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Web Application for Student Performance Evaluation and Remuneration System

Amira Shaikh[1], Shriya Salian[1], Avani Gupta[1], Akanksha Gairola[1], Mrs. Uma Goradiya[2]

[1]Student, Computer Engineering Department, Shree LR Tiwari College of Engineering, Mira Road, Mumbai, Maharashtra, India

[2]Assistant Professor, Computer Engineering Department, Shree LR Tiwari College of Engineering, Mira Road, Mumbai,Maharashtra, India

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ABSTRACT

Accreditation plays an important role in ranking colleges, requiring correct date. Students Evaluation System helps the engineering faculties to maintain student grades database in an efficient manner and helps in evaluating it to develop a criterion for accreditation. Faculty remuneration system, on the other hand, is a structured approach to determine the compensation and benefits that faculty members receive for their teaching, research, and service activities by generating excel sheet with accurate remuneration received by faculties for conduction of Examination orals and practical. Both the student performance evaluation system and faculty remuneration system are essential components of any educational institution. Effective implementation of these systems requires careful planning, regular monitoring, and continuous improvement based on feedback and data analysis.

Keywords : Web development, Excel Automation, MySQL database, database management system, PHP, requirement analysis, practical implementation, college faculty remuneration, NBA accreditation

I. INTRODUCTION

Data analysis plays a vital role in understanding scope of improvement and current performance, and serves as a major protocol in the accreditation process of universities.

Traditionally, the student database is analyzed and reported using MS-excel or Spreadsheet. This system can be improved by developing a web application consisting of the database and reports generating function based on pre- defining the operations performed on the database. The parameters can be obtained from the students' marksheet. Traditionally, the student database is evaluated and reported using MS-excel or Spreadsheet. This process is totally manual and requires the faculty to develop tables and

understand information manually which is prone to errors and inefficiency and is also time consuming This STUDENT PERFORMANCE EVALUATION SYSTEM not only categorizes the student but also is accurate and error less. This existing method can be improved by developing a web application consisting of the database and reports generating function based on pre-defining the operations performed on the database. Previously, the process of calculating faculty remuneration was entirely manual and involved the creation of tables and the manual entry of charges for each subject. This process was prone to errors and was inefficient, as it required the admin to develop tables and understand information manually. To address these limitations, a web application can be developed that consists of a database and report generating functions based on predefined operations performed on the database. This system would automate the process of calculating faculty remuneration, eliminating the need for manual data entry, and reducing the risk of errors.

II. Background

Traditionally, the remuneration database is evaluated and reported using MS-excel or Spreadsheet. This process is totally manual and requires the faculty to develop tables and understand information manually

which is prone to errors and inefficiency and is also time consuming. This remuneration application is user friendly, accurate and error less. This existing method can be improved by developing a web application consisting of the database and reports generating function based on pre-defining the operations performed on the database.

For colleges, imparting education is not enough. They also must ensure that their efforts are directed in the right way and yield the best results. Traditionally, the student database is evaluated and reported using MS-excel or Spreadsheet. This process is totally manual and requires the faculty to develop tables and understand information manually which is prone to errors and inefficiency and is also time consuming. This system not only categorizes the student but also is user friendly, accurate and error less. This existing method can be improved by developing a web application consisting of the database and reports generating function based on pre- defining the operations performed on the database.

III.LITERATURE REVIEW

"Quality, accreditation and global university ranking: Issues before Indian higher education." By Nandi, Emon, and Saumen Chattopadhyay. This paper presents the impact of accreditations on universities, Issues related to subjective criteria used as indication and concerns regarding globalisation of the NBA (or NAAC) system.

"The role of accreditation in promoting quality assurance of technical education." Natarajan, R. This paper focuses on role of grading systems in the improvement of quality of education. In depth information about the foundation principles and methods of grading universities.

"Developing Excel Web Applications with PHP and MySQL." Yank, Kevin. Illustrates techniques and procedure to connect, create, modify and update excel sheets using PHP.

IV. Importance

Teachers will have to login with their college email-id. It will be user-friendly which will be very easy to use for Teachers and exam cell/admin. Teachers can track and maintain student's grade semester and year wise. It will provide a report as per requirement of NBA(National Board of Accreditation). Students without KT will be tracked differently and with KT differently. It will help maintain databases and make analysis automated for the accreditation process. Provides a track record of yearly student's enrolment.

The remuneration system will help maintain a faculty remuneration budget which usually serves the purpose of the payment that the professors (internal and external) receive for conduction of Orals/ Practical, term work. Traditionally, the values (charge) for each subject and formulas had to be manually entered by the faculties every semester which may be deemed a tedious operation. The remuneration application automates this operation saving considerable time and effort. It will help maintain databases for formulas, cost and previous subjects and make analysis automated for the remuneration process.

V. Architecture:

In this architecture, the frontend is a web application users interact with to enter the input excel file to generate report for NBA. For remuneration, the users must enter the subject's information as well as the number of students to create out excel budget file. The frontend communicates with the backend, which consists of formulas program xampp server, MySQL database, and utilities.

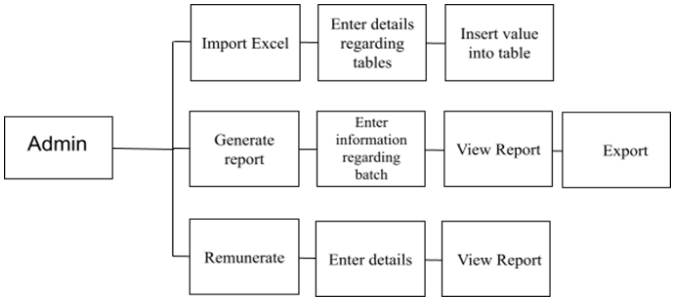

Figure 1: System Architecture

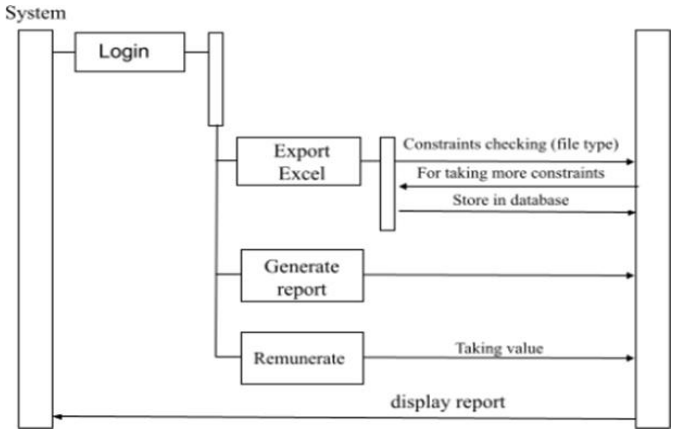

Figure 2: Sequence Diagram

The inputs are then collected along with category (here category is the parameters that the subject has, for example term work, lab, Internal assessment etc.) then formulated using the preprogrammed formula to store the result values in the existing table in database to create excel sheet in Remuneration.

For Students Evaluation process it takes the input excel file, stores it in the database and uses the data in the tables to generate the number of students successfully cleared in a particular year and in the whole tenure(4-years).

The architecture is designed to apply all the logical formulas that are required to generate accurate reports easily and efficiently.

It also includes options to update the existing information stored in the database to keep increase the efficiency.

VI. 6. Requirement Analysis:

Functional Requirement:

Functional requirements describe what the software should do (the functions).

System

- The reports should be accurate.
- Any changes made in the database should be reflected.
- The flow of the web pages should be consistent and in proper order.
- Should generate excel sheets for the user.

Admin

- Generate the reports as per requirements.
- Make necessary changes in the student database.
- Non- functional requirement:
- The student performance report should be available in an easy to store and printable format.
- The database should not crash.
- No data should be lost.
- Data should not be overwritten until and unless user or admin permit to do so.

Usability: It defines the user interface of the software in terms of simplicity of understanding the user interface of our software.

Efficiency: Maintaining the possible highest accuracy for the generated report and remuneration excel sheet.

Technical Feasibility: It is a complete web application build using HTML, CSS, JAVASCRIPT, PHP, MySQL database. The read, write excel function is achieved using PHP "Spout" library. All thesoftware are properly functional and the response time is less than 10 seconds. Maximum features related to this feature are achieved using these technologies.

Resources Feasibility: Resources that are required for this project includes, Programming device (Laptop), Hosting space (freely available), Programming tools (freely available).

Risk Feasibility: Since it uses database storage and spout library, there may be a lag time when reading big input excel sheet(for Student evaluation for NBA), it makes the project big in size and there's a risk factor for slowing down of web applications. The project size is less than 500 MB. But we can manage it well by maintaining and updating the database as per requirements. There may be also chances of reduced accuracy if the formulas are not updated internally.

VII. Model Description & GUI Design

Login- In this module using username and password user login into system. In this login system authentication of user so only valid person login into the system.

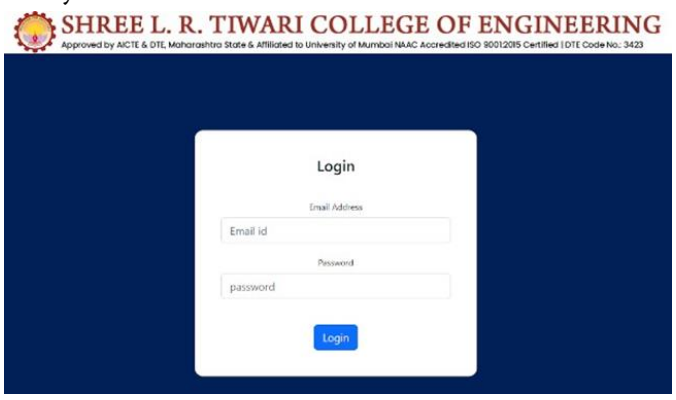

Figure 3: Login

Data Input-

For NBA (Student Evaluation System):

Here the user have to insert excel sheet and select the columns that are to evaluated (name, marks and PRN no), one the sheet read, the user needs to select the batch, year and semester number so that the table can be name and accessed using these parameters.

Hence semester wise tables will be evaluated to form the report.

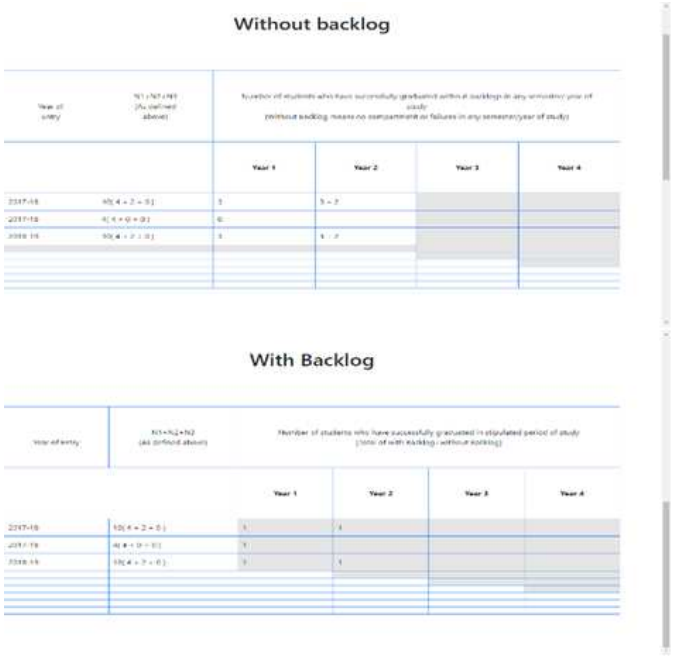

Figure 4: Report

For Remuneration System

The user will have to give the number of students, groups, and the semester to generate the budget excel(remuneration).

The admin have the privilege to create tables, add subjects and assign them category so that so the formulas can be properly applied to them.

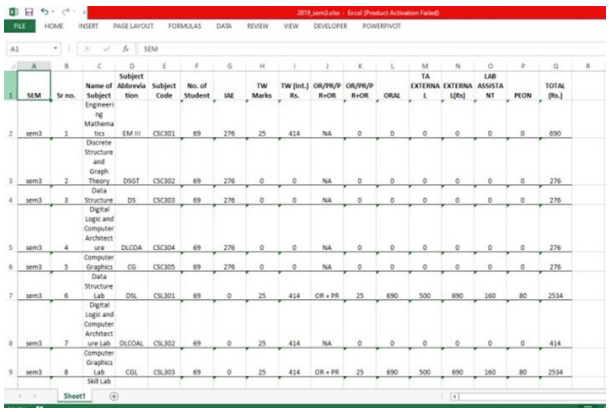

Figure 5: Excel Sheet

VIII. CONCLUSION

Automating college systems are promising for the improvement of the accuracy of the information generated by the administrative staff and inculcates an efficient working environment. Developing such projects gives students a kind of real-life industry exposure and gives them a chance to develop systems that are of use in their own institutions. The Student Performance system will be very efficient for maintaining a student database in one platform. It will ease the work of producing student grades report and prevent error generation. It will allow the teachers to use the student's database in an efficient manner without going through redundant work with excel sheets. It will capture important parameters and use it to produce criteria 4 for NBA accreditation. Database has been normalized to make maximum use of the data.

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