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(E-Class Fox): A Cloud Based E-Learning System

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Abstract: *One of the very popular IT applications is online teaching and learning. E-learning is an integral part of smart education. There are many e-learning systems that are widely available to educational institutions. The challenge is to easily integrate the e-learning system into a smart educational environment based on the requirements of the users. This system provides a interface where live lectures can be conducted, along with interface where assignments, practical work and announcements will be managed in which the documents will be stored on cloud. It also help to conduct proctored examination without any malpractice or cheating .The organization can maintain computerized records without redundant entries, in which the faculties can access student's records and the students can access their own stats.*

Key Words: *E-learning system , Cloud based ,Education , Learning Management System (LMS), Distance learning , computer aided.*

I.INTRODUCTION

The "E-learning Management System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner.

The application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus by this all it proves it is user-friendly. E-Learning Management System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources.

Every organization, whether big or small, has challenges to overcome and managing the information of Student, Assignment, Quiz, Class, And Question. Every E-learning Management System has different Assignment needs, therefore we design exclusive employee management systems that are adapted to your managerial requirements. This is designed to assist in strategic planning, and will help you ensure that your organization is equipped with the right level of information and details for your future goals. Also, for those busy executive who are always on the go, our systems come with remote access features, which will allow you to manage your workforce anytime, at all times. These systems will ultimately allow you to better manage resources.

E-Learning is the topic related to the virtualized distance learning by means of electronic communication mechanisms, specifically the Internet. They are based in the use of approaches with diverse functionality (e-mail, Web pages, fo- rums, learning platforms, and so on) as a support of the process of teaching-learning. The Cloud Computing environment rises as a natural platform to provide support to e-Learning systems and also for the implementation of data mining techniques that allow to explore the enormous data bases generated from the former process to ex- tract the inherent knowledge, since it can be dynamically adapted by providing a scalable system for changing necessities along time. Among the learning technologies, web-based learning offers several benefits over conventional classroom-based learning. Its biggest advantages are the reduced costs since a physical environment is no longer required and therefore it can be used at any-time and place for the convenience of the student. Additionally, the learning materials easy to keep updated and the teacher may also incorporate multimedia content to provide a friendly framework and to ease the understanding of the concepts. Finally, it can be viewed as a learner-centered approach which can address the differences among teachers, so that all of them may check the confidence of their material to evaluate and re-utilize common areas of knowledge. In the proposed system architecture we are going to develop a web app which will be connected with the API based back end. Our database is hosted on Mongo DB so that it can handle multiple users simultaneously. For Storing assignments, practicals, lecture notes and study materials we're using AWS S3 (Simple Storage Service). Furthermore, we're hosting back end server on AWS EC2 (Elastic Compute Cloud) so that it can auto scale on its own and serve the needs of multiple users.

II.RELATED WORK

Johan Ismail[2012] provides an insight into the different types of e-learning systems that can be developed as well as the tasks and activities necessary to build them. First generation e-learning systems tend to focus almost entirely on the management and measurement of training processes. Furthermore, they do not provide any means to support internal content production processes, relying instead on commercial courseware. These learning management systems were seen to be nothing more than launch pads for third party content that the organization would purchase or outsource[1].

Gopal Sakarkar et al. [2012] discussed the efficiency of online e-learning is improve by evaluating the student's performance, offering feedback to the tutor and providing reliable query response system with a combination of computational intelligence of online e-learning system and proprieties of intelligent mobile agent system. Authors proposed the personalization agent used in an online e learning system to retrieve learning materials based on cognitive style, personal preferences and prior knowledge. Authors designed the Multi-Agent-Based M-Learning System Architecture which is based on 3-tier structure that involves the mobile devices, the base station and the content centre. In this a mobile agent continuously monitors the learner's actions for identifying optimal learning conditions and notes the weak knowledge area of user[2].

Md Anwar Hussain Masud et al. [2012] discussed in their paper that at present, most of the conventional education forms are becoming not being suitable for requirements of social progress and educational development and not being able to catch up with the changes of learning demand in time, thus computer networks have brought opportunities for it. However, in traditional web-based e-learning mode, system construction and maintenance are located in interior of educational institutions or enterprises, which results in a lot of problems existed, such as a lot of investment needed, but without capital gains to return, without development potential and staying power.[3].

Iliyasu Hussaini et al. [2020] discussed in their paper about digital technologies also allow students to explore extensively about what they are learning by taking the learning and teaching outside the classroom walls. Teachers' application of digital technologies in their teaching depends upon the teaching objectives and nature of subject matter.[4].

Table no 1 : Summary of Related Work

SN	Paper	Advantages and Disadvantages
1.	The design of an e-learning system Beyond the hype, Johan Ismail, 2021.	Advantages: Describes different types of e-learning systems that can be developed as well as the tasks and activities necessary to build them. Disadvantages: Just provides overview of system.
2.	Intelligent Online E-learning System: A Comparative Study Intelligent online e-learning systems , Gopal Sakarkar, et.al., 2012.	Advantages: Provides detailed comparison among different e-learning architecture. Disadvantages: It does not recommend any e-learning system system.
3.	An e-learning system architecture based on cloud computing, Md Anwar Hussain et.al., 2012.	Advantages: Describes the architecture of cloud computing platform by combining the features of e-learning. It improves the performance as well as removes the burden of storing documents as it recommends using third party cloud provider. Disadvantages:Due to the access of services over the internet, additional dependencies are created.
4.	Effectiveness of Google classroom as a digital tool in teaching and learning, Iliyasu Hussaini et.al., 2020	Advantages:Provides easy interface for teachers to manage students and easy interface to upload documents. Disadvantages: No individuality for organizations.

III.PROPOSED WORK

Technology has the power to transform education. It is essential to bring it into the classroom to empower learning. Here are some of the reasons (significance/importance). Students need to be engaged with what they are doing to improve learning outcomes Enables students to become thinkers/learners/risk takers in a sheltered environment. Learn not to rely on the teacher...be accountable themselves...become independent! Broadens the horizons of many students as it exposes students to the world outside their city or

country town. Fits in with Rural Education where students in small rural schools need no longer be disadvantaged by distance and isolation, as technology allows them to learn virtually and maintain their subject choices, allows e.g. LOTE (languages other than English) and other specialist subjects to be taught across schools by a virtual teacher. Allows a mobile learning environment - anywhere, anytime, anyhow.

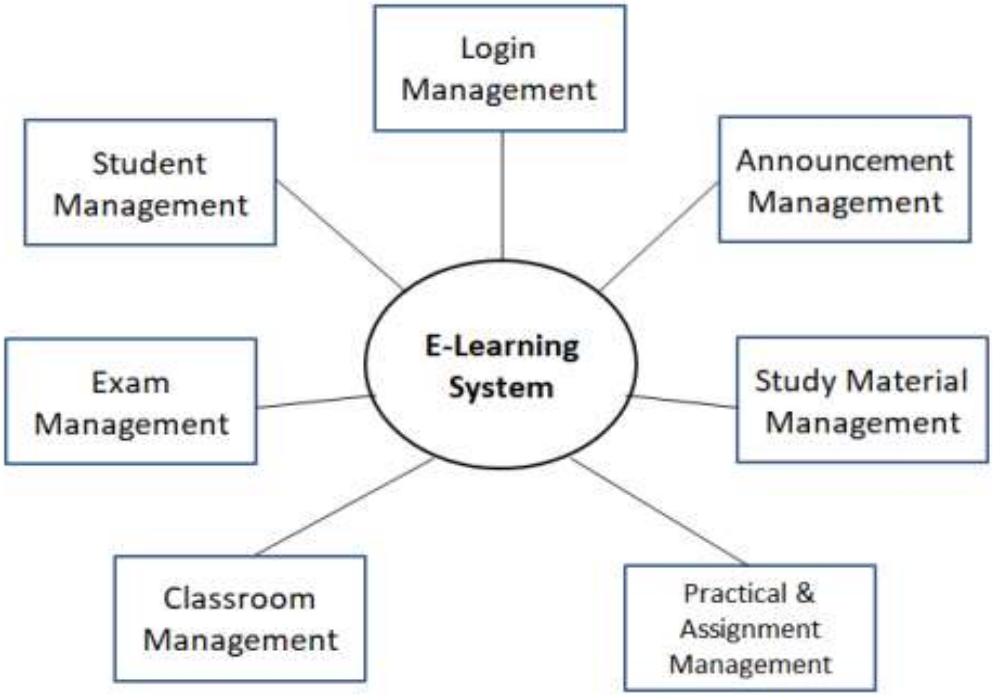


Fig.1. Features of ClassFox

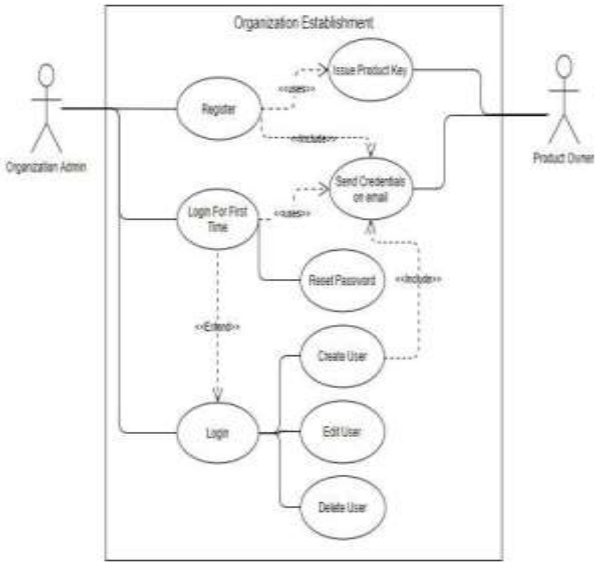
IV.WORKFLOW OF THE SYSTEM

The Admin first need to register the organization after receiving the product key from classfox team, admin needs to fill all the necessary details of the organization. After registration the admin will receive username and password on the registered email id, this password will be available for one time use i.e. the admin needs to reset the password after first time logging in.

After resetting the password the admin will be redirected to the admin dashboard, where the admin can create users(Teacher or Student) by providing the necessary details and the admin can also edit the existing user .The admin upon need can create , edit and the users. The admin dashboard also displays the list of all the users of that particular organization.

After the creation of users, the users will receive credentials on their respective email id's. Teacher's page will display card view of the classrooms .Upon need teachers can create, edit and delete classrooms. After creating classroom, a classcode will be generated which the teachers can share with the students, so that the students can join that classroom. Teachers can post announcements and study materials in their respective classrooms, also teachers can assign classwork like experiments and assignments, to which students can upload their classwork document from their end. Students can also post announcements but it will be public only after teacher's approval until then it will be only visible to that student and respective teacher of that classroom.

Teachers can host meetings to conduct live lectures and students can join the meeting through classroom. Additionally the attendance will be automatically taken in a such way that random questions will appear at the students end. The questions will be basic mathematical calculations for example 2+2 = ? ,there will be 20 seconds time limit for the student to answer these questions. There will be no fixed number of questions and neither there will be a specific time for these questions, it will vary from student to student. If the student fails to answer the questions they will be removed from the meeting.



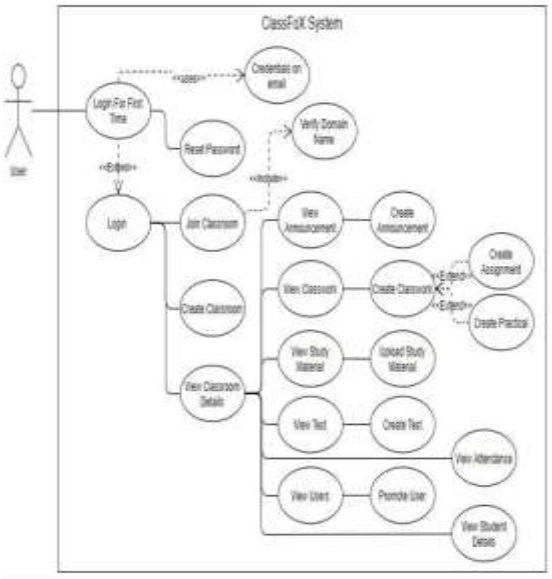


Fig3:Organization Establishment Use Case Diagram

Fig 2ClassFoX System Use Case Diagram

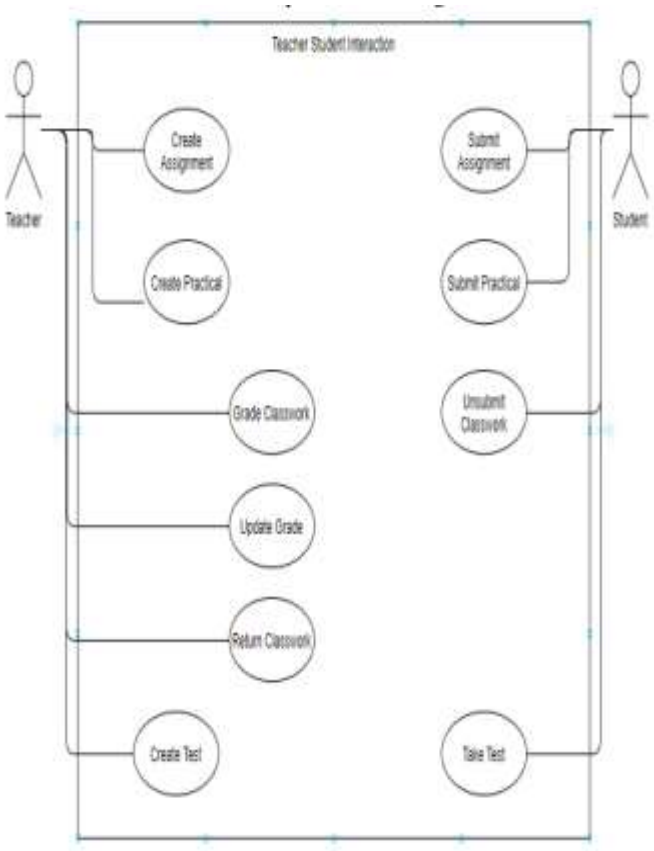


Fig.4. Teacher Student Interaction Use Case Diagram

V.CONCLUSION

This system integrates at least three different software that are being used in digital learning. It also saves the time and energy compared to physical learning. In this system teachers can upload announcements, assignments, practicals and study materials, and also conduct live lectures. System will provide automated attendance marking feature in such a way that the student has no option but to be attentive during the whole lecture. Teachers will be able to conduct MCQ based test or a full camera proctored test. This system will help teachers as well as students in tracking past examination details and attendance.

VI.FUTURE SCOPE

- We can add printer in future.
- We can give more advance software for E-learning Management System including more facilities
- We will host the platform on online servers to make it accessible worldwide
- Integrate multiple load balancers to distribute the loads of the system Create the master and slave database structure to reduce the overload of the database queries.
- Implement the backup mechanism for taking backup of codebase and database on regular basis on different servers

The above mentioned points are the enhancements which can be done to increase the applicability and usage of this project. Here we can maintain the records of Assignment and Student. Also, as it can be seen that now-a-days the players are versatile, i.e. so there is a scope for introducing a method to maintain the E-learning Management System. Enhancements can be done to maintain all the Assignment, Student, Teacher, Quiz, Question.

We have left all the options open so that if there is any other future requirement in the system by the user for the enhancement of the system then it is possible to implement them. In the last we would like to thanks all the persons involved in the development of the system directly or indirectly. We hope that the project will serve its purpose for which it is develop there by underlining success of process.

References

[1]. The design of an e-learning system Beyond the hype by Johan Ismail (published by Elsevier Science Inc Internet and Higher Education 4 (2002) 329-336).

[2]. Intelligent online e-learning systems: A comparative study (Article in International Journal of Computer Applications (0975 – 8887) Volume 56 – No.4,· October 2012).

[3]. An e-learning system architecture base on cloud computing by Md Anwar Hussain Masud, Xiaodi Huang (World Academy of Science, Engineering and Technology Vol:6 2012-02-21).

[4]. Effectiveness of Google Classroom as a Digital Tool in Teaching and Learning: Students' Perceptions by Iliyasu Hussaini, Sawida Ibrahim, Bashir Wali, Ibrahim Libata, Usman Musa Universal Basic Education Commission, Abuja, Nigeria Faculty of Education, Kebbi State University of Science and Technology, Aliero.

[5]. Nichols, M. (2007). "E-learning in context"

[6]. Kalantzis, Mary and Bill Cope. 2015. "Learning and New Media." Pp. 373-387 in The Sage Handbook of Learning, edited by D. Scott and E. Hargreaves. Thousand Oaks CA: Sage.

[7]. Cope, Bill and Mary Kalantzis. 2015. "Assessment and Pedagogy in the Era of Machine-Mediated Learning."

[8]. Pp. 350-374 in Education as Social Construction: Contributions to Theory, Research, and Practice, edited by T. Dragonas, K. J. Gergen, and S. McNamee. Chagrin Falls OH: Worldshare Books. I download

[9]. Cope, Bill and Mary Kalantzis. 2015. "Sources of Evidence-of

[10]. Learning: Learning and Assessment in the Era of Big Data." Open Review of Educational Research 2:194-217. | download Cope, Bill and Mary Kalantzis. 2015. "Interpreting Evidence-of-Learning: Educational Research in the Era of Big Data." Open Review of Educational Research 2:218-239. I download