



AN OVERVIEW OF CLOUD BASED E-LEARNING IN THE FIELD OF EDUCATION SYSTEM

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ABSTRACT- Nowadays, E-learning plays an important role in Education system. In this paper concentrate the impact on using cloud computing for E-learning. Recently, the classroom teaching is changing and students are attracted more towards technology. For the learning technologies for nowadays is cloud computing. Due to its tremendous advantages this technology is maturing quickly and is being adopted many applications including business, education etc. Finally, this paper analysis the two system of E-learning and cloud computing, when it combines to form a education system .

Keywords: Cloud Computing, E-learning, Education.

I. INTRODUCTION

II.

Learning or Education is an important role part of life and also plays a vital role in our success in the personal growth. Now a days, there are lot of technology for gathering knowledge and learn anything. One of the most important technology for education is E-Learning. E-Learning exploits interactive technologies and

communication system to improve the learning experience. It is also advanced in computer programs, 3Dsimulations, videos and real time online discussions from all over the world. People can set their own schedule and work at their own place, learning is also used to term as online learning, virtual learning, distance learning, network or web-based learning .

Cloud computing is explained as model based on an networks especially on internet with a simple task of ensuring that users can use computer resources simply on demand and only for the usage there of cloud computing brings about a new type of business model that services are provided computer resources[3]. In the main time the “Education and Learning as a Services”(E Laas), emphasizing its possible benefits and offerings . It is essential for an education and learning organization, with its budget restrictions and suitability challenges, to use the cloud formation best suited for a particular IT activity [4] .

E-LEARNING

E-learning comprises 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. The term will still most likely be utilized to reference out-of-classroom and in-classroom educational experiences via technology.

E-learning is essentially the computer and network-enabled transfer of skills and knowledge-learning applications and processes include Web-based learning, computer-based learning, virtual education opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, 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. In young ages especially, children can use the huge interactivity of new media, and develop their skills, knowledge, and perception of the world, under their parents monitoring, of course.

E-learning is widely used today on different educational levels: continuous education, company trainings, academic courses, etc. There are various e-learning solutions from open source to commercial. There are at least two entities involved in an e-learning system: the students and the trainers. Some benefits of e-learning are discussed 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.



Figure 1. E-learning

Usually, e-learning systems are developed as distributed applications, but not limited to as shown in Figure 1. The architecture of an e-learning system, developed as a distributed application includes a client application, an application server and a database server, beside the hardware to support it (client computer, communication infrastructure and servers). The client hardware could be a mobile device or a desktop computer. The client application can be a simple web browser or a dedicated application [5].

Asynchronous E-learning :

In asynchronous e-learning, the communication between participants does not occur at the same time and learner can learn at anytime.



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Synchronous E-learning

Synchronous e-learning is that classes are conducted over the Internet live with a tutor. All tutor and learners are logs in at the same time and can communicate directly and virtually with each other.

III CLOUD COMPUTING

The Cloud Computing environment ascends as a natural platform to provide support to ELearning systems. E-learning with the combination of cloud computing provides the concept of virtual teaching and learning process. Cloud computing is attractive technology for the teaching institutes with its dynamic scalability and usage of virtualized resources as a service through the Internet .

According to NIST cloud computing means - "Cloud computing is a model for enabling ubiquitous, 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. This cloud model is composed of five essential characteristics, three service models, and four deployment models." [6].

Cloud computing maintains the storage resources as services. Services provided by cloud computing can be classified into three main categories,

- Software as a Service (SaaS)
- Platform as a Service (PaaS)
- Infrastructure as a Service (IaaS)

Software as a Service (SaaS)

This means Software deployed over the internet. It facilitates the use of different software applications by the end user over the internet. This facility has become a common within every organization among users and buyers of understanding the technology and what SaaS is and where to use it. Advantages of using SaaS are Software can be managed by central location, it delivered in one to many model, web access to commercial software. Users are not required to handle upgrading and patching. Simply access and managed software via a network.

Platform as a Service (PaaS)

Intermediate layer between SaaS and IaaS. It can be defined as a computing platform which allows the construction of web applications quickly and easily and without the complexity of buying and maintaining the software and infrastructure underneath it. It is a set of tools and services designed to make coding and deploying those applications quick and efficient. Advantages as Multi-level architecture where multiple concurrent users utilize the same application. Services to develop and maintain, test, deploy and host the application in the same environment.

Infrastructure as a Service (IaaS)

It's the common way of delivering the cloud computing Infrastructure. such as servers, storage, operating systems, Hardware, Data, Database and network on demand. Advantages as all the resources are distributed as service, allow dynamic scaling, include multiple users on a single piece of hardware.



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IV BENEFITS OF CLOUD BASED E-LEARNING IN EDUCATION

There are numerous advantages when the e-learning is implemented with the cloud computing technology, they are:

Low cost: E-Learning users need not have high end configured computers to run the e-learning applications. They can run the applications from cloud through their PC, mobile phones, tablet PC having minimum configuration with internet connectivity. Since the data is created and accessed in the cloud, the user need not spend more money for large memory for data storage in local machines. Organizations also need to pay per use, so it's cheaper and need to pay only for the space they need.

Improved performance: Since the cloud based e-learning applications have most of the applications and processes in cloud, client machines do not create problems on performance when they are working.

Instant software updates: Since the cloud based application for e-learning runs with the cloud power, the software's are automatically updated in cloud source. So, always e-learners get updates instantly.

Improved document format compatibility: Since some file formats and fonts do not open properly in some PCs/mobile phones, the cloud powered e-learning applications do not have to worry about

those kinds of problems. As the cloud based e-learning applications open the file from cloud.

Benefits for Students: Students get more advantages through cloud based e-learning. They can take online courses, attend the online exams, get feedback about the courses from instructors, and send their projects and assignments through online to their teachers.

Benefits for teachers: Teachers also get numerous benefits over cloud based e-learning. Teachers are able to prepare online tests for students, deal and create better content resources for students through content management, assess the tests, homework, projects taken by students, send the feedback and communicate with students through online forums.

Data security: A very big concern is related to the data security because both the software and the data are located on remote servers that can crash or disappear without any additional warnings. Even if it seems not very reasonable, the cloud computing provides some major security benefits for individuals and companies that are using/developing e-learning solutions.\

V CONCLUSION

The Objective of this paper is to provide educational benefits .The cloud allows us to access our work anywhere, anytime, and share it with anyone .A wide world of knowledge and tools now is available for learners and students through the cloud base services all time and accessed from anywhere from any device .The study summarized



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the benefits of education in e-learning as improved performance, security, software updates, low cost, easy accessibility, flexibility, consistency.

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