

# Social Cloud Computing for Technology Enhanced Competence Based Learning

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**Abstract**— Recent advancements in field of Information and Communication Technology (ICT), social cloud computing is a platform that provides the Computer based online learning for competence-based learning and teaching process at various schools, colleges and universities, where teachers and professors allows monitor and management of learning units and the conduction of students' learning activities. This paper presents an E-learning Social networked site which is created and maintained by Cloud providers. It combines two technologies, Social networking and Cloud computing, provides a business model for E-learning where construction of e-learning system is to cloud computing clients, suppliers and social networking helps to improve the teaching quality and content. User acceptance testing is conducted on our Competence Based learning technology-enhanced learning provides the platform for a high user (student) satisfaction.

## INTRODUCTION

Social cloud computing is a technology or platform that supports competence-based teaching and learning process at various educational institutions. It allows the management of learning units and the conduction of students' learning activities in efficient manner. ICT technology is increasingly being used both internal and external activities of the classroom. The new technologies and finding optimal ways of harnessing their advantages are crucial to maximizing educational outcomes. However, in order to achieve the benefits from technologies it is important to have an understand the benefits and drawbacks to their usage, as well as ensure that they are implemented in many different ways. The main purpose of this paper is to assess the cloud computing in the field of education, to look at potential

challenges to implementation, and outline ways to overcome them.

Nowadays, most of the predictable education forms are becoming not being appropriate for requirements of social evolution and educational development and not being able to catch up with the changes of learning stipulate in time, thus computer networks have bring opportunities for it. One of the most promising paradigms for education technology based e-learning. E-learning is generally referred to the intentional use of networked information and communications technology (ICT) in learning and teaching.

Cloud Computing is a new paradigm that provides an appropriate pool of computing resources with its vibrant scalability and usage of virtualized resources as a service through the Internet. The possessions can be network servers, infrastructure segments, applications, platforms, and services. In integration of e-learning and network, prominence is placed on creation of software and hardware platform of e-learning system, functional structure, network security management and training, information technology integration to online education teaching, site network environment, semantic web technologies-based multi-agent system.

Cloud computing applications provide elasticity for educational universities, schools and colleges. The cloud policy in institutions' campuses provides effective infrastructure and deployment model for their vibrant load. The benefits of cloud computing can support education institutions to decide some of the general challenges such as

cost reduction, quick and effective communication, security, privacy, flexibility and accessibility.

User acceptance testing conducted on our technology-enhanced learning platform showed a high user (student) satisfaction.

#### A. CLOUD COMPUTING

Cloud Computing is a technology that uses the internet and central remote servers to manage data and applications. Cloud computing involves consumers and businesses to use applications without installation and access their information's and personal files at any computer with internet access. This technology allows for much more efficient computing by directory or centralizing data storage, bandwidth and processing.

Cloud computing is the use of computing information and resources that are delivered as a service over a network. The name comes from the use of a cloud-shaped symbol as an construct for the composite infrastructure it contains in system diagrams. Cloud computing ensures the remote services with a user's information, computation and software.

##### a. Cloud Services

- i. Infrastructure as a service (IaaS)
- ii. Software as a service (SaaS)
- iii. Platform as a service (PaaS)

##### b. Models of Cloud

- i. Private Cloud
- ii. Public Cloud
- iii. Community Cloud
- iv. Hybrid cloud

#### B. SOCIAL COMPUTING

Social computing is an area of computer science that is troubled with the connection of social behavior and computational systems. It is based on creating or recreating social conventions and social contexts through the use of hardware, software and technology. Thus, blogs, instant messaging, email, social network services, social bookmarking and other instances of what is frequently called social software demonstrate ideas from social computing, but also other kinds of software applications where people interact socially.

Social Computing refers to systems that support the congregation, representation, processing, use, and dissemination of information that is dispersed across social collectivities such as teams, communities, organizations, and

markets. Moreover, the information is not "mysterious" but is important precisely because it is linked to people, who are in turn linked to other people.

#### EXISTING WORK

Manual system involves paper work in the form of maintaining various manuals and files. Maintaining critical information in the files and manuals is full of risk and a tedious process.

Nowadays, when people are not having time to visit an college or institute. Therefore, the software is created to provide the education through internet. The project virtual classroom system helps the important world in any field they are to get the knowledge what they want even sitting at their places.

#### PROPOSED WORK

Education through the internet, network and a computer is virtual classroom system. This helps in network enabled transfer of skills and knowledge. Virtual classroom refers to use of electronic applications and processes to learn. This is a web based application which can be hosted in the website of any training institute. The students will be able to register online, read the course material and write online exam.

#### A. OBJECTIVES

- i. To provide distance learning
- ii. To make it convenient for people who have other commitments
- iii. Cost reduction
- iv. Reduced paper work
- v. Computer evaluated tests

#### B. ARCHITECTURE

In order to achieve the system's behavior functionality we are proposing a cloud system architecture. Figure 1 describes the services of E-learning process.

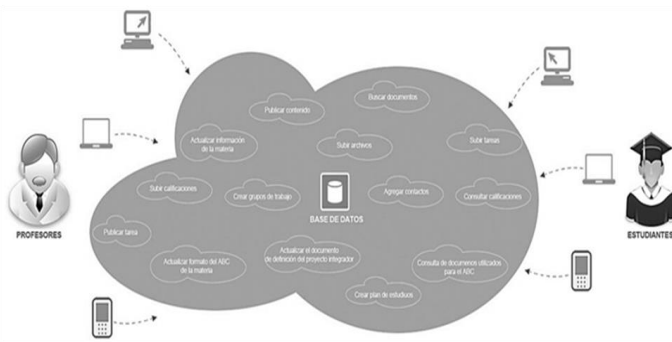


Figure 1: Architecture overview

*xi. See Documents Used:* The system will have subject oriented curricular documents available for the students in order to see what it is expected to be achieved by the end of the school term.

*xii. Update Curricular Documents About The Integrating Project:* Authorized users can edit or modify the content of the subject oriented curricular documents for the Integrating Project.

*xiv. Create Syllabus:* The professors may add the syllabus.

### C. SERVICES

*i. Publish Homework:* Professors will be able to publish homework.

*ii. Update Subject Profile Information:* Teachers and Professors might update the general information of the subjects.

*iii. Upload Grades:* Professors may upload the evaluations grades.

*iv. Update the Competency Based Format:* Teachers and Professors will be able fill competence-based formats of the subject.

*v. Upload Files:* Users of the system have the option to upload information or files, each user will have its own database or repository of information to share information or files with other users.

*vi. Add Contacts:* The users of the system may edit or add other users creating network of contacts for projects or homework cooperation.

*vii. Search Documents:* Within the files directory or repository, users may search for files or documents to use them as useful information for homework.

*viii. Publish Content:* Users will have the option to publish information.

*ix. Create Work Groups:* Competency based learning is mainly done in work groups or teams, so clients have the possibility to create their own work groups.

*x. Upload Homework:* Students should upload their assignments and homework previously published by professors.

*See grades:* Students will be able to check their grades.

*a. Publish Task:* The teachers within the system may publish tasks in each of the materials for that these are to layout of the students.

*b. Update Information of the Profile of the Subject:* The teachers may update information about the profile of the field as name, description, credits, and hours of work, between other.

*c. Upload Qualifications:* The system allow to the evaluations of each row for later query by part of the students.

*d. Update Format the ABC of the Subject:* The teachers may update the information contained in the formats the learning based on competencies, automating the way in that this is performs traditionally.

*e. Upload Files:* Any user on the system has the option of upload the files that you want, searching with this that each one count with your own repository of information in addition of power share files between the other users of system.

*f. Add Contacts:* The users of system will add to other contacts within of this creating a network social increasingly large for school purposes or of possible collaboration in projects.

*g. Find Documents:* Within the repository of documents created, the users may search documents to way that les serve as source of information for its work schoolchildren.

*h. Publish Content:* Both students as teachers will the possibility of publish the information that them want, looking for mainly that this is find focused the scope school

i. *Create Groups of Work:* Within the ABC usually worked in computers, by which is accounting with the possibility of that each user can create their own groups of work for lead a better administration in this type of activities.

j. *Upload Tasks:* The students will be able to upload the tasks for each a of the raw that previously were published by the professor of the area.

k. *See Qualifications:* The students will be able to see the qualifications of each of the substances carried to cape during the period school.

l. *Query of Documents Used For The ABC:* In the system is put to provision of the students the documents curricular used for the learning based on competences where is timely information on this and what that is search achieve at the end of the course led to place.

m. *Update Document Curriculum the Project Integrating:* Only authorized users may modify the content the document curriculum for the project integrator

n. *Create Biannual Planning:* The teachers can add its biannual planning of each area.

## 2. Participant Module:

In this module, participants from different area of locations interact with the professors or instructor could through online mode in real time process. After registration they can login and view the course details in order to build their carrier. Students can select any subject or course and enrolled the course by registering their personal details. The subjects or course enrolled can be viewed by the participant and they can edit. Participant can view the course information or material and learn through online and appear for the exam. The results of the exams are also declared just after taking the test.

## 3. Guide Module:

In this module, guide can view the participant registration details like course enrolled status and participant doubts. The students or participant can clarify the doubts by identifying the domain and entering the question. The guide view the participant doubt and sends reply according to the queries. The Questions will be hosted for the participant in order to take exams. The user guide will host question paper according to the domain and send to the participant.

## 4. OnlineExam Module:

In this module, participant will appear for taking exam according to the course would they enrolled. The client or participant should read the instruction once before they appear for exam. Click on start exam button to start the exam. Questions are basically of the Multiple choice type i.e., only one answer is correct, these answers are represented by the four Radio Buttons. After clicking start exam button timer starts and would count simultaneously. Once the students or participants completed their exam they should enter the particular details what they given. Then the result will be viewed along your particular details.

### MODULE DESCRIPTION

After analysis of the E-learning system has been identified to have the following modules:

1. Registration Module
2. Participant Module
3. Guide Module
4. Online Exam

#### 1. Registration Module:

This module consist of registering the participant details in order to login. The existing participant can directly login along with user-id and password and view the course details. If it is a new client or participant they should signup or register their details with user-id and password. The details of the client or participant will be maintained by the directory or database.

### EXPERIMENTAL RESULTS

a. *Student:* It provides a profile of user and a series of tools of administration, so as see qualifications and the formats listed of agreement the half that they are studying (see figure 2).



Figure 2: Main screen for Students

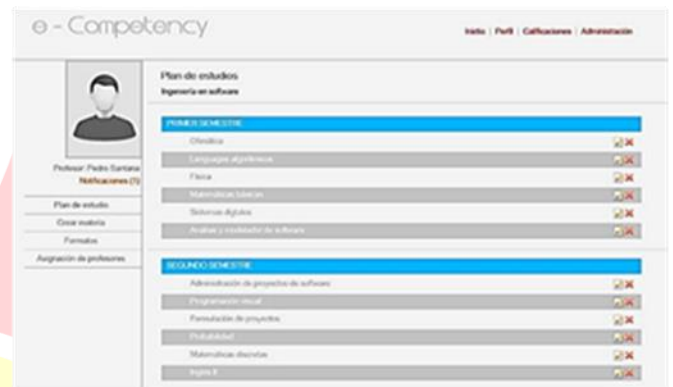


Figure 4: Screen To Administration Of The Platform

b. *Professor:* May give of high the qualifications of the users, so as lead an administration of their subjects taught (see figure 3).



Figure 3: Screen to capture Of Qualifications

c. *Administrator:* Will be the administrator responsible of moderate the system. between their functions is found: create raw and define the formats used in the learning based in competitions (see figure 4).

### CONCLUSION

This work represents the creation of a social Technology-Enhanced Learning (TEL) platform that supports the teaching process of a competence-based learning technique using social and cloud computing for various schools, colleges and universities. The evaluation of this platform gives a result that allows a greater performance and efficiency, and it is also considered a good and interesting idea. Thus, this created good intentions in the users of using it again.

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