

Comparing the Effectiveness of Software Document Types in the Presentation of Functional Requirements – Questionnaire

*Thank you for taking part in this research project. Please try to answer every question in this questionnaire. You may choose not to answer any of the optional questions (marked with **Optional**) that you think will take more than 10 minutes to complete.*

Demographics (5 minutes)

1. What aspects of the software project are you involved in? (Select all that apply)

- Requirements
- Design
- Development
- Testing
- Maintenance
- Project management
- Quality management
- Other (please specify)

2. What roles do you generally have in a software project? (Select all that apply)

- Requirements engineer
- Developer
- Architect
- Project manager
- User / user representative
- Client
- Regulator
- Other (please specify)

3. How many years have you been working in the software industry?

- 0 - 4 years 5 - 9 years 10 - 14 years 15 - 19 years 20+ years

4. How do you usually get to know the requirements for the software product?

(Select all that apply)

- I consult comprehensive documentation.
 I consult informal documentation.
 I learn about the requirements by informal discussions with other members of my organisation.
 I learn about the requirements by informal discussions with clients.
 I learn about the requirements at formal meetings with clients and/or other members of my organisation.
 Other (please specify)

5. What type of documents or models do you usually use or receive from the ways you use in Q4 (to know about the requirements for the software product)? How effective do you think the documents or models are in helping you to understand the functional requirements of the software product?

a) Requirements written in natural language (the requirements document does not follow any specific formats or standards such as ISO documentation standards).

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

b) Requirements written in structured natural language (the requirements document follows a specific format or standard such as ISO documentation standards, IEEE standards or templates provided by your organisation).

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

c) Requirements written in formal notations such as Z.

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

d) Use case models.

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

e) Entity-relationship diagrams.

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

f) Architecture/design documents.

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

g) User manuals.

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

h) Informal diagrams such as rich picture, storyboards, spray diagram.

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

i) Other (please specify)

--

6. **Optional:** What type of documents or models do you prefer to use for understanding functional requirements of a software product. Please also comment on why you prefer using such documents or models.



End of demographic questions

Comparing the Effectiveness of Software Document Types in the Presentation of Functional Requirements – Questionnaire

*Thank you for taking part in this research project. Please try to answer every question in this questionnaire. You may choose not to answer any of the optional questions (marked with **Optional**) that you think will take more than 10 minutes to complete.*

Demographics (5 minutes)

1. Which institution are you currently studying at?

2. What degree and major are you studying?

3. Which year are you in your study?

year 1

year 2

year 3

year 4

year 5+

4. Did you learn any software models or modelling methods during your study? (Select all that apply)

State machines

Use Case Models

Data flow diagrams

Activity diagrams

Entity-relationship diagrams

Unified Modelling Language (UML)

I didn't learn any software models or modelling methods

Other (please specify)

5. Do you have any working experience in the software industry? If yes, please also answer Q6 – Q9.

- Yes No

6. How long have you been working in the software industry?

- 0 - 4 years 5 - 9 years 10 - 14 years 15 - 19 years 20+ years

7. How do you usually get to know the requirements for the software product?

(Select all that apply)

- I consult comprehensive documentation.
 I consult informal documentation.
 I learn about the requirements by informal discussions with other members of my organisation.
 I learn about the requirements by informal discussions with clients.
 I learn about the requirements at formal meetings with clients and/or other members of my organisation.
 Other (please specify)

8. What type of documents or models do you usually use or receive from the ways you use in Q7 (to know about the requirements for the software product)? How effective do you think the documents or models are in helping you to understand the functional requirements of the software product?

a) Requirements written in natural language (the requirements document does not follow any specific formats or standards such as ISO documentation standards).

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

b) Requirements written in structured natural language (the requirements document follows a specific format or standard such as ISO documentation standards, IEEE standards or templates provided by your organisation).

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

c) Requirements written in formal notations such as Z.

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

d) Use case models.

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

e) Entity-relationship diagrams.

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

f) Architecture/design documents.

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

g) User manuals.

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

h) Informal diagrams such as rich picture, storyboards, spray diagram.

How effective is this?	Comments
<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor, I have to guess the requirements <input type="radio"/> Poor, but I have to use it <input type="radio"/> I never receive or use this for understanding the requirements	

i) Other (please specify)

--

9. **Optional:** What type of documents or models do you prefer to use for understanding functional requirements of a software product. Please also comment on why you prefer using such documents or models.



End of demographic questions

Part 1. Reviewing Functionality of a Software System (40 minutes)

Please spend no more than 40 minutes on this section. Please answer the following questions based on the information presented in the document as best as you can. If you cannot answer a question or if you feel it is taking too long to answer a question, please write down the problem in one or two sentences. For example, "I can't find the answer from the given document after spending 10 minutes", "I don't understand the question", etc.

1. Please select the code written on the top left of the document given to you.

ReqSpec2012

UCM2012

2. Please write down the start time for answering this part of the questionnaire.

3. What is the name of the system that is the primary web authentication system for the University?

4. What are the requirements for handling applications submitted in hard copies? (Please spend no more than 10 minutes on this question)

Please describe where and how you found information about this functionality. Please note down the page numbers and section headings that you have looked for finding this functionality. E.g. I first read the table of contents. Then I went through Section 2 and 3. The requirement is on pg. 2, Section 2 Solution Overview.

5. How are hard-copy applications being processed?

6. Are the NCEA exam results displayed to the applicant? Please also note down the page numbers and/or section headings where you found the answer.

7. Who can run reports from the UAM system? Please also note down the page numbers and/or section headings where you found the answer.

8. Please write down the finish time for answering this part of the questionnaire.

End of part 1 questions

Part 2. Overview of the Software Document (15 minutes)

1. **Optional:** Did you find any duplicated or redundant information in the given document?

Yes No

Please write down what information was duplicated or redundant in the document.

2. **Optional:** Did you find any inconsistencies or errors in the given document? E.g. errors in the terminology used in the document.

Yes No

Please describe what inconsistencies or errors you have found in the document.

3. **Optional:** Did you find any information missing for describing the functionality of the software system?

Yes No

Please describe what information you think is missing in the document.

4. Did you have to go through different parts of the document (e.g. going to different sub sections) in order to answer Q6 about NCEA exam results in part 1?

	Comments
<input type="radio"/> Yes <input type="radio"/> No	

5. How well do you think the given document is in helping you to...

			Comments
a)	Identify the information that you may need to answer the questions in part 1?	<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor <input type="radio"/> Very poor	
b)	Read only the relevant information that you need to answer each question in part 1?	<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor <input type="radio"/> Very poor	
c)	Understand the functionality of the software system?	<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor <input type="radio"/> Very poor	

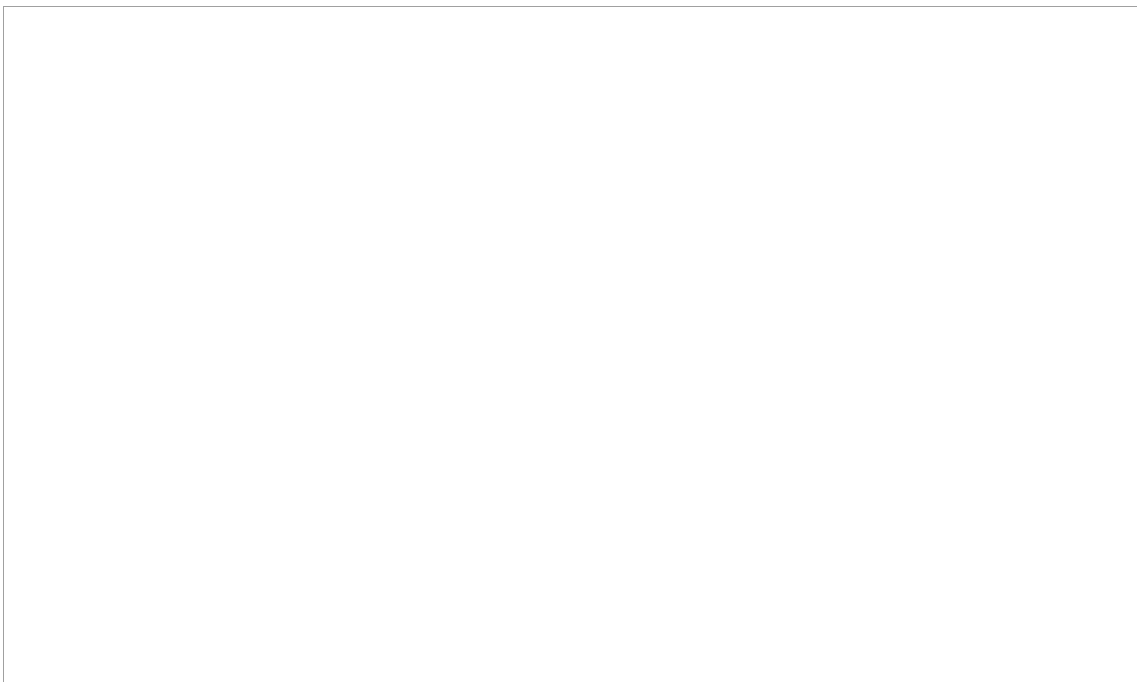
6. How well do you think that...

			Comments
a)	You have understood the information provided in the given document?	<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor <input type="radio"/> Very poor	
b)	You have answered the questions in part 1 correctly?	<input type="radio"/> Very good <input type="radio"/> Good <input type="radio"/> Satisfactory <input type="radio"/> Poor <input type="radio"/> Very poor	

7. **Optional:** If you ran out of time to answer questions in Part 1, what were the problems you encountered?



8. **Optional:** Please comment on whether you liked or didn't like the given software document. How would you improve the document for presenting the functionality of the software system?



9. Optional: Please comment on any problems or concerns that you have in general regarding software artefacts produced (e.g. software documents, class diagrams, test suite, etc.), or communication with other stakeholders during the life cycle of a software product.

A large, empty rectangular box with a thin black border, intended for the respondent to provide their comments on software artefacts and stakeholder communication.

End of the questionnaire