
CHAPTER 11

Writing excellent requirements

- Student could determine if more or less detail is needed in specific areas and how best to represent those requirements.
- Student could examine a page of functional requirements from requirements of student's project to see whether each statement exhibits the characteristics of excellent requirements
- Student could rewrite any requirements that don't measure up
- Student could look for conflicts between different requirements in the specification, for missing requirements, and for missing sections of the SRS.

Contents

1. Characteristics of excellent requirements
2. Guidelines for writing requirements
3. Sample requirements, before and after

Characteristics of excellent requirements

- Characteristics of requirement statements
 - Complete
 - Correct
 - Feasible
 - Necessary
 - Prioritized
 - Unambiguous
 - Verifiable
- Characteristics of requirements collections
 - Complete
 - Consistent
 - Modifiable
 - Traceable

- System or user perspective

- *[optional precondition] [optional trigger event] the system shall [expected system response]*
If the requested chemical is found in the chemical stockroom, the system shall display a list of all containers of the chemical that are currently in the stockroom.

- *The [user class or actor name] shall be able to [do something] [to some object] [qualifying conditions, response time, or quality statement]*
The Chemist shall be able to reorder any chemical he has ordered in the past by retrieving and editing the order details

Writing style

- Clarity and conciseness
- The keyword “shall”
- Active voice
- Individual requirements

- Level of detail

- Appropriate detail
 - Consistent granularity

- Representation techniques

- Avoiding ambiguity
 - Fuzzy words: avoid words like *reasonably*, *appropriately*, *generally*, *approximately*, *usually*, *systematically*, and *quickly*
 - The A/B construct:
 - Boundary values
 - *Vacation requests of up to 5 days do not require approval. Vacation requests of 5 to 10 days require supervisor approval. Vacation requests of 10 days or longer require management approval*
 - *Vacation requests of 5 or fewer days do not require approval. Vacation requests of longer than 5 days through 10 days require supervisor approval. Vacation requests of longer than 10 days require management approval*
 - Negative requirements
 - *Prevent the user from activating the contract if the contract is not in balance*
 - *The system shall allow the user to activate the contract only if the contract is in balance*
- Avoiding incompleteness
 - Symmetry
 - Complex logic
 - Missing exceptions

- Teacher should guide student practice on sample requirements that are illustrated in e-book.