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Classification Needs Teachers Using Algorithm C4.5
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CLASSIFICATION NEEDS TEACHERS USING ALGORITHM C4.5

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Abstract - The problem in education is the lack of teachers, the teachers are not in accordance with the educational background (mismatch , low qualifications , competence disparities , and the uneven distribution of teachers .
This study aims to (1) To design a classification algorithm model distribution needs of teachers by using C4.5 algorithm (2) the accuracy of the model for equalization algorithm C4.5 to teachers' needs .
This study is a historical research using experimental methods is to perform design and modeling systems . Data was collected through library research methods (library research) and methods of data collection (field research) and application development based on analysis of the results of data mining methods the algorithm C4.5'
The results of this study is the classification of state information needs of teachers of subjects is more, or less enough at each school . C4.5 algorithm accuracy rate reaches 83% .

Keywords - component ; data mining , algorithm C4.5 algorithm Introduction

INTRODUCTION

Development of education today has shown significant results for national development . Education is seen as one of a variety of investments that are considered crucial in improving the quality of human resources.
In the world of education, the role and function of the teacher is one very significant factor. Teachers are the most important part in the learning process , according to the Law of the Republic of Indonesia Number 14 Year 2005 on Teachers and Lecturers. Therefore, in any attempt to improve the quality of education in this country can not be separated from a variety of matters relating to the existence of teachers themselves [1] .
Subject teachers is one of the important factors in the implementation of the curriculum. However ideally supported by a curriculum without the teacher's ability to implement it, then it would not be meaningful curriculum as an educational tool, and instead of learning without curriculum as a guideline would be ineffective [2].
On the other hand, the condition of the education world today is faced with complex problems such as the classical problem, namely the lack of teachers, the teachers are not in accordance with the educational background (mismatch), low qualifications , competence disparities, and the distribution of teachers who are not effective. This can be evidenced by the current situation in Indonesia is still shortage of 200,000 teachers (DG PMPTK, 2010)'
Equitable distribution of teachers needs to be [illegible] uneven at SMAN 1 Makassar for math teachers there are 8 (eight) number of teachers, while teachers are required for mathematics courses only seven (7) teachers, so the number of teachers over the needs of teachers. On the other side of the SMA Negeri 3 Lau Maros there are 5 (five) number of teachers while teachers are required for mathematics courses should be 6 (six) teachers, so the number of teachers is less than the needs of teachers.
In connection with the above conditions, the necessary scientific data mining to classify teachers' needs. Classification model that is used is to use the method of C4.5 algorithm to obtain equity classification accuracy and the model needs the right teacher.
It is hoped that the results of this study will be able to become one of the reference materials in the local government to provide policy decision-making in the distribution of teachers according to the needs of teachers in each school in order to improve the quality of education.

BASIS THEORY AND CONCEPTS

Basic Concept of Data Mining
1.1 *Data Mining*
Data mining is a term used to describe the knowledge discovery in databases. Data mining is a process that uses statistical techniques, mathematics, artificial intelligence and machine learning to extract and identify useful information and relevant knowledge from a variety of large databases [3].
Data mining is the analysis of the survey data set to discover unexpected relationships and summarize the data in a way that is different from before, which is understandable and useful to the data owner [3].
In general, the measurement model of data mining refers to three criteria: accuracy (Accuracy), reliability (Reliability) and usefulness (Usefulness). Balance among the three is necessary because not necessarily a reliable model that is accurate, reliable or accurate and is not necessarily useful [3] .
The method used in data mining is a method of learning (supervised learning), and no learning method (unsupervised learning). Learning methods include the role of estimation, prediction, classification and association while without learning methods include clustering [4] .