Requirements Metrics - A Working List

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Honig, W , 2021
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 by 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
<table>
<thead>
<tr>
<th>Scale</th>
<th>Evaluation Method</th>
<th>Notes and References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements Correctness</td>
<td>Ra1</td>
<td>1 - 10</td>
</tr>
<tr>
<td>Requirement Unambiguity</td>
<td>Ra2</td>
<td>1 - 10</td>
</tr>
<tr>
<td>Requirement Completeness</td>
<td>Ra3</td>
<td>1 - 10</td>
</tr>
<tr>
<td>Requirement Verifiability</td>
<td>Ra4</td>
<td>1 - 10</td>
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<tr>
<td>Requirement Modifiability</td>
<td>Ra5</td>
<td>1 - 10</td>
</tr>
<tr>
<td>Requirement Atomicity</td>
<td>Ra6</td>
<td>1 - 10</td>
</tr>
</tbody>
</table>

For entire document or set of atomic requirements
1 Requirements Completeness | Rd1 | 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)? |
| Requirements Consistency | Rd2 | 1 - 10 | Subjective Evaluation | Is the set of atomic requirements internally consistent, with no contradictions, no duplication between individual requirements? |
| Requirements Importance Ranking | Rd3 | 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 |
| Requirements Traceability | Rd4 | 1 - 10 | Existence of identifiers | Are the individual atomic requirements uniquely identified with unchanged numbers? Are other existing documents or deliverables linked to individual requirements appropriately (e.g. Use Cases related to atomic requirements)? |
| Requirements Purity | Rd5 | 1 - 10 | Subjective Evaluation | Is the document free from system design and project schedule, staffing, etc.? |
| Requirements Count | Rd6 | 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)