

# Student Performance Dashboard using Mining Approach

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**Abstract**— Education data mining concern with developing methods for discovering knowledge from data that comes from educational environment. Dashboard is a visual representation of data. In this project we use educational data case study, we collected students data from database courses. In each of these four tasks, we extracted knowledge that describes students behavior. The student behavior assessment framework is proposed as model for analysis using data mining technique.

**Keywords:** Mining Approach, data flow diagram (DFD)

## I. INTRODUCTION

Dashboard is a visual representation of data. In educational, data mining is the concepts of getting the needed information from the large datasets. The theoretical data takes more time to get the information from the data but via graphical representation, the user can get the information in just a glance. It takes less time to get the knowledge from the data. The graphical representation includes pie chart, graph. Data Mining is the concept of getting the needed information from the large datasets. The educational institution having a huge amount of student information in a year wise which includes performance of the students, courses taken by the students, number of classes attended by the students, grade etc., Normally it is easy to see the detail of a single student but it is very difficult to overview the performance of overall students. For this visual representation is used to see the performance of the overall students. In this project, the educational data is represented in dashboard with help of data mining technique. The student data is analyzed in data mining technique using naïve bayes algorithm. The output data from the data mining technique is represented in visualization to get the efficient view of the data.

### A. Scope

The scope of any appraisal should include the following: Dashboard is used to view and understand the huge volume of data in just one glance. It shows how useful data mining can be in higher education in particularly to improve student performance. Can analyze and view the performance of the students.

### B. Need

The new work environment an effective performance management system. An effective performance management should necessarily have the following characteristics.

Educational data mining concerns with developing methods for discovering knowledge from data that come from educational environment. we used educational data mining to analyze learning behavior. We conduct the exam of students. After the exam we applied data mining techniques on it. After we extracted knowledge that describes students behavior. In future the educational data can be analyzed by classification in data mining technique.

Instead of using naïve bayes dashboard, user can use fusion chart to design the dashboard to get the efficient result.

## II. PROJECT OBJECTIVES

The features that are available to the education system are: Dashboard is used to view and understand the huge volume of data in just one glance.

It shows how useful data mining can be in higher education in particularly to improve student performance. Can analyze and view the performance of the students.

The performance of students is analyzed by using Naïve Bayes algorithm in data mining technique. Naïve Bayes algorithm is used to analyze the student data in time consuming and efficient manner. Database contain various data related to the student, the specific data can be analyzed by Naïve Bayes algorithm. Pattern mining algorithm is used to generate the frequent item set algorithm generates the rule for frequent items and then generates the association rule.

The data mining technique is used in the dataset as a result 10 data are displayed. Student performance is calculated based on exam. The output of the above fields is used to generate the performance of the students.

The methodology used in this approach are association analysis to find out the good, average and weak students in performance.

## III. PROPOSED SYSTEM

To remove all the disadvantages of conventional methods, a system is proposed which is helpful for appraisal process in an organization.

The graphical representation includes graph. Data Mining is the concept of getting the needed information from the large datasets.

In that data mining techniques, they used the Naïve bayes algorithm and generation those techniques are help to analysis the data and then display the visual representation.

### A. System Design

A data flow diagram (DFD) is use a very small number of primitive symbols to represent the functionality performed by the project and the flow data among the different functions of the project.

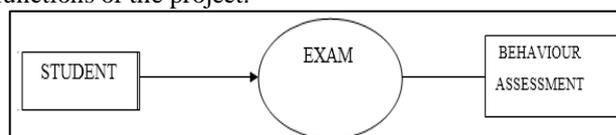


Fig. 1: DFD Level 0

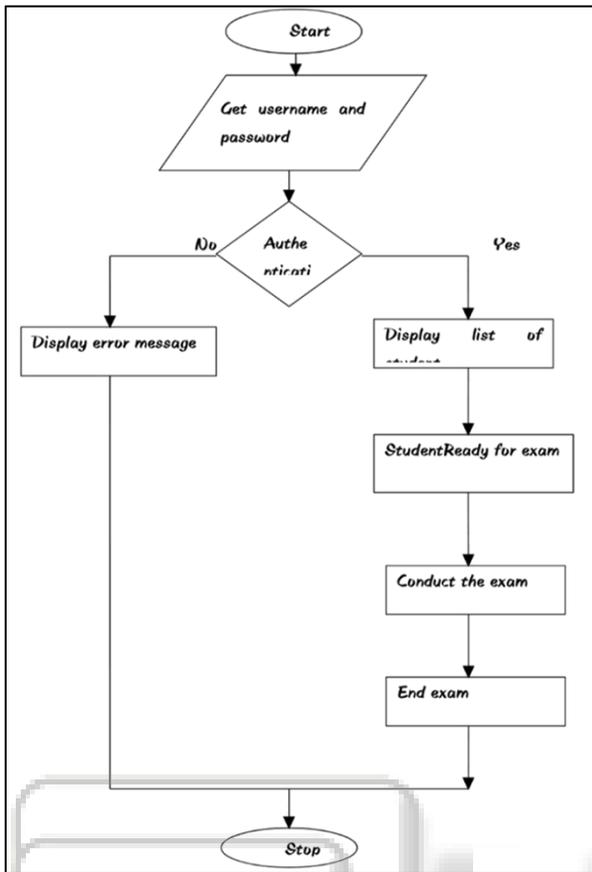


Fig. 2: DFD Level 1

The data flow diagram depicted in figure B below shows the relationship among the entities in the Students Performance Dashboard Using Mining Approach. The entity "STUDENTS" can enter for filling their information according to the organizational goals or their own role for the system.

#### IV. IMPLEMENTATION

We propose a website for checking mind capability of students using data mining techniques. we used educational data mining to analyze learning behavior. We collected students' data from DataBase course. Data Mining is the concept of getting the needed information from the large datasets. It is one of the steps involved in Knowledge Discovery in Database. In this system the performance of students calcute using data mining techniques. In this system we conduct the exam of students and then we will display the result in the form of graphical representation. Data mining techniques and dashboard concept both the concept are to be implemented in the system. It analysis the student performances and then output is display in the dashboard. This is help to classify the student. The data which is there in the dataset format which is converted into data values. Data mapping and code generation are the steps involved in data transformation. Retrieve the data elements from source to destination at user needed transformation by using data mapping. Transformation program is done by the code generation.

In the propose system, Dashboard concept and data mining techniques are used to analysis the student performance. Dashboard is a visual representation of data.

The theorotical data takes more time to get the information from the data but via graphical representation, the user can get the information in just a glance. It takes less time to get the knowledge from the data. The graphical representation includes graph. Data Mining is the concept of getting the needed information from the large datasets. In that data mining techniques, they used the Naïve bayes algorithm and generation those techniques are help to analysis the data and then display the visual representation.

#### V. CONCLUSION

In this project our aim to provide a performance of the each students. The educational organization data are generally represented in numerical data. It is very difficult to find the data. The numerical data can't be easily understood by the user in just one glance. Dashboard is used to view and understand the huge volume of data in just one glance. This system is mainly used to analyze and view the performance of the students. Dashboard is used to visualization of data. User can easily design the dashboard by using naïve bayes. Data mining technique is used to analyze the students based on the courses. The output of this system shows that the performance of the students can be increased by giving related courses. In future the educational data can be analyzed by classification in data mining technique. Instead of using naïve bayes dashboard, user can use fusion chart to design the dashboard to get the efficient result.

#### ACKNOWLEDGMENT

With immense pleasure and satisfaction, I am presenting this project report as part of the curriculum of B.E. Computer Engineering. I wish to express my sincere gratitude towards all those who have extended their support during this work. I express my profound thanks to my guide Prof. S. S. Fule for their guidance.

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