Deliverable1

SOME-SEMANTIC ONTOLOGY MODEL

This document is the deliverable of the Task 1.1 of the Virtual Mobility Grant SOME-SEMANTIC ONTOLOGY MODEL founded by the COST Action: CA19136 with Reference number: E-COST-GRANT-CA19136-d93c2bbe

The reference task is related to the SHAFE knowledge core analysis.

This task will be in charge the analysis of the defined SHAFE core ontology developed by the COST ACTION. The main document will be the conceptual map defined by the previous tasks of the COST action.

Different domain terms/concepts will be extracted using this conceptual map and they will be the core concepts of the proposed ontology.

The analyzed conceptual map is composed of different general concepts and some of them are specialized and/or related to other concepts.

The conceptual map covers all classes related to the main domains of the COST action.

An ontology learning process (Cimiano, 2006) has been used due to a lack of formalization of this conceptual map.

The first step of this process has been the acquisition of a domain knowledge. Following the requirements of the COST board, a first acquisition have made by the conceptual map and a first list of core terms have been extracted from it.

These terms have been arranged in a glossary giving a formal definition to each of them. These definitions have been extracted from WordNet (Miller, 1995), a well-known information source in the knowledge engineering research community.

WordNet is a lexical database organized around lexical categories as nouns, verbs, adjectives and adverbs that are grouped into sets of cognitive synonyms (synsets), each expressing a distinct concept. Synsets are interlinked by means of conceptual-semantic and lexical relations.

The recognized glossary is shown in table 1.

#	Term	Definition
1	acceptance	a disposition to tolerate or accept people or situations
2	aging	the organic process of growing older and showing the effects of increasing age
3	building	a structure that has a roof and walls and stands more or less permanently in one place
4	caregiver	a person who is responsible for attending to the needs of a child or dependent adult
5	citizen	a native or naturalized member of a state or other political community
6	city	a large and densely populated urban area
7	comfort	a state of being relaxed and feeling no pain
8	community	a group of people living in a particular local area
9	computer	a machine for performing calculations automatically
10	computer science	the branch of engineering science that studies (with the aid of computers) computable processes and structures
11	courtyard	an area wholly or partly surrounded by walls or buildings
12	device	an instrumentality invented for a particular purpose
13	disease	an impairment of health or a condition of abnormal functioning
14	doctor	a licensed medical practitioner
15	education	the activities of educating or instructing
16	emergency	a sudden unforeseen crisis (usually involving danger) that requires immediate action
17	ethic	the principles of right and wrong that are accepted by an individual or a social group
18	family	primary social group
19	friend	a person you know well and regard with affection and trust
20	health professional	a person who helps in identifying or preventing or treating illness or disability
21	healthcare	the preservation of mental and physical health by preventing or treating illness through services offered by the health profession
22	housing	structures collectively in which people are housed
23	impairment	the condition of being unable to perform as a consequence of physical or mental unfitness
24	industry	the people or companies engaged in a particular kind of commercial enterprise
25	interoperability	the ability to exchange and use information
26	medical science	the science of dealing with the maintenance of health and the prevention and treatment of disease
27	neighbor	a person who lives (or is located) near another
28	nurse	one skilled in caring for young children or the sick (usually under the supervision of a physician)
29	outdoor	located, suited for, or taking place in the open air
30	patient	a person who requires medical care
31	people	any group of human beings (men or women or children) collectively
32	place	any area set aside for a particular purpose
33	policy maker	someone who sets the plan pursued by a government or business etc
34	privacy	the quality of being secluded from the presence or view of others
35	researcher	a scientist who devotes himself to doing research
36	safety	the state of being certain that adverse effects will not be caused by some agent under defined conditions
37	security	the state of being free from danger or injury
38	sensor	any device that receives a signal or stimulus (as heat or pressure or light or motion etc)
39	sustainability	the property of being sustainable
40	technology	the practical application of science to commerce or industry
41	terrace	usually paved outdoor area adjoining a residence
42	transportation	a facility consisting of the means and equipment necessary for the movement of passengers or goods
43	wellbeing	a contented state of being happy and healthy and prosperous

Table 1: The Glossary.

In this first recognition there are found 43 single concepts represented by a single term.

This glossary will be the starting point for the ontology implementation.

In particular, will follow a definition proposed in (Gruber, 1995) "an ontology is an explicit specification of a shared conceptualization" to have a first recognition of the formalization process. In fact, a conceptualization is constituted by objects, concepts and other entities that exist within a specific area, and the relations existing between them. The whole conceptual structure is shared and accepted in a community.

Moreover, another definition proposed in (Neches, 1991) "an ontology defines the basic terms and relations comprising the vocabulary of a topic area as well as the rules for combining terms and relations to define extensions to the vocabulary" gives a way to proceed for the definition of a formal ontology model composed of parts (terms, relations between terms and combination rules) and proposes elements that can be used to recognize it.

The last definition will be a baseline for the implementation of the Task 1.2.

Bibliography

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