**Title: Design of LMS (Student Module)**

**1.1 Introduction**

Learning Management System is designed for providing the online education for the students. It provides the Student Teacher Interaction. Basically LMS will provide facilities for students such as Distance Learning Program, Online Tutorials, and student can give test. It provides all facilities for the students which are needed for students during studies such as books, videos, tests and assignments for particular chapter. Student can access the website by providing the student id and password.

LMS’s promises to save money by delivering education to students that are unable to attend classes because of time and distance. This is a great advantage for non-traditional students who can’t attend the classes regularly. Using LMS, Student can attend class online. LMS is here defined as interactive learning in which the learning content is available online and provides automatic feedback to the student’s learning activities. Online communication with real people may or may not be included, but the focus of LMS is usually more on the learning content than on communication between learners and tutors.

**1.2 Hardware and Software Requirements**

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| Software Requirements | |
| **Tool** | Net Beans IDE 8.0 |
| **Server** | Apache 7.0 or Above |
| **Data Base** | MySQL 5.6.12 |
| **Browser** | Mozilla or Chrome or IE |

|  |  |
| --- | --- |
| Hardware Requirements | |
| **RAM** | Min 1 GB |
| **OS** | Window 7/ windows 8 |
| **CPU** | Core 2 duo or Above |
| **Hard Disk** | Min 320 GB |

**1.3 Software Requirement Analysis**

1. **Defining a problem**

LMS is designed to overcome the problems which were being faced by the students. The problems are such as somehow student is not able to attend the class. LMS provides an interaction to the student, student can watch the video of the class anytime, anywhere & multiple times. They can read books online without downloading.

Learning Management System is used to increase the performance of the student by interacting with the application. Student can also give assignments and tests for self-preparation. There is no need to wait for declaration of the result. Score Card and Answer Sheet will be displayed after submitting the Assignment or Test.

1. **Module Description and their Functionalities**

Learning Management System is used to describe a wide range of modules to track students and functions such as:

* Notifications.
* Studies subject.
* Give Test and Assignments
* View Videos and Books
* View Performance
  1. Login

Student can only access the website, if student has student id and password. Student id and password will be provided by the Admin, when student is registered.

* 1. Subject available for studying

Student can select subject. Chapter will be viewed on the web application. He/She can select chapter according to his/her needs. After selecting chapter, student will get assignments, videos, books & tests of selected chapter.

* 1. Books

Student can view books of particular chapter. LMS will provide books for students. Student can download the book and can read the book online.

* 1. Videos

Student can view the videos of selected chapter.

* 1. Test

Student can give test for particular chapter. Student will simply click on Give Test. Test timing will start and questions will be displayed to the student randomly. After submitting the questions, student can review the questions, & edit the questions. Score Card will be displayed on the screen. LMS will provide the link for students from where they can view the answer sheet.

* 1. Assignment

This module provides assignments for the students. Student can view assignment, download assignment, and upload answer sheet.

In View Assignment, Student can give the assignment of the particular topic and check the marks and answer sheet also.

* 1. Notifications

Student can view updated notification in Notification Tab. Student can leave any query or doubt by writing query in notification reply block. Admin will deliver answer of the posted query.

* 1. Performance

Student can view the performance what he got in the test or assignment such as Credit,

Result date, date of submission.

**1.4) Diagrams**

1. Module Interaction Diagram

Sequence Diagram:

It emphasizes on time sequence of modules in which they are being called.

* Purpose of Interaction Diagram:
  + To describe the modules flow.
  + To describe interaction between modules of the student of the LMS.

Figure 1.1

1. Class level Diagram

It describes constructing code of the software application. Classes are represented in box.

Boxes contains three sections:

* The top section contains name of the JSP page
* The middle section contains attributes of the JSP Page.

Attribute name: data type of attribute= value assigned for attribute

* Bottom section includes operation of the class or functions.

Figure 1.2

1. E-R Diagram

**Entity–relationship model** (**ER model**) is a data model for describing the data or information aspects of a business domain or its process requirements, in an abstract way that lends itself to ultimately being implemented in a data base such as a relational database. The main components of ER models are entities (things) and the relationships that can exist among them.

Figure 1.3

1. Use Case Diagram

Use case diagram is used to gather system requirements and actors. It never describes, how they are implemented. It can be imagined as a black box.

Actor- Actor are those, who are interacting with the system.

A includes B, means whenever somebody does ‘A’, he will do ‘B‘ too.

& A extends B, means that whenever somebody does A, B has nothing to do with it.

Figure 1.4

**1.4) Short-comings**

* + - Add extra functionality of the Video.
    - Random number in Test