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**1. TITLE OF THE PROJECT:**

**E-Learning**

**1**

**2. INTRODUCTION AND OBJECTIVES OF THE PROJECT**

**INTRODUCTION**

**2.1About the Project:**

E-learning is another form of distance learning where education and training courses are delivered using computer technology. Typically, this means that courses are delivered via the Internet, e-learning is becoming more and more popular.   
E-Learning is a web application uses JSP. The database is MySQL. This online application enables the end users to register online, select the subject, read the tutorial and appear for the exam online. The results of the exams are also declared just after taking the test. The minimum pass percentage is 50%. A person is given three attempts to pass a paper. In subjects containing more than one exam, the candidate should take tests in a particular sequence and also he can attempt the next test only if he has completed the previous papers. The correct answers for the questions are displayed after the exam. The date of the registration, date of exam, number of attempts, test result etc. are stored in the database.

**2.2. Objectives:**

Education through the internet, network and a computer is E-learning. This helps in network enabled transfer of skills and knowledge. E-learning refers to use of electronic applications and processes to learn. This is a web based application which can be hosted in the website of any training institute. The students will be able to register online, read the course material and write online exam. Certificates also will be issued online.

The objectives of this project are   
• To provide distance learning  
• To make it convenient for people who have other commitments  
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• Cost reduction  
• Reduced paper work  
• Computer evaluated tests

**2.3. Understanding of existing system:**

Shows educators and trainers how to adapt teaching methods and materials to make use of the Internet. Including a framework showing how to apply Internet technology progressively as skills and confidence grow, the project demonstrates the route from adapting materials to developing a virtual course.

Nowadays, when people are not having time to visit an institute. Therefore, the software is designed to provide the education through Internet. The project “E – LEARNING” helps the common world in any field they are to get the knowledge what they want even sitting at there places. This helps them to spare time in their busy schedule and save their time during transportation.

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**3. PROJECT CATEGORY:-**

**Internet with RDBMS**

RDBMS(Relational Database Management System) is a type of database management system that stores data in the form of related tables. Relational Databases are powerful because they require few assumptions about how data is related or how it will be extracted from the database. As a result, the same database can be viewed in many different ways.

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**4. TOOLS/PLATFORM USED:-**

**HARWARE AND SOFTWARE REQUIRMENT SPECIFICATION**

Hardware and the software plays a major role in the development cycle of any system, right from the planning phase to the end of the development process and then in the implementation of the system. The Hardware and the software requirements are the key factors during the feasibility of the candidate system.

**4.1. Software requirements:**

|  |  |  |
| --- | --- | --- |
| **Sno.** | **Name** | **Description** |
| 1 | OS | Windows XP, Windows 7 |
| 2 | Web Server | Apache Tomcat 6.0.35 |
| 3 | Front End | JSP, Servlet |
| 4 | Front End Editor | MyEclipse8.5 |
| 5 | Back End | MySQL 5.5 |
| 6 | For Documentation | MS Office 2007 |

**4.2. Hardware requirements:**

|  |  |  |
| --- | --- | --- |
| **Sno.** | **Name** | **Version** |
| 1 | Processor | Dual Core |
| 2 | RAM | 512MB |
| 3 | HDD | 15GB |

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**5. REQUIREMENT ANALYSIS:**

**5.1. FEASIBILITY STUDY**

This part or aspect of systems analysis that concentrates on finding out whether an intended course of action violates any constraints is referred to as FEASIBILITY analysis .All the projects are feasible – given unlimited resources and infinite time! Unfortunately, the development of a computer –based system or product is more likely beleaguered by scarcity of evaluate the feasibility of a project at the earliest possible time of project inception.

**Technical Feasibility-**

Internet is available all through the world these days. The hardware required is not a costly affair. Every student who wants to study on the website may use his/her personal computers or tablets etc. to access the website.

**Economical Feasibility-**

**The project is not a costly product for the customer, as the database used in the product is MySQL which is open source.only one or two technical personnels are required to host the website. The administrator himself can upload the files(study material) which does not requires extra training.**

**The JSP is used to design the front end of the product which does not requires any license.**

**Operational Feasibility-**

The website would have a good GUI so no training would be required to access the product. The student registering for study and certification should only know English language, basic knowledge of computer and knowledge of internet browsing and surfing.

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**5.2 PROJECT PLANNING AND SCHEDULING:**

**GANTT CHART**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Task No**. | **Task** | **Jul-Aug** | **Aug-Oct** | **Oct-Jan** | **Jan-Feb** | **Feb-Mar** | **Mar-Apr** | **Apr-May** |
| 1 | Requirement Analysis |  |  |  |  |  |  |  |
| 2 | Design |  |  |  |  |  |  |  |
| 3 | Coding |  |  |  |  |  |  |  |
| 4 | Testing |  |  |  |  |  |  |  |
| 5 | Documentation |  |  |  |  |  |  |  |
| 6 | Implementation |  |  |  |  |  |  |  |
| 7 | Final Review |  |  |  |  |  |  |  |

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**5.2.1 DATA FLOW DIAGRAM (DFD)**

Student

Student

Administrator

student\_info, result\_info, test\_info,

course\_info, content\_info

course\_detail, content\_detail

verification\_detail, test\_detail

course\_info, content\_info

student\_info, test\_info

student\_detail, test date\_detail

**Administrator**

**0-level DFD (Context Level DFD)**

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**5.2.2.DATA FLOW DIAGRAM (DFD)**

**1-level DFD**

**5.2.3. ERD**

**6. SCOPE OF THE SOLUTION:**

E-learning can be helpful in using it as a proper way to leverage quality of education as it breaks the barriers in terms of geography, time, quality and competent teachers.

 It gives the users a great bit of independence and freedom to follow a routine that is of convenience and in accord with his time available. There are no strict routines to be followed, no commuting problems, learning time at your discretion and the best part is that you have the access to courses irrespective of the location and to unlimited related content.

**Helps in developing knowledge of Internet:**E-learning helps in developing knowledge of the Internet. The concept of E-learning also encourages students to take personal responsibility for their own learning. When the learners succeed, it builds self-confidence and self-knowledge.

**Flexibility:**Another benefit of E-learning is flexibility. The greatest advantage of E-learning is that it has the advantage of taking class anytime anywhere.

**Cost-effective:**E-learning is most cost-effective than traditional learning as less time and money is spent travelling. This type of learning is less costly than doing learning at a traditional institute.

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**7. COMPLETE STRUCTURE**

**7.1. Module Description**

Registration:-

1. This module use for registration of student. It takes student detail as input and generate student info and store it into database
2. It verifies the user with the help of verification detail which comes from admin module.
3. It store student info in database which uses for login.

Study:-

1. This module takes student detail from database and course detail and content detail from admin module.
2. Give content info, course info, student info and test info to student.

Test:-

1. This module takes course info, student info from study module, test info from admin module and test registration info from registration module as input.
2. Provide student info, course info, content info, result info to admin as output.
3. It also gives result info to the user.

Admin:-

1. It takes test details, course and content details from admin, and test info from test database.
2. Send test info to test module.
3. And also send course and content detail to the study module.

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**7.2. Data Structure**

STUDENT

|  |  |
| --- | --- |
| Student Name | Char(20) |
| Course | Varchar(10) |
| Email ID | Varchar(20) |
| Password | Varchar(20) |
| Test Date | Date |
|  |  |
|  |  |

COURSE

|  |  |
| --- | --- |
| Course Name | Varchar(20) |
| Course Id | Varchar(20) |

TEST

|  |  |
| --- | --- |
| Course ID | Varchar(20) |
| Question ID | Varchar(20) |
| Choice1 | Varchar(255) |
| Choice2 | Varchar(255) |
| Choice3 | Varchar(255) |
| Choice4 | Varchar(255) |
| Answer | Number(3) |

CONTENT

|  |  |
| --- | --- |
| Content ID | Varchar(20) |
| Content Name | Varchar(20) |
| Course ID | Varchar(20) |

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RESULT

|  |  |
| --- | --- |
| Course ID | Varchar(20) |
| Email ID | Varchar(20) |
| Status | Varchar(20) |

TEMP STUDENT

|  |  |
| --- | --- |
| Student Name | Char(20) |
| Course | Varchar(20) |
| Email ID | Varchar(20) |
| Test Date | Date |
| Password | Varchar(20) |

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**7.3 PROCESS LOGIC OF EACH MODULE:**

**REGISTER:**

**INPUT:** student detail, test date, verification of student by administrator.

**process:**

* take the input information from student.
* store the information of student in temp table.
* verify the student.
* store the verified student information in student database.

**OUTPUT:** information of student is stored in database.

**study:**

**input:** student information, content information, course information.

**process:**

* Student selects course and content for study.

**OUTPUT:**study course information and student information to test process and

Test date information, student information, course information and content information to student.

**ADMIN:**

**INPUT:**test detail, couse detail & content detail from administrator.

**PROCESS:**

* Stores test information in database.

**OUTPUT:**test detail to test, course information and content information to study process.

**TEST:**

**INPUT:**study course information & student information from study process, test date information from registration process and test information from admin process.

**PROCESS:**

* Conducts test process and process result**. 15**

**OUTPUT:**test information, student information course information content information and result information to administrator and result information to student.

**7.4 LIST REPORT THAT ARE LIKLELY TO BE GENERATED:**

* **STUDENT INFORMATION TABLE:**

This table consists of the information of the registered student at the website.

* **RESULT:**

This table consists of the information of the student status of pass or fail in exam.

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**8. IMPLEMENTATION OF SECURITY MEASURES AT**

**VARIOUS LEVELS**

The three components of information security are as follows:

* **Confidentiality:** Preventing unauthorized disclosure and use of information.
* **Integrity:** Preventing unauthorized creation, modification or deletion of information
* **Availability**: Preventing unauthorized delay or denial of information.

Security is very much required to prevent unauthorized access and malicious practices. In the software, there are two levels of security. The 1st level of security, which is provided by the FRONT END and 2nd level of security provided by the BACK END(database).

**FRONT END SECURITY:**

Primary goal of authentication is to allow access to legitimate system users and to delay to authorized parties. User name and password is a simple form of user authentication.

**BACK END SECURITY:**

In the particular software our back end used is MySQL. So all the inbuilt security aspects provided by the MySQL database is used as it is. It will provide the strong feature of security so that it will be difficult to change, modify any personal data.

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**9.FUTURE SCOPE AND FURTHER ENHANCEMENT OF THE PROJECT:**

* Further enhancements to this project will be to create a module for video upload and download.
* Another enhancement would be allow video conferencing.
* We will use payment gateway for online transaction.
* Other enhancement would be to allow multiple choice questions and subjective questions. This would allow many varieties of questions to be added. The tutorials can be made available in flash format and other animated formats.

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**10. CONCLUSION:**

We have successfully designed a project on E – Learning. This project is designed for “Online Education”. This project is designed in JSP (Java Server Pages) which runs on Apache Tomcat Web Server.

Keeping in view these facts we will develop successfully. Developing the project will help us some experience on website development. **19**