LEARNING PERSONALIZATION
Design solutions in an e-learning system

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Abstract: This article describes some theoretical and practical aspects regarding the process of personalizing services and content for an e-learning environment, issued within the national research project “Innovative System for Personalized and User-centered Learning with Application to Project Management (SinPers)” developed by the National Institute for R&D in Informatics, the Academy of Economic Studies and the Project Management Association Romania. This project proved that the learning personalization needs innovative solutions for three main domains: the design of the teaching-learning process (actors roles, activities structure and flow, events and conditions specification), the creation and maintenance of an individual model for each learner (goal, preferences, knowledge level, learning results) and the structuring and accessing mode of the educational digital content (based on domain and competences ontology, learning objects, metadata).

1 INTRODUCTION
1.1 Lifelong learning - new requirements for e-learning systems
In an information based society the lifelong learning becomes an essential process, sustained mostly by information and communication technologies. The lifelong learning is a new form of work; the use of knowledge acquired in school is made at the working place, and the professional activity is more and more relying on intensive-knowledge. Learning becomes inseparable from the working process of adults. Similarly, the children need new educational instruments and environments to help them educate their desire to learn and create. Lifelong learning is more than “adult education”; it covers and unifies all phases: intuitive learner (at home), scholastic learner (at school and university), and skilled domain worker (at workplace) (Fisher, 2000).

Several basic principles of the learning theory have been re-evaluated in the last decade, as result of the new services offered by the information and communication technologies, as well as because of the lack of success of the existing e-learning systems. More and more critics sustain that the simple use of ICT as support of the existing learning practices is insufficient; old frameworks, such as instructionism, fixed curriculum, memorization, out-of-context learning etc., are not changed by the technology itself (Attwell, 2007; Dondi, 2007).

5 CONCLUSIONS
The SinPers research proved that in order to personalize services and content for e-learning systems there are needed new solutions for at least three major areas: design of the teaching-learning process (actors, activities, conditions, events etc.), creation and maintenance of an individual model of each learner (educational requirements, preferences, knowledge level, pre-requisites etc.), an new structuring and access mode for the digital content (domain and competences ontology, learning objects, metadata).

Within a teaching-learning defined process, a personalized unit of learning (course, lesson, module) is composed by an activity and educational objects tree offered to the learner. These objects are selected from a digital content warehouse by comparing metadata with the characteristics and preferences of the learner and set up in a sequence...
according to the relations between concepts and the activity flow previously defined.

REFERENCES