

Fragment Definition
Roles Identification

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1. Introduction

The PASSI process is composed of five different phases: System Requirements, Agent Society, Agent Implementation, Code and Deployment.

Each phase produces a document that is usually composed aggregating the UML models and work products of the work definitions that are inside each phase .

We will define a method fragment Roles Identification, extracted from PASSI methodology whose process is completely represented in the following figure

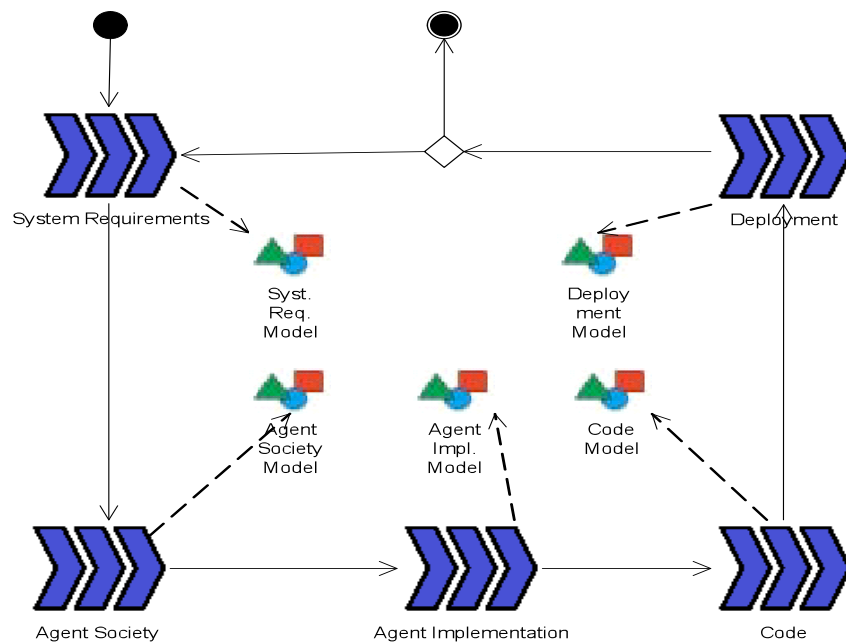


Fig. 1 The complete PASSI process

2. Fragment Definition

More in detail the System Requirements phase:

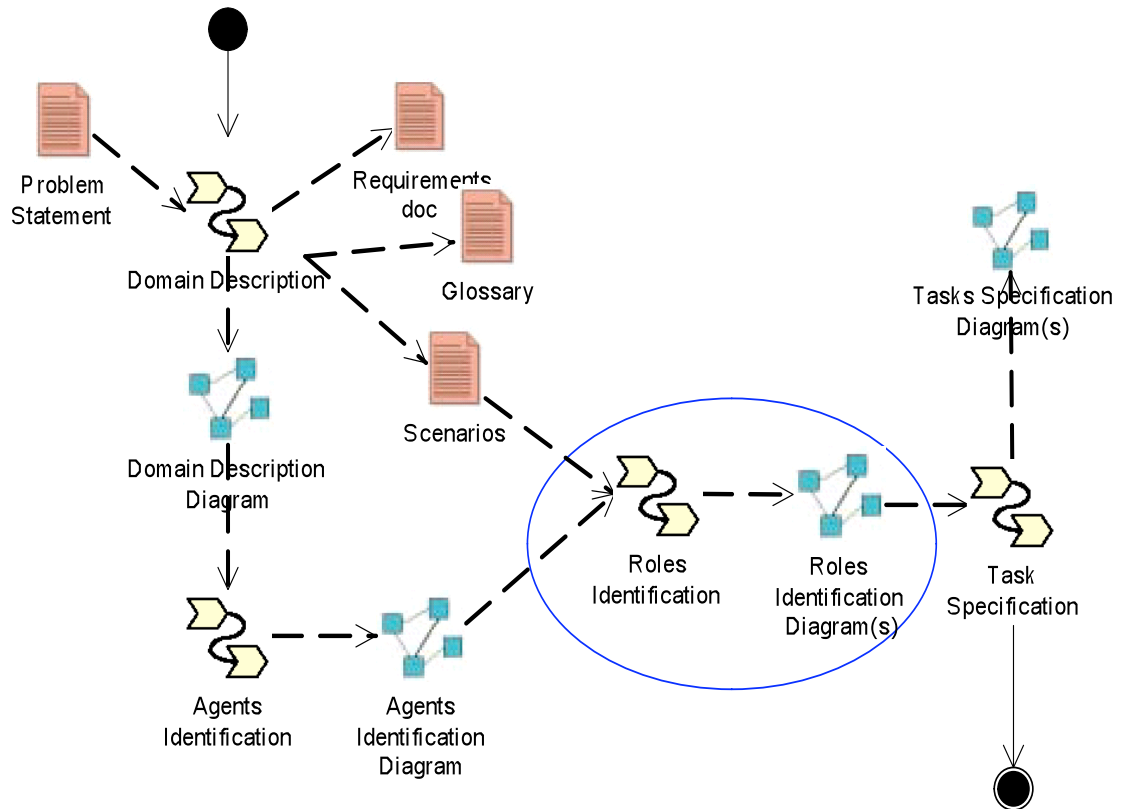


Fig.2 The System Requirements phase

Let us consider the work definition “Roles Identification” (the blue oval) whose aim is to describe all possible scenario of interacting agents working to achieve a required behaviour of the system. The UML Model of this portion of process, Roles Identification Diagram, is designed following a standard UML notation.

The process that is to be performed in order to obtain the result is represented in fig. 3 as a SPEM diagram

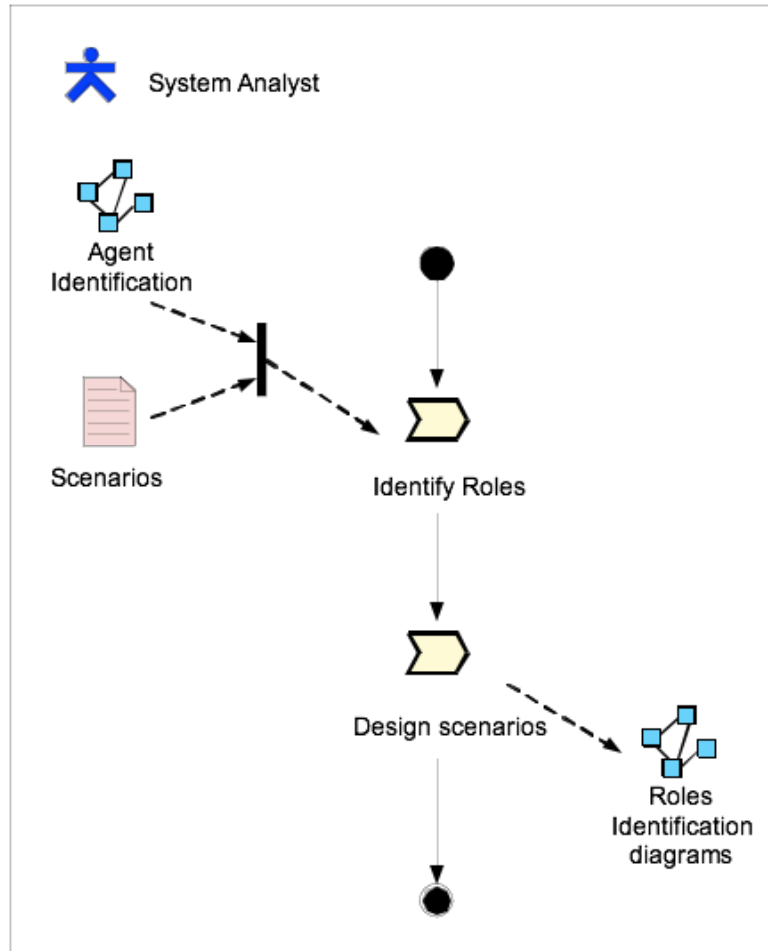


Fig.3 Roles Identification fragment-Procedural aspect

3. Relation with MAS meta-model

4. Notation

4.1. Domain Description Diagram

Sequence diagrams describe all the possible communication paths between agents. A path describes a scenario of interacting agents working to achieve a required behaviour of the system. Each agent may belong to several scenarios, which are drawn by means of sequence diagrams in which objects are used to symbolize roles.

The name of each class is in the form: <role name>:<agent name>

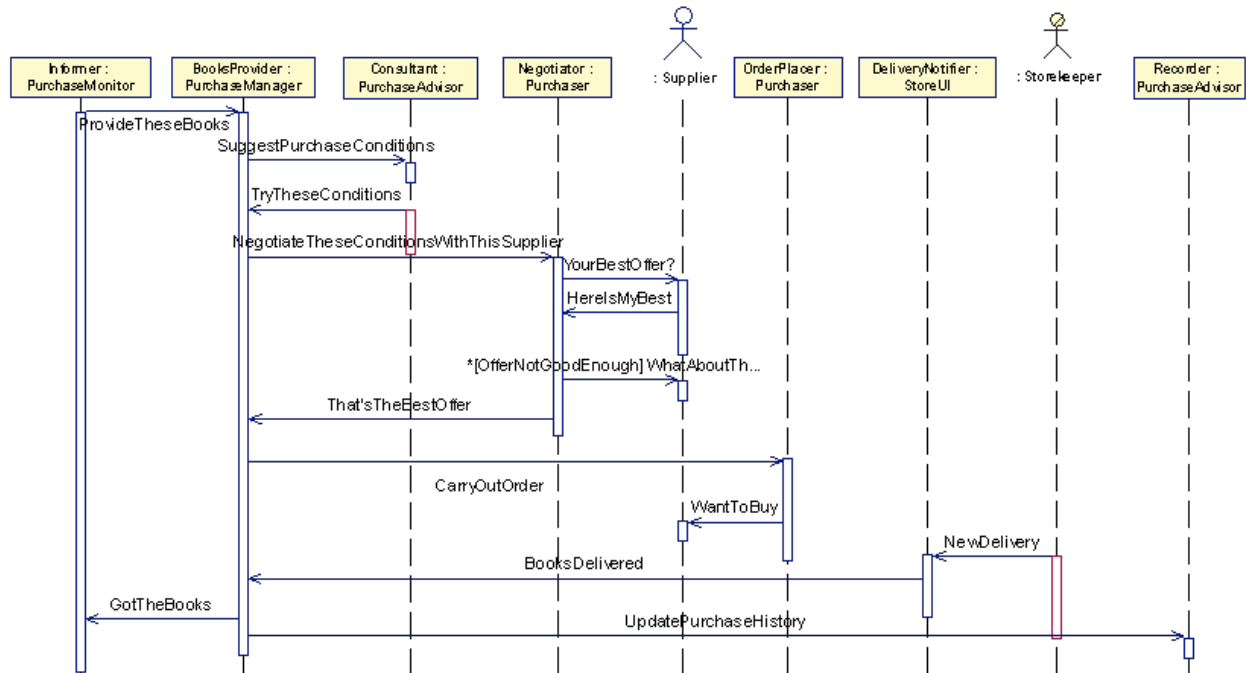


Fig. 4 The Role Identification Diagram

5. Preconditions and concepts to be defined

Input, output and element to be designed in the fragment are detailed in the following table

As regards documents:

Input	Output
Scenario, Agent Identification	Role Identification

As regards MAS metamodel elements:

To Be Designed	To be related	To be quoted
Role	Agent-Role Role-Role (of different or same agent)	Agent

6. Glossary

Roles Identification Fragment uses this list of model element:

Role – A role is a collection of tasks performed by agent in pursuing a sub-goal; an agent could play one or more roles in the system. Each role describes an aspect of agent life cycle and it is often related to a service offered by the agent to the society or to the achievement of one of its goals.