

## ADAPTIVE WORKER'S ARRANGEMENT AND WORKLOAD CONTROL FOR PROJECT MANAGEMENT BY GENETIC ALGORITHM

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**ABSTRACT.** *In this paper, we propose an application of a genetic algorithm to the adaptive assignment of worker and workload control in project management. This study proposes a method which executes a assignment of worker or workload control by genetic algorithm simultaneously. We chose a project management problem which can evaluate its congestion by job arrival ratio in a operation. In simulation, we show that a proposed process control method using genetic algorithm is superior to the usual method which makes a assignment of worker by the Dijkstra method and a workload control by the gradient method.*

**Keywords:** Project management, Worker's arrangement, Workload control, Genetic algorithm

**1. Introduction.** Project management is a control technique of planning to accomplish finite goals. The examination of project management is the integration and allocation of the required inputs to satisfy those pre-defined conditions. The project, therefore, is a carefully designed set of activities chosen to use resources (time, cost, human, materials, quality, risk, etc.) to meet the pre-defined objectives. Thus, project management seems to be the application of knowledge, skills and techniques to decompose, organize, oversee and control the various project processes [1].

A project is temporary task taken over in order to make the ordered product or service. This is a framework of processes or operational management, either is permanent or semi-permanent functional work to create the same product or service. Recently, because a project is more complicated with variety, the workload between workers tends to become large. Project scheduling has some important features, one of them is assignment of a role among workers, and another is the reduction of incorrect combination worker combination contents of work. Today, human resource management tends to be renewed