



REVOLUTIONIZING HIGHER EDUCATION: THE RISE OF VIRTUAL PRIVATE UNIVERSITIES AND ADVANCED LMS

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ABSTRACT:

Initiatives for skill development are essential to India's progress since they lower unemployment, boost economic expansion, encourage inclusivity, and increase the nation's competitiveness internationally. India can leverage its demographic dividend and unleash the potential of its workforce for sustained growth and prosperity by investing in skill development.

Rural India's educational condition is frequently defined by a number of issues, especially with regard to access to technological resources like Learning Management Systems (LMS) and the Internet. The infrastructure for education in rural locations is frequently less developed than in urban areas, which limits access to digital resources and new technology.

The current study examines the difficulties, application, and effects of portable learning management systems (LMS) in rural Indian educational institutions.

KEYWORDS:

LMS, DEMOGRAPHIC DIVIDEND, SUSTAINED GROWTH, DIGITAL RESOURCES, SKILL DEVELOPMENT.

INTRODUCTION:

Education plays an important role in human life. During the Covid-19 Pandemic government of India forces Lockdown which affect the in-person teaching and learning. A technological revolution support the education system during this situation. Various methods of education changes with the demand of time and lifestyle of human. During the covid-19 pandemic various methods adopted in education especially in higher education, Self-Learning Method (MOOC'S, LMS, MOODLE and Live Session). The students are well aware of technology. Online teaching/learning help student to learn from anywhere anytime and any content. The good content with very affordable cost available to the student in rural area.

An online educational institution that provides academic programmes, courses, and degrees over the internet is known as a Virtual Private University (VPU). It gives students the liberty to learn whenever, required. VPUs are intended to be accessible, practical, and cost-effective alternatives to conventional on-campus institutions.

NEED:

As we continue to witness rapid advancements in technology and a growing reliance on digital solutions across various sectors, the need for a Digital University becomes increasingly evident. Here are some key reasons why a Digital University will be essential in the future:

A DU offers unparalleled accessibility, allowing learners to

grab contents of material and participate in educational activities from any place in the world. This accessibility eliminates geographical barriers and enables individuals with diverse backgrounds and circumstances to pursue higher education. Digital learning platforms provide adaptability in factors of scheduling with pace of learning. A Digital University facilitates global opportunities among academics, researchers and students coming via around the world. Virtual classrooms, online discussion forums, and collaborative projects enable cross-cultural exchange and interdisciplinary collaboration, enriching the learning experience.

Virtual education economical viable compared to conventional classroom instruction. By eliminating the need for physical infrastructure and reducing overhead costs.

Continues learning is rapidly evolving job market. A Digital University provides opportunities for individuals to engage in continuous learning and skills development throughout their lives, demands with pursue career advancement opportunities.

Digital learning platforms foster innovation and experimentation in teaching and learning methodologies. Faculty members can leverage technology to explore new instructional approaches, incorporate multimedia resources, and conduct research on the effectiveness of

various pedagogical strategies. Digital technologies generate lots of data that can be leveraged to acknowledge decision-making and improve educational outcomes. Analytics tools and learning management systems enable institutions find out student progress and tailor interventions to support student success.

The future need for a Digital University is driven by the desire to expand access to education, enhance flexibility and personalization, foster global collaboration, promote cost-effectiveness, facilitate lifelong learning, stimulate innovation, and leverage data-driven insights for continuous improvement. By embracing digital technologies and evolving into a Digital University, institutions learners and made of for success.

VIRTUAL PRIVATE UNIVERSITY ELEMENTS

A Virtual Private University (VPU) typically consists of the following elements:

- a. Platform for delivering online courses.
- b. Tools for interactive learning (e.g., video conferencing, virtual classrooms, online forums)
- c. Mechanism for managing students.
- d. Tools for evaluation (e.g., online exams, projects, assignments)
- e. Library materials (e.g., e-books, journals, databases)
- f. Services for students (e.g., academic advising, counselling, technical support)
- g. Marketing and hiring initiatives.
- h. Functions of administration and management (e.g., finances, regulatory compliance, accreditation)

LITERATURE REVIEW:

[1] Learning management systems are widely used in academic institutions. The most popular open-source learning management system is Moodle. It is an alternative to in-house online learning programs. In actuality, the correct and wrong answers on an online test are not the only way to analyze and assess a student's performance. An attempt is made to make the examination assessment intelligent in the proposed experiment. Data mining is widely employed in many fields, including business, but it is not as well studied in academia. It is useful for mining data produced by e-learning platforms. In order to categorize the questions, the researcher investigates the application of data mining algorithms with soft computing techniques. The degree of difficulty of the questions is determined by the research. Fuzzy C-means clustering is used to divide the questions into distinct groups, such as easy, moderate, and challenging. Students' performance on easy, moderate, and difficult questions is also evaluated.

[2] With the aim of increasing their employment or self-employment prospects, the Skill Development Cell has been tasked with training young people by imparting skills through AICTE-approved colleges and registered facilitators. The cell is using a number of strategies to accomplish its objectives. The National Employability

Enhancement Mission (NEEM), the Pradhan Mantri Kaushal Vikas Yojana for Technical Institutes (PMKVY-TI), the Employability Enhancement Training Programme (EETP), the AICTE-Startup Policy, the Skill Assessment Matrix for Vocational Advancement of Youth (SAMVAY), Leadership Development Programs, and others are some of the major initiatives.

[3] The study highlighted a number of challenges and possible solutions related to digital education in India, including issues with caste, gender, internet speed, education, and study environments. The study came to the conclusion that India needs first-rate infrastructure for online learning. As a result, both democratic governance and infrastructural investment in the education sector will rise significantly.

[4] In order to enable instructors and students who are not digitally connected to engage in today's ICT-intensive environment, the researcher looks into a proposal for an offline e-learning platform. This study examines the kinds of technology, connections, assistance, economics, and skills that are available in rural and developing areas. In terms of infrastructure, the answer aims to work with the world we already have rather than the one we wish we had. It incorporates contemporary online courses into a self-contained, portable e-learning environment that operates without a continuous network or Internet connection. The toolset is cost-effective since it is compatible with a range of outdated hardware and is constructed with free and open-source components.

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SIGNIFICANCE OF STUDY:

India's Internet penetration rate is 43%. It is so low that, even in the absence of internet connectivity, it forces the usage of features like online learning management systems, security, and usability. Thus, the implementation of these aspects in a controlled environment is the main emphasis of the research.

PLATFORM USED

There are numerous platforms for offering online courses; some of the well-known ones are as follows: Moodle,

Udemy, LinkedIn Learning, and EdX etc.

These platforms provide a variety of features, instruments, and functionalities, including course material management, student interaction instruments, testing and grading, communication, and reporting. It's critical to select the appropriate platform depending on the unique needs and specifications of a VPU.

In virtual private universities (VPUs), interactive learning techniques are utilised to increase student engagement and promote collaboration. Among the instruments most frequently used for interactive learning are:

- 1) Students and teachers can have real-time, face-to-face chats and lectures through video conferencing.
- 2) Virtual classrooms: provide for live, real-time instruction and learning in a virtual setting.
- 3) Students can express their thoughts and opinions with their peers and teachers in online discussion forums.
- 4) Chatbots are computer programs that communicate with students to offer assistance and information.
- 5) Students can collaborate on projects and assignments using collaborative writing tools in real time.
- 6) Teachers can visually illustrate and explain concepts using white boarding and screen-sharing software.
- 7) Simulation and gamification are interactive exercises that keep students interested and support their learning through experimentation and play.

These resources can help VPUs build a dynamic and interesting learning environment, boost student engagement and motivation, and foster a feeling of community.

TECHNICAL ARCHITECTURE OF VIRTUAL PRIVATE UNIVERSITY:

A. WordPress: The core framework for building the LMS, providing a user-friendly interface and extensive customization options.

B. LAMP Stack: Utilizing Linux as the operating system, Apache as the web server, MariaDB as the database management system, and PHP as the server-side scripting language.

C. Plugins and Themes: The LMS may incorporate WordPress plugins and themes specifically tailored for education, enhancing functionality and user experience.

D. Security Measures: Implementing best practices for security, including encryption, authentication mechanisms, and regular updates to mitigate vulnerabilities.

ADMIN PANEL CONFIGURATIONS

Admin panels, sometimes referred to as control panels or dashboards, are interfaces that administrators and authorized users can use to administer different parts of the system in software programs, websites, or online services. The admin panel is an essential element of a WordPress website that gives website owners the ability to manage and alter the content, functionality, appearance,

and settings of their site.

The "/wp-admin" URL extension can be used to reach the admin panel, which has to be logged in with the right credentials. After logging in, users can access a variety of tools and functions that are divided into various areas, such as:

A. Dashboard: Offers a summary of site activity, including statistics, recent comments, and postings.

B. Posts: Enables users to write, modify, and oversee articles or blog posts.

C. Pages: Allows for the development and administration of static pages, including contact, services, and about us pages.

D. Media: Offers a picture, video, and other media file library for managing, organizing, and posting onto the website.

E. Appearance: The theme editor, widgets, menus, and themes enable users to alter the website's appearance.

F. Plugins: Facilitates the process of installing, enabling, deactivating, and managing WordPress plugins.

G. Users: Enables the administration of user accounts, encompassing the creation of new users, role assignment, and profile editing.

H. Settings: Offers access to a number of site configuration options, such as permalinks, general settings, reading, writing, and conversation.

Setting up the WordPress admin panel is crucial for a number of reasons.

I. Content Management: Blog entries, pages, and media assets may be simply created, edited, and managed with the use of the admin panel's features.

J. Customization of the Website: Using the admin panel, users can alter the look and feel of their website by selecting themes, installing plugins, and adjusting settings.

K. User Management: Owners of websites have the ability to govern access to the site's backend, give roles and permissions, and manage user accounts.

L. Site Maintenance: You may undertake routine maintenance activities, including managing comments, updating plugins and themes, and keeping an eye on the speed of your website, using the admin interface. In general, the admin panel is vital for website owners to configure and use efficiently since it is integral to the management and upkeep of a website.

CONCLUSION

Overall, the Learning Management System developed for Virtual Private University serves as a comprehensive platform for delivering online education. With its emphasis on course management, content distribution, assessments, and communication, it provides an effective means for facilitating interactive educational possibilities for learners and instructors. Built on the WordPress framework and leveraging the LAMP stack, it offers scalability, customization, and robust technical architecture to

support the evolving needs of VPU's online education initiatives.

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