

Training Management System
For
Everonn Systems India Limited

Project Report P-1071

*Submitted in partial fulfillment of the
requirements for the award of the degree of*

M.Sc. [APPLIED SCIENCE - SOFTWARE ENGINEERING]

BHARATHIAR UNIVERSITY

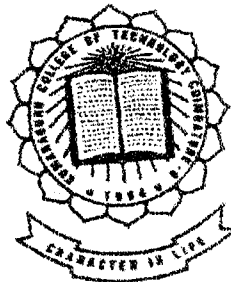
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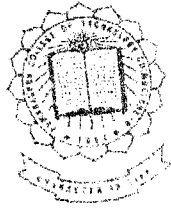
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CERTIFICATE

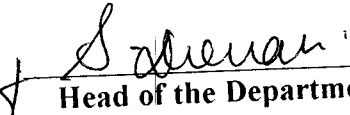


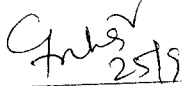
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
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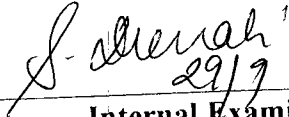
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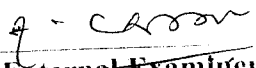
in partial fulfillment of the award of the degree of
Master of Science in Applied Science – Software Engineering
of Bharathiyar University, Coimbatore
during the Academic year 2003-2004


Head of the Department


Guide

Certified that the candidate was examined by us in the Project Work VivaVoc
Examination held on 29/09/03 and the University Register Number
0037S0090.

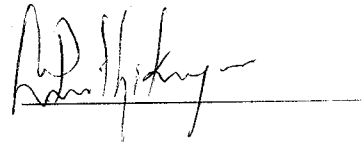

Internal Examiner


External Examiner
29/9

DECLARATION

I hereby declare that the project work titled "Training Management System" is a record of original project work done by me under the guidance of Mr. S. Jagadeesh as external guide and Mrs. V. Geetha, CSE Department as Internal guide, and this project work is not formed on the basis for the award of any degree/ Diploma / Associate ship/ Fellowship on similar title to any other candidates of any university.

Date: 25/09/03



R. Karthikeyan

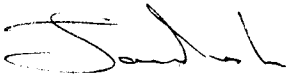


Internal Guide,
Mrs. V. Geetha
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Coimbatore.

20th September 2003
www.everonn.com

To Whom ever It May Concern

This is to certify that the project report entitled "**Training Management System**" submitted by **R. Karthikeyan**, in partial fulfillment of the requirement for the award of the degree of **M.Sc., Software Engineering** in **Kumaraguru College of Technology, Coimbatore**, is a bonafied record of work carried out at Everonn Systems India Limited, Chennai, during the month of June 2003 to September 2003.



Mr. Jagadeesh,
Project Manager,
Everonn Systems India Limited,

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I extend my profound gratitude to Dr. K. K. Padmanabhan B. Sc (Eng.), M. Tech. Ph.D., Principal, Kumaraguru College of Technology, Coimbatore for providing me an opportunity to do the project work as part of the curriculum.

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My gratitude is due to all staff members of Everonn Systems India Limited, my parents and all my friends for their moral support and encouragement for successful completion of my project.

Karthikeyan. R

Synopsis

The Title of this project is “**Training Management System**”. This project is done at Everonn System Limited, Chennai.

The Training Management System aims at providing internet based resources for interested in learning computer and acquiring knowledge of the computer subjects like, ASP, Java, .NET etc., This package is developed using HTML, VbScript, JavaScript as client’s side programming and Oracle as the Backend. Using VbScript, Java Script the form validations are done. Using ASP the Server side Scripts are done. This package mainly aims in building up a web site for this company wherein the students of Everonn and general users can access this site, which providing all the details regarding their subjects.

Above all this package has been developed in a user-friendly manner for easier access for the users.

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1. INTRODUCTION

“Online Training refers to anything delivered, enabled or mediated by electronic technology for the explicit purpose learning. The term includes online learning, web-based learning, and computer-based training. It excludes things might fit under “distance learning” BUT are non-electronic, such as books. It also includes learner to learner interactions, as occur in our online learning community.”

1.1 ABOUT THE PROJECT

Everonn Systems India Ltd is in the process of web enabling some of its training programs in order to meet the growing request from its Associates for the delivery of learning materials on their desktop.

The system through which the company Deploy and Manage this Online Training is developed. The intended users of this system will be the Associates, Members of Everonn Systems India Ltd., Project Managers, and HR.

Members from Everonn Systems India Ltd., with various degrees of Access should be able to

- Upload and Remove courses in to the System
- Schedule/ Modify Training Plan for the Associates
- Monitor the Progress of the Associates

1.2 ORGANIZATION PROFILE

Everonn Systems India Limited is a leading provider of end-to-end IT solutions and services. Our core practices are in Application Development, Integration, Migration, and Ongoing Support through our outsourced Helpdesk/Call Center practice. We deliver our solutions through a combination of offshore, onsite and offsite centers in order to deliver maximum value to our customers in India and over the world.

With a legacy of over two decades in services delivery, Everonn Systems India has developed and established its expertise and resources in key areas such as Business Solution Group, Offshore Development Centers, etc. It has set up five wholly owned overseas subsidiaries in the USA, UK, Malaysia and Singapore to provide these services globally and also with client proximity.

Skills

Our consultants are skilled in varied technologies ranging from J2EE, .net standards to middleware, application servers, packaged applications, databases and operating systems including mainframes. We are an implementation partner for SAP since 1996 and have successfully delivered on SAP projects worldwide for clients like General Motors, Samsung, GE Capital etc. Similarly, we have forged alliances with 12, BroadVision, WebMethods, Siebel, PeopleSoft, Oracle and Microsoft.

2. SYSTEM STUDY AND ANALYSIS

The design and development of the software involves the analysis of the system along with its functioning in order to test the performance of the system under development environment

2.1 EXISTING SYSTEM

Previously there was no dedicated system for online Training Management System.

2.2 USER CHARACTERISTICS

Everyone can visit this web portal. Some of the common users are

Visitor:

A Registered member of Everonn Systems Website is a visitor, who can have a look at the programmes of Everonn Systems and can have a glance at the sample contents of the web. Registration is free.

Student:

One can enroll on payment as a student of any academic programme. An enrolled student gets free access to the Library.

Library Member:

One can enroll for the Library Membership by paying annual of life membership fee. Library members have no access to the lessons online Training courses.

2.3 FEATURES OF THE NEW SYSTEM

This new system has many features and is mainly developed to promote training through the web. The other features include

- To develop and deliver internet based learning material in various computer languages
- To initiate and continue necessary measure to co-ordinate and pool together knowledge resources developed in desktop learning in different parts of the world for wider dissemination.
- To offer various courses in computer languages for audit or credit and to award appropriate certificate through Everonn Systems India Limited. Chennai.
- Some of the other benefits of online training are
 - *Cost:* The cost of online learning becomes an important benefit particularly if you factor in the travel expenses of the learners.

- *Time*: The speed of online learning becomes an important imperative in some situations: First, if you have a disbursed group of learners they may spend more time traveling to the instructor than actually learning. Second, the time will be reduced for learners who already know some of the material, as they can skim over what they already know.

- *Pace*: Learners can pace their learning according to their work demands. They can learn during chunks of free time.

- *Reference*: Learners can use the learning as a permanent reference system, which they can go back to for refreshers or if a particular need arises.

2.4 SELECTION OF SOFTWARE

Active Server Pages

These are components that allow web developers to create server side scripted templates that generate dynamic, interactive web server applications. By embedding special programmatic codes in standard HTML pages, a user can access data in a database, interact with page objects such as Active-X or Java components, or create other type of dynamic output. The HTML output by an Active Server Page is totally browser independent which means that it can be read equally well MicroSoft Explorer, Netscape Navigator, or most other browsers.

ASP make it easy for a developer to create everything from a website that is customized to a viewers tastes, to a complex database application that may access legacy data from a mainframe.

VB Script

VBScript, the newest member of the Visual Basic family of programming languages, brings active scripting to a wide variety of environments, including web client scripting in MicroSoft Internet Explorer and Web Server Scripting in MicroSoft Internet Information Server.

HTML

Hypertext Markup Language is a collection of platform independent styles that defines various components of the World Wide Web document. HTML documents are plain text files that can be created using any text editor. An element is a fundamental component of the structure of a text document. Some examples of elements are heads, tables, lists etc. to denote the elements we use tags. HTML is not case sensitive.

Java Script

Java Script codes can be added to the HTML document by using script tag. The different types of variables that can be used in Java Script are Number, Boolean, String, NULL, undefined. Arrays are considered as objects in Java Script. It performs automatic type conversion when used in expressions and statements. It performs excellent event handling techniques. When the user submits a form, java script can validate the entire form to check if the user has filled in every data before the form is send back to the server. These reduce the workload on the server.

Oracle 8i

Database applications at work is network environment can often benefit from distributing data as well as processing tasks. A distributed database is a collection of databases that appears to an application as a single, local database. Some features of Oracle 8i are as follows

1. Oracle 8i can improve throughput performance when replicating data. It reduces the amount of replicated data propagated over the network.

2. Oracle 8i supports the fast refresh of most sub query snapshots.
3. *Data Replication*: it can improve the performance of an application and a distributed database systems network.
4. *Security*: Oracle 8i provides security for client-server systems especially when they encompass multiple databases.
5. *Password Management Enhancements*: the new enhancement feature offered for password management in Oracle 8i including locking, aging and expiration.
6. *Backup and Recovery*: oracle 8i and its companion management tool Enterprise Manager includes several new features to make data base backup and recovery more automated, easier to use and faster.

Reason for Selection of these software:

Active Server Pages

Since Active Server Pages are used in the proposed system, for easy retrieval of data from the database.

Java Script & VB Script

Java Script & VB Script can validate the entire form to check if the user has filled in every data before the form is send back to the server. These reduce the workload on the server.

Oracle 8i

Oracle 8i is chosen for developing the database. The reason behind the choice of Oracle 8i as the backend in this project are as follows:

- For the optimum design of the database.
- To have a better response time.
- To maintain the security of the database.

3. PROGRAMMING ENVIRONMENT

The following Hardware & Software are used for the development of this system.

3.1 HARDWARE REQUIREMENTS

Processor	: Intel Pentium II & above
Ram	: 126 MB & above
Hard Disk	: 10 GB & above
Display	: 14 SVGA Color Monitor
Keyboard	: Standard 104 Keys

3.2 SOFTWARE REQUIREMENTS

Server Side	: Active Server Page (ASP),
Client Side	: VB Script , Java Script , Html
Back End	: ORACLE 8i

Web server - Personal Web Server (PWS)

4. SYSTEM DESIGN

It describes about the different level of design like Input design, Output design, Data base design with data flow and work flow diagrams.

4.1 Input Design

Input design or form design consists of design the screens for accepting input. The user inputs are collected as screen entries. The screen has been designed in a way to provide GUI features to the user. The input screens are designed in a way as to control the amount of input required, avoid delay and keep processing simple.

The form layout is designed to be user friendly. Layout labels are made self-explanatory. Drop down lists are provided in case of item selection. The user can choose from the valid data from the list providing thus avoiding erroneous data. Command buttons are provided for all activities that take place through the form such as additions, deletions etc. Input data is valid in screen entries itself. Appropriate error message and warnings are displayed for user's convenience.

Various Input Details implemented in this system are

- Login Screen with user name and password specifications.
- Registration for a new membership account. Which provide new username and password

- Registration form for a new user, which has various details like first name, last name, address, city, state, pin code etc.
- Credit card information screen that has card type, name, number, expire date.
- Lesson sample input screens, that gives the various information about different lessons and chapters included in the series.
- Availability of courses, which course ID, course name and duration.
- Test details, which has a input screen for registration of exams
- Member list details that tells the complete details of the complete of members registered in that particular group
- Electronic Information submitted to smart certificate direct, where messages can be interacted through Electronic mail.
- Compose and Inbox are provided to receive and generate mail.

4.2 Output Design

The Output for this system is required primarily to communicate the result of processing to users. The outcome of data processing will be a set of information in a neat layout that is used for analysis and decision-making. This Output design involves the designing of the format of processed data. The output screen has conveyed the details clearly to the user.

This system generates the information from database to view it for the user as per the user required. The different output designs generated in this system are:

- View of the different courses available
- Describes the fee detail structure paid by the student in installment basis and details about date of payment made, first, second and installment made
- Display the result structure in the privacy details of the particular user.
- Lesson sample details are encountered and displayed from the database as per the user requirement i.e. selection details of the particular topic by the user.
- Separate library functions are provided to the registered user to view any details of the course from the database.
- Check out detail such as billing information with the complete details of amount paid in installment, start and finish date of the course and certificate details.

4.3 Database Design

The database approach to system design places great emphasis of integration, integrity and independent of data. The system uses around fourteen tables in which one is a master table and the rest is the transaction table. The master table contains the data that are fixed and do not change frequently. The transaction table is maintained to record daily transactions. Tables are normalized to data redundancy. Primary key and foreign key are provided for integrity.

The table listings are presented in the appendix. *Ref. Page No. 32*

4.4 DATA FLOW DIAGRAM (DFD)

A DFD is a graphical notation used to describe how data flows between processes in a system. The various DFD are shown from fig (i) to (iv)

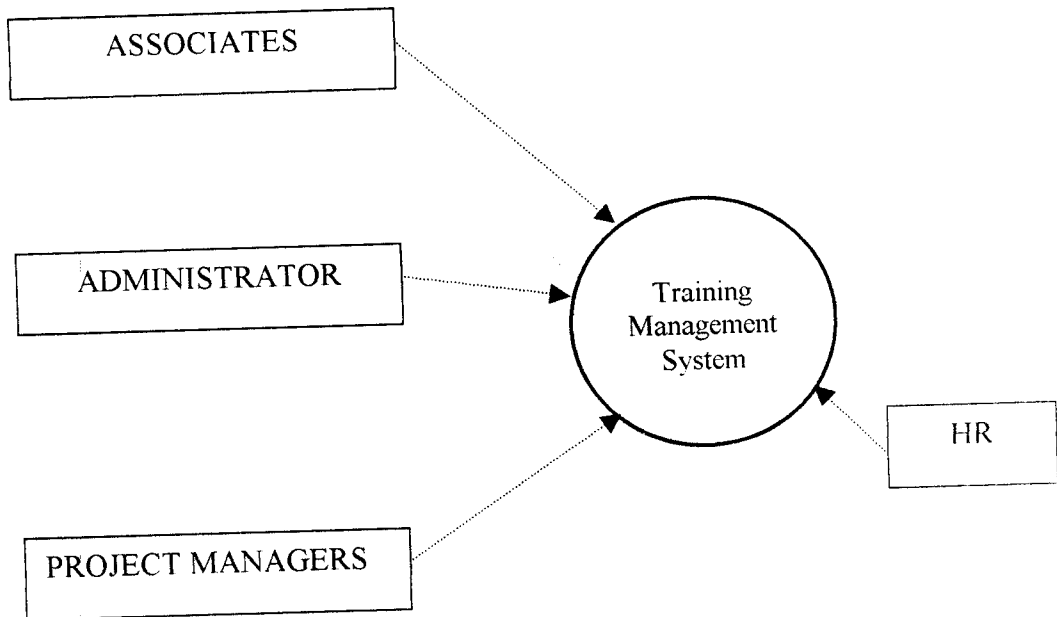


Fig (i) TMS Data Flow Diagram

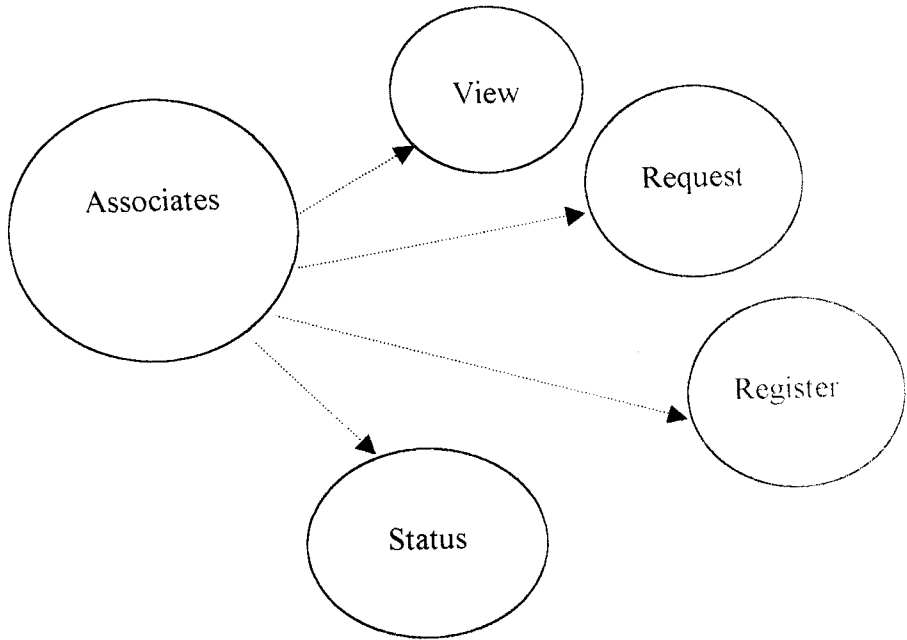


Fig (ii) Associates Flow

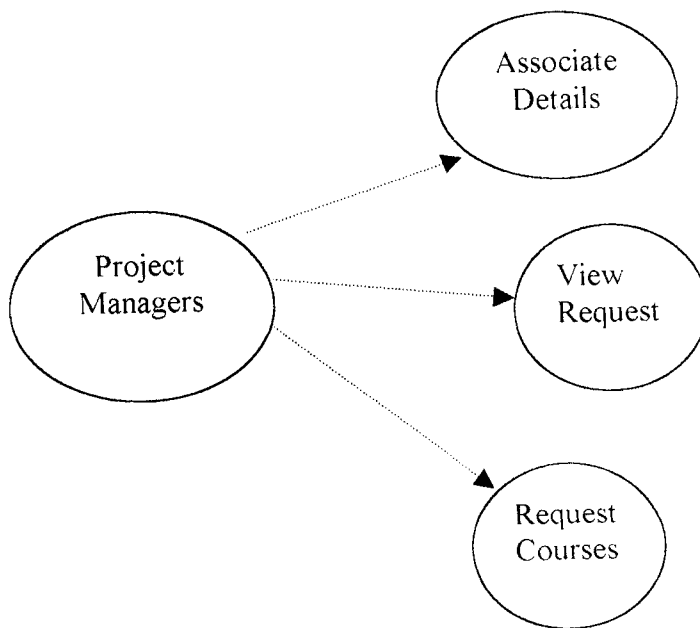


Fig (iii) Project Managers Flow

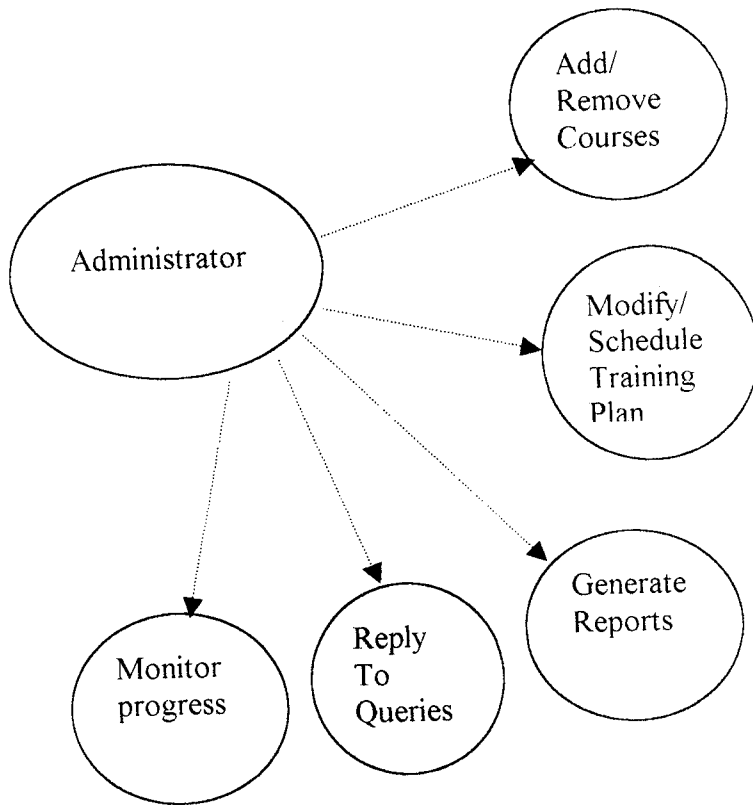


Fig (iv) Administrator Flow

4.5 WORK FLOW DIAGRAM

It describes how the flow of messages carried out across the network. The graphical layout of this system is given below

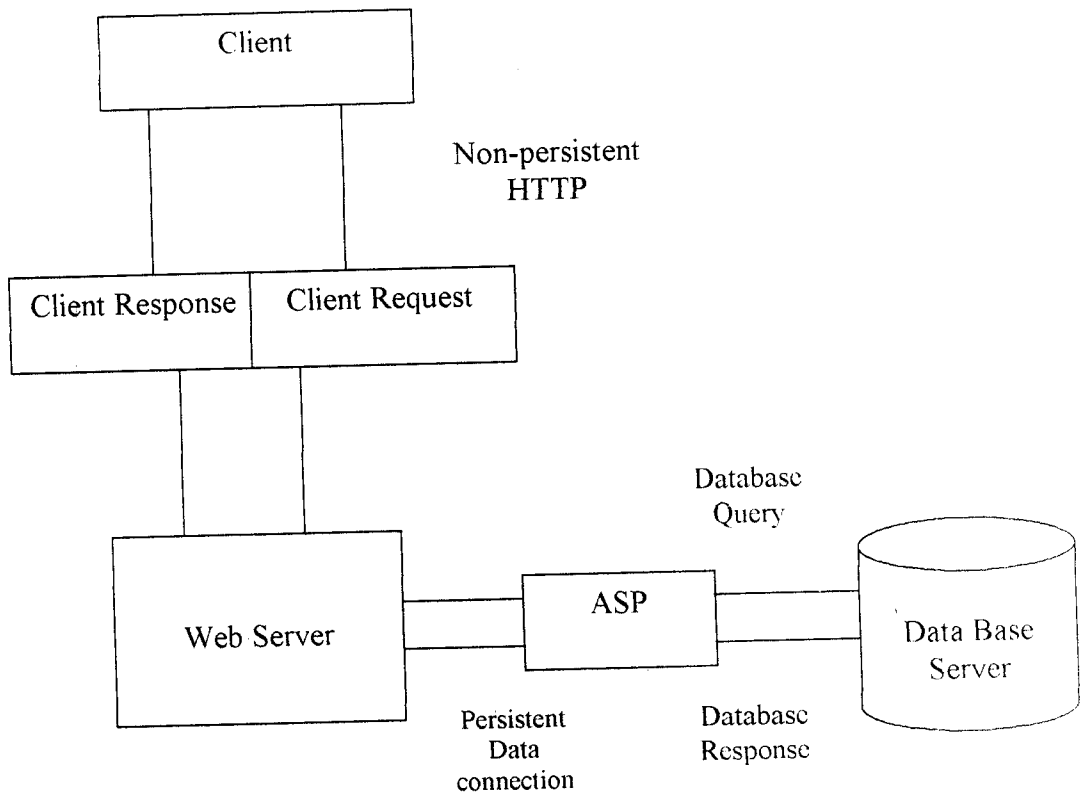


Fig (iv)

5 SYSTEM IMPLEMENTATION AND TESTING

It describes about the various implementation plan and various phases involved under testing.

5.1 SYSTEM IMPLEMENTATION

Implementation is the stage of the project in which the developed system is implemented in the real time environment. Thus it can be considered to be the most crucial stage in achieving a successful Online Training Management System.

The implementation plan consists of the following steps.

- ❖ Testing and developed system with sample data
- ❖ Detection and correction of errors
- ❖ Testing the system to meet user requirements
- ❖ Changes were made according to user's suggestions
- ❖ Training and involvement of the user

The system developed can be implemented in any system, which meets the basic requirements.

5.2 SYSTEM TESTING

Software testing is very important and essential element in order to maintain the software quality. Software quality and assurance represents the ultimate review of specification design and coding. The increasing visibility of software as a system element and the cost associated with the software failures are motivating forces for a well planned testing.

The various phases involved under testing in this system are as follows.

1. Unit testing
2. Code testing
3. Validation testing
4. Output testing
5. User acceptance testing

Unit testing

Unit testing is considered as an equivalent to the coding step. Unit testing was carried out during the programming time itself. The source code level was developed, reviewed and verified for correct syntax.

Code testing

All the logical codes used in the sub systems are tested individually. All combination of code testing is performed and the results are compared with the original data. Thus, the code testing has been done for all the codes of the system.

Validation testing

A test plan outlines the classes of tests to be conducted and a test procedure defines the specific test cases that has been be used to demonstrate the conformity with the requirements. Both, the plan and the procedure were designed to ensure that all functional requirements are achieved. Documentation is correct and other requirements were met, after each validation test has been conducted.

Output Testing

Output testing is done to test whether the software provides the desired output.

The output testing in this system has involved checking of the output from the software through various dummy inputs. If the output provided is as expected, then the software has been considered to give the desired output for the inputs given.

6. CONCLUSION

The System thus implemented enables Everonn Systems India Limited in the process of web enabling its training programs in order to meet the growing request from its associates for the delivery of learning materials on their desktop.

The administrator managing the system would be able to easily modify/schedule training plans, Add/Remove courses etc. The associates will also be able to view the list of courses available and also register in the course they wish good graphical interfaces are also provided for enhanced interaction.

The functions provided were Associates, Administrator, and Project Managers.

7. FUTURE ENHANCEMENTS

The system has been developed with the present working condition and the environment in mind. The current environment is a fast growing area and new features, new technologies and different work styles are expected. Hence the system has been developed with near future needs in mind and it has appropriate slots for any future modifications.

8. BIBLIOGRAPHY

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TABLE STRUCTURE

Table Name: Course

PRIMARY KEY: COURSE_ID

FIELD NAME	DATA TYPE	SIZE
COURSE_ID	VARCHAR	10
NAME	VARCHAR	30
DURATION	VARCHAR	15

Table Name: Course_Fee

FIELD NAME	DATA TYPE	SIZE
COURSE_ID	VARCHAR	10
FEE	NUMBER	10
INSTALMENT	NUMBER	10
DISCOUNT	NUMBER	10
COURSE_NAME	VARCHAR	30

Table name: Instalment_paid

FIELD NAME	DATA TYPE	SIZE
STUD_ID	VARCHAR	10
STUDENT_NAME	VARCHAR	25
DATE_OF_JOIN	DATE	8
FIRST_INST	NUMBER	10
SECOND_INST	NUMBER	10
THIRD_INST	NUMBER	10
COURSE_ID	VARCHAR	10
DISCOUNT	NUMBER	10

Table Name: Test

FIELD NAME	DATA TYPE	SIZE
Q_NO	NUMBER	10
QUESTION	VARCHAR	200
CHOICE1	VARCHAR	75
CHOICE2	VARCHAR	75
CHOICE3	VARCHAR	75
CORRECTION	VARCHAR	75

Table Name: Performance **PRIMARY KEY: STUD_ID**

FIELD NAME	DATA TYPE	SIZE
STUD_ID	VARCHAR	10
STUD_NAME	VARCHAR	20
COURSE_ID	VARCHAR	10
TEST1_MARK	NUMBER	10
TEST2_MARK	NUMBER	10
TEST3_MARK	NUMBER	10
RESULTS	VARCHAR	10
REMARKS	VARCHAR	30

Table Name: Registration

FIELD NAME	DATA TYPE	SIZE
FIRST_NAME	VARCHAR	20
LAST_NAME	VARCHAR	20
ADDRESS1	VARCHAR	30
ADDRESS2	VARCHAR	30
CITY	VARCHAR	20
STATE	VARCHAR	20
PINCODE	VARCHAR	10
MAIL_ID	VARCHAR	25
SEX	VARCHAR	7
QUALIFICATION	VARCHAR	25
DOB	DATE	8

Table Name: Login

PRIMARY KEY: STUD_ID

FIELD NAME	DATA TYPE	SIZE
STUD_ID	VARCHAR	10
PASSWORD	VARCHAR	20
STUD_NAME	VARCHAR	20

Table Name: Credit_Card

FIELD NAME	DATA TYPE	SIZE
CARD_NO	NUMBER	16
CARD_NAME	VARCHAR	30
CARD_TYPE	VARCHAR	5
CARD_EXP	DATE	8
CARD_LIMIT	NUMBER	12,2
PINNO	NUMERIC	10

Table Name: Course_Material

FIELD NAME	DATA TYPE	SIZE
CD	VARCHAR	20
BOOKS	VARCHAR	20
PRINTEDMATERIAL	VARCHAR	20
FLOPPY	VARCHAR	20

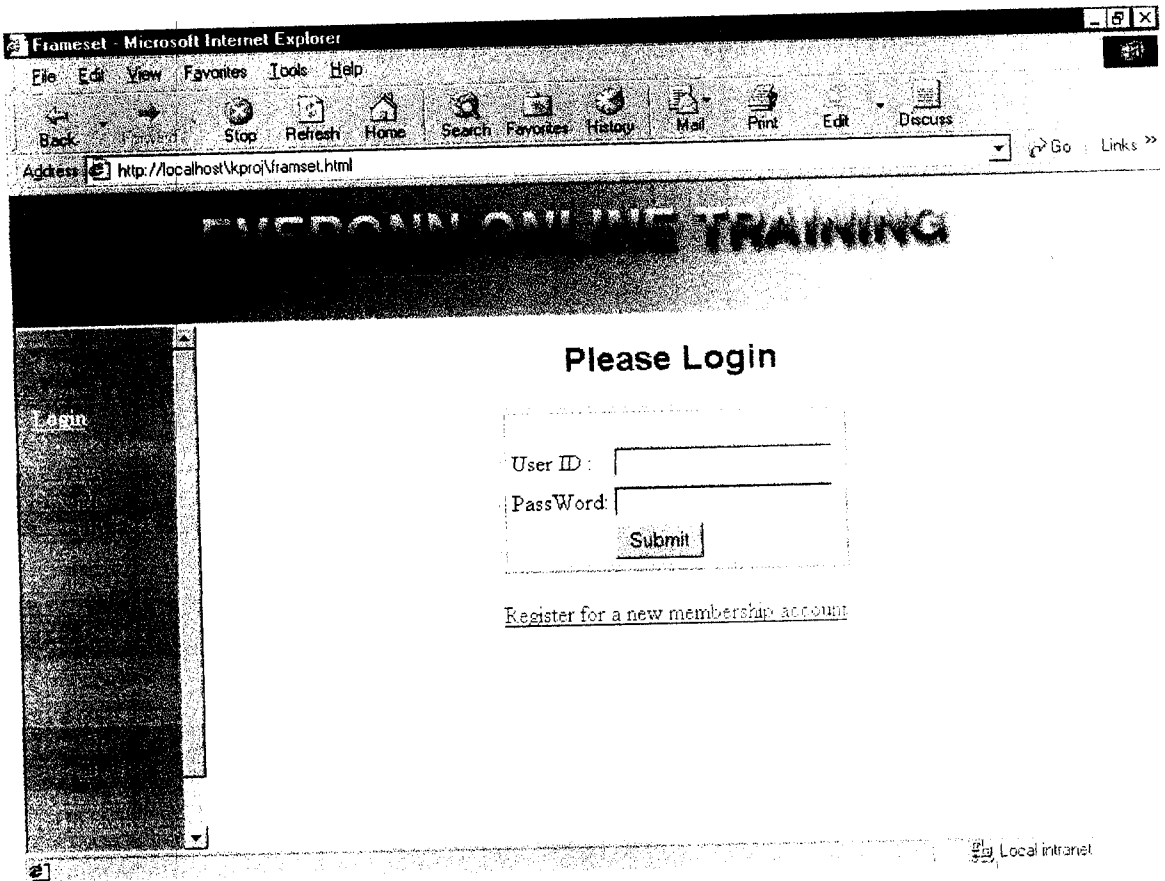


Figure 1

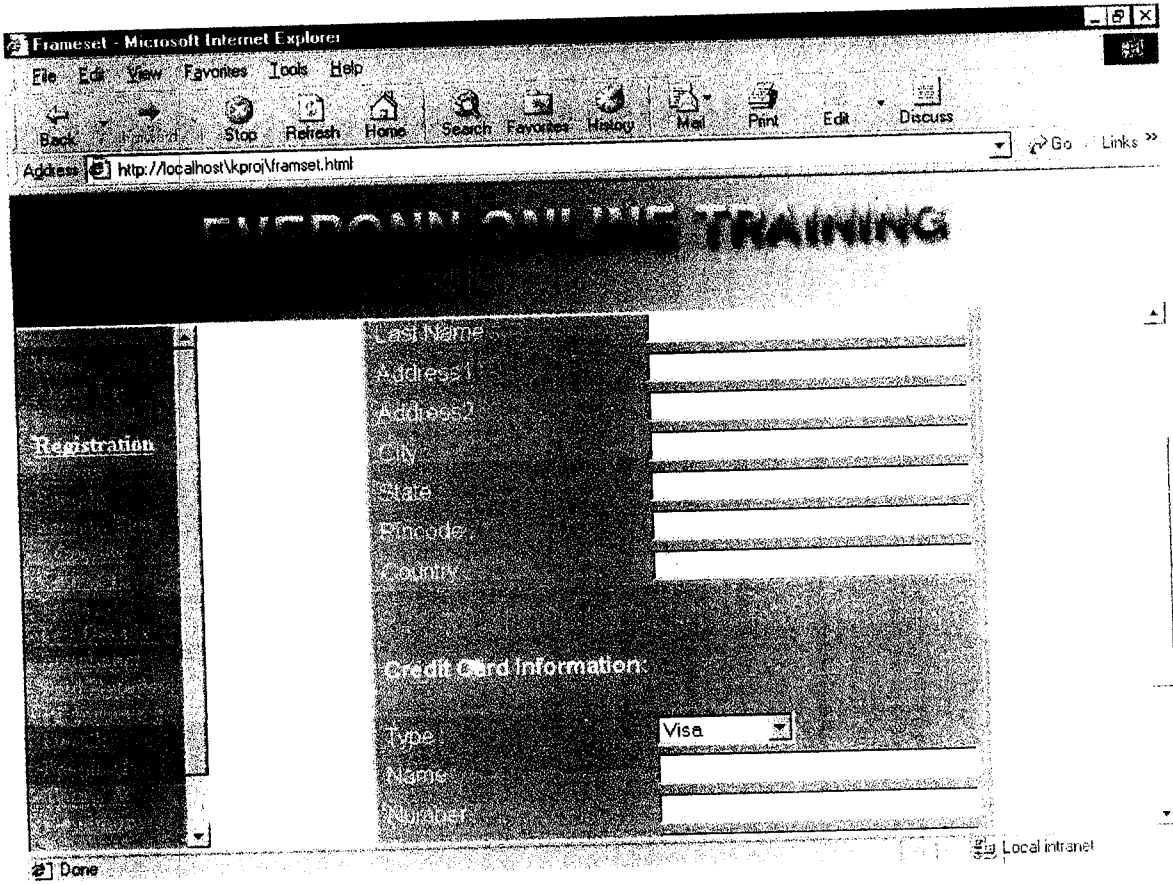


Figure 2

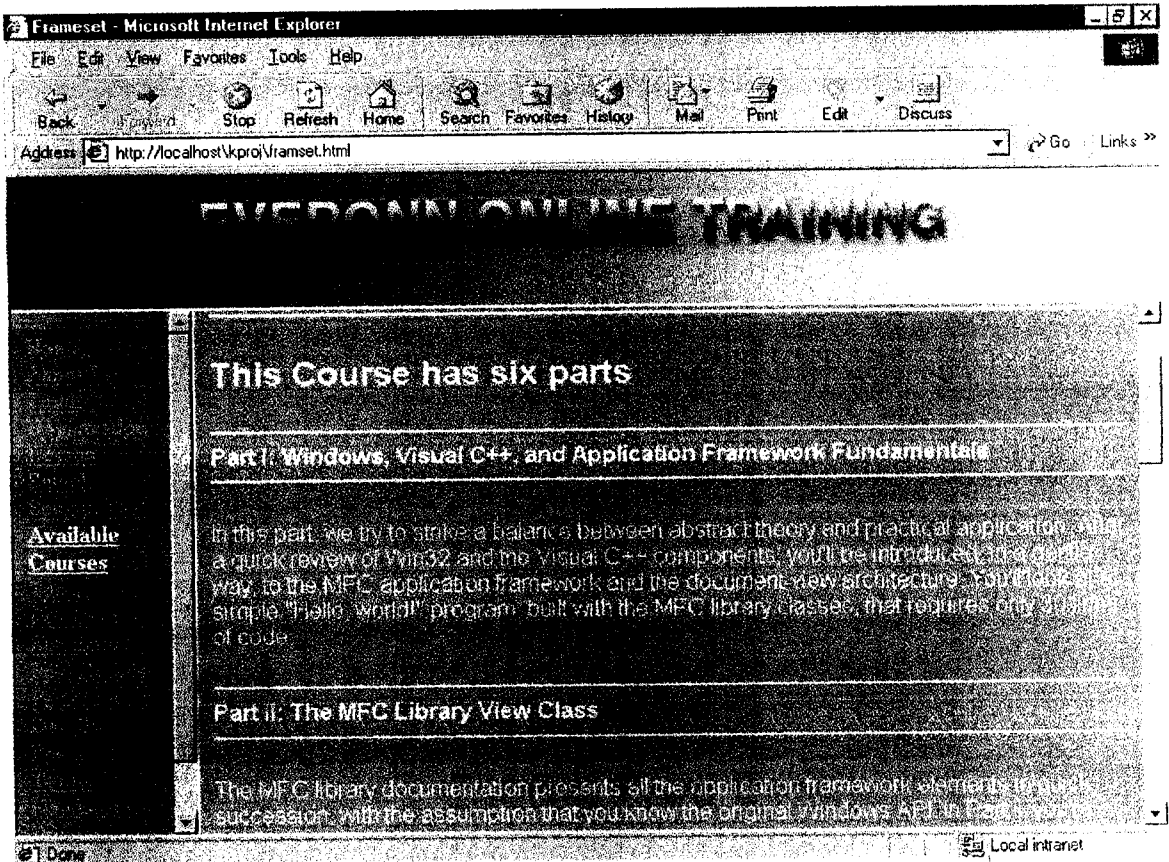


Figure 5

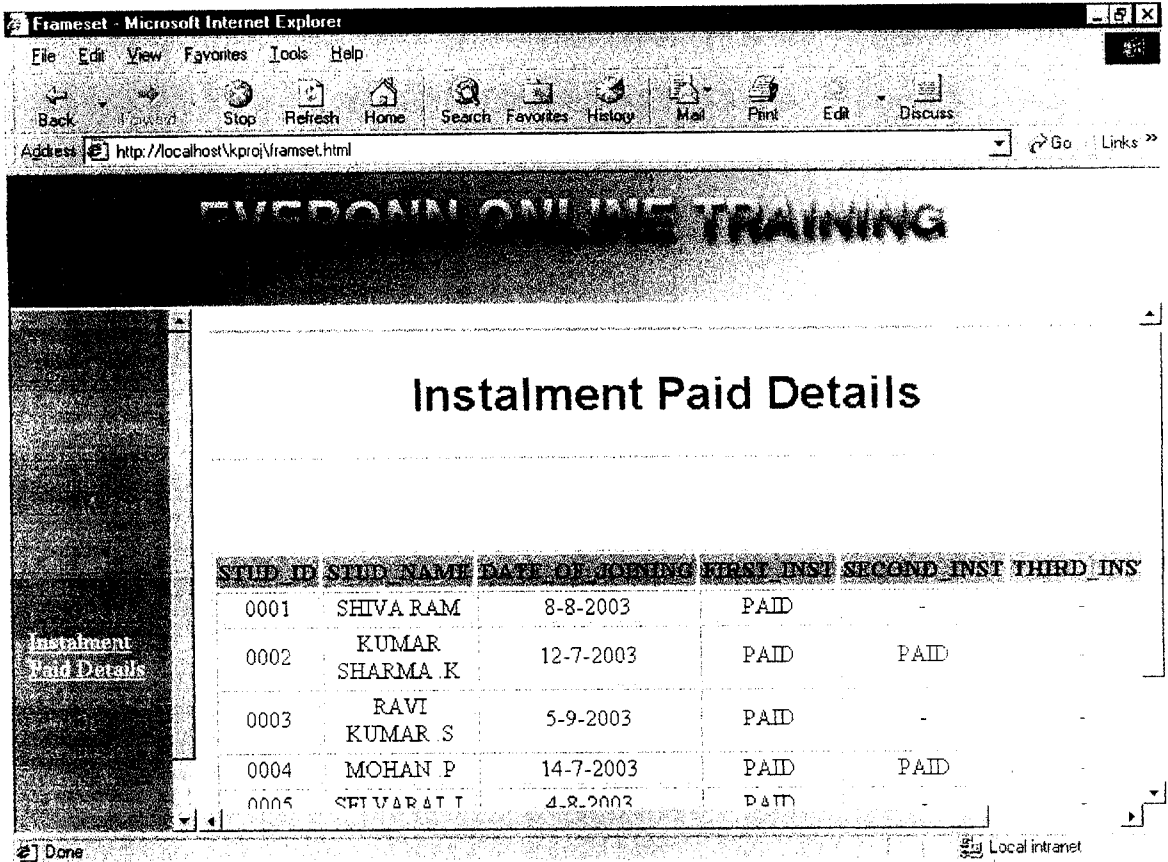


Figure 7

