

Scheduling Building Projects: The Chronographical Modeling Concept

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Abstract : Most of scheduling methods and software apply the critical path logic. This logic schedule activities, apply constraints between these activities and try to optimize and level the allocated resources. The extensive use of this logic produces a complex an erroneous network hard to present, follow and update. Planning and management building projects should tackle the coordination of works and the management of limited spaces, traffic, and supplies. Activities cannot be performed without the resources available and resources cannot be used beyond the capacity of workplaces. Otherwise, workspace congestion will negatively affect the flow of works. The objective of the space planning is to link the spatial and temporal aspects, promote efficient use of the site, define optimal site occupancy rates, and ensures suitable rotation of the workforce in the different spaces. The Chronographic scheduling modelling belongs to this category and models construction operations as well as their processes, logical constraints, association and organizational models, which help to better illustrate the schedule information using multiple flexible approaches. The model defined three categories of areas (punctual, surface and linear) and four different layers (space creation, systems, closing off space, finishing, and reduction of space). The Chronographical modelling is a more complete communication method, having the ability to alternate from one visual approach to another by manipulation of graphics via a set of parameters and their associated values. Each individual approach can help to schedule a certain project type or specialty. Visual communication can also be improved through layering, sheeting, juxtaposition, alterations, and permutations, allowing for groupings, hierarchies, and classification of project information. In this way, graphic representation becomes a living, transformable image, showing valuable information in a clear and comprehensible manner, simplifying the site management while simultaneously utilizing the visual space as efficiently as possible.

Keywords : building projects, chronographic modelling, CPM, critical path, precedence diagram, scheduling

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