

## Chapter 2

# Open Source Social Networks in Education

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### ABSTRACT

*Social computing systems such as Social Network Sites have become more powerful. In some universities, SNSs have been adopted as a communication method between teachers and students. In addition, educational institutions have started the initiative of using open source social networking application. This chapter discusses the benefits of adopting open source SNS in education. It is organized as follows: 1) a literature review to properly define the terms, 2) a discussion of the effect of open source social networking technologies on education systems, 3) an overview of Elgg, followed by a comparison with different social learning platforms, 4) a case study of implementing Elgg at the Computer Science Department at the University of Balamand, 5) an exhibition of the requirements for the Next Generation SCORM, 6) a case study using Tin Can API with open source SNSs (Elgg), and 7) a conclusion wrapping up the chapter.*

### INTRODUCTION

Human-to-Human communication environment has changed in the last few years. Social networking sites have been used as important tools and interactive means which connect people with others around the world. Such technologies provide institutions and organizations with community building competences. In particular, open source social networks present lot of features that allow

people to build social relations between each other. Moreover, these media supply institutions with enhanced learning capabilities which have been used by students and teachers in their daily communications. In progression, higher educational institutions have started to implement open source social networking sites as a mean to improve students' academic performance. The main purpose of adopting such techniques is to allow teachers and

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students benefit from online services to achieve high level of cooperative learning platform.

The aim of this chapter is to show the advantage of using open source social networks in higher educational institutions. It presents an overview about open source software in general, then open source social networking in particular and their effects on education systems. In Lebanon, 80% of higher educational institutions have adopted learning management systems, like Moodle, to provide both students and teachers with online interactive learning opportunities. Moodle is limited to some basic features (user collaboration, group discussions, file sharing...). A comparison among different social learning platforms is followed which clearly emphasizes on the most included features that Elgg offers and makes it a right choice to be a good social learning tool for institutions. Elgg offers a lot of features that make it a good choice to be considered as a powerful social learning tool for institutions. The department of Computer Science at the University of Balamand has implemented Elgg as a social networking engine. A questionnaire survey was conducted on teachers and students in order to assess the effectiveness of using Elgg as an open source learning platform. The results of the survey obviously show a good satisfaction from all participants of using Elgg which offers them all the important features of a learning management system. On the other hand, Elgg does not comply with Sharable Content Object Reference Model (SCORM), so its lack of course management might be made for with the integration with Moodle. In contrast, SCORM has some limitations to achieve the necessities of today's online educational system. Consequently, a solution is proposed in this chapter to integrate Tin Can API with Elgg as a replacement to the Elgg/Moodle integration solution to form a complete learning management system.

## **BACKGROUND**

### **Open Source Software**

In definition, open source is a software free code available for free where any person can modify, extend, and improve the code. According to GNU project, free software can be defined as “a matter of the users’ freedom to run, copy, distribute, study, change and improve the software”. Open source software – software delivered with its source code – is an outcome of the convergence of information and communication technologies (Van Rooij, June 2009).

Developers of open source software are also the users of the software where they participate in the collaborative development process. One of the benefits of open source philosophy is that open source software is more secure, because weaknesses and code bugs are easier for users to find and fix due to the large number of people examining the software ((Raymond, 2001), (Stallman,1999), (Weber, 2004). Moreover, open source software is less expensive to use than proprietary software because there are no license fees for the source code.

Consequently, the world is moving towards open education by adopting online teaching. Open education is a new social process that is beginning to act as complete substitute for traditional face-to-face class (Hiltz & Turoff, 2005). It refers to the educational institutions where knowledge and learning materials should be free and open to use by students. Open education resources have much in common with open source software where software has better performance and more customizable than proprietary software. The use of open source software in open education allows better performance and more customizable than proprietary software. By adopting open education, institutions can benefit from a wide range of advantages such as: cost-saving, improving reputation and visibility, developing education strategies, increasing community collaborations.

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