

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.



- 1 The system shall be able to import a picture of a receipt.
- 2 The system shall allow the user to prepare the picture for recognition.
- 3 The system shall be able to recognize the text in an imported receipt picture.
- 4 The system shall guess a single tag for a recognized receipt and apply it to each expense item. The user doesn't predefine any tags.
- 5 The system shall allow the user to change any part of the recognized content in a receipt.
- 6 The system shall allow the user to change the tag for each expense item separately.
- 7(a) Option 1: The system shall archive the data on the vendors servers (cloud storage). No local saving is possible. All data is saved automatically.
- 7(b) Option 2: Instead of cloud storage, the system shall archive the data locally. The user has to trigger the saving.
- 8 The system shall offer export of the receipt data.
- 9 The system shall allow the user to select receipts to be used in a report.
- 10 The system shall let the user filter the receipt list or search it, for finding relevant receipts.
- 11 The system shall offer templates for different types of report.
- 12 The system shall allow the user to input parameters for the report. For example, it allows to input a month for a report which shows expenses for a given month.
- 13 The system shall process the data needed for the specified report and show it onscreen in a printer-friendly layout.
- 14 The system shall allow the user to print a report.
- 15 The system shall offer export of the report data.

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

Feature 1 The system shall be able to 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 system shall allow the user to prepare the 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 system shall be able to 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 system shall guess a single tag for a recognized receipt and apply it to each expense item. The user doesn't predefine any tags.

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 system shall allow the user to change any part of the recognized content in 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 6 The system shall allow the user to 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 system shall archive the data on the vendors servers (cloud storage). No local saving is possible. All data is saved automatically.

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 system shall archive the 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 system shall offer export of 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 system shall allow the user to select 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 system shall let the user 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 system shall offer 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 system shall allow the user to input parameters for the report. For example, it allows to input 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 system shall process the data needed for the specified report and show it onscreen in a printer-friendly layout.

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 system shall allow the user to print 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 15 The system shall offer export of 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.

- 1 ☐ ☐ ☐ The system shall be able to import a picture of a receipt.
- 2 ☐ ☐ ☐ The system shall allow the user to prepare the picture for recognition.
- 3 ☐ ☐ ☐ The system shall be able to recognize the text in an imported receipt picture.
- 4 ☐ ☐ ☐ The system shall guess a single tag for a recognized receipt and apply it to each expense item. The user doesn't predefine any tags.
- 5 ☐ ☐ ☐ The system shall allow the user to change any part of the recognized content in a receipt.
- 6 ☐ ☐ ☐ The system shall allow the user to change the tag for each expense item separately.
- 7(a) ☐ ☐ ☐ Option 1: The system shall archive the data on the vendors servers (cloud storage). No local saving is possible. All data is saved automatically.
- 7(b) ☐ ☐ ☐ Option 2: Instead of cloud storage, the system shall archive the data locally. The user has to trigger the saving.
- 8 ☐ ☐ ☐ The system shall offer export of the receipt data.
- 9 ☐ ☐ ☐ The system shall allow the user to select receipts to be used in a report.
- 10 ☐ ☐ ☐ The system shall let the user filter the receipt list or search it, for finding relevant receipts.
- 11 ☐ ☐ ☐ The system shall offer templates for different types of report.
- 12 ☐ ☐ ☐ The system shall allow the user to input parameters for the report. For example, it allows to input a month for a report which shows expenses for a given month.
- 13 ☐ ☐ ☐ The system shall process the data needed for the specified report and show it onscreen in a printer-friendly layout.
- 14 ☐ ☐ ☐ The system shall allow the user to print a report.
- 15 ☐ ☐ ☐ The system shall offer export of the report data.

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 system shall be able to 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 system shall allow the user to prepare the 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 system shall be able to 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 indifferent | | dislike |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Feature 4 The system shall guess a single tag for a recognized receipt and apply it to each expense item. The user doesn't predefine any tags.

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 2

Feature 5 The system shall allow the user to change any part of the recognized content in 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 indifferent | | dislike |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Feature 6 The system shall allow the user to 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 in- different		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 system shall archive the data on the vendors servers (cloud storage). No local saving is possible. All data is saved automatically.

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 7 b) Option 2: Instead of cloud storage, the system shall archive the 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 system shall allow the user to select 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 system shall let the user 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 system shall offer 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 system shall allow the user to input parameters for the report. For example, it allows to input 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 system shall process the data needed for the specified report and show it onscreen in a printer-friendly layout.

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 system shall allow the user to print 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 15 The system shall offer export of 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)