Abstract — One of the vital mission of e-learning is to allow people to learn for personal accomplishment or to earn a professional degree, without physically attending a traditional university or academic setting. E-learning can be applied for all levels of schooling from grade school to graduate degrees, and is versatile enough to accommodate all learning styles. A good number of researchers all over the world have already worked for develop different types of web based e-learning system. In this paper, we develop a system which is essential for teaching institution. Both students and teachers are tied up in this system. Overall it’s a guided learning for student and a great way to change our typical learning system but not replacement of teaching, it’s only the supplement idea for teaching which helps to learn easily and fill up their lickings.

Keywords — E-learning, Web Based Training (WBTs), Computer Based Training (CBTs), Data Flow Diagram (DFD), Entity–relationship Datagram (ERD)

I. INTRODUCTION

E-learning is defined as electronically mediated asynchronous and synchronous communication for the purpose of creating and performing knowledge [1]. The technological foundation of e-learning is internet and associated communication technology like cell phone, iPod etc. E-learning is the use of technology to allow people to learn anytime from anywhere. E-learning can consists of training, the delivery of just-in-time information and guidance from experts.

Actually E-learning is a system where a person has some information which need for him to communicates effectively, collaborate and train. All these things put together constitute e-learning. There is no worldwide definition of e-learning. E-learning refers to any form of learning that we are familiar with or which we can access through Web-enabled technology. The term "e-learning" was first used in October of 1999. The expression specifically referred to learning using the Internet or other interactive or electronic media sources. It was also termed as "online learning," according to the e-Learning fundamentals website. E-learning is a type of distance learning because the student has the freedom to learn lessons and complete assignments outside the classroom.

Presently, it is generally thought that new technologies can firmly help in education. In young ages especially, children can use the vast interactivity of new media, and expand their skills, knowledge, perception of the world, under their parents monitoring. Though traditional education cannot be replaced, but in this era of fast technological advance and minimization of distance through the use of the Internet, everyone must be equipped with basic knowledge in technology, as well as use it as a medium to reach a particular goal.

There are different ways to present eLearning. Mainly they are divided by two types. They are synchronous and asynchronous. Synchronous means “in the intervening time,” involves interaction of participants with an instructor by the Web in real time. For example – VCRs or Virtual class rooms that are nothing else but real classrooms online. Again asynchronous means “not in the intervening time,” permits the participants to complete the WBT (Web-based training) at their own pace, without live communication with the instructor. Mainly, it is information that is available on a self-help basis, 24/7. The advantage is that this kind of e-learning offers the learners the information they need whenever they need it. It also has relations amongst participants through message boards, bulletin boards and discussion forums. These contains computer based training(CBTs) elements on CD-Rom’s, Web based training accessed through internet (WBTs) or through well written articles and other write ups. From the figure 1 we can get complete view of e-learning.

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Researcher all over the world already developed many e-learning programs and software but most of them are expensive and not flexible. In this paper we develop a web based e-learning system for teaching institution. Overall our proposed system is a guided learning for student and a great way to change our typical learning system but not replacement of teaching. It’s only the supplement idea for teaching which helps to learn easily and fill up their lickings. The most important thing of our system is, that it is cheaper and user friendly.

The organization of our paper is as follow: In Section 2 we highlight the literature review of our paper, Section 3 describes the methodology which include data flow diagram, database design , Section 4 describes about testing and implementation of our system , Section 5 describes the evaluation of our system And finally Section 6 draws conclusions with some remarks on future works.

II. LITERATURE REVIEW

For developing our e-learning system firstly we have gone several teaching institution for survey our system whether it is suitable for them or not. Secondly we try to make our system cheaper and user friendly which is suggested by different teaching institutions. All these are the key factor for making our web based e-learning system. Thirdly we have gone through some research paper that describes several web based e-learning system.

III. METHODOLOGY

In this section we will give an introduction of our system and also give a comprehensible idea regarding implementation our system. In this system we use some programming language like MySQL, AJAX, CSS, XML, IP, PHP, and HTML.

A. Data Flow Diagram

Data flow diagram is a graphical representation of the flow of data through an information system [4]. Our proposed system design consisted in several stages:

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<th>Table 1. STAGES OF OUR SYSTEM</th>
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<td><strong>Stage 1</strong></td>
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Exchange processes in the system. The DFD model is composed of the following main object types: processes, internal objects, data repositories, and data flows. Internal objects feature the modeled process environment, data repositories store data needed by the processes. The processes transform their input data flows into the output data flows which may be sent from one system element to another [5]. An ER diagram is the Entity Relationship Diagram, showing the relationship between different entities in a process. The ER diagram developed during the system design process is shown in figure 2. Processes are depicted in the diagram as rectangles with the rounded corners.
The ERD diagram [14-16] is the entity relationship diagram used to represent the graphical dependencies between entities in the database, other than the DFD diagram, focused on modeling the information interchange within the system [20]. It was enough to use the DFD model developed earlier to determine the properties - attributes - of entities, as they were initially formulated in data flows definitions.

B. Database Design

Database design is the method of constructing an exhaustive data model of a database. Almost all web applications are motivated by a database, and with Core Data, Cocoa applications are starting to have true database back ends. The proposed system is developed by PHP plus MySQL, where PHP is the core programming language and MySQL is the web database. Eighteen MySQL data tables are designed for our proposed system which shown, in figure 3. In this system admin has all the power to manage and update the system. Teachers can monitoring the system and can give essential materials and student’s acts as learner as well as regular user of the system.

IV. SOME SYSTEM TESTING AND IMPLEMENTATION

The philosophy behind testing is to fine errors. The common view of testing is that it is performed to prove that there are no errors in a program. However it is virtually impossible to prove that no program will be free and clear of errors. Therefore the most useful approach and practical approach is with the understanding that testing is the process of executing a program with explicit intention of finding errors that is, making the program fail. Executing a program in a simulated environment performs verification. It is sometimes called Alpha Testing. Validation is the process of using the software in a live environment in order to find errors. It can be called as Beta Testing. System testing is the stage of implementation, which aims at ensuring that the system works accurately and efficiently before actual operation commences.

No program or system design is perfect; communication between the user and the designer is not always complete or clear, and time is usually short. The result is errors and more errors. The number and nature of errors in a design depend on several factors. These are Communication between the user and the designer, the programmer’s ability to generate a code that reflects exactly, the system specification and the time frame for the design.

V. SYSTEM EVALUATION

To obtain some feedback about our web based e-learning system we demonstrate the usefulness of our model through several experiments. We went different universities of Bangladesh and also asked some researcher about our system. We have also discussed with some teachers of foreign universities through e-mail. Maximum people give positive comments about our system. And some of them wanted to use the system for their respective universities. Already our respective university East West University experimentally used this system. Figure 4 shows a snapshot of our system which used by our university.
VI. CONCLUSION AND FUTURE WORKS

In this paper we propose a web based e-learning system which can be easily implemented in the teaching institution of developing countries because of its low cost and effort. Most of the teaching institution of developed countries now using information and communication technology to automate their education process. If we the developing countries want to change our position in the world we must to do the same. Projects like this will help to automate an important sector of our education. Through our proposed e-learning system anyone can visualize the usefulness and efficiency in the education.

Our future plan is to make our system more effective and also we want to add some application to our system like SMS alert system, text message notification over mobile, facebook application, educational game development, Cloud System and make our system for android system.

REFERENCES


