

# **A Survey on Improvising the Performance of Student in Curriculum through online examination**

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## **Abstract**

*There is an increasing technical development in various teaching method systems. Some refer for PPT presentation, some refer for model based teaching and some may refer for field work teaching. But to enhance it more some intelligent future student performance system was also designed and a tremendous research work is going on this field. In this work, we proposed an intelligent student performance system for teaching information security. This intelligent student performance systems target the students enrolled in Advanced Topics in Information Security in the faculty of Engineering and Information Technology at various teaching environment. Through which the student will be able to study the course and solve related problems. An evaluation of the intelligent student performance systems was carried out and the results were promising.*

**Keywords:** *Tutoring, Intelligent, Model based*

## **1. INTRODUCTION**

Online examinations contents providers to focus on creating effective assessment questions and focusing on exam's feedback delivery to students. In the paper we present techniques that are pertinent to the elements of assessment process: answers submission, computerized grading, and feedback after submission. As the modern organizations are automated and computers are working as per the instructions, it becomes essential for the coordination of human beings, commodity and computers in a modern organization. The instructors, Students who are attending for online

examination can communicate with the system through this project, thus facilitating effective implementation and monitoring of various activities of Online Examinations like conducting Exams as per scheduled basis and delivering result to that particular user or student. And the details of students who attempted Online Examination are maintained at administrator.

The software methodology previously includes the object-oriented methodology and the application system development methodologies. The description of these methodologies is given below. Although there are a growing number of applications (such as decision support systems) that should be developed using an experimental process strategy such as prototyping, a significant amount of new development work continues to involve major operational applications of broad scope. The application systems are large highly structured. User task comprehension and developer task proficiency is usually high. These factors suggest a linear or iterative assurance strategy. The most common method for this stage class of problems is a system development life cycle model in which each stage of development is well defined and has straight forward requirements for deliverables, feedback and sign off. The system development life cycle is described in detail since it continues to be an appropriate methodology for a significant part of new development work.

The basic idea of the system development life cycle is that there is a well-defined process by which an application is conceived and developed and implemented. The life cycle gives structure to a creative process. In order to manage and control the development effort, it is necessary to know what should have been done, what has been done, and what has yet to be accomplished. The phases in the system development life cycle provide a basis for management and control because they define segments of the flow of work, which can be identified for managerial purposes and specifies the documents or other deliverables to be produced in each phase.

The phases in the life cycle for information system development are described differently by different writers, but the differences are primarily in the amount of necessity and manner of categorization. There is a general agreement on the flow of development steps and the necessity for control procedures at each stage.

The information system development cycle for an application consists of three major stages.

- Definition.
- Development.
- Installation and operation.

The first stage of the process, which defines the information requirements for a feasible cost effective system. The requirements are then translated into a physical system of forms, procedures, programs etc., by the system design, computer programming and procedure development. The resulting system is tested and put into operation. No system is perfect so there is always a need for maintenance changes. To complete the cycle, there should be a post audit of the system to evaluate how well it performs and how well it meets the cost and performance specifications. The

stages of definition, development and installation and operation can therefore be divided into smaller steps or phrases as follows.

#### Definition

Proposed definition: Preparation of request for proposed applications.

Feasibility assessment: Evaluation of feasibility and cost benefit of proposed system.

Information requirement analysis: Determination of information needed.

#### Design

- Conceptual design: User-oriented design of application development.
- Physical system design: Detailed design of flows and processes in applications processing system and preparation of program specification.

#### Development

- Program development: coding and testing of computer programs.
- Procedure development: design of procedures and preparation of user instructions.

## 2. LITERATURE SURVEY

The decision tree generated by the above method may have a good classification ability for training data but may not have a good classification ability for unknown test data; that is, overfitting phenomenon may occur. We need to prune the generated tree from the bottom up to make the tree simpler and thus more generalizable. Specifically, it removes the oversegmented leaves, regresses them back to the parent or even higher nodes, and then changes the parent or higher nodes to new leaves. If the number of features is large, the features can also be selected at the beginning of decision tree learning, leaving only those features with sufficient classification ability for training data. It can be seen that the decision tree learning algorithm includes feature selection, decision tree generation, and decision tree pruning process. Since the decision tree represents a conditional probability distribution, the different depth of the decision tree corresponds to the probability model of different complexity. (e generation of the decision tree corresponds to the local selection of the model, and the pruning of the decision tree corresponds to the global selection of the model. (e generation of decision tree considers only local optimum, and the pruning of decision tree considers global optimum [2]

Classification plays a vital role in machine learning, pattern recognition and data analytics. There are several classifications and prediction algorithms, proposed in recent solutions to provide intelligent decision making by extracting the relevant information from historical/large data. Moreover, the exploration of machine learning algorithms and techniques has grown enormously due to the considerable progress made in the information storage and processing capabilities of computers. Therefore, the machine learning algorithms can be classified into four categories:

- (1) Supervised learning;
- (2) Unsupervised learning;
- (3) Semi-supervised learning; and
- (4) Reinforcement learning. Concerning supervised machine learning, there are several prediction algorithms (or) approaches in the literature such as the kth nearest neighbor, naïve Bayes, decision trees, support vector machines, logic regression and random forest, etc.. All these classification algorithms are first trained using historical data. Then, the trained prediction model is employed in the designated application environment. [3]

Enhancing student success and standard of education at all educational institutes is of vital importance. A profound study of the learners' prior history will play a crucial role in delivering quality education to students. EDSS provides study and optimization of student outcome prediction approaches. Based on the prediction findings, the average outcome and success will improve for both mid and final stages if the student needs are met in time. Important characteristics and prior data of students are obtained for the objectives of performance review and estimation. In order to get a better understanding and prediction, various machine learning methods and classification algorithms are applied later. The aim of the EDSS is to decrease the failure rate, strengthen the education environment and assess the core features and take the achievement of students into account. It also helps us to build predictive models that are useful to forecast results. It not only helps to improve students at risk directly, but also offers information and insights on preparing the academic process for the next year. Different machine-learning types of algorithms such as Naïve Bayes, decision tree, neural networks, detections by outliers and sophisticated statistics have in recent years been used. These strategies are used to obtain information on the student information, to support decision support systems, and to extract trends, etc. The academic achievement of the student is usually calculated via previous intermediate exams, but there are other important attributes which influence the student's overall performance. Several methodological and statistical research experiments on student databases have recently been published. [4]

Educational Data Mining (EDM) is concerns with developing and modeling methods that discover knowledge from data originating from educational environments. This paper presents the use of data mining approach to study students' performance in CSC207 (Internet Technology and Programming I) a 200 level course in the department of Computer, Library and Information Science. Data mining provides many approaches that could be used to study the students' performance, classification task is used in this work to evaluate the student's performance and as there are numbers of approaches that can be used for data classification, including decision tree method. In this work, decision trees were used which include BFTree, J48 and CART. Students' attribute such as Attendance, Class test, Lab work, Assignment, Previous Semester Marks and End Semester Marks were collected from the students' management system, to predict the performance at the end of semester examination. This paper also investigates the accuracy of different Decision tree algorithms used. [5]

The main assets of Universities/ Institutions are students. The performance of students plays vital role in producing the best graduate students who will be a future viable leader and manpower in charge of the country's economic and social development. The performance of students in Universities should be a concern not only to the administrators and educators, but also to other stakeholders. Academic achievement is one of the main factors considered by the employer in recruiting workers especially the fresh graduates. Thus, students have to place the greatest effort in their study to obtain a good grade in order to fulfill the employer's demand. Students' academic achievement is measured by the Cumulative Grade Point Average (CGPA). CGPA shows the overall students' academic performance where it considers the average of all examinations' grade for all semesters during the tenure in the University. Many factors could act as barrier and catalyst to students achieving a high CGPA that reflects their overall academic performance. [6]

Data mining helps to extract the relevant information from the large and complex databases. Data mining techniques are useful for data analysis and predictions. Classification is an unsupervised learning technique that helps to classify predefined class labels. There are various classification techniques such as Decision tree algorithm, Bayesian network, Neural network and Genetic algorithm etc. These technique can be use to build the classification model. This classification model helps to predict the future trend based on previous pattern. This paper propose a classification model particularly decision tree algorithm to predict the future grades of the students in their final examinations. WEKA tool kit is used for model construction and evaluation. This is a four class prediction particularly for engineering students. [7]

### 3. COMPARISON ANALYSIS

**Table 1** Comparison analysis of previous system and proposed system

Comparison Chart		
	Previous Method	Current Methodology
1	Existing system is a manual one in which users are maintaining books to store the information like Student Details, Instructor Details, Schedule Details and feedbacks about students who attempted exam as per schedule. It is very difficult to maintain historical data.	The students can sit at individual terminals and login to write the exam in the given duration objective base. The questions have to be given to the students. This application will perform correction, display the result immediately and also store it in database. This application provides the administrator with a facility to add new exams, add questions to the exam, modifies questions in the exam. This application takes care of authentication of Instructor as well as the student.

2.	A lot of copies of question papers had to be made. Much correction work hence delay in giving the results and many tabulation work for each subject results	The objective of the Online Examination Tool is to provide better information for the users of this system for better results for their maintenance in student examination schedule and grading details
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#### **4. OPEN CHALLENGES**

- Existing system is a manual one in which users are maintaining books to store the information like Student Details, Instructor Details, Schedule Details and feedbacks about students who attempted exam as per schedule. It is very difficult to maintain historical data. [8]
- The following challenges of existing system emphasize the need for improvement that need to be rectified in the proposed system:
  1. A lot of copies of question papers have to be made
  2. A lot of correction work hence delay in giving the results
  3. A lot of tabulation work for each subject results

#### **5. PROPOSED WORK**

Discussion has been made practically for involving the students ability and dealing with it to find the best in them always been a helping parameter in any type of tutoring. To achieve these researchers always try to put an extra effort to increase the involvement of students and learn it as a part of better understanding and detecting the wide range of problems during the tutorials. Since tutors followed the program design as intended, the results were much familiar with expected output. Specially mentioning to various types of online tutoring services they focus on the basic idea of learning by practical. Some previous research showed that individualized and small-group instruction enhanced the positive effects of a various online tutoring services. Apart from these teachers are always trained to prepare for maintaining the content of tutor materials by referring to stress free examples of the topics included. Equally important, teachers were trained to use the Standard Solutions (2006) test-taking strategies while working within the curriculum.

#### **6. CONCLUSION**

In this way, we use the enhanced platform that may access intelligently to provide and perform various functions with the on-line educational system in order to increase the accuracy of the student performance system. The basic intention is to improve the real scenario among students and teachers and will increase to make a better understanding. An overall improvisation can be achieved by making students grasp capacity in order to get good results without any stress. This research makes an individual under consideration for those who will give proper time and effort in completing the course successfully.

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