

## Web Based Customized E-Learning Management System for Students' Academic Evolution

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### ABSTRACT

During last decade of twentieth century there was extraordinary development in information and communication technology (ICT) which led to a transmutation of processes and practices in almost all aspects of human activities. Information and communication technologies (ICTs) are the technologies used in the conveying, manipulation and storage of data by electronic means. World Wide Web a service of Internet is one of the important tools of ICT which helps in imparting e-resources to the students. Student Corner is a web application. It serves some purpose of eLearning Management System (ELMS) or it is tailor made ELMS. It is developed with a notion to provide information related to topics being taught in various faculties of Anand Agricultural University to its students anytime, anywhere via web medium. It is developed using ASP.Net technology with VB.NET as a backend language and SQL server 2008 as a database. Few more technologies like CSS and Jquery are also used to enhance its look and feel. Student Corner uses both features of SQL server and windows file management service. Student Corner reduces interval between information and students, it also leverages transparency level, as all rules and regulation as well as daily activity such as attendance of all students is visible to all students. Student can get information about topics without searching on internet. Students get best information or a refined material as Course teacher may pick the best articles or material from internet and upload it on student corner or may utilize it to prepare best reading material and can upload it on the Student Corner this indirectly helps in reducing network traffic especially internet traffic and increase productivity of the students. It is very easy to integrate new college information in Student Corner application.

**Keywords :** E-learning management system, Academic evolution

### INTRODUCTION

The application of computers to education is filled with generic terms such as computer-based instruction (CBI), computer-assisted instruction (CAI), and computer-assisted learning (CAL), generally describing drill-and-practice programs, more sophisticated tutorials, and more individualized instruction, respectively (Parr & Fung, 2004). LMS has its history in another term, integrated learning system (ILS) which offers additional functionality beyond instructional content such as management and tracking, more personalized instruction, and integration across the system. An LMS is the infrastructure that delivers and manages instructional content, identifies and assesses individual and organizational learning or training goals, tracks the progress towards meeting those goals, and collects and presents data for supervising the learning process of organization as a whole (Szabo & Flesher, 2002). Every learning professional knows

that the struggling global economy has caused considerable distress in the past year. Organizations have been forced to look for ways to cut costs with more pressure than ever. Have learning functions been targets or have they developed ways to adapt? (Mosley, 2014)

Student Corner is a user-friendly web based application and is parsed perfectly in all browsers on a computer which is connected to network. It imparts information related to topics being taught in various faculties of Anand Agricultural University to its students anytime, anywhere via web medium. As student can access information via Student Corner, it reduces interval between information and students, also it increases transparency level as attendance and result of all students is visible to all students and ultimately helps in increasing unbiased image of a teacher, also all rules and regulation of a college or course or institute can be avail via notice board option, which can be

accessed even by unauthorized or a guest users. Student can get information about topics without searching on internet.

Student Corner allows authorized users to access or update information. Authenticated course teachers can update their course content and manage it. It provides many roles for the users of an academic institute. Categories of roles are normal users (i.e. students), Principal, Academic In-charge, Rector, Student Representative Council Chairman, Placement Officer, Clerk and AAO. Dashboard is provided for all types of users. Breadcrumb available in header helps in navigation. Principal role has super user rights for a particular college. User with principal rights can access all subjects, can authorize other users to access his college information and assign rights to other staff for their relevant courses to upload e-resources, attendance. Also he can update student details. Student and normal users of this application are separate entities as a result; there is no restriction for normal users in accessing information.

All users can update their own profile, change password, change faculty, semester etc. As teaching staff user can be guest faculty for multiple faculties, s/he can select multiple faculties or college and his dashboard shows subjects/courses of multiple colleges. Students can update their current semester details and thus they can access e-resources pertaining to the courses of any semester, also they can refer to their previous semester topics. Student entity having a valid registration number from university can only be added to student corner. Once student is entered in Student corner it cannot be deleted, but its status can take values like ACTIVE, DROPPED, RUSTICATED and LEFT.

Separate notice board for different activities like academic, hostel, SRC, General, Placement is provided for each college. This notice board can be accessed from the home page without authentication. User having rights to update a particular notice board can manage it. User can have rights to update utmost one category of notice board. These rights can be assigned by principal to any user. Principal and AAO can update GENERAL notice board. Rules and regulations are also made available online as a part of notice board, these increases transparency level. Circular and notices related to staff members can also be uploaded by any staff members and accessible to staff only.

Attendance of student in any academic institute is important information which shows punctuality and sincerity of a student and should be recorded in unbiased way by a responsible person with complete transparency. Manually it is a tedious and time consuming process. Time consumed

in recording attendance is directly proportional to number of students in the class and this activity ultimately reduces lecture delivery time. Number of LSM are available in market but most of them does not provide attendance module because attendance recorded by any university or institute varies accord (Watson 2007).

Attendance module in Student Corner helps in overcoming above problems. Dashboard of Users having teaching staff rights when login gets a list of course taught by them with an attendance link in it. When user enters attendance module by clicking on this link a list of students appearing for that course are listed with a checkbox in front of their name, roll number and unique registration number. Teacher entering attendance has to simply check those students who are absent and save details of presence for the selected date's practical or lecture. In case of practical attendance, user can also select practical batch.

Student Corner's attendance module can handle a case like a teacher may conduct more than one lecture or practical for same course. All users are allowed to access cumulative date wise lecture/practical attendance and this increases transparency level. It also shows presence percentage. List of students having presence less than a particular percent is also available. Student having partial attendance for a day are highlighted for that day.

These ways, the Student Corner for AAU student partly works as library of e-books, old papers and various videos.

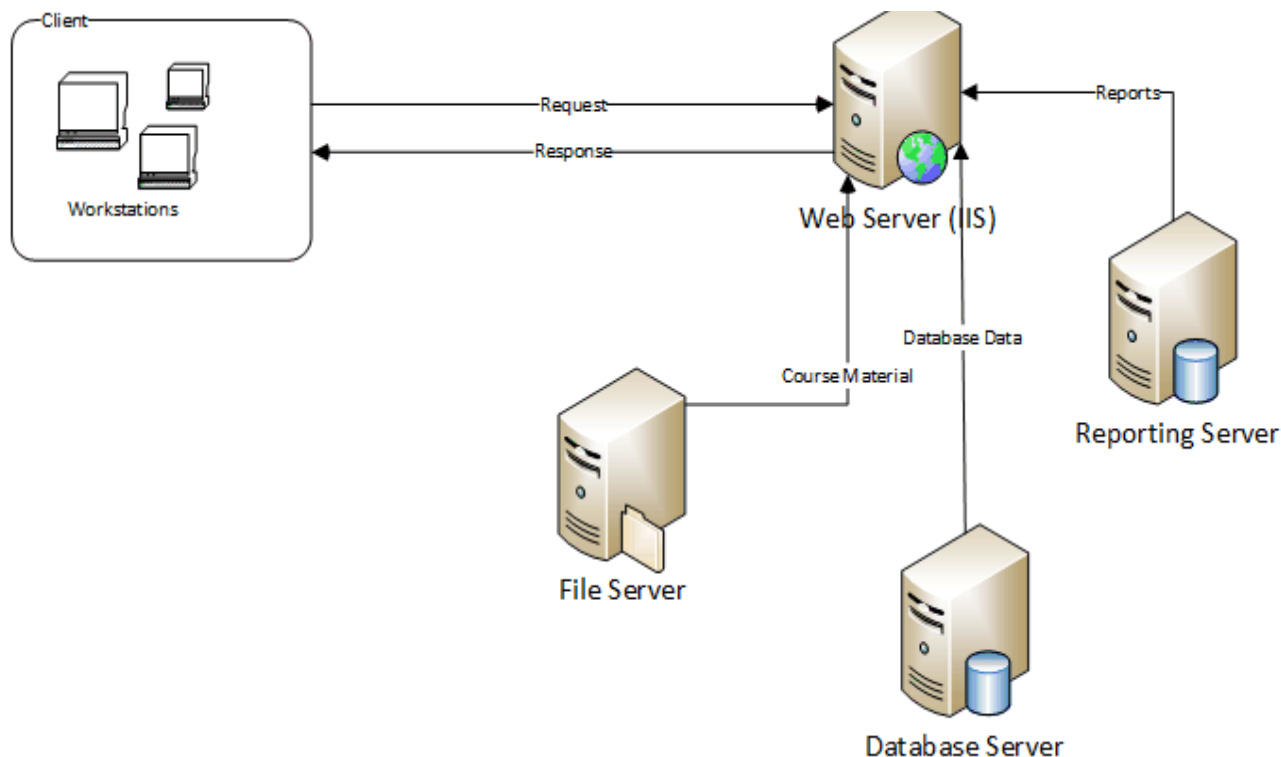
### **Architecture of Student Corner**

In order to meet timely response and traffic load this application requires separate server for each activity viz. for saving notes or material or old papers and videos for a particular server a separate file server is required. In order to provide dynamic content as per user's authentication and authorization and to store student's attendance a dedicated database server is used. Reports like daily attendance and semester course attendance matrix summary and also summary of all students whose attendance short falls by a particular percentage are provided by report server. As it is a web application all client or user request is justified by a web server

### **.Usage Statistic Comparison**

This application is accessible in intranet of AAU and till 12/03/2014 it is hit 63887 times.

67 teaching staff and 175 students have created their



login. Course material of all courses of B. Tech (AIT) and one course of B. Tech (DT) is uploaded by concerned faculty. Upload – download usage statistics from this application is as below for three faculty.

Sr. No.	Faculty	Upload	Download
1	AIT	856	31332
2	AGR	5	189
3	DSC	8	119

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