INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

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DATA MINING IN KNOWLEDGE DISCOVERY PROCESS

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ABSTRACT

This paper explains about Data Mining procedure, it indicates how the same information can be getting from large set of data. This is the process of collecting data within the dataset as many conditions. There are many types of steps occurs in data mining for mining the data from the large information. This explains how the original data can be retrieving from big data. In business sectors by using this data mining process we have to work down easily from any set of information.

KEYWORDS
Data Mining, Knowledge systems, Discovery in Databases (KDD).

1. INTRODUCTION
This Data mining can be applied in any kind of information which represents such as relational database, data ware house, transactional database, advanced systems, flat files and World Wide Web. Data mining is a step in KDD process concern with the algorithmic means by which patterns or structure is enumerated from the data and then acceptable computation and efficiency and limitations. Data mining, the extraction of predictive information from large database system, it is a powerful new technology with great potential to help the companies for focusing on the most important information in their data warehousing

2. ARCHITECTURE OF DATA MINING
Data mining is a process of discovering interesting knowledge from large amount of data stored in database. Data mining system is may have the following major components.
- Data base or other information system
- Data base or data ware house server
- Knowledge base
- Data mining engine
- Patterns evaluation model
- Graphical user interface

FIG. 1: THE DATA MINING PROCESS
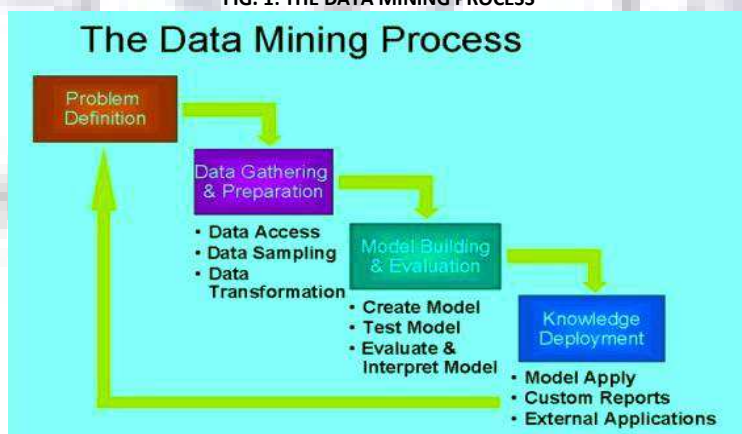
2.1 RULES OF DATA MINING
- Data preprocessing
- involvement
- sorting and guess

- collectively study
- Social impacts of data mining
- Application and tends in data mining.

SORTING

This is the process of straightforward the form of data items made simple to recover the data easily. The process can be accessed with high speed, the errors can be eliminated in this one. it is used to construct the decision tree.

GUESS

It is the unknown data process. It is also called as fraud detection. It means in market budget analysis is not properly calculated just estimated how much of profit occurs but some cases the lose may also faces the people. At the same time weather reports. when the rain comes the clouds reactions and so on.

FIG. 2: THE DATA MINNIG PROCESS

2.2 WHY DATA CAN BE MINING?

The data mining is very powerful tool to retrieving the data from different data sets, in various areas we have to use data mining for their external purposes like Education, Sports, etc.Data mining is the search for the relationship and global patterns that exist in large database hidden among the vast amount of data. Data mining system itself learn from the previous history of investigated system. the following are the fundamentals of data mining

- Relational database
- Transaction database
- Data ware house
- Advanced data base
- Spatial data
- Multi dimensional database
- Graphical engineering medical and www database

FIG. 3
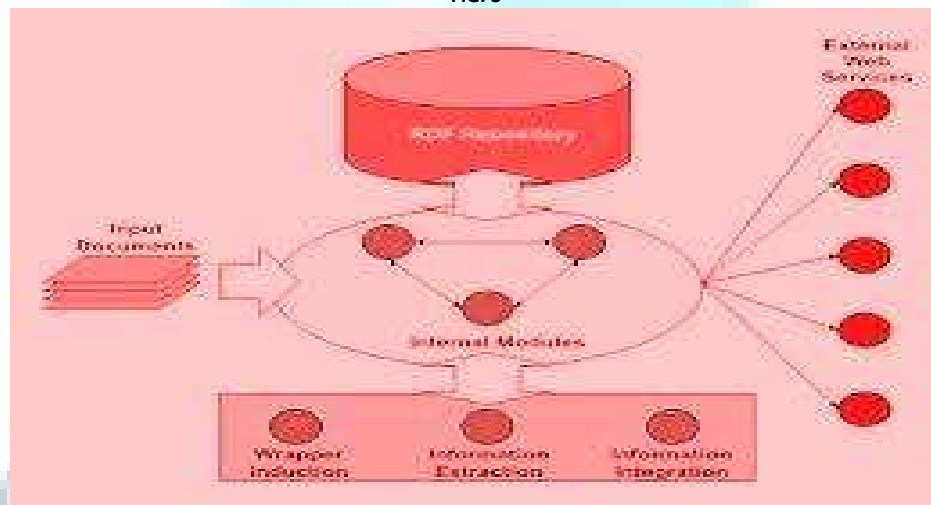
2.3 FUNCTIONALITIES IN DATA MINING

Data mining functionalities are use to specify the kind of patterns to be found in data mining task. Data mining tasks are classified into two categories. Descriptive and predictive. Descriptive mining task are categorize the general properties of the data in the database. Predictive mining task performs an interface on the current data in order to make a prediction.

- **DATA CHARACTERIZATION**

It is a summarization of general characteristics of a target class of data. The output of data characterization can be presented in various forms like,

➢ Pie charts
➢ Bar charts
➢ Curves
➢ Multi dimensional cubes
➢ Multi dimensional tables

- **DATA DISCRIMINATION**

A comparison of the general feature of target class data object with general features of the objects from one or a set of constructing classes. A discrimination descriptions are expressed in rule form is referred to as following rules.

➢ Association analysis.
➢ Classification and prediction(Decision tree, neural network, genetic algorithms, mathematical formulae)
➢ Cluster analysis.

➢   Prediction.

2.4 DIFFERENT AREAS WHERE DATA MINING IS IMPLEMENTED

The data mining is the very important area to modify the data depending on the peoples use. In different sectors data mining process are implemented. The following are some o the areas.

• Education
• Finance
• Sports
• Business
• Research
• Insurance
• Telecommunication
• Stock market… so on

3. PRE-PROCESSING IN DATA MINING

The pre-processing is a process of modification of data, we also called as Knowledge discovery in database (KDD).Knowledge discovery in database was formalized in 1989,with references to general concepts of being broad and high level of seeking a knowledge from large number of data. The KDD process tends to be highly iterative and interactive. Data mining analysis tends to work up from the data and best techniques are develop with an orientation towards a large number of volumes of data, making a use of as much data as possible to arrive at reliable conclusion and decision.

3.1. STEPS IN KDD PROCESS

The following are the some of the steps involved in KDD process.

i. DATA CLEANING: It is the process of removing a noise and inconsistent data. It is used to produce the missing values and noisy data while identifying the correct data. The manual process are implemented to clean the data in the form of different sets. The attributes are used to fill the missing terms. The random errors are occurs while cleaning the data, In that time rectify all the unwanted items. Small set of data is available in this process.In this process the lacking of data is produces at the time of cleaning.

ii. DATA INTEGRATION: It is the process of combining a data from multiple sources. The same set of data items are available, this is called redundancy of data. This is the one of the problem because the developers doesn't know which is the useful one. So they divide the data as terms and mentioned as attribute names.

iii. DATA SELECTION: It is the process of retrieving a relevant data from the database. We have to select the similar type of data in different formats, and combine all the data values. Finally select which consist of efficiency.

iv. DATA TRANSFORMATION: It is the process the data transform and consolidated into forms and appropriate for mining by performing a summary or aggregate operations. Data transformation process can be involved in smooth, aggregation, overview of the data, normalization and attribute structure

v. PATTERN EVALUATION: The patterns obtain in the data mining stages are converted into knowledge base on some interesting measures.

vi. **KNOWLEDGE REPRESENTATION:** Visualization and knowledge representation techniques are used to present the mind knowledge to the user.

vii. DATA MINING: It is the essential process where intelligent methods are applied in order to extract the data patterns.

FIGURE 4: THE KNOWLEDGE
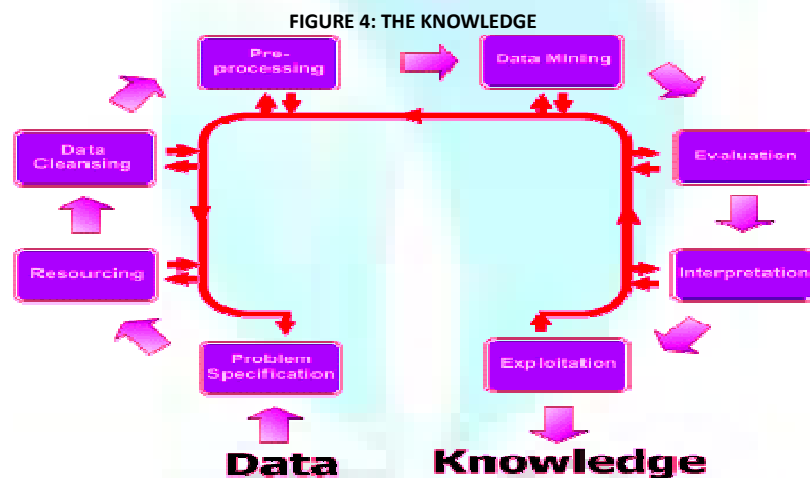
3.1 PREPROCESSING IN DATA MINING

The above diagram shows the complete description about preprocessing in data mining system. How the process may run and which type of things involve in this process all those things are shown by this diagram. How the data can be transfers from one stage to another stage this can be easily identified by the user depending on the figure.

4. CONCLUSION

The focus of this paper is to provide The information about the data mining process. How the mining process can be taken place in the different process. This is useful to know the students which are focusing on data mining used to know the process.

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Looking forward an appropriate consideration.

With sincere regards

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