

ESJCEM-(AN ONLINE E-LEARNING AND EXAM PLATFORM)

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Abstract - E-Learning plays a very vital role when it comes to smart education. Though there are many tools for e-learning purpose where, it faces some limitations whether it would be simple user interface or design issues etc. The term e-learning purely defines software development tool which purely rely on software aspects. Remote based learning is the future of next generation where fast learning methodologies would be adapted. The proposed system of e-learning is flourished with Open-source Software and programming tools and database models. Several programming languages are used for Front-end and Back-end in order to make a resplendent user interface.

Key Words: Online Learning, Smooth User Interface, Software programming tools, computer vision.

1. INTRODUCTION

In past few years, we can see internet has changed the world completely. From business needs to healthcare centers, all have developed and from a single click were, we can get access of various information as per anyone needs. Although remote based learning still needs a limelight to appear in this modern era. Remote based learning was developed for rural areas and it gained some positive reviews and it became a concept of future learning. E-learning or electronic learning is a concept of remote based and self-paced learning which is changing educational activities rapidly. From colleges to various universities, e-learning medium is used for distanced students. E-learning is a electronic method of teaching and it is divided in several modules, and each module has its own specification, has its own technology used for user requirement. All the modules perform their own task and all are independent to each other. E-learning has the potential to change the traditional based or classroom-based learning to online based learning. In this paper we have tried to make the best use of a web-based learning system and some add on features which can make this platform more useful to us and other.

1.1. Characteristics of E-Learning

E-learning is a two-way design where electronic learning from student side and electronic teaching from instructor side is

done. Both appear in virtual space and have exchange of information. It has some characteristics as well; we shall discuss below.

- **Flexibility:** The main benefit of online learning is flexibility. When a student enrolls for a respective course, it can be done in its own pace and it can study or review the course during its own time. Whether you are a full-time student or you are a part time working human, it can be done in your required time. In classroom-based learning, students have to present at a particular place at particular time, which consumes much time while travelling. Flexibility breaks the barriers of all these conditions and have a platform for home-based learning. Remote based learning can also be used beyond the oceans and with this we can meet with various fellow learners and research persons. One can meet some resource persons and fellow other students and have interactions with various social sites. E-learning can smash all the barriers of flexibility and gives a new way of learning.
- **Fast Accessibility:** Whether you are in town or in rural area, it's your need to study what you want to. E-learning has changed the way of time management. Learner can learn specific material onto his phone under his own time. It's just one click away for the user what it wants to get. Suppose a student wants a required information, so in conventional method student has to go to library and take books which cost too much time. E-learning has changed the approach and within several search engines and required online notes, student can save a lot of time. In traditional method two consequences student faced.
- **Global Access:** There is no doubt that E-Learning is integral part of smart education. We can sit and share useful resources around the globe within a click. There are no country boundaries in this. We can access to e-libraries of different institutes and e-repositories which also reduces cost of many students who cannot purchase books. We can have chat with different resource persons around the globe where we can share or gain knowledge. This will increase the smart communication and we have to be fast enough as there are dynamic changes happens every day in tech industry. With increase in technology, we should be fast enough to know what is happening in globe.

2. Literature Review

In 2012, Oye N.D and Mazleena Salleh have proposed an idea regarding E-learning methodologies and tools. In this paper, they have elucidated that how e-learning will be advantageous for the students and users. The different categories of e-learning that includes informal and blending learning, network and work-based learning. The main focus of e-learning methodologies is on both asynchronous and synchronous methodology. The different categories of e-learning that includes informal and blending learning, network and work-based learning. The main focus of e-learning methodologies is on both asynchronous and synchronous methodology. Delivery method increases the possibilities for how, where and when employees can engage in lifelong learning.

In 2009, Bo Dong, in his paper "(Paper name)" has described how e-learning will be the need of the hour in future. He also added that, as of now, the infrastructure hasn't been supportive regarding E-learning. Cloud computing plays an important role in e-learning, so in this paper, the role of cloud computing has been explained with respect to e-learning. This is because Cloud computing infrastructure and related mechanisms allow for the stability, equilibrium, efficient resource use, and sustainability of an e-learning ecosystem. The drawbacks regarding traditional learning has been evaluated and analysed only to be countered with the help of cloud computing which enhances the domain of e-learning. It has some mechanisms to guarantee the teaching and learning activities, the quality and the running of the ecosystem.

In 2016, Karim Abbas in his paper "(Paper name)" has explained that how e-learning is an integral part of today's education system. This paper also includes the challenges that e-learning faces when they are implemented. The proposed e-learning system is designed using off-the-shelf and open-source software engineering model and programming tools and database models. The system is tested to prove the new design concepts and features. The implemented system is capable of holding the data for the number of students in our university. The system user interface includes 36 screens, each of which is designed to give the ease of use and the professional look and feel.

In 2008, Chen Huandong, has elaborated in his paper named "(Paper name)" has described the drawbacks of e-learning as it is still a new area to mettle with. There are many problems in the research of teaching and the application of E-Learning, like theories separated, theoretical basis indefinite, techniques used indiscriminately, interaction lacked, extension of the knowledge and dialectical thoughts insufficient etc. Therefore, the ideal effect of knowledge extension could not be reached based on modern instructional theories. As we move forward, we can see how with implementation of proper technique e-learning has overturned the above problems. E-Learning System is helpful for the context learning of students and task-driven of teachers, it can also improve the knowledge structure of teachers, change the educational concept, so that

the teaching reform can be pushed ahead with the development of information technology.

In 2012, Sherwin Emami in his paper "(paper name)" has described the use of open cv for facial recognition. The goal of the author is to provide an easier human-machine interaction routine when user authentication is needed through face detection and recognition. author has proposed to create an application that would allow user access to a particular machine based on an in-depth analysis of a person's facial features. Apart from this, author states that To improve the recognition performance, there are MANY things that can be improved here, some of them being fairly easy to implement. For example, you could add color processing, edge detection, etc.

3. Methodology

E-learning technology used web development tools for its uses. It is made up on technical infrastructure to deliver knowledge. As the situation is changes and expanding internet, new learning trend of academic and industrial realities is to increase the use of e-learning, in the near future and higher demand of technology support is expected. In particular, software tools supporting the critical task of instruction design should provide automated support for the analysis, design, documentation, implementation, and deployment of instruction via Web.

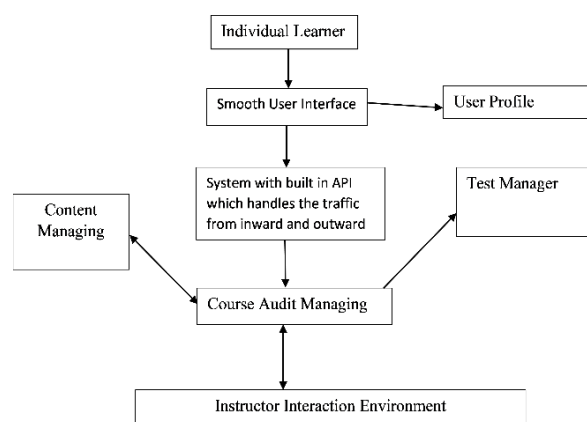


Fig -1: Block diagram of proposed system.

The above block diagram refers to concept of design of the project. The instructor has to upload all the necessary contents via a network and further which can be access by all the respective learners. A content managing system is enable for all the learners in which instructor segregates all the content for learners. A multiple websites pages is made on every point of interaction; every page has its respective content from entering username to watching videos and to giving tests. User has the data, which is all stored in database. A username and an 8-character password are set as credentials to enter or login. As of being login, sometimes password is forgotten, so

a management of reset password is set which is directly linked to an email.

E-Learning systems evaluate the course educating generally according to people arranged normally thought which centers around the prerequisites of people. The advantage of learning lies meanwhile, not just for the year's end test. Hence, in E-Learning system, the pattern of learning is seen as the most critical variable to evaluate. After students do the objective and enthusiastic exercises, E-Learning system can make and show a quick evaluation

4. Results:

After performing above methods and evaluating all test cases, we got the output of our responsive website. The following website is visible in desktop site as well as mobile view site.



Fig-2: Mobile site view mode.

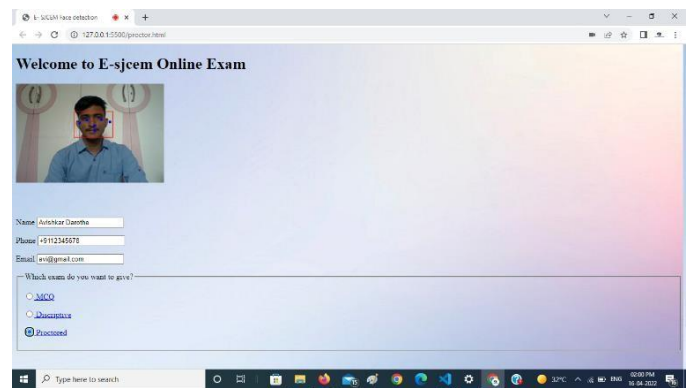


Fig-3: Facial detection for proctoring mode

The facial detection mode runs online as the student will enter into exam mode. For proctoring a log record has been seen, when any student will start doing its malpractice, the log value will be stopped and as a result it will declared as a malpractice.

3. CONCLUSION

The core of E-Learning System is progressed tutoring. It has different advantages, which will put an impact on our standard guidance. For the present circumstance, we should exploit E-Learning, at the same time, coordinate with customary tutoring, and strengthen each other for typical development. E-Learning System is helpful for the setting learning of students and task driven of teachers, it can similarly deal with the data development of educators, change the educational thought, so the appearance change can be pushed ahead with the progression of information development.

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