

ABSTRACT

Exam scheduling is a scheduling problem that has a different level of complexity of a university with other universities. This can be caused by differences in the number of students, course, room, and some other things into consideration a time schedule universities in their respective exams. Basically, the scheduling of examinations can be performed with only consider three main limitations, ie no students who perform two or more exams at the same time or space, no two scheduled exams conducted in the same room, and the number of participants per room is not exceeds the maximum capacity. By simply using the three constraints, the scheduling of examinations can be performed.

At this Final memetika the encoding algorithm used directly to solve the problems faced at the time of scheduling the exam. Memetika algorithm is a combination of Genetic Algorithm with local search scheme (local search). Local search algorithm to be used is the Stochastic Hill Climbing. The use of direct encoding will result in faster computing calculations. Also used are directed mutation that can guarantee the improvement of fitness values in each stage.

Database used in this Final is a 1 year term teaching academic data 2010/2011 Telkom Bandung Institute of Technology. The parameters tested is the influence of the number of chromosomes in a population of fitness values to be generated. From the stage of testing and analysis can be concluded that the more the number of chromosomes affect the best fitness value. But when tested on the same number of iterations can be seen that the enlargement of population size affects the poor the value of fitness.

Keywords: Exam Scheduling, Memetics Algorithm, Genetic Algorithm, Local Search, hill climbing