Quality of Service Evaluation of a Deployed 3G Data Network for a Campus wide e-Learning Platform

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Abstract

In Ghana, the increase in the adoption of e-learning methodologies is improving the way teachers and students interact. With the combination of internet, multimedia and network technologies, e-learning is changing typical teaching and learning using its methodologies to improve access to education on many university campuses. A third generation (3G) data network has been deployed on Kwame Nkrumah University of Science and Technology (KNUST) campus with the aim of improving connectivity for students and lecturers to enable them access an implemented e-learning platform anywhere on the university campus. This paper evaluates the Quality of Service (QoS) provided by the 3G cellular data network. It addresses the gap between the technical capabilities and the QoS experienced by students and teachers who use the 3G network to access the platform. The analysis in the paper is based on live data which were collected on the network. An Analytic Hierarchy Process (AHP) methodology has been used to assess the QoS based on selected Key Performance Indicators (KPIs).
References


Index Terms

Computer Science

Communication
Keywords

e-Learning; Quality of service; Network Connectivity; Third Generation; Analytic Hierarchy Process.