

Semantic Interoperability between Scientific Digital Repositories in the Oncology Field: Use of the Application Profile Based on the Information Needs of Physicians and Researchers

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Abstract: It presents a metadata application profile, aligned with Linked Data principles, developed based on the information needs of physicians and researchers for scientific digital repositories in the field of Oncology. Design Science Research was the basis for the design of the research. It is a research with a qualitative approach, based on bibliographical and documentary search, gathering structured information about application profiles, schemas and metadata elements adopted by organizations and institutions in the context of scientific digital repositories. The Survey was used, through two SurveyMonkey electronic questionnaires to identify the information needs of physicians and researchers in the field of Oncology, in Portugal; and application profiles, schemas and metadata elements in the context of scientific digital repositories. In order to develop the application profile, Me4MAP was used, an approach based on the Singapore Framework - Dublin Core Application Profile. The research provided the following results: recognition of the information needs of physicians and researchers in the field of Oncology; identification of schemas and metadata elements used by digital repositories and characterization of application profiles. The application profile included selected metadata elements from the schemas and analyzed profiles, and types of information needs. The types of information needs were translated into vocabularies identified in the Linked Open Vocabulary and Open Metadata Registry. It is concluded that the use of the Linked Data guidelines can promote the discovery and reuse of resources facing the large volume of information and systems heterogeneity, and the association of users' information needs with the representation of resources through semantic technologies in the context of digital repositories can be a huge differential in the discovery of resources.

Keywords: metadata application profile, scientific digital repository, semantic interoperability, science design research, survey, information needs

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