

A knowledge-based expert system for EIA using blackboard approach

ABSTRACT

Expert systems and knowledge-based systems are widely used in engineering applications and in problem-solving. Rapid development today has brought with it environmental problems that cause loss or destruction of natural resources. Environmental impact assessment (EIA) has been acknowledged as a powerful planning and decision-making tool to assess new development projects. It requires qualified personnel with special expertise and responsibility in their domain. Knowledge-based EIA systems incorporate expert's knowledge and act as a device-giving system. The development of an expert system to produce environmental impact assessment reports using an intelligent blackboard cooperative approach is presented. The system has an advantage over human experts and can significantly reduce the complexity of a planning task like EIA.

Keyword: Expert systems; EIA; Blackboard architecture; CLIPS; Knowledge engineering; Problem-solving