

Evaluation Criteria for Agent-Oriented Methodologies: A Proposal

C. Bernon & M.P Gleizes
IRIT - University Paul Sabatier
Toulouse, France
<http://www.irit.fr/SMAC>





- Why evaluation is needed?
 - To help a potential user
 - To compare existing methodologies
- What do we need with ADELFE?
- Proposal from TFG1
- Proposed criteria
- Results for some methodologies



Why Evaluating AO Methodologies?

- To help a potential user evaluate the investment needed for a methodology depending on
 - The human factors
 - The application to be developed
- To classify methodologies depending on
 - Their application domain
 - The tools and notations they provide
- Main interest: which methodology has to be chosen?
 - According to the requirements of a designer
 - According to the requirements of a problem



Investment wrt Human Aspects

- **Current knowledge of designers**
 - Does the designer need some training?
 - Are notations and tools already known?
 - Are handled concepts familiar?
 - Is a help about handled (MAS) concepts provided?
- **Costs involved**
 - Is a licence required?
 - Does it help decrease the development time?
 - Are tools provided to automate the development?
 - Are these tools standards?
 - Are some additional tools needed too?



Sturm and al.'s Evaluation Framework

➤ Current knowledge of designers

- Does the designer need some training? → Pragmatics/resources
- Are notations and tools already known? → Pragmatics/expertise
- Are handled concepts familiar? → Pragmatics/expertise
- Is a help about handled (MAS) concepts provided?

➤ Costs involved

- Is a licence required? → Pragmatics/expertise?
- Does it help decrease the development time?
- Are tools provided to automate the development? → Pragmatics/resources
- Are these tools standards? → Pragmatics/resources?
- Are some additional tools needed too? → Pragmatics/resources?



Investment wrt Application

➤ Application domain

- Are handled concepts specific?
- Are some languages, notations or tools mandatory?
- Is there a methodology best suited?

➤ Applying the methodology

- Is it easy to use?
 - Is a description provided?
 - Are guidelines provided?
 - Are tools easy to use?
- Is it complete?
 - Does it cover all the designer needs?
 - Is the design process complete?
- Is it efficient?
 - Are validation or verification tools provided?



Sturm and al.'s Evaluation Framework

➤ Application domain

- Are handled concepts specific? →
- Are some languages, notations or tools mandatory? →
Pragmatics/language
- Is there a methodology best suited?

➤ Applying the methodology

- Is it easy to use? → **Process**
 - Is a description provided?
 - Are guidelines provided?
 - Are tools easy to use?
- Is it complete? → **Process**
 - Does it cover all the designer needs?
 - Is the design process complete?
- Is it efficient?
 - Are validation or verification tools provided? → **Pragmatics + Process**

What do we Need?



➤ Application characterization

- For what kind of application the methodology is best suited?
- Is it limited to a certain kind of applications?
- Is there an underlying agent architecture?

➤ Meta-model

- What are the underlying (MAS) concepts?
- What do they mean?

What do we Need (2)



➤ Fragment definition

- What are the stages and activities of the methodology?
- Are they specialised, best suited for a certain kind of application?

➤ Concepts

- To take into account other aspects of applications
 - Dynamics
 - Openness
 - Adaptation
- To take into account the environment of the application

➤ Identification of agents



Some references

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