

ABSTRACT

Telkom Institute of Technology is one of the private educational institutions in Indonesia. This institution has a faculty that one of them is the Faculty of Industrial Engineering (FRI). In 2008, FRI add new courses, namely information systems. The addition of these courses lead to FRI increased number of students reached 1387 in 2009 with average growth of 28% per year (SISFO ITTELKOM, 2009). The situation is the high performance demands of service in the FRI. One of the services provided by the administration of FRI is the process of scheduling the final hearing. In the process of scheduling, there is a problem that is still common occurrence that a sidang was tested by an examiner who is not a field. Accordingly it is important to make a scheduling concept so we get an array of test appropriate to the competency of each teacher. After getting the appropriate arrangement examiner next step is to find an optimum arrangement of the schedule in accordance with the relevant lecturer's free time to minimize the schedule clashed.

Settlement of this issue carried out in two stages. The first stage is the composition of the search examiner will be done by using fuzzy relation method. This method is used to find slices of the relation to the competency of teachers and the title of a study of the competencies contained in the study. The second stage is the completion of problem schedules arrangement according to the schedule lecturer's free time that apply a genetic algorithm.

The result is that an effective method of fuzzy relations for produce couples examiner in accordance with their competence in a hearing test. In the actual conditions of each lecturer will have a limited quota test. Therefore, for a very large amount of data the system is not good enough to overcome the lack of faculty resources is happening. Genetic algorithms are used to find the optimal arrangement of schedules achieved 100% accuracy rate, which means that every examiner in accordance with the schedule respectively. However, there are parameters that need to be taken to ensure optimal performance, i.e. the probability of mutations that must be adjusted to the amount of data to be input.

Keyword: scheduling, genetic algorithm, fuzzy relation