

Abstract

MTs Husnul Khotimah is one of the schools that has not been able to hold a flexible independent UNBK simulation in terms of questions and time because they use the UKPI Online web-based application and the application provided by PUSPENDIK. The problems of these two applications are the visual design does not resemble UNBK, the questions cannot be modified by the teacher, and the simulation time that is too close to UNBK implementation.

To support the national examination and MTs Husnul Khotimah's student exam results, it is necessary to make a UNBK simulation e-learning and measure the optimal e-learning performance so that students will get experiences that resemble the real UNBK.

UNBK Simulation E-Learning was created using LMS Moodle. After that, a literature review is conducted and uses the Prototype model of SDLC method. UNBK Simulation E-Learning design will also be tested and analyzed using the Quality of Service (QoS) method with different number of user and different number of questions. In the QoS method, the testing parameters are packet loss, delay, and jitter. The results of the test obtained the index of all packet loss testing is 4 or very good, the index of all delay testing is 4 or very good, and the index of all jitter tests is 3 or good.

Keyword: e-learning, Moodle, prototype, UNBK, QoS