

DATA

MINING

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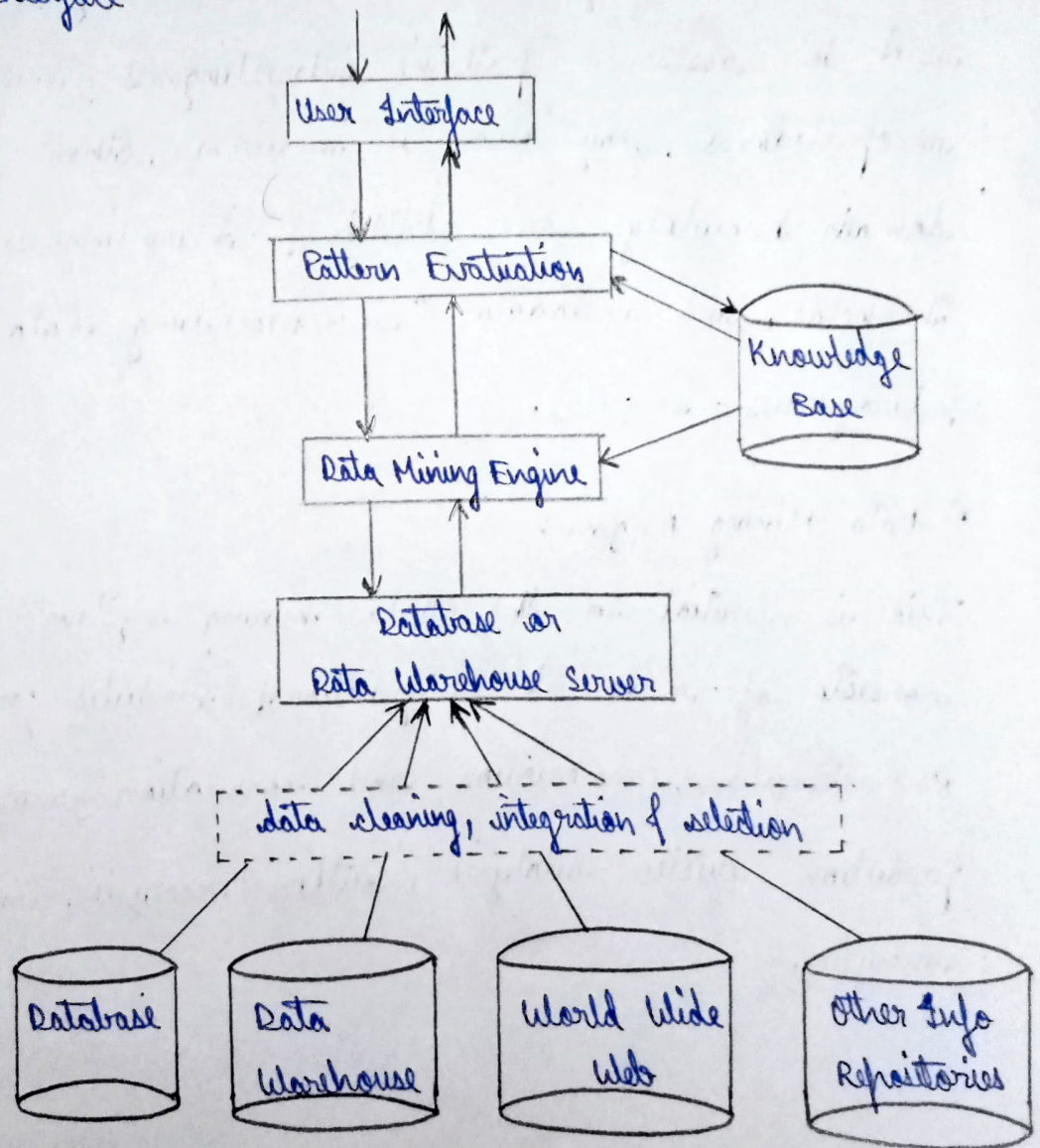
Group: 7A

ASSIGNMENT - 1

1) Explain the Data mining architecture with neat diagram.

Ans. A typical data mining system may have the following major components:

- Knowledge Base
- Data Mining Engine
- Pattern Evaluation Module
- User Interface



A typical data mining system Architecture

1) Knowledge Base:-

This is the domain knowledge that is used to guide the search ~~or~~ or evaluate the interestingness of resulting patterns. Such knowledge can include concept hierarchies, used to organize attributes or attribute values into different levels of abstraction. Knowledge such as user beliefs, which can be used to assess a pattern's interestingness based on its unexpectedness, may also be included. Other examples of domain knowledge are additional interestingness constraints or thresholds, and metadata (ex:- describing data from multiple heterogeneous sources).

2) Data Mining Engine

This is essential to the data mining system and ideally consists of a ~~or~~ set of functional modules for tasks such as characterization, association and correlation analysis, classification, prediction, cluster analysis, outlier analysis, and evolution analysis.

3) Pattern Evaluation Module:-

This component typically employs interestingness measures interact with the data mining modules so as to focus the search toward interesting patterns. It may use interestingness measures thresholds to filter out discovered patterns. Alternatively, the pattern evaluation module may be integrated ~~can~~ with the mining module, depending on the implementation of the data mining method used. For efficient data mining, it is highly recommended to push the evaluation of pattern interestingness as deep as possible into the mining process so as to confine the search to only the interesting patterns.

4) User interface:-

This module communicates between users and the data mining system, allowing the user to interact with the system by specifying a data mining query or task, providing information to help focus the search, & ~~performing~~ performing exploratory data mining based on the intermediate data mining search results. In addition, this component allows the user to browse database and data warehouse schemas or data structures, evaluate mined patterns, and visualize the patterns in different forms.