

E-LEARNING WEB APPLICATION

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ABSTRACT

E-learning systems provide processes of delivering the learning contents to learners who have different backgrounds, interests, and locations away from a classroom in order to maximize the effectiveness of learning. Usually, the classical e-learning system is based on client/server architecture thus they lack of the scalability, flexibility and interoperability. It makes the learning resources cannot share, and the system improvement is not easily. This paper proposes the cloud computing architecture in the e-learning system that the architecture separate into three layers includes infrastructure, platform and application. This architecture needs to design components in order to transfer the learning resources to the cloud platform. Infrastructure layer, the learning resources from the traditional system are transferred to the cloud database instead of the usual DBMS. Platform layer, a new e-learning system that consists of the CMS, AMS, and other service components were developed. These components were developed to be the intermediary between cloud database and the applications. Finally, application layer, CA T web application and WBI application were developed for interacting with the student's client. The results shown that all applications co-operated with the other components suitably. Applying the cloud computing makes the classical e-learning more scalability, flexibility, and interoperability. Moreover, cloud computing induces the way that e-learning can be share and distribute the learning resources to any kind of devices and platforms. Since the e-learning services are used for a relative short time, pay per use of the cloud could reduce the cost thus the organization pay only for capacity that actually used.

Keyword : - Cloud computing, Electronic learning, Computational modeling, Hardware, Servers

1. INTRODUCTION

The rapid growth in the Internet technology and infrastructure has improved the way to develop and access the applications. These applications are moving towards to the interactive web-based development. eLearning is the convergence of the Internet technology and learning processes, which currently becomes an alternative learning method in an education. eLearning plays an important role in creating a good learning environment, and also provides processes of delivering the learning contents to learners who have different backgrounds, interests, and locations away from a classroom in order to maximize the effectiveness of learning. Nowadays, many schools set up their own system to their students for the efficiency.

The heart of the e-Learning systems composes of course management system (CMS) and assessment management system (AMS). CMS handles learning contents such as text, picture, sound, and others by considering the student's level and their backgrounds. Normally, CMS is well known as web-based instruction. Likewise, AMS handles the student's testing process in order to evaluate their knowledge capabilities. This assessment method is recognized as computer adaptive testing (CAT), which is an effective testing method that items are adapted to approach to the ability of an individual examinee.

Usually, e-Learning systems are based on client/server architecture and web-based technologies (WBT). Unfortunately, this architecture has some limitation such as lack of scalability, flexibility, and interoperability. Since the usual e-Learning systems do not have the capability to interconnection, the learning resources cannot share and deliver to the different platform and applications. This limitation makes the learning resources are not used to reach its highest worth. Because, the e-Learning systems lack of a reliable scalability and flexibility, the system improvement is not easy. Although the proposed e-Learning system has been implemented successfully in the previous study, the interoperability problem is not overcome. In order to provide the interoperability to the e-Learning system, many studies have been applied Web service to the e-Learning systems to deliver the learning resources which focused on selecting and combining the learning contents. Using Web service makes the e-Learning systems more interoperable. However, the lack of scalability and flexibility are still remained.

1.1 Problem Definition

The main objective of the E-Learning is to help the students get over the traditional methods of learning and make them accustomed to the internet where the notes for their respective subjects are easily available. ... The implementation of this project helps both the students and the teachers

1.2 Existing System

Currently we have many websites (e.g. www.tutor.com, www.kidslearning.com, microsoft gateway learning, www.tizag.com, etc.) which have same function of providing education/learning material to learners. They provide many functions to interact users. The biggest limitation/problems with these websites are that, these websites are not user friendly and user have to become paid member of these websites and also if they want to find different study related material then, they have to access different sites and material is not fully provided even they will not find videos related materials too. Even learning websites restricts to only course related study not other learning activities is not included. But in this portal there is not such restriction to user and user can easily access to related course and also have privileges to download and upload the materials. User is not only restricted to course study but it also includes all learning activities belong to daily life (e.g. dancing, guitar learning, quiz, chatting, etc.)

2. LITERATURE SURVEY

Conducting and managing online classes is not an easy job, and even a small problem or a hindrance in the online classes can severely affect the studies as well as results of students. The existing e-learning system are deployed on webhosting and the disadvantages of webhosting are not scalable, less resources like CPU, RAM, Storage, GPU hence, they are slow and less scalable. That's why we have developing a cloud-based e-learning system which is scalable and fast. an online class and course management system to bring ease and convenience in conduction online classes, course management of online classes, and all the other activities related to online classes that can easily give a headache to both students & teachers.

Highly convenient & easy to operate, manage, and use, This system has all the features and aspects to manage and organize all online classes, courses, students, and teachers in one place. Also, E – Academy is a cross-browser compatible website, which means it can function across different browsers easily.

2.1 Purposed approach and its advantages over existing system:

- You can easily manage all the courses that are being taught at your online classes/institute.
- online exams/tests (practice or mock) can be easily conducted by teachers/institute
- You can easily manage the students and teachers in your institute according to the numbers of teachers and students, teacher qualification and experience, number of students in each batch/class, responsibilities given to teachers, and so on.
- Teachers can easily give homework to students, keep the record of homework given to students, check the homework done by students, etc.

2.2 Disadvantages of existing system:

- Internet connectivity required to manage, attend eLearning System.
- Basic technology skills are necessary to use system.
- E-Learning can cause social Isolation
- Online instructors tend to focus on theory rather than practice

3. DESIGN

3.1 User Interface Design

The user interface is designed using HTML and Javascript. The complete website focuses more on efficiency in understanding the lectured than the look and feel of the system as the system is primarily developed for the people to whom the look and feel won't be of that primary importance as the efficiency of understanding the prompting would be.

3.3 Database Design

Our system maintains a database for user validation and storing all information of the user. .

3.3 System Design

One of the most critical decisions to be made was the LANGUAGE. The project deals with user application so it required a language that provides all the required features as well as it should be easy to use. So finally we arrived at conclusion to HTML as implementation language under net beans environment

4. CONCLUSIONS

It is concluded that the system will works well and thus it will fulfil the end users requirement. The system is tested and errors are accurately removed. This application will be accessed from one or more than one system and hence login from more than one system is tested.

The main aim of e-learning is to create a user-friendly atmosphere for the learners with proper security mechanisms and for this researchers are trying to improve their tools and technologies each day. There are many challenges faced by the researchers now and then. The encryption of messages and the security of services in e-learning systems are needed to be considered. Peoples with the following features have a great future scope with e-learning: economic, dream institutions, subjects, and assistance, time management. E-learning provides scope for improving one's communication skills. E-learning helps people to sit at home and gain access to knowledge. There is no need for a person to be physically present in the location.

5. FUTURE SCOPE

Development of an E-Learning class bulletin board that facilitates virtual interaction of students and lecturer in an academic environment. This work is unique and makes special contributions to knowledge in terms of developing an e-Learning class bulletin board; it also adds some components (Home, Chat and Attachment) to the original source code downloaded from the Internet. It may be possible for other Content Management Systems to achieve some of the functionalities similar to what obtained in the developed e-Learning application. The authors' primary objective is premised on flexibility, cost and speed of development of e- Learning system through adaptation of ready available open source code, particularly when compared with attempting to achieve the same result using proprietary programming tools. Furthermore, it can be concluded that:

- We can add offline lecture or prerecorded lectures.
- Add augmented reality experience in eLearning system.
- E-Learning can cause social Isolation.

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