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DESIGN AND IMPLEMENTATION OF ONLINE COURSE FORM REGISTRATION SYSTEM FOR THE DEPARTMENT OF COMPUTER SCIENCE, COLLEGE OF EDUCATION, OJU, BENUE STATE

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Abstract

The advancement of Information and Communication Technology (ICT) has transformed the management of academic activities in educational institutions. Traditional methods of course registration involving manual completion and submission of forms are often associated with inefficiency, delays, errors, and poor record management. This study focuses on the design and implementation of an Online Course Form Registration System for the Department of Computer Science, College of Education, Oju, Benue State. The system was developed to automate the process of course registration, improve accuracy, enhance accessibility, and reduce administrative workload. The study adopted the System Development Life Cycle (SDLC) methodology, incorporating requirement analysis, system design, implementation, testing, and deployment. The system was developed using HTML, CSS, JavaScript, PHP, and MySQL database technologies. The implemented system allows students to register courses online, view registered courses, print registration forms, and enables administrators to manage student records and course information effectively. The findings revealed that the system significantly reduces registration time, minimizes errors, and improves data security and accessibility. The study concludes that implementing an online course registration system enhances operational efficiency and service delivery within academic institutions.

Keywords: Online Registration System, Course Registration, Information System, Computer Science Department, Database Management, Educational Technology.

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1. Introduction

Information and Communication Technology (ICT) has become an indispensable tool in modern educational administration. Educational institutions across the world increasingly utilize information systems to support teaching, learning, and administrative activities (Turban et al., 2021). One important area where ICT has demonstrated significant impact is student course registration.

Course registration is a formal process through which students select and enroll in courses offered during a particular academic session. Traditionally, this process has been conducted manually through paper-based forms, resulting in delays, record duplication, and administrative inefficiencies (O'Brien & Marakas, 2018).

The growing student population in tertiary institutions has increased the complexity of registration activities, making manual

systems inadequate for efficient academic management. According to Laudon and Laudon (2022), computerized information systems improve organizational efficiency by automating routine processes and ensuring data accuracy.

The Department of Computer Science, College of Education, Oju, Benue State, currently relies substantially on manual registration procedures, which often lead to congestion, errors, and difficulties in record management. Therefore, there is a need to develop an online course registration system capable of improving service delivery and enhancing administrative efficiency.

2. Statement of the Problem

The manual course registration system presently used in many educational institutions is associated with several operational challenges. These include delays in processing registration forms, errors in course selection, loss of records, and difficulties in data retrieval (Sommerville, 2021). Furthermore, manual systems are characterized by high paper consumption and increased administrative workload.

The Department of Computer Science at the College of Education, Oju, experiences similar challenges, thereby necessitating the development of an automated online registration platform.

3. Literature Review

Concept of Online Course Registration

Online course registration refers to the use of web-based technologies that enable students to enroll in courses electronically without physical interaction with registration officers. Such systems allow institutions to automate registration processes while maintaining accurate academic records (Laudon & Laudon, 2022).

According to O'Brien and Marakas (2018), online registration systems improve accessibility by allowing students to register courses at any time and from any location with internet access.

Educational Information Systems..

Information systems in education are designed to collect, process, store, and disseminate academic information for effective decision-making and institutional management. Educational Management Information Systems (EMIS) have become critical components of modern educational administration because they facilitate efficient data management and reporting (Turban et al., 2021).

Benefits of Online Registration Systems

Several researchers have highlighted the benefits of online registration systems. These include:

- Reduction in paperwork and administrative costs (Laudon & Laudon, 2022).
- Improved accuracy of student records (Sommerville, 2021).
- Faster registration processes and reduced waiting time (O'Brien & Marakas, 2018).
- Enhanced accessibility and convenience for students (Turban et al., 2021).
- Improved data security and backup capabilities (Pressman & Maxim, 2020).

System Development Life Cycle (SDLC)

The System Development Life Cycle (SDLC) is a structured approach used in software development to ensure systematic planning, design, implementation, testing, and maintenance of information systems (Pressman & Maxim, 2020). The SDLC model was adopted in this study because it provides a comprehensive framework for developing reliable and efficient software applications.

4. Methodology

This study adopted the System Development Life Cycle (SDLC) model as proposed by Pressman and Maxim (2020). The methodology involves the stages of requirement analysis, system design, implementation, testing, deployment, and maintenance.

Data for the study were collected through interviews, observation, and examination of existing registration documents within the Department of Computer Science. The gathered information was analyzed to identify the weaknesses of the existing system and determine the requirements of the proposed system.

5. System Design and Implementation

The proposed system was designed using modern web development technologies including HTML, CSS, JavaScript, PHP, and MySQL. According to Sommerville (2021), web-based systems provide flexibility, scalability, and ease of maintenance, making them suitable for educational applications.

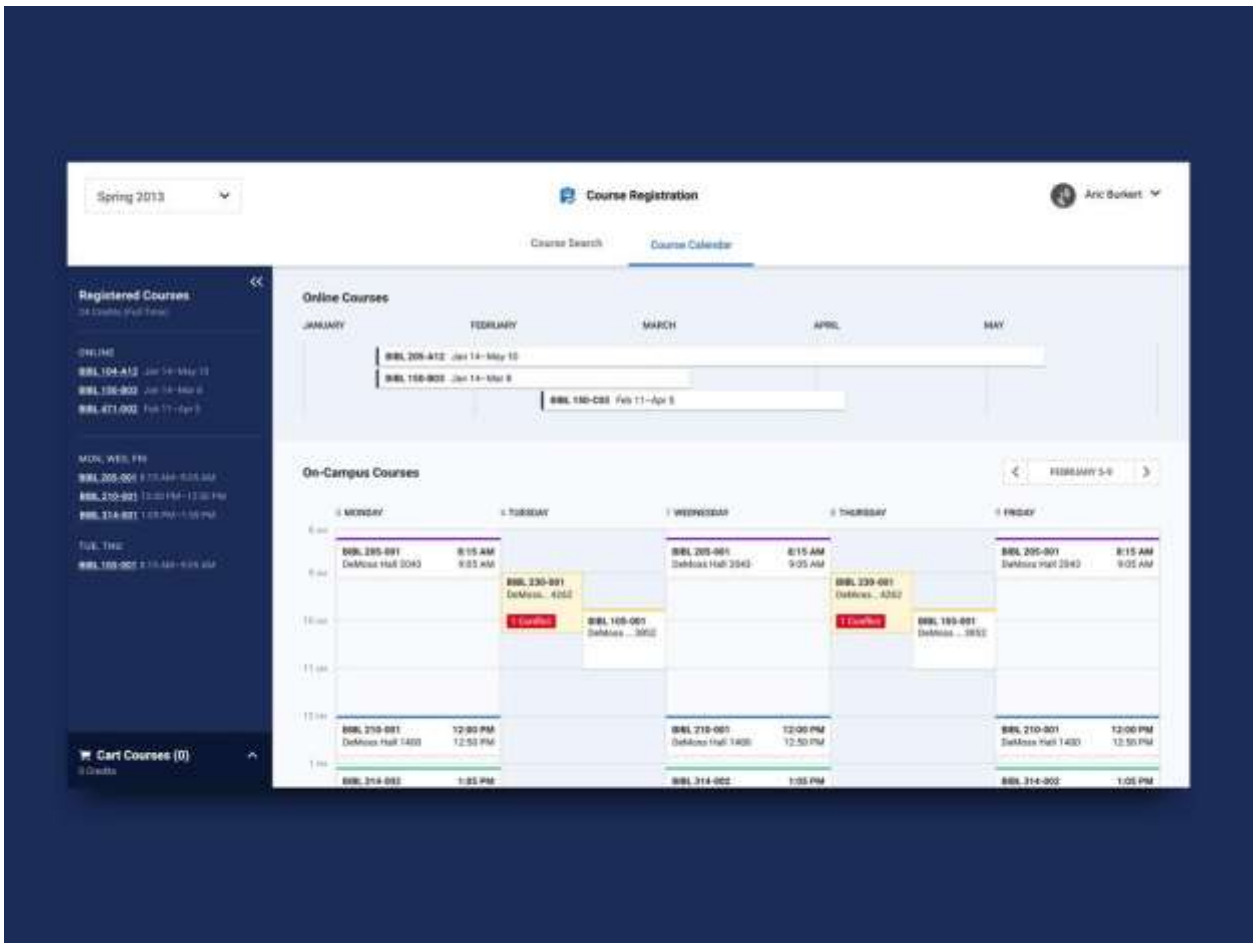
The system incorporates modules for student authentication, course registration, database management, report generation, and administrative control. These features enhance usability and ensure efficient management of student registration records.

6. Testing and Evaluation

System testing was conducted to verify the functionality, reliability, and performance of the developed application. Software testing is essential for identifying errors and ensuring that a system meets user requirements (Pressman & Maxim, 2020).

The test results indicated that the developed system effectively performs course registration, stores student records securely, and generates registration reports accurately.





Online Course Registration Interface

- A web-based portal showing student login, course selection, and registration features.

7. Conclusion

The study successfully designed and implemented an Online Course Form Registration System for the Department of Computer Science, College of Education, Oju, Benue State. The developed system addresses the shortcomings of the manual registration process by improving efficiency, accuracy, accessibility, and data security. The findings support the assertion that computerized information systems significantly enhance administrative operations in educational institutions.

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