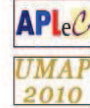




International Workshop, in conjunction with [UMAP 2010](#), on

**Adaptation and Personalization in E-B/Learning using
Pedagogic Conversational Agents (APLeC)**

Hawaii, June 20-24, 2010



**1st International Workshop on
Adaptation and Personalization
in E-B/Learning using
Pedagogic Conversational Agents
(APLeC 2010)**

**Hawaii, U.S.A.
June 21st 2010**

Online Proceedings

**Diana Pérez-Marín
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Susan Bull (Eds.)**



PREFACE

The benefits of the personalization and adaptation of computer applications to each user have been widely reported in recent decades. Educational applications are not an exception, both in e-learning, i.e. the use of electronic media to teach or assess, and in b-learning (blended learning), i.e. to combine traditional face-to-face instruction with electronic media.

Pedagogic Conversational Agents (PCAs) can be defined as virtual characters, which can teach or be taught by students in a domain, and even to serve as learner companions to avoid the so-called isolation problem of computer-based education. PCAs can be animated, and may consist only of a face, or have a full body (embodied conversational agents).

The first International Workshop on Adaptation and Personalization in E-B/Learning using Pedagogic Conversational Agents (APLEC) took place on 21st of June 2010, in Hawaii, U.S.A. in conjunction with the International Conference on User Modeling, Adaptation and Personalization (UMAP) to answer the following question: *How does the use of Pedagogic Conversational Agents in e-b/Learning systems permit better personalization and adaptation?*

Ten submissions were received to provide an answer to that question, and after a double-blind peer-review process, five papers were accepted (50% acceptance rate). Two papers come from Europe and three from U.S.A.

This volume contains the proceedings of the workshop. In particular, the first paper entitled '*Generation of Dialogs Adapted to the Student Knowledge for Pedagogic Conversational Agents*' has been chosen as the introductory paper of this book because it introduces the notion of PCA. Moreover, the paper focuses on one of the possibilities of allowing better personalization and adaption in PCAs through the use of Natural Language Processing techniques: the generation of adapted dialogs to each student model.

The second paper entitled '*Characters that Help You Learn: Individualized Practice with Virtual Human Role Players*' discusses how the adjustment of the behavior of the virtual humans to meet the specific learner needs is able to provide individualized practice to each student. That way, students are expected to improve their communicative skills.

The third paper entitled '*A Teachable Agent Game for Elementary School Mathematics promoting Causal Reasoning and Choice*' presents a different type of PCA. In this case, the agent does not assume the role of teacher, but the role of a student (i.e. a teachable agent) who needs to be taught to play a math game by elementary school-children. That way, students are expected to improve their causal reasoning and choice-making skills among others focusing on their special needs.

The fourth paper entitled '*Turning Cognitive Tutors into a Platform for Learning-by-Teaching with SimStudent Technology*' presents an on-line game-like environment in which SimStudent (a teachable agent too) learns how to solve algebra equations as helped by the particular information provided by the students.

Finally, the fifth paper entitled '*Adaptive Agents for Promoting Intercultural Skills*' focuses on the possibility of developing adaptive agents for intercultural

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communication skills. The adaptation feature to the culture and needs of the students is presented as a key element to facilitate the intercultural communication skills.

We would like to thank the authors for their paper submissions, our Programme Committee members for their reviews and the UMAP workshop chairs for their advice and guidance during the APLEC workshop organization. We would also like to thank our sponsors: the Spanish Ministry of Science and Technology, project TIN2007-64718 and the Department of Computing Languages and Systems I from the Universidad Rey Juan Carlos.

May 2010

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