

# Live Experiment RefsQ 2012 Questionnaire

## Part I

### General questions

This part of the questionnaire includes some general questions about your experience in requirements engineering. Please answer the questions below. The experiment is anonymous; you are not required to provide a name or other identifying information.

#### Question 1

I have done the following work in requirements engineering (RE). Please mark all appropriate boxes:

- ☐ Research as a graduate student (Master, Ph.D.)
- ☐ Research at an academic institution (e.g. professor or junior professor)
- ☐ Research at a private company
- ☐ Teaching requirements engineering
- ☐ Requirements work at a software vendor
- ☐ Requirements work at a software customer
- ☐ Requirements work as a consultant
- ☐ Other (please specify):

**Question 2** I have \_\_\_\_ years of experience working in requirements engineering.

**Question 3** I rate my experience level in requirements engineering as:

expert

intermediate

beginner

☐☐☐☐☐

**Question 4** In my practice in requirements engineering, I have used the following format(s) to document requirements:

- ☐ User tasks
- ☐ User stories (agile development)
- ☐ Sentence templates ("The system shall...")
- ☐ Requirements without any format (plain text, possibly ad-hoc structured)
- ☐ Other (please specify):

**Question 5** In my practice in requirements engineering, the main format I employ for documenting requirements is:

## Part II

# Requirements document

This part of the questionnaire contains requirements for the software product *Receipt Manager*. Imagine that you plan to buy the product when it is released. The software vendor knows you are interested in the finalized product and asks you for feedback as a key user.

The vendor provided some requirements, which are printed below. Please read them carefully and try to imagine the resulting software in detail. Please do not start answering the questions before you have read and understood the requirements.



The user can import a picture of a receipt.

The user can change the tag for each expense item separately.

The user can prepare a picture for recognition.

Option 1: The user cannot save anything locally. The data is archived on the system vendor's server (cloud storage) and automatically saved, Option 2: Instead of cloud storage, the user can archive the receipt data locally. The user has to trigger the saving.

The user can let the system recognize the text in an imported receipt picture.

The user can export the receipt data.

The user doesn't predefine a tag, the system guesses a single tag and applies it to each expense item.

The user can select the receipts to be used in a report.

The user can change any part of the recognized content.

The user can filter the receipt list or search it, for finding relevant receipts.

The user can choose from templates for different types of report.

The user can print the report.

The user can input parameter for the report. For example, he/she inputs a month for a report which shows expenses for a given month.

The user can export the report data.

The user can read the report on-screen, it is shown in a printer-friendly layout. It contains data processed by the system for the specified report.

After you have understood the requirements, please answer these questions about them.

**Feature 1** The user can import a picture of a receipt.

- |   |                          |                          |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. My conception of the way this feature will be implemented is ... | clear                    |                          | vague                    |                          | non-existent             |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. I think I will ... this feature when it is implemented.          | like                     |                          | be indifferent           |                          | dislike                  |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Feature 2** The user can prepare a picture for recognition.

- |   |                          |                          |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. My conception of the way this feature will be implemented is ... | clear                    |                          | vague                    |                          | non-existent             |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. I think I will ... this feature when it is implemented.          | like                     |                          | be indifferent           |                          | dislike                  |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Feature 3** The user can let the system recognize the text in an imported receipt picture.

- |   |                          |                          |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. My conception of the way this feature will be implemented is ... | clear                    |                          | vague                    |                          | non-existent             |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. I think I will ... this feature when it is implemented.          | like                     |                          | be indifferent           |                          | dislike                  |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Feature 4** The user doesn't predefine a tag, the system guesses a single tag and applies it to each expense item.

- |   |                          |                          |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. My conception of the way this feature will be implemented is ... | clear                    |                          | vague                    |                          | non-existent             |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. I think I will ... this feature when it is implemented.          | like                     |                          | be indifferent           |                          | dislike                  |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Feature 5** The user can change any part of the recognized content.

- |   |                          |                          |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. My conception of the way this feature will be implemented is ... | clear                    |                          | vague                    |                          | non-existent             |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. I think I will ... this feature when it is implemented.          | like                     |                          | be indifferent           |                          | dislike                  |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Feature 6** The user can change the tag for each expense item separately.

1. My conception of the way this feature will be implemented is ...	clear		vague		non-existent
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I think I will ... this feature when it is implemented.	like		be indifferent		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 7(a)** Option 1: The user cannot save anything locally. The data is archived on the system vendor's server (cloud storage) and automatically saved

1. My conception of the way this feature will be implemented is ...	clear		vague		non-existent
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I think I will ... this feature when it is implemented.	like		be indifferent		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 7(b)** Option 2: Instead of cloud storage, the user can archive the receipt data locally. The user has to trigger the saving.

1. My conception of the way this feature will be implemented is ...	clear		vague		non-existent
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I think I will ... this feature when it is implemented.	like		be indifferent		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 8** The user can export the receipt data.

1. My conception of the way this feature will be implemented is ...	clear		vague		non-existent
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I think I will ... this feature when it is implemented.	like		be indifferent		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 9** The user can select the receipts to be used in a report.

1. My conception of the way this feature will be implemented is ...	clear		vague		non-existent
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I think I will ... this feature when it is implemented.	like		be indifferent		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 10** The user can filter the receipt list or search it, for finding relevant receipts.

1. My conception of the way this feature will be implemented is ...	clear		vague		non-existent
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I think I will ... this feature when it is implemented.	like		be indifferent		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 11** The user can choose from templates for different types of report.

1. My conception of the way this feature will be implemented is ...	clear		vague		non-existent
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I think I will ... this feature when it is implemented.	like		be indifferent		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 12** The user can input parameter for the report. For example, he/she inputs a month for a report which shows expenses for a given month.

1. My conception of the way this feature will be implemented is ...	clear		vague		non-existent
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I think I will ... this feature when it is implemented.	like		be indifferent		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 13** The user can read the report onscreen, it is shown in a printer-friendly layout. It contains data processed by the system for the specified report.

1. My conception of the way this feature will be implemented is ...	clear		vague		non-existent
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I think I will ... this feature when it is implemented.	like		be indifferent		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 14** The user can print the report.

1. My conception of the way this feature will be implemented is ...	clear		vague		non-existent
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I think I will ... this feature when it is implemented.	like		be indifferent		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 15** The user can export the report data.

1. My conception of the way this feature will be implemented is ...	clear		vague		non-existent
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I think I will ... this feature when it is implemented.	like		be indifferent		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



The software vendor asks you to prioritize the features you saw. You have a total of 15 budget points. Please assign them to the features which you feel are the most important ones. Mark each point in the space to the left of the features. You can spend up to 3 points per feature, and you have to spend all 15 points.

☐ ☐ ☐ The user can import a picture of a receipt.

☐ ☐ ☐ The user can change any part of the recognized content.

☐ ☐ ☐ The user can prepare a picture for recognition.

☐ ☐ ☐ The user can change the tag for each expense item separately.

☐ ☐ ☐ The user can let the system recognize the text in an imported receipt picture.

☐ ☐ ☐ Option 1: The user cannot save anything locally. The data is archived on the system vendor's server (cloud storage) and automatically saved, Option 2: Instead of cloud storage, the user can archive the receipt data locally. The user has to trigger the saving.

☐ ☐ ☐ The user doesn't predefine a tag, the system guesses a single tag and applies it to each expense item.

☐ ☐ ☐ The user can export the receipt data.

☐ ☐ ☐ The user can select the receipts to be used in a report.

☐ ☐ ☐ The user can read the report onscreen, it is shown in a printer-friendly layout. It contains data processed by the system for the specified report.

☐ ☐ ☐ The user can filter the receipt list or search it, for finding relevant receipts.

☐ ☐ ☐ The user can print the report.

☐ ☐ ☐ The user can choose from templates for different types of report.

☐ ☐ ☐ The user can export the report data.

☐ ☐ ☐ The user can input parameter for the report. For example, he/she inputs a month for a report which shows expenses for a given month.

## Part III

# Assessment of implemented features

Now the software product *Receipt Manager* is finished. You watch a demonstration which shows how the product works. Please provide feedback based on the implemented software you saw in the demonstration.

For your convenience, you are shown a few features at a time, then given some time to answer, then another demonstration, etc., until you have seen all features.

### Demonstration 1

**Feature 1** The user can import a picture of a receipt.

1. The feature implementation corresponds ... to my previous conception.

very well			somewhat		not at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.

like			am in- different		dislike
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 2** The user can prepare a picture for recognition.

1. The feature implementation corresponds ... to my previous conception.

very well			somewhat		not at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.

like			am in- different		dislike
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 3** The user can let the system recognize the text in an imported receipt picture.

1. The feature implementation corresponds ... to my previous conception.

very well			somewhat		not at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.

like			am in- different		dislike
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 4** The user doesn't predefine a tag, the system guesses a single tag and applies it to each expense item.

1. The feature implementation corresponds ... to my previous conception.

very well			somewhat		not at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.

like			am in- different		dislike
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Demonstration 2

**Feature 5** The user can change any part of the recognized content.

1. The feature implementation corresponds ... to my previous conception.

very well			somewhat		not at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.

like			am in- different		dislike
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 6** The user can change the tag for each expense item separately.

1. The feature implementation corresponds ... to my previous conception.
- | very well                |                          |                          | somewhat                 |                          | not at all               |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.

like			am indifferent		dislike
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Demonstration 3

**Feature 7 a)** Option 1: The user cannot save anything locally. The data is archived on the system vendor's server (cloud storage) and automatically saved

1. The feature implementation corresponds ... to my previous conception.
- | very well                |                          |                          | somewhat                 |                          | not at all               |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.

like			am indifferent		dislike
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 7 b)** Option 2: Instead of cloud storage, the user can archive the receipt data locally. The user has to trigger the saving.

1. The feature implementation corresponds ... to my previous conception.
- | very well                |                          |                          | somewhat                 |                          | not at all               |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.

like		am in-different		dislike
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Feature 8 The system offers export of the receipt data.

1. The feature implementation corresponds ... to my previous conception.

very well		somewhat		not at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.

like		am in-different		dislike
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Demonstration 4

#### Feature 9 The user can select the receipts to be used in a report.

1. The feature implementation corresponds ... to my previous conception.

very well		somewhat		not at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.

like		am in-different		dislike
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Feature 10 The user can filter the receipt list or search it, for finding relevant receipts.

1. The feature implementation corresponds ... to my previous conception.

very well		somewhat		not at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.	like		am in-different		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 11** The user can choose from templates for different types of report.

1. The feature implementation corresponds ... to my previous conception.	very well		somewhat		not at all
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.	like		am in-different		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 12** The user can input parameter for the report. For example, he/she inputs a month for a report which shows expenses for a given month.

1. The feature implementation corresponds ... to my previous conception.	very well		somewhat		not at all
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.	like		am in-different		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Demonstration 5

**Feature 13** The user can read the report onscreen, it is shown in a printer-friendly layout. It contains data processed by the system for the specified report.

1. The feature implementation corresponds ... to my previous conception.	very well		somewhat		not at all
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.	like		am in-different		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 14** The user can print the report.

1. The feature implementation corresponds ... to my previous conception.	very well		somewhat		not at all
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.	like		am in-different		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Feature 15** The user can export the report data.

1. The feature implementation corresponds ... to my previous conception.	very well		somewhat		not at all
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The implemented feature differs from my previous conception in the following ways:

3. I ... the feature the way it is implemented now.	like		am in-different		dislike
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## Part IV

# The End

A last **question**: Do you have a proposal how the feature description could be improved so that it would be easier for you to imagine the feature implementation? Please let us know.

Thank you for participating in this experiment. We will evaluate the data during the conference and present the results at the end of the conference. Use the space below to give us feedback on this survey and on the experiment as a whole. Include critique, comments, questions, or anything else you feel we should know.

Rumi Proynova, Barbara Paech & the RefsQ organizers

My feedback:

This questionnaire is part of the DFG-financed project VaReMed (Value Based Requirements for Medical Software)