



## Virtual Portal for Interaction and ICT Training for People with Disabilities

### Integrated ViPi Platform – ViPi Semantic Content Management (VSCM) Ontology

Outcome No.		13 (Annex II)	
Workpackage No.	4	Workpackage Title	Deployment of ViPi interactive community portal and e-learning platform
Authors		George M. Milis, Demetrios Eliades, Demetris Stavrou (G.M EuroCy Innovations Ltd)	
Status (F: final; D: draft; RD: revised draft):		F	
File Name:		ViPi-D13-Integrated ViPi Platform-v2.0-Annex II-VSCM Ontology.docx	

*The ViPi KA3 LLL project (511792-LLP-1-2010-1-GR-KA3-KA3NW) has been partially funded under the Lifelong Learning program, subprogramme KA3 ICT. This publication reflects the views only of the author(s), and the Commission cannot be held responsible for any use which may be made of the information contained therein.*



## Version History table

Version no.	Date	Dates and comments
1.0	01-06-2012	Complete version that contains the description/documentation of the current version of the VSCM ontology
2.0	04-11-2013	Updated version to reflect the latest version of the VSCM ontology



## Table of Contents

Version History table .....	2
Glossary .....	4
1 Introduction.....	5
2 The VSCM ontology structure and content.....	7

## Glossary

**Superclass:** Parent classes in the hierarchy. Objects that belong to a class, automatically belong also to the superclasses.

**Subclass:** Child classes in the hierarchy. Objects that belong to a subclass do not necessarily belong to the first class.

**Used with:** The object property with which the class is used as first argument (domain).

**Property:** defines a relation between two objects of different type; relates objects of first class (domain) with objects of second class (range)

**Domain:** The first class of objects on which a property can be applied to associate them with a second class of objects.

**Ranges:** The second class of objects with which a property associates a first class of objects

**Some:** When a property is defined as being applied to *some* objects of a class, means that any number of objects can be instantiated with that property. Alternative is the *only one*.

**Superproperty:** each annotation property type can be classified under one of the common annotation property types.

**Individuals/Instances:** The actual objects that are described/annotated with the created ontology. These are usually references to the real objects (in case of physical objects) or even the objects themselves (in case of software or textual, etc objects)

## 1 Introduction

The VSCM ontology has been developed to be used directly by the ViPi Semantic Content Management (VSCM) plugin. The ontology aims at supporting the semantic annotation and discovery of the Learning Objects (LOs), as well as, the user profiles within the ViPi platform repository, thus allowing the exploitation of semantic relations among them and advancing the quality of the search experience within the LOs database. The LOs will be semantically tagged with the ontology, building triplets like the *[LO – is of type - video]* or *[LO – is compatible with impairment - hearing]*, etc. On the other hand, all users' profiles will be tagged with semantic tags like *[User1 – has impairment - hearing]*, *[User1 – prefers content of type – game]* for the individualized provision of search results.

The current version of the ontology consists of the following:

- 72 Classes
- 24 Object Properties
- 0 Data Properties
- 6 Annotation Properties
- 207 Individuals/Instances
- 5 Datatypes

The meaning of each of the constituent components is explained in the following:

**Class:** A concept that models and describes specific entities from the real world. For instance, the class “Devices” is used to describe all real-world items that can be characterized as devices. An ontology implements a hierarchy of such classes which further fine-tunes the representation of the real-world entities and concepts.

**Object Property:** A property that implements relations between instances of different classes. For instance, a specific learning object (LO) that is classified under the Class “LearningObjects” can be related to the “Web browsing”, a specific instance of the Class “ICTSkills”, through the property “addressesICTSkills”.

**Data Property:** Implements relations between instances of classes to common types of data, like “float number”. No such type of properties are currently used in the VSCM ontology

**Annotation Property:** Implements types of comments associated with components in the ontology. For instance, the annotation property “LithuanianTranslation” defines that each class/property/instance in the ontology can be annotated with a text and be interpreted as its Lithuanian translation.

**Individual/instance:** The actual objects that are described with the abstract ontology. For instance, the language “Greek” is an instance of the Class “Languages”. The selection of instances forms part of the knowledge base of the ontology.

**Datatype:** a class of objects from which the data properties take value. For instance, the type “string” defines the common category of objects that comprise a string of characters. These components are



**ViPi Project 511792-LLP-1-2010-1-GR-KA3-KA3NW**

---

provided as default and are not defined by the VSCM ontology, therefore will not be detailed in the following.

The rest of this document provides a detailed documentation of the VSCM ontology, with listing of all components/objects and relevant explanations.



## 2 The VSCM ontology structure and content

You may access the current version of the ontology, as well as the full documentation, at the address: <http://www.eurocyinnovations.com/neologism/vscm>. The documentation gives information about all available classes and properties with details about subclasses, superclasses, etc.