

# INDIVIDUAL CLOUD-BASED EDUCATION SITUATION

**Mr. Hemashu Pachori**

Bharati Vidyapeeth's College of Engineering for Women, Pune

## 1. INTRODUCTION

One of the most E-learning characteristics is distributing the training materials and services through the web. though it had been ready to attain this goal, however it still suffers from a number of the challenges that hinder the coed, and therefore the teacher to access the service at anytime and anyplace. that the trendy E-learning methods look for to require advantage of recent technologies like Cloud Computing to develop E-learning Solutions. Cloud Computing technology will be an ideal answer to support students, teachers, and anyone fascinated by instructional field by providing on-demand services and paying as victimization . totally different perceptions were developed to outline Cloud Computing and still currently there's no specific definition however simply makes an attempt to see it. one in all these perceptions is "Clouds area unit an outsized pool of simply usable and accessible virtualized resources (such as hardware, development platforms and/or services). These resources will be dynamically reconfigured to regulate to a variable load (scale), permitting conjointly for Associate in Nursing optimum resource utilization. This pool of resources is usually exploited by a pay-per-use model within which guarantees area unit offered by the Infrastructure supplier by suggests that of bespoke SLAs" [2]. Cloud Computing has evidenced its price in several fields, one in all them is E-Learning field. Cloud Computing enhances E-learning by providing a scalable infrastructure which will simply and apace scale (i.e. scale up, or scale down) pro re nata, and pay counting on the usage. conjointly it will increase the potency of provided services like the semipermanent services that will be used briefly. as an example establishment will rent the services rather than building from scratch [3]. Cloud Computing will contribute in finding the technical challenges that faces E-learning whereas there area unit another kind of challenges still within the scope that area unit the education challenges that associated with the provided content and learning approaches [4].

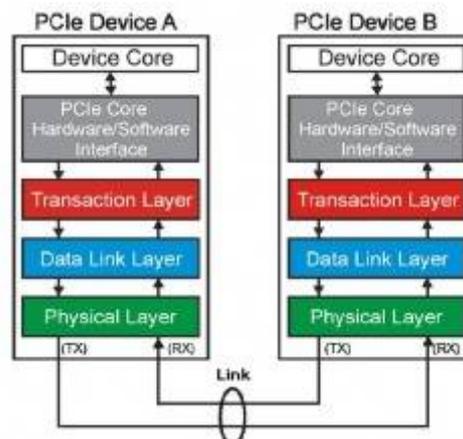


Fig 1 PCIe Architecture

## 2. RELATED WORKS

The researchers have worked on addressing the challenges that facing E-learning. Some had centered on developing the E-learning design to accommodate new technologies like Cloud Computing [5], Agent code [6], and Social code [7], whereas others had centered on group action services to existing E-learning platforms.

Masud, A., et. al. [8] has planned Associate in Nursing open design that enable integration and ability with external content, services, and social networks by victimization Cloud standards. additionally to it, Cloud Computing provides



computing resources (i.e. hardware, storage, and a few different IT infrastructure) for the upper level of the design. The man of science increased the underline infrastructure while not specializing in the standard of learning method management and therefore the appropriateness of provided content. Babu, S., et. al. [9] have incorporate Cloud Computing, and Agent code (i.e. the term code agents borrowed from AI field presents a process autonomous entities capable of sensing and acting as educational specialists in surroundings to accomplish a collection of selected goals [10]) to make a generic design. The design consists of multiagents. every agent accountable of specific task such as: interactivity, personalization, adaptation, ability, collaboration, and security. The design aims to reinforce the training method by having several agents which will collaborate towards achieving the training goals with the benefits of Cloud Computing. sadly, the planned design is simply a abstract plan and wish to be enforced in real time to validate and prove its potency.

The other researches had centered on enhancing the provided learning services by accommodating trendy net services like net two.0 to extend students' engagements and contributions. Al-Zoube, M. [11] has used a prepared gadgets as iGoogle applications to grant students the opportunities to make their own surroundings that achieves their learning goals (i.e. Student will opt for Google Docs gadgets to access his own documents, Instant traveler to send and receive messages, etc.). whereas Elvira, P. [12] has used net two.0 services (i.e. Wiki, Blog, Social bookmarking, and media sharing) to bolster the social and cooperative aspects among students inside the virtual learning surroundings. And, Lotfi, Z. [13] has relied on victimization interviews and surveys to see the effective cooperative tools which will support learning within the virtual world. The man of science classified the cooperative tools into four types: Communication, Shared repository, cluster learning, and Assessment tools supported its importance in supporting cooperative. Most of previous researches had centered on finding one in all the issues that face E-learning either victimization technologies like Cloud Computing or victimization external services that had succeed outside the training domain like net two.0. The planned Personal Cloud-based Learning surroundings (PCLE) depends on applying service headed design on the training objects' system to support reusability and ability. The PCLE is predicated on achieving adaptation and personalization to activate the coed role and increase the world he in hand. The system hosted over Cloud Computing surroundings. Cloud Computing provides the user the flexibility to access the services at anytime and anyplace via a cipher device like a portable computer, desktop, hand-held personal organizer or cellular phone. PCLE surroundings adopts learning Objects technique to re-use and share content between courses inside identical system. PCLE designed supported SOA within which practicality rotten into distinct services, which might be distributed over native or remote networks and might be combined along and reused to form secured application. PCLE provides social and cooperative services and craft the academic content consistent with every student's wants and goals.

#### **A. Design.**

Cloud Computing provides PCLE as a service that build teaching ways a lot of convenient and versatile. each teacher and student will opt for {different|totally totally different|completely different} times and different locations to finish the program style and self-study by employing a form of learning resources on the PCLE. PCLE could be a SOA-based-Personal accommodative E-learning environment; it consists in the main of 3 layers, the higher layer is that the programme layer that contains a portal programme that consists of a collection of applications: course management, assessment & exams, programing & calendar, electronic messaging (main, instance messages), profile management, blogger and programme to receive the directions from the user requesting a particular service. The second layer is that the service layer which incorporates dealings manager, group action manager, and Adaptive/personalization manager. dealings manager controls user requests and links between each programme layer and information layer so as to supply a private virtual learning surroundings. The last layer is that the information layer that stores user profiles, preferences, personal usage information, blogs and social activities. This layer is also liable for storing the courses learning materials on the information, with the user's files, assignments, and assessments reports. The layer conjointly contains an issue bank.

#### **B. IMPLEMENTATION.**

To validate the usability of the planned PCLE design as Associate in Nursing integrated E-learning surroundings caters students' expectations, a model platform has been developed for the PortSaid Technical faculty. The model is constructed victimization Java programming tools, MySQL for information implementation, and JS Charts library was used for the graphical visualisation. Figure two represents the PCLE home page.

PCLE surroundings provides 3 major instructional tracks Network track, Graphics track, and HW/SW Maintenance track. within the analysis case, the Network track is activated and provides a complicated network course. PCLE main actors' controls the academic method area unit the organizer, instructor, and student. The organizer is accountable of



coordinating the academic method through the E-learning surroundings wherever he schedules courses. whereas PCLE provides the course's teacher an easy board serving to him accomplishes his tasks. From the board menu, the trainer can: i) transfer measurable queries on every chapter and categorise into 3 levels (hard, medium, and easy); ii) transfer course chapters; iii) review journal articles printed by course's students; additionally to iv) follow course students' performance inside the full course victimization student's time line. PCLE surroundings provides teacher the flexibility to watch students' activities. This trailing and observation performed on an individual basis (based student-level) victimization timeline menu that contains all activities of every student additionally to supply a comprehensive read of the students' performance inside the full course as shown in figure three.

PCLE follows Student-centred-Learning approach, so it focuses on student, connecting him/her to info and communities fashioned his self-controlled personal network. The PCLE main half is that the adaptive/personalized engine that designed supported execution a series of if-then statements to see the student's information level through numbers of exams and quizzes for every chapter. The system adapts the training content counting on the coeds' results to satisfy the student wants as shown in figure four.

Conclusion during this paper, PCLE design is planned to resolve technical, financial, and education challenges that face E-learning and have an effect on the standard of electronic learning method. The PCLE uses Cloud Computing to supply a scalable and reliable infrastructure and scale back the price to a suitable limit as you utilize. trendy education learning approaches (such as Social, cooperative, Adapative, and personalised learning approach) area unit wont to cater students' totally different talents and learning designs.

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