Computer Based Learning using Cloud Computing

Saurabh Sonawane, Suraj Patil , Jayesh Titme
Computer Engineering,
KCCOE,Thane(E),India

***Abstract*—According to traditional method of learning a instructor has to be present to share their knowledge to their students. As the technology progresses, the wheel of progress moved faster and become more efficient. So The Purpose of our proposed system is to cater everyone whose even in a remote area to enjoy facility by which maximum people is converted to skilled workforce which will revive the industrial and service sector to achieve maximum profits with cheap labor and a better stability option.**

Keywords- Compter based learning,cloud computing, education, Data center, India etc.

I. INTRODUCTION

According to the surveys of government of India, there are more than half a million villages (precisely 6 lakh villages) at present in India. 75 per cent of the male main working population engaged in non-agricultural pursuits. In India 68% population still live in villages. Literacy rate is on all time high of 74%[1] but there is scope for improvement still 26% people are unable to be literate themselves, those people belong to some remote areas where no infrastructure is there for them. Government of India is facing a challenge to provide quality education with minimal cost is itself a humongous task. To provide them a quality education we either have to appoint some expert instructors those will give them exactly right knowledge [2]. But such an expert instructors will not have sufficient time to fulfill the purpose being able to educate an illiterate.
To resolve all the issues of leaning on can use the other option which is “computer based learning”.

A. Why Cloud?

As we are using computer based learning we get another hurdle of data storage. Data storage is nothing but a data which is stored on servers which can be accessed by the links and references connected to the system in order to get all the information which is stored onto the servers. But those servers are very difficult to operate in remote areas. To get rid of this we are introducing cloud for cheap hosting and it is easily available service across the globe by the use of internet from anywhere, anytime, at any place but the internet connection is essential for this purpose. So we are introducing a Computer based learning with cloud computing. In order to save money, time and manpower too.

In recent years, cloud computing as a new kind of advanced technology accelerates the innovation for the computer industry. Cloud computing is a computing model based on networks, especially based on the Internet, whose task is to ensure that users can simply use the computing resources on demand and pay money according to their usage by a metering pattern similar to water and electricity consumption.[3]

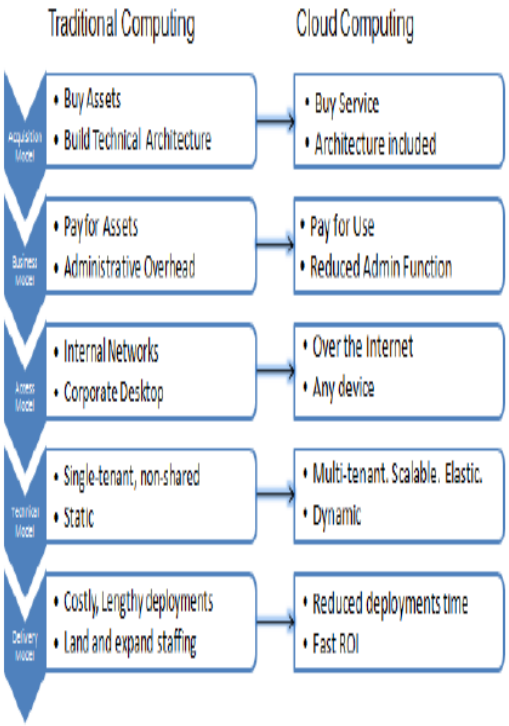


Figure 1.1- Differences between traditional & cloud computing

From the above figure we can say that cloud has a upper hand on traditional computing. In a educational areas we can use cloud to increase Scalability , Availability , Flexibility on to the system.

B.Existing system

E-learning is an Internet-based learning process ,using internet technology to design, Implement , Select ,manage, support and extend learning, which will not replace traditional education methods, but will greatly improve the efficiency of education.

The system which are currently available in market are asking for some payment before the course can actually take place. Those applications are useful but people did not get any chance to see the content before signing up to those courses, they get an introductory video snippet of roughly 2 minutes. But most of the people cannot come across what

is existing in those courses so bit of confusion will be there in their mind about the usefulness of the course. They also have some deadlines to meet. for example, a student who is signup for some course have to complete the course in limited span of 3-4 months with some assignments to complete and then they are eligible for tests which are at the very end of the course.

II. LITERATURE SURVEY

In 1991 Weiser announced the era of ubiquitous computing and described a vision of proliferation of computational resources that provide access to information when and wherever desired.
In existing system, we learned that one can only remember the part of course up to some amount of time and later so on. But in computer based system we can use cloud which can spread the information to all by anytime, anywhere.

There are various visions of different sources which can be illustrate by different approaches,

- Adoption for distance learning:-

Earlier, education was considered to be meant for the elites only, but now education has become compulsory for all, at least till a specific age. Various limitations of attaining regular course of education opened doors to this alternative system, i.e., distance Learning.[4]

- SOTL feature for distance learning:-

This is to state that the "Scholarship Of Teaching and Learning "
An ideal model of the SOTL offers a framework for peer review and making transparent the processes of making learning possible, not only in one's own classroom but even beyond it[5].

- Cost effectiveness in educational institutions using cloud computing is a better option in distance learning which can save the overall amount or fees of all three Students, Administrators and faculty.

- Computer based learning emphasize more on how to model interactions between Teacher-Teacher, Teacher-Student, and Student-Student through Chat or Forums.

- In traditional Web-based learning mode, System construction and maintenance are located inside the educational institutions or enterprises, which led to lot of problems such as significant investment needed but without capital gains for them, which leads to lack of development potential. On the other hand cloud-based e-learning model introduces scale efficiency mechanism, i.e Construction of e-learning system is entrusted to cloud computing suppliers, which can make providers and users to achieve win-win situation. Cloud based environment supports the creation of new generation of e-learning systems, able to run on a wide range of hardware devices, while storing data inside the cloud.

III. PROPOSED ARCHITECTURE

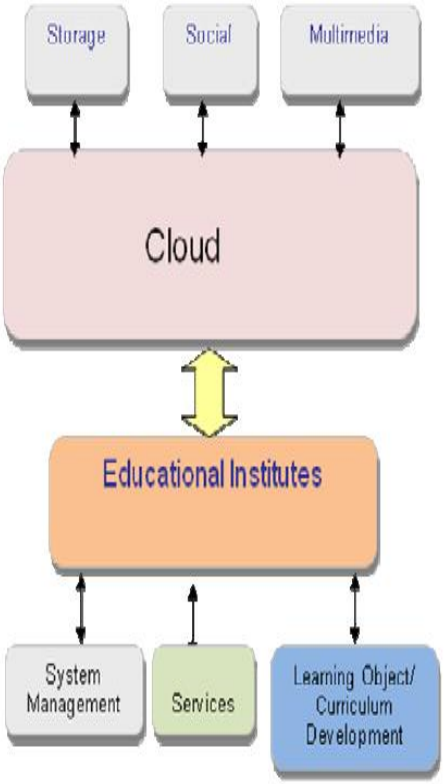


Figure 3.1-Modified E-Learning System architecture.

The above diagram suggest with people moving from the traditional e-learning networking model, with its advances and issues, the possibility to move the E-leaning system out of schools or enterprises , inside a cloud computing infrastructure. Separation of entity roles and cost effectiveness can be considered as a important advantages.[6]
On the other hand e-learning will never can completely replace teachers, it is only updated technology ,concept and tools, giving new content, concepts and methods for education, so the roles of teachers cannot be replaced. The blended learning strategy should improve the educational act. The interactive content and virtual collaboration guarantee a high retention factor.

E-learning cloud is a migration of cloud computing technology in the field of e-learning, which is a the next step after traditional computing. Including all necessary hardware and software computing resources engaging in e-learning. After these computing resources are stored to remote location it can be accessed from anywhere, anytime to the learners.

IV. METHODOLOGY

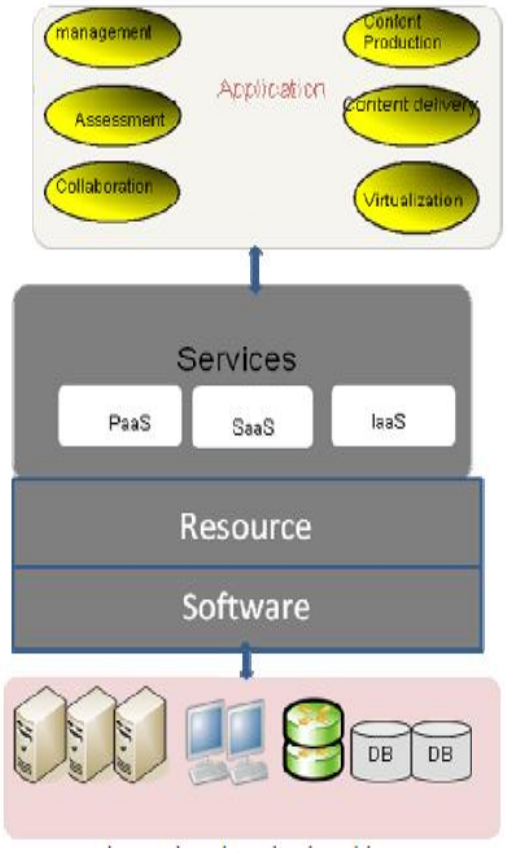


Figure 4.1 Representation of system using cloud computing

The projected e-learning cloud architecture can be divided into following layers:

Infrastructure as a service will contain information infrastructure and teaching resources. It contains internet, system software, information management system and some common software and hardware. Teaching resources will contain traditional model and will be distributed in different sections of departments and domain. This is the lowest level of cloud service middleware. The basic computer power like physical memory, cpu, memory is provided by the layer.
The physical host pool is dynamic and scalable.

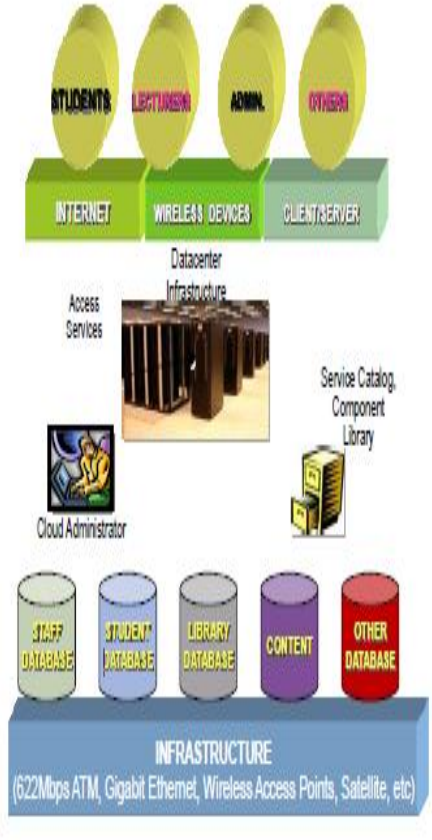


Figure 4.2 Infrastructure layer in detail.

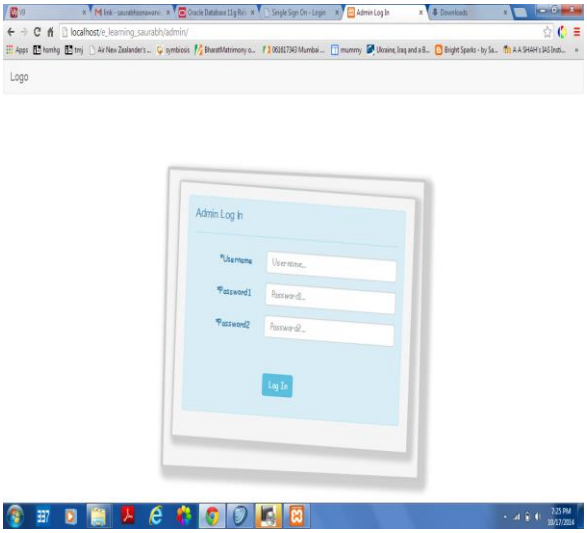
Software resource layer mainly composed by os and middleware. through middleware there is variety for s/w developers, so they can easily develop lot of application based on s/w resources, embed them in cloud , making them available for cloud Resource management layer is key to achieve loose coupling of s/w resources & h/w resources. Through integration of virtualization and cloud computing.

Service layer has 3 layers Saas, Paas, Iaas. In Saas cloud computing service is provided to cutomers. Paas provides platform such as java Api . Iaas provides infrastructure such as servers ,cooling.

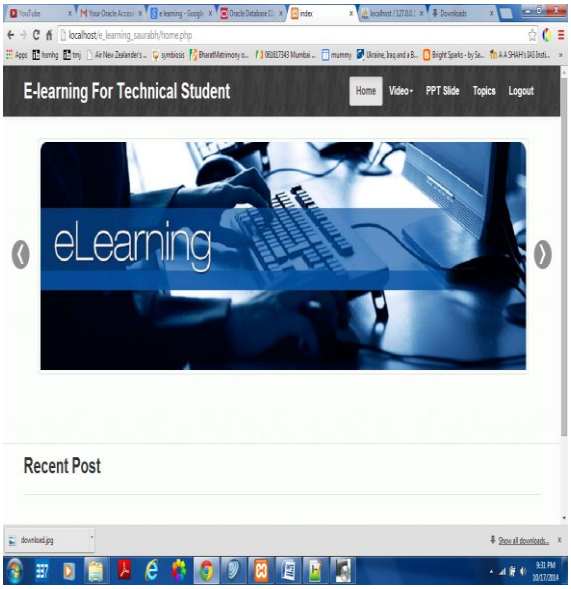
V. RESULTS

We are still working on the this project though the results are partial. but in Future will look forward to complete the project. We are emphasizing on the system for computer based learning with ease and efficiency.

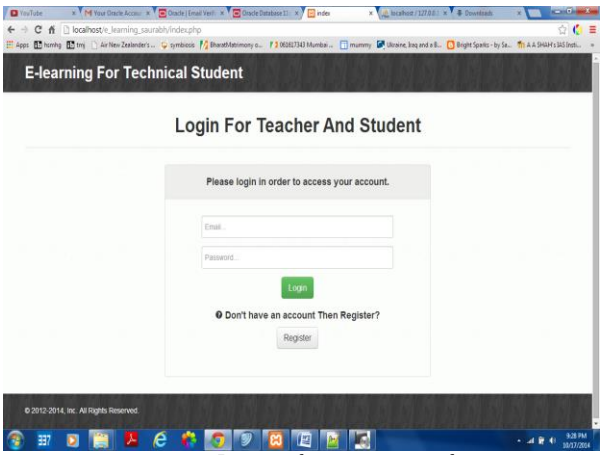
There are some results which are shown below:



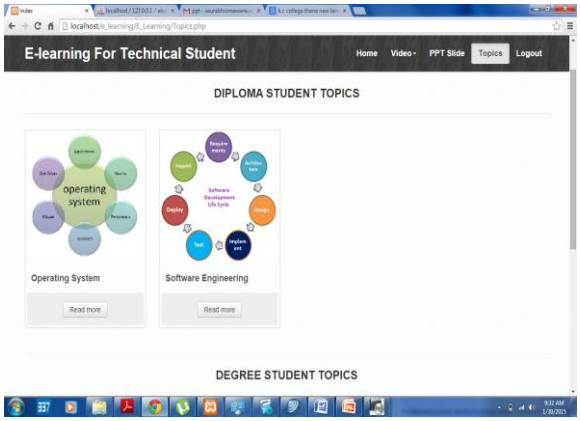
Admin login panel



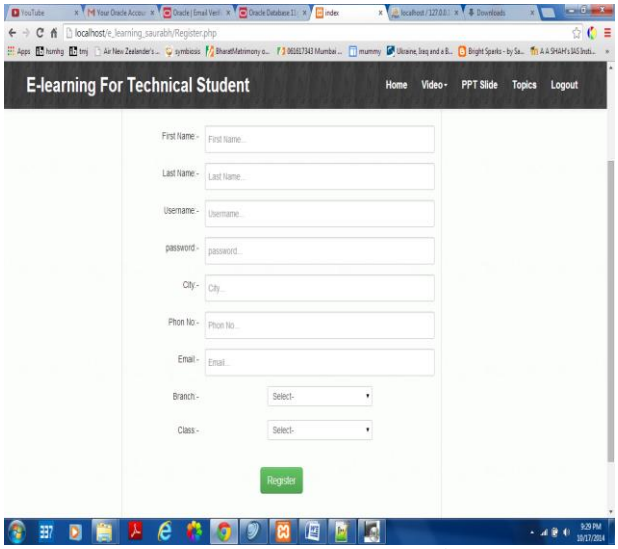
Home Window



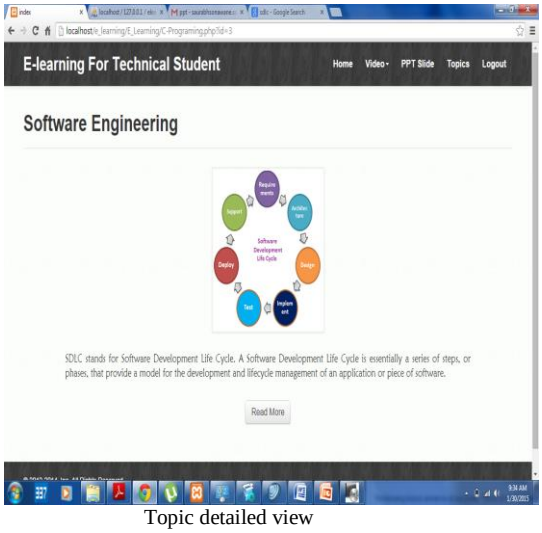
Login and registration window



Topics which are added by admin



Registration form



Topic detailed view

VI. CONCLUSION.

Thus to conclude about our project we are using cloud computing in order to save time and money. The main advantage of the system is that it is having a revising approach, try and test, Hands on sessions which lacks in the existing system. Since we are using computer based learning we can receive large number of subscribers. So that we can generate some profits by showing some advertisements in between the lectures.

ACKNOWLEDGMENT

We thank Prof. Sulochana M, who has been the guide and has been helping in the project unconditionally. She has personally corrected us and explained every single aspect related to this system.

Also we would like to express our sincere gratitude to our Principal Dr. Hansraj Guhilot and our H.O.D Prof. Amarja Adgaonkar for giving us the opportunity to enhance our knowledge in the present and futuristic project like "computer based learning using cloud computing".

We would also like to thank our friends and all those who have stood by us throughout this endeavor .

REFERENCES

[1] http://www.censusindia.gov.in/2011-prov-results/paper2-vol2/data_files/India2/1.%20Data%20Highlight.pdf

[2] Prof. jyoti malhotra,mr.samarsingh jadhav "e-education in cloud computing".

[3] Amarpreet Singh Arora "A Proposed Architecture OF CLOUD COMPUTING BASED E-LEARNING SYSTEM",Volume 1,Number 1,July-September 2012.

[4] Meghana jalgaonkar,Ashok Kanojia "Adoption of cloud computing in distance learning" International journal of advanced trends in computer science and engineering

[5] P.Y.Thomas "cloud computing:a potential paradigm for practising the scholarship of teaching and learning"

[6] Md. Anwar hossain masud,Xiaodi huang "An e-learning system architecture based on cloud computing"world academy of sciences,engineering and technology Vol:6 2012-02-21