Introduction

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Biographical notes: Carlos Delgado Kloos received his Degree in Telecommunication Engineering from the Technical University of Madrid in 1978 and his PhD Degree in Computer Science from the Technical University of Munich in 1986. Since 1996 he has been a Full Professor of Telematics Engineering at the Carlos III University of Madrid, where he has held a number of relevant posts. His research interests include internet-based applications, such as electronic publishing, e-learning, and e-commerce. He has been involved in many projects with European, national, and bilateral funding. He has written a book, co-authored another one and co-edited five, and published over 150 papers in national and international conferences and journals. He is the coordinator of the E-LANE project.

1 Introduction

This special issue is devoted to the topic of open source in the area of e-learning. Open source is not the realm of a few. It is a serious business model that is gaining more and more adepts every day. SourceForge.net lists more than 100,000 open source projects. Serious companies like IBM, SUN and many others, have embraced open source solutions a long time ago and the list of followers is increasing day by day.

But what is it that makes open source software attractive, and what are its implications in particular in the area of e-learning? The papers in this issue try to respond to these questions. One the one hand, we have papers that analyse some features of open software. It can be understood as a tool for innovation (Essa), a model for distributed collaboration (López et al.), or as a solution for countries under development (Delgado Kloos et al. and Willmott et al.), all in the context of educational technology. On the other hand, in this issue we have presentations of open source tools for e-learning: one tool for specifying learning designs for courses (Dalziel), and one for the management of courses at the enterprise level (Calvo et al.). The final paper (Kalnins-Cole and Peters) looks at the important aspect "accessibility of learning management systems".

2 Contributions

Al Essa has been, until recently, CIO of MIT's Sloan School of Management and is now Associate Vice Chancellor for Instructional Technology and Deputy CIO of Minnesota State Colleges and Universities. In this paper, he studies open source from the point of

view of innovation and concludes that open source development is representative of a broader and more fundamental shift in how firms can generate new ideas and bring them to market. In the new model of open innovation, he asserts, firms commercialise or share external (as well as internal) ideas by deploying outside (as well as inhouse) pathways to the market.

Open software projects have given rise to a particular organisational method for the development of software. Luis López, Jesús González Barahona, Diego Chaparro, Teófilo Romera and Luis Cañas from the Universidad Rey Juan Carlos take over this development model and use it for the creation and management of educational content. They have built a system that allows the collaborative creation and management of content, including translations to and from open formats.

James R. Dalziel from Macquarie University concentrates on learning activities rather than learning content. He presents his open source system called Learning Activity Management System (LAMS), that allows the graphical specification of flows of collaborative learning activities. These learning designs can be shared and reused in multiple ways.

Rafael Calvo, Nicholas Carroll and Robert Ellis from the University of Sydney also study tool support for learning activities, not at the micro-level within a course, but at the macro-level from a point of view of an academic enterprise, which is managing complete curricula. The focus here is administration rather than learning. Their system Curriculum Central includes a variety of student visualisation tools, so that the student gets an overview of a complete degree, the relationship among courses, teaching staff tools that allow the teachers to manage courses and degrees in particular academic years and also throughout several academic years, and management tools for the administrators to handle degrees by managing budgets, achieving quality assurance, etc.

E-LANE is a project funded by the European Commission within the @LIS programme. With a focus on Latin America, the project has developed tools, methods and content for education. As a strategic decision for achieving sustainability, it was decided to use and develop open source software as well as open content. In their paper, Carlos Delgado Kloos, Abelardo Pardo, Mario Muñoz and Luis de la Fuente explain the details of the experience and the decisions taken.

Steven Willmott, Julian Padget, Agostino Poggi, Juan Luis Diaz de León, Edgar Casasola, Homero Latorre, and María de Los Ángeles Junco are members of the @LIS-Technet project, another project of the @LIS programme. In their paper, they explain the open solutions they have chosen for carrying out their project. But they go a step further and highlight the importance of having courses to teach open licensing methods (as a term covering open source software, open formats, and open content) especially for developing countries.

Tristan Kalnins-Cole and Dorian Peters from the University of Sydney concentrate on accessibility in learning management systems. They evaluate the open source platform .LRN with respect to accessibility and then provide some recommendations for the changes needed. The development carried out with .LRN could be also applied to other open source e-learning systems.