

Agentive-OS

// Metadata

Name	Agentive-OS
Keywords	Agentive, Agentive physical object, Agentive social object, Cognitive agentive
Creation date	September 11 th , 2008
Last modification date	April 15 th , 2009
Revisions made in v1.1	<ul style="list-style-type: none">- The following concepts that were previously part of the ontology Particular-OS have been added: Agentive/Non-agentive physical object, Agentive/Non-agentive social object, Social agent, Society.- The concepts Human, Computer, Robot have been removed to be placed in more specific ontologies.- The relations <i>is capable to perform</i> and <i>is empowered to perform</i> have been added.
Creator	Gilles Kassel
Used ontology engineering methodology	OntoSpec
Is of type	Core ontology
Natural language	English
Has ontology language	OntoSpec
Has formality level	Semi-informal
Ressource locator	http://www.laria.u-picardie.fr/IC/site/IMG/pdf/Agentive-OS.pdf
Version	1.1
Number of concepts (classes)	8
Number of relations (properties)	2

// Relations

Is capable to perform

Properties

[EP/DR & RR] An AGENTIVE *is capable to perform* an ACTION.

Comment

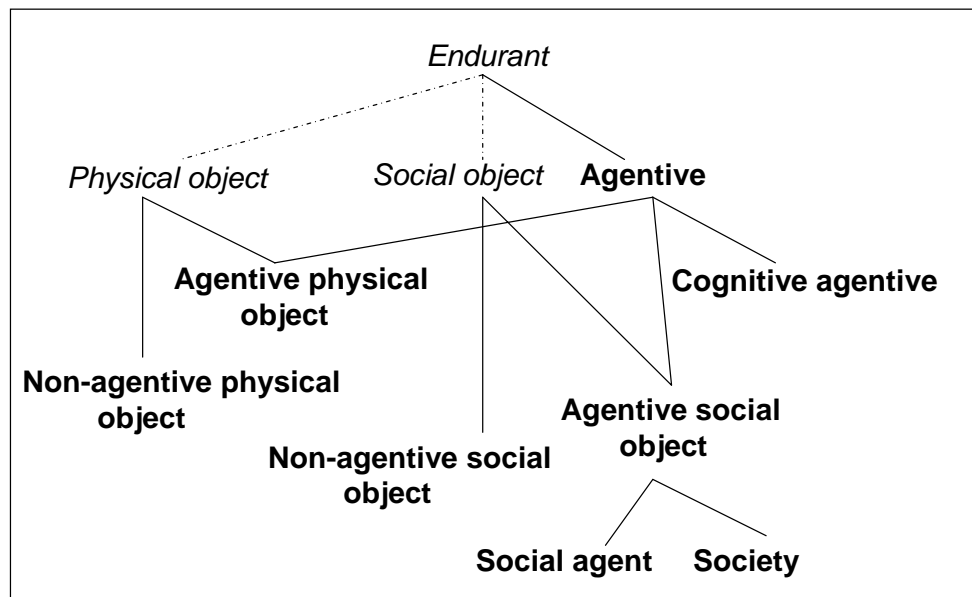
[DEF] An AGENTIVE *is capable to perform an ACTION* means that the AGENTIVE is attributed the capacity of playing the role of AGENT in an ACTION.

Is empowered to perform

Properties

[EP/DR & RR] An AGENTIVE *is empowered to perform* an ACTION.

// Concepts



Agentive, Intentional agentive

Meta-properties

AGENTIVE is RIGID (+**R**). AGENTIVE is NOT CARRYING AN IDENTITY CRITERION (-**I**). AGENTIVE is NOT CARRYING A COMMON UNITY CRITERION (-**U**). AGENTIVE is EXTERNALLY-DEPENDENT (+**D**).

Properties

[EP/SL] An AGENTIVE, or INTENTIONAL AGENTIVE, is an ENDURANT which *is capable of performing* an ACTION.

Comment

[DEF] An AGENTIVE is an entity to which one attributes a competence (relationship: *is capable to perform*), namely a capacity to carry out and to repeat ACTIONS. As such, it must be distinguished from the temporal role of AGENT played by an entity (necessarily an AGENTIVE) vis-à-vis a particular ACTION, and at a particular TIME INTERVAL. This is why the concept is named “agentive” and not “agent” [Kassel et al., 2007].

[CIT] [Ferrario and Oltramari, 2004] “An intentional agent has often been defined as one that always acts on the basis of its desires, beliefs and intentions and possesses the ability to adapt to the environment, updating and revising these desires, beliefs, and intentions [...] Another very central feature of intentional agents is the fact that they can be (and usually are) located in a social environment and thus must possess social capabilities or, in other words, they must be able to interact. With interaction what is usually meant is that intentional agents can be influenced by other agents in their mental activities, in the achievement of their goals, or in the execution of their tasks.”

[DIV] This notion of agentivity corresponds to Denett’s “*first-order* intentional systems” [Denett, 1987] or to Castelfranchi’s “*goal-oriented* systems” [Castelfranchi, 1998].

Cognitive agentive

Meta-properties

COGNITIVE AGENTIVE is RIGID (+**R**). COGNITIVE AGENTIVE is NOT CARRYING AN IDENTITY CRITERION (-**I**). COGNITIVE AGENTIVE is NOT CARRYING A

COMMON UNITY CRITERION (-U). COGNITIVE AGENTIVE is EXTERNALLY-DEPENDENT (+D).

Properties

[EP/SL] A COGNITIVE AGENTIVE is an AGENTIVE.

Comment

[DIV] A COGNITIVE AGENTIVE is an AGENTIVE which possesses meta-knowledge, i.e. knowledge about its knowledge. The meta-level is also put forward in [Gangemi *et al.*, 2005] in order to distinguish between two levels of agentivity: “Complying i.e. with the BDI paradigm – when it attributes to **cognitive agents** not only the ability of self-representing descriptions like beliefs, desires, and intentions, but also of representing the actions schemata necessary to the achievement of their goals -, we can also identify a second, stronger sense of agentivity that involves the conceiving of descriptions about descriptions (“meta-description”)”. This notion of agentivity corresponds to Denett’s “*second-order intentional systems*” [Denett, 1987] or to Castelfranchi’s “*goal-directed systems*” [Castelfranchi, 1998].

Agentive physical object, APO

Meta-properties

AGENTIVE PHYSICAL OBJECT is RIGID (+R). AGENTIVE PHYSICAL OBJECT is CARRYING AN IDENTITY CRITERION (+I). AGENTIVE PHYSICAL OBJECT is not CARRYING A COMMON UNITY CRITERION (-U). AGENTIVE PHYSICAL OBJECT is EXTERNALLY-DEPENDENT (+D). [Ad31] AGENTIVE PHYSICAL OBJECT is *constantly generically constituted by* NON-AGENTIVE PHYSICAL OBJECT. AGENTIVE PHYSICAL OBJECT is NON-EMPTY.

Properties

[PE/SLD] An AGENTIVE PHYSICAL OBJECT is a PHYSICAL OBJECT which is an AGENTIVE.

Comment

[CIT] [Masolo *et al.*, 2003, p. 23] “Within physical objects, a special place have those to which we ascribe *intentions*, *beliefs*, and *desires*. These are called *Agentive*, as opposite to *Non-agentive*. Intentionality is understood as the capability of heading for/dealing with objects or states of the world... In general, we assume that agentive objects are *constituted* by non-agentive objects: a person is constituted by an organism, a robot is constituted by some machinery, and so on.”

[EX] A human person (as opposed to legal person) is an example of AGENTIVE PHYSICAL OBJECT.

Non-agentive physical object, NAPO

Meta-properties

NON-AGENTIVE PHYSICAL OBJECT is RIGID (+R). NON-AGENTIVE PHYSICAL OBJECT is CARRYING AN IDENTITY CRITERION (+I). NON-AGENTIVE PHYSICAL OBJECT is not CARRYING A COMMON UNITY CRITERION (-U). NON-AGENTIVE PHYSICAL OBJECT is NON-EXTERNALLY-DEPENDENT (-D). [Ad30] NON-AGENTIVE PHYSICAL OBJECT is *constantly generically constituted by* AMOUNT OF MATTER. NON-AGENTIVE PHYSICAL OBJECT is NON-EMPTY.

Properties

[EP/SLD] A NON-AGENTIVE PHYSICAL OBJECT is a PHYSICAL OBJECT which is not an AGENTIVE.

Comment

[EX] Examples of NON-AGENTIVE PHYSICAL OBJECTS are a hammer, a house, an opening, a boundary.

Agentive social object, **ASO**

Meta-properties

AGENTIVE SOCIAL OBJECT is RIGID (+**R**). AGENTIVE SOCIAL OBJECT is NOT CARRYING AN IDENTITY CRITERION (-**I**). AGENTIVE SOCIAL OBJECT is NOT CARRYING A COMMON UNITY CRITERION (-**U**). AGENTIVE SOCIAL OBJECT is EXTERNALLY-DEPENDENT (+**D**). AGENTIVE SOCIAL OBJECT is NON-EMPTY. SOCIAL AGENT and SOCIETY *is a non-trivial partition of* AGENTIVE SOCIAL OBJECT.

Properties

[EP/SLD] An AGENTIVE SOCIAL OBJECT is a SOCIAL OBJECT which is an AGENTIVE.

Social agent, **SAG**

Meta-properties

SOCIAL AGENT is RIGID (+**R**). SOCIAL AGENT is NOT CARRYING AN IDENTITY CRITERION (-**I**). SOCIAL AGENT is NOT CARRYING A COMMON UNITY CRITERION (-**U**). SOCIAL AGENT is EXTERNALLY-DEPENDENT (+**D**). [Ad72] SOCIAL AGENT *one-sided generically constantly depends on* AGENTIVE PHYSICAL OBJECT. SOCIAL AGENT is NON-EMPTY.

Properties

[EP/SL] A SOCIAL AGENT is an AGENTIVE SOCIAL OBJECT.

Comment

[EX] Examples of SOCIAL AGENTS are a (legal) person, a contractant.

Society, **SC**

Meta-properties

SOCIETY is RIGID (+**R**). SOCIETY is NOT CARRYING AN IDENTITY CRITERION (-**I**). SOCIETY is CARRYING A COMMON UNITY CRITERION (+**U**). SOCIETY is EXTERNALLY-DEPENDENT (+**D**). [Ad32] SOCIETY *is constantly generically constituted by* SOCIAL AGENT. SOCIETY is NON-EMPTY.

Properties

[EP/SL] A SOCIETY is an AGENTIVE SOCIAL OBJECT.

Comment

[EX] Examples of SOCIETIES are Fiat, Apple, the Bank of Italy.

Non-agentive social object, **NASO**

Meta-properties

NON-AGENTIVE SOCIAL OBJECT is RIGID (+**R**). NON-AGENTIVE SOCIAL OBJECT is NOT CARRYING AN IDENTITY CRITERION (-**I**). NON-AGENTIVE SOCIAL AGENT is NOT CARRYING A COMMON UNITY CRITERION (-**U**). NON-AGENTIVE SOCIAL OBJECT is EXTERNALLY-DEPENDENT (+**D**). [Ad73] NON-AGENTIVE SOCIAL OBJECT *one-sided generically constantly depends on* SOCIETY. NON-AGENTIVE SOCIAL OBJECT is NON-EMPTY.

Properties

[EP/SL] A NON-AGENTIVE SOCIAL OBJECT is a SOCIAL OBJECT which is not an AGENTIVE.

Comment

[EX] Examples of NON-AGENTIVE SOCIAL OBJECTS are a law, an economic system, a currency, an asset.