

Developing Competency and Enhancing Interactive Learning tool for Students and Professionals

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Abstract— As E-Learning becomes more predominant in fulfilling the educational needs of today's population, and traditional learning takes a sometimes slow but ultimately unstoppable turn for the blended "flavor", it is often easy to forget the merits of synchronous teaching. In particular, showing live actions on the teacher's desktop to a remote student has great instructional value that must not be overlooked. Similarly, a student can demonstrate skills that would otherwise need a physical presence in a classroom, rather than a virtual one. This Project can accomplish all of this and more. This paper aims to present some of the tools available and a few specific scenarios where they are most effectively used.

Key words: Interactive Learning tool, Remote Examination, One-On-One Tutoring

I. INTRODUCTION

E-learning (or eLearning) is the use of electronic media, educational technology and information and communication technologies (ICT) in education. E-learning includes numerous types of media that deliver text, audio, images, animation, and streaming video, and includes technology applications and processes such as audio or video tape, satellite TV, CD-ROM, and computer-based learning, as well as local intranet/extranet and web-based learning. Information and communication systems, whether free-standing or based on either local networks or the Internet in networked learning, underlay many e-learning processes.

A. E-Learning Systems Can Be Grouped As Follows:

- Personalization of the learning content, based on learners' preferences, educational background and experience
- Personalization of the representation manner and the form of the learning content
- Full personalization, which is a combination of the previous two types.

To achieve this goal, the very basic but the major task, "Content Development" is should be designed very scalable and then the software should be highly scalable to adopt and deliver, without lacking efficiency and accuracy, any type of contents present methods, which are known and future methods, which are still unknown. Any e-Learning Laboratory will be most likely as a Research and Development Lab in Information Technology department with No Testing Area. A learner may need Mobile Learning, or may need cloud based learning, or may require one-to-one teaching or may want downloadable contents, may require more videos or more images or more text, etc. The choice is solely depend on the learner. That is why e-Learning Laboratory should be equipped with up-to-the-

minute all required tools and updated hands to execute their functionalities.

Problems arise when a closer interaction between students and teachers is needed. Some of the classical types of evaluation ported from traditional learning, such as tests or exams are poorly represented among the tools available for e-Learning. There are of course quizzes, and file submissions, but since everything is done in a virtual environment, the teacher doesn't have the certainty that identity fraud isn't committed. Even if some anti-cheating protection is provided (for instance, students can be restricted from switching browser windows), they can still use offline sources, or outside help, or even transfer credentials and let someone else take the test. Other students might encounter problems in solving some assignments that need a closer supervision, and in this case, distance becomes an obstacle.

In the case of blended learning, managing a classroom full of computers is sometimes a hassle. The teacher can check the activity of the students by going to their workstations and watching the monitors, but of course, switching windows has become a reflex for every computer user, and any wrong-doing can be easily hidden. Also, constant checking on all of the students isn't physically possible. Remote desktop software can solve some of these problems.

II. RELATED WORK

Sandy Britain et al [1] have introduced the viable systems Model (VSM) and have shown how the model can be adapted for use in an educational context. One of the most important factors in their study is that students should have the capacity to organize themselves so that all the study is not solely tutored. Another important feature that emerges from their analysis is that students should be able to contribute their own resources and materials to the group. This means that the responsibility for the shaping of learning content shifts from the tutor to the students. The third key feature of their discussion is that it should be easy to continuously adapt and individualize the structures, content and activities it contains as the course progress. In their solution it should be possible to archive completed learning activities for future reuse. Sevgiozkametal [2] have attempted to propose an E-Learning evaluation model comprising a collective set of measures associated with an E-learning System.

The research in this paper sought to empirically test the constructs of this proposed conceptual model via a survey instrument and to demonstrate which were critical for e-learning systems effectiveness, particularly when implementing a Computer Education course. This study contributes to the E-learning literature with an instrument providing a roadmap for practitioners and researchers to

better understand how E-learner's perceived satisfaction can be increased and how the use of Learning Management System can be improved. Traditional e-learning systems are presented in static text and pictures. Students feel boring when use the teaching materials.

This makes the lower learning willingness and interest, and cannot enhance the efficiency of learning. However, if e-learning system can combine with multimedia teaching resource, and even can interact with the materials, it would increase users' learning willingness and interest, and would make the contents much easy to be understood Weiltru et al [3] have shown that E-Learning environments are the classical education. In this paper, the design is presented from a different point of view. It has constructed a curriculum-specific E-learning environment. It focuses on not only how to teach the students but also how to prompt the interaction between teachers and the students according to the features of the curriculum. They conclude that student interaction and collaboration has also played an important role in their E-learning environment.

III. SPECIFIC SCENARIOS

A. Remote Examination:

A student dose not chooses when to consult the resources, when to do the research and when to solve the assignments so time is waste. Similarly, the tutors can grade the students' activities in their own time

Other students might encounter problems in solving some assignments that need a closer supervision, and in this case, distance becomes an obstacle.

In the case of blended learning, managing a classroom full of computers is sometimes a hassle. The teacher can check the activity of the students by going to their workstations and watching the monitors, but of course, switching windows has become a reflex for every computer user, and any wrong-doing can be easily hidden. Also, constant checking on all of the students isn't physically possible.

B. One-On-One Tutoring:

Some students require special tutoring, either due to disabilities or some other circumstances. And while live communication is not an issue (there is phone, chat, even VoIP), sometimes a live demonstration is much more effective.

Using certain tools, the teacher can project their desktop and all their actions onto the student's computer. Alternatively, the student can release some control over their own desktop, allowing the tutor to perform actions on his/her desktop, thus ensuring a very rich and effective collaborative learning experience.

C. Live Demonstrations:

Any presentation is prepared offline and uploaded either on the e-Learning platform, or on some other third-party platform. Later on, students can view this presentation on their own schedule.

it allows the teacher to perform on his computer real-time demonstrations to be seen full screen or in a window on all screens Even if all the participants are present in the same classroom, (maybe the layout of the classroom doesn't allow all students to properly view the projection, or

the ones in the back have difficulty in distinguishing details). Using desktop sharing technologies, the teacher can project their onscreen actions to the students' stations.

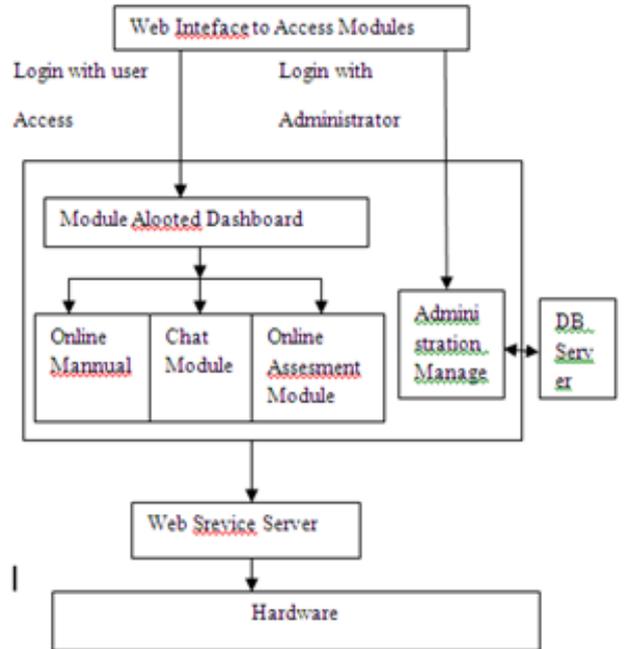


Fig. 1: Software Architecture of the E-Learning Environment

IV. FEATURES

- Teachers can remote-control computers to support and help students .
- A student chooses when to consult the resources, when to do the research and when to solve the assignments.
- The tutorials can grade the students' activities in their own time.
- A tutor works with distance learning students, remotely viewing or projecting desktops becomes a valuable ally.
- The teacher can check the activity of the students by going to their workstations and watching the monitors.
- Some students require special tutoring, either due to disabilities or some other circumstances, using certain tools, the teacher can project their desktop and all their actions onto the student's computer.
- Any presentation is prepared offline and uploaded either on the e-Learning platform, or on some other third-party platform. Later on, students can view this presentation on their own schedule
- This setup has the advantage of interactivity, students being able to ask questions in mid-presentation and debate issues.

V. CONCLUSION

The advances made in remote desktop solutions over the years have brought this functionality to any user who has access to a local computer, and credentials to remote machine. In education, there are many scenarios where this functionality has great instructional value, Whether a teacher has to manage a classroom full of computers, or a

tutor works with distance learning students, remotely viewing or projecting desktops becomes a valuable all and with the great variety of software solutions available, either designed for education or adapted to be used in such a context, all a teacher has to do is pick the right tool for the job.

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