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AVANT-GARDE E-LEARNING

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Abstract- E-learning systems have dominated internet based education for past two decades. However, traditional systems fail to keep pace with advances in internet technologies and social interactions online. To support technological diversities, a web based application combining social network and visualization can be developed to enable a better learning environment. This would help tutors and students to improve their participation in online conversation. The overall learning experience can be facilitated with features like simultaneous recording of live conference which would enable a user to drag back on time scale, providing a language based editor on the application and tag based search.

Keywords- *e-learning, time slice, virtual 3D, visual movie.*

I. INTRODUCTION

E-learning has been a developing field for past two decades. Now, the time has come to make it a dominant force .This field has brought revolution in learning process of mankind, now it's time to assign more powers to this method of learning which mankind could not have thought by means of conventional learning. Paper proposes to build up a e-learning environment which would make learning process very interesting and having a long lasting impact in comparison with conventional e-learning environment. It proposes to build a system which would give a virtual classroom like feeling for its student users. The overall emphasis would be in developing quality learning and teaching environment which would give a fantastic experience to its users. In comparison, conventional systems give more emphasis for developing a user friendly system for its student users only but here paper also propose to build a user friendly system for its tutor user who are also a primary user in any e-learning environment. This paper explores some of the ideas behind the e-Learning Environment and considers why e-learning might be useful or indeed central to learning in the future. This is not so much a technical question as an educational one, although changing technologies are key drivers in educational change. The paper starts by looking at the changing face of education and goes on to consider the different ways in which the so-called 'net generation' is using technology for learning. It goes on to consider some of the pressures for change in the present conventional education system. The idea of an E-Learning Environment recognizes that learning is ongoing and seeks to provide tools to support that learning. It also recognizes the role of the individual in organizing his or her own learning. Moreover, the pressures for an e-learning are based on the idea that learning will take place in different contexts and situations and will not be provided by a single - learning provider.

II. CLASSROOM ENVIRONMENT

21st century is going to be dominated by a revolution named e-learning. In conventional learning environment, student gets opportunity to interact with other pupil, to learn the ethics of society, learn to get social, learn to share emotions, feel of classroom, sharing jokes etc. But an e-learning system would need to address these issues which would fail to replicate exactly the conventional environments advantages as it is but to certain extent we can fill that void by building a virtual 3D classroom which would give a student feel of classroom, feel of bench's ,feel of library, feel of exam room etc. Even we could add up a conference room in which students can interact among themselves play pranks and have some fun. We surely believe it is very difficult to create an exact real environment of a school or college or university but we can fill that void up to certain extent. The widespread use of computing tools and Internet technologies can make it possible to allow both distance learning and access to large amount of data and information, making the process of solving a technical/scientific problem, much more realistic, exciting and stimulating than a conventional learning , due to lack of appropriate calculation tools. However, usability of information by students and teachers at various levels, seems to be extremely limited, both due to the diversity and fragmentation of the available material, and for the large gap between the different components that should characterize field and, in particular, modern e-learning.

Paper presents an idea of developing a virtual 3D-class for its student user's .This could be made possible with the help of integrating virtual 3D

graphics and video-conferencing which would make it possible to give a feel of classroom as well as one-to-one and one-to-many communication as in real world. Videoconferencing is a mature technology and is used heavily for different applications, since there are increasing reasons for people to meet in real time with one another, while reducing travel and associated costs. These applications cover collaborative sessions between two or more parties, distance-learning course delivery, internal/external corporate communication, general meetings etc. Videoconferencing session is a rich media experience that integrates audio, video and personal computer content and supports far greater interaction than is otherwise possible from many synchronous and asynchronous technologies. Videoconferencing provides collaborative sessions between two or more involved parties, so it is often utilized in the educational process while bringing the tutor as a source of information and the students, together in a 'same environment' for a learning session. Therefore an effective system can be developed, so the videoconferencing based e-learning systems can collaborated with 3D graphics to provide successful learning process at the end. In conventional classroom learning environment the basic problem which a student faces is to have one to one interaction with their tutor. This communication gap between tutor and student is due to stage fright or public fright, so they refrain to ask their doubts. Now, an e-learning system would easily address this problem by allowing the student to raise his doubts through a personnel chat with tutor by means of email chat or live chat or personnel video talk. So this would allow student user to talk freely without hampering his privacy. Even paper presents an idea to add a unique feature which will simultaneously upload a live conference to library database of an e-learning system .If students misses some part of lesson due to lapse of concentration or due to absence of mind or due to some distraction, the system would allow them to rewind back on time scale in a live conference to review or re-listen to what the tutor taught or showed but now he won't be in live session with his tutor, he would be viewing a recorded lecture but in case if they would wish to join again in live session the system would allow them to join but they would miss the part of lesson which they invested in reviewing. This unique feature would empower the student to re-listen or re-view the part which they probably didn't understand at one go but by viewing it at second go, they may understand it and again catch up with the class in live session. Even after second attempt if student user fails to get the taught lesson or concept, and feels to raise a doubt or query, he would be permitted to interrupt live session of tutor by sending a high priority token which a tutor would have to compulsory address or answer before closing the session of conference. Paper proposes this idea to be implemented on a time scale basis in which a time scale scroll bar would appear in front of the student user. The scale bar would have a minimum time slice and database would get updated on the basis of that minimum time slice. Student would be permitted to review or rewind on basis of those time slots. Time slots can be adjusted by the administrator user according to organizational or institutional needs.

Paper also proposes to design a system which would make learning process easy and full of fun. Aim is to make learning process an visual experience because visual effects has more impact than learning by listening .The idea is to make a story or visual movie to what one is saying of-course this would involve natural language processing, digital signal processing and artificial intelligence which is beyond the discussion of this paper.

The idea can be strengthened by an example Suppose if one says go and sit on chair so my system would show a man going and sitting on a chair in animated or real picture. This would have a great impact on learning process since are brain responds more faster to learning through visual then responding to sound effects.

Paper also proposes to develop a feature in which suppose a book is uploaded to system its index would be uploaded in databases on the basis of tags and keywords provided in the database now whenever a user searches for the particular tag or keyword the relevant content from those pages would come in front of him, to make it more interesting suppose if for particular keyword about 10 books are uploaded in system ,the system would combine the best text from those 10 books and put in front of the user.

III. MATHEMATICAL MODEL

Let S be the set of stages where a student can be during the live video Conference.

S = {Li, Ri, Ec}
Where – Li = Live conference state,
Ri = Rewind State,
Ec = End State of the Conference.

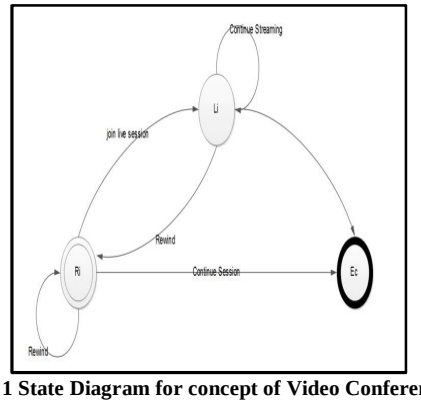

Fig. 1 State Diagram for concept of Video Conference.

IV. CONCLUSION

The paper believes that we are coming to realize that we cannot exactly reproduce previous forms of learning, the classroom or the university, embodied in software. Instead, we have to look at the new opportunities for learning environment with feel of conventional environment afforded by emerging technologies**.** Furthermore the idea of the e-learning environment purports to include and bring together all learning, including informal learning, workplace learning, learning from the home, learning driven by problem solving and learning motivated by personal interest as well as learning through engagement in formal educational programmes etc.

The main argument for developing an e-learning environment lies in the benefits that it can bring: clarity of purpose and measurable goals for the use of technology for teaching; setting priorities; identifying needs and resources; improved quality of teaching and learning; greater student accessibility; and above all, if done well, buy-in and commitment from faculty, instructors and administrators for the intelligent use of technology for teaching.

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REFERENCES

[1] Vincent Per 3.Wade and Helen Ashman, "Evolving the infrastructure for Technology-Enhanced Distance Learning" ,IEEE Internet Computing ,vol. 11,no.3 ,pp.16-18,May/June 2007.

[2] Declan Dagger, Alexander O' Connor, Seamus Lawless, Eddie Walsh, and Vincent P. Wade, "Service-Oriented E-Learning platforms", IEEE Internet Computing, vol. 11, no.3, pp.28-35, May/June 2007 .

[3] Jeffrey S. Saltz, Starr Hiltz, Murray Turoff and Katia Passerini , "Increasing Participation In Distance Learning Courses", IEEE Internet Computing ,vol. 11,no.3,pp.36-51, May/June 2007.