# Student Performance Prediction System

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*Abstract—* In education system it is necessary to build the system that can keep students performance which accurately, predicts students' future performance. Existing approach shows difficulty to cover the diversities of student's educational background and it became a critical for undefined set of course. In case of relevant courses students background information is consider which helps to estimate the relevant course in a term. Traditional existing system, Intelligent Tutoring system and Massive open online courses are working on past records. It is a difficult or hard task to predict the student performance over on-going records so, a prediction model required. Here, it uses machine learning approach for prediction of performance which speeds up the performance and also reduces the computation time. We develop algorithm for making predictions based on student's progressive performance states and intermediate tests. This type of model is consists of two layers of predictor which is named as base predictor and the ensemble predictor for performance evaluation. The performance is gradually increases the accuracy of the prediction and classification more precisely.

*Keywords:* Student Performance Prediction, Web Dashboard, Prediction Model

## I. INTRODUCTION

The prediction analysis is the approach which predicts the future possibilities based on current information. The prediction analysis can be done using the technique of Multiple Linear Regression. Every educational institute aims at delivering quality education to the students, to meet this institute must able to evaluate teachers as well as students performance so that they can provide appropriate guideline to student and able to arrange the proper training for teachers also. Many Developers have been developed the systems which is able to evaluate the students performance but improving the students performance is not sufficient to provide good quality education as teacher plays the important role in educating student

Student Performance Prediction System analyze student data to effectively improve both instructor and learner better in teaching and learning. Student Performance Prediction system also improves communication between management, instructors and learner and helps to track the students action on multiple levels like seminars, internal exams class assignments, and final examinations.

## II. METHODS

The main aim of this project is to predicting the future performance of the students or the users using certain data of the student such as previous test marks, user activity control and student records, etc. After analyzing the student or user performance, a system will also be compare the result generated by two classification algorithms and there after it determine which of them

are most accurate and efficient. The data to be provided as the input must have the scores of tests of the attributes classified into specific variables, for example, the student marks for the previous semester can be classified as good if test marks >= 70%, average if 70% > test marks >=55% and poor if test marks < 55 %. The inputs used in this predicting algorithm are: previous test marks, User activity, project marks, seminar attendance, unit test marks, extracurricular activities, assignments and practical evaluation and Intermediate Test marks .This data is then normalized and fed as an input to the system. Using this normalized data, the system runs the Multiple Linear Regression algorithm on it and classifies the data.

### A. Algorithm Used:

### 1) Linear Regression:
This is a prediction technique that predicts a numeric. Various attributes like sales, age and weight. It is statistical methodology. The aim of the task is to achieve a function of the independent variables that allows computing conditional expectations of a dependent variable for prediction.

## III. MODULES

Student Performance Prediction consist of Two Major Module, Which makes the SPP User Friendly and More efficient
These Modules are as follows:

### A. Student Module:

This module provides the functionality of user or students to learn thing and check their Performance. It includes:
− Register
− Login/Logout
− Profile/Edit Profile
− Dashboard
− Courses
− Register Courses
− Notes
− Videos
− Exam Dashboard
− Examinations
− Exam Progress
− Prediction

### B. Admin Module:

A database is that stores related information across multiple tables and allows you to query information in more than one table at the same time.

In database you could set up multiple tables, one for Students and one for Exams. The student table consist the all the information about student like, buyed courses, Personal Information and the Exam table consist all the related info about exam or assessment.
The database table include following tables:

*1) Authentication:*
− Users
− Group
*2) Student:*
− Courses
− Courses Detail
− Buyed Courses
− Course Video
− Notes
− Student Profile
− Videos
*3) Online Exam:*
− Users
− Courses
− Topic
− Subtopic
− Exam Registrations
− Exam Detail
− Exam level
− Question Bank
− Question Type
− Options
− Questions answer
− Exam Result

## IV. RESULT

In this study, student's performance is predicted and graph is generated to improve efficiency and make the student apt for the better placement. This study will also work to identify those students who in need of special attention to increase their performance. Predicting students' academic performance is great concern to the higher education. With the help of classification and clustering technique the performance of student is identified to a maximum extent, and the result obtain through this research work reveals the positive outcome of student involvement in improving university quality. Classification technique is used to classify the student according to their academic results. They classified as average performer, intermediate performer and better performer. This experimental study can be further expanded which meets lot more academic constraints which creates effective impact in the overall outcome of the student and institution
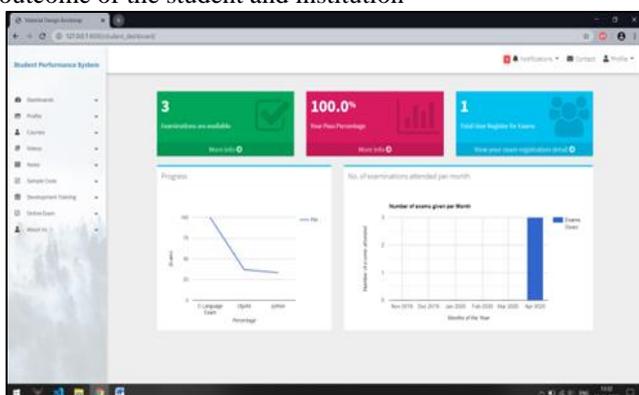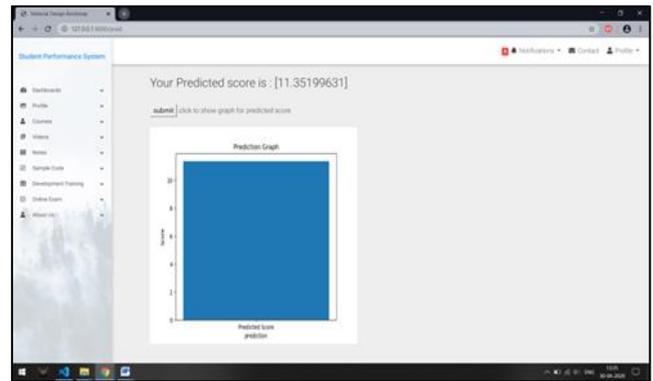


Fig. 1: Exam Dashboard (Users all Exam info)



Fig. 2: Prediction of next Score

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