

Learning Management System: ATutor for Academic Institutions

The article is authored by Shri Abhishek Kumar, Scientist-B (CS), INFLIBNET Centre. The author is also responsible for setting-up LMS for e-PG Pathshala initiative. Users desirous of configuring this LMS for their Institution may contact the author at abhishek@inflibnet.ac.in. The author plans to write a detailed article on configuration and customization of LMS including ATutor and Moodle in subsequent issues of the Newsletter.

Introduction

The rapid growth in the e-content development using web technology and its ever increasing use has given an unprecedented opportunities to the educators to extend learning material to the students not only within the four-walls of class rooms but also in the comforts of their home all over the globe. The Web 2.0 technologies are being used increasing by teachers and learners not only for mutual interaction but also for content creation, development and its enrichment.

In the era of e-learning and open learning, a full-fledged learning management system is the most valuable resource for educational institutions enabling them to support classroom teaching and offering courses to a larger population of learners. It is important for every educational institution to either develop an in-house learning management system or customized an open source learning management system in order to offer a platform to their teachers and students to interact and participate in the process of collaborative content development. The online learning has rejuvenated the basic concept of education and its mode of delivery.

This write-up provides detailed instructions on merits of using an LMS in general and ATutor in particular. The software is customized for “e PG Pathshala” a project awarded to the UGC under the National Mission on Education through ICT (NME-ICT) and executed by the INFLIBNET Centre.

Learning Management System

A Learning Management System is a software application that facilitates user's administration, documentation, tracking, reporting and delivery of e-content courses or

training programmes. LMS is the framework that handle all aspects of the learning process. It not only handles the process from creation of content to deliver of content, but also takes care of course administration, course registration, skill analysis, etc. A robust LMS should be able to handle the followings:

- centralize and automate administration;
- assemble and deliver of learning material;
- consolidate training initiatives on a scalable web-based platform
- support portability and standards
- personalize content and enable knowledge reuse

Planning for an LMS

A number of LMSs are available in the marketplace in a variety of flavours and formats. Some of them are open source, others commercial. Each product has its own advantage and disadvantage. The following parameters need to be considered while selecting an LMS.

- **Formal Requirements:** LMS products are designed based on requirement. As such, take your time to define your formal requirements. Your requirements may contain items like user's registration, tracking, content delivery, online evaluation, interactive forum, etc.
- **Technical aspects:** Most LMSs are Web-based, built using a variety of development platforms, like Java/J2EE, Microsoft .NET or PHP. They usually deploy databases like MySQL, MS-SQL Server or Oracle as back-end. Although most of the systems are commercially developed and have commercial software licenses there are several systems that have an open-source license.

- **Technical Environment:** It is important to work with institute's technical staff to understand the supporting architecture (e.g., networking, hardware, and software platform), security and privacy requirements, and legacy information systems.
- **Interoperability Standards & Technologies:** Standards always play the important role in the process of maintenance and migration of system. It is, therefore, important to see whether the system supports content interoperability standards such as the Sharable Content Object Reference Model (SCORM) and the Aviation Industry CBT Committee (AICC).
- **Web-based Administration:** Check whether the system requires a thick client for administration.
- **Phased Approach:** Depending on the level of internal support, a hosted or outsourced option may help mitigate potential implementation risks.

Atutor: An Open Source Learning Management System

ATutor is an Open Source Web-based Learning Management System (LMS) used for developing and delivering online courses. Administrators can install or

update ATutor, develop custom themes to give ATutor a new look, and easily extend its functionality with feature modules. Educators can quickly assemble, package, and redistribute Web-based instructional content, easily import pre-packaged content, and conduct their courses online. Students learn in an accessible, adaptive, social learning environment. (Ref: Official website of ATutor)

ATutor is installed at INFLIBNET server for hosting e-content for PG courses, a project given to the UGC under the National Mission on Education through ICT (NME-ICT), MHRD.

Installation

ATutor has the following system requirement for installation:

- Operating System: Window or Linux
- Front end: PHP
- Back end: MY-SQL

The installation of ATutor is very simple. It is browser based installation. Once ATutor source / package is downloaded then it would be accessible from root folder of ATutor through web-browser. It will automatic configure the database, accounts, directory and preferences.

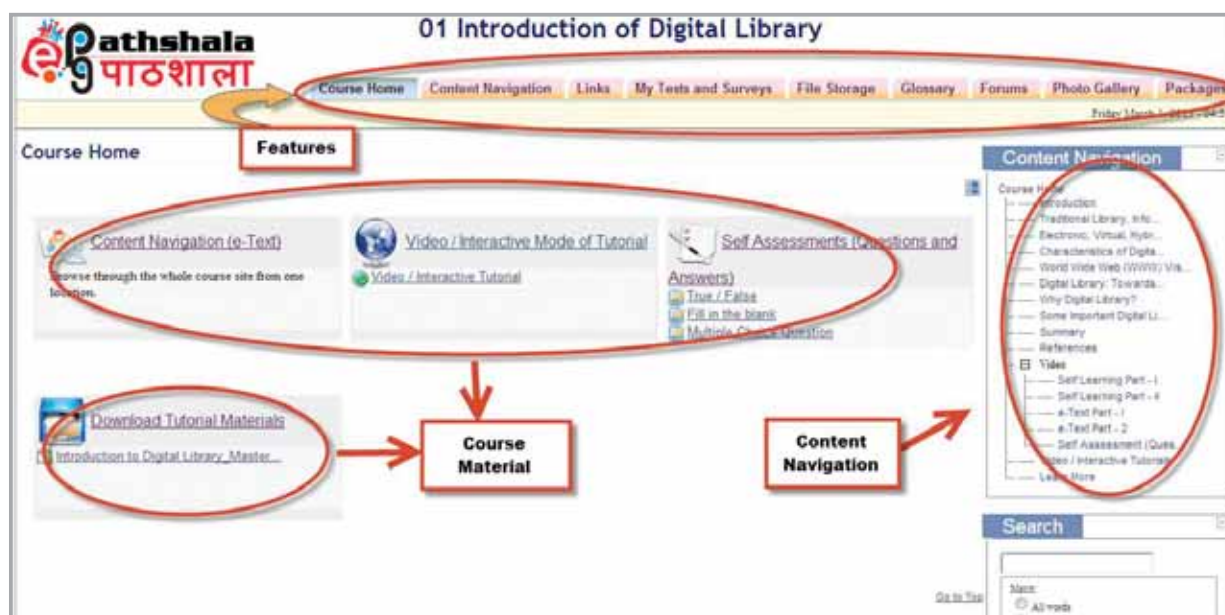


Fig-1 e-PG Pathshala: Home page of an e-Content Module



Fig-2: Student corner to access their course materials

Features of Atutor

Atutor includes a variety of features designed to ensure that content is accessible to all potential users, including those with slow Internet connections, and older Web browsers using assistive technologies to access the Web. ATutor has all the major features with respect to Institutes that want to provide addition platform of learning to their students / learners. Basically it supports to build the content in four quadrant approach (e-Text / lectures note, self-learning / demonstration, self assessment and

reference or source of further reading material).

The following three broad sections are available on the home page of each course module., i) Top navigation; ii) Right navigation; iii) Page body. Instructors / teachers and students or learners are allowed to manage the courses they teach and/or are enrolled in.

Top Navigation: It comprises of all the features including all kind of supportive and interactive tool / documents, which is managed by the course instructor.

Page-body: ATtutor also provides links to course content

*Instructor
Abhishek

*Title

Original Language
English

Description

Category
Uncategorized

Export Content
 Not available on any of the pages
 Available only for top level pages
 Available on every page

Syndicate Announcements
 Enable Announcements syndication via RSS
 Disable Announcements syndication

Access
 Public: Available to all users with or without an ATutor System Account. Login not required. Enrollment is optional.
 Protected: Available only to users with an ATutor System Account. Login required. Enrollment is optional.
 Private: Available only to users with an ATutor System Account, and Instructor approved enrollment. Login required. Enrollment is required.
 Email me when new enrollments require approval.
 Hide this course from the Browse Courses list.

Release Date

Access Types

from where learners may approach directly in any quadrant. Course coordinator can add any links of features in page-body.

Right Navigation: Right navigation is purely for content navigation, Students can browse through whole course site from one location developed by the subject experts as well as the search features of ATutor which search within the course module. Right navigation may also play the role of place holder of poll, quizzes, etc.

All above mentioned features-placeholder can shuffle according to the course requirements. ATutor provides the following major features:

- **Content Creation:** An instructor or course creator can create the content using ATutor interface. It also restricts the access of content to learners.
- **Editor for Web Tools:** Content creator can add the static content and can embed documents, video, animations, images, etc.
- **Test and survey:** ATutor provides self assessment features through which instructor can set different kind assessment question to learners. He / she can also create the survey and poll on particular topic.
- **File Storage:** File storage is very interesting features of ATutor where instructor can share all material with the learners and in using the file storage option learners can download the material and can learn in offline mode. In other word, File Storage functionality allows files to be uploaded, stored and shared with different groups of user
- **Forum:** ATutor provides the feature of forum facilitating registered students / learners / instructor to participate on a topic and can share their views. It also helps to resolve the problems of students.
- **Package:** ATutor also support the SCORM.
- **Links:** Web-based information can be added as

a link in the ATutor database.

- **Glossary:** Words and phrases added to the glossary by the instructor, can be accessed from terms embedded within content pages, or viewed alphabetically in their entirety using the Glossary tool.

Learner can view his course details using “Browse Course / Subject” Page. Learners may search for their topics within a selected course or in complete database of courses.

Alternatively, a learner can first select a subject or a course from dropdown menu. Depending upon the subject / course selected, list of paper will be displayed. On clicking at paper, the learner will get the list of all course module covered under a given course.

Access to course

Instructor can impose one of the following restrictions on courses that are hosted:

- i) Public – Open to all learners including guest learners.
- ii) Private – Only registered learners can access the course.
- iii) Protected – Restricted to learner assigned by the instructor

References:

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