Adaptive Resource Allocation in Multimodal Activity Networks

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Abstract

In practice, project managers must cope with *uncertainty,* and must manipulate the *allocation* of their resources *adaptively* in order to achieve their ultimate objectives. Yet, treatments of the well-known 'resource constrained project scheduling problem' have been deterministic and static, and have addressed mostly unimodal activities. We present an approach to resource allocation under stochastic conditions for multimodal activity networks. Optimization is *via* dynamic programming, which proves to be demanding computationally. We suggest approximation schemes that do not detract significantly from optimality, but are modest in their computational requirements.

Key Words: Activity Networks, Resource Allocation, Multimodal Activities, Dynamic Programming