Prediction of Student Performance Using Datamining Approach

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Outline

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Introduction

- Nowadays the lack of existing system to analyse and judge the students progress and performance is not being addressed.
- Existing system is not accurate to predict students performance.
- Due to the lack of consideration of some important data factors that are affecting students performance.
- Prediction is more challenging task because of large amount of data in educational database.

Introduction

- Various Datamining approach and steps like preprocessing on raw data are applied.
- Datamining Techniques like Clustering and association are used.

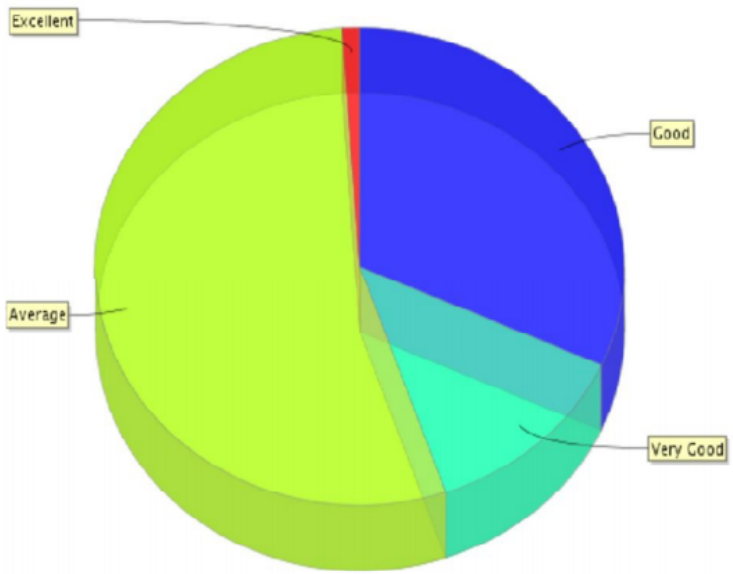


Figure: The distribution of engineering students according to their grades

Hardware Requirements

- Processor: Intel core i3
- RAM: 1 GB
- Hard Disk: 250 GB

Software Requirements

- Operating System: Windows OS
- Microsoft .NET framework 4.6
- Microsoft Visual Studio 2015
- Microsoft SQL Server 2015

Outline

History

- **M.Ramaswami and R.Bhaskaran** have used CHAID prediction model to analyze the interrelation between variables that are used to predict the outcome of the performance at higher secondary school education.
- **Arockiam** et al. used FP Tree and K-means clustering technique for finding the similarity between urban and rural students programming skills.

Outline

Proposed System

- Universities are confronted with a severe competition among each other, trying to attract the most appropriate students who will successfully pass through the university educational process, and making efforts to cope with student retention.
- University management is very often forced to take quickly important decisions, and therefore timely and high quality information is needed.
- This new emerging field, called Educational Data Mining (EDM), concerned with developing methods that extract knowledge from data come from the educational context.

Proposed System

- The data can be collected from historical and operational data reside in the databases of educational institutes. The student data can be an academic.
- The analysis of this educational mining uses many approaches and techniques such as decision tree, Rule induction, Neural network, K-nearest neighbor.

Architecture

- The selected data mining algorithms are applied to the dataset using the holdout method.
- The dataset is divided into 3 parts and, each time an algorithm is run, 2/3 of the data is used for training of the classification model and 1/3 of the data is used for testing and evaluation of the model.
- The results from the evaluation of the classification models generated with the various data mining algorithms.

Architecture

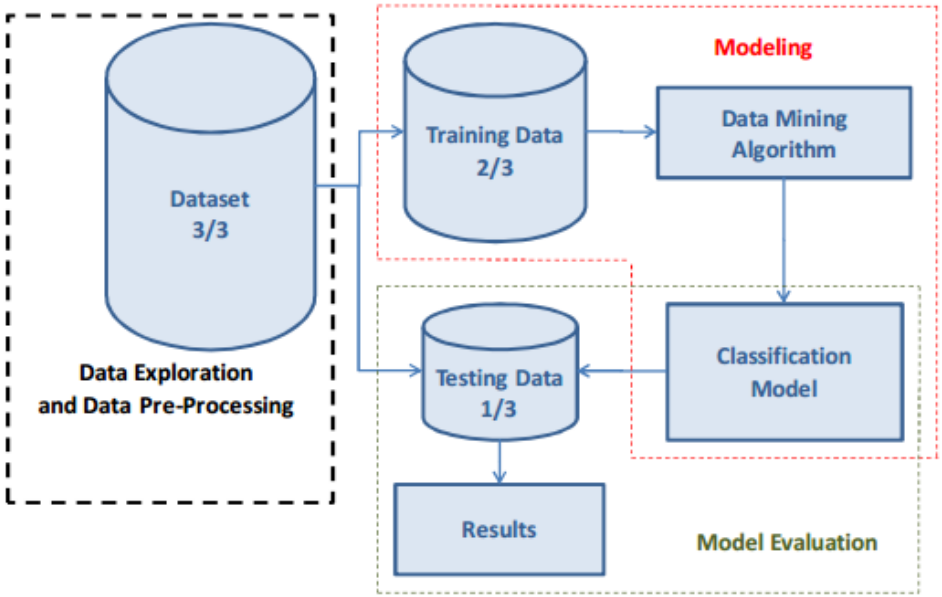


Figure: System Architecture

Architecture

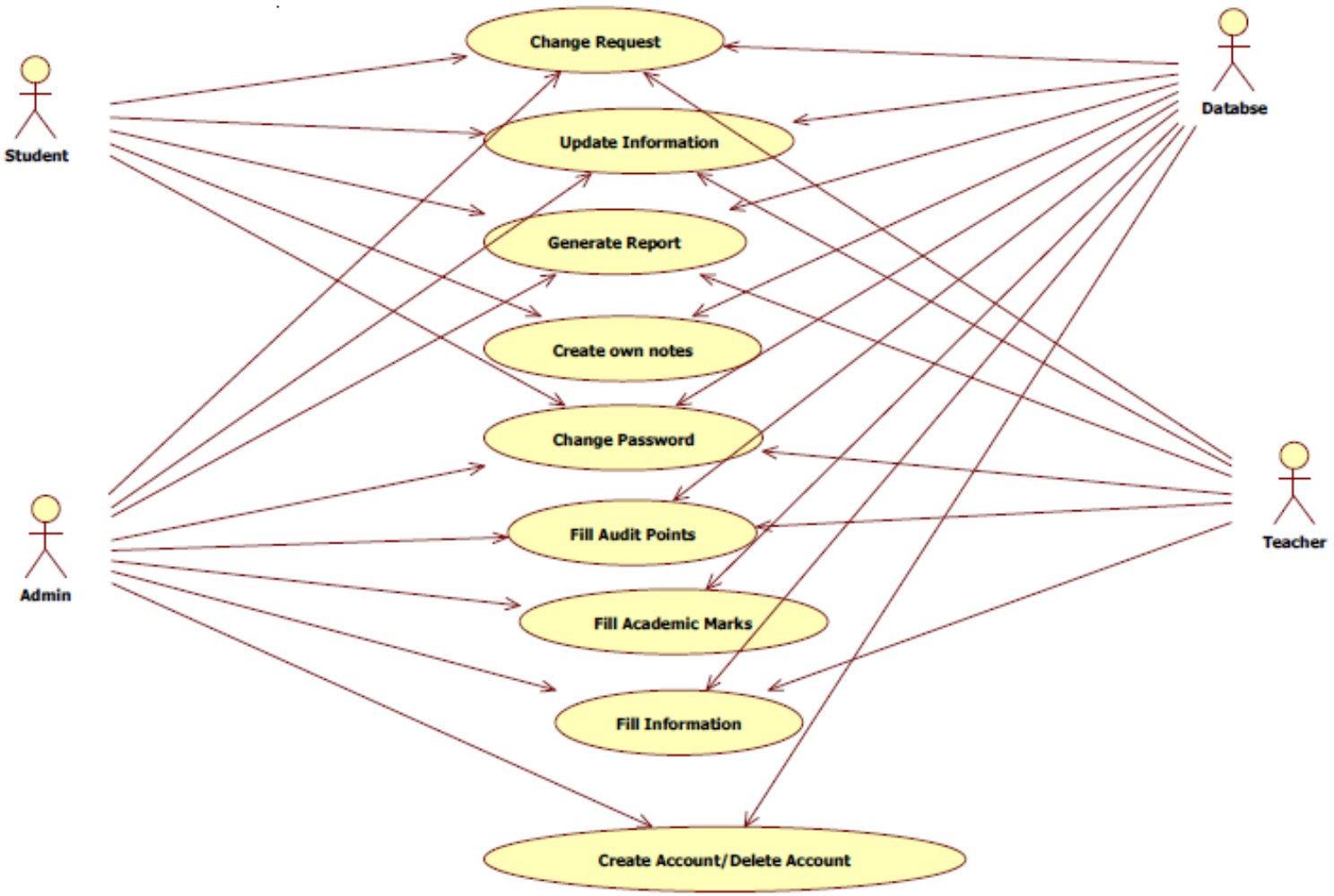
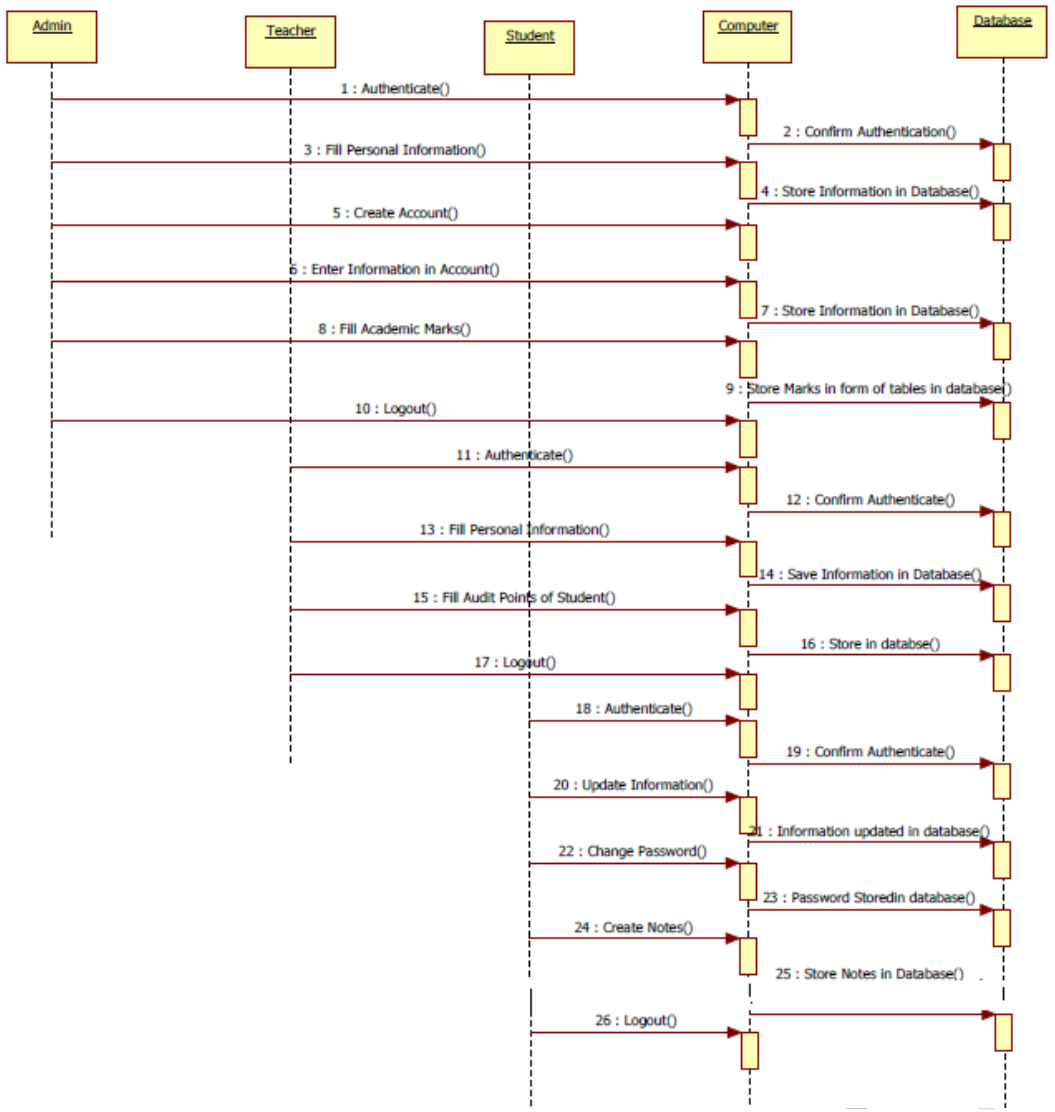


Figure: Usecase Diagram

Architecture



Outline

Objectives

The main objectives are

- Identification of highly influencing predictive variables on the academic performance of students.
- Find how Student can improve his/her Performance.
- Predict the grade at academic examination.

Outline

Conclusion and Future Scope

- It showed how useful data mining can be used in higher education particularly to improve graduate students performance.
- The experiment can be extended with more distinctive attributes to get more accurate results, useful to improve students learning outcomes.