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Guidelines and recommendations for building metadata application profiles for agricultural learning resources

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FOREWORD

This CEN Workshop Agreement (CWA) assesses the current status in the development and implementation of metadata standards and specifications for describing learning resources in agricultural learning repositories (AgLRs). It also provides a set of recommendations for the development of metadata application profiles in AgLRs, in the light of CWA 15555 “Guidelines and support for building application profiles in e-learning”.

This CWA is directly related to the European Commission's Mandate M/280 "Standardisation mandate to CEN, CENELEC and ETSI in the domain of "Learning and Training Technologies & Educational Multimedia Software", covering the development of a work plan for standards related activities in relation to Learning Technologies.

The development of this CWA was one of the recommendations for further work. This document has been developed through the collaboration of a number of contributing partners, representing a wide mix of interests. These include academia, educational software developers and integrators, educational publishers, telecommunication service providers and learning technology consultants. The present CWA has received the support of representatives of these sectors.

List of companies which have supported this document:

- Greek Research & Technology Network
- Katholieke Universiteit Leuven
- Food and Agriculture Organization of the United Nations
- University of Duisburg-Essen
- Agro-Know Technologies

The final review/endorsement round for this CWA was started on 2008-07-01 and was successfully closed on 2009-01-09. The final text of this CWA was submitted to CEN for publication on 2009-03-05.

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Comments or suggestions from the users of the CEN Workshop Agreement are welcome and should be addressed to the CEN Management Centre.

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1 SCOPE

This report focuses on application profiles of learning resource/object metadata for rural and agricultural education. This covers both learning resources that are covering agricultural topics in specific, as well as more generic life science and other topics that are relevant for rural and agricultural learners.

Efforts in the development of methodologies, standards and application development in the domains of rural and agricultural education are at present widely dispersed. The amount of digitally available information is growing exponentially and appropriate steps need to be undertaken to facilitate sharing and consequently reduce efforts and costs. These information resources are often located in proprietary applications and use dissimilar data models, which hampers information sharing. Additionally, information system designers are sometimes unaware of existing design methodologies, data description standards, freely available tools and applications.

Learning Technology (LT) specifications and standards have not yet been widely adopted and implemented. Few initiatives have reported implementing some of them – more often to describe learning resources using some metadata standard such as IEEE LOM and Dublin Core (DC), and less often for sequencing them (e.g. SCORM). In this direction, the Food and Agriculture Organization (FAO) of the United Nations, has recently supported the launch of an Agricultural Learning Repositories Task Force (AgLR-TF, http://aglr.aua.gr). This community of experts working on learning resources related to rural and agricultural populations, has been collecting, reviewing, and studying implemented metadata application profiles (APs) in AgLRs around the world and trying to elaborate mappings among them. Collaboration between CEN WS-LT with AgLR-TF has been decided, in order to help achieve the wider dissemination of LT standards for applications of the rural and agricultural domain, and potentially reach consensus on how similar approaches should be implemented.

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2 NORMATIVE REFERENCES

This CEN Workshop Agreement incorporates, by dated or undated references, provisions from other sources. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications do not apply. However, parties to agreements based on this CWA are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies.

CWA 15555 "Guidelines and support for building application profiles in e-learning", European Committee for Standardization (CEN), June 2006 (http://www.cen-isss-wslt.din.de/sixcms_upload/media/3050/CWA15555.pdf).

CWA 14855 "Dublin Core Application Profile Guidelines", European Committee for Standardization (CEN), November 2003 (ftp://cenftp1.cenorm.be/PUBLIC/CWAs/e-Europe/MMI-DC/cwa14855-00-2003-Nov.pdf).

2.1 TERMS AND DEFINITIONS

Application profile: "An application profile is an assemblage of metadata elements selected from one or more metadata schemas and combined in a compound schema. […] The purpose of an application profile is to adapt or combine existing schemas into a package that is tailored to the functional requirements of a particular application, while retaining interoperability with the original base schemas." (Duval et al., 2002).

2.2 ABBREVIATIONS

AgLR	Agricultural Learning Repositories
AgLR-TF	Agricultural Learning Repositories Task Force
AgMES	Agricultural Metadata Element Set
AP	Application Profile
BEN	Biosci Education Network
CAB	Commonwealth Agricultural Bureaux
CABI	CAB International
CEN	European Committee for Standardization
CGIAR	Consultative Group for International Agricultural Research
CGIAR OLR	CGIAR's Online Learning Resources project
CWA	CEN Workshop Agreement
DC	Dublin Core
DLESE	Digital Library for Earth System Education
FAO	Food and Agriculture Organization of the United Nations
IEEE	Institute of Electrical and Electronics Engineers, Inc.

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LOM Learning Object Metadata

SANREM CRSP Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program

TrAgLor Turkish Agricultural Learning Object Repository

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