

Abstract

Of master's certification on:

"Research of building methods for a subsystems of task generating for CAD

ALLTED"

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Relevance

Modern CAD systems have a complex structure and operate a large number of diverse data. Input data divided by the description of the object of research and formulation of the problem. In view of the complexity of the language of the problem and the need to accelerate work with them, the question arises how to automate the process of setting research objectives.

The task for research is a list of guidelines defining parameters of the object simulation study. The task for the study can be defined in two ways: graphically (the set of states of the user interface), or in text form (description of the directives and their arguments on the problem-oriented language).

Submission of assignment to the study of both forms present in any CAD system.

Graphical representation is more obvious and intuitive. This is especially true of small objects of study. Graphic description of little attachment to any problem-oriented language. Therefore, the presence of an automated production tasks in CAD broadened the range of potential users.

As practice shows, the most common mistake at the stage of circuit design is the disparity between the variables devotees as parameters directives of problem-oriented language of their parameters. Using the subsystem formulation of tasks, users do not need to work with a text description directly. Therefore, practically eliminated the possibility of divergence types of variables and parameter types of directives.

Currently, the package of circuit design ALLTED not fully functional subsystem staging job. This circumstance makes the actual task of research and development of methods and tools for building such a system, as well as the establishment of its software implementation.

Objective

The aim of this work is to study methods to ensure user-aided formulation of the problem for circuit simulation package.

The solved problems

To achieve this goal in the work was to:

- research capacity of existing subsystems forming tasks, identify their strengths and weaknesses;
- identification and analysis of requirements to the subsystem for the formation of the task of circuit design package Allted;
- making the requirements for software implementation of the subsystem, comparison of possible tools and technologies that satisfy the requirements for software implementation of the subsystem;
- choice of tools to ensure the independence of subsystems forming the task of hardware and software platform;
- Research and development of software implementation of the subsystem forming the task of circuit design for the package ALLTED, on the basis of developed algorithms and principles.

Achieved

Having decided to put in work tasks, the author defends:

- the validity of choice of means and technologies of the independence of software implementation from the operating system;
- a set of recommendations designed to implement an interface opposing errors;
- the validity of the choice of methods for constructing the user interface robustness.

Scientific novelty

Scientific novelty of the work is as follows:

- 1) The basic requirements that must be satisfied subsystem setting tasks for Allted. The choice of tools for creating platform-independent software implementation.

2) Develop recommendations to prevent errors in the numerical values of the variables associated with joint use of unacceptable directives.

3) A recommendation to avoid errors associated with the use of non-specified in the description of the research object identifiers by replacing the mechanism of manual input identifiers mechanism of choice from a list of existing ones.

The practical value of

On the basis of the proposed methods and tools developed software implementation of the subsystem formulation of tasks for a package of circuit design ALLTED.

Findings

The paper provides an overview of existing elements of modern CAD systems, production tasks, indicating their inherent weaknesses. Also, the principles of building systems for automated production tasks. The substantiation of the need to develop an automated system of production tasks. The basic requirements which must be satisfied subsystem staging job.

1) The basic requirements that must satisfy the subsystem formulation of tasks, the choice of tools to create independent from the operating system software implementation;

2) A recommendation to avoid errors in the numerical values of the variables, errors associated with joint use of inconsistent directives, and error associated with not given in the description of the research object identifiers by replacing manual input mechanism identifiers mechanism of choice from a list of existing ones.;

3) A brief description of the developed software implementation of the subsystem formulation of the job.

The work contains 97 pp., 37 fig., 9 tables, 14 sources.

Keywords: SUBSYSTEM FOR TASKS TASK GENERATION FOR SCHEMOTECNIC MODELING PACKAGE ALLTED, AUTOMATION OF TASK GENERATION, INTERACTIVE SYSTEM FOR TASK GENERATION.