

## **Human resource allocation or recommendation based on multi-factor criteria in on-demand and batch scenarios**

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### **Abstract**

Dynamic resource allocation is considered a major challenge in the context of business process management. At the operational level, flexible methods that support resource allocation and which consider different criteria at run-time are required. It is also important that these methods are able to support multiple allocations in a simultaneous manner. In this paper, we present a framework based on multi-factor criteria that proposes a recommender system which is capable of recommending the most suitable resources for executing a range of different activities, while also considering individual requests or requests made in blocks. To evaluate the proposed framework, a number of experiments were conducted using different test scenarios. These scenarios provide evidence that our approach based on multi-factor criteria successfully allocates the most suitable resources for executing a process in real and flexible environments. In order to demonstrate this assertion, we use a help-desk process as a real case study..

### **Keywords**

Human resource allocation, Human resource recommendation, Multi-factor criteria, On-demand, Batch, Dynamic resource allocation, Recommender system, Business process management, BPM, Process mining.