

The University of New South Wales

## Participant information statement and consent form

### Creating software product value through requirements selection

Ethics approval: 05602

You are invited to participate in a study on value-based requirements engineering. We hope to learn how organizations select and prioritise requirements for a project or release of software. You were selected as a possible participant in this study because your company identified you as being in a decision-making capacity for what to include and what not to include in specific software projects/releases.

If you decide to participate you will be requested to complete this questionnaire about the requirements engineering practices at your organization. This questionnaire should take approximately 20 minutes to complete.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential, except if disclosure is required by law. If you give us your permission by returning the questionnaire, we plan to publish the results and provide copies to each company participating in the study and the University of New South Wales. In any publication, information will be provided in such a way that neither you nor your company can be identified.

Should you wish to revoke your consent after completing and returning the questionnaire complete and send the *revocation of consent* form in this booklet.

Your decision to partake, not partake or revoke your consent to partake in this study will not be discussed with your company.

Complaints may be directed to *The Ethics Secretariat* on one of:

The University of New South Wales  
UNSW Sydney 2052  
Australia

Phone: +61 2 9385 4234  
Fax: +61 2 9385 6648  
Email: [ethics.sec@unsw.edu.au](mailto:ethics.sec@unsw.edu.au)

Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

Your decision whether or not to participate will not prejudice your future relations with The University of New South Wales. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without prejudice.

If you have any questions now or at a later stage, please feel free to contact Sebastian Barney on the details provided below.

Before starting the questionnaire, please become familiar with the criteria identified and described on the following two pages. After completing both sides of the questionnaire please return it to Sebastian Barney at the address below. You may keep this information booklet, which includes the revocation of consent form.

International House  
UNSW Sydney 2052  
Australia

Phone: +61 2 93150619  
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The University of New South Wales

**Information and Instructions**

**Creating software product value through requirements selection**

**Ethics approval: 05602**

**Background Information:**

Market-driven incremental software development is increasingly becoming commonplace. Software that fits into this category usually accounts for all the software on one's home and work computers. Examples of market-driven incremental software development include Windows, Word and Norton Anti-Virus.

It is developed and released to meet the requirements of a particular market, but will continue to evolve with future releases. Hence we see Windows 95, 98 and XP. Each iteration aims to deliver a new set of features or requirements.

Requirements for software are often so many that not all can be included in the next release. This makes it necessary to select a set of requirements to implement for the next release, and postpone the implementation of the other requirements.

Value-based requirements engineering aims to maximise the value of a releases of software through the selection and prioritisation of requirements. Value can be thought of as anything that one might consider useful, convenient or essential.

**Instructions**

The purpose of this questionnaire is to understand what criteria you use to select and prioritise requirements so that they can be assigned to a release of software. A list of criteria with explanations has been included. If you think this list is incomplete you can list additional criteria in the questionnaire. You are also able to mark the listed criteria as not relevant.

This survey has been divided into two sections:

**Characterisation:** This is used to determine the context for your answers.

**Prioritisation of criteria:** This part captures the different criteria involved in the decision process and their relative importance in affecting the inclusion of a specific requirement in the forthcoming project/release.

Please complete both sides of the survey and return to Sebastian Barney at International House, UNSW Sydney NSW 2052, Australia. Return of the questionnaire will be taken as consent to partake in the study. Should you wish to revoke your consent at a later date please complete and return the revocation of consent form.

Please direct any questions to Sebastian Barney on:

Phone: +61 431 967710

E-mail: [sebastian.barney@student.unsw.edu.au](mailto:sebastian.barney@student.unsw.edu.au)

## Identified criteria

The following criteria for inclusion of a requirement have been identified:

### 1. Competitors

**Explanation:** The status of competitors with respect to the requirement – it is taken into account whether a competitor has the implied functionality.

**Motivation:** We may feel forced to include a requirement if our competitors have the functionality, or we may want to implement something that is considered to be leading edge functionality (functionality competitors do not have).

### 2. Requirement's issuer

**Explanation:** The party responsible for issuing the requirement is taken into account - which stakeholder (internal or external) generated the requirement.

**Motivation:** We may judge some issuers more important than others, for example an important client or representative of a key market.

### 3. Stakeholder priority of requirement

**Explanation:** The priority of the requirement is taken into account.

**Motivation:** We may want to prioritize the requirements that our customers or markets think are of particular importance.

### 4. Function is promised/sold

**Explanation:** The expectation of stakeholders to see the requirement met is taken into account.

**Motivation:** We may want to include requirements that were promised or sold to meet stakeholder expectations.

### 5. Volatility

**Explanation:** This criterion is related to whether the requirement is likely to change or not.

**Motivation:** We may want to handle highly volatile requirements differently.

### 6. Support/Education/Training

**Explanation:** The ability and possibility to provide technical support, education, and training to customers, markets and so forth with respect to the requirement.

**Motivation:** We may not want to implement functionality unless we could provide the appropriate technical support, education and training in relation to the requirement.

### 7. Development cost-benefit

**Explanation:** The actual cost-benefit for implementing the requirement.

**Motivation:** We may not want to include a requirement if the implementation cost is judged to be high in relation to the expected benefit.

## 8. Resources/competencies

**Explanation:** The availability of resources with the right competencies to implement the requirement.

**Motivation:** We may not want to implement a requirement unless we are sure that we have the right people available for the job.

## 9. Delivery date/Calendar time

**Explanation:** The ability to meet the project deadline.

**Motivation:** We may not want to introduce a requirement that may affect the deadline of the project negatively.

## 10. System impact

**Explanation:** The impact of the requirement on the existing system.

**Motivation:** We may not want to implement a requirement if we judge that the actual impact in terms of changes to the existing system is too great.

## 11. Complexity

**Explanation:** The estimated complexity of the requirement and the associated challenges in implementing it.

**Motivation:** We may not want to include a requirement that is judged to be very complex to implement and as a consequence the risk of failure as too high.

## 12. Requirements dependencies

**Explanation:** The dependencies between a specific requirement and other requirements, either already implemented or other posed requirements.

**Motivation:** The dependency to other requirements (already implemented, scheduled to be implemented, or deferred to later release) may affect our decision regarding the current requirement.

## 13. Evolution

**Explanation:** The impact on the future evolution of the system.

**Motivation:** We may not want to implement a requirement if it is believed to make long-term evolution of the system more complicated.

## 14. Maintenance

**Explanation:** The impact on the maintenance of the current system.

**Motivation:** We may not want to implement a requirement if it is believed that the requirement may cause many problems in terms of maintenance.

# Revocation of consent

## Creating software product value through requirements selection

**Ethics approval:** 05602

I hereby wish to WITHDRAW my consent to participate in the research proposal described above and understand that such withdrawal WILL NOT jeopardise any treatment or my relationship with The University of New South Wales.

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Signature

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Date

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Please print name

The section for Revocation of Consent should be forwarded to Sebastian Barney, International House, UNSW Sydney NSW 2052, Australia.

## Questionnaire – Characterisation

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**Name:**

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**Email:**

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**Company:**

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**Organizational unit:** eg. development, testing, marketing, sales

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**Number of years work experience:**

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**Number of years at this company:**

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**Type of application:** eg. telecommunications, finance, services

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**Product market:** eg. contracted development for one customer/company, several different customers/companies, consumer product

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**Product in mind when answering this questionnaire:** If your answer is based on your overall experience, write *no specific product*.

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**Your role in the organization:** eg. product manager, project manager, developer

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## Questionnaire – Prioritisation of Criteria

Please fill in the table below as follows:

First, if you think any important decision criteria are missing, please add them in to the rows numbered 15-18.

Then answer yes or no depending on whether you think the criterion in the row is *relevant* to consider when deciding if a specific requirement should be included or not.

In the columns *Today* and *Optimal*, rate the relative importance of the different criteria in terms of a value between 0 and 1000. For example, if one criterion is twice as important as another one, the value should be twice as large. However, the sum of all values in the column should be 1000.

The *today* column represents the situation today. In other words, how you value things in practice today.

The *optimal* column represents how it ought to be or how you would like to see it in the future.

	Criteria	Relevant	Today	Optimal
1.	Competitors			
2.	Requirement's issuer			
3.	Customer/market priority of requirement			
4.	Function is promised/sold			
5.	Changeability			
6.	Support/Education/training			
7.	Development cost			
8.	Resources/competencies			
9.	Delivery date/Calendar time			
10.	System impact			
11.	Complexity			
12.	Requirements dependencies			
13.	Evolution			
14.	Maintenance			
15.				
16.				
17.				
18.				
		<b>SUM</b>	<b>1000</b>	<b>1000</b>

Please complete both sides and return to Sebastian Barney, International House, UNSW Sydney NSW 2052 Australia