CHAPTER 17
Validating the requirements

Objectives

- Help student understand detecting errors in the requirements specifications will save time and money.
- Student could enhance starting test planning and test-case development in parallel with requirements development, they will detect many errors shortly after they’re introduced.

Contents

Why validate the requirements?

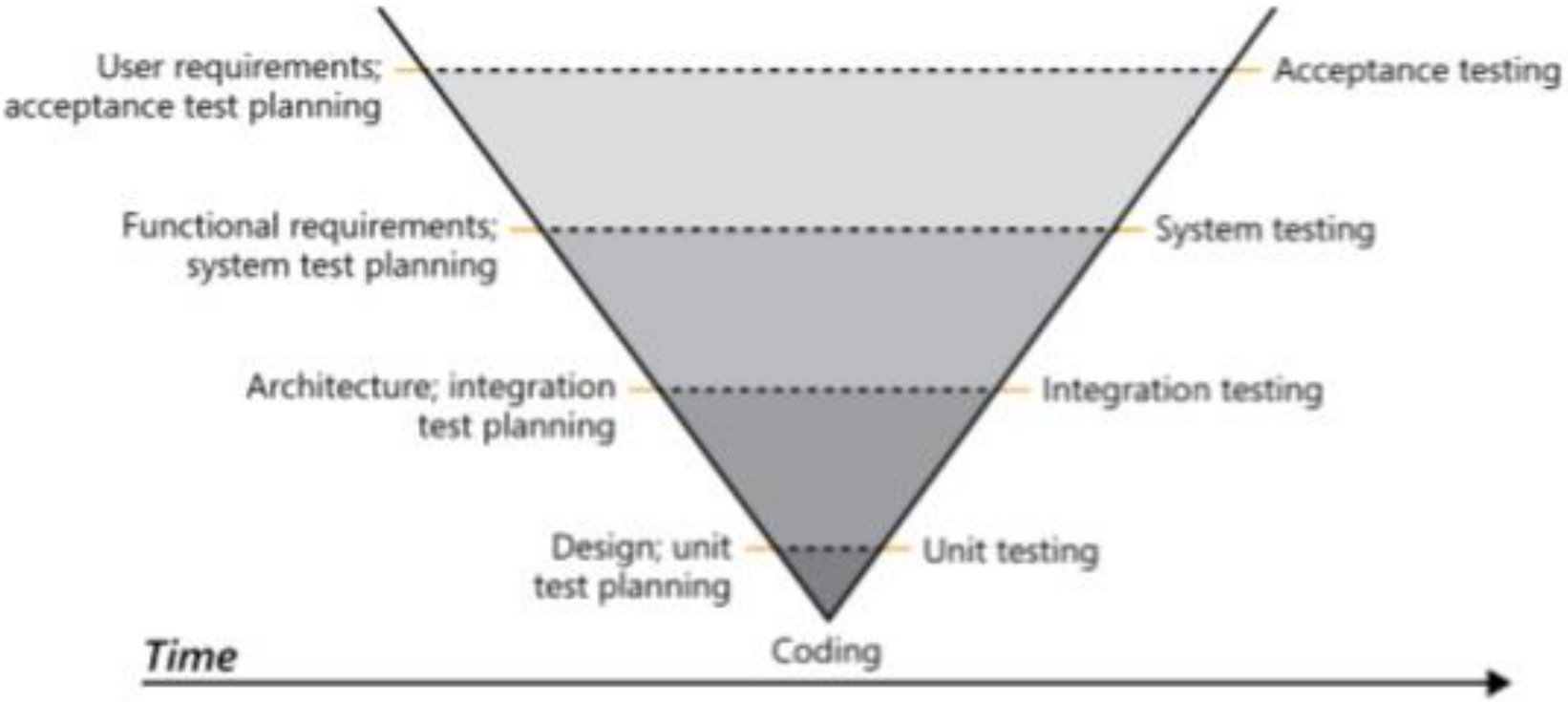

FIGURE 17-1 The V model of software development incorporates early test planning and test design.

Validation and verification

Verification determines whether the product of some development activity meets its requirements (doing the thing right).

Validation assesses whether a product satisfies customer needs (doing the right thing).

Requirements validation activities:

- The software requirements accurately describe the intended system capabilities and properties that will satisfy the various stakeholders' needs.
- The software requirements are correctly derived from the business requirements, system requirements, business rules, and other sources.
- The requirements are complete, feasible, and verifiable.
- All requirements are necessary, and the entire set is sufficient to meet the business objectives.
- All requirements representations are consistent with each other.
- The requirements provide an adequate basis to proceed with design and construction

Reviewing requirements

- Reviewing requirements is a powerful technique for identifying ambiguous or unverifiable requirements, requirements that aren't defined clearly enough for design to begin, and other problems
- Informal review approaches:
  - A peer deskcheck
  - A passaround
  - A walkthrough
- The inspection process
- Defect checklist
- Requirements review tips
- Requirements review challenges

The inspection process

- Participants
  - The author of the work product and perhaps peers of the author
  - People who are the sources of information that fed into the item being inspected
  - People who will do work based on the item being inspected
  - People who are responsible for interfacing systems that will be affected by the item being inspected
- Inspection roles
  - Author
  - Moderator
  - Reader
  - Recorder
- Entry criteria
- Inspection stages

The inspection process: Inspection stages

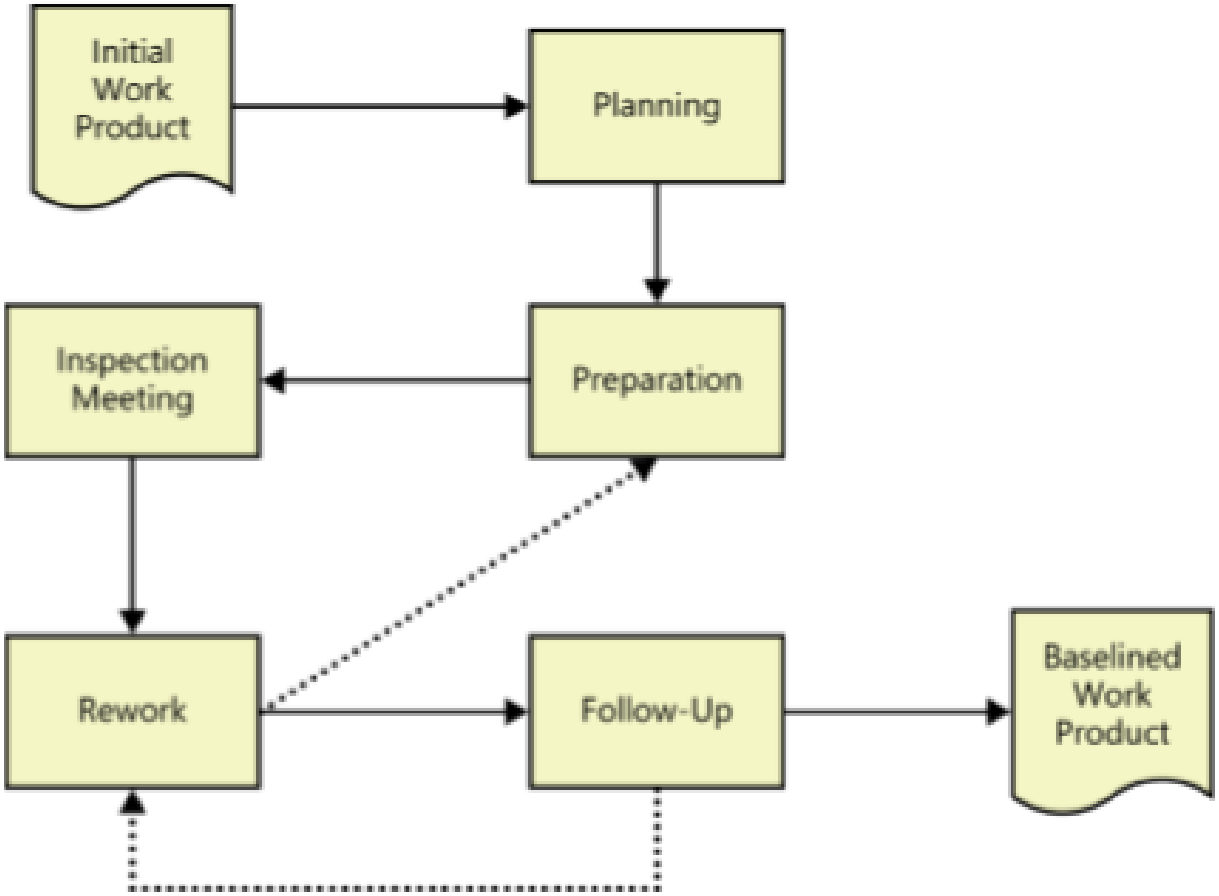

FIGURE 17-2 Inspection is a multistep process. The dotted lines indicate that portions of the inspection process might be repeated if reinspection is necessary because of extensive rework.

Defect checklist

- Completeness
- Correctness
- Quality attributes
- Organization and Traceability
- Other issues

Requirements review tips

- Plan the examination
- Start early
- Allocate sufficient time
- Provide context
- Set review scope
- Limit re-reviews
- Prioritize review areas

Requirements review challenges

- Large requirements documents
- Large inspection teams
- Geographically separated reviewers
- Unprepared reviewers

Testing the requirements

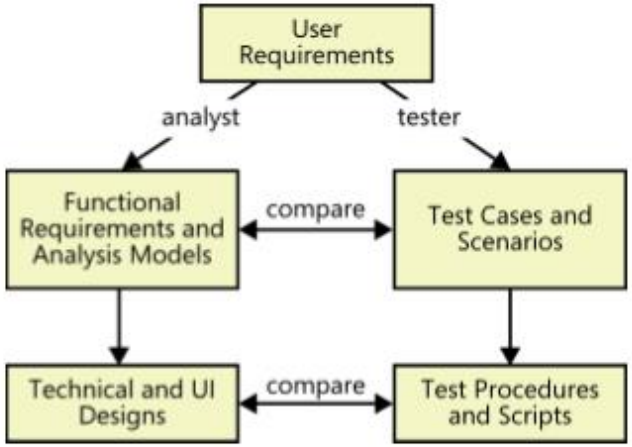

FIGURE 17-5 Development and testing work products are derived from a common source.

Validating requirements with acceptance criteria

- Acceptance criteria
- Acceptance tests