




3-2016

## Requirements Metrics - Definitions of a Working List of Possible Metrics for Requirements Quality

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### Recommended Citation

Honig, William L.. Requirements Metrics - Definitions of a Working List of Possible Metrics for Requirements Quality. , , : , 2016. Retrieved from Loyola eCommons, Computer Science: Faculty Publications and Other Works,

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Requirements Metrics  
v 1.0 (original)

Entry Criteria:

- |   |                             |   |
|---|-----------------------------|---|
| 1 | Atomic Requirements         | Uniquely numbered atomic requirements have been created, in natural language or other form, and are ready to review         |
| 2 | Time to Review Requirements | The author(s) of the requirements or an inspection team has been assigned to evaluate the requirements and generate metrics |

Process: Metrics to be calculated either during initial review or formal inspection of Requirements Document(s)  
Can be used to evaluate partial or draft documents as well as "finished" document

Exit Criteria:

- |   |                          |  |
|---|--------------------------|--|
| 1 | Metrics Generated        | The metrics defined below have been generated from the review and are available in the system development repository |
| 2 | Time Recorded (Optional) | The total time in person minutes for the review has been recorded with the metrics                                   |

Metrics

Scale  
(1 = low, 10 = high)

Notes and References

For individual atomic requirements

ID	Metric	Scale	Evaluation Method	Description	Notes
Ra1	Requirement Correctness	1 - 10	Subjective Evaluation	Is the individual requirement properly defining a genuine system function and need? In some cases the measure may be determined by a formal system requirement verification process.	
Ra2	Requirement Unambiguity	1 - 10	Subjective Evaluation	Is the requirement clear and understandable to the expected users of the document? Are multiple different interpretations of the requirement by different readers unlikely?	Length of requirement may be meaningful
Ra3	Requirement Completeness	1 - 10	Subjective Evaluation	Does this single atomic requirement include everything necessary to fully understand the desired function? Are all realizable types of input data, events, system environment covered? Are all terms used understandable or included in the glossary?	
Ra4	Requirement Verifiability	1 - 10	Subjective Evaluation	How adequately can this requirement be tested? Is it perfectly clear what test(s) are needed to confirm the requirement is met? Is it clear what should be considered a failure of a test of this requirement?	
Ra5	Requirement Modifiability	1 - 10	Subjective Evaluation	Is the individual requirement written so as to be easy to update, change, and eliminate in the future as system needs evolve?	Consider dropping??
Ra6	Requirement Atomicity	1 - 10	Subjective Evaluation	Is the requirement all one, individual, atomic requirement, including limits, constraints, and all details of the functionality?	

For entire document or set of atomic requirements

Rd1	Requirements Completeness	1 - 10	Subjective Evaluation	Is the set of atomic requirements complete and providing a full definition of all necessary functionality for the entire system (or the current portion being reviewed)?	
Rd2	Requirements Consistency	1 - 10	Subjective Evaluation	Is the set of atomic requirements internally consistent, with no contradictions, no duplication between individual requirements?	
Rd3	Requirements Importance Ranking	1 - 10	Existence of Rankings; Subjective review of values	The set of atomic requirements are individually assigned to suitable importance categories (e.g. Essential, Desirable, Optional/Frill) and the assignment of values is appropriate	
Rd4	Requirements Traceability	1 - 10	Existence of identifiers	Are the individual atomic requirements uniquely identified with unchanging numbers? Are other existing documents or deliverables linked to individual requirements appropriately (e.g. Use Cases related to atomic requirements)?	
Rd5	Requirements Purity	1 - 10	Subjective Evaluation	Is the document free from system design and project schedule, staffing, etc.?	
Rd6	Requirements Count	Integer	Count	Current number of individually identified and numbered atomic requirements	

Notes, questions, thoughts,...

- 1 Requirements churn deserves a metric
- 2 Possibly Humphrey style phase containment on requirements, total requirements size in pages (or words)