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Abstract

Adaptive educational hypermedia systems (AEHS) is an evolving technology that aims to provide personalized learning content and presentation based on individual user characteristics to fasten and improve self-learning. In the context of AEHS, user characteristics are either static or dynamic. Static users attributes are captured prior using the AEHS, while dynamics ones are captured during using the AEHS. Many dynamic characteristics such as knowledge, learning style, behavior, environment, goals, and preferences have been defined. The user characteristics used in an AEHS are defined by what is known as user model (UM). Today's many AEHS incorporates different static and dynamic user models. In this paper, a user model that incorporates four user dynamic characteristics was proposed. The characteristics engaged are the user's current state of knowledge, learning style, goals, and behavior. The developed user model is assumed to be used in a lesson-based AEHS. A valuation algorithm that based on user navigation links is developed and used to determine the values of the four dynamic characteristics. We claim that this new model is more efficient in adapting the presentation and the learning content that shaping the individual user needs.

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Index Terms

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Keywords

Adaptive Educational Hypermedia Systems, Dynamic User Model, Dynamic Characteristics, Modeling Techniques.