

Optimization of Decision Paths by Using Fuzzy Logic

K.KoteswaraRao
GMR Inst.Of Technology
RAJAM-532127,India

Srinivasan Nagaraj
GMR Inst.Of Technology
RAJAM-532127,India

G Appa Rao
GITAM University
Vizag-530041India

M.SumenderRoy
GIET
Rajamundry ,India

Dr GSVP.Raju
Andhra Univ.
Vizag-India

ABSTRACT

The main work of the project manager is to see the project taken up is going to be completed in the stipulated time. For this project manager needs to be able to monitor the resources, able to generate reports on performance of the employees. The project manager is responsible to the company to see that the project does not suffer from time overruns and cost overruns. Estimation of cost, effort, duration and other project parameters for large, complex, multilayered project management is difficult process requiring effective forecasting tools and imprecision and partial truths. This task becomes all the more important when company is embarking on a new project with no history database backup or it is a start-up company.

This paper presents a fuzzy based approach where in selection of next node in a Decision Tree System is not restricted to predefined node in a DSS as in conventional DSS but affords selection of virtual node, lying between two nodes in a DSS tree. One of the most important problems faced by project manager of a complex project is accurate forecasts of effort, durations and other project parameters. Unfortunately accurate forecasts and tighter project control stems from competent and mature organizations, others owing to their lack of history database , competencies and do not have accurate projections and run the risks of time and cost overruns.

This paper presents an expert system for estimations that combines conventional methods and also soft computing techniques for handling imprecision and uncertainty. The virtual nodes generated in the decision paths result in nodes at leaf node level that do not coincide with the goal nodes in the initial decision tree. For each such node at leaf-node level we create an additional node. It now remains to find a way to choose suitable values of the parameters for the additional goal nodes that have been introduced.

For this purpose we suggest that the project parameters (a & b) be generated by using Fuzzy logic ,where a & b belongs to a project, solid line indicate projects already done. Dotted line indicates project with uncertainties i.e. virtual node. By using fuzzy logic we can determine a and b, after that by using COCOMO model complete estimation i.e., initial effort estimate, effort adjustment factor, total effort, phase wise effort, phase wise duration, nominal productivity of the project and total man power of the project.

The full text of the article is not available in the cache. Kindly refer the IJCA digital library at www.ijcaonline.org for the complete article. In case, you face problems while downloading the full-text, please send a mail to editor at editor@ijcaonline.org