A Usability Evaluation Approach in e-Learning Environments: the case of IBM Lotus Quickr

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It is widely accepted that learning environments can enhance the management of learning and contribute to the knowledge transfer [1]. Nowadays learning environments are used in schools, colleges, universities and lifelong learning platforms are independent from the subject area. Such environments compose of various features and services which allow users to collaborate, share knowledge, exchange information, data, experiences and generally to support formal and informal knowledge. According to Human Computer Interaction (HCI) aspects, a usable learning environment is more effective and efficient in terms of learning management and knowledge transfer [2]. Therefore, usability evaluation of learning environments is an important procedure in order to ensure the three main aspects of usability; effectiveness, efficiency and subjective satisfaction [3]. Mainly, in the case of a distance learning university several innovative learning environments are used. This study presents an evaluation process of the learning environment IBM Lotus Quickr, used by Hellenic Open University (HOU). HOU is the sole Greek university that provides distance education in undergraduate and postgraduate level. HOU applies contemporary educational methods which are rely on the principles of distance education and offers innovative distance learning environments and social networks in order to achieve its purposes. IBM Lotus Quickr environment, as a Web 2.0-based team collaboration software for knowledge sharing and collaboration, is used by students and teachers of HOU and supports several activities which are critical for the educational procedure. More specifically, the platform allows users to communicate with each other, to be informed and administrate issues related to academic activities and access to information and additional material through a content repository. The evaluation methodology chosen in this study is an extended version of Heuristic Evaluation (HE) method suggested by Nielsen and Molich [4]. HE is combined of 10 heuristic rules that provide efficient coverage on major usability problems of web-based user interfaces. Since HE list is dynamic, it can be modified according to the needs of the software under evaluation. Therefore, the method applied in this paper is based on the aforementioned 10 heuristic rules enriched with 5 additional heuristics specifically created for such educational environments, taking into consideration numerous studies [5, 6, 7, 8, 9, 10, 11, 12, 13] using various heuristics. In this paper, the methodology applied to IBM Lotus Quickr is described, the whole evaluation procedure is presented and the evaluation results and outcomes are discussed.