

Abstract

Traditional learning system is a learning process that requires the students meet the teachers directly so that the learning process is limited by space and time. Then, E-learning appeared as one of the solutions to solve the limitation of space and time problem in the learning process. However, e-learning is likely to provide the same learning content to each student regardless of the students' learning situation. It affects the level of acceptance and satisfaction of students to the delivered content. Ubiquitous learning with context aware emerged as one solution that can solve the problem of delivering the appropriate learning content for students. Context aware used to get information about various things when students are studying and aims in order to provide appropriate content for students. Along with the development of technology, the device used to study not only personal computers but also mobile devices. The use of the devices will affect students' learning situation when they are studying. Previous research shows that to improve the level of students' satisfaction and acceptance related to the learning content, the delivered content should adjust with the QoS (Quality of Service) of the students. Therefore, in this research, a learning management system (LMS) is created to increase the level of students' satisfaction and acceptance toward delivered learning content which adjusts to the learning situation and QoS (Quality of Service) which will be implemented in ubiquitous learning environment. In the built LMS, fuzzy recommendation method implemented to determine the QoS (Quality of Service) which is appropriate with network bandwidth user and response time user. In the tests, the students were given two questionnaires to be filled after using conventional e-learning and the created systems of ubiquitous learning with context aware. The first questionnaire is usability testing and the second questionnaire is comparative testing. In the usability testing questionnaire shows that the created system can be well accepted and the level of students' satisfaction is quite good. Meanwhile, in the comparative testing questionnaire shows that the new system can increase the level of students' acceptance and satisfaction related to the provided content and system treatment when it is compared to the conventional e-learning. By the test results, it can be concluded that the use of QoS and context aware can increase the level of students' acceptance and satisfaction related to learning content.

Keyword: ubiquitous learning, context aware, fuzzy recommendation, device context, infrastructure context, QoS (Quality-of-Service).