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XII Ciclo – Nuova Serie

ABSTRACT

Analisi e risoluzione del problema dell'allocazione ottima delle risorse

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Anno Accademico 2013 – 2014

Abstract

In this thesis, a mathematical model to optimize the allocation of human resources is presented.

The problem can be summarized as follows: given a set of jobs (or tasks), tath must be performed by a set of resources in order to find a team appropriate to solve this tasks in plausible time and optimal results.

To this well known problem we are add a motivational constraint, with the aim to more satisfying assignment and optimal allocation.

The mathematical model, in addition to known competences-based constraints, contains a "interpersonal" constraint taht assures the collaboration between human resources "compatible", that is in the past they have collaborated very well.

The result is a consequences both of use of social structures and to use of feedback, with the following aims: Maximize productivity; Minimize bad collaborations; Maximize the gratification.

To experiment the logical model of team formation a minimum path nalgorithm is implemented; several uses case and experimental results are descripted.

Interesting results in terms of quality of the solutions and in terms of performance have been obtained applying the resolutive technique.