E1-20 Reasoning machanisms for exploring a knowledge base

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The knowledge base system technology has been exploited to develop an intelligent information system for the Open University. The overall project of Knowledge Based System (KBS) consists of 2 subprojects aimed at the construction of a knowledge base for the system and the design of inference machanisms for exploring the knowledge base. This paper is based on the ongoing research in the construction of an inference engine for the proposed KBS. The inference engine is basically designed to be in line with the standard search strategies of forward and backward chaining of exploring the knowledge base. The state space search is also ordered with standard search techniques: breath-first and depth-first search. The additional information required to evolve the system using guided search by means of heuristics is also being investigated. Some mechanisms to deal with conflict resolution of multiple rules selected to explore the knowledge base are also under construction. In this sense the emerging KBS falls under the tradition of rule-based expert systems. However, depending on the level of modularised information in the knowledge base, the system can also be treated as having blackboard architecture rather than a mere rule-based system. Two projects are parallely evolved and incrementally tested for the success of the ongoing developments. The current implementation is done using C++ on SCO UNIX operation system.