accessibility Testing
- Scenario Based Data Driven Testing
- Exploratory Testing
- Elements of Web/E-Commerce/GOL Testing
- Web Based Resources

Prerequisites

Students should have some familiarity with or experience in any aspect of software development will help students understand the subject matter in the proper context. Students with little to no knowledge of the way software is developed will benefit from the course and be able to apply several methods taught but should complement this course with another programming or software development session.

Duration

Three days

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Course Outline

- I. Test Techniques
- II. Testing in the Software Development Process
- III. Test Planning
- IV. Test Case Design
- V. Test Case Design Test Coverage
- VI. Formal Inspections
- VII. Bug Reporting
- VIII. Bug Prioritization
- IX. Test Automation
- X. Accessibility Testing
- XI. Scenario Based Data Driven Testing
- XII. Exploratory Testing
- XIII. Elements of Web/E-Commerce/GOL Testing
- XIV. Web Based Resources
- XV. References