A Study of Diagnosing Learning Disabilities Using Ontology and Agent Technology

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ABSTRACT

At the present day, the technology of constructing e-Learning platform and its functions are growing maturity day by day. The learner is in such environment which is full of independence, but unable to know the drawbacks and obstacles encountered during the learning process. Therefore, the purpose of this research is to present a learning diagnostic system to diagnose the problems and obstacles encountered by the learner during the learning process. This research basically uses the questions established by experts to test the learner in the learning process and uses Portfolio Agent to record each learner''s test results and knowledge concepts of ontology. This system will diagnose according to the answered wrong in the tests. On the other hand, learner only need to be reested on those questions they previously answered wrong. After that, the system will provide the concept which the learner seems to lack and proper learning path so that the learner can catch up with the learning schedule,be more willing to learn, and learn more effectively. The result of the research is based on using knowledge concept of ontology which across traditional course structure. This ontology pattern is able to offer the related to study and construct system in the future. Besides, the research use the Agent technology to design Portfolio Agent, and combine learner''s information of its learning process and testing module, and to learn to diagnose the modules so that when learner retake the same test, he or she will only need to answer those questions he or she previously answered wrong to save the time. The system provides learners a unique diagnosis and recommend learning path which is different from traditional score, teachers can also take the advantage to promote the teaching guiding principles.

Keywords : e-Learning ; Agent ; Ontology ; Learning Disabilities Diagnosing

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