

Cohesion and Balance in a Human Resource Allocation Problem

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The problem discussed occurred when many construction workers were taken to Germany from Romania for labor in construction projects[1]. Managers have to make independent groups of workers from some categories, like carpenters, brick layers etc. They have to discover their collaborative attitudes. One method is that every worker scores the others how much he wants to work with them. There are other methods like personality tests but in this case that approach was expensive and time consuming. No scoring was necessary inside of same trade of workers. The objectives were to form groups of workers with high compatibility and to minimize the difference of compatibility scores between the most fitted and the least fitted group. The problem becomes more interesting in making software collaborative groups where there are database administrators, operating system specialists, security specialists and so on. One have to prospect also the level of knowledge, the possibility and ability to increase this knowledge and the overlap between the trade groups of workers, for example the database administrator may also be a good Linux specialist and we can exploit both aptitudes inside a group. This paper resumes to the problem of construction workers where there is no overlap between trades and the level of knowledge is not in the universe of discourse. We propose a Greedy and a genetic algorithm approach and we compare these methods. In [2] we treat the problem when we have no categories and every student has to be allocated in a group. We consider that the Greedy algorithm found is a very interesting one because it follows both objectives at the same time.

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References

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