Revisiting an Analysis of Agricultural Learning Repository Metadata: Preliminary Results

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Abstract. Agricultural learning repositories can provide new opportunities for sharing, searching, accessing and using learning resources. In order to facilitate the exchange of information between such repositories, the issue of metadata interoperability is crucial. In this paper, we present preliminary results of a revised analysis aiming at the review of implementations of metadata standards in agricultural learning repositories. The results of this study can be beneficial to the achievement of interoperability across agricultural learning repositories and useful for designers and developers in this application field.

Keywords: Learning repository, Application Profile, Metadata, Agriculture.

1 Introduction

The rapid evolution of Information and Communication Technologies (ICT) creates new opportunities for providing new services for education and training. Also, it is observed that the amount of digitally available learning resources is growing exponentially.

In order learning resources to be easily accessed, retrieved, used and reused they are very often organized in databases that are called learning repositories (LRs), which are systems for the storage, location and retrieval of the content. In LRs, resources are being described using appropriate metadata that helps the users to discover them online.

Regarding the agricultural domain a number of agricultural learning repositories (AgLR) have been developed and deployed during the last few years [10]. However, recent studies have indicated that the implementation of such systems in the agricultural domain is taking place in a widely dispersed manner [9], [10]. Therefore, metadata interoperability is a crucial issue that has to be addressed in order to facilitate the exchange of information between such repositories [7].

In this paper we revisit the analysis of agricultural learning repositories presented in [7]. Moreover, some new agricultural learning repositories and the applied metadata application profiles (APs) are analysed.

In a nutshell, the contribution of this paper lies in (a) testing the current status of the development and implementation of metadata application profiles studied in [7],

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(b) extending the set of the analysed AgLR systems, (c) checking the analysed APs for conformance against the base schema(s), identifying their weak points and proposing some solutions, (d) identifying the elements often used in most of the studied APs to provide an indication of the basic elements which all agricultural APs should include.

2 Related Studies

There have been several studies investigating the usage and the implementation of metadata application profiles in various learning repositories. Some studies focus on the learning repositories' users and usage [11] while other studies examine how learning repositories are deployed and implemented [12], [13].

Moreover, there are studies that focus on the way metadata APs are implemented in learning repositories of a particular domain and examine metadata interoperability. For instance, in [6] the most frequently used elements of 11 architecture repositories are identified and summarized into groups according to their usage. Moreover, authors of [5] examine the metadata elements sets used by 10 Canadian academic institutional repositories to describe their electronic theses and dissertations. Variations in metadata usage and associated issues related to interoperability across institutional repositories are being discussed. Metadata interoperability in institutional repositories has also been studied in [14]. Finally, AIMS team[1] has recently published a report[2] with a set of recommendations for the usage of common properties for describing bibliographic resources.

As regards related studies in the agricultural domain, [8] partially covers the implementations of metadata standards in AgLRs and in [9] two particular implementations of metadata APs in AgLRs have been compared. A more systematic analysis and comparison of the way metadata standards are implemented in AgLRs has been presented in [7]. More specifically, 9 AgLRs have been examined and 6 application profiles have been analyzed in depth. Finally, that work reports on the compliance of the developed APs with their base schemas and makes some initial recommendations regarding both the design and the implementation of such APs.

3 Analysis of AgLR APs

3.1 Methodology

This section provides an overview of the methodology that has been followed for the analysis of the AgLR APs. We have followed a set of principles and practicalities that have been defined by the Workshop on Learning Technologies (WS-LT) of the European Standardization Committee CEN [3]. Additionally, based on the guidelines and recommendations of CEN WS-LT [3] and Najjar et al [2], a number of analysis

[1] http://aims.fao.org/
[2] http://aims.fao.org/lode/bd