

Audio folios management system for foreign language learning

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Abstract — Teaching and learning using technology has, for some years, been the focus of various researchers. From vocational schools, through basic education to higher education, the use of teaching aids based on information technologies is now a common practice. Today, more than making large computing solutions to support the activities of e-learning, it is important to focus on software specific solutions whose cost of production / implementation has a quick return. In this context the need emerged to move forward with a system to support teaching and learning of foreign languages to facilitate communication between teachers and students. It is on this issue that we present a proposal to develop a computing solution that enables students to develop the skills of reading and speaking foreign languages within the classroom context or outside the classroom. In this specific case we address the English language. We also present a working prototype, which is available as freeware for the educational and the scientific community and can be used without restriction. Experimentally, tests were made with 20 volunteer students from ESTGL. They used the prototype, in order to validate the usability tests. Finally, we present some results that show the progression of learning in those students who used the system.

Keywords-E-learning; Voice Processing; Computer Based Training; Language Learning; Simulation; Learning Management Systems; Mobile Learning; Blended Learning.

I. INTRODUCTION

Information systems that are increasingly more powerful and efficient have a strong impact on teaching and learning at different levels. Examples are the LMS (Learning Management Systems) that have been developed and currently support the various activities of content management, both in primary and secondary schools or in higher education [1-3].

The need higher education has to adapt to a new reality, based on the Bologna declaration, necessarily obliges educators and other agents in the educational effort to rethink the

strategies for teaching and learning in higher education. Currently, teaching should focus on student progress through increasingly exploitative methodologies and research rather than through the assimilation of content.

In this context, teaching presupposes that teachers update methodologies and innovate, so that students achieve the expected success in the modules [4]. Success is expected to be reached not only by reading and interpreting content in formal settings, but also through tutorials; by implementing projects and doing research and by developing skills, especially those that impart know-how. The use of information technologies and systems of e-learning are key allies for self-study and to develop skills in certain areas [2].

Among the various methodologies associated with e-learning presented by Lennox [5], we would like to focus on CBT (Computer Based Training), where the computer is the main feature, associated with specialized software [6]. This methodology allows the student, by means of the software and mediated by the computer, to perform tests and simulations and record his learning progress. In this particular case, we are going to present the development of a CBT system for foreign language learning, which can be used to produce and manage audio folios.

II. AUDIO FOLIO DEVELOPMENT MODEL

This model is based on the following aspects:

- converting text written in a specific language (English, French, Portuguese, Spanish, among others) into its audio version;
- audio processing from a web page or a PDF;
- converting text to audio from external applications;
- Audio recording format for Wave;