

# Web Based E-Learning Solution for Quality Education

Dr. Muhammad Haris Abid<sup>1</sup>, Zahid Javed<sup>2</sup> and Shahbaz Shoukat<sup>3</sup>

<sup>1</sup> Department of Computer Science, University of Agriculture, 38000, Faisalabad, Pakistan.

*Received: 6 December 2011 Accepted: 5 January 2012 Published: 15 January 2012*

## Abstract

Nowadays computers education is necessary in every sector whether it is public or private. General applications like Word processor, Spread sheet, Presentations and email usage is demanded during hiring someone. Under development countries like Pakistan where literacy rate is already low, facing these challenges to produce a quality computer professional. Students have to pay huge amount to get a quality computer training away from their doorstep. Private sector is trying their best to fill this gap for professional education but they offered less quality that leads their efforts towards failure. Students have keen interest to get computers professional education that can help in their future life but they came back with frustration due to low quality of courses offered at high cost. In this situation the frustration can be reduced through Elearning Program. In this paper the author try to offer a web based E-learning solution according to current market requirements. This E-Learning solution may give some hope to those who are tired from current situations.

**Index terms**— General Application, Training, Private Sector, E-learning.

## 1 Introduction

Technology exploiting is major concern in every field of life. Major goal of information technology is to provide such way which can help in these circumstances [1]. Organizations are now identifying the importance of information technology. ELearning is an advance way for getting knowledge through internet. Organizations are now utilizing e-learning methods for produce quality education which leads towards process improvement [3]. Elearning is a better option to support learning of individual and hence organizations goal achievement. Using elearning, end user can get vast knowledge at low cost with no traveling issues. Elearning is also providing ease of access to experts. User can gain knowledge with no timing restriction. There are no limitations of location; user can access it any time anywhere. Cisco and Lynda are offering elearning services now a day [9]. Recent research indicates that e-learning is fastest growing industries and earning billions. It is also opening ways for professional trainers. According to recent statistics, professional trainers are among 20 fastest mounting professionals [5]. While comparing with traditional education system, E-learning is offering number of courses as per desired by the students. Traditional learning is offering static material which is legacy according to current needs. While e-learning is offered variety of courses according to interest of end user and requirements of market [10]. Normally e-learning trainings are developed by experts and professional so end user can get benefit according to recent requirements. World Wide Web (WWW) services are providing and improving rapidly services like e-learning, e-survey, e-commerce and ebanking [3].

## 2 II.

## 3 Distance learning and Elearning

Layers shows at what level distance and elearning are located [6]. Distance learning is not new by its naming terminology. Term distance learning is common everywhere, e-learning is derived from it. Distance learning

is always comfortable way of leaning for those who cannot afford traditional education due to distance, time and cost [8]. Many universities are offering distance learning courses by using workshops and virtual classes. Workshops and virtual class rooms are also bounded for time and location. People that are tired from traditional learning are also tired from these concepts like workshops and virtual classrooms [11]. E-

## 4 Global Journal of Computer Science and Technology

Volume XII Issue XI Version I38 ( D D D D ) E

learning is free of all these where end user is not bounded for location and time. It is accessible from anywhere at any time with no restrictions [2]. It is also flexible and best choice for those who want to learn it separately. E-learning is not rocket science for which one requires costly devices. The major devices using by elearning system are Desktop computers, Notebook computers and Tablet PC [6]. These devices are also available at low cost. Therefore end user will not face any kind of problems according to cost point of view [12].

## 5 a) E-Learning Components

Before starting e-learning solution one should know it components [7]. These are i.

## 6 Contents

Contents are most important for course whether it is traditional or internet based. Contents should be manageable, deliverable and according to standards. In other words contents are structure of courses which describes its entire context.

ii.

## 7 Page Design

Page or learning environments has highly impact on student/ learner. It is like presentation of teacher in class room. Therefore e-learning modules page should be design according to end users expectations.

iii.

## 8 Content Commitment

Content should be balanced and easy to learn. E-learning is way of self learning so content should be in such manner so students will not face any problem. Elearning developers and trainers should also focus to this point.

iv.

## 9 Usability

Most of e-learning modules leads towards failure because of it are not verified, reviewed, not available when required and not up to date after some time according to current market demands. v.

## 10 Spectators

End users or spectators are the main components of e-learning as well as for traditional learning. E-learning module should be able to satisfy its spectator. Success and failure of elearning module is highly dependent on spectators.

The purpose of this paper is to provide an elearning solution according to current market requirements and which provide ease of access to end user. A web based elearning solution will offer to those who are interested to get quality education at his/her door step. Users have to pay affordable charges for course that he/she applied or registered. Different session will be offered for different number of courses at different time. User should have only internet facility to attend his/her training. He/ she can watch trainings anywhere. At the end a solution will be implemented which shows how this system will work. Implemented system will show how it is easy and effective.

## 11 a) E-Learning Web Application

There are many e-learning web applications are available now a days. Particularly in Pakistan these application are not fulfilling requirements of end user. They have poor quality in nature. Some is offering one feature and other is offering other. They are not well managed.

In learning process content, intercommunication of teacher and student and evaluation are necessary components. Some existing elearning modules do not even know them. Our elearning web application is following all necessary components of learning process. Following are the steps according to which this e-learning module will work. i.

## 12 How to Access

User can access our web based learning module very easily. User only has his/her personal computer with 1 MB internet connection speed. User has to visit our URL to access e-learning module.

---

94 ii.

## 95 **13 How to Join**

96 User just has to visit our website and sign up by giving username and password to access e-learning module  
97 (Figure 2).

## 98 **14 Course Selection**

99 After creating free account user have to select his/ her course (Figure 3) which he / she want to learn. Course  
100 contents will be available against each course. Course benefits and certificate detail will also be available. Students  
101 just have to enrol them self by selection their course and timings he/ she feels sufficient for them. Each course  
102 has prerequisites which need to be fulfill by the student. Account Info/Payment Methods Users have to provide  
103 his/her account information for payment (Figure 5). He/She have to pay nominal payment against each course.  
104 There are many payment methods of this module like credit card, cheque, through mobile recharge or new  
105 techniques like easy paisa or UBL Omni (Figure 6). Users just have to pay for course what he/ she have to learn.

## 106 **15 Getting Started**

107 After course selection and fee payment user will be able to watch his/ her course videos (Figure 7). He will be  
108 able to comment on particular video or can give feedback to us. According to feedback rating of course will be  
109 performed. Students can watch their already watched videos at any time instead of daily session timings.

## 110 **16 Contact to Trainer**

111 This e-learning module is providing contact with trainers (Figure 8). Each session will assign a trainer. This  
112 will help learners to understand course well. User can make contact with trainer through email or phone call.  
113 Trainer of particular training will be available at given time.

## 114 **17 Evaluation Criteria**

115 Different evaluation criteria's will be offered. Different quizzes will be offered for evaluation purpose. If students  
116 fail in some quiz then negative points will be marked.

117 viii.

## 118 **18 Award of Certificate**

119 Certificate will be awarded to students after completion of particular course. Certificate will be posted to his/  
120 her mentioned postal address. ix.

## 121 **19 Job Opportunity**

122 After evaluation jobs will be offered to those who performed well in his/ her training session and quizzes. E-  
123 learning is playing vital role in training of professional education. It helps those who are not able to join regular  
124 classes or don't have time for traditional learning. Several elearning web sites are available especially in Pakistan  
125 but they are not fulfilling requirements of end users. They are offering less quality of training courses hence  
126 producing nothing. We are offering a elearning web based solution that will fulfil requirements of end user. It  
127 will be quality solution. This e-learning module will offer courses in some manageable form. In future we will  
128 convert this elearning module to Mlearning. This will free of desktop PC's or Laptops. User will access our  
129 M-leaning solution on his/ her mobile device easily. <sup>1 2 3 4</sup>

---

<sup>1</sup>© 2012 Global Journals Inc. (US)

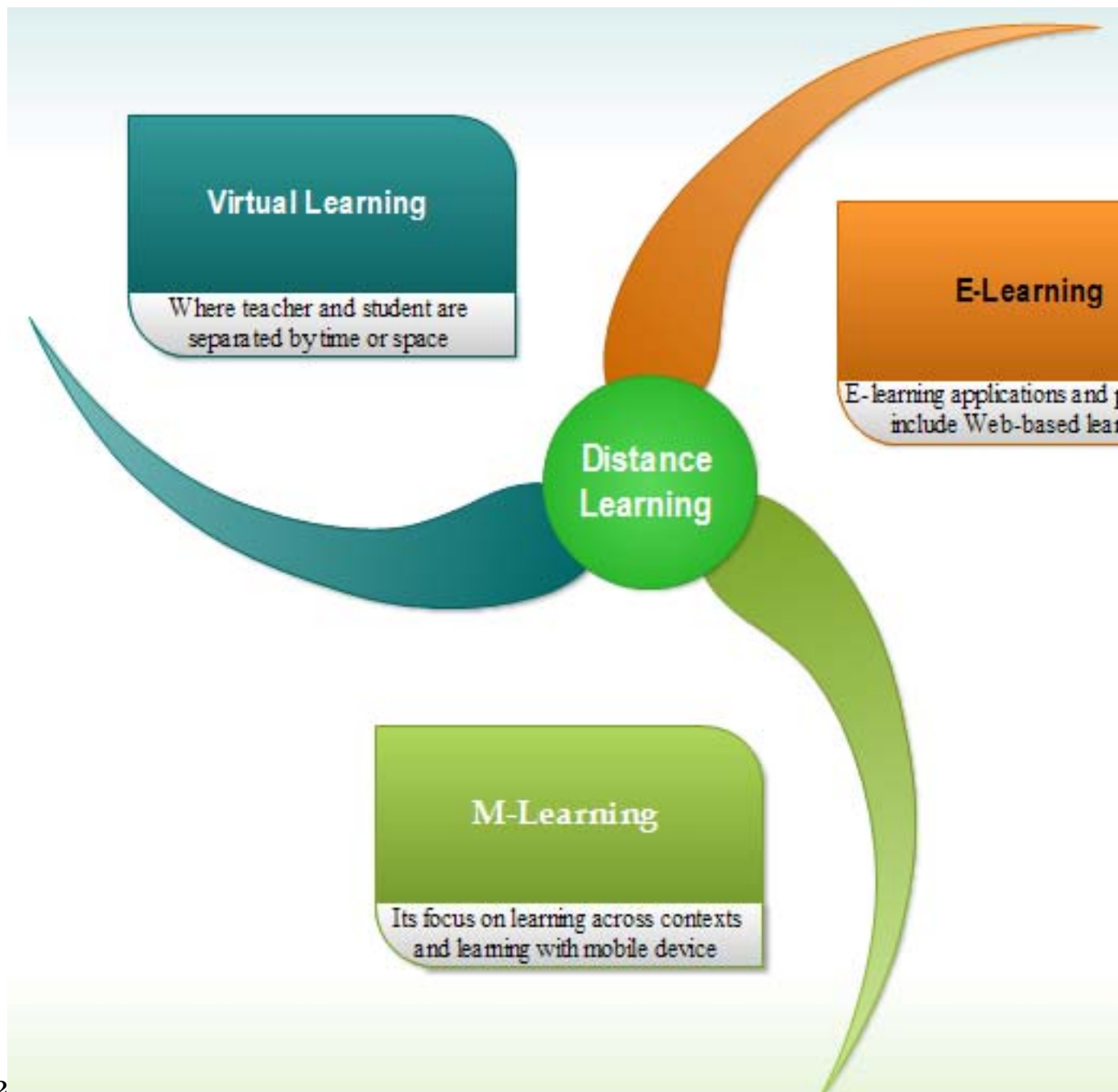
<sup>2</sup>June© 2012 Global Journals Inc. (US)

<sup>3</sup>© 2012 Global Journals Inc. (US)Global Journal of Computer Science and Technology

<sup>4</sup>M., & Voigt, D. (2003). Is e-Learning the Solution for



Figure 1: T © 2012 Figure 1 :



2

Figure 2: Figure 2 :

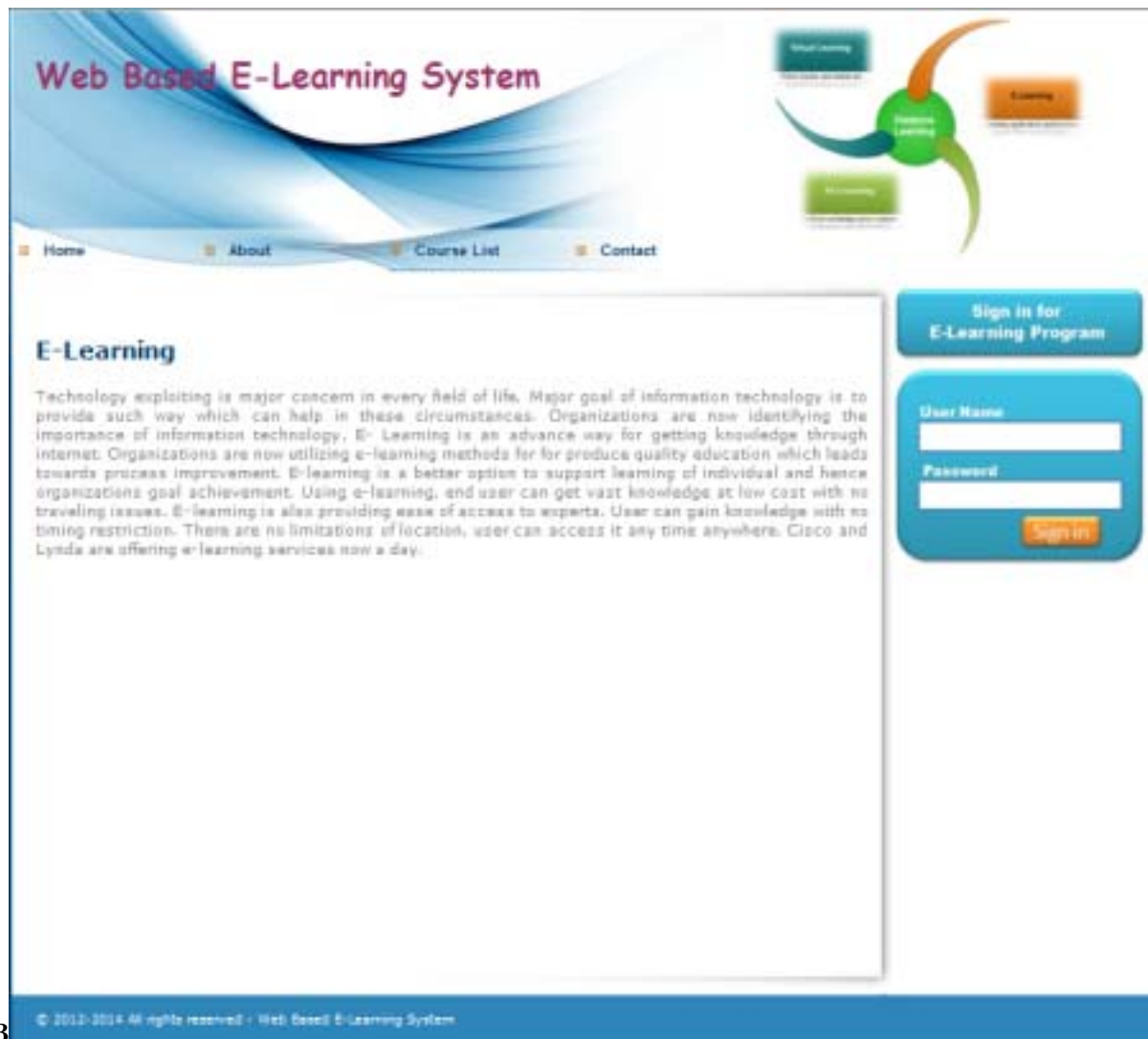


Figure 3: Figure 3 :



Figure 4: Figure 4 :

The screenshot displays a web-based e-learning system interface. At the top left, the title "Web Based E-Learning System" is shown in a blue banner. Below this is a navigation bar with links: Home, About, Course List, and Contact. On the top right, there is a circular diagram with four segments labeled "Virtual Learning", "E-Learning", "Web Learning", and "Distance Learning". To the right of this diagram is a vertical sidebar with buttons for Home, About, Course List, and Contact. The main content area features a "Time Schedule" section with a blue header. Inside this section, there are three radio buttons for "Morning", "Afternoon", and "Evening", with "Morning" selected. To the right of these buttons, it states "Your Java Course Fee is PKR: 3,000/-". Below this, a "Note:" section lists the session times: "Morning Session: 08:00 to 11:00", "After Noon Session: 13:00 to 16:00", and "Evening Session: 17:00 to 20:00". At the bottom of the "Time Schedule" section, there are two "Next" buttons. The footer of the page contains the copyright notice: "© 2012-2014 All rights reserved - Web Based E-Learning System".

5

Figure 5: Figure 5 :



Web Based E-Learning System

Virtual Learning

Distance Learning

Self Learning

Classroom

Home

About

Course List

Contact

Home

About

Course List

Contact

Account Info.

Account Info.

first name:

last name:

email:

choose user name:

choose password:

confirm password:

Next

© 2012-2014 All rights reserved - Web Based E-Learning System

Figure 6: Figure 6 :

The screenshot displays a web application titled "Web Based E-Learning System". The header includes a navigation menu with links: Home, About, Course List, and Contact. A sidebar on the right contains a vertical menu with the same links. The main content area features a "Payment Method" form. This form contains a list of payment options: Credit Card, Cross Cheque (selected), UBL Omni, and Easy Paisa. To the right of these options is a text field labeled "Cheque in favor of: IT Researcher". A "Submit" button is located at the bottom of the form. The footer of the page states "© 2013-2014 All rights reserved - Web Based E-Learning System".

Web Based E-Learning System

Home About Course List Contact

Home About Course List Contact

### Payment Method

☐ Credit Card  
☒ Cross Cheque  
☐ UBL Omni  
☐ Easy Paisa

Cheque in favor of: IT Researcher

Submit

© 2013-2014 All rights reserved - Web Based E-Learning System

Figure 7: Figure 7 :



Figure 8: Figure 8



---

[Tavangarian et al.] , D Tavangarian , M E Leypold , K Nölting , Röser .

[Georgiev et al. ()] , T Georgiev , E Georgieva , A Smrikarov . 2004.

[Jethro et al. ()] , O O Jethro , A M Grace , A K Thomas . 2012.

[Brusilovsky and Nijhavan ()] *A Framework for Adaptive E-Learning Based on Distributed Reusable Learning Activities*, P Brusilovsky , H Nijhavan . 1996. (Management)

[Ferratt et al. ()] ‘Choosing Management Information Systems as a Major: Understanding the smiFactors for MIS’. T Ferratt , W Hall , S R Prasad , J Wynn , D Jr . *Communications of the AIS* 2010. 27 (1) p. .

[Milne ()] *E-Learning: The New E-xperts*, J Milne . 2005. Haymarket Professional Publications Ltd. p. .

[Mills and Fadel ()] ‘ELearning as a Career Path In Information Systems Curricula’. R J Mills , K J Fadel . *Journal of Business Education* 2012. 5 (2) .

[Qi et al. (2009)] ‘Elearning Tools to Improve Students Learning Experience: a case study’. B Qi , L Liu , C Wang . *I .J .Modern Education and Computer Science* 2009. October. p. .

[Kayte et al. ()] ‘Implementinge Learning Programmes for Higher Education: A Review of the Literature’. O Kayte , G Singh , J Donoghue . *J of Information Technology Education* 2004. 3. University of Wolverhampton

[Choudhury et al. ()] ‘IT Careers Camp: An Early Intervention Strategy to Increase IS Enrollments’. V Choudhury , A B Lopes , D Arthur . *Information Systems Research* 2010. 21 (1) p. .

[ E- ] ‘Learning and its effects on teaching and learning in a global age’. E- . *Indian journal of education* 1 (2) p. .

[M-Learning -a New Stage of ?-Learning. International Conference on Computer Systems and Technologies]  
*M-Learning -a New Stage of ?-Learning. International Conference on Computer Systems and Technologies*, p. .

[Bourner and Flowers ()] ‘Teaching and learning methods in higher education: A glimpse of the future’. T Bourner , S Flowers . *Reflections on Higher Education* 1997. 9 p. .

[Groeneboer et al. ()] ‘Virtual-U: A collaborative model for online learning environments’. C Groeneboer , D Stockley , T Calvert . *Proceedings Second International Conference on Computer Support for Collaborative Learning*, (Second International Conference on Computer Support for Collaborative LearningToronto, Ontario) 1997.