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# Requirements Engineering Questionnaire

Version 1.0

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# 1 Preface

**How to fill in the questionnaire.** Answer all the questions according to your knowledge, skills and position within your organisation. The questionnaire aims to check up the requirements engineering practice within your organisation pointing out different viewpoints.

Each question has a multiple-choices answer (tick one of the choices). The lecture-key of the answers is as follows:

**N/A:** Not Applicable, if the question does not fit your organisation

**UN:** Unknown, if you can not answer the question according to your knowledge, skills or position within your organisation

The other answers consist of five different levels, namely, **VL** (Very Low), **L** (Low), **A** Average, **H** (High) and **VH** (Very High). If you think that the question fits your knowledge, skills or organisation answer the relative question with one of the above levels selecting that one, which represents most your knowledge, skills or organisation.

**Remark.** *This questionnaire is NOT to assess people and their work or knowledge. The questionnaire aims only to assess the requirements engineering practice within organisations.*

**Acknowledgements.** The main references of this questionnaire are [1, 2, 3, 4].

## General Information

Fill in the following table with the relative information.

### General Information

Name (optional)	
Position	
Date	



## 2 Business Requirements Engineering

### Requirements Methodology Compliance

Question	N/A	UN	VL	L	A	H	VH
<b>2.1</b> <i>Have the applicable organisation's policies and procedures been identified?</i>							
<b>2.2</b> <i>Do requirements comply with these policies and procedures?</i>							
<b>2.3</b> <i>Do you document requirements in accordance with the requirements methodology?</i>							
<b>2.4</b> <i>Is the cost/benefit analysis prepared in accordance with the appropriate procedures?</i>							
<b>2.5</b> <i>Does the requirements phase meet the intent of the requirements methodology?</i>							
<b>2.6</b> <i>Is the requirements phase staffed according to procedures?</i>							
<b>2.7</b> <i>Will all the applicable policies, procedures and requirements be in effect at the time the system goes in operation?</i>							
<b>2.8</b> <i>Will there be new standards, policies and procedures in effect at the time the system goes operational?</i>							

### Business Tolerance Requirements

Question	N/A	UN	VL	L	A	H	VH
<b>2.9</b> <i>Have the significant financial fields been identified?</i>							
<b>2.10</b> <i>Has responsibility for the accuracy and completeness of each financial field been assigned?</i>							
<b>2.11</b> <i>Have the accuracy and completeness risks been identified?</i>							
<b>2.12</b> <i>Has the individual responsible for each field stated the required precision for financial accuracy?</i>							
<b>2.13</b> <i>Has the accounting cutoff method been determined?</i>							
<b>2.14</b> <i>Has a procedure been specified to monitor the accuracy of financial information?</i>							
<b>2.15</b> <i>Are rules established on handling inaccurate and incomplete data?</i>							



## Business Performance Requirements

Question	N/A	UN	VL	L	A	H	VH
<b>2.16</b> Will hardware and software be obtained through competitive bidding?							
<b>2.17</b> Have cost-effectiveness criteria been defined?							
<b>2.18</b> Do you calculate the cost-effectiveness for an application system in accordance with the procedures?							
<b>2.19</b> Are the cost-effectiveness procedures applicable to any application?							
<b>2.20</b> Could application characteristics cause the actual cost to vary significantly from the projections?							
<b>2.21</b> Are there application characteristics that could cause the benefits to vary significantly from the projected benefits?							
<b>2.22</b> Is the expected life of projects reasonable?							
<b>2.23</b> Does a design phase schedule exist which identifies tasks, people, budgets and costs?							
<b>2.24</b> Have you obtained quality certifications (e.g., ISO 9001, CMM, Prince2, TQM, etc.) for your process?							
<b>2.25</b> If your organisation is certified to some standards (e.g., ISO 9001, CMM, Prince2, TQM, etc.), which is the (average) level of compliance with them?							



### 3 Process Requirements Engineering

#### Requirements Elicitation

Question	N/A	UN	VL	L	A	H	VH
<b>3.1</b> Do you carry out a feasibility study before starting a new project?							
<b>3.2</b> While eliciting requirements are you sensible to organisational and political factors which influence requirements sources?							
<b>3.3</b> Do you use business concerns to drive requirements elicitation?							
<b>3.4</b> Do you prototype poorly understood requirements?							
<b>3.5</b> Do you use scenarios to elicit requirements?							
<b>3.6</b> Do you define operational processes?							
<b>3.7</b> Do you reuse requirements from other systems which have been developed in the same application area?							

#### Requirements Analysis and Negotiation

Question	N/A	UN	VL	L	A	H	VH
<b>3.8</b> Do you define system boundaries?							
<b>3.9</b> Do you use checklists for requirements analysis?							
<b>3.10</b> Do you encourage the use of electronic systems (e.g., e-mail) to support requirements negotiations?							
<b>3.11</b> Do you plan for conflicts and conflict resolution?							
<b>3.12</b> Do you prioritise requirements?							
<b>3.13</b> Do you classify requirements using a multi-dimensional approach which identifies specific types (e.g., hardware-software, changeable-stable, etc.)?							
<b>3.14</b> Do you use interaction matrices to find conflicts and overlaps?							
<b>3.15</b> Do you perform any risk analysis on requirements?							



## Requirements Validation

Question	N/A	UN	VL	L	A	H	VH
<b>3.16</b> Do you check that requirements document meets your standards?							
<b>3.17</b> Do you organise formal requirements inspections?							
<b>3.18</b> Do you use multi-disciplinary teams to review requirements?							
<b>3.19</b> Do you involve external (from the project) reviewers in the validation process?							
<b>3.20</b> In order to focus the validation process do you define validation checklists?							
<b>3.21</b> Do you use prototyping to animate / demonstrate requirements for validation?							
<b>3.22</b> Do you propose requirements test cases?							
<b>3.23</b> Do you allow different stakeholders to participate in requirements validation?							

## Requirements Management

Question	N/A	UN	VL	L	A	H	VH
<b>3.24</b> Do you uniquely identify each requirement?							
<b>3.25</b> Do you have defined policies for requirements management?							
<b>3.26</b> Do you record requirements traceability from original sources?							
<b>3.27</b> Do you define traceability policies?							
<b>3.28</b> Do you maintain a traceability manual?							
<b>3.29</b> Do you use a database to manage requirements?							
<b>3.30</b> Do you define change management policies?							
<b>3.31</b> Do you identify global system requirements?							
<b>3.32</b> Do you identify volatile requirements?							
<b>3.33</b> Do you record rejected requirements?							
<b>3.34</b> Do you reuse requirements over different projects?							



## Requirements Evolution/Maintenance

Question	N/A	UN	VL	L	A	H	VH
<b>3.35</b> <i>Has the expected life of the project been defined?</i>							
<b>3.36</b> <i>Has the expected frequency of change been defined?</i>							
<b>3.37</b> <i>Has the importance of keeping the system up to date functionally been defined?</i>							
<b>3.38</b> <i>Has the importance of keeping the system up to date technologically been defined?</i>							
<b>3.39</b> <i>Has it been decided who will perform maintenance on the project?</i>							
<b>3.40</b> <i>Are the areas of greatest expected change identified?</i>							
<b>3.41</b> <i>Has the method of introducing change during development been identified?</i>							
<b>3.42</b> <i>Have provisions been included to properly document the application for maintenance purposes?</i>							

## Requirements Process Deliverables

Question	N/A	UN	VL	L	A	H	VH
<b>3.43</b> <i>Are the deliverables of the requirements process well identified within your organisation?</i>							
<b>3.44</b> <i>Is the task of each deliverable well defined within your organisation?</i>							
<b>3.45</b> <i>Are the responsibilities for producing the deliverables well defined within your organisation?</i>							
<b>3.46</b> <i>Is the deliverables' schedule well defined within your organisation?</i>							
<b>3.47</b> <i>Are the responsibilities for reviewing the deliverables well defined within your organisation?</i>							
<b>3.48</b> <i>Are relationships among deliverables well defined within your organisation?</i>							
<b>3.49</b> <i>Are requirements used as the basis for developing project plans?</i>							
<b>3.50</b> <i>Are requirements used as a basis for design?</i>							
<b>3.51</b> <i>Are requirements used as the basis for testing?</i>							
<b>3.52</b> <i>Are requirements allocated to the software functions of the product?</i>							



## 4 Product Requirements Engineering

### Requirements Description

Question	N/A	UN	VL	L	A	H	VH
4.1 Do you have standards templates / documents for describing requirements?							
4.2 Do you have a specific lay out for the requirements document to improve readability?							
4.3 Do you have guidelines how to write requirements?							
4.4 Do you produce a summary of the requirements?							
4.5 Do you make a business case for a system?							
4.6 Do you have a glossary of specialised terms?							
4.7 Is the requirements document easy to change?							
4.8 Do you use diagrams appropriately?							
4.9 Do you supplement natural language with other descriptions of requirements?							
4.10 Do you specify requirements quantitatively?							

### System Modelling

Question	N/A	UN	VL	L	A	H	VH
4.11 Do you define the system's operating environment?							
4.12 Do you develop complementary system models?							
4.13 Do you model the system's environment?							
4.14 Do you model the system architecture?							
4.15 Do you use structured methods for system modelling?							
4.16 Do you define operational processes to reveal process requirements and requirements constraints?							
4.17 Do you use a data dictionary?							
4.18 Do you document the links between stakeholder requirements and system?							
4.19 Do you specify systems using formal specifications?							



## Functional Requirements

Question	N/A	UN	VL	L	A	H	VH
4.20 Can the data required by the application be collected with the desired degree of reliability?							
4.21 Can the data be collected within the time period specified?							
4.22 Have the user requirements been defined in writing?							
4.23 Are the requirements stated in measurable terms?							
4.24 Has the project solution addressed the user requirements?							
4.25 Could test data be developed to test the achievement of the objectives?							
4.26 Have procedures been specified to evaluate the implemented system to ensure the requirements are achieved?							
4.27 Do the measurable objectives apply to both the manual and automated segments of the application system?							

## Non Functional Requirements

Question	N/A	UN	VL	L	A	H	VH
4.28 Do you identify non functional requirements (e.g., usability, quality, cognitive workload, etc.) for a system?							
4.29 Have the user functions been identified?							
4.30 Have the skill levels of the users been identified?							
4.31 Have the expected levels of supervision been identified?							
4.32 Has the time span for user function been defined?							
4.33 Will the counsel of an industrial psychologist be used in designing user functions?							
4.34 Have user clerical people been interviewed during the requirements phase to identify their concerns?							
4.35 Have tradeoffs between computer and people processing been identified?							
4.36 Have the defined user responsibility been presented to the user personnel for comment?							



## Portability Requirements

Question	N/A	UN	VL	L	A	H	VH
4.37 Are significant hardware changes expected during the life of the project?							
4.38 Are significant software changes expected during the life of the project?							
4.39 Will the application system be run in multiple locations?							
4.40 If an on-line application, will different types of terminal be used?							
4.41 Is the proposed solution dependent on specific hardware?							
4.42 Is the proposed solution dependent on specific software?							
4.43 Will the application be run in other countries?							
4.44 Have the portability requirements been documented?							

## Systems Interface

Question	N/A	UN	VL	L	A	H	VH
4.45 Have data to be received from other applications been identified?							
4.46 Have data going to other applications been identified?							
4.47 Have the reliability of interfaced data been defined?							
4.48 Has the timing of transmitting data being defined?							
4.49 Has the timing of data being received been defined?							
4.50 Has the method of interfacing been defined?							
4.51 Have the interface requirements been documented?							
4.52 Have future needs of interfaced systems been taken into account?							



## Requirements Viewpoints

Question	N/A	UN	VL	L	A	H	VH
<i>4.53 Do you identify and consult all likely, sources of requirements, system stakeholders?</i>							
<i>4.54 Do you look for domain constraints?</i>							
<i>4.55 Do you collect requirements from multiple viewpoints?</i>							
<i>4.56 Do you use language simply, consistently and concisely for describing requirements?</i>							
<i>4.57 Do you record requirements traceability from original sources?</i>							
<i>4.58 Do you record requirements rationale in order to improve requirements understanding?</i>							

## Product-Line Requirements

Question	N/A	UN	VL	L	A	H	VH
<i>4.59 Do you define safety-critical requirements?</i>							
<i>4.60 Do you identify and analyse hazards?</i>							
<i>4.61 Do you derive safety (or security, availability, etc.) requirements from hazard analysis?</i>							
<i>4.62 Do you cross-check operational and functional requirements against safety (or security, availability, etc.) requirements?</i>							
<i>4.63 Do you collect incident experience (e.g., by incident reports)?</i>							
<i>4.64 Do you analyse incident reports?</i>							
<i>4.65 Are responsibilities (for system safety) well identified within your organisation?</i>							
<i>4.66 Do you define operational profiles for a system?</i>							
<i>4.67 Do you develop use cases for a system?</i>							



## Failure Impact Requirements

Question	N/A	UN	VL	L	A	H	VH
<b>4.68</b> <i>Has the financial loss of an application system failure been defined?</i>							
<b>4.69</b> <i>Has the financial loss calculation for a failure been extended to show the loss at different time intervals, such as one hour, eight hours, one day, one week, etc.?</i>							
<b>4.70</b> <i>Is the proposed system technology reliable and proven in practice?</i>							
<b>4.71</b> <i>Has a decision been made as to whether it is necessary to recover this application in the event of a system failure?</i>							
<b>4.72</b> <i>Are alternative processing procedures needed in the event that the system becomes unoperational?</i>							
<b>4.73</b> <i>If alternative processing procedures are needed, have they been specified?</i>							
<b>4.74</b> <i>Has a procedure been identified for notifying users in the event of a system failure?</i>							
<b>4.75</b> <i>Has the desired percent of up-time for the system been specified?</i>							



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## References

- [1] William E. Perry. *Effective Methods for Software testing*. John Wiley & Sons, second edition, 2000.
- [2] Suzanne Robertson and James Robertson. *Mastering the Requirements Process*. Addison-Wesley, 1999.
- [3] Ian Sommerville and Pete Sawyer. *Requirements Engineering: A Good Practice Guide*. John Wiley & Sons, 1997.
- [4] Karl Eugene Wiegers. *Software Requirements*. Microsoft Press, 1999.



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## Notes