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ІМЕНІ В. Н. КАРАЗІНА

ІТ-ПРОСТІР СЬОГОДЕННЯ: ТЕНДЕНЦІЇ, ІННОВАЦІЇ ТА ПЕРСПЕКТИВИ РОЗВИТКУ

Збірник тез доповідей
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конференції

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Редакційна колегія:

д-р. екон. наук, проф. Б. В. Самородов (головний редактор);
к.філос.н., доц. А.А. Чхеайло;
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к-т. екон. наук, доц. Н. Л. Морозова;

Адреса редколегії:

61022, м. Харків, майдан Свободи, 4

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MINISTRY OF EDUCATION AND SCIENCE
OF UKRAINE
V. N. KARAZIN KHARKIV NATIONAL UNIVERSITY

**IT-SPACE OF TODAY:
TRENDS, INNOVATIONS
AND DEVELOPMENT PROSPECTS**

Collection of abstracts
of the II International Scientific and Practical
Student Conference

(October 21, 2026, Kharkiv, Ukraine)

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Skorin Yuriy

*Candidate of Technical Sciences, Associate Professor
Kharkiv National Economic University S. Kuznets, Ukraine*

DEVELOPMENT OF THE MODULE "SOFTWARE TESTING" OF THE PROJECT MANAGEMENT INFORMATION SYSTEM

The analysis showed that the most common problems that arise in the process of software development are considered to be insufficient reliability and high complexity. Thus, it has been proven that finding and correcting errors in software products is the most difficult process.

There are many approaches to solving the problem of software verification and testing, but effective testing of rather complex software products is an extremely creative process that is not reduced to following strict and clear procedures or creating such.

From the point of view of ISO 9126, the quality of software can be defined as a cumulative characteristic of the software under study, taking into account the following components: reliability, practicality, efficiency, mobility, functionality.

The main approach is to evaluate and maximize the significance of all stages of the software development life cycle to achieve the required level of quality, productivity, and availability.

At the moment, there are various types of testing, namely:

- *regression testing*, which is carried out in order to check whether new features, improvements and fixed defects affect the existing functionality of the product;
- *functional testing*, i.e. testing of application functions for compliance with the requirements, evaluation is carried out in accordance with the expected and obtained results, provided that the functions have been worked out at different values;
- *GUI testing*, which means checking that the application meets the requirements for the GUI;
- *security testing*, i.e. assessing the resistance of software to various attacks, because computer systems very often become a target for illegal penetration;
- *stability testing*, which is one of the types of software testing, the purpose of which is to check the operation of the application during long-term testing with an average (expected) load level;
- *integration testing*, which is one of the phases of software testing, in which individual software modules are combined and tested in a group;
- *Software system testing*, which is software testing performed on a complete, integrated system in order to verify the compliance of the system with the requirements, and system testing refers to black-box testing methods and, thus, does not require knowledge of the internal components of the system.

With the growing importance of information technologies for the life of society, the price of errors in software products also increases.

In these conditions, technologies and methods of software testing come to the fore, which allow timely detection and correction of these errors.

High-quality software determines the reputation of the company, so it is necessary to take testing issues seriously, this will help not only to defend your position in the market, but also to gain new positions.

The purpose of the work carried out is to develop the module "Software Testing" for the enterprise "Infobud" LLC, the implementation of which will increase the efficiency of testers.

It should be noted that when developing your own module, it is desirable to take into account all possible actions that are necessary for software testing, as well as to carry out a thorough accounting of the errors found and work with them. It is necessary to take into account a number of functions aimed at developing a software testing module, namely:

- authorization in the system;
- creation of information about the project;
- adding notes about found errors;
- formation of a report on the current project.

In order to save information on all found software errors, the "Software Testing" module was developed.

This module has a database hosted on an OLEDB server. The module's user interface was developed using the Visual Studio interactive environment using the C programming language # [1].

During the work on the project, an automated module "Software Testing" was designed and developed, which contains two main tasks, namely:

- finding errors in the software;
- generation of reports on tested projects.

During the work on the diploma project, the following tasks were solved:

- a meaningful description and analysis of the subject area, structural and functional features of the object of management is made: the activities of the enterprise "Infobud" are described, the business processes of the subject area of the software testing website are modeled in the IDEF0 standard;

- review and analysis of existing analogues was carried out: the interface and functionality of existing software products Mantis, Bugzilla, Trac were analyzed;

- Requirements specifications have been developed: a diagram of use cases has been built;

- functional and non-functional requirements have been developed: use case and sequence diagrams have been constructed;

- the database structure was designed: a single database was developed;

- a software product was developed: a program code was written that allows you to implement the necessary functionality and it was tested.

To deploy a software product, namely a website, it is necessary to have a server where the site itself will be located.

Given that the site is written in the ASP.Net programming language, in order for the web service to function correctly and properly, a server with support for Microsoft IIS and Microsoft SQL Server software is required.

For the client part, there are the following minimum requirements:

AMD Athlon 2500+ Hz processor;

User monitor with a resolution of 1024 x 768 dpi;

HDD, 40 GB;

1GB RAM storage device;

a computer keyboard with a standard number of keys (101), and a computer mouse;

installed printer, and necessary for the driver to work correctly;

Windows operating system;

uninterrupted connection to the Internet, at least 256 KB/s;

Internet browser with support for XHTML and CSS at least 2 versions;

Microsoft Office software.

As a result of the work carried out, a database was designed for the subject area, as well as a logical and physical database model was built, and a software implementation of the database was created.

During the work on the project, the goal was achieved, namely: to develop a software product that will allow you to save and track errors during the development of software products.

The main advantages of the developed software module are:

– modern design;
— fairly easy navigation on the website, which allows you to find the information you need without difficulty.

Thus, the developed website can be implemented in any computerized enterprises that require a bug tracking system.

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Skorin Yuriy

*Candidate of Technical Sciences, Associate Professor
Kharkiv National Economic University S. Kuznets, Ukraine*

IMPROVING THE INFORMATION SYSTEM OF A LOGISTICS COMPANY BY IMPLEMENTING TELEGRAM BOTS

The purpose of the study is to improve the existing information system of a logistics company using the technology of implementing telegram bots in a web application, as well as to maximize the optimization of human resources and material costs at each of the main stages of development. The results of the study are methods and algorithms for the effective implementation of telegram bot technology in a web application during development. The source code of the created applications and their elements written in JavaScript using React and NodeJS libraries, the analysis of optimization results with a conclusion on the possibility of using the selected tools to achieve the main goal of the study.

As of today, a large number of logistics companies suffer from the problem of uncomfortable work in offices and from home: improving control and optimizing business processes, which does not relate to the direction of the employee's task and affects his inappropriate distribution of working time during the day, saving labor

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Електронне наукове видання
комбінованого використання
Можна використовувати в локальному та мережному режимах

ІТ-ПРОСТІР СЬОГОДЕННЯ: ТЕНДЕНЦІЇ,
ІННОВАЦІЇ ТА ПЕРСПЕКТИВИ РОЗВИТКУ

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