

MODEL OF AUTHORIZING SYSTEM OF COMPUTER ASSISTED COURSES GENERATOR

Gheorghe Latul

Moldova State University, Chişinău, Republic of Moldova

gheorghe.latul@usm.md

Development of computer training courses is a very sophisticate laborious task. This provides the necessity of rising the authors' labour capacity by using specific design technology and tools. Automatic program generation of computer training courses is possible on the basis of this technology.

This abstract is about the theoretical concept oriented on computer-aided design and creation of computer training courses programs.

The conceptual model determines directly the software architecture, because it really represents a computer realization of the model.

Plan and program. The general task theory [1] was used for the purpose to design the conceptual model. The concept of programming problem (**ZP**) was examined and formalized on the basis of this theory. The person, as a resolving system, should have a number of operators $Y = Q U F$, where $Q = \{q_i\}$ is a number of planning operators, which provide the production of the plan of problem solving and $F = \{f_j\}$ a number of executive operators which provide program compiling. Respectively the plan is presented as a pair of $P = (\{q_i\}, R_q)$, where R_q – is a successor relation, which sets the order of execution $\{q_i\}$, and the program is represented as $G = (\{f_j\}, R_f)$, where R_f – is a successor relation to $\{f_j\}$.

Planing instructions $\{q_i\}$ are not formalized and are presented on high level while the executive operators $\{f_j\}$ are formalized and presented on low level in respect to the plan, because f_j group of **G** executive program operations corresponds to one q_i operation.

Thus, **ZP** includes interdependent plan **P** and program **G**. The traditional technology of solving tasks in man–machine system reflects really this situation when the person forms a variant of plan **P**, and program **G** is assembled again with the help of person by instructions of Programming Language.

The analysis and **ZP** formalization give the basis for introduction of the concept of operational model of an educational situation as a high–level tools of realization of the operators of planning q_i in the course script plan $P = (\{q_i\}, R_i)$.

On the basis of the analysis of applied requirements of the process of the computer instruction courses creation the set of high–level operators $Q = \{d, q, a, r, h, t, i, b, c, s, n, f, m, e\}$ of plan **P** as operational models of educational situations, where **d** – demonstration, **q** – question, **a** – answer, **r** – reaction, **h** – help, **t** – text, **i** – if, **b** – block, **c** – calculation, **s** – sound, **n** – menu, **f** – function, **m** – module, **e** – end is specified.

To the author they are known as “case–operators”. Case–operators define the technological basis of modules designing from which the computer instruction course is assembled.

References:

1. L.M. Dovgyallo. *The dialogue between the user and computer. Basics of design and implementation.* Kyev: Naukova Dumka, 1981.