Comparative Study on Various Techniques Used in Examination System: A Survey

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Abstract- In the field of academics one of the most popular and important assessment processes is the process of Examination. This system of Education started long way back. Even today, after multiple changes in the traditional method of assessment, there exists little effect in the method of teaching, learning and specially assessment which is the evaluation technique. This paper presents a comparative study on various techniques and tool that exists and is being used widely. It also studies the effectiveness of one technique over another and identifies required changes one need to bring about in the current method of our Examination system. The comparative study made between various database systems based on varied matrices also highlights the usage of one technique over another in varied environment.

Keywords- Examination system, VIVA, Server, .net

I. INTRODUCTION

The motivation in order to write this paper is, during times where we or other people require to do our projects related to databases. They may have no idea on how or which technique we should use in order to do our project in a more simple and efficient way so that we may not waste the required amount of time in order to complete our project. So the survey paper is about what are the technique that can be used in the examination system of various school or colleges and which one of the technique listed is suitable for our project.

It is a well-known fact that in our country the entire education system is centered and based around examination system for the assessment of students. Student’s marks are assessed and evaluated by conducting examination. They are marked and ranked as per the student’s performance. Examination system is followed in order to assess and evaluate the student's knowledge in their given subjects. The evaluation system in Examination is in generally done in three ways. They are:

A. Oral
B. Written and
C. Practical.

The oral exam is a practice in many schools and disciplines in which an examiner poses questions to the student in spoken form. The student has to answer the question in such a way as to demonstrate sufficient knowledge of the subject to pass the exam.

The Written Examination is a comprehensive exam that assesses the examinee's knowledge of basic sciences and clinical concepts based on criterion-referenced testing. Examinees will be measured against the skill and knowledge represented by each test item.

Practical exams test students' practical skills and techniques usually in laboratory and field settings. They can be administered individually, in pairs or small groups.

In institutes mostly all of the course are written test. In the fields of science and technological studies, practical examinations are prominently conducted. Examination helps to evaluate a student’s dedication up to a certain level. VIVA is also taken which is done orally. But by examination the real talent of students cannot be fathomed. Assessment in Examination system based on the time period can be broadly divided into two techniques:
Traditionally Evaluation Techniques:

During the Vedic period, schools were like boarding schools where a child was handed over to the teacher at an early age and then the student was imparted knowledge for developing good behavior, to gain knowledge and wisdom of his teacher. Knowledge during that period was something that had a great importance and meaning. The teacher took a lot of interest in the life of his students and took care of them. Education during this time was all comprehensive.

For example, physical education was very much compulsory as the students were taught for knowledge they must also have to build up a strong and healthy body. They were given training in the art of war, like archery, riding, martial arts, and in other allied fields. After that, study of logic was taken up which dealt with the laws of reasoning and art of thinking. Then there was an introduction of science of Arts and Crafts. Finally, there was an introduction of the discipline of life. It was concerned with purity of one’s thought and action. It included simplicity in food and dress, emphasis on equality, fraternity and independence, and respect for the teacher. Thus, language, logic, craft, discipline and building up character formed the basics of education in early India.

In the Brahmanical period, the Vedic literature was the most prominent and the chief subject to be taught and to follow its instruction. The main aim of education was learning the teachings of the Vedas. But the Sudras were excluded from the right to education. Education was given on the basis of caste rather than ability and aptitude. Women also were unfortunately debarred from education.

In the Muslim period, the objectives of education changed. It was more to teach the three R’s and train in religious norms. The higher education was imparted through schools of learning while the vocational and professional training was given within the caste structure. Sanskrit and Arabic or Persian was the mediums of instruction.

Now came the British period, education was mainly aimed at producing clerks. Education was more student-centered. But what our education is today, education during this time was never aimed at freedom of individual, excellence of individual, equality amongst all people, individual and group self-reliance, and national cohesion. Education during this period never aimed at making people learn about technology. It also did not focus on fighting injustice, intolerance and superstition. Chalk talk is a monologue presentation done while the speaker draws. It is usually done with chalk, hard crayon, or pastel, or with dry-erase markers on a whiteboard. The chalk talk method of teaching focuses on the blackboard and the lecturer's voice and also the activities – to be precise, the physical activities.

Modern Evaluation Technique:

Education today is more driving forward in order to promote values of an urban, competitive consumer society. Since the last five decades India has produced a number of great scientists, professionals and engineers who have done something great in their fields of studies and have made a great impression nationally and internationally. If these experts and all those people who have reached the highest level have come through our present educational system, how could we deny the positive aspects of the education system as it is found today? Thus, while we cannot totally criticize our present education, there are some issues which need our urgent attention, if we are really concerned with a better future. The minimum qualifying grade for passing the exam is grade D. Students getting E1 or E2 grades, will have to sit is re-examination within a month. Cumulative Grade Point Average (CGPA) is also reflected in the Statement of Subject Wise Performance in the certificate of Continuous and Comprehensive Evaluation. CGPA is the average of Grade Points obtained in all the Subject. To calculate percentage from CGPA, multiply it with 9.5. The continuous assessment is a form of educational examination that evaluates a student’s progress throughout a prescribed course. It is often used as an alternative to the final examination system.

The paper includes various sections. Section II is the literature survey, all the paper that we have studied and from what are the things that we have learned. Section III is the inferences drawn where we have created a table to show what are the various technique used by the authors in order to do their project. Section IV is the comparative study that we have done and to show the accuracy, reliability, performance, quick access, redundancy and timeliness of the techniques that is being used by the various authors. Section V is the conclusion of our survey paper where what are the things that we have in our studies supported by the acquired data.
II. LITERATURE SURVEY


According to the paper, the system has been designed to simplify the allocation of halls, seating arrangement of students and allocating staff to the examination halls. Allocation of faculty to corresponding rooms will be done by the exam cell coordinator in the form of word documents and excel sheets and also allocation of students to their corresponding rooms.


According to the paper, the project aims to bring in a centralized system that will ensure the activities in the context of an examination that can be effectively managed. This system allows students to enrol themselves into the system by registering like by providing their Enrolment number, Name, email, examination, semester, etc. Examination Cell Automation System is developed for the college to simplify the activities of Staff and Students. It facilitates to access the examination information of a particular student in a particular department. The information is stored into the database, which will be provided by the teacher for a respective student. Here the admin updates the student details, staff details and can add or delete them.


According to the paper, the main purpose is to provide accurate and timely information necessary to facilitate the decision-making process and enable the organizations planning, control, and operational functions to be carried out effectively.


According to the paper, an automated exam cell with result analysis is an environment that has been created to allow users to allow form filling, hall ticket generation and generate result analysis. The project detailed with the management of content of an institution using student details, uploading timetable, generate result and maintaining result analysis sheet.


According to the paper, the main goal of the system is to make the system available for students anytime and provide remote access to the website where they can fill their exam form and other forms. The task of admin is to verify the student’s details by accessing their forms and check their details from database.


According to the paper, the system facilitates to access the examination information of a particular student in a particular department. The information is sorted information alphabetically, which will be provided by the teacher for a respective department. The admin updates the student details, exam timings, hall details, staff details and available space in the hall.


According to the paper, the automation system is like an intermediary between staff and students, which makes the activities regarding examination easier. It is a system that will make the exam cell process in a much organized way. It would require certain crucial data to be pre-existed, which definitely suggest a dependency on certain other systems, especially ones concerning data acquisition. The solution will not require much of a skill from the user side. This keeps paperwork to its minimum, leading the ease of accountability, reducing confusions and increase in work rate and efficiency.


According to the paper, attempt is made to explore the possibilities of automating the underlying manual tedious process and processing into easy automated Result Management System. It also says that there should be a system provided by the organisation of academic deal where students/trainees can view, visualise, analyse their academic and other performances online. It mainly focuses on creating an automated Result Management system for students and administrative purpose.

According to the paper, Normalization is a process of analysing the given relational schemas based on the functional dependencies and using primary key to achieve minimum data redundancy. Normalization is one of the important issues that is carried out manually in database design. The research paper work in order to resolve this issue by doing normalization of multiple databases automatically. This paper helps us to provide automatic normalization of databases up to 3NF. The unique feature of the research work is automatic normalization and thereby saving time and reducing mind work.


According to the paper, is to provide an Examination Evaluation system. This software system will be helpful for the examination valuation of a University. This will manage the examinations valuation for the Post Graduation courses MCA and MBA. It provides hall ticket, arranges the answer papers for 1st, 2nd & 3rd valuation, process marks, publish results and provide mark lists and certificates for the University. By using this system, we can search the marks and details of any student of any year. This is more relevant in the case of Universities which have large number of colleges affiliated to them.

III. INFERENCES DRAWN

<table>
<thead>
<tr>
<th>Author and Paper Name</th>
<th>Year of Publication</th>
<th>Techniques Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1] Vamsi KrishnaYepuri, Gopi ChandPamu, NaveenKodali, Pradyumna L, Examination Management Automation System</td>
<td>2018</td>
<td>Allocation of faculty to corresponding rooms done by the exam cell coordinator in the form of word documents and excel sheets.</td>
</tr>
<tr>
<td>[2] Prof.Sejal Dmello, AshrafPinjari, Harishchandra Damre, Aishwarya Sankhe, Vrushali Ambre, Exam Cell Automation System</td>
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<td>Uses online interface through a website and all the information is stored into the database, which will be provided by the teacher for a respective student.</td>
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<td>[4] Monika Dhembare, Archana Gorad, Prof. S. H. Darekar, Automated Exam Cell with Result Analysis</td>
<td>2017</td>
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</tr>
<tr>
<td>[6] S. PriyaDharshini, M. SelvaSudha, Mrs. V. Anithalakshmi, Exam Cell Automation System</td>
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<td>They have used VISUAL STUDIO.NET and SQL SERVER EXPRESS in order to do their work.</td>
</tr>
<tr>
<td>[7] Harsha Khutafale, HardikaMate, VaishnaviSahnavis, Prof. NileshPatil, XamClick- Exam Cell Automation System</td>
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</tr>
<tr>
<td>[9] G.Sunita, Dr.A.Jaya, A Knowledge Based Approach for Automatic Database Normalization</td>
<td>2013</td>
<td>They have used normalization in their project to remove data redundancy and have used a Relational Database Management System (RDBMS).</td>
</tr>
<tr>
<td>[10] AngithaSaju, An Integrated Solution for Examination Management</td>
<td>2011</td>
<td>Java was used in this project. They have used SQL server Test plan and the test cases for unit testing and system testing</td>
</tr>
</tbody>
</table>

IV. COMPARATIVE STUDY

<table>
<thead>
<tr>
<th>Metrics</th>
<th>Word doc &amp; Excel Sheet</th>
<th>Database</th>
<th>MIS</th>
<th>Visual Studio</th>
<th>SQL</th>
<th>RDBMS</th>
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<tbody>
<tr>
<td>Accuracy</td>
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<td>Reliability</td>
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<td>Performance</td>
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<td>Redundancy</td>
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<td>Timeliness</td>
<td>Mid</td>
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The comparative study between various techniques is to know all of its advantages and to know the parts that it is somehow lacking. The value that we give to the technique is “low, mid and high”, according to how well it fares with the metrics. We have marked the technique according to accuracy, reliability, performance, quick access, redundancy and timeliness of the technique used to show how much the technique would be useful in our projects. As all technique are unique to each other and has its own section where it can have its maximum efficiency and usability. Our survey paper is done to show the chosen technique may be lacking in some departments and must be careful while using these techniques.

V. CONCLUSION

The data that we have collected and have analyzed is that the technique used by various authors is unique to other authors. The various technique used by these authors are useful to their respective project. The survey paper is not made to criticize on what are the techniques the authors have used in their projects. The data that we have analyzed and as shown in comparative study (section IV), its show that MIS and RDBMS and the highest value among other technique as they are the most useful and better applicable in examination systems. Other technique are also important but these two technique stand the most prominent technique that can be used in examination system related projects.

REFERENCES