

# Data collection for benefit estimation of (multimedia) ontologies

## INTRODUCTION

MOBEFIT (Multimedia Ontology BEneFIT) - a model for the benefit estimation of (multimedia) ontologies - is currently being developed at the Semantic Technology Institute (STI) at the University of Innsbruck<sup>13</sup>. It aims at predicting the economic value of ontologies together with the application of a cost estimation model for ontologies called ONTOCOM<sup>14</sup>.

The overall user satisfaction is a measurement for the effectiveness of a system. To make a statement about the user satisfaction the collection of real-world ontology engineering project data is necessary. The design of the model is part of the task T3.3 "Evaluation of the economics of multimedia ontologies" of the European project SALERO<sup>15</sup> and will be continued in the project ACTIVE<sup>16</sup>

The questionnaire is based on a questionnaire presented in [Miller and Doyle, 1987]

## ABOUT THIS SURVEY

The MOBEFIT method is based on User Information Satisfaction analysis whose idea is to measure the gap between the perceived importance of particular system attributes and their actual performance.

The survey consist of 4 parts:

- Part A contains questions which measure the extent to which certain facets of the ontology (or the ontology based application) are perceived to be important in ensuring the effectiveness of the application / ontology
- Part B contains questions about future requirements
- Part C consists of the same questions as Part A but now the actual performance should be rated.
- Part D contains a question on the overall performance.

For the questions in part A you are required to specify the importance of a specific system attribute on a four point scale, i.e. to position your answer according to a four-step rating scale: Irrelevant, Not important, Important, Critical. You additionally might tick "Don't Know" .

For the questions in part B you are requested to provide your personal wish list for future attributes of the system.

The attributes questioned in Part A and C are the ones listed in the taxonomy of facets of ontology based systems.

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For the questions in part C you are required to rate the perceived performance of the same system attributes that were asked for in Part A. Again the rating is can be done on a four-point scale: Very poor, poor, good, excellent.

Part D finally contains questions about your overall opinion of the application / ontology.

## Part A – Importance

Please respond by ticking the option which reflects your opinion about the importance of the following listed attributes of ontologies and ontology based systems in ensuring their effectiveness.

### A.1 Common attributes of ontologies

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<sup>13</sup> <http://www.sti2.at>

<sup>14</sup> <http://ontocom.ag-nbi.de/>

<sup>15</sup> <http://www.salero.eu>

<sup>16</sup> <http://www.active-project.eu/>

1	Easy access to the ontology Irrelevant _____ Not important _____ Important _____ Critical _____ Don't Know _____
2	Up-to-date ness of the ontology Irrelevant _____ Not important _____ Important _____ Critical _____ Don't Know _____
3	User confidence in the ontology Irrelevant _____ Not important _____ Important _____ Critical _____ Don't Know _____
4	Degree of personal control over the ontology Irrelevant _____ Not important _____ Important _____ Critical _____ Don't Know _____
5	Ontology responsiveness to changing users needs Irrelevant _____ Not important _____ Important _____ Critical _____ Don't Know _____
6	Participation in the planning of requirements or competency questions Irrelevant _____ Not important _____ Important _____ Critical _____ Don't Know _____
7	Extent of user training Irrelevant _____ Not important _____ Important _____ Critical _____ Don't Know _____
8	Documentation of the ontology Irrelevant _____ Not important _____ Important _____ Critical _____ Don't Know _____
9	A high degree of technical competence from ontology administrators Irrelevant _____ Not important _____ Important _____ Critical _____ Don't Know _____
<b>A.2 Comprehensiveness of the ontology</b>	
10	User's understanding of the ontology Irrelevant _____ Not important _____ Important _____ Critical _____ Don't Know _____
11	Match of users' perception of phenomena with the ontology Irrelevant _____ Not important _____ Important _____ Critical _____ Don't Know _____
12	Understand ability of the categorization of concepts in the ontology Irrelevant _____ Not important _____ Important _____ Critical _____ Don't Know _____
13	Size of gap between the ontology concepts and the preferred concepts of the user Irrelevant _____ Not important _____ Important _____ Critical _____ Don't Know _____
<b>A.3 Attributes accounting applications using the ontology</b> [14-18]	
<b>A.4 Browsing / exploration</b> [19-24]	
<b>A5. Application 1: Semantic search / retrieval</b> [25-36]	
<b>A6. Application 2: Annotation</b> [37-41]	
<b>A7. Application 3: Reasoning</b> [42-45]	
<b>A8. Application 4: Personalization</b>	

[46-48]

**A9. Application 5: High level summarization**

[49-51]

**A10. Application 6: Information communication**

[52-57]

**Part B – Future Requirements**

Please list any abilities that you think an ontology based system should be able to have.

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**Part C – Actual performance**

Please respond by ticking the option which reflects your opinion about the actual performance of the following listed attributes of ontologies and ontology based systems in terms of the following attributes.

<b>C.1 Common attributes of ontologies</b>	
1	Easy access to the ontology Very _____ poor _____ Poor _____ Good _____ Excellent _____ Don't Know _____
2	Up-to-date ness of the ontology Very _____ poor _____ Poor _____ Good _____ Excellent _____ Don't Know _____
3	User confidence in the ontology Very _____ poor _____ Poor _____ Good _____ Excellent _____ Don't Know _____
4	Degree of personal control over the ontology Very _____ poor _____ Poor _____ Good _____ Excellent _____ Don't Know _____
5	Ontology responsiveness to changing users needs Very _____ poor _____ Poor _____ Good _____ Excellent _____ Don't Know _____
6	Participation in the planning of requirements or competency questions

	Very _____	poor	Poor _____	Good _____	Excellent _____	Don't Know _____
7	Extent of user training					
8	Documentation of the ontology					
9	A high degree of technical competence from ontology administrators					
<b>C.2 Comprehensiveness of the ontology</b>						
10	User's understanding of the ontology					
11	Match of users' perception of phenomena with the ontology					
12	Understand ability of the categorization of concepts in the ontology					
13	Size of gap between the ontology concepts and the preferred concepts of the user					
<b>C.3 Attributes accounting applications using the ontology</b>						
[14-18]						
<b>C.4 Browsing / exploration</b>						
[19-24]						
<b>C.5 Application 1: Semantic search / retrieval</b>						
[25-36]						
<b>C.6 Application 2: Annotation</b>						
[37-41]						
<b>C.7 Application 3: Reasoning</b>						
[42-45]						
<b>C.8 Application 4: Personalization</b>						
[46-48]						
<b>C.9 Application 5: High level summarization</b>						
[49-51]						
<b>C.10 Application 6: Information communication</b>						
[52-57]						

## Part D – Overall opinion

Please rate your overall opinion about the ontology and the ontology based system.

Very poor \_\_\_\_\_

Poor \_\_\_\_\_

Good \_\_\_\_\_

Excellent \_\_\_\_\_

Please supply any further comments about the performance of the ontology and the ontology based system.

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