Designing a Web Education Model For Effective Teaching-Learning Process

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ABSTRACT
The rapid advancement in the area of web has emerged a new way of knowledge distribution, i.e., through intranet and Internet. It has changed the way the experts systems can be developed and distributed. The purpose of web based systems is to distribute knowledge in students hands into a manner the teacher can and enhance the same significantly using web education. Thus keeping in mind the technicalities of a classroom teaching and transferring the same in form of package to devise an interactive web education. Web based education programs in hyper text/XML form Web based education programs in text and visual form of lecture with the support of multimedia inputs like video based program, images, graphs, charts, animation, process demonstration, integrated navigation and so on. Web based learning repository in searchable mode, archival library mode such as video and text clips.

KEYWORDS
Web Based Education applications, E-Learning, Learning Resources and Learning Evaluation system.

1.0 INTRODUCTION
The purpose of web-based systems is to distribute knowledge in students hands into a manner the teacher can and enhance the same significantly using web education. Thus keeping in mind the technicalities of a classroom teaching and transferring the same in form of package to devise an interactive web education. Web based education programs in hyper text/XML form Web based education programs in text and visual form of lecture with the support of multimedia inputs like video based program, images, graphs, charts, animation, process demonstration, integrated navigation and so on. Web based learning repository in searchable mode, archival library mode such as video and text clips.

2.0 JUSTIFICATION OF THE PROJECT WITH RESPECT TO THE DEPARTMENT / INSTITUTION NEEDS
With the introduction of computers in the teaching / learning process and the emergence of the Internet, a large number of web-based educational applications have been developed. However, the objective of the proposal is to introduce web education for course instructions and related areas in the institution. The development of web-based course system is a difficult task and it involves accurate and proper planning of various processes Recent Hardware and software developments, rapid growth and advancements in Internet Technologies have all influenced the challenges in web-supported instructional technology in education.

Types of Contents
The contents could be of following type:
- Assembled e-content.
- Short course/unit/module.
- Full courseware.
- Short reusable learning objects.
It is also proposed that after the completion of this project by 2011, the web education project using mobile pocket PC (Phone) will be taken as research topic [6].

Objectives of the Proposed Project

- To provide web based education through Audio/Video and script to the student of their courseware through Internet and intranet.
- To develop instructional strategy (Module wise: - objectives, summary, text, video & audio, simulations, assignments, references, download, quiz etc).
- To develop and select instructional materials after discussion with experts with the experts in the related area.
- To design and conduct formative evaluation of instruction.
- Revise instructions.
- Design and Conduct Summative evaluation.

Relevance of the Project with the Academic & Research Activities:-
The increasing usage of web based learning has harvested speed and effectiveness. The rapid expansion of the web as a potential course delivery platform, combined with the increasing interest in learning has created a significant opportunity for institution to develop online programs. The web-based learning helps the management and experts in course areas to visualize/ensure an environment conducive to maintain and develop quality web-based learning [7]. The activities for the development of course ware:

Teaching/learning Process:
Art of teaching

Course Structure: Policies and procedures:
(Script writing)

Evaluation and Assessment: The polices and procedures the institution evaluates web-based teaching
A rapidly growing number of organizations worldwide are now delivering training and education over the Internet. In addition
to college and university courses and degree programs, some companies or institutions offer online tutoring to students at specific grade levels, ranging from primary through university; others offer courses only for corporations,[12]some offer courses for individuals in career development and/or personal development; and many offer training in various management, finance and IT-related skills. Increasingly, training and support for teachers is occurring online, and a number of institutions now offer either partial or complete secondary diplomas through web education [2].

Types of web education Companies
Companies tend to fall into one of the following categories:
• Providers of content – often corporate and IT training.
• Providers of learning platforms.
• Learning hubs
  o A complete package.

Benefits of web education
There are a number of benefits to learning online that are unique to the medium:
• Any time.
• Any place.
• Consistent information and training.
• Group collaboration.
• New educational approaches.
• Enriched learning through simulations, gaming and interactivity.
• Integration of computers
• Performance Support

International Status
Global interest in web education is growing rapidly, and in fact, web education is being adopted more quickly and universally. In an analysis of published reports on Internet usage, specific initiatives focused on Internet-based education in all 25 of the world’s most populous countries, and interest is growing in government, educational and commercial organizations worldwide. Several nations have established a policy and allocated resources to promote the use of web education for a variety of constituencies and purposes. Most have been targeted at developing national human capacity and promoting lifelong learning, in recognition of the growing importance of human capital for competing in the new global economy [4].

John Chambers, CEO of Cisco Systems argues that, "Education over the Internet is going to be so big it is going to make e-mail look like a rounding error." (Close, Humphreys and Rustenburg, SunTrust Equitable Securities) Seventy percent of the world’s top tier companies cite lack of trained employees as their number one barrier to sustaining growth. (PricewaterhouseCoopers, issue of Fortune Magazine)

In US corporations spent $66 billion on training. About 20% of that was spent on e-learning and 80% on traditional classroom instruction. The Corporate University Xchange projects a shift to 40% e-learning and 60% classroom instruction, whereas Merrill Lynch analysts are even more positive, predicting that technology-based training will capture the majority of dollars for IT training, at 55% versus the 45% share captured by instructor-led methods. The online training market is expected to nearly double in size every year, reaching approximately $11.5 billion Urban and Weggen) Venture capitalists see the growth potential of e-learning. Over US$1 billion in private capital has been distributed to e-learning companies and more than US$302 million in public equity was raised in 1999 alone. (Close, Humphreys and Ruttenburg, SunTrust Equitable Securities.

Knowledge services – education and corporate learning for the new economy – are a $2-trillion industry globally.

Further study has revealed that the products developed by International Universities/ Organization are specific to the needs of the institutions. The process employed by them will be analyzed and new processes will be designed to fulfill the specifications of the proposed project [3].

National Status
The National Policy on Education (NPE) in its programme of action makes a pointed reference to the crucial link between teacher motivation and the quality of education. The NPE recognized the need for improving the status of the teacher and proposed to provide opportunities for professional and career development so that teachers may fulfill their role and responsibility within the system of higher education[4],[10]. It was proposed to enhance their motivation skills and knowledge through systematic orientation in specific subjects, techniques and methodologies, and thereby inculcate in them the right kind of values that would in turn encourage them to take initiatives for innovative and creative work. Keeping the above objectives in view, the following steps were Proposed:-

a) To organize specially designed orientation programmes.

b) To organize such programmes (orientation/refresher courses) for serving teachers, covering every teacher at least once in three to five years;

c) To organize specially designed orientation programmes/refresher courses in IT for new entrants as well as for in-service teachers; and

d) To encourage teachers to participate in seminars, symposia, workshops, etc

EDUSAT
(Indian Satellite in Education) Project has been undertaken by the Government of India with the specific goal of online education and Virtual Education concept of web education. A number of institutions, prominent amongst being IITs, have taken the initiative to promote the online and E-Learning education. The E-Learning products developed by IITs, Visveraya Technological University (VTU-EDUSAT) and other institutions will be taken as base reference model for analysis and design of new processes. The new processes will be compared with the existing processes in terms of quality of content and Video/ Audio clarity[8].
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**Significance of Undertaking the Project in the Context of Current Status**
The Web's impact on traditional educational theories and practices are increasingly apparent. It has transformed and expanded the conventional boundaries of education. The institution can provide innovations such as virtual college, laboratories, and institution can create an abundance of additional areas of study surrounding this innovation. These include innovative hardware and software technology, online testing and assessment, training and teaching applications, and courseware design and development [9].

Audio/Video Recording/ Shooting room
For courseware and related subject

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Activity Block</th>
<th>Time required (in months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Purchase / Installation of hardware and networking.</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Script writing of courseware Dept/subject wise</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Recording of course subject</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Voice Synchronization</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>Uploading files</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Time: 24 months.**
BUDGET ESTIMATION

<table>
<thead>
<tr>
<th>S. No</th>
<th>Name of the Equipment/Facilities to be procured</th>
<th>Qty</th>
<th>Total Proposed Cost in Lakhs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Workstation FUJITSU TX200 S2</td>
<td>01</td>
<td>120000.00</td>
</tr>
<tr>
<td></td>
<td>64-bit Intel Xeon 3.0GHz / 2 MB L2 Cache / 800 FSB / 1 GB DDR – II RAM / Ultra 320 73.8 GB HDD / CD ROM / Ultra SCSI Controller / Keyboard / Mouse / 10/100/1000 NIC 19” TFT Monitor</td>
<td></td>
<td>1.2 L</td>
</tr>
<tr>
<td>2.</td>
<td>Sony CVD Handy Cam with high resolution</td>
<td>03</td>
<td>75000.00</td>
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<td></td>
<td></td>
<td></td>
<td>.75 L</td>
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<tr>
<td>3.</td>
<td>Microphones</td>
<td>01</td>
<td>2500.00</td>
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<td></td>
<td></td>
<td></td>
<td>.25 L</td>
</tr>
<tr>
<td>4.</td>
<td>Speakers (for all LCD class rooms)</td>
<td>25</td>
<td>2500.00</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>.25 L</td>
</tr>
<tr>
<td>5.</td>
<td>One Systems each at conference hall staff rooms</td>
<td>15</td>
<td>270000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.7 L</td>
</tr>
<tr>
<td>6.</td>
<td>Fiber optic cable network</td>
<td>01</td>
<td>420000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4.20 L</td>
</tr>
<tr>
<td>7.</td>
<td>Software micro media flash suite</td>
<td>01</td>
<td>8000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.08L</td>
</tr>
<tr>
<td>8.</td>
<td>Software Microsoft visual basic</td>
<td>01</td>
<td>2500.00</td>
</tr>
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<td></td>
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<td>.25 L</td>
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<tr>
<td>9.</td>
<td>Internet 4mbps bandwidth facility</td>
<td>01</td>
<td>1200000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12 L</td>
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</tbody>
</table>

Total Budget Estimate = 9.5+ 0.5L =10L

3.0 CONCLUSION
To provide web education through Audio/Video and script to the student of their course ware through internet and intranet. To develop instructional strategy (Module wise:- objectives, summary, text, video & audio, assignments, references, downloads, quiz etc).
To develop and select instructional materials.
To design and conduct formative evaluation of instruction.
Revise instructions.
Design and Conduct Summative evaluation.

4.0 FUTURE SCOPE
It can be extended to provide web education through Mobile Devices, Audio/Video and script to the student of their courseware through internet, intranet and wireless medium.

5.0 REFERENCES