Test Management Part 1
Test Estimation Steps

Objective

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Follow a process
for estimating
testing efforts

Importance of Estimates

Estimates are the foundation for:

- Testing budget
- Allocation of staff and resources

Testing estimates are often made as a part of the overall development project estimate

Major Causes of Inaccurate Estimates

Misunderstanding of requirements

Overlooked tasks

Insufficient analysis when developing estimates due to time pressure

Lack of guidelines for estimating

Lack of historical data

Pressure to reduce estimates

Generic Estimation Process

1. **Determine estimation responsibilities**

2. **Review and clarify testing objectives, deliverables, milestones and constraints**

3. **Identify testing tasks**

4. **Select appropriate size measure for testing work**

5. **Select size estimation method**

6. **Estimate and document size**

7. **Estimate and document effort**

Identification of Testing Tasks

A set of testing activities must be defined

Testing tasks include:

- Understanding requirements
- Training on tools
- Test case development

Select Appropriate Size Measure

Size of the testing activity must be estimated utilizing some type of standard component

Possible testing size measures include:

- Number of requirements
- Number of use cases / scenarios
- Lines of code to be tested

Select Size Estimation Method

Top-Down / Analogy

Bottom-up

Top-Down / Analogy

An expert develops an estimate based on past similar projects

Does not work well for new types of projects

May fail if estimator does not take into account differences between projects such as expertise, difficulty of testing, stability of requirements, etc.

Bottom-Up Estimation

Breaks the testing effort into parts

Parts may consist of:

- Functions to test
- Types of testing to perform

Each part is estimated separately and the parts are summed to create the estimate.

A work breakdown structure may be developed to organize the parts

Estimate and Document Size

80/20 rule applies to size estimation

Accuracy of the size estimate must also be communicated

Prior to effort estimation, the size of work must be estimated and documented along with the basis of the estimate and the assumptions made

Estimate and Document Project Effort

A size unit for effort must be selected

- Staff hours
- Staff months

actual effort is a function of:

- Size estimates
- Estimated productivity

Effort estimate must be documented along with the basis for the estimate and the assumptions made

Strategies for Checking Estimates

Check that estimates for similar parts of the system are the same

Check resource estimates of parts of your system with similar parts of other completed systems

Review with other experts

Summary