

Structuring Knowledge Paths Through Semantic Entities: The Cultural Thematic Path Ontology

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Abstract

This abstract details my doctoral work conducted at CNR-IMATI in Genoa and the University of Genoa, in collaboration with the Ansaldo Foundation. Specifically, my research has focused on the concept of thematic paths as a tool for enhancing cultural resources, analysing their definition and application in various contexts. The work is guided by two main research focuses: the first is dedicated to defining thematic paths by examining their requirements and characteristics in different environments, while the second investigates their formalisation, with the aim of developing an ontology for their clear and consistent representation. The main contributions include the formulation of a comprehensive definition of the thematic path, an analysis of the data representation standards used in the GLAM (Galleries, Libraries, Archives and Museums) domain, and the proposal of a formal ontology for the structuring and management of thematic paths. The ontology, named Cultural Thematic Paths Ontology (CTP Ontology), was developed following the Linked Open Terms (LOT) methodology. The initial stages involved the definition of specific application scenarios. Three distinct scenarios were outlined: the first two aim primarily at enhancing mobile and museum cultural heritage, while the third focuses on cultural itineraries, emphasising immovable and intangible cultural heritage. From these scenarios, 30 competence questions were derived to define the requirements of the ontology. The resulting ontology has been formalised and published on the web in accordance with the W3C guidelines for vocabulary publication, ensuring accessibility via a persistent URI. It is available both as a computer-readable file and as human-readable documentation through content negotiation. The importance of this work lies in introducing an innovative approach to the organisation and management of cultural heritage, providing a structured tool for the development of thematic paths as a means of cultural enhancement. By linking cultural resources in innovative ways, this ontology offers museums, libraries, archives and public institutions a means of increasing accessibility and interactivity, taking advantage of technological advances and aligning with international standards.

Keywords

Ontology, GLAM Domain, Semantic Web, Cultural Thematic Paths, CTP Ontology