

1. Oyeniran Olubunmi ROTIMI, 2. Kolawole Akeem OLUWAFEMI

## DEVELOPMENT OF LEARNING MANAGEMENT SYSTEM IN NIGERIAN TERTIARY INSTITUTIONS

<sup>1,2</sup>. Department of Electrical / Electronic Engineering, Osun State College of Technology (OSCOTECH), Esa-Oke, NIGERIA

**Abstract:** This paper discusses the development of a model for a customized learning management system in a Nigerian Tertiary Institution. It reveals the effects, benefits and challenges in the relationship between information and communication technology and modern education system. The E-learning portal was specifically developed and tested on Personal Computer systems and handsets in line with its set goals which are to ensure flexibility and collaborative efforts.

**Keywords:** Learning Management System (LMS), E-learning, Information and Communication Technology

### INTRODUCTION

#### Learning Management System (LMS) - The backbone of E-learning

Learning Management System can be defined in various manner and perspectives. According to Aboderin (2013), Learning Management System is defined as a global term for a computer system specifically developed for managing online courses, distributing course materials and allowing collaboration between students and teachers. E-learning is defined as the acquisition of knowledge and skill using electronic technologies such as computer or mobile devices and internet-based courseware. According to Microsoft Encarta Encyclopedia (2009), Distance Education, involves methods of instruction that utilize different communications technologies to carry teaching to learners in different places. A LMS allows the management of every aspect of a course, from the registration of students to the storing of test results, as well as allowing the teachers to accept assignments digitally and keep in touch with the students. In essence, the LMS is the backbone of most e-learning activities.

#### The Role of Information and Communication Technology in Nigerian Educational System

ICT in education implies the implementation of ICT equipment, strategies, techniques and tools in teaching and learning process as a media and methodology. The specific objective of ICT in education is to expose students and teachers to the use and operations of computers and internet infrastructures. Professor Ajayi, G. O. of OAU, Ile

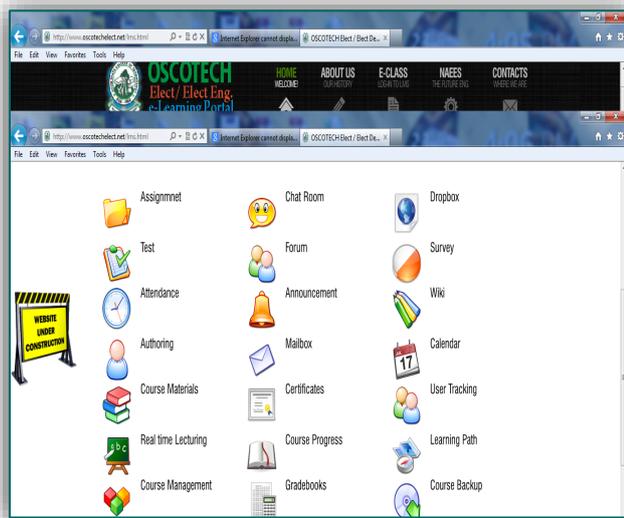
Ife, Nigeria, shared the multi-purpose application of ICT as he put it “ICT is now regarded as a Utility such as water and electricity and hence has become a major factor in socio-economic development of every nation”. Tinio (2002) noted that ICTs are powerful enabling tools for educational change and reform. When used appropriately, helps expand access to education, strengthen the relevance of education to the workplace, and raise educational quality by creating an active process connected to real life.

#### SYSTEM DESIGN

Osun State College of Technology Electrical & Electronics Engineering E- Learning Portal was designed to deliver digital, reliable, seamless, time controlled exam and testing, collaborative learning Management System to the students and lecturers in the department. Apart from that, the E-Class has some features which are spelt out below. There are 20 pedagogical tools included in the E-Class as shown in Figure 1 below.

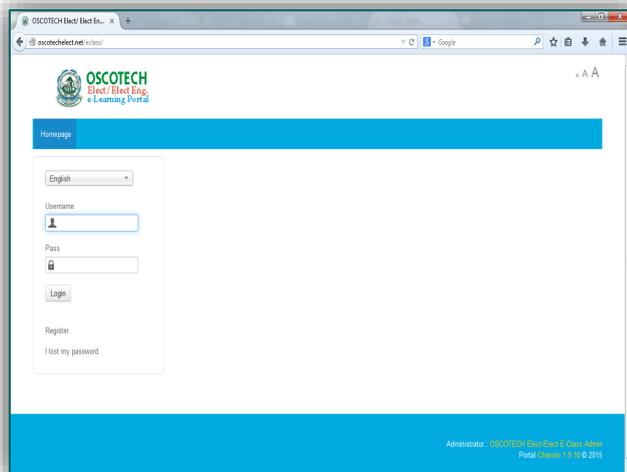
#### Registration

There are 9 predefined user profiles namely Students, Tutors, Teachers, Coaches, Session coaches, Session managers, HR director, Portal administrator and Global administrator. These features are available for easy and flexible online registration for different categories of users. We deliberately disabled these features owing to student’s attitude using fictitious name and identity. We created login details and customized emails for both lecturers and students using some relevant identities like surnames and matriculation numbers.



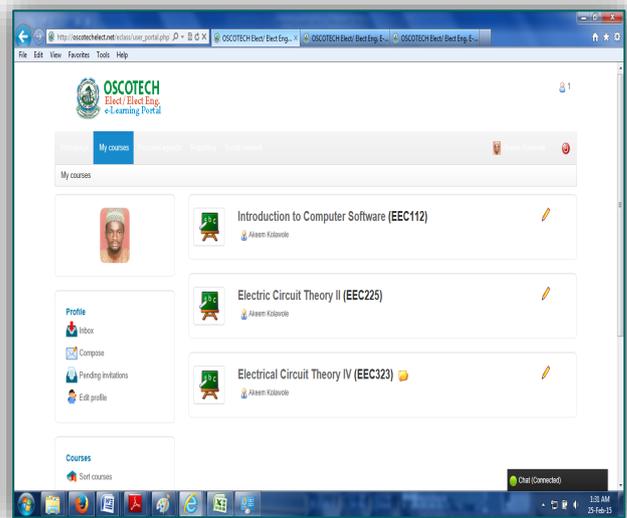
**Figure 1: Screenshot of the E-Class tools**  
**User management**

Figure 2 below shows the page that is opened when the “E-CLASS” icon at the top of the webpage (<http://oscotechelect.net>) is clicked. This is the page where users can login with their username and password in order to access the portal.

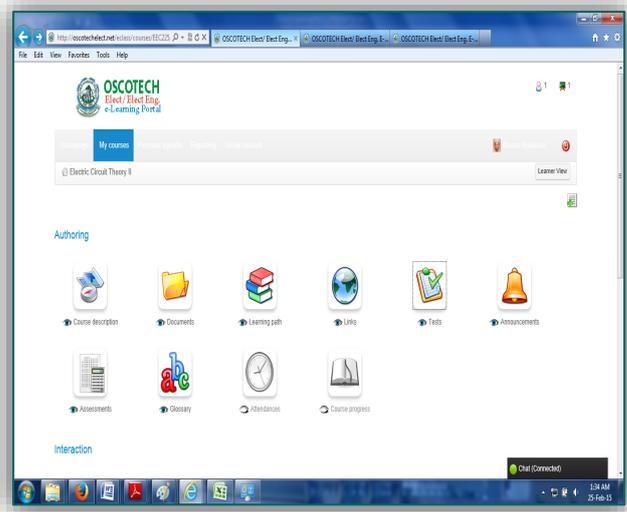


**Figure 2: User login page**  
**Courses management**

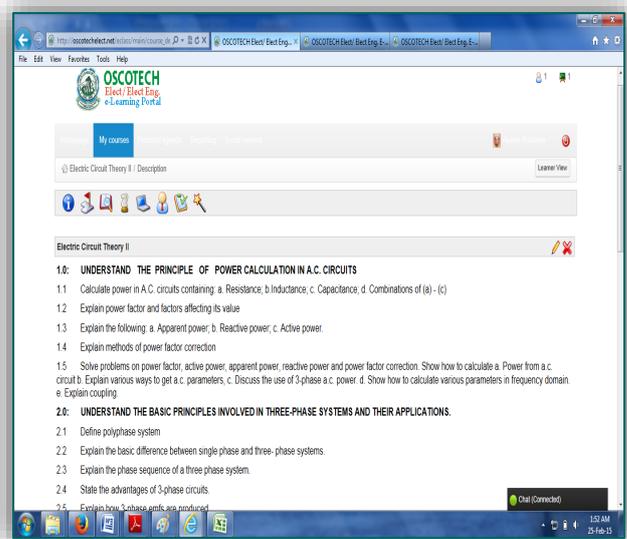
Figure 3 below shows the page displayed when a user logs in. It displays the courses thought by the lecturer, manages courses and also gives him access to his department mailbox. Clicking on any course, Figure 4 which is the Lecturer’s dashboard is displayed where he can produce course description/content, upload course materials, make announcements, set tests for students, take attendance, assess students’ performance, chat, give assignments, take surveys, produce report on students’ performance, set personal agenda, etc. Figure 5 displays the course description/content while Figure 6 displays the course materials or documents uploaded.



**Figure 3: User homepage displaying courses thought**



**Figure 4: Lecturer’s dashboard**



**Figure 5: Course Description page**

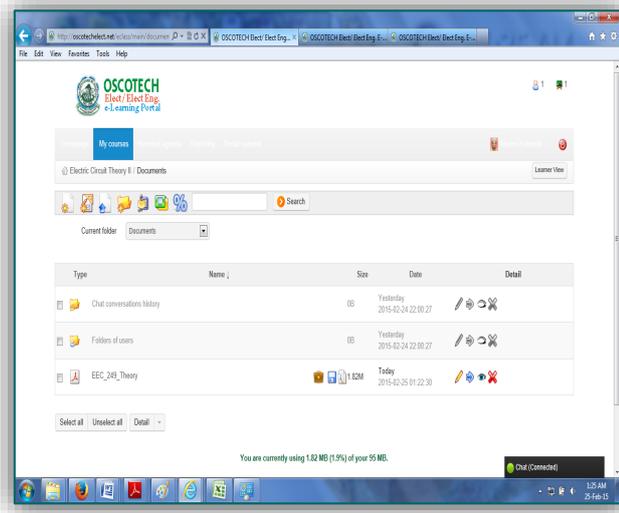


Figure 6: Course Materials/Document page.

Figure 7 shown below is the student's homepage and also give access to his personal email and profile while Figure 8 shows the student's dashboard that displays all the tools that are available to the students like documents, assignment, announcements, tests, etc.

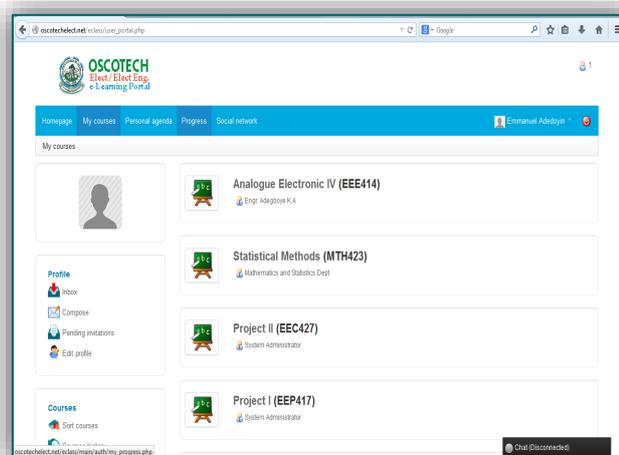


Figure 7: Student's Homepage

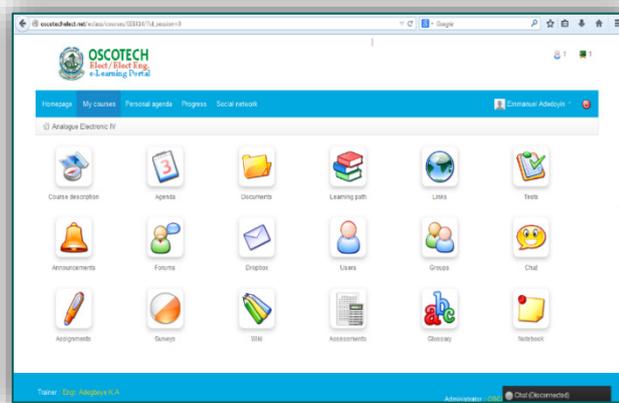


Figure 8: Student's Dashboard

## ADVANTAGES OF LEARNING MANAGEMENT SYSTEM

Some pertinent advantages include Reduced overall time and cost, which is the single most influential factor in adopting e-learning. Also, Consistent delivery of content is possible with asynchronous, self-paced e-learning. Furthermore, Expert knowledge is communicated, but more importantly captured, with good e-learning and knowledge management systems. Self-pacing and On-demand availability enables students to complete training conveniently at off-hours or from home. Likewise proof of completion and certification can be automated.

## THE CHALLENGES

There are lots of factors militating against the full implementation of Learning Management System in Nigerian Higher Institutions and these have affected the mode of delivery of knowledge and also, our curriculum is not yet ICT compliant and/or enhanced. Other factors are inadequate numbers of standard computers and its auxiliary devices, epileptic power supply, problems of internet network failure, lack of proper ICT knowledge/skills, difficulty in integrating ICT to instruction, scheduling computer time, inadequate software, insufficient teaching time, lack of qualified ICT and maintenance personnel and huge cost of equipment,

## CONCLUSION AND RECOMMENDATIONS

The effect of integration of ICT into Nigerian Educational System is unquantifiable and it cuts across all tiers of the system, from primary school level to higher institution. It has greatly helped in the administration and instruction in line with Nigerian Educational System. Agbetuyi (2012) highlighted that the National Policy on Education (FRN) as revised in 1988 and 2004, re-emphasized the need for the integration of ICT in the Nigerian educational system. This is an acceptance of the need to go beyond computer to the level of ICT also the need for infrastructure.

Three major objectives, among others were emphasized in the Nigerian National policy for Information Technology (FRN, 2001). These are to empower youths with ICT skills to prepare them for competitiveness in a global environment, integrate ICT into the mainstream of education and training and establishment of multifaceted ICT institutions as centers of excellence of ICT. To achieve these objectives, nine major strategies were outlined. These include making ICT compulsory at all educational institutions, and developing ICT curricular for all levels of education. Furthermore, ICT companies should invest in education by giving study grant and scholarships on ICT. Government should organize 'Training the trainers' scheme for

youth corps members on ICT establish public dedicated ICT institutions. Working with international and domestic initiative to transfer ICT knowledge will facilitate the development of learning and E-Learning in our Higher Institutions.

#### References

- [1.] Aboderin, O. S.; Kumuyi, G. J.: The Problems and Prospects of E-Learning in Curriculum Implementation in Secondary Schools in Ondo State, Nigeria. International Journal of Educational Research and Technology. Volume 4 [1], pages 90 – 96, 2013. Retrieved May 12, 2015 from [www.soeagra.com/ijert/ijert.htm](http://www.soeagra.com/ijert/ijert.htm)
- [2.] Agbetuyi, P. A.; Oluwatayo, J. A.: Information and Communication Technology (ICT) in Nigerian Educational System, Mediterranean Journal of Social Sciences, Vol.3 (3), 2012. ISSN 2039-2117
- [3.] Ajayi, G.O. (2003).NITDA and ICT in Nigeria. 2003 Round Table on Developing Countries Access to Scientific Knowledge, the Abdus Salam ICTP, Trieste, Italy. Retrieved May 10, 2015 from <http://www.ejds.org/meeting2003/ictp/papers/ajayi.pdf>
- [4.] Epignosis LLC . E-Learning Concepts, Trends, Applications, USA, 2014. Retrieved May 10, 2015 from [www.talentlms.com/elearning/elearning-101-jan2014-v1.1.pdf](http://www.talentlms.com/elearning/elearning-101-jan2014-v1.1.pdf)
- [5.] Tinio, V.L. ICT in Education, New York, UNDP-APDIP, 2003. Retrieved May 12, 2015 from <http://www.unapcict.org/ecohub/resources/ict-in-education>



**ACTA Technica CORVINIENSIS**  
BULLETIN OF ENGINEERING

**ISSN:2067-3809**

copyright ©

University POLITEHNICA Timisoara,  
Faculty of Engineering Hunedoara,  
5, Revolutiei, 331128, Hunedoara, ROMANIA  
<http://acta.fih.upt.ro>