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E-Learning - All The Way through Cloud Computing

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Abstract – In this paper we describe the development of the quality and low cost education for all over the world. Cloud computing is the new technology that has various advantages and it is an adoptable technology in this present scenario. The main advantage of the cloud computing is that this technology reduces the cost effectiveness for the implementation of the Hardware, software and License for all. In this paper, we also discuss the integration of information and communication technologies in education according to the global trend occupied a great interest in the Arab world through E-Learning techniques.

Keywords: Cloud Computing, Education, Learning, Technology, Information, Cloud Environment

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INTRODUCTION

Cloud Computing has been one of the most booming technology among the professional of Information Technology and also the Business due to its Elasticity in the space occupation and also the better support for the software and the Infrastructure it attracts more technology specialist towards it. Cloud plays the vital role in the Smart Economy, and the possible regulatory changes required in implementing better Applications by using the potential of Cloud Computing [1][2][3].

Cloud computing is the delivery of computing as a service rather than a product, where by shared resources, software and information are produced to computers and other devices as a metered over a network. It does not require end-user knowledge of the physical location and configuration of the system that delivers the services. It is similar to the concept of Electric grid, wherein end-user consumes power without needing to understand the components devices or infrastructure requires providing the services. The idea of cloud computing focuses around keeping all applications and data storage online in massive warehouses and making the computer merely a tool in which to access this information cloud via the broadband Internet. The cloud computer is essentially just a processor along with a screen, keyboard and mouse that is connected to a high speed Internet connection [6]. Applications that you want to utilize are downloaded from a central database and data that you want to save is stored online in your personal storage space. —Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction [5].

E-LEARNING BACKGROUND:

E-learning includes all forms of electronically supported learning and teaching. The information and communication systems, whether networked learning or not, serve as specific media to implement the learning process. This often involves both out-of-classroom and in-classroom educational experiences via technology, even as advances continue in regard to devices and curriculum. Abbreviations like CBT (Computer-Based Training), IBT (Internet-Based Training) or WBT (Web-Based Training) have been used as synonyms to e-learning.

E-learning is the computer and network-enabled transfer of skills and knowledge. E-learning applications and processes include Web-based learning, computer-based learning, virtual education opportunities and digital collaboration. Content is delivered via the Internet, audio or video tape, satellite TV, and CD-ROM. It can be self-paced or instructor-led and includes media in the form of text, image, animation, streaming video and audio.

There are two entities involved in an e-learning system:

- The students
- The trainers

Some benefits of e-learning are as below:

Time: One of the key benefits of online study is that one can learn or take a course through e-learning at any time as it is convenient for them. Podcasts and downloadable lectures mean that students are no longer constricted by a conventional timetable of lectures.

Location: Neither are students restricted by their physical location. With an Internet connection, they can attend live online tutorials, participate in dedicated discussion forums or download course material and notes regardless of where they are.

Communication: Another key advantage of online study is that it encourages and enables students to collaborate and communicate with their fellow students as well as their tutors.

There are many different educational environments that serve the educational process based on computer and its technologies. For example Web 2.0 technologies which provide teachers with new ways to engage students, and help student to participate on a global level by using the network as a platform for information sharing, interoperability, user-centered design and collaboration on the World Wide Web.

a) Effective Learning background

It is a set of teaching and learning tools designed to enhance a student's learning experience by including computers and the Internet in the learning process where included web-based access to class content, grades, assessments, and other class tools. It is also a social space where students and teacher can interact through threaded discussions or chat.

It also includes students and teacher “meeting” online through a synchronous web-based application. The teacher is able to present lessons through video, PowerPoint, or chatting. The students are able to talk with other students and the teacher, as well as collaborate with one another, answer questions, or pose questions. They can use the available tools through the application to virtually raise their hands, send messages, or answer questions on the screen given by the teacher.

b) Individuals knowledge background

The expression does not refer to a specific service or application but rather to an idea of how learners achieve their learning goals. PLE provides learners with support in managing their content and communication with peers in the process of learning by dividing them into groups for discussions, providing context, and illustrating processes.

PLE provides a suitable environment to practice social skills. There are many types of PLEs that are classified based on their architecture such as PLEX or web-based with loosely joined web services such as ELGG or are classified based on their platform like face book. Another approach of PLEs is based on their pedagogical approach that serves formal and informal learning process.

c) Squash-up individual knowledge background

This environment is a mixing between the previous environments where they allow learners to build their own personal learning environment by composing web-based tools, get involved in collaborative activities, share their designs with peers, and adapt their designs to reflect their experience in the learning process.

Cloud-based E-Learning System

This section concerns with designing web-based E-Learning system that contains various social tools, smart agents and interactive environment of web 2 techniques uploaded to cloud. The system has three major parts. The first part addresses the web-based Course Management System (CMS) which is managed by the web server to register learner to access course materials that are provided and maintained by teachers.

Advantages of E-Learning cloud computing system

The advantages that come with cloud computing can help resolving some of the common challenges one might have while supporting an educational institution. [4][8].

Charge

The overall cost will be reduced.

Litheness

Infrastructure can be scaled to maximize investments. Cloud computing allows dynamic scalability as demands fluctuate.

Convenience

This help makes data and services publicly available without Some would resort to a cloud computing vendor because of the lack of resources while others have the resources to build their cloud computing applications, platforms and hardware. But either way, components have to be implemented with the expectation of optimal performance when we are using through mobile terminals [7].

4) The consumer – The End User

Everything ends with the client. The hardware components, the application and everything else developed for cloud computing will be used in the client.

CONCLUSION:

The outcome of the paper shows that he cloud computing has the significant scope to change the whole education system. In present scenario the e-learning is getting the popularity and this application in cloud computing helps in the development of the education offered to poor people which will increase the quality of education offered to them. Cloud computing is an exciting development is a significant alternative today's educational perspective. Students and administrative personnel have the opportunity to quickly and economically access various application platforms and resources through the web pages on-demand. We found that e-learning cloud computing automatically reduces the cost of organizational expenses and offers more powerful functional capabilities.

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