An agent-based adaptive e-content and e-learning architecture design and implementation

ABSTRACT

Individual students have different approaches towards learning because of different background knowledge, learning styles and preferences. Therefore, it is difficult for instructors to understand their student best learning approach. Furthermore, web application based on multi-agents for adaptive E-Content has been proposed to assist student individualized learning content in order to enhance their learning outcome.Existing systems normally utilize the main techniques of programming scripts and hierarchical course structure to support adaptive Electronic-Learning (E-Learning) course authoring for diverse category of students. These systems need instructor to obligate significant technical skills, and additionally to employ theories of learning styles, which are challenging requirements. To facilitate instructor to contribute in authoring adaptive E-Learning courses, we have designed web application architecture for administrator, assessor/instructor, and student. Three agents namely the exam agent, message agent and E-Content agent have been created to assist instructor and student. We designed the proposed architecture to be implemented for an online adaptive E-Content and E-Learning system. In addition, we conducted user studies to evaluate the effectiveness of the system.