

General Purpose Yard Simulator Based on GPSS III Extended

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Abstract

A railway marshalling yard is considered to be composed of several organically interrelated subsystems. Its operations are influenced not only by internal factors but also by many external controls and regulations. Its processes are deterministic as well as probabilistic. Behind its complexities are hidden human wisdom and many years' experiences.

In order to clarify yard systems, we developed General Purpose Yard Simulator (GPYS) as an extension of GPSS III. GPYS takes into consideration various characteristics of yard simulation, such as the treatment of vast input information, the description of processes externally controlled especially in timing and quantity, the report-generating function, the representation of trial and error processes, etc.

This article describes the feature of GPYS and some of its block type subroutines specially designed for yard simulation. One of the characteristics of GPYS is data-oriented model building, and this thought is typically represented by two blocks "ARRIVE" and "DAM". The former is a block type subroutine for the treatment of inbound freight car information and the latter is a provision for controlling the transaction flow especially influenced by external factors.

As to the detail of GPYS and its application, refer to the paper presented to the IFIP Congress '68 under the title, "Development of System Simulator for Railway Marshalling Yard".

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