Pedagogical Indexed Arabic Text in Cloud E-Learning System

Nafaa Haffar, University of Monastir, Monastir, Tunisia
Mohsen Maraoui, University of Monastir, Monastir, Tunisia
Shadi Aljawarneh, Jordan University of Science and Technology, Faculty of Computer and Information Technology, Irbid, Jordan
Mohammed Bouhorma, Abdelmalek Essaâdi University, Tétouan, Morocco
Abdallah Altahan Alnuaimi, Al-Isra University, Amman, Jordan
Bilal Hawashin, Al-Zaytoonah University, Amman, Jordan

ABSTRACT

The Cloud E-Learning Systems for the Arabic language are relevant environments in many areas of training (teaching Arabic language) but also pose problems related to their creation tedious, costly in resources and time, and problems related to the search for information because of the increasing amount of information available and because of the methods of indexing, which is based on static methods such as keyword search that makes irrelevant the research process. For this, a new method of indexation is required. In this paper, a new Arabic text is proposed indexing approach using the creation of a new application profile of the LOM metadata schema (Learning Object Metadata) for the Arabic language. This profile includes the fields of LOM standard, and adds new fields for specific search information to Arabic language, and meets the needs of a teacher. Also, it’s all using natural language processing tools like SAPA and AL-KHALIL.

KEYWORDS

Cloud E-Learning System, Indexation of Arabic Text, Indexing Model, Learning Object Metadata, LOM, Pedagogical Indexation

INTRODUCTION

New Technologies of Information and Communication “ICT” profoundly improve ways to inform, communicate and undertake training. With this technological emergence, a new mode of learning known as e-Learning was appeared (Aljawarneh et al., 2015).

This technology was created to improve the quality of learning by facilitating access to resources and services and all this by the use of new multimedia technologies and the Internet.

These ICT induce significant changes in teaching practices, transforming the communication arrangements, working and training. In this thread of ideas, several works such as (Karsentiet al., 2001; Charlier & Peraya, 2003) claim that the integration of ICT in education implies changes in teaching practices and touch to their representations of their learning and collaborative arrangements and evaluation (Tarek et al., 2011).

For this new professional units that are called the cells TICE (Technologies of Information and Communication for Education) that put the user disposal of a variety of electronic resources for educational purposes.
In the field of teaching, learning objects “OP” contains all the information and parts of courses, programs, theses, etc. that can carry and transmit concepts and content of lessons.

The use of these new types of resources are the subject of much research in computer science. This work focuses on the structuring, characterization, combining and customizing these educational resources in order that a user can reused these resources several times and in several areas. In this context, the theme of indexing appears in filigree.

Note that the process of indexing in the bibliotheconique tradition consists in a treatment of the intellectual content of information resources aim to provide representative descriptors that will be used later to classify and to search documents. that is to say, we must analyze the existing documents to obtain a model of textual representation. Each document is then associated with a descriptor represented by all of the terms of extracts indexing. This process is semi-automatic which means that the indexing should be of a manual side (by humans) and other automatic side (machine).

According to Loiseau (Ben Mohamed et al., 2011): the pedagogical indexation is: “indexing performed by a documentary language that allows the user to search for objects to use in teaching” (Loiseau et al., 2010).

Lefèvre defines a documentary language as “an artificial language that provides a formalized and unequivocal representation of documents in a corpora and issues affecting a group of Use, to allow easy detection of documents in a corpora that meet the issues of these users” (Lefèvre). in another way, the definition of a documentary language must be done according to the potential users of the database that will be indexed.

But according to Doyère in 2003, “the number of digital documents for education increases inexorably”. (Kreczanik, 2004) The e-learning which was until then an emerging concept, is now becoming a form of education in itself.

Yolaine Bourda remark in 2002 that “in education and training, the value is less in the content itself, but increasingly in the ability to search this content, find and to assemble fragments to provide relevant information and effective assistance to users, teachers, students.” (Bourda, 2002).

These new requirements have given rise to problems of research and collection of teaching resources. But the existing Cloud E-Learning Systems to teach Arabic language and some Latin languages and research information are rare, rigid and they use search mechanisms that give irrelevant results as the keyword search. Also, they are based on indexing terms without considering the semantics of the educational content like the work of (Dehors et al., 2005) and (Buffa et al., 2005; Boutheina et al., 2011).

The existing resources are easily reusable because they often correspond to short presentations that have not been created specifically for their use in educational environments.

Psyche note the insufficient or the lack of application of an educational approach at the presentation of educational resources (Hernandez et al., 2006). Moreover, for that a resource can be reused, it must be indexed so as to know the content, instructional goals, terms of reusability.

So, our work aims to propose a model for what we called the pedagogical indexation of texts for the teaching of Arabic that is to say the creation of a standard for indexing Arabic text (Kaireddine et al., 2010) with which a teacher can retrieve existing Arabic texts in our database and also add text to our base.
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