

Chapter 9 Expression, Text, Hypertext, and Database Management.

1. Describe the main features of each of the following knowledge management techniques:

a. **Expression Management.**

During decision making, ad hoc calculations such as those done in expression management can be beneficial

Calculators: rudimentary computers that do expression management

Often integrated in tools that do other kinds of knowledge management

Simple procedural, descriptive, linguistic knowledge

-Objects of interest.

variables, functions, macros, expressions (can include other three)

-Methods for processing them

defining existence of variables, macros, functions

store/load, list, view, change delete them

specify expression in terms of them (plus literals and operators)

-for immediate evaluation

-to preserve for later evaluation

b. **Text Management.**

The most widely used of KM techniques

During decision making, decision makers have occasion to prepare and refer to various documents

-Objects of Interest

documents representing any of the 6 types of knowledge

comprised of textual passages, boxes, control indicators

-methods for processing them

documents as a whole, lines of text, works

** not related to type of knowledge documented (*text processors not able to reason with the reasoning knowledge that might be there*)

c. **Hypertext Management.**

Decision maker may want to electronically navigate through multiple conceptually related documents

Hypertext gives a way for linking them and navigating through them

-Objects of Interest

Hyperdocument

-documents with embedded markers

-links relating them

-map

Can represent any of six types of knowledge

-Methods for processing them

specify documents

specify links by a matching pair of markers

navigation among documents by choosing desired markers

d. **Database Management.**

Highly structured knowledge representations and flexible retrieval

Primarily for descriptive knowledge

Multiple approaches of which the relational is most widely used

-Objects of Interest

Databases - Tables, Data Dictionaries

distinction between table structure and content

-Methods for Processing them

Table processing

-operates on structure

-operates on content

-record at a time

-multiple records

Relational algebra versus relational calculus (SQL)

-Relational algebra - Procedural series of steps to get to desired results. Creates new tables from existing tables (intermediate tables)

-Relational calculus- Non-procedural language that tells it “what” to do not “how” to do it.

2. Explain the distinctions among these techniques in terms of the objects used for knowledge representation and the methods used to process those objects.

SEE ANSWER TO QUESTION ONE