



Automated Student Result Analyzer

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ABSTRACT

The faculty of various colleges are facing overhead analyzing the results of students. Excel sheets are being used for percentage calculation, counting the number of backlogs, listing students within a particular range of percentages given etc. There is an additional burden with the results of supplementary exams and revaluation results.

The statistics of any student belonging to a particular batch might change frequently from 1st year to 4th year because he/she is allowed to write supplementary examinations twice a year and so frequent modifications are required manually. To overcome all these problems faced we try to automate all the calculations possible.

Key words- automation, database, result analysis.

I. INTRODUCTION

Instead of using excel sheets, using a database for storing all the results reduces complexity since the user can easily query for any type of information he/she requires.

This automated result analyzer provides good Graphical User Interface for making all the analysis very easy and friendly for the user. Interaction with the analyzer is a very easy task ranging from entering marks of all the students to calculating statistics.

Analysis of results provides various services including the following

Services provided on a single student:

- Percentage Calculation
- Counting No. of backlogs.
- Percentage Calculation with and without including marks of Backlog subjects.
- Total Credits

Services provided on a class of students:

- Pass percentage of a class
- Pass Percentage of a particular subject
- List of students within given range of percentage.

- List of students within given range of backlogs.

Services provided on an entire Department:

- Pass percentage of Department
- Pass percentage of a particular Year
- Topper of the Department
- List of students within given range of percentage.
- List of students within given range of backlogs.

Services provided on an entire College:

- Pass percentage of College
- Department wise pass percentage
- Topper of the College.
- Department wise and year wise toppers.
- List of students within given range of percentage.
- List of students within given range of backlogs.

Automating all the above services avoids manual calculations, saving a lot of time.

Not only saving time, the analyzer also integrates the results of various years and departments which is almost impossible using excel sheets.

Improves correctness of the calculations since manual calculations are avoided.

II EXISTING SYSTEM

For calculating the results of students we are presently using the manual system. Excel sheets are being used for percentage calculation, counting number of backlogs, etc. Frequent modifications need to be done as there will be supplementary exams and also the revaluation results. The existing system is fully manual. The student marks are recorded manually on excel sheets. The different calculations like percentage, who is the topper, how many pass and fail are there subject wise, overall

result are found manually which consumes lot of time.

The need of analysis of result as a whole is very difficult. The limitations like time consuming, insecurity, loss of data aroused the need for the proposed system. The process which was manually done was responsible by the staffs who used to find it difficult to refer the result as a whole. So the existing system did not consist of any easy method of analysing the result as a whole. The administrator had to find manually how many students have got less than the marks required to pass.

The details of the faculty, students, subjects, semesters and departments are also difficult to be maintained. A lot of paper work, insecurity and time consuming process are the major disadvantages of the existing system.

III PROPOSED SYSTEM

Proposed system encompasses study of present system thus finding out Drawbacks of the system, requirement analysis, planning and scheduling, design Development, testing, installation trails runs with small pieces of live data and Training the user to use and also to maintain the system for the better use. The proposed system maintains consistency of data throughout the system. It contains normalized data which is easy to store and retrieve from.

It can generate subject wise report, percentage wise report, practical report, overall result of class report, overall pass in each subject report and graphs for every report that are beneficial to take any action. It is secure and fast. The proposed system will require less manpower. From the proposed system we can save a lot of time which is a major factor. The login and password page also secures your system properly. The calculations are done accurately. Thus accuracy is a major advantage and there is no chance of having any duplicates.

IV IMPLEMENTING AUTOMATON

We try to automate the process of analysing the result by using data base management tools, here we use mysql, and for the interaction with the data base to we have used PHP and for user friendly interaction we used HTML, CSS, bootstrap.

The process of automation starts with the excel sheet containing results. This excel sheet is imported into the database and while importing we create a view such that the format of data becomes easy for throwing various queries on it.

Following figures show the format of data before and after importing into database.

Roll No.1	Subject 1	Marks
Roll No.1	Subject 2	Marks
Roll No.1	Subject 3	Marks
Roll No.2	Subject 1	Marks
Roll No.2	Subject 2	Marks
Roll No.2	Subject 3	Marks
Roll No.3	Subject 1	Marks

Fig: Data in excel sheet before importing into Data Base

Roll No.	Marks	Marks	Marks
Roll No.1	Subject 1 Marks	Subject 2 Marks	Subject 3 Marks
Roll No.2	Subject 1 Marks	Subject 2 Marks	Subject 3 Marks
Roll No.3	Subject 1 Marks	Subject 2 Marks	Subject 3 Marks
Roll No.4	Subject 1 Marks	Subject 2 Marks	Subject 3 Marks
Roll No.5	Subject 1 Marks	Subject 2 Marks	Subject 3 Marks
Roll No.6	Subject 1 Marks	Subject 2 Marks	Subject 3 Marks

Fig: Data in the form of data base view after importing

From this view it becomes easy to calculate the percentage of each student and counting backlogs. In this project we considered a student to have backlog if the marks gained were less than 40. All the queries were based on student Roll No.

V RESULTS

The results format before view being created is as shown below:

Roll No	Subject Code	Subject Name	Subject Internal	Subject External	Subject Credits
14981A0501	R13101	ENGLISH-I	18	43	3
14981A0501	R13102	MATHEMATICS-I	20	10	3
14981A0501	R13104	ENGG.CHEMISTRY	20	10	3
14981A0501	R13106	COMPUTER PROGRAMMING	23	24	3
14981A0501	R13106	ENVIRONMENTAL STUDIES	22	39	3
14981A0501	R13110	ENGG.MECHANICS	21	24	3
14981A0501	R13111	ENGLISH COMMUNICATION SKILLS LAB-	17	42	2
14981A0501	R13115	ENGG.CHEMISTRY LABORATORY	22	46	2
14981A0501	R13116	C.PROGRAMMING LAB	23	43	2
14981A0502	R13101	ENGLISH-I	25	63	3
14981A0502	R13102	MATHEMATICS-I	23	24	3
14981A0502	R13104	ENGG.CHEMISTRY	23	36	3

Fig: Screenshot before importing

In the above figure, each roll number is present multiple times which becomes difficult to carry queries, so we try to avoid duplicate occurrences of roll number and then make it as a primary key. So after importing a view is created such that its data looks as shown below.

Roll No	ENGLISH-I			MATHEMATICS-I			ENGG.CHEMISTRY		
	Internal	External	Credits	Internal	External	Credits	Internal	External	Credits
14981A0501	18	43	3	20	10	0	20	10	0
14981A0502	25	63	3	23	24	3	23	36	3
14981A0503	21	56	3	23	62	3	26	11	0
14981A0504	25	55	3	25	47	3	20	29	3
14981A0505	22	60	3	24	13	0	22	37	3
14981A0506	23	54	3	22	8	0	24	30	3
14981A0507	23	55	3	26	58	3	22	31	3

Fig: Screen shot after importing

If a supplementary exam result is declared later on, then there is a possibility of student

marks to be modified. So we provide option for modifying students marks as shown below:

Roll No	Subject Code	Subject Name	Subject Internal	Subject External
14981A0501	R13101	ENGLISH-I	<input type="text" value="18"/>	<input type="text" value="43"/>
14981A0501	R13102	MATHEMATICS-I	<input type="text" value="20"/>	<input type="text" value="10"/>
14981A0501	R13104	ENGG.CHEMISTRY	<input type="text" value="20"/>	<input type="text" value="10"/>
14981A0501	R13106	COMPUTER PROGRAMMING	<input type="text" value="23"/>	<input type="text" value="24"/>
14981A0501	R13106	ENVIRONMENTAL STUDIES	<input type="text" value="22"/>	<input type="text" value="39"/>
14981A0501	R13110	ENGG.MECHANICS	<input type="text" value="21"/>	<input type="text" value="24"/>
14981A0501	R13111	ENGLISH COMMUNICATION SKILLS LAB-I	<input type="text" value="17"/>	<input type="text" value="42"/>
14981A0501	R13115	ENGG.CHEMISTRY LABORATORY	<input type="text" value="22"/>	<input type="text" value="46"/>

Fig: Screen Short showing marks modification

The total backlog count for each subject can be found out as shown below:

ENGLISH-I	MATHEMATICS-I	ENGG.CHEMISTRY	COMPUTER PROGRAMMING	ENVIRONMENTAL STUDIES	ENGG.MECHANICS
0	35	24	10	6	13

Fig: Screen Shot for Backlog Count

In some cases it is necessary to group students based on their percentage, it can be helpful for finding out merit students and for various other scenarios. So 2 groups of students with their percentages 51 to 60 and 61 to 70 are shown below:

RollNo	Percentage
14981A0501	56.606060606061
14981A0511	58.545454545455
14981A0517	57.575757575758
14981A0518	55.393939393939
14981A0519	58.909090909091
14981A0523	55.757575757576
14981A0524	58.060606060606
14981A0525	53.818181818182
14981A0527	58.909090909091
14981A0528	58.181818181818
14981A0529	55.515151515152

Fig: Screen shot showing group 51 to 60%

RollNo	Percentage
14981A0502	69.090909090909
14981A0503	70.181818181818
14981A0505	64.969696969697
14981A0506	61.636363636364
14981A0507	70.060606060606
14981A0508	62.545454545455
14981A0509	63.151515151515
14981A0510	68.242424242424
14981A0512	63.151515151515
14981A0513	67.393939393939

Fig: Screen shot showing group 61 to 70%

VI TEST CASES

Test case-1:

We have to upload excel file.

Result: success

Test case-2

- We have to enter the marks of the student into the database.
- Two buttons are displayed on the page.

1.Submit 2.Refresh.

- Submit button is used to insert the data into

database.

- By clicking the refresh button after inserting data we can directly view the marks.

Result: success

Test case-3:

In this test case we will display all students data in the class.

- We can view data of the students marks like percentage, backlogs, total marks, total credits, percentage without backlogs, etc..

Result: success

Test case-4:

- In this test case we will display the individual student data.

- We can get the data of an individual student marks like credits of individual subjects, backlogs, total credits, percentage without backlogs, percentage with backlogs.

Result: success

Test case-5:

- We display the subject wise backlogs here that is how many students failed in each subject and what is the pass percentage in each subject.

- By considering the internal and external marks of a student we decide whether he/she passed in that particular subject or not.

- The student must obtain greater than or equal to 26 marks in his external and the total marks must be greater than or equal to 40 to pass in a particular subject.

Result: success

Test case-6:

To check the student percentage within a particular range of

50-60 % 60-70% 70-80% 80-90% 90-100%

Result: success

VII SCOPE FOR EXTENSION

The main purpose of this project is to make analysis easy, friendly for user and to automate all the calculations possible. When we enter a student's roll number, marks and percentage of that student will be displayed automatically. There is no need of manual calculations as all the results will be stored in the database. By entering a student's roll number all his/her subject marks, number of backlogs, percentage in each semester and total aggregate will be displayed.

Entering results into database is the only thing which is not automated. Importing results directly from pdf's into database would be a very useful extension to work on for this project. Presently student's revaluation /supply results is being uploaded manually. Further scope is that it should be done automatically.

VIII REFERENCES

1. <http://www.w3schools.com/>
2. <http://stackoverflow.com/>
3. <https://support.office.com/en-IE/Article/Create-a-PivotTable-to-analyze-worksheet-data-a9a84538-bfe9-40a9-a8e9-f99134456576>
4. <http://www.tutorialspoint.com/mysql/mysql-select-query.htm>
5. <https://www.apachefriends.org/index.html>
6. <http://tomcat.apache.org/>
7. Data base Management System, 5/e, Elmasri Navathe , PEA
8. Introduction to Database System , 8/e , C.J.Date , PEA
9. Database System Concepts, Peter ROB, Coronel, Ceeneage
10. Beginning Web Programming-John Duckett WROX
11. Web Technologies, Uttam K Roy
12. Head first Java-Kathy sierra – Orielly
13. An Introduction to Web Design and Programming – Wang -Thomson