Leveraging On E-Learning Platform For The Enhancement Of Computer Studies In High Schools

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Abstract— These The teaching and learning of computer studies in high school in developing countries of the world will achieve a better result if the instrumentality of electronic learning is deployed. As the penetration of internet increases, accessibility to quality and relevant materials through e-learning platform will provide an alternative method to compliment the traditional way of teaching and learning. The target groups here are the high school students who are unable to attend classes because of scheduling, transportation problems or other restrictions. This means that from the comfort zones of each student, that is, from home, learning is made possible through a web based e-learning system. The fact that students only study abstract computer studies makes it difficult for them to be interested in the field of computer science. But with this project, there will be a lot of change; that is more secondary school students wanting to further their education in computer science. That is why the interface is easy to navigate and allows the user/learner to be in charge of the system. The design was done using PHP as the front end and MySQL as the back end.

Index Terms— computer studies, e-learning, internet, school, student, teaching and web-based.

1 INTRODUCTION

"Electronic learning" or "e-learning" is a general term used to refer to computer-based learning. E-learning has introduced a whole new set of physical, emotional and psychological issues along with educational issues (Palloff and Pratt 1999). Before the 1970s, the concept of distance learning referred primarily to correspondence courses that provided materials to read and tests to submit by mail. E-learning simply means Electronic learning. E-learning uses methods of education that take advantage of Information and Communication Technology to attend to educational needs of students

Web-based E-learning is the use of websites on the internet to foster, deliver and make easy learning for students from anywhere they are. In 1960, The University of Illions started a classroom system based on linked computer terminals where students could access informative resources on a particular course while following the lectures being given. Later on, more universities used computers to teach mathematics and other schools also took advantage of the technology and started offering distance learning courses using computer networking. E-learning, considering the level of internet advancement, has now become very popular. On a general note, E-learning enables learning from any part of the world, there are several advantages for E-learning of which the major advantage is being able to learn from anywhere at any time so far one is logged on to the web. Other advantages are:

- Web-based E-learning is resource saving for students. Instead of having to spend a sum of money on photocopying materials, the teacher could just direct the students to the internet to form notes from some online materials.
- It makes research easy for researchers, assignment easier for students to solve and more useful materials for even tutors to use for students in classes

In a nutshell, a web based e-learning system is an online teaching system for students to learn , get additional knowledge on the already or to be thought subjects, as it may as well give room for discussions/ questions and answer. This means that from the comfort zones of each student, that is, from home, learning is made possible through a web based e-learning system

2. DEFINITION OF E-LEARNING

Much of e-learning's potential ties into the 'buzz' surrounding today's knowledge economy. E-learning strategies focus on the human capital, or, in other words, the employees and the knowledge that they contribute with to the organisation. It has been argued that human capital will 'make or break your business': the more your employees know, the more they can accomplish, and thus the more the organisation benefits (Salmon 2000; Swanson 2001).

However, there is no clear widely agreed-upon definition of what constitutes an e-learning strategy. The simplest explanation is to explain the 'e' in e-learning as something that is 'electronically' delivered (Harasim et al. 1995; Urdan and Weggen 2000). Anderson (2000) further argues that most people understand 'e'-modified words as Internet-enabled interactions between people. For others, e-learning is just a term used to group together a few popular concepts, such as 'Dis-

tance Learning', 'Open learning', 'Online Learning', 'Computer Based Learning' (CBT), and 'Web-based learning' (Inglis 1999).

Probably the most useful definition of e-learning, however, is that by Rosenberg (2001), who argues that the core criteria for something to be e-learning is that it is Internet-based, networked, and focuses on a much broader view of learning and knowledge delivery than traditional training and learning methods. Although this definition still leaves questions open about what *really* is e-learning, Rosenberg (2001) argues that it captures the main elements of the term and at the same time leaves the door open for specific forms and delivery methods of e-learning to change and develop in the future without the need to modify its basic definition.

In other words, Rosenberg (2001) defines an e-learning solution as having at least the following criteria:

- It is the delivery of a broad array of solutions that enhance learning and facilitates quick and effective dissemination of knowledge and information.
- It must be Inter- and/or Intranet based, allowing people to access the same material from different places at the same (synchronous) and/or different (asynchronous) times.
- It focuses on a broader view of learning, where learners have more responsibility for their own learning efforts.

To better understand why e-learning differs from more 'traditional' training methods, such as classroom training, and to justify the definition above of e-learning, it may be helpful to look at some advantages and disadvantages that often are accredited to it. This is done next.

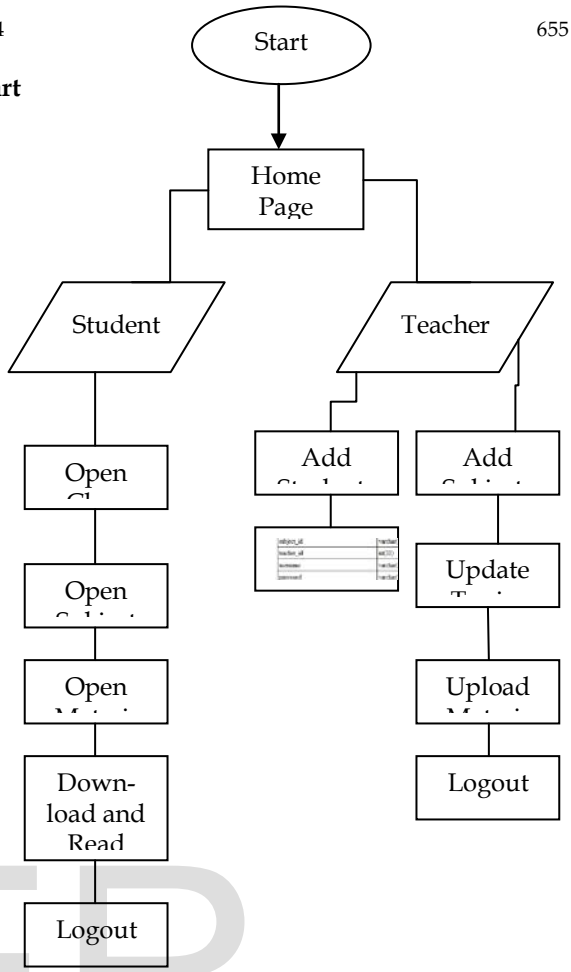
3. System design

3.1 Screen design form

The screen design form in the system is designed to be user friendly. They are created in such a way that they will attract students to the system. They are more impressive when the program is run on a coloured monitor

During the design phase, the following were used
Hardware used: Pentium 4 Processor.
20 GB Hard Disk Drive.
256 MB RAM.
Software used: Php, MySQL
(**At server end**)
Hardware used: Pentium 4 Processor.
200 GB Hard Disk Drive.
512 MB RAM.

Flowchart



4.0 SYSTEM IMPLEMENTATION AND TESTING

4.1. HARDWARE REQUIREMENTS

This chapter deals with the design, implementation and testing of the system to ascertain the functionality and also to ensure the achievement of set objectives. The design and implementation of the system is divided into two types; that is the front end and the back end. This is done in order to properly integrate the system with a good cohesion and dynanic smooth communication: between users and the web administrator as the scripting handling automation in the dynamism of the system.

During this phase, each module is unit tested to determine the correct working of all the individual modules. It involves testing each module in isolation as this is the most efficient way to debug the errors identified at this stage. The software design of this project work as depicted in forms of diagram and models in chapter three is converted into tangible software by coding

The hardware requirements include:

i. Pentium III motherboard with 1285D RAM, 20 Gigabytes of Hard disk, floppy disk drive CD-ROM Drive and USB port
ii. Ps2 mouse and 1 keyboard and monitor or a portable computer system which consists of all in one package.
iii. Stabilizer
iv. UPS or surge suppressor

4.2. SOFTWARE REQUIREMENTS

System application software is required which consist of program that controls the computerization procedure. The following are the software required and used

i. Window 7
ii. Window 8
iii. PHP and MySQL were used in the implementation.
iv. There is need for Wamp or Apache

Note that the software can only be run on windows seven and windows eight. It has not been tested on other system software yet because the above mentioned were the only ones used to test it.

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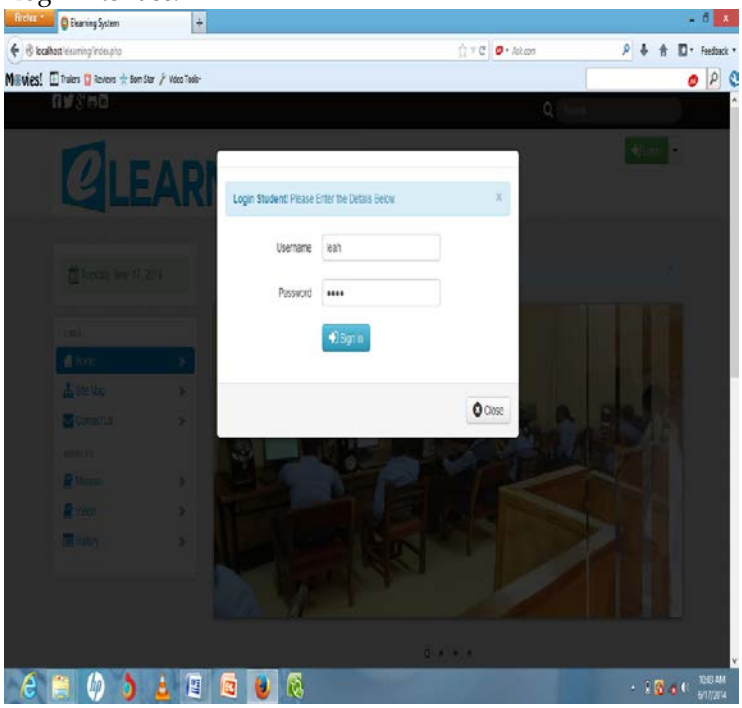
5.0 Implementation

Home page: The home page is the first page one sees when he or she logs into the system. it consists of various components.

Login interface:



This page shows the student login interface; it is very simple to manipulate. The students will be added by the teacher; that is why there is no option for sign up or join class.

Class page:
This page shows the list of topics under the computer studies subject

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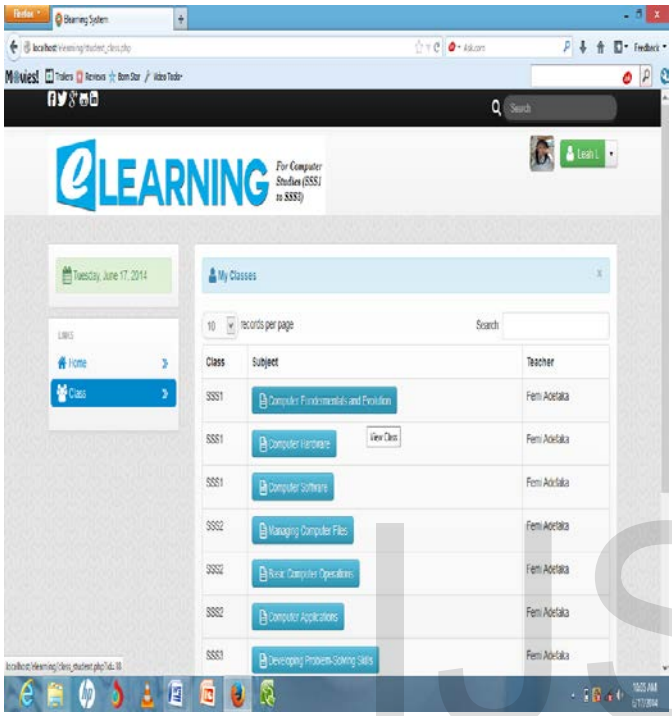
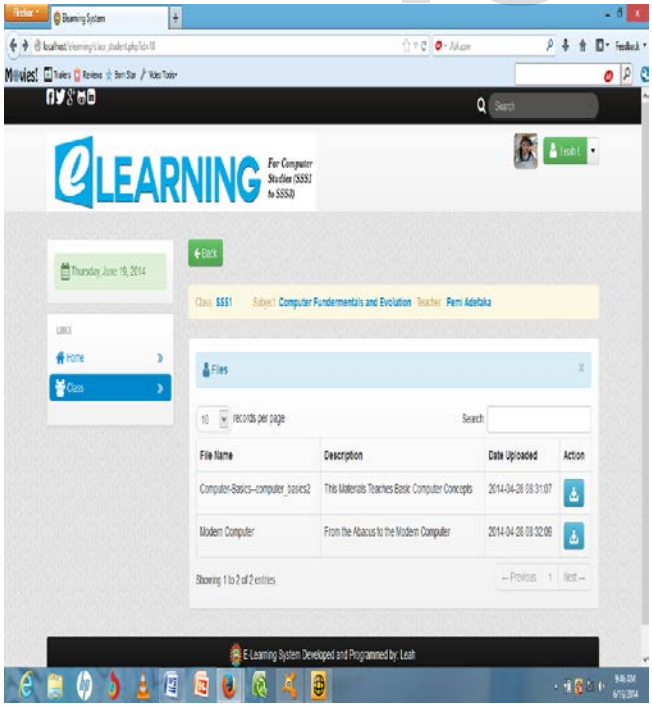
Class page:.
This page shows the list of topics under computer studies subject curriculum (these are the current topics WAEC enlisted).

A student after clicking on a topic, the next page gives access to the relevant materials.





This page shows the contents/materials the teacher uploaded for the students under the topic computer fundamentals and evolution.

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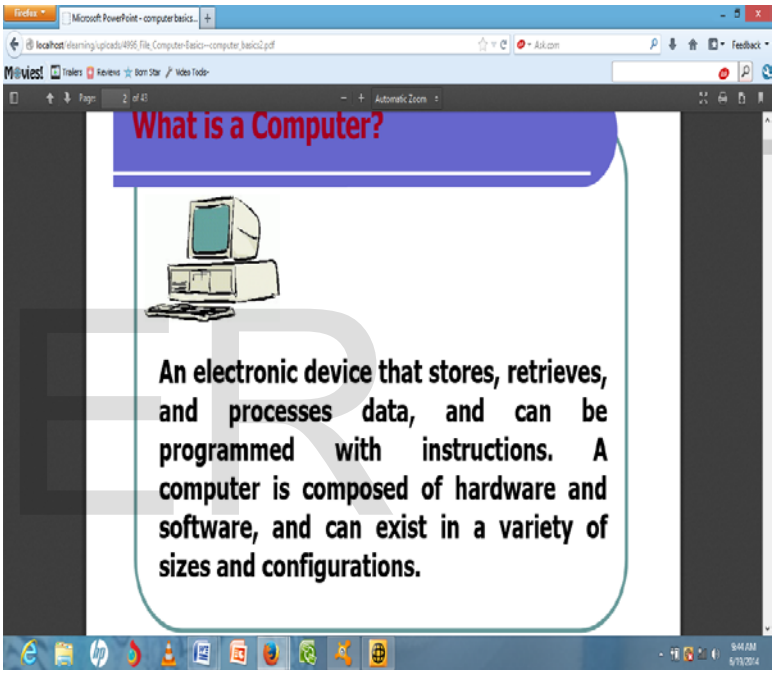

This page shows the content of the first material under the topic computer fundamentals and evolution in the next page, there are more contents.

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CONCLUSION

Education is seen as the bedrock of the nation's economic growth and nations building. The introduction of e-learning to

students in this subject of study; Computer Studies, will arouse their interest in information technology which is a driver in every face of human endeavor. E-learning is easy, creates allowance for flexible schedule as one must not attend a class at a given time like it is done in the traditional learning. One very good feature of e-learning is the ability to access the system at anytime and still have all the materials available. For instance, once a material is uploaded on the system implemented for this project, it is available anytime.

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