

Today's Topics

- Validation techniques
 - Review checklists
 - Prototyping
 - Brainstorming
 - Storyboarding
 - Expert Reviews
 - Model validation
 - Requirements testing

Review Checklists - 1

- Understandability
 - Can readers of the document understand what the requirements mean?
- Redundancy
 - Is information unnecessarily repeated in the requirements document?
- Completeness
 - Does the checker know of any missing requirements or is there any information missing from individual requirement descriptions?
- Ambiguity
 - Are the requirements expressed using terms which are clearly defined? Could readers from different backgrounds make different interpretations of the requirements?
- Consistency
 - Do the descriptions of different requirements include contradictions? Are there contradictions between individual requirements and overall system requirements?
- Organization
 - Is the document structured in a sensible way? Are the descriptions of requirements organized so that related requirements are grouped?

Assignment
23.11.2011
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Review Checklists - 2

- Conformance to standards
 - Does the requirements document and individual requirements conform to defined standards? Are departures from the standards, justified?
- Traceability
 - Are requirements unambiguously identified, include links to related requirements and to the reasons why these requirements have been included?

Checklist Questions & Quality Attributes - 1

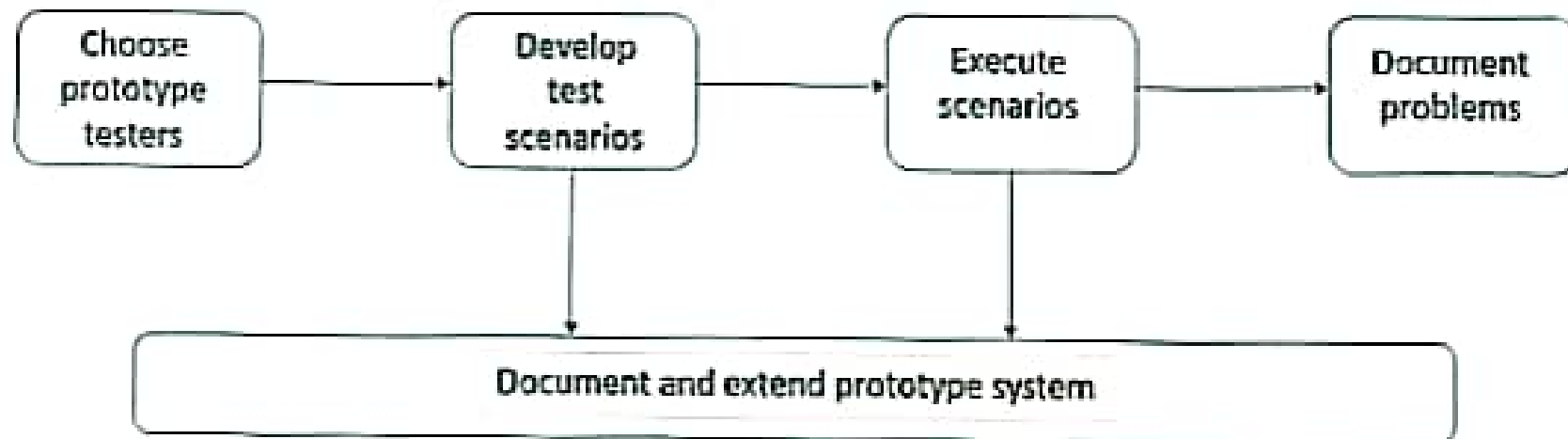
- Is each requirement uniquely identified?
 - Traceability, conformance to standards
- Are specialized terms defined in the glossary
 - Understandability
- Does a requirement stand on its own or do you have to examine other requirements to understand what it means?
 - Understandability, completeness
- Do individual requirements use the terms consistently
 - Ambiguity
- Is the same service requested in different requirements? Are there any contradictions in these requests?
 - Consistency, redundancy

Assignment
with note

Prototyping

- Prototypes for requirements validation demonstrate the requirements and help stakeholders discover problems
- Validation prototypes should be complete, reasonably efficient and robust. It should be possible to use them in the same way as the required system
- User documentation and training should be provided

Prototyping for Validation



User Manual Development - 1

- Writing a user manual from the requirements forces a detailed requirements analysis and thus can reveal problems with the document
- Information in the user manual
 - Description of the functionality and how it is implemented
 - Which parts of the system have not been implemented
 - How to get out of trouble
 - How to install and get started with the system

Brainstorming

- Brainstorming is a technique wherein concerned and knowledgeable people gather in an informal environment to give vent to free thinking
- This is useful when a specialist expert is not available for the subject at hand.
- Everyone in the group shares their knowledge so that collectively the knowledge would be substantial.

Storyboarding

- Requirements are printed on paper and are pinned in a logical sequence on a wall or a board
- This technique is very effective but it would need extra effort in preparing the storyboard.
- Some people use a slideshow or PowerPoint slides to present the story instead of pinning the requirements on a wall or a board.



Some Non-Functional Requirements

- Some non-functional requirements, such as reliability requirements, can only be tested with a large test set. Designing this test set does not help with requirements validation

Summary - 1

- Checklists of what to look for may be used to drive a requirements review process
- Prototyping is effective for requirements validation if a prototype has been developed during the requirements elicitation stage