FIPA Methodology TC

London, 18-21 November Meeting Report

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1. Meeting Agenda

1) Glossary document first release final approval
2) Proposal of extensions to SPEM (MAS element concept)
3) Fragment definition
4) Specification of the method base architecture (initial discussion)

2. Glossary

2.1. Discussion

Scope of the glossary, to create a common reference base for researchers and developers designing MAS with the meta-methodology approach.

Terms that will be used during the Methodology TC work will be introduced. Terms belong to two conceptual categories:

- Terms specifically related to this TC work (for example used in one existing methodology or belonging to the method engineering approach).
- General software engineering and agent-related terms.

Terms definitions have been taken from FIPA existing specifications, literature, or their most diffused and agreed interpretation.

Status of the current release of the document: 56 terms are defined (27 suggested definitions of terms belonging to the software engineering domain).

The discussion on terms definitions should be done using the mailing-list, not enough time during the meeting. What terms are lacking in this first glossary?

Some terms need to be refined. For instance, the term “role” which has several meanings depending on the context (role vs conversational roles). A role may be defined as an intention (I want to buy so I act in order to buy, it is my role). A more general definition should be found in order to also interact with the TC Modelling.

The current definition in the glossary comes from Gaia where an agent type is composed of different roles. Roles are characterized with a protocol. A PASSI agent is also composed of roles. There is no role in Adelfe. Some other terms come from Adelfe.

To understand a definition, it is then important to know the context, from where the term comes from. References to sources for the definition should be introduced in the glossary.

This glossary could be proposed as a part of FIPA specifications or could remain a working internal document. Does making it a FIPA specification useful? This may represent a lot of work.

2.2. Resolutions

The glossary of terms has been approved as an internal document. There will be two different kind of terms in it: a list of terms directly related to the work of this TC and a list of terms coming from common software engineering and agent contexts.

3. Proposals of extensions to SPEM

3.1. Discussion

Designing a system consists in instantiating the MAS meta-model. A MAS meta-model is a structural representation of the elements (agents, roles, …) that are composing the real system and their relationships. An element of the MAS meta-model element is a part of this representation.

The proposed extension consists in a component of the system meta-model to be used in describing workproducts. This should be a generic element that could address all the MAS meta-model elements, e.g.: role, agent, behavior,...

MAS meta-models of Adelfe, GAIA and PASSI have been discussed and their most relevant differences examined.

Should we propose this extension to OMG as a more general "system meta-model element"? Probably the best approach consists in starting a dialogue with OMG people working on future SPEM specifications and evaluating their interest about this meta-model element.

3.2. Resolutions

A direct and active contact with the OMG group of SPEM is important for this TC and further actions will be done to strengthen it

4. Fragment Definition

4.1. Discussion

Level of abstraction for fragments

Different levels of fragments can be identified: a hierarchy can be defined and refinements are possible. A fragment could result from the composition of other fragments.

Different opinions arise: 1) it would be better to give guidelines about the abstraction level of fragments, so that it is easier to mix different methodologies, 2) it is difficult to define a single truth, each one does that with a different level of abstraction. Probably we could start with the analysis of a first set of fragments produced by different authors without a pre-defined level of abstraction.

Fragment in SPEM

A Process is a ProcessComponent intended to stand alone as a complete, end-to-end process. It is distinguished from normal process components by the fact that it is not intended to be composed with other components. A ProcessComponent is a chunk of process description that is internally consistent and may be reused with other ProcessComponents to assemble a complete process. A ProcessComponent imports a non-arbitrary set of process definition elements, modelled in SPEM by ModelElements.

Guidance elements may be associated with all the SPEM models elements in order to provide more detailed information to practitioners about the associated element. Possible types of Guidance depend on the process family and can be for example: Guidelines, Techniques, Metrics, Examples, UML Profiles, Tool mentors, Checklist, Templates.

Does a fragment produce an atomic output? An output of a fragment must be understood by another one (as an input): how? Using an a priori predetermined ontology? We distinguish two kinds of ontologies: process ontology, MAS meta-model ontology: is there a link between these two ontologies?

Notation used in fragments

A unique recommended notation is preferrable for all the method fragments but someone might want to use a different one.

Let's start with that "smooth" approach. Later we could be more strict and stick to a single notation (first a most-used notation, than a suggested notation, then a recommended notaion…)

A discussion with modelling TC about the notation can be helpful

MAS Meta-model referred in the fragments

Fragments coming from different methodologies probably refer to a different MAS meta-model. Without an unique meta-model, integration of fragments becomes very hard, FIPA could

say THIS is the FIPA meta-model but the risk is that nobody will use it. Another risk is to make the standard too general.

Process Roles

In describing the different methodolgies we idendified a set of roles involved in the process. It is reasonable to think that we could unify this list and share it with other TCs that could be interested in such information (for example the Security TC is preparing a list of roles in order to study security issues related to each of them).

4.2 Resolutions

The fragment definition document has been approved as a preliminary specification and will be published on the web site. Members are invited to use and comment the specification.

A skeleton of the fragment definition document to be used for identifying/creating fragments will be prepared by Renato Levy and Massimo Cossentino.

People responsible for different methodologies descriptions will provide a list of process roles they use in their methods by the half of January. The first iteration to unify similar roles will start soon after that.

A set of fragments will be produced, so that in the next meeting (march) at least a first set of examples from different methodologies can be analysed and further decisions can be taken.

5. Specification of the method base architecture (initial discussion)

5.1 Discussion

Motivation of this specification: to create a reference document for implementing a repository of FIPA-compliant method fragments.

What kind of specifications: only text? XML/DTD?

We could start from an UML class diagrams because it is easy to translate them using XML/DTD, XMI or XML schema. What is needed in this schema? Alfredo Garro will post on the mailing list an initial proposal of this schema by the half of January.

Then we can produce one XML document for each fragment; with this structure, the designer can try the integration of the fragment considering tags of the XML document.

Interoperability is an important issue. Could we refer to XMI or do we need to extend it?

5.2 Resolutions

Method base repository specifications has been decided to be based on a textual document complemented by a formal XML representation according to a schema.

An initial proposal produced by Alfredo Garro will be posted in the mailing list by the half of January for a discussion.

Resolutions presented at the final plenary session

TC Methodology proposed that FIPA adopts the following resolutions:

- The glossary of terms has been approved as an internal document. There will be two different kind of terms in it: a list of terms directly related to the work of this TC and a list of terms coming from common software engineering and agent contexts
- Having a direct and active contact with the OMG group of SPEM is important for this TC and further actions will be done to strengthen it
- The fragment definition document has been approved as a preliminary specification and will be published on the web site. Members are invited to use and comment the specification.
- An internal document containing a set of fragments (extracted from already SPEM documented methodologies) will be produced by next March.

- Method base repository specifications has been decided to be based on a textual document complemented by a formal XML representation according to a schema.

TC Methodology gratefully thanks all people attending the meeting and the others contributing offline