

A Review on Student Result Management System

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Abstract - It has been shown that as technology advanced and the effect of computers and the internet grew, it had an impact on a number of different industries. And today, computers are used to perform practically all tasks. The key to being in business is to swiftly transform knowledge into a product that customers desire, and nowadays, all of this is accomplished utilizing computers, software, and information systems. And the education system, which focuses on training the next generation of talent for the future, is unquestionably the foundation of civilization. The Catholic University of Mozambique now manages and declares student results manually and with a great deal of human interaction. The students' results are created using a spreadsheet programme, printed on paper, declared on a wall, and then saved. The goal of the present project is to develop a web-based student outcome management system that will save time, effort, and money while enhancing security. The technique used for the project's development is based on a qualitative investigation. The project culminates in the creation of a multi-user system built on the MVC architectural pattern of web technology and supported by the Java programming language, Apache Tomcat Server, and MySQL Database Management System.

Key Words: Result, Management System, MySQL, Database, PHP.

1. INTRODUCTION

The Student Result Management System (SRMS) is a web-based tool that primarily focuses on delivering results to students and instructors. The student checks their separate outcomes using their university-registered recognition ids, as well as their grades and semester percentages. It is easy for students to retrieve their results through the college website, and it is easier for faculty to assess the pass and fail rates of a given subject. Student, Faculty, and Administrator are the three components that make up the system.

The students may examine his results by entering their roll number, and the faculty can view the analysis of pass and failure counts in the selected topic by entering the joining year and subject name. The administrator is responsible for creating and maintaining any current score.

A management system is a collection of policies, processes, and procedures that an organization utilizes to ensure that it can complete the tasks required to achieve its goals. These

goals span a wide range of areas of the organization's activities.

2. LITERATURE REVIEW

According to E. O. Ukem et al. [1], backup procedures and audit logs may be used to strengthen outcome systems. Despite the fact that his solution was created with java and a MySQL database, it did not provide any evidence for processing results batched in files to improve data integrity and reduce fraud. The study could not answer what happens to a student following a suspension, deferment of studies, medical treatment, supplemental tests, or other similar situations. We examined these circumstances and created an audit trail for future reference.

The programme, like Akinmosin James' [2] solution at Nasarawa State University Keffi, features a login form for user authentication and Student Registration forms for registering students every semester following payment of dues, before results are posted using internet browsers. His solution was created using the Oracle Procedural Language/Structured Query Language (PL/SQL) and is implemented using forms and reports. However, the interface frequently employs the "Grades form for entering student grades and Grades Edit form for amending incorrectly recorded grades." This is a security risk and a design flaw that might allow outsiders to access the database. It's a flaw that might lead to grade tampering by users who find a method to access such forms.

The automated programme operates on many layers, similar to the system developed by Idogho, Akpado, and Agajo [3] for Federal Polytechnic Auchi, with a browser at the front end, a PHP engine, and a MySQL server at the back end. Using the PHP My Admin database administration system, their technology promised to cut admission list processing time to 24 hours. Nonetheless, the release did not specify how Student Exam Scores are submitted into the system, whether by forms or file upload. Second, despite the usage of Macromedia Flash 8.0 and Dreamweaver 8.0, this particular software document was not explicit on the normalization done to eliminate repetition in the database. This would have aided in predicting the program's memory management capabilities.

PHP is object-oriented, platform neutral, and portable on Microsoft Windows, Apple Macintosh, Linux, and other platforms, according to Bijoy, Sanjay, Bhibak, Nishal, and Zarmit [4]. Duplicity and data loss are reduced when such automated methods are used, as opposed to manual operations.

Efficient systems concentrate on a few important objectives. For example, following careful consideration, Duan and Zhang [5] listed certain system performance objectives such as usability, sophistication, integrity, and security. Thus, large data introduction via file uploads supports this measure; data processing scheduling and data inquiries are functional ways of attaining this.

In India, Bharamagoudar, Geeta, and Totad [6] created a web-based Student Information Management System that could send emails to students to confirm their mailbox when they registered. They accomplished this by utilizing technologies such as HTML, CSS, JavaScript, PHP, and SQL. It is a paperless task that aids in automating current manual procedures and may be remotely monitored and managed on a server-based network, according to its definition.

In China, Hemn and Wu Fei [7] created a method that can give students with general and instructional information. They claim that the Students Information Management System (SIMS) may be used to create, read, and update a student's information as well as generate reports regarding his or her abilities and experience. Such technologies reduce retrieval time and avoid data loss.

Mariusz C. [8] mentioned in his solution University Study-Oriented System (USOS) in Poland that the key functional aspects are the admin, web, admission/registration of students, database of results, course and certificate catalogue, statistics, and so on. According to him, this solution is employed by 27 Polish higher education institutions. In such a system, each module that is to be used in production must first pass through a sample database and a university test. The documentation, which included the system definition and implementation, was kept up to date on a regular basis. Such methods improve communication between students and teachers.

A good database, according to Ajay and Abhishek [9], does not allow anomalies and saves vital information in an organized manner for data integrity. As a result, tables must be normalized for correctness and retrieval convenience. They also created their solution with PHP integrated in HTML and linked to a MySQL database using PhpMyAdmin, which can operate on both WAMP and LAMP. PHP was chosen due to its simplicity of usage across several platforms with minimum script modification, as well as its compilation speed and efficiency. They implemented a 'export' capability to their system to decrease the amount of time required for individual student registration. It may transfer pupils from one level to another in mass.

An SIS [10] provides capabilities for course registration, grade documentation, transcript generation, students test results and assessment scores recording, students' schedules including disciplinary records, attendance monitoring, and the overall management of student-related data in a school, according to an article on Wikipedia titled, Student Information System (SIS). It is not to be mistaken with a learning management system, which allows for the publication of course materials, assignments, and examinations.

In India, Bhatt et al. [11] developed a Credit-based Grading Scheme (CBGS). It is essentially a PHP-MYSQL solution for compiling student outcomes. Depending on the use, the system generates reports in either Excel or PDF format. Although the grading scheme changed from that of the Nigerian system, the formula for calculating the Grade Point Average (GPA) is the same: the total of the product of credit hours and grade points divided by the amount of the credit hours. The simplicity of searching and list production is a significant advantage of such automated systems over manual procedures.

Using the incremental software model and prototyping approach, Nmaju et al [12] suggested a system Academic Records Information System (ARIS) at the University of Port Harcourt, Nigeria. Their idea that reporting sheets may only be prepared when there are no outstanding scores for courses registered by students was likewise accepted; this indicates that the outcomes of all such courses must have been authorized by University Senate and posted on time.

Charletta F. G. [13] mentioned a lawsuit filed against Microsoft by a lady in Los Angeles about security weaknesses in the company's software in a publication at North Illinois University USA. Marcy Hamilton, a film producer, filed the lawsuit, alleging that she had been a victim of identity theft as a result of Microsoft's poor craftsmanship. Her Social Security Number (SSN) and bank details, she claims, were taken online. As a result, we have taken security breaches into account in this SRMIS and have recently included a log file and audit trail to assist monitor database activity. This will increase the system's credibility and allow management to account for modifications made at any moment by a specific user.

In terms of privacy, JISC Info Net [14] recommended that digital records be safeguarded by passwords and electronic security mechanisms. They argued that colleges should avoid unlawful sharing of student data information. As a result, only staff members who require the information in their job description should have access to it, and only to the material that interests them, not the whole files. Furthermore, because these records contain personal data, the student, as the data subject, should have access to the material, whether in soft or hard copy, according to the Data Protection Act 1998.

Gunathilake et al. [15] suggested an open-source web-based MIS for Sri Lanka's University of Ruhuna. This was possible because to the LAMP/WAMP technology. They were able to divide their users into administrator, super admin, top admin, general, professor, and student categories. The prototype version was aimed for their Faculty of Science, and they successfully encrypted passwords using the principal DES method.

According to Walia and Gill [16], the goals of developing a web-based framework for results processing are to reduce the time required to access students' records and to create a more secure platform. This has shown to be a more successful method of university management over time.

3. CONCLUSION

The Student Result Management System is an internet-based programme. It's feasible that it'll be published as desktop software. This service will be extremely beneficial to students when they need to obtain results and courses information after their teacher has posted them. Faculty members may also find it useful to post students grades to the dashboard. They are unable to communicate, but they will soon be able to do so. It has its own database "rms.db" which is produced using SQLite, therefore it doesn't require any additional software.

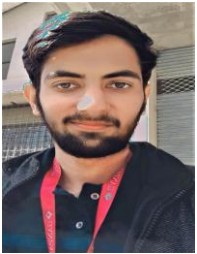
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BIOGRAPHIES



Dhruv G. Patel has received his graduate degree (B.C.A.) from Shri Sarvajanik B.C.A. & P.G.D.C.A. College, Gujarat, India. At present he is developing a web-based student result management system. His area of interest lies in Java, cloud-based Application, PHP, and Python.



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