

Student Capability Testing and Evaluation

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Abstract- In this paper we are presenting a system for testing and evaluation of the student's behaviour during the execution of the online tests based on the Multiple Choice question types. We created an online tests for providing practice for the students not only practice they are also can use for improving knowledge and checking the capability of each student whether in which subject exactly the student finds difficulty and which are the students interest subjects. The system focuses on the discovery of behavioural patterns of student and conceptual understanding, various types of errors, time management among analysis parameters.

Here we create different types of tests like based on not only of the syllabus alone but of the previous year subjects and the particular year. The main goal of this paper is about the system to let students monitor several important aspects related to online tests, such as test quality, performance of the student. This paper is developed to implement online tests for different subjects in the academics and explains result in the form of analysis of each subject and displays useful information to the students. This Evaluation let the students to review and improve the whole assessment process. This paper is used by students and teachers, it does require background knowledge of each subject and accessing the internet, who wants to attempts online tests. Further useful applications of our system will allow us to detect correlations among actual numerical marks and evaluated result by analysis.

I. INTRODUCTION

Student capability testing and evaluation system is a useful system in academic environments combined with other assessment. Through these systems, tests composed of several question types can be presented to the students in order to assess their knowledge. Multiple Choice question type is extremely popular since they are in use, among other advantages, a large number of its outcomes can be easily corrected automatically. It improves the confidence of the candidate by practicing more number of test.

In our system we are provide a series of tests in which the questions will be related to academic subjects but not exactly from the syllabus. From this step we make our user little stress free and feel comfortable to give the test.

After giving test, we provide results of two type in which first type of result only consist of marks obtained to student and in second result we provide a complete evaluation result which will be based on analysis methods. We introduce here six various parameters based on which the evaluation of student or how he/she respond to tests will be calculated. The basic purpose behind this paper will be to test the student's general knowledge of student regarding to that that particular subject, and also we will find the area of interest of that particular student.

II.METHODOLOGY

2.1 Methods for evaluation:

The group of class students will evaluated on the basis of following parameters.

1. Subject classification of Solution

Like student has attempted how many questions related to same field of subject to find his strong area. Also this analysis gives the individual performance best subjects, average ones and poor knowledge. This analysis chart gives the scope of improving the lower level subject understanding. Students can be grouped for poor subject improvement.

2. Overall Performance grading

categorizing is used to find the fair scoring averages. To view how many overall pupil scores in particular marks bracket. This impacts on overall grasping power of collective students in a class. This is useful for teachers to find which divisions are good learners in both skill based tests and UTs

3. Finding a response pattern about

students solving skills which subject is easily scores, what is left with no attempt and what is repeatedly given wrong answers.

4. Understanding and interpretation

skills, this part is to analyze whether the student is reading appropriate questions and answers. How he behaves around a tricky spelling or similar category options slightly different from one another but only one accurate. Is student being able to differentiate or no, or if he can find right spellings or right option or not is evaluated. And score is stored in system.

5. Error patterns can be classified as

logical, linguistic, conceptual technical, syntactical and careless answering categories.

6. Time frame analysis containing

overall solving time, each question solution time, where he lags, which subject requires more time to solve this is stored in the system

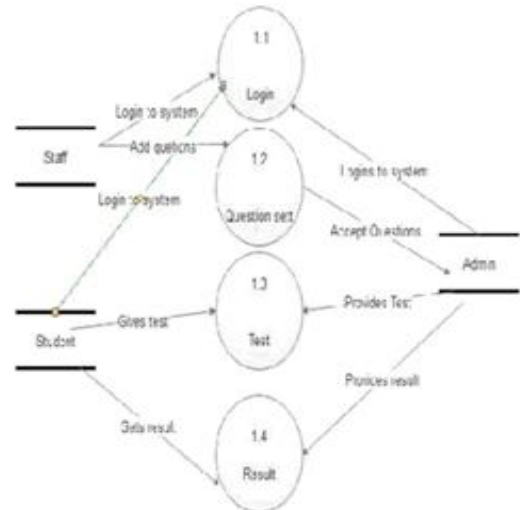


Fig. 3 DFD level 1

III. RESULTS

1. Subject Classification of solution:

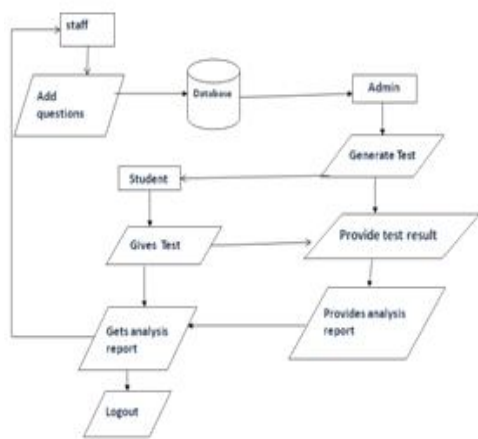


Fig. 1 Block Diagram

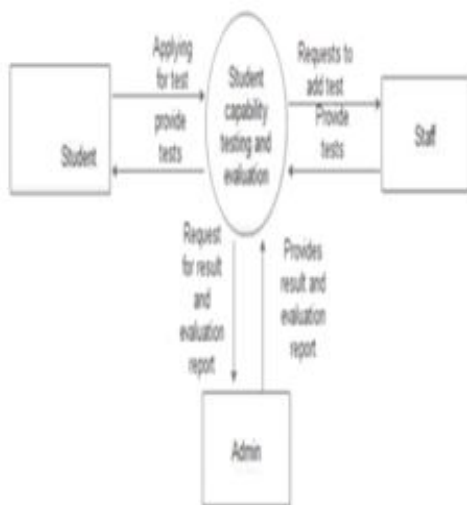
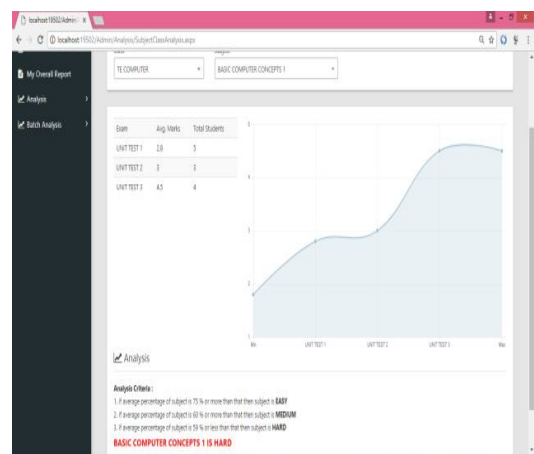


Fig. 2 DFD level 0

Subject wise average of each subject is calculated with respect to the number of students appearing for the test. The graph represents the average of marks for each subject. This analysis will show whether the subject is easy, medium or hard.

2. Overall performance grading

This report shows the marks obtained by the particular student on the number of tests given by him/her. Followed by the remark and analysis of response pattern and time frame. This are classified under defaulter and not defaulter.

3. Finding Response pattern

The response pattern of each student is being showed by the pie chart. The green portion shows the ratio of the student being firm on this answer. The red portion shows the ratio of number of times the student changed his answer.

4. Error pattern

The details of result are being showed here. It includes the data about the questions in the test, with their options, the correct option, the option selected by the student, the sequence of options changed by the student, the marks obtained on each question and the negative marks for each question.

5. Time frame analysis

Time is the main methodology for calculating the response of the student. This report on time frame shows the time taken by the student to solve the test. This is represented by the progress bar. The red portion shows that the student has ended the test way before the half time.

IV. CONCLUSION AND FUTURE WORK

In this paper we present a system for capturing and evaluating the behaviour of the students during testing sessions based on online tests. The use of information evaluation in this context has been proven to be useful for various applications, such as analysis of the strategies used by the students during the execution of an online test; cheating detection and detection of correlation among questions. The analysis assessment is formed to classify subjects performance and predicts academic achievement using fundamental subjects from semester in Computer Engineering.

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