Abstract

Nowadays, the existence of the expert system is required. Many case can be solved with expert system, from simple to complex problem. To meet the needs of many different kinds of expert systems problem, you need a software that is able to combine several functions. This software is called shell or expert system's engine. The expert system shell capable of handling various cases, not just one, using certain method.

The goal of this final assignment is developing construction expert system with configuration design problem solving for skeletal design problem and using hierarchical configuration method. Construction expert system is suitable using this configuration design problem. Hierarchical configuration using and-or graph which can be customized according to user needs makes this engine capable of handling more than one problem of construction.

Engine expert system is built using Borland Delphi for the interface and the inference mechanism. The engine stores and reconstructs knowledge base from database in accordance witch scheme of relation engine. Solutions configuration is generated by combining the components based on requirement and evaluate them with the constraints. The result from requirements and constraints evaluations is displayed as consultations result in text format.

Keyword*: Expert system, construction, shell, engine, configuration design problem solving, skeletal design, hierarchical configuration.*