

SUPSI

Outline di progetto

Titolo	Adaptive systems for foreign languages teaching		
Sottotitolo	Sistemi adattivi per la didattica delle lingue straniere		
Acronimo	ASLAT		
Autore	Mangili Francesca	Data	21.05.2015
Tipologia di progetto	Progetto interno		
Confidenziale			
Descrizione	<p>This project will develop an adaptive e-learning system to evaluate students competences. Based on AI approximate reasoning techniques, the system estimates student' skills and automatically selects the questions more suited to the student in order to maximize the accuracy of the evaluation while limiting the duration of the test (e.g., by avoiding questions that are too easy or too difficult). The adaptive approach will be used for language teaching at SUPSI. A prototype will be released to spread the adaptive concept in education.</p>		

Unità SUPSI interessate, competenze richieste

Istituto Dalle Molle di studi sull'intelligenza artificiale	Knowledge-based expert systems and elicitation Bayesian networks Inference algorithms Survival analysis
Centro competenze lingue	Teaching of foreign languages in higher education Creation of multimedia and digital educational tools Human-Computer Interaction
Centro innovazione e ricerca sui sistemi educativi	Standardization of tests and questionnaires Evaluations scales and theories Theories for the assessment of abilities and competences

Discipline di ricerca

I400 - Artificial intelligence
 X200 - Research & study skills in education

Interesse/valore strategico per la SUPSI (perchè la SUPSI è interessata al progetto?)

Asse 5 - Sistemi intelligenti per la conoscenza e la comunicazione	The project provides benefits to the educational offer of language courses that, in the future can be extended to other subjects or different contexts courses. It could also open up an emerging and very innovative line of applied research, perfectly fitting the existing skills of the IDSIA researchers in the field of probabilistic graphical models and their application to intelligent systems.
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Aspetti di innovazioni tecno-scientifiche di prodotto e di processo

Incremento conoscenza scientifica	The traditional Item Response Theory (IRT) has been the prevalent computer adaptive test (CAT) approach for several decades. Recently, the idea of using Bayesian network for inferring individual's knowledge state has appeared in the literature. However, to the best of our knowledge, this will be one of the first times a probabilistic CAT approach will be implemented and applied to real student testing.
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Servizi all'istituzione	The methods and tools (software and web interface) developed in this project will be an optimal starting point for the application of these adaptive approaches to any education level and subject and thus enrich the education offer with innovative tools for personalized training and testing.
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Ricadute generali, benefici economici e sociali (qual'è l'impatto del progetto?)

Ricadute sulla formazione	<ul style="list-style-type: none">- Improvement of foreign language teaching;- Advance in the methods for e-learning based on intelligent systems;- Design of a web-based interface which facilitates the computer-student interaction, accounting for the peculiarities of the educational field.
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