

University LMS & Student Lifecycle Management System – Requirement Specification

(Custom Development – Moodle Alternative)

1. System Overview

This **University LMS & Student Lifecycle System** is a **custom-built** digital platform designed to manage the **academic and administrative** processes of a university. The system will include:

- ◆ **Web Portal** for students, faculty, and admin staff
 - ◆ **Mobile App (Android & iOS)** for easy access
 - ◆ **Admin Panel** for university management
 - ◆ **Student Life Cycle Tracking** from enrollment to graduation
 - ◆ **Course & Exam Management** with digital learning tools
 - ◆ **Real-time Analytics & Reporting**
-

2. User Roles & Access Control

1. Admin Panel Users

- **Super Admin** – Full control over the system
- **University Admin** – Manages university-wide academic & student data
- **College Admin** – Manages courses, faculty, students at college level
- **Department Head** – Manages department-wise courses & faculty
- **Finance Admin** – Manages fee structures, payments, and scholarships

2. Faculty & Staff

- **Professors & Lecturers** – Conduct classes, assign grades
- **Non-teaching Staff** – Academic & student service support
- **Exam Officers** – Manage assessments and results

3. Students

- **Undergraduate & Postgraduate Students** – Academic & learning portal access
- **Interns & Research Scholars** – Special module for research work tracking

4. Parents/Guardians (Optional)

- **View student progress, attendance, and fees**
-

3. Core Modules & Features

A. Student Life Cycle Management

1. Student Enrollment & Course Registration

- ✓ Online student profile creation & login: Done
- ✓ Program & semester-based batch assignment: Done
- ✓ Course selection & auto-enrollment: Done
- ✓ Pre-requisite validation for course eligibility
- ✓ Timetable & calendar auto-sync

2. Attendance Management (Faculty/Head/Admin)

- ✓ Digital attendance marking:
- ✓ Auto-generated attendance reports
- ✓ **Absence alerts & notifications (Pending)**
- ✓ Faculty-wise attendance analytics

3. Learning Management System (Custom LMS)

- ✓ Upload & manage course materials (Videos, PDFs, SCORM, PPTs)
- ✓ **Interactive discussion forums for students & faculty**
- ✓ Online assignments & grading with feedback
- ✓ Quiz & assessment module with auto/manual grading
- ✓ Course progress tracking & certification

4. Examination & Assessments

- ✓ Exam scheduling & online registration
- ✓ Question bank & automated quiz creation
- ✓ Online/offline exams with proctoring integration
- ✓ **Auto-grading for objective exams**
- ✓ Final result publishing & transcript generation

5. Fee Management & Financial Aid

- ✓ Online fee payment gateway integration
- ✓ Auto-generated invoices & receipts
- ✓ Scholarship & financial aid tracking
- ✓ Fine & late fee management

6. Student Performance & Analytics

- ✓ Learning analytics for student engagement tracking
- ✓ Attendance & academic performance reports
- ✓ Early alert system for students at risk

7. Degree Completion & Graduation

- ✓ Final clearance & credit completion verification
 - ✓ Auto-generation of degree certificates
 - ✓ Alumni portal access & career placement support
-

B. Admin Panel Features

1. Dashboard & Analytics

- ✓ Real-time student statistics
- ✓ Attendance & academic performance trends
- ✓ Fee collection & outstanding payment tracking

2. Student & Faculty Management

- ✓ Add, update, and remove students/faculty
- ✓ Course & batch assignment management
- ✓ Faculty workload tracking

3. Course & Exam Management

- ✓ Upload course materials & set course curriculum
- ✓ Exam schedule planning & grading system
- ✓ Course-wise performance tracking

4. Financial Management

- ✓ Setup & manage tuition fees, scholarships, & late fees
- ✓ Payment tracking
- ✓ Financial reports & revenue analytics

5. Communication & Notifications

- ✓ Bulk notifications via SMS, email, and in-app alerts
- ✓ Student-faculty messaging & announcements
- ✓ Auto-generated alerts for fees, exams, & attendance

6. Security & Access Control

- ✓ Role-based access system
- ✓ Multi-factor authentication (MFA) for secure login
- ✓ Activity logs & audit reports

C. Student & Faculty Portal (Web & Mobile App)

1. Dashboard (Personalized)

- ✓ Academic progress summary
- ✓ Timetable & upcoming events
- ✓ Notifications & announcements

2. Attendance & Class Schedule

- ✓ Live attendance tracking
- ✓ Weekly & semester-wise timetable
- ✓ Absence alerts

3. Course & Learning Materials

- ✓ Course content library (Videos, PDFs, SCORM, PPTs)
- ✓ Online quizzes & assignments
- ✓ Discussion forums

4. Assignments & Exams

- ✓ Assignment submission & grading feedback
- ✓ Exam schedule & hall ticket download
- ✓ Online assessments

5. Fee Payment & Scholarships

- ✓ View invoices & online payment option
 - ✓ Scholarship application status
-

D. Mobile Application Features (Android & iOS)

1. Student App

- ✓ Push notifications for important alerts
- ✓ Timetable & online class access
- ✓ Fee payment & receipts
- ✓ Assignment submission

2. Faculty App

- ✓ Attendance marking
- ✓ Course content management
- ✓ Assignment grading
- ✓ Student performance tracking

4. Deployment Plan

Phase 1: System Setup & Configuration

- Server setup & database design

Phase 2: LMS & Student Module Development

- Course & learning management system
- Student enrollment & attendance tracking

Phase 3: Exam & Financial Module Development

- Online exams, grading system
- Fee payment gateway

Phase 4: Testing & Go-Live

- Beta testing with select users
 - Full deployment with ongoing support
-

5. Conclusion

This **University LMS & Student Lifecycle System** will be a **custom-built platform** to replace Moodle with **tailored functionalities** that support university-specific workflows. It will offer **advanced analytics, a smooth learning experience, and a user-friendly mobile app** for students and faculty.

Faculty Management

Project: Empowering Educators through Digital Transformation

Aacharyaa is a cutting-edge digital platform thoughtfully crafted for Teachers, Professors, Deans, Directors, and academic leaders across Higher Education and Research institutions. This pioneering initiative aims to revolutionize how educators manage and present their academic journey through an all-in-one Faculty Management System integrated with a dynamic website builder.

At its core, **Aacharyaa** offers a **360-degree academic profile experience**, enabling users to effortlessly maintain, update, and showcase their teaching, research, publications, projects, and professional achievements. The platform

not only enhances personal academic visibility but also streamlines the preparation of reports and documentation required for quality assurance frameworks such as **NAAC**, **NIRF**, **NBA**, and **Institutional Websites**.

Built with a user-friendly interface and customizable templates, Aacharyaa allows each educator to create a personalized web portal that reflects their professional identity. Whether you're a faculty member, principal, or vice-chancellor, the platform provides intuitive tools for digital portfolio creation, collaboration, and institutional branding.

By centralizing academic data and promoting consistent documentation, **Aacharyaa empowers institutions and individuals alike**, supporting digital governance, facilitating compliance, and fostering a culture of transparency and excellence in education.

Key Outcomes of the Acharya Project

1. **Personalized Digital Presence:** Each user gets a dedicated website with a custom URL (e.g., hapandya.in, neerjagupta.in, profmamta.in, drpurvi.in, saketkushwaha.com meenusaraf.in mehalpandya.in noel.net.in)
 2. **Centralized Academic Record:** All academic and professional information is stored and managed through one platform.
 3. **Ready-to-Use Reports:** Generate and export data for NAAC, NIRF, NBA, AISHE, and other accreditation/assessment processes.
 4. **Time-Saving & Error-Free Documentation:** One-time entry, multi-time usage reduces redundancy and improves data accuracy.
 5. **Enhanced Visibility:** Showcasing achievements, research, and contributions to the academic community and stakeholders.
-

Use Cases

- Faculty Profile Management for Institutions
- Accreditation Data Compilation (NAAC, NIRF, NBA)

- Institutional Website Integration
 - Performance Appraisal and Annual Reports
 - Showcasing Research and Extension Activities
 - Digital Teaching Portfolio
-

Why Acharya Is Important

- **Structured, Secure, and Scalable**

Acharya uses a secure and robust data architecture, ensuring each academic professional's data is safely stored and can be accessed, edited, and published with ease.

- **One Platform, Multiple Outputs**

The system supports automatic generation of CVs, profile summaries, research reports, event records, and web content from a single data source.

- **Institutional and Individual Benefits**

While institutions can centrally manage all faculty profiles, individuals get complete control over their personal digital presence and academic narrative.

Acharya Modules Overview

1. Personal Information
2. Academic and Professional Profile
3. Brief About You / Biography
4. Experience Details
5. Educational Qualifications

6. Honours and Awards
7. Ph.D. Thesis and Dissertation
8. Research Projects
9. Committee Memberships and Constitutional Bodies
10. Government Governance & Appointments
11. Research Projects & Consultancy
12. Intellectual Property Rights (Patent, Copyright, Trademark)
13. Books, Book Chapters, Conference Proceedings & Research Papers
14. Photo Gallery
15. Media Coverage
16. Faculty Development Programs Attended
17. Event Participation & Educational Outreach
18. Lectures Delivered / Expert Talks
19. Extension and Outreach Activities
20. Content Modules for E-learning
21. Website Content Management (Banners, Sliders, etc.)
22. MoUs, Collaborators & Academic Partners
23. Blog Section
24. Annual Report Builder
25. NAAC/NIRF/NBA Data Export Utility

Project: Empowering Educators through Digital Transformation

Overview

The Aacharyaa Project is a cutting-edge digital platform designed to empower Teachers, Professors, Deans, Directors, and academic leaders in Higher Education and Research institutions. It serves as an all-in-one Faculty Management System integrated with a dynamic website builder. This initiative aims to revolutionize how educators manage and present their academic journeys.

Core Objectives

- Offer a 360-degree academic profile experience.
- Simplify maintenance, updates, and showcasing of teaching, research, and achievements.
- Streamline report and documentation preparation for NAAC, NIRF, NBA, and institutional needs.
- Provide personalized digital portfolios for educators.

Key Features and Benefits

- Personalized Digital Presence: Each user receives a dedicated website with a custom URL (e.g., [hapandya.in](#), [neerjaagupta.in](#), [profmamta.in](#), [drpurvi.in](#), [saketkushwaha.com](#) [meenusaraf.in](#) [mehalpandya.in](#) [noel.net.in](#)).
- Centralized Academic Record: All academic and professional data stored and managed on a single platform.
- Ready-to-Use Reports: Easy generation of reports for accreditation and assessments (NAAC, NIRF, NBA, AISHE).

- Time-Saving & Error-Free Documentation: One-time data entry used multiple times reduces errors and redundancy.
- Enhanced Visibility**: Showcase achievements and research to academic communities and stakeholders.

Use Cases

- Faculty Profile Management for Institutions
- Accreditation Data Compilation (NAAC, NIRF, NBA)
- Institutional Website Integration
- Performance Appraisal and Annual Reports
- Showcasing Research and Extension Activities
- Digital Teaching Portfolio

Why Aacharyaa is Important

- Structured, Secure, and Scalable: Robust and secure data architecture for safe and easy data handling.
- One Platform, Multiple Outputs: Automatic generation of CVs, summaries, reports, and content.
- Institutional and Individual Benefits: Institutions manage faculty profiles centrally; individuals control their digital identity.

Aacharyaa Modules Overview

- Personal Information

- Academic and Professional Profile
- Biography / Brief About You
- Experience Details
- Educational Qualifications
- Honours and Awards
- Ph.D. Thesis and Dissertation
- Research Projects
- Committee Memberships & Constitutional Bodies
- Government Governance & Appointments
- Research Projects & Consultancy
- Intellectual Property Rights (Patents, Copyrights, Trademarks)
- Books, Chapters, Proceedings, Research Papers
- Photo Gallery
- Media Coverage
- Faculty Development Programs Attended
- Event Participation & Outreach
- Lectures Delivered / Expert Talks
- Extension and Outreach Activities
- E-learning Content Modules
- Website Content Management (Banners, Sliders)
- MoUs, Collaborators & Academic Partners
- Blog Section
- Annual Report Builder

- NAAC/NIRF/NBA Data Export Utility

Conclusion

The Aacharyaa Project is a pioneering solution in the digital transformation of higher education. It empowers educators to document, showcase, and share their professional journeys systematically. Supporting both individual and institutional excellence, Aacharyaa enhances digital governance, streamlines accreditation processes, and fosters transparency and academic excellence across educational landscapes.

LMS

SIS

Faculty Management system

Alumni for the Student