MINING OF STUDENTS' SATISFACTION THEIR COLLEGE IN THENI

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ABSTRACT

Knowledge discovery in databases(KDD) is the process of fnding useful information and patterns in data. Data mining is the process of discovering useful(hidden) patterns in data, knowledge extraction, information discovery, exploratory data analysis, information harvesting and unsupervised pattern recognition. This knowledge can be used for taking various strategic decisions as well as finding the solutions towards the improvement of the system. The education system of a nation influences, progressive nation building. It plays a vital role in the personal growth of a student and the social development among all. In this paper emphases on changes in student expectations and institutional performance. This paper mined Student satisfaction that how effectively campuses what students expect, need, and want. These self-analyses assist institutions to measure their students' satisfaction with a wide are able to determine their strengths as well as weakness. In this paper, the classification task is used to estimate student satisfaction from college. Classification is a form of data analysis that extracts models describing important data classes. Such models, called classifiers, predict categorical class labels. Id3 algorithm approach for learning, decision trees from training tuples. This algorithm spawned a flurry of work on decision tree induction. ID3 technique is used to build a decision tree, its depend on information theory and attempts to minimize the expected number of comparisons. The ID3 algorithm constructs by using the Rapid miner tool.

Key Word: Data Mining, ID3 Algorithm, Student Satisfaction, Classification

I. INTRODUCTION

Customarily, college have dignified one aspect of student only, institutional performance. However, for utmost influence and precision, satisfaction should be viewed within the context of student expectations. For example, the availability of parking and the excellence of teaching method continually external as areas of high dissatisfaction to students across the college. But when asked to specify the position of these areas in their overall educational experience, students attitude, practical training and teaching method comparatively low. Thus, the interrelationship between significance and satisfaction is vital to a fuller understanding of student observations.

Data mining is the use of algorithm to extract the information and patterns derived by the KDD process. The main motive of the data mining process is to take information from a data set and transform it into meaningful information for further analysis. Data mining has a various types of techniques. The common data mining tasks are predictive model and descriptive model. A predictive model makes an excepted about data values using

known result found from various data. Predictive modeling may be made based on the use of historical data. A descriptive model identifies relationships or patterns in data.

Data Mining can be used in the educational field to enhance the understanding of learning process to focus on finding, extracting and validating variables related to the student learning process. Mining in educational environment is called Educational Data Mining.

The classification process involves learning and classification. In learning by using classification algorithm, the training data were analyzed. In the classification accuracy of the classification rules is estimated by using test data.

Decision tree algorithms, tree-shaped structures that represent decision sets. They generate rules, which are used for the classification of data. Decision trees are the supportable technique for building understandable models. Once the tree is built, it is applied to each and every tuple in the database and result in a classification for those tuples .

II. RELATED WORK

Data mining in standard education is a recent area of research and this field of research is making at higher rates because of its developments and progressive in educational institutes.

Romero and Ventur a 2007[1] have conducted a survey for the years between 1995 and 2005, where they analyzed of different types of educational systems and how data mining can be applied to each of them. Furthermore, they explain the data mining techniques that have been applied to educational systems grouping them by task.

Al-Radaidehetal 2006[2] applied decision tree as a classification method to evaluate student data in order to find which attributes affect their performance in a course. Mohammed M. Abu Tair & AlaaM. El-Halees 2012[3] use educational data mining to discover knowledge that may affect the students' performance and Baradwaj and Pal 2011[4] Used the decision tree as a classification method for evaluating students' performance.

S. Kumar Yadav, J. P. Nagar, 2012[7] used application of DM in higher education, All University/HEI Key responsibilities are provide quality education to its shareholders. Its not only the obligation for the establishment of high level of knowledge, but also the essential for effective delivery of education that's why students attain their learning objectives without any problem.

The application Of DM in higher education is the survival of an suitable setup that supports the institution in ruling and collecting all educational data in a centralized system. This system could be a Quality Assurance Information System, which monitors, analyses and reports all factors related to evaluating and improving the quality of services provided by the institution.

M. Chalaris, An Tsolakidis, C.Sgouropoulou, I. Chalaris. 2011[6], In this case, the Quality Assurance Unit of TEIA has newly developed such a system that supports all departments of the institution in the assessment process and, ultimately, improving the educational processes by the application of data mining techniques on the educational data stored in its repositories.

M. Chalaris, I. Chalaris, Ch. Skourlas, An. Tsolakidis, 2012[5], In this paper As a first modeling technique used cluster analysis conducted on the data derived from the theoretical course questionnaire. They have been used the k-means algorithm, in order to find out if there is a faculty that has better averages in the attributes of the questionnaire regarding all three directions and compare it with the percentage of study duration for each Faculty.

III. METHODOLOGY

3.1 ID3 Algorithm

In decision tree learning, ID3 (Iterative Dichotomiser 3) is an algorithm invented by Ross Quinlan used to generate a decision tree from the dataset. ID3 is typically used in the machine learning and natural language processing domains. The decision tree technique involves constructing a tree to model the classification process. Once a tree is built, it is applied to each tuple in the database and results in classification for that tuple. The following issues are faced by most decision tree algorithms:

• Choosing splitting attributes
• Ordering of splitting attributes
• Number of splits to take
• Balance of tree structure and pruning
• Stopping criteria

3.2 RapidMiner (formerly YALE) is the world-wide leading open-source data mining solution due to the combination of its leading-edge technologies and its functional range. Applications of Rapid Miner cover a wide range of real-world data mining tasks. Use Rapid Miner and explore data Simplify the construction of experiments and the evaluation of different approaches. Try to find the best combination of preprocessing and learning steps or let Rapid Miner do that automatically.

IV. PROBLEM STATEMENT

Given the students' data, classify their guidance, teaching method, attitude, practical training and library among ug and pg students using id3 algorithm with rapid miner tool. Through this classification we can analysis the students satisfactions.

V. PROPOSED APPROACH

Data have been collected from NadarSaraswathi College of arts and science Students for the purpose of this study. The collected data was associated only with examinations and hence several other data were also needed to be collected relating to the student's social status and location of the college, and so on. The overall activities are broadly categorized into the following steps:

- Data collection and Data set preparation.
- Data preprocessing.
- Data processing.

5.1 Data Collection and Data set Preparation

We have collected data among ug and pg students from the Nadar Saraswathi College of arts and science. There are approximately 1500 records in this data set. Further the personal data of the students containing their social status has been collected from this college. After combining all these data sets the resultant database record contains ten attributes such as, different social groups, urban, rural areas, in different courses of each student. There needs to be a proper cleaning of data, such as, filling in missing values; smoothing noisy data, identifying or removing outliers, and resolving inconsistencies. Then, the cleaned data are transformed into a form of a table that is suitable for data mining model.

5.2 Data Preprocessing

The data collected and brought together is very huge and contains a lot of unwanted details. The basic data has the following information.

Table 1: Data Structure of the Basic Data

SNO	ATTRIBUTE	TYPE	DESCRIPTION
1	Name	Char	Student name
2	Gender	Char	Student's gender
3	Course	Char	UG or PG
4	Loc	Char	'R' for Rural area , 'U' for Urban area
5.	College	Char	College Name
6.	Age	Num	Students' age

This file contains the data related to an individual student details and hence cannot be used directly for further processing. Hence this file is processed further to aggregate to the basic data in order to produce the information regarding social status, course and the college data. This data is represented in the following form:

Table 2: Data Structure for the Aggregated Data

SNO	ATTRIBUTE	TYPE	DESCRIPTION
1	Name	Char	Student name
2	Course	Char	UG or PG
3	Age	Num	Students' age

VI. RESULT AND DISCUSSION

This Paper tried to define Students' satisfaction from college in guidance, teaching method, attitude, library and practical training. Here we showed the ug and pg students' satisfaction separately and also describe who have high satisfaction in various section. Participants age range is 18 – 25.

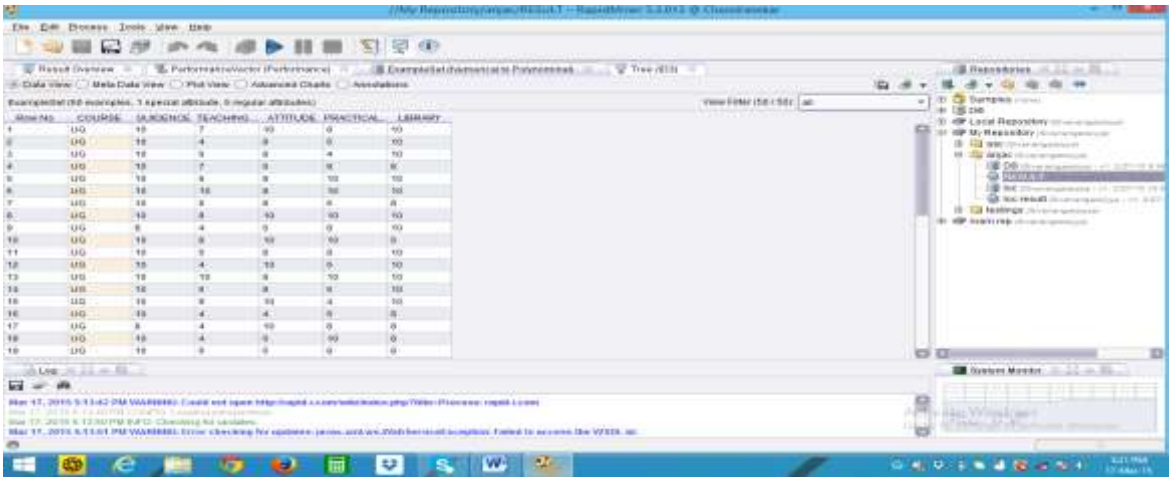


Fig 1: Example DataSet

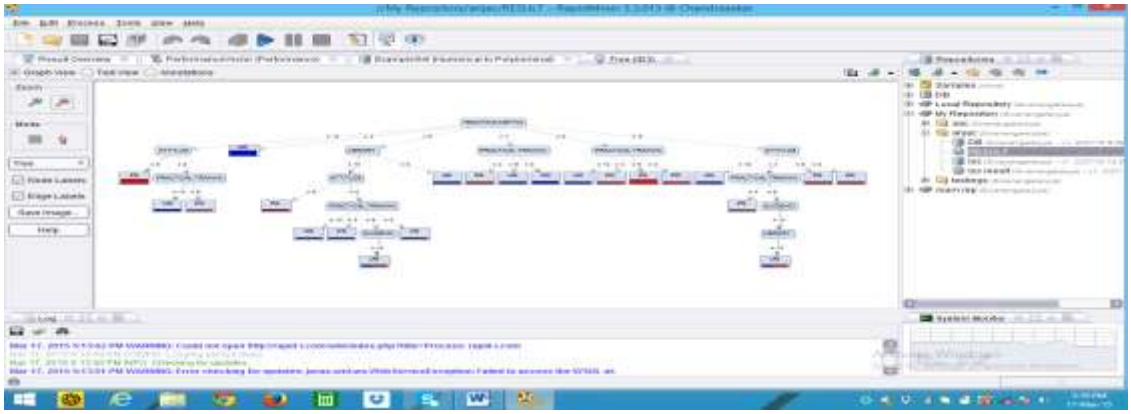
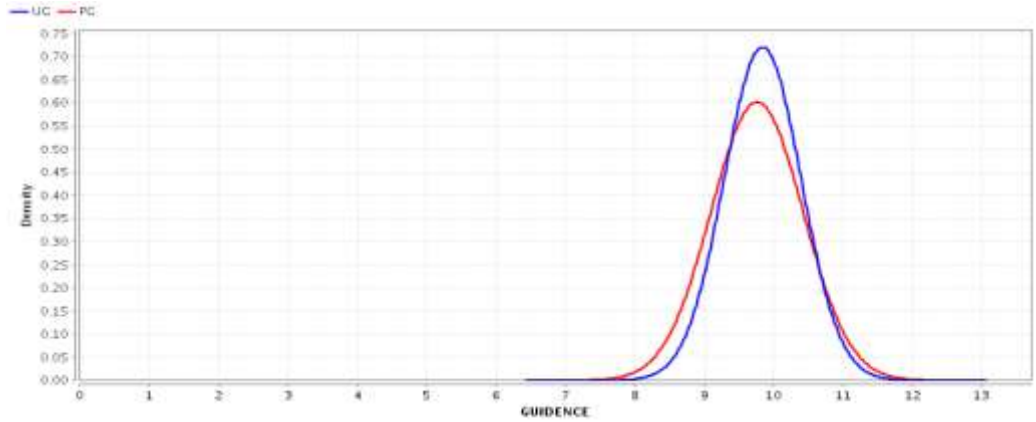


Fig 2: ID3 Structure

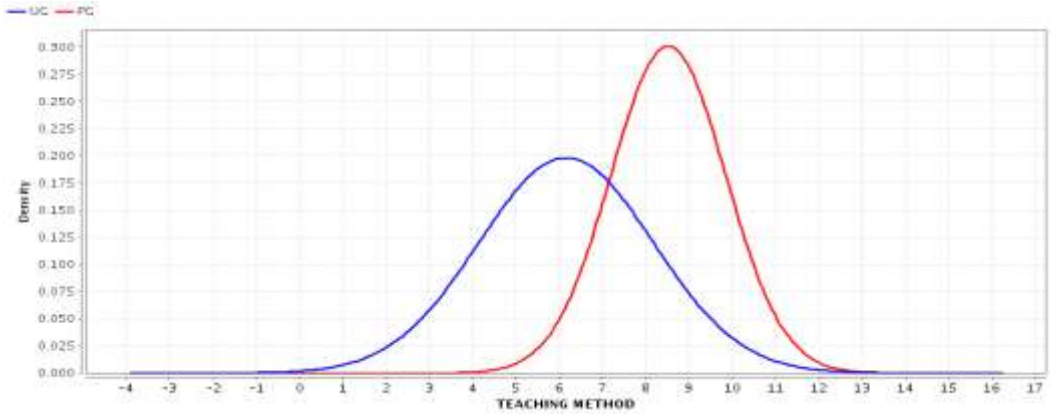
6.1 Students' Satisfaction in Guidance

According to our analysis the UG students got enough guidance from professors about their studies and general behavior. The chart described that UG students highly satisfied compare than PG Students.



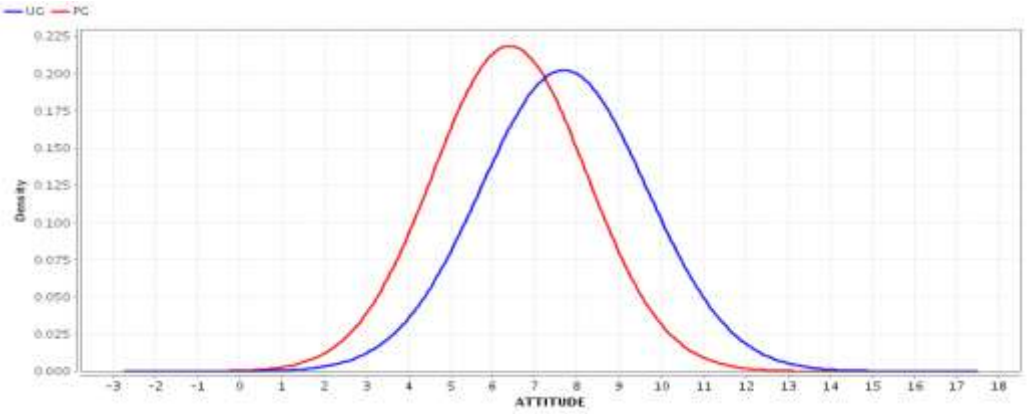
6.2 Students' Satisfaction in Teaching Method

The chart described that PG students highly satisfied with Teaching Method compare than UG Students. We came to know from this analysis that the UG students not satisfy with current way of teaching



6.3 Students' Satisfaction in Attitude

Attitude referred to how the teachers treat the students that is friendly manner or harmfully and also it represent relationship between professor and students. PG students highly satisfy with their professors behavior but the UG students not satisfy with their professor attitude.

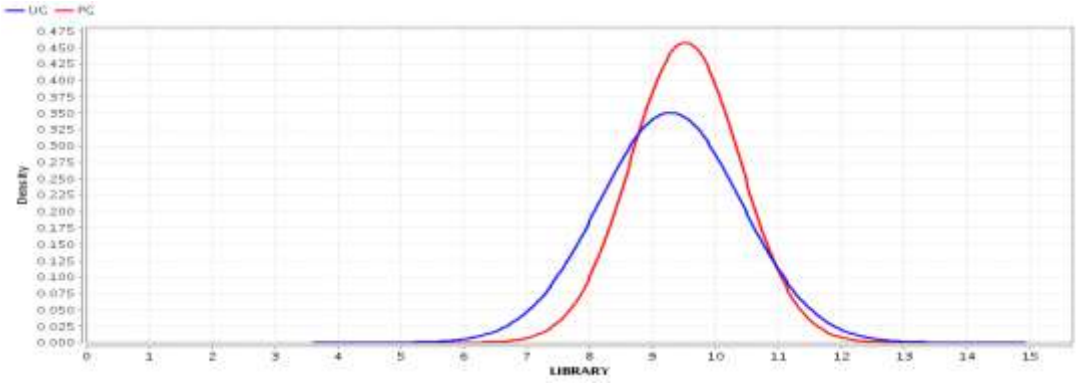


6.4 Students' Satisfaction in Practical Training

According to our analysis PG students have enough practical training compare than UG students so the PG students Satisfy with Practical training. So here we consider the UG students' practical training.

6.4 Students' Satisfaction in Library

The chart showed that PG students satisfy with library than UG students. May be the UG students don't have enough book issues and not have enough hour to spend in library. So that the UG students have dissatisfaction with library.



VII. CONCLUSION

The Evaluating Students' expectations and satisfaction lead to actively addressed through their institution are more likely to be successful in achieving their educational goals and more likely to persist and eventually become to institutions' most dedicated alumni. Just as businesses are increasingly sampling customer satisfaction, so campuses are taking the measure of student satisfaction.

In this paper, We have compared the UG and PG students satisfaction. According to our analysis the PG students Highly satisfy with Teaching Method, attitude, library and also practical training than UG students. We

consider the UG students in all above section and try to fulfil their needs in attitude, change the way of teaching method, treat the UG students as maturity level, provide more practical knowledge facility, and make opportunity to use the library books.

Successful institutions concentrate into three basic attributes. They frequently improve the excellence of the educational experience, and We should use student satisfaction data to shape their future directions. Higher education is in a long-lasting state of change and so are its students. The data in this study propose that students are more than demographics. They have multiple needs that require informed and meaningful institutional responses. Colleges must identify that student needs today cannot be met with yesterday's responses.

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