

SELF ADAPTIVE HYPERMEDIA NAVIGATION BASED ON LEARNER MODEL CHARACTERS

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Abstract

Nowadays, we are witnesses of a steadily increasing research interest in design, modeling, construction and practical experiments with adaptable e-learning platforms and tools. Adaptive Web based multimedia information authoring, control and delivery tends to be more and more promising as its offer unlimited level of personalization and satisfaction of goals and preferences of particular learners. Moreover, content delivery adapts to assessed level of knowledge and performance shown by the learner at given time of the e-learning process. Modern Adaptive Hypermedia Systems (AHS) try to select content that best fits to the model of given learner, based of various forms of system adaptation. They can adaptive navigation through content pages and adapt content structure and/or presentation to needs and performance of each particular learner. Many contemporary AHS rely on self adaptive mechanisms for navigations, structuring and presentation of content best suited for given learner model. Usually, these mechanisms rely of setting weights for content pages. The article discusses a new approach for self adaptive navigation through concepts used for definition of a polymorphic learner model. The concepts from the learner model such as learner style, goals/preferences and/or learner prior knowledge and shown performance, are used for indexing of working paths of content pages but not pages themselves. Next, path indexes for the learner concepts are used at the decision (control) points within the narrative storyboard graph in order to select the path best suited to particular learner model. This process is called self adaptive content navigation as it dynamically changes the path indexes based on the results of tests and assessment of user satisfaction measured at the control points and, further, it uses them to reason which content to navigate to.