TUDelft

Delft University of Technology
Faculty Mechanical, Maritime and Materials Engineering
Transport Technology

J.B. van den Bosch *Generieke modulen voor simulatie in C++*
Masters thesis, Report 94.3.LT.4426, Transport Engineering and Logistics.

To investigate the behaviour of large-scale logistical systems it is often necessary to use discrete simulation. Several programming languages for programming a simulation model are developed, e.g. Prosim. Besides that for some general programming languages an addition has been made to support the basic concepts of discrete simulation. The disadvantage of such an additional simulation module is that it is dependent on the platform and the compiler because it is using assembler language.

This study investigates the possibility and applicability of general simulation tools, in the programming language C++. No assembier has been applied to avoid the disadvantage of dependency on the platform and computer. For this purpose discrete simulation was analysed in a function model to make clear which generic tools could be made. Hereafter these tools were implemented. The tools support the basic concepts for simulation as event-scheduling, process description, interruption and continuation of processes, conditional activation of processes, etcetera.

The tools are checked on use by aplying them on a queueing process. It turned out that they were satisfactory: In spite of some rules in the form of the implementation of the processes, there are no restrictions on discrete simulation models in the use of this tools.
It is recommendabie to expand this simulation module with other tools, such as a tool for dataprocessing, a tool for statistical data prodessing, etc. Besides that a general user interface could be made.

Reports on Transport Engineering and Logistics (in Dutch)

Modified: 2008.01.18; logistics@3mE.tudelft.nl , TU Delft / 3mE / TT / LT.