Marine navigation simulators: problems of choice

I. I. Nedzelskiy

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The necessity of writing this book stems from the fact that there is no consensus in determining the end use of a certain simulator, evaluation of its quality being ambiguous and opinions often contradictory and subjective. The lack of clarity in these cardinal questions of designing and application of training facilities hampers the solution of simulator structure synthesis problems, makes it difficult to estimate costs for their design, manufacturing, implementation and operation, prevents the customer, designer and user of simulators from reaching full agreement and clear understanding of the issues concerning training facilities.
The book discusses the following problems:
- Ascertainment of all the component parts of technical and organizational control systems whose particular features must be shown in the requirements to simulators as a class of technical systems;
- Formulation of the whole body of the requirements to a certain system of training aids and each of its component parts;
- Establishment of the factors that take proper account of the end use of a simulator;
- Availability of various multiple arrangements of the simulator, depending on a trainee, and development of methods used to choose from these multiplicity the ones that are capable of satisfying some particular purposes of training under certain constraints;
- Analysis of the efficiency in using training facilities;
- Development of methods used to choose a complex of training facilities capable of providing efficient professional training of operators for technical systems.
The author hopes that the book will be useful to engineers engaged in developing training facilities, teachers and methodologists of the "man-machine" system - a system of professional training of operators. It will serve as a theoretical background and practical guide in choosing a complete set of training facilities for professional training and in determining the functional purpose of each of its component parts in preparing requirements specification for designing, manufacturing and delivery of simulators.
The discussion is illustrated with the examples from the development of ship navigation complexes.

Bibliography: 175 references. 8 illustrations.

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