Abstract

This paper proposes general techniques for adapting operators in SGA for software project scheduling problem. The use of adaptive nature of crossover and mutation gives chance to control the diversity. Adaptive nature also tends to give convergence in the complex solution. Crossover and Mutation probability changes accordingly the change in the fitness values. High fitter is kept in the next pool. AGA(Adaptive genetic algorithm) converges to sub-optimal solution in fewer generation than SGA. In this paper, we consider skilled employees as an important resource to calculate the cost of the project along with some constrains of tasks. The paper gives a near-optimal estimated cost of project by using AGA. Our algorithm employs adaptive approaches for calculation of fitness of individuals, crossover rate and mutation rate. The paper also considers the aspects of head count, effort and duration calculated by COCOMO-II. 1999. These parameters are used to verify the fitness of each chromosome to get estimated cost by AGA closer to the cost estimated by COCOMO-II.

References

- D. B. Hanchate A. Thorat, R. H. Ambole. review on multimode resource constrained
- Jurgen Hesser and Reinhard Manner. towards an optimal mutation probability for genetic algorithms.
- Sam Hsiung and James Matthews. Introduction to Genetic Algorithms.
1981.
- Michele McDonough Venkatraman. Types of task relationships in microsoft project. 2011.

Index Terms

Computer Science
Software Engineering

Keywords
AGA  COCOMO-II  Software Cost Estimation  Project Scheduling.