



A COLLABORATIVE MODULAR DYNAMIC LEARNING SYSTEM

V. Esther Jyothi¹, N. Brahmani², A. Ravali Lakshmi³

¹Asst. Professor, Department of Computer Applications, Velagapudi Ramakrishna Siddhartha Engineering College, Vijayawada,

^{2,3}Student, Department of Computer Applications, VRSEC, Vijayawada

Abstract

A Collaborative Modular Dynamic Learning system provides a powerful set of learner-centric tools and collaborate learning environment that empower both teaching and learning. This is a web-based application which is designed to provide educators, learners and administrators with a single robust, secure and integrated system. Also it creates a personalised learning environment. This system has a simple interface, drag-and-drop features and well-documented resources along with ongoing usability improvements that make it easy to learn and use. It is continually reviewed by the administrator and makes necessary improvements to suit the current and evolving needs of its users. Because of its flexibility and scalability, it can be adapted for use across education, business, non-profit, government and community contexts.

Index Terms: About four key words or phrases in alphabetical order, separated by commas.

I. INTRODUCTION

A Collaborative Modular Dynamic Learning system is a web-based application which is designed to provide educators, learners and administrators with a single robust, secure and integrated system. Our system creates a personalised learning environment. This system has a simple interface, drag-and-drop features and well-documented resources along with ongoing usability improvements that make it easy to learn and use.

This system provides a powerful set of learner-centric tools and collaborate learning environment that empower both teaching and learning. It is continually reviewed by the administrator and makes necessary improvements to suit the current and evolving needs of its users. Because of its flexibility and scalability, it can be adapted for use across education, business, non-profit, government and community contexts.

Particularly, this system is designed in view of the education system but can also be used in various sectors. So, apart from all the features for the teachers and learners this is also designed to provide counsellors of the department to make use of SMS feature. The messages can be sent to parents and students who do not satisfy the minimum attendance criteria and also the educators can upload any type of information relating to their course and also upload scheduled assignments. Learners also can upload completed scheduled comprehensive assignments to the concerned educator directly. This system also displays the required information such as academic calendars, time tables, notices etc. There are separate modules for educators, learners, concerned in-charge of the department and administrator of the system. All these modules are explained in detail in the following sections of the paper with related screenshots and few code snippets.

II. EDUCATORS MODULE

Courses are the spaces where educators add learning materials and activities for their learners. Courses may be created by the concerned in-charge of the department. Educators can then add the content and re-organise them according to their own needs.

Course related features are as follows:

- **Adding a new course** - includes the use of course templates and how to enable course requests
- **Upload courses** - how to bulk upload courses with
- **Course categories** - how to organise your courses into a hierarchy suitable for your establishment
- **Course settings** - how to control how your course appears to participants
- **Course formats** - the different ways your course sections might be laid out
- **Restrict access** - according to conditions such as dates, grade obtained, group or activity completion

Few screenshots related to the Educators module from the Modular Dynamic Learning System are as follows:

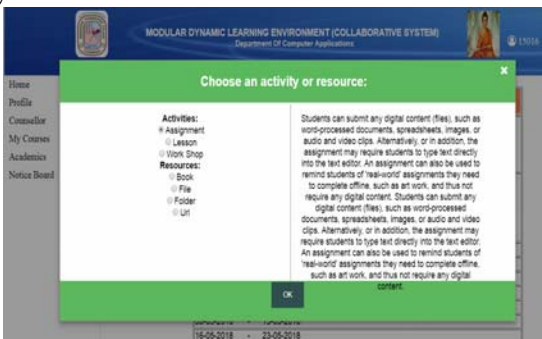


Figure 2.1: Choosing an activity or resource

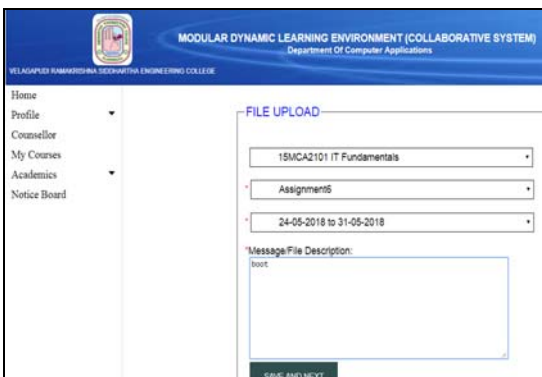


Figure 2.2: Uploading Files

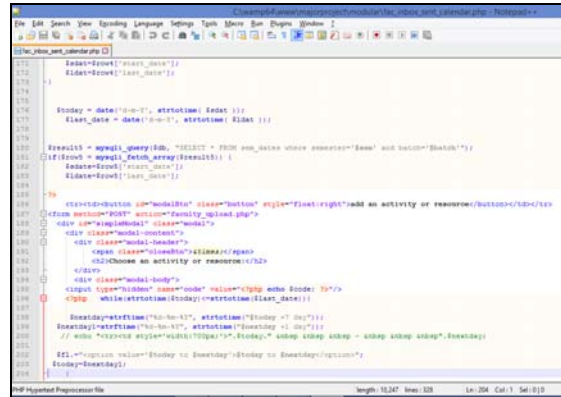


Figure 2.3: Code snippet for uploading a resource

A course can display its materials in a number of ways or 'formats' for example in weekly sections or (named) topic sections. Every course has its own Grade book which can record scores from assignments, quizzes, and peer assessment workshops. If completion tracking has been enabled for the site and in Course administration > Edit settings, we can then set completion conditions in activity settings.

A checkbox will appear next to the activity and a student may either be allowed to tick it manually, or a tick will display once criteria for that particular activity have been met. This feature can be combined with Course completion so that when certain activities have been completed and/or grades obtained, the course itself is marked complete.

A resource is an item that an Educator can use to support learning, such as a file or link. This System supports a range of resource types which teachers can add to their courses. In edit mode, a teacher can add resources via the 'Add an activity or resource' link. Resources appear as a single link with an icon in front of it that represents the type of resource. The resources can be

- **Book** - Multi-page resources with a book-like format.
- **File** - A picture, a pdf document, a spreadsheet, a sound file, a video file
- **Folder** - A folder to organize multiple files.

III. LEARNERS MODULE

Activities and resources of the enrolled courses can be viewed by the Learners and also multiple

resources can be downloaded. The scheduled assignments of the enrolled courses uploaded by their Educators can be submitted for which the grades are assigned later. Learner's module related features are as follows:

- **Profile** – Updating personal information which is mandatory to all Learners, the password can be changed number of times.
- **My Courses** - The current semester subject details are displayed along with previous semester subject information but the student can only submit the documents or assignments to the current semester subjects. Learners have to submit the scheduled assignments and are given grades by the Educators.
- **Notice Board** - The information displayed in the college notice board is also updated in the digital notice board.
- **Academics** - The course syllabus of particular department or department branch wise are available and can be downloaded if needed. The timetables of particular department of department, branch wise are available and can be downloaded if needed. The academic calendar of particular department or department, branch wise available and can be downloaded if needed.

Few screenshots related to the Learner module from the Modular Dynamic Learning System are as follows:

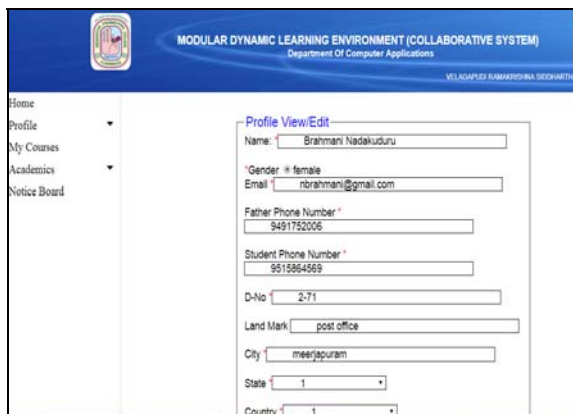


Figure 2.4: Updating Profile

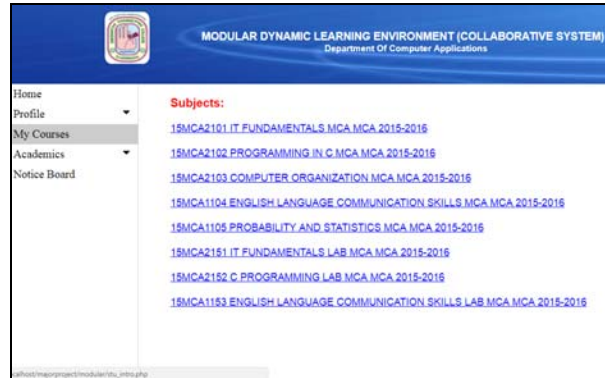


Figure 2.5: List of enrolled courses

IV. IN-CHARGE MODULE

In-Charge module related features are as follows:

- **Adding courses** - Courses are the learning areas, where teachers and students work together. Adding a new course by clicking the 'Add a new course' button on the front page or from the Manage courses and categories link in the Courses area of Site administration. If there is a plan to have many courses, we can upload courses in bulk. A
- **Adding users** - This is a two-step process, Step 1: Authentication - everyone using your site must have an account. The system allows people to create their own account, or add new users individually or create bulk accounts. Step 2: Enrolment - once users have an account, they need to be enrolled in courses and it is the time to give them their student, teacher or other role.

Few screenshots related to the in-charge module from the Modular Dynamic Learning System are as follows:



Figure 2.6: Adding User

Student ID	Regulation	Course	Department	Semester	Joining Year
158W1F0001	MCA15	MCA	MCA	sem1	2015-2016
158W1F0002	MCA15	MCA	MCA	sem1	2015-2016
158W1F0003	MCA15	MCA	MCA	sem1	2015-2016
158W1F0004	MCA15	MCA	MCA	sem1	2015-2016
158W1F0005	MCA15	MCA	MCA	sem1	2015-2016
158W1F0006	MCA15	MCA	MCA	sem1	2015-2016
158W1F0007	MCA15	MCA	MCA	sem1	2015-2016
158W1F0008	MCA15	MCA	MCA	sem1	2015-2016
158W1F0009	MCA15	MCA	MCA	sem1	2015-2016
158W1F0010	MCA15	MCA	MCA	sem1	2015-2016
158W1F0011	MCA15	MCA	MCA	sem1	2015-2016
158W1F0012	MCA15	MCA	MCA	sem1	2015-2016
158W1F0013	MCA15	MCA	MCA	sem1	2015-2016
158W1F0014	MCA15	MCA	MCA	sem1	2015-2016

Figure 2.7: Login details of enrolled Learners

Sno	Course	Department	Regulation	Academic Year	semester	Subject Name
1	MCA	MCA	MCA15	2015-2016	sem1	IT FUNDAMENTALS
2	MCA	MCA	MCA15	2015-2016	sem1	PROGRAMMING IN C
3	MCA	MCA	MCA15	2015-2016	sem1	COMPUTER ORGANIZ
4	MCA	MCA	MCA15	2015-2016	sem1	ENGLISH LANGUAGE
5	MCA	MCA	MCA15	2015-2016	sem1	PROBABILITY AND ST
6	MCA	MCA	MCA15	2015-2016	sem1	IT FUNDAMENTALS LA
7	MCA	MCA	MCA15	2015-2016	sem1	C PROGRAMMING LA
8	MCA	MCA	MCA15	2015-2016	sem1	ENGLISH LANGUAGE

Figure 2.8: Added course details

```

1 <div class="table">
2 <table border="1">
3 <thead>
4 <tr>
5 <th>Sno</th>
6 <th>Course</th>
7 <th>Department</th>
8 <th>Regulation</th>
9 <th>Academic Year</th>
10 <th>semester</th>
11 <th>Subject Name</th>
12 </tr>
13 </thead>
14 </table>
15 </div>
16 </div>
17 </div>
18 </div>
19 </div>
20 </div>
21 </div>
22 </div>
23 </div>
24 </div>
25 </div>
26 </div>
27 </div>
28 </div>
29 </div>
30 </div>
31 </div>
32 </div>
33 </div>
34 </div>
35 </div>
36 </div>
37 </div>
38 </div>
39 </div>
40 </div>
41 </div>
42 </div>
43 </div>
44 </div>
45 </div>
46 </div>
47 </div>
48 </div>
49 </div>
50 </div>
51 </div>
52 </div>
53 </div>
54 </div>
55 </div>
56 </div>
57 </div>
58 </div>
59 </div>
60 </div>
61 </div>
62 </div>
63 </div>
64 </div>
65 </div>
66 </div>
67 </div>
68 </div>
69 </div>
70 </div>
71 </div>
72 </div>
73 </div>
74 </div>
75 </div>
76 </div>
77 </div>
78 </div>
79 </div>
80 </div>
81 </div>
82 </div>
83 </div>
84 </div>
85 </div>
86 </div>
87 </div>
88 </div>
89 </div>
90 </div>
91 </div>
92 </div>
93 </div>
94 </div>
95 </div>
96 </div>
97 </div>
98 </div>
99 </div>
100 </div>

```

Figure 2.8: Code snippet for viewing courses

In coordination with In-charge, the administrator performs his duties and various responsibilities that can be assigned are as follows:

- **Profile** – Updating personal information which is mandatory to all Educators, the password can be changed number of times.
- **My Courses** - In case of faculty, the allotted subject's details of various departments are maintained and faculty can post the related information and also can view previously posted information, also can view the student's submitted assignments or any other documents.
- **Subjects** - Possibility of updating the subject's of corresponding departments. There is an option of deleting individual

subjects. Assign Same Regulation to Next Batch that is any batch regulation can be easily assigned to the upcoming batches if needed.

- **Notice Board** - The information displayed in the college notice board is also updated in the digital notice board.
- **Academics** - The course syllabus of particular department or department branch wise are available and can be downloaded if needed. The timetables of particular department of department, branch wise are available and can be downloaded if needed. The academic calendar of particular department or department, branch wise available and can be downloaded if needed.
- **Assign Educators** – Educators are assigned to subjects. Assigning educators as a counselor to a group of students in a batch.
- **Assign start and end date of semester** - Start date and end date are useful to post or submit to the particular semester. Particular period of time is valid to upload any type of work allotted in that particular semester and cannot be uploaded after the expiry of date but there is a chance to view and download previous files if needed. Assigned dates are viewed to the particular semester.



Figure 2.9: Instruction to updating profile

Figure 2.10: Updating profile

V. CONCLUSION

Our system creates a personalised learning environment which has a simple interface, drag-and-drop features and well-documented resources along with ongoing usability improvements that make it easy to learn and use. Also provides a powerful set of learner-centric tools and collaborate learning environment that empower both teaching and learning. It is continually reviewed by the administrator and makes necessary improvements to suit the current and evolving needs of its users mainly in the education field and also can be used in various enterprises.

REFERENCES

- [1] Advanced PHP for Web Development (The Prentice Hall PTR Advanced Web Development Series) by Christopher Cosentino. Prentice Hall PTR. Paperback- 1 October, 2002.
- [2] Create Dynamic Web pages Using PHP and MySQL (Practical Solutions Series) by David Tansley. Addison Wesley. Paperback- 1 November, 2001
- [3] Beginning PHP 4 Databases by Deepak Thomas, et al .Wrox Press Ltd. Paperback- 17 October, 2002.
- [4] Essential PHP for Web Professionals (Essential Web Professionals) by Chris Consentino. Prentice Hall PTR. Paperback- 1 October, 2000
- [5] Foundation PHP for Flash by Steve Webster. friends of ED. Paperback- 25 September, 2001
- [6] Making Use of PHP by Appu. John Wiley & Sons Inc. Paperback- 24 July, 2002
- [7] Making Use of PHP by Ashok Appu (Author). John Wiley & Sons. Digital Download
- [8] Mastering PHP 4.1 by Jeremy Allen. Sybex International. Paperback- 8 April, 2002
- [9] Multi-tier Application Planning with PHP: Practical Guide for Programmers by David Wall. Morgan Kaufmann. Paperback- November 2003.
- [10] MySQL and PHP from Scratch (Jesse Liberty's from Scratch) by Wade Maxfield. Que. Paperback- 28 November, 2000
- [11] MySQL/PHP Database Applications by Greenspan. John Wiley & Sons Inc. Paperback- 11 April, 2003
- [12] Open Source Development with LAMP: Using Linux, Apache, MySQL, Perl, and PHP by James Lee, Brent Ware. Addison Wesley. Paperback- 1 December, 2002.
- [13] PHP4: a Beginners Guide (Essential Skills for First-time Programmers) by William McCarty. Osborne McGraw-Hill. Paperback- 1 July, 2001.
- [14] PHP 4 Developer's Guide (Application Development) by Blake Schwendiman, David Medinets. Osborne McGraw-Hill. Paperback- 1 January, 2001