ABSTRACT

The study involved 78 pages, contains 3 applications and links to the list of references of the 12 items. The work contains 29 figures and 4 tables.

The goal of the work is to develop an approach based on multicriteria optimization that helps project managers find the best value for the initial size of the team and evaluate the time of development of the project in such a way that cost, time and performance are optimal.

Work covers the latest major methods for solving multi-criteria optimization problem, a comparison of methods, which are investigated, are the advantages and disadvantages, offers an evolutionary approach to optimization. Consider developed an intelligent fitness function for the genetic algorithm, the possible strategies for long-term storage of individuals, shows the results of tests, depending on the chosen strategy.

As a result, system was developed on the programming language C#

Techniques and algorithms proposed in the thesis can be applied in any area where a multi-objective optimization. Based on these studies and developed algorithms have been developed web-based application for decision support systems project management.

Keywords: multi-objective optimization, genetic algorithm, the decision support system, the intelligent fitness function.