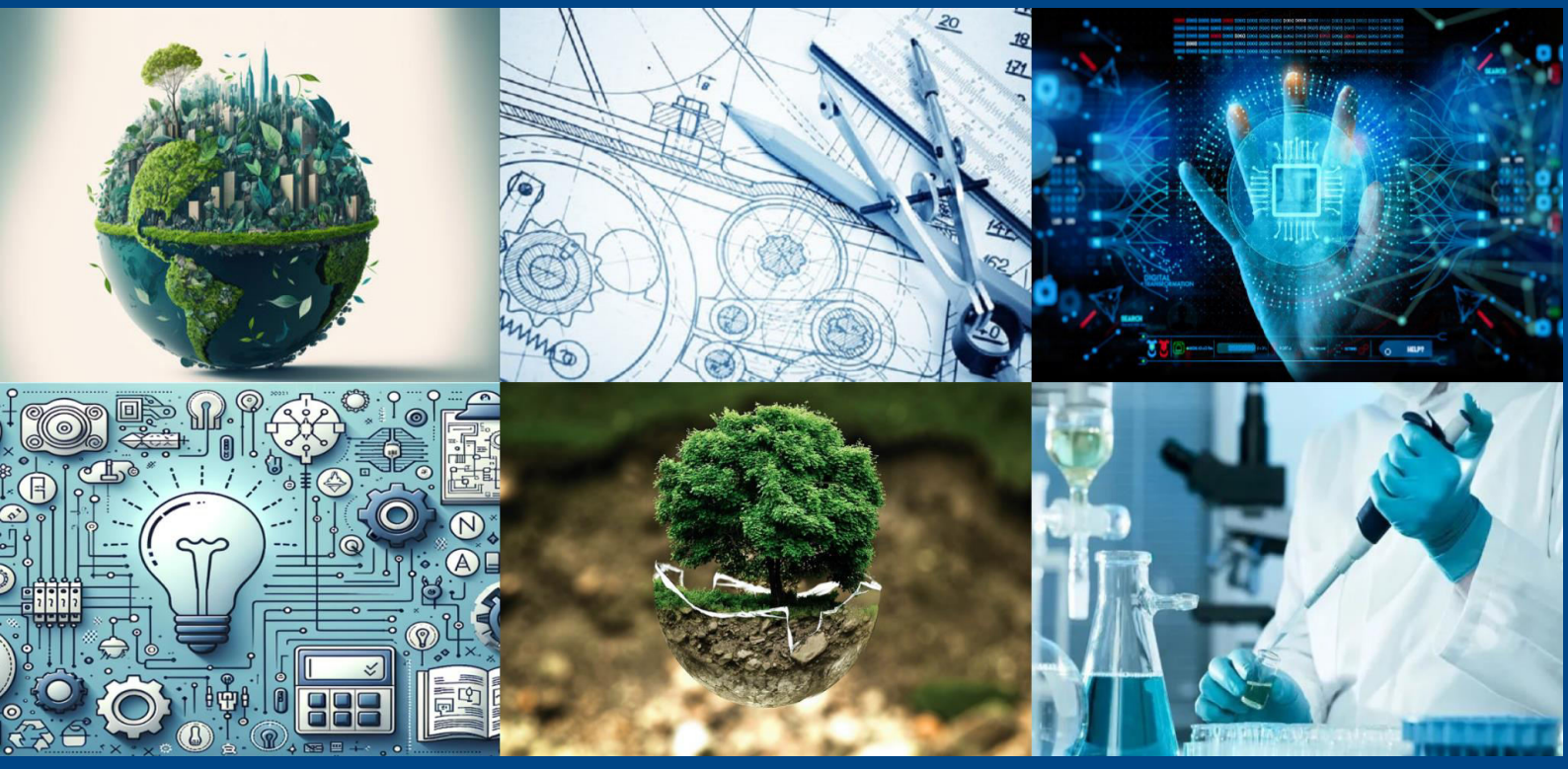
ISSN: 2582-7219

International Journal of Multidisciplinary Research in Science, Engineering and Technology

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.206 **Volume 8, Issue 5, May 2025**

© 2025 IJMRSET | Volume 8, Issue 5, May 2025| DOI:10.15680/IJMRSET.2025.0805103

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Designing and Developing an Academy Online Learning Portal for Modern Education

Akshay Varat, Prof. Purvesh Wagh

PG Student, Dept. of MCA, Anantrao Pawar College of Engineering and Research, Parvati, Pune, India

Assistant Professor, Dept. of MCA, Anantrao Pawar College of Engineering and Research, Parvati, Pune, India

ABSTRACT: The development of digital platforms has greatly impacted the education sector, making learning more accessible, flexible, and efficient in today's interconnected world. The conventional classroom-based education approach often faces challenges like geographical restrictions, high costs, and timetabling conflicts, which may limit students' opportunities for learning. In answer to these constraints, this research proposes the Academy Online Learning Portal, an extensive web-based application geared toward the digitalization and facilitation of the learning process at the academic level while prioritizing user accessibility, security, and interactivity.

The portal enables administrators to control courses, instructors to develop and present content, and students to enroll, register, and engage in a range of academic programs. The most important features of the platform are user authentication, course management, real- time tracking of progress, multimedia delivery of lessons, and built-in communication tools like forums and messaging. Developed with PHP and MySQL for solid backend functionality and HTML, CSS, and JavaScript for a user-friendly and responsive frontend interface, the system provides smooth interaction across devices.

This project is advantageous to both learning institutions and students by providing a centralized platform for knowledge dissemination, ongoing evaluation, and collaborative learning. The research also addresses key technical web development aspects such as database schema design, session and role-based access control, UI/UX guidelines, and measures for ensuring platform scalability and data security. Through this publication, we hope to show how technology can reimagine conventional education models and create a more inclusive, interactive, and flexible learning environment for the global community.

I. INTRODUCTION

Education has been known to be a foundation of individual growth and societal advancement. Historically, education has been provided through physical classrooms, which can present obstacles for many because of constraints in geography, accessibility, and economic resources. With the development of digital technologies, there is a growing necessity for online platforms that provide more flexible, inclusive, and more accessible education.

The Academy Online Learning Portal is an online application designed to meet these demands by giving students and teachers an integrated virtual learning platform. The portal includes easy-to-use features like student and teacher registration, course creation and management, safe login mechanisms, submission of assignments, and performance monitoring.

A unique aspect of the site is the inclusion of real-time alerts and interactive tests, which enhance the user experience and facilitate active learning.

Developed with HTML, CSS, JavaScript, PHP, and MySQL, the Academy Online Learning Portal is secure, scalable, and mobile friendly. In addition to simply providing course material, the system strives to create an active digital community where students and teachers can meet, work together, and succeed. By filling the gap between conventional education and contemporary technological opportunities, the portal facilitates lifelong learning opportunities for people all over the world.

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

II. LITERATURE REVIEW

Evolution of Online Learning Platforms

The online education industry has undergone a tremendous transformation in recent decades, from early e-learning systems being basic, text-based applications with limited interaction and engagement (Anderson, 2008). With the development of web technologies and addition of multimedia content, current online learning systems are dynamic, interactive, and user- focused. The current systems now present multimedia-rich content, customized learning experiences, real-time debates, and secure means of course enrollment and payment (Garrison et al., 2010).

The incorporation of features like video lectures, interactive quizzes, and discussion forums has become the norm in most online learning platforms. Studies by Moller et al. (2008) indicate that the application of multimedia increases learning retention and interest, providing a more engaging and effective learning experience. Such popular sites as Coursera, Udemy, and Khan Academy incorporate various learning tools and assessment systems that enable a richer learning experience.

In spite of these improvements, most learning platforms continue to struggle with replicating the social, in-class learning experience. Research by Moore (2013) indicates that student isolation and absence of face-to-face interaction can disrupt motivation and peer-to-peer collaboration. Consequently, some platforms are incorporating community-building functionalities such as peer review, group discussions, and live sessions to complement engagement and create a sense of belonging.

Student-Centric Features and Engagement

Today's online learning systems are aligning their focus on delivering an individualized, student-driven experience, with functionality such as adaptive learning journeys, personalized suggestions, and instant feedback. Dabbagh and Kitsantas' (2012) research highlights that learner autonomy, supported by such tools, supports greater engagement and improved learning outcomes. Moreover, the use of gamification, badges, and progress tracking has been found to enhance motivation and resilience among online learners (Anderson, 2019).

Research also shows that social learning components, like peer discussion and instructor feedback, play an important role in the overall learning process. Nguyen (2015) states that incorporating discussion forums and peer collaboration tools into a virtual classroom setting enhances active learning and cognitive growth, similar to the face-to-face classroom setting. But maintaining social interaction alongside independent learning is a delicate matter, as set out by Palloff and Pratt (2011), who consider that online sites should carefully engineer social interaction so as not to overwhelm learners.

Security and Data Protection

Personal data and educational content security are essential issues for online learning sites. As digital content and assessment systems become increasingly used, safeguarding student data and intellectual property has become a concern. Research indicates that secure authentication mechanisms, encryption of data, and role-based access are critical to safeguard sensitive information and prevent unauthorized use (Liu & Zhang, 2018). In addition, platforms need to guarantee the integrity of the assessment and certification process to ensure credibility and trust in the system (Yang & Lin, 2020).

In addition, advances in digital credentialing and blockchain technology have presented new opportunities for verifiable and secure certification. Research by De Filippi et al. (2021) indicates the promise of blockchain in delivering tamper-proof records of educational accomplishments that can transform how academic credentials are issued and authenticated.
Comparative Enhancement : Existing Academy Online Learning Portal vs. Proposed System

User Registration and Access

Current Systems: Students and teachers might require approval or have complicated registration processes, commonly involving institutional authentication.

Suggested System: Ensures a clean, easy registration process for teachers and students to join the site easily, eliminating obstacles to joining.

© 2025 IJMRSET | Volume 8, Issue 5, May 2025| DOI:10.15680/IJMRSET.2025.0805103

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Course Management

Current Systems: Teachers on most sites encounter limitations or technical expertise to publish and manage course materials.

Proposed System: Provides an easy-to-use interface for teachers to create, modify, and manage courses, lessons, assignments**, and quizzes easily, minimizing the complexity.**

Payment and Certification

Existing Systems: There are mostly payment gateways available online for course registration, certification charges, and other forms of payments, which are hard to integrate within a student project.

Proposed System: Utilizes a demo payment system to mimic the course enrollment and certification process without the use of real monetary transactions, providing secure testing and development.

Focus and Purpose

Existing Systems: Mainly intended for mass education, institutional purposes, and profit- oriented motives.

Proposed System: Intended for student learning and growth, with an emphasis on developing a hands-on project for learning full-stack development and e-learning features.

Admin Control

Existing Systems: Limited admin functionalities or limited capabilities in handling users, courses, and platform configurations.

Proposed System: Offers the admin complete control over managing users, courses, and platform configurations with simple monitoring, updating, and adjusting.

Backend Simplicity

Existing Systems: Tend to use complex frameworks and third-party services that may be difficult for novice developers to maintain and work with.

Proposed System: Developed with PHP and MySQL, providing an easy and expandable backend framework that's simple to learn, keep up with, and add to for students.

Accessibility and Open Source

Existing Systems: Much of the source code of most e-learning systems is proprietary, so others can't learn from or contribute to the system.

Proposed System: The source code is posted on GitHub, allowing students and developers to learn from it, make changes to it, and contribute to its development for educational purposes.

III. METHODOLOGY OF PROPOSED SURVEY

System Architecture

The Academy Online Learning Portal system has three key components:

1. Front-End (Social Media Sites + Customer Interfaces): Gives interesting visual information and communication routes for potential buyers.
2. Back-End (Order Management & Marketing Tools): Processes marketing materials, deals with inquiries, and takes care of order following and customer information.

Database (Customer Feedback & Sales Records): Keeps customer interactions, order information, reviews, and analytics for ongoing enhancement.

© 2025 IJMRSET | Volume 8, Issue 5, May 2025| DOI:10.15680/IJMRSET.2025.0805103

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

HTML, CSS, JavaScript (Front End)
-Offering an interactive and responsive user interface to users and admins.
-Developed using HTML and CSS to generate visually appealing artwork layouts.
-Employs JavaScript to enhance interactivity (e.g., image previews, form validation).
office-based navigation: admins can manage content, whereas normal users can browse and engage.
-Separates views into logical parts such as artist registration, gallery viewing, and artwork upload forms.x

PHP (Back-End)
-Manages core business logic such as artwork management, user authentication, and content moderation.
-Enforces server-side validation and secure data processing to protect against SQL injection and form tampering.
-Processes file uploads, such as secure storage and processing of artwork images.

MySQL (Database)
-Sets aside structured data such as user profiles, artwork details, categories, feedback, and login accounts.
-Manages relational tables with foreign key relationships to maintain data integrity (e.g., artworks related to artist accounts).
-Integrates indexing techniques to improve data retrieval performance in gallery search and filtering.
-It has data protection backup and restore features.
Discuss

The suggested system improves the online learning process by combining web innovations and providing a streamlined, interactive learning experience for students and instructors. Some key features include:

Multi-level user access with differentiated roles for admins, instructors, and students, with secure password encryption and strong session management to avoid forced entry and guarantee data confidentiality.

Allows registered instructors to autonomously create, manage, and update their lessons, courses, quizzes, and assignments without outside approval, which allows for increased control and flexibility in content.

Duplicates real-life academic processes by providing features such as course registration, assignment submissions, grading, and feedback gathering without actual financial transactions, making it perfect for teaching demonstrations and training environments.

Offers real-time administrative management of user accounts, course catalogs, assignments, and feedback, enabling admins to effectively moderate, update, and manage platform activity, providing a seamless and well-organized learning environment.

Enforces search and filtering functionality, making it easy for students to locate courses by subject, instructor, course level, or keywords, tailoring the learning experience and enhancing user engagement throughout the platform.

IV. CONCLUSION AND FUTURE WORK

This project provides a working and instructional web-based learning platform designed with PHP and MySQL. It overcomes widespread deficiencies found in current systems by providing ease of access for learners and teachers, neat structuring of study materials, and protected user handling. With simulated registration of courses, role-based dashboards, assignment tracking, and administrator-level permission control, the system is useful for educational demonstrations, novice learning, and project-oriented learning environments. Future enhancements might involve integration of actual payment gateways for paid courses, addition of instructor and course rating systems, social media sharing features, and cloud- based content storage for scalability. These additions would greatly expand the platform's capabilities, making it more flexible and suitable for actual deployment in the expanding area of online education.

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

REFERENCES

1. Allen, I. E., & Seaman, J. (2017). Digital Learning Compass: Distance Education Enrollment Report 2017. Babson Survey Research Group.
2. Sun, P. C., Tsai, R. J., Finger, G., Chen, Y. Y., & Yeh, D. (2008). What drives a successful e- Learning? Computers & Education, 50(4), 1183-1202.
3. Ko, S., & Rossen, S. (2017). Teaching Online: A Practical Guide (4th ed.). Routledge.
4. Singh, H. (2003). Building effective blended learning programs. Educational Technology, 43(6), 51-54.
5. Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. Journal of Educational Technology Systems, 49(1), 5–22.
6. Choudhury, S., & Pattnaik, S. (2020). Emerging Technologies and Online Learning during COVID-19: A State of the Art Review. International Journal of Emerging Technologies in Learning (iJET), 15(21), 210-225.
7. Bates, A. W. (2019). Teaching in a Digital Age: Guidelines for Designing Teaching and Learning. Tony Bates Associates Ltd.
8. Al-Fraihat, D., Joy, M., & Sinclair, J. (2020). Evaluating E-learning Systems Success: An Empirical Study. Computers in Human Behavior, 102, 67-86.
9. Kopp, M., Gröblinger, O., & Adams, S. (2019). Five common assumptions that prevent digital transformation at higher education institutions. International Journal of Educational Technology in Higher Education, 16(1), 1-13.
10. Pappas, C. (2015). Top 10 eLearning Statistics for 2015 You Need To Know. eLearning Industry. Retrieved from www.elearningindustry.com
11. Horton, W. (2011). E-learning by Design (2nd ed.). John Wiley & Sons.
12. Nichols, M. (2003). A theory for eLearning. Educational Technology & Society, 6(2), 1-10.
13. Muilenburg, L. Y., & Berge, Z. L. (2005). Student barriers to online learning: A factor analytic study. Distance Education, 26(1), 29-48.
14. Moore, M. G., Dickson-Deane, C., & Galyen, K. (2011). E-Learning, online learning, and distance learning environments: Are they the same? Internet and Higher Education, 14(2), 129-135.
15. Anderson, T. (Ed.). (2008). The Theory and Practice of Online Learning (2nd ed.). Athabasca University Press.
16. Khan, B. H. (2005). Managing E-learning: Design, Delivery, Implementation and Evaluation. IGI Global.
17. Ellis, R. A., & Goodyear, P. (2010). Students' Experiences of E-learning in Higher Education: The Ecology of Sustainable Innovation. Routledge.
18. Wentling, T. L., Waight, C., Gallagher, J., La Fleur, J., Wang, C., & Kanfer, A. (2000). E- learning: A Review of Literature. Knowledge and Learning Systems Group, University of Illinois.
19. Weller, M. (2020). 25 Years of EdTech. Athabasca University Press.

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH

IN SCIENCE, ENGINEERING AND TECHNOLOGY

| Mobile No: +91-6381907438 | Whatsapp: +91-6381907438 | ijmrset@gmail.com |

www.ijmrset.com