A SOFTWARE PACKAGE OF IMITATTION OF INDUSTRIAL AND ECONOMIC ACTIVITY "SHAGOVITAPRO"

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Today implementation of the system analysis methodology in factories is a very actual problem that includes methods of simulation modeling and technology of applied methods and means for solving the application problems of a factory functioning system analysis.

Our factories' managers must solve many problems associated with production. How to organize effective production? How to increase production efficiency? How to reconstruct the existing production structure effectively? And the most actual problem is how to answer these questions quickly using IT-solutions.

In our case the manager of the Mogilev public corporation "Obuv" gave the authors the task to create a program model of his factory industrial and economic activity to forecast some economic indicators change (e.g. efficiency, profit or loss) after the production structure change (e.g. resource costs, work content, resource content). For this purpose the authors used the system analysis methodology and the simulation modeling technology. We created a complex software package for the factory functioning simulation modeling.

The main process provided by our system is simulation modeling of industrial and economic activity of the factory. This process contains three sequential steps: a model parameters input, a simulation experiment, handling and analysis of modeling results. By the modularity principle our system has two components: the software module of a model data input and simulation experiments running and the software module of modeling results handling and analysis. In turn, the software module of a model data input and simulation experiments running has three components: the model data editor (designer) that provides the manager with a friendly user interface for a model data input (initial industrial and economic parameters: taxes, credits, accounts, etc.), the "BelSim Experimenter" that provides methods for simulation experiments running and handling, the process simulation template library that describes the factory functioning program algorithm, in other words, the simulation model of the factory.

This software package makes it possible to construct and operate a factory industrial and economic activity and therefore to find ways to update the factory industrial and economic system.