




Test Management:
Leading Your Team To Success
(extract)

Silverpath Technologies Inc.
Trevor.Atkins@silverpath.com

Thinking
Through
Testing



What is Quality?

- ❖ *“...conformance to requirements: meeting customer expectations, both stated and unstated.”*– Philip Crosby, 1979
- ❖ *“...the degree to which a set of inherent characteristics fulfill requirements.”*– PMI Project Management Body of Knowledge (2008)
- ❖ Quality can be:
 - ❖ Elegance
 - ❖ Correctness
 - ❖ Fitness-for-use (Joseph Juran, 1974)
- ❖ What is “good enough” quality?

} ...instead, focus on...

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Attributes of Quality Software



- ❖ Satisfaction with the overall quality of the product is usually confirmed through customer surveys.
 - ❖ For example, the specific parameters of customer satisfaction in software monitored by:
 - ❖ IBM include CUPRIMDSO (capability / functionality, usability, performance, reliability, installability, maintainability, documentation / information, service, and overall);
 - ❖ Hewlett-Packard include FURPS (functionality, usability, reliability, performance, and service)
- Stephen H. Kan, “Metrics and Models in Software Quality Engineering”

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What is Testing?



- ❖ *“Testing is the process of trying to discover every conceivable fault or weakness in a work product”* - The Art of Software Testing, Glenford Myers, 1979.
 - ❖ *“Testing is any activity aimed at evaluating an attribute or capability of a program or system and determining that it meets its required results”* - The Complete Guide to Software Testing, Bill Hetzel, 1988.

 - ❖ As Testers, we reduce the likelihood of a serious failure in the field.
 - ❖ As Test Leaders, we give Testers the opportunity to succeed...
- } ...instead, focus on...

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Example Testing Challenges



- ❖ Iterative project lifecycle
- ❖ Evolving product scope
- ❖ Arbitrary (unrealistic) ship dates
- ❖ Limited resources
- ❖ Limited or indefinite requirements
- ❖ Uncertain GUI/screens
- ❖ Varying expectations from stakeholder to stakeholder
 - ❖ More demanding users in terms of software quality

- ❖ Project Constraints: Resources & Schedule & Budget

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Opportunity for Improvement




- ❖ According to a National Institute of Standards and Technology study:
 - ❖ Software errors cost the U.S. economy an estimated \$59.5 billion annually, or about 0.6 percent of the gross domestic product
 - ❖ 80 percent of the software development costs of a typical project are spent on identifying and fixing defects
 - ❖ About one-third of these costs, or an estimated \$22.2 billion annually, could be eliminated by an improved testing infrastructure

- NIST 2002-10 Report

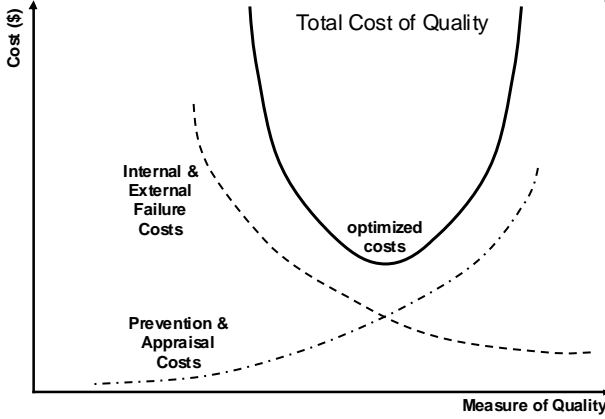
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Optimal Level of Testing?




❖ Invest in risk mitigation that maximizes quality and ROI



<http://thinktesting.wordpress.com/2002/09/09/>

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The Role of the Test Lead(er)




❖ How do you make testing most effective?

- ❖ Establish Agreement
- ❖ Optimize Coverage
- ❖ Minimize Rework
- ❖ Mitigate Risk

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Risk Identification



- ❖ Common project concerns
 - ❖ Staffing or resource changes
 - ❖ Technology changes
 - ❖ Company or corporate changes
 - ❖ Marketing pressures
 - ❖ Over-allocation / Under-utilization of resources
 - ❖ Co-contractors or sub-contractors


- ❖ Common testing concerns
 - ❖ Requirements volatility
 - ❖ Requirements complexity
 - ❖ Use of new technologies
 - ❖ Estimated testability of the design
 - ❖ Number of defects corrected in the module since the last calculation
 - ❖ Importance of the module relative to the remainder of the project

- ❖ Consider risks to quality and the test effort

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Deciding Your Testing Approach

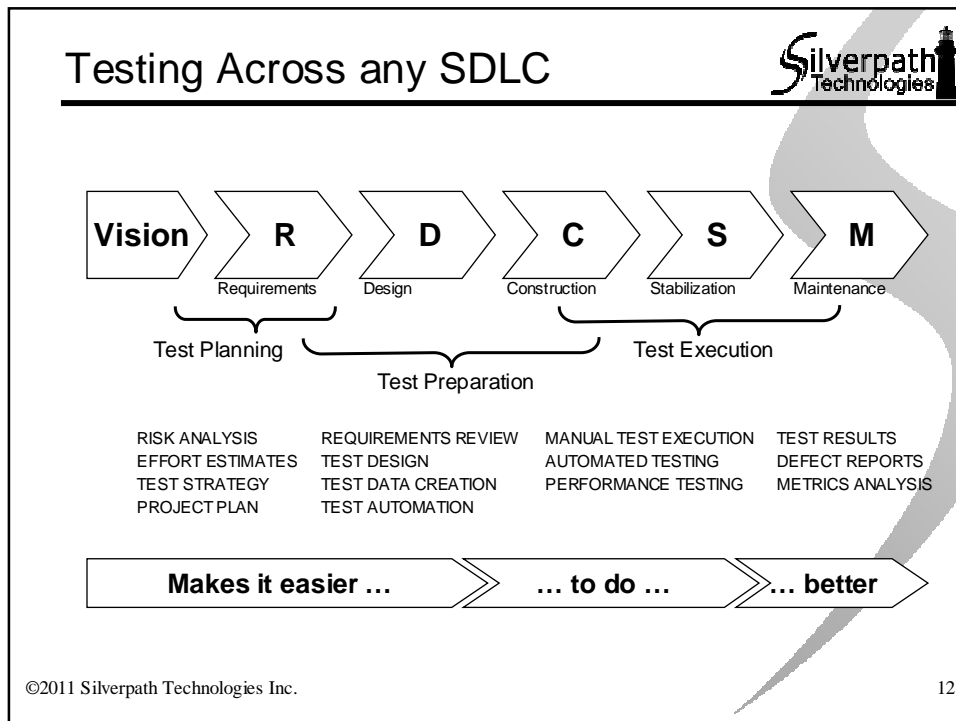
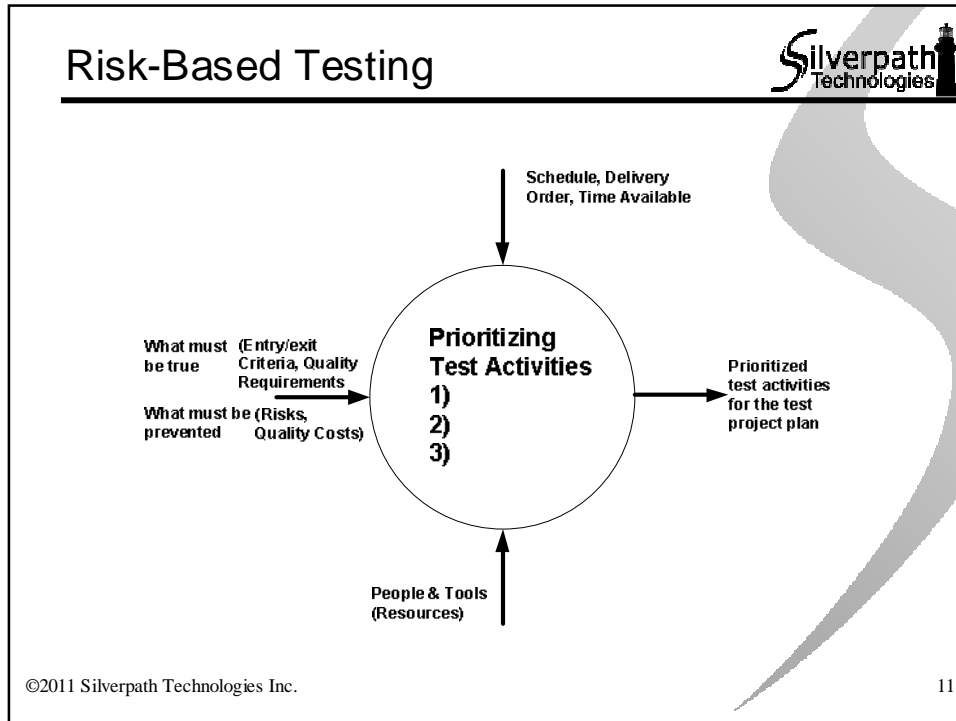


- ❖ Own Your Approach
 - ❖ What are your risks?
 - ❖ Know your stakeholders and their expectations
 - ❖ Plan your testing by project phase
 - ❖ Attain and maintain agreement
- ❖ Define Scope & Set Expectations
 - ❖ Who will do What, Where, When and Why?
- ❖ Project constraints and quality requirements require an organized approach


- ❖ What is the “best-fit” test strategy?

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Test Strategy



- ❖ Provides structure for organizing, scheduling and managing test effort
- ❖ Improves communication about test tasks and process
- ❖ Facilitates technical tasks of testing


- ❖ A test strategy is a high-level document that describes your plan
 - ❖ Purpose / scope
 - ❖ Quality requirements
 - ❖ Assumptions & constraints
 - ❖ Test approach
 - ❖ Inclusions / exclusions
 - ❖ Types of testing
 - ❖ Issues & risks

- ❖ Get agreement to the plan from stakeholders
- ❖ Keep plan & agreement alive as the project advances

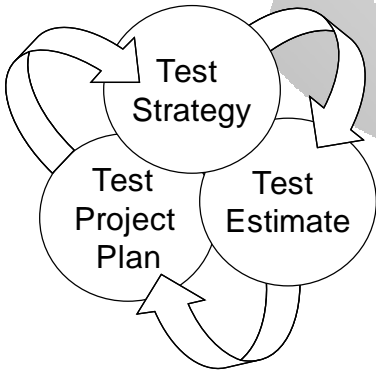
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Beware Cyclical Dependencies



- ❖ Review the project scope and delivery schedule
- ❖ Determine the stakeholders in the testing effort and their needs
- ❖ Identify the artifacts required to be produced
- ❖ Discover your available resources
- ❖ Outline a reasonable test strategy
- ❖ Distribute for review and acceptance by project team
- ❖ Adapt / maintain the plan as the project advances



The cyclical dependencies between the three artifacts requires that a change in any one should result in a review and possible update of the others.

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Thinking Through Testing™



- ❖ Silverpath is founded on the principle vision of providing high value to software companies by raising the quality of their software systems and teams while simultaneously driving down the total costs to achieve that quality.
- ❖ Silverpath's approach of Thinking Through Testing:
 - ❖ Is risk-driven, ROI-centric
 - ❖ Enables early feedback on quality
 - ❖ Executes the right testing at the right time
 - ❖ Leverages standardized light-weight practices
 - ❖ Conducts in-parallel test activities
 - ❖ Maximizes reusability
- ❖ Working together, we obtain the practical results needed from the optimal balance of quality requirements, scope of effort, and project constraints and thereby achieve the greatest return on investment.
- ❖ Visit <http://www.silverpath.com>

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