Chapter 1.17
Opportunities for Open Source E–Learning

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ABSTRACT

E-learning is often conceived as a single product. In reality, however, the market offering is very heterogeneous with a large product variety. Think of learning management systems, virtual classrooms, authorware, test and assessment tools, simulators, and many more. Each of these e-learning applications is available from multiple vendors and middlemen. Next to more than 250 providers of commercial learning management systems, more than 40 open source LMS offerings can be identified. In this chapter, I discuss if open source applications for e-learning offer an alternative to commercial offerings today, specifically in the context of education. The lessons drawn here also apply to other (public) organizations and applications.

INTRODUCTION

Public authorities are under pressure and scrutiny to provide best value-for-money public services (Sanderson, 2001) and have increasing performance accountability (Faucett & Kleiner, 1994) within strict budgetary boundaries and guidelines (Colley, 2003). Today, there is a growing number of policymakers who see open source software as a viable alternative for use in government IT systems (Colley, 2003; Preimesberger, 2004). In several cases, this view has been translated into policy, legislative, or other initiatives (e.g., research funding) that promote (e.g., Extremadura, Spain) or mandate preference to (e.g., Italy) the use of free/libre open source software (FLOSS) (Hahn, 2002).

In education, e-learning is emerging as the focal point of rising interest in open-source applications (Wheeler, 2004a; Yanosky, Harm, & Zastrocky, 2003). Coppola and Neelley (2004) documented some of the most compelling drivers for use of open source software in education:

- *Tight budgets have focused attention on software acquisition costs and total cost of ownership.*
- *Growing resentment of vendor power, particularly in the wake of price increases and licensing changes that many institutions felt powerless to reject.*
- *Lack of innovation. Learning technology has not lived up to its potential to improve learning.*
- *Collaboration technology has made large-scale collaborative work across institutional, geographic, and cultural boundaries more effective.*
- *Software design patterns, development technologies, and standards have evolved in a way that facilitates modular, interoperable software components.*
- *Proven business models and education-focused companies that embrace open source.*
- *Strong cultural appeal of open source in academia.* (p. 5)

A distinct additional driver is, of course, the possibility of using open source software code and development for educational and research purposes, or, as Rajani, Rekola, and Mielonen (2003) conclude, FLOSS provides an environment of "unlimited experimentation and tinkering" and "collaboration and interaction with a community of programmers, coders and users around the world" (p. 78).

Wheeler (2004b) clusters these drivers in two broader categories:

Developing sustainable economics and advancing the frontiers of innovation are the dual challenges for application software in higher education. Sustainable economics means that an institution's base budgets can support the licensing fees, developers, maintenance, training, and support required for application software. For example, it means that the viability of a course manage-

ment system (CMS) is not dependent on the next grant or on a one-time budgetary accommodation. (p. 12)

Thus, there is a strong drive for the use of open source, in general (Weber, 2004), and in education, in particular (Moyle, 2003). The challenge now is to keep the two business cases separate:

- **Developing sustainable economics:** E-learning as enabling technology for the implementation of e-education a virtual campus, for example.
- **Advancing the frontiers of innovation:** E-learning for use as educational purposes (e.g., training IT students) or as a research area.

If this specificity is not respected, it should be a cause of concern for governments, policymakers, and academia, as it has a direct and indirect impact on their performance and finances, for example:

- One solution may provide good value-for-money but may not be properly documented or may be too complex for educational purposes; or
- A migration decision that replaces an existing e-learning platform with a new, distinctly different one could adversely influence the educational aspects.

In a recommendation to the European Commission, the eLearning Industry Group (eLIG, 2004) has provided some guidance on how to deal with that challenge of selecting e-learning applications when both open and closed alternatives are available.

When procuring software for education, public authorities should consider all software options, chosen on their merits and added value for the given particular learning environment and not on

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