Virtual Classroom Learning Information System

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Abstract— The objective of the project was to develop a Learning Management System, which is a net based E-education software that would benefit the learners and instructors of an education institutions or corporate to manage their training or online education needs. LMS tool is designed on ASP.NET framework with a SQL database. It could be SCORM and LDAP compliant. This powerful web tool would comprise of three modules Administrator, Learner and Instructor. With administrator module, one can control the entire application and manage the functions of the other two modules. It helps create users and their authorized operations, manage the course catalogue, teaching calendar, learner groups and Quiz. In learner module, user can conveniently manage his/her portfolio. It helps to manage user personal details, learner course catalogue, view the course calendar, track the learning progress, communicate with instructor using online collaborated tools, participate in quiz, take up tests and view important announcements. Instructor module helps create the course contents and allocation to the course learners. It allows the users to manage personal details, view the course calendar, create and evaluate assignments, generate reports related to learners and instructors and communicate with learners.

Key words: Virtual Classroom, Learning, Information System

I. INTRODUCTION

The Education Administration Scheme provides a way by which an educational institution or corporate can manage their learning and teaching needs of their individuals. It has a user friendly interface and is quick to load. It's an E-learning platform comes with variety of ways to create, manage the educational or training requirements. The end users of this solution are the learners and Instructors who are controlled by the Administrators or content managers.

Learning Administration method manages, way finds and report on the interaction amid the knowledge seeker, tutor and the education course. It helps learner perform registration to the courses, track learning progress, take up test, record test scores and indicate course completion.

Instructors can order the course elements, authorize students to take up the courses, create test on the course content and assess the performance of their learners.

This system helps a really managed approach by including teacher led net education. Allows an easy allocation of training resources, improves the results by reducing the training efforts and expenditure by automating the process. All learning and management is accepted in a password safe atmosphere that is highly secure.

For management the system provides detailed reports on the individual training progress, training assessments, available learning resources and performance. It also comes integrated with various communicative tools like E-mail, instant Chat and forums with which the learners, instructor and management can communicate each other effectively.

II. LITERATURE SURVEY PROPOSED SYSTEM & EXISTING SYSTEM

A. Existing System

LMS has evolved over the time from 1990's most of the LMS from those times till date have the same set of features. It is still the best place to store content such that the enrolled students have authorized access.

- It offers best ways to deliver assessments, assignments, quiz, and test and publish grades.
- There are various communication tools that are in built which brings about collaboration between the learner and instructors remotely.
    They also meet compliances and achieve archival needs.

As these tools are progressively growing along with technologies it had its own technology limitations. It all started with just automating the class room learning experience with outdated technology tools which limited its capabilities in term of volumes.

B. Proposed System

New breed of LMS are moving from fundamental web based tool to more effective, efficient and strategic cost value system that meet expectation of institutional norms. Some of the key areas where a four generation old systems are heading towards. Being mobile access friendly. Mobile devices have become Omni present in the hands of every human, hence mobile device access of the LMS is becoming more important.

Personalization of LMS experience. Learner expect better features like interaction, more intuitive interface, ease of access of journals, touch screen support and more IT help.

- LMS system are expected to be highly interoperable and agile. They should also open up to web services and must accommodate integration of external tools
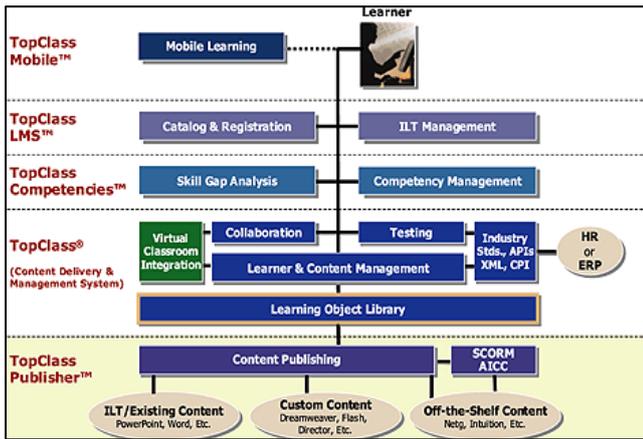
III. ARCHITECTURE

Fig. 1: Architecture

This shows a graphical representation of flow of facts right through information scheme. It helps in visualization of data processing. DFD is used as first step in creating an overview of the solution instead of going into details.

In top-down design DFD diagrams are used as tool for indication. Every decomposition level is given a number which indicate the number of the sub system in complex solution. There is a unique symbols to represent the components as part of data flow diagram.
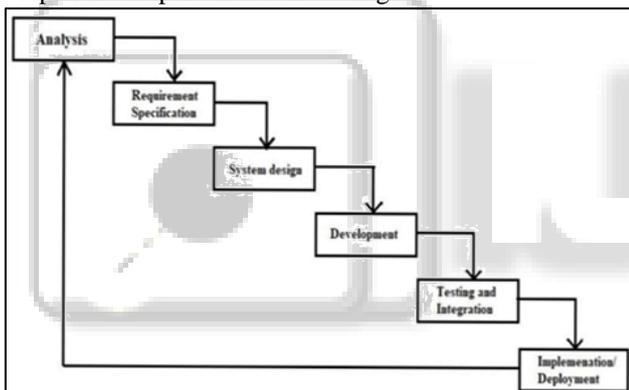

Fig. 2: SDLC Model

Software development process is the act of dividing development work into a unique work phase which gets the solution design, project management and product supervision better.

This is also known as Software Development Life Cycle in short SDLC.

There are various methodologies like waterfall, prototyping, agile, rapid application development etc. In Waterfall model development phases are scheduled in linear fashion, each phase kick start only after completion of the previous phase. In some cases there might be an overlap in the phases. The sequential development process resembles or flows like a water fall hence the name.

IV. TOOLS & TECHNOLOGIES USED

A. *HTML5*

HTML5 is a web technology used for creating websites compatible for browsers running on windows operating system. It provides standard tags with which we can create our own layout. It supports the latest multimedia, readable by Homo sapiens and understandable by the computer machine.

B. *CSS*

CSS is a cascading style sheets, which is used to design styles like layouts, background colors, height/width, margins, fonts, lists, tables, icons etc. This is used to describe how the HTML elements should display on the screen, paper or any other media.

C. *JQUERY*

JQuery is one of the cross platform JavaScript library. At its core used as a Document Object Model (DOM) library manipulator. DOM is a hierarchical depiction of all the elements that are present in the web page layout. JQuery eases the manipulation, selection and searching of the elements in this hierarchical structure.

D. *ASP.NET*

It is a backend web application framework, it is an open source tool to produce the web pages. Developed by Microsoft which allows the developers to build web pages, applications and servers. Created on Common Language Runtime, allows professionals to write somewhat maintained .Net language. S0AP messages are also processed using the ASP.NET SOAP extension framework.
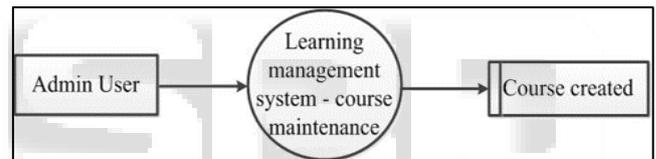
E. *DFD Diagram*

Fig. 3: DFD

In the coming figures DFD level one and DFD level two is explained for the same process course management. Every process encloses the business validation and could be made use by different actors which is an external entity. Type of an actor can also affect the way the business validations are reflected.

V. ADVANTAGES

1) Virtual Classroom Learning Information system reduce the time of the any developer.
2) Virtual Classroom Learning Information system is used to stop doing manual testing by the developer which takes lots of time for simple changes to go live in production deployment.
3) Application can be used to find out the bug and transfer from one peer to another peer.
4) In that Virtual Learning Information System, both developer and tester can add bugs and view the bugs.
5) Virtual Learning Information System is mainly used for tester to consume the time.

VI. CONCLUSION

Learning management system is aimed at automating the traditional process of classroom learning into an E-learning experience which can help educational institutions and corporate companies to manage the coaching needs. Along

with the course content management, the application is very well complimented with various communication tools like email, instant chat and forums.

Besides this it can also generate reports that helps track individual learning as well over all learning goals for entire institutions. Automation of processes help reduce the training expenditure, time and maximizes the efficiency.

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