



SPECIFIC ASPECTS OF PROVIDING HAVOC ON WEB-ORIENTED PLATFORMS

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ABSTRACT

The article reflects on the well-thought-out and secure architecture of Web-oriented platforms, in what way the standards of its basic technologies meet the requirements of compliance. The availability of software that implements the main capabilities of the .NET platform is highlighted - it allows you to choose this platform as a subject for training students of higher education institutions in the field of software development and use.

KEYWORDS

Security, net platform, NTLM, authentication, authorization, IPS, RADIUS, DCOM, RPC.

INTRODUCTION

One important aspect to consider in platforms that can be used in the educational process is security issues. When called protected software, it is understood that software that ensures the confidentiality, integrity and accessibility of the data of the application client, as well as the integrity and accessibility of the computing resources managed by the owner of the System [1]. Little attention is paid to security issues in the training of specialists in the specialty of Informatics and Information Technology. At the enterprises of the defense industry, the experience of creating complex complexes of high-quality programs observed in the 60s and 80s of the last century has been lost, due to which it is said that “modern young specialists again need to create and master large-scale software tools of the required quality, starting almost “from scratch” [2]. Not all higher education institutions train specialists in the complexification and quality assurance of major projects of the software system. As a result, many plans for creating complex software tools are prepared and evaluated carelessly. When determining the required quality indicators, assessing labor costs, costs and the duration of the creation of software tools, serious errors are much more common and commonplace. ISO 9000 series standards define a Quality Guarantee as “a set of planned and systematically carried out activities necessary to ensure that products or processes meet the specified quality requirements”. We believe that a quality assurance system is a set of methods and tools for giving application complexes features that ensure the satisfaction of certain needs of consumers and customers, as well as the organization of management and executive units of the enterprise involved in the design, development and maintenance of these program complexes with minimal or acceptable consumption of resources.

The quality required when developing software tools can be achieved in two ways. The following methods of their development are presented, which can increase the reliability of programs: sending ready-made objects only for final inspection and testing, and products that do not meet the required

quality to be excluded from delivery or for additional correction; the use of quality assurance regulated technologies and systems of design and development that allow to prevent defects in the process of product creation and modification and guarantee high-quality products [3].

According to the researchers, it is the implementation of quality assurance technologies and systems that is considered a promising method of developing protected software. It should be noted that the training in ensuring the quality of the software to be developed was carried out in the process of its testing. Various and multi-level testing systems have been developed by OTMs, which can and should be used in the creation of software development courses.

Obviously, the skills and qualifications that students acquire after successfully studying general and special subjects with a hole in Information Technology are extremely necessary in the current period. At the same time, it should be emphasized that in special disciplines there is not enough emphasis on creating safe code. It should be noted that secure software is part of quality software. The creation of quality software involves a complex set of methods and standards that directly provide an effective life cycle of complex, high-quality software tools and databases.

To ensure the high quality, reliable operation and safety of application of complex complexes of programs, it is necessary to separately highlight the specialists responsible for compliance, quality maintenance and management of the technology of creation and development of Programs [4].

Consequently, special disciplines are required to train such specialists. One of the main goals of the course "Web-oriented .NET platform" is precisely the training of specialists who create secure code. Let's describe the main security mechanisms available to developers and users of the .NET platform.

1. Authentication. The authentication process is defined as the process by which one object or participant (principal) of a void checks the validity of another object, that is, determines that it is the person it claims. Security participants are users, executable code or computer. Authentication requires evidence in the form of props that can take various forms [1, p.358].

Currently, developers and users of software tools on the .NET platform, working under the management of Windows operation systems, can use the following authentication methods: base Authentication; Windows standard authentication; authentication under the NTLM (NT LAN Manager) protocol; hash-based authentication .

Modern methods of authentication should be mentioned separately. The first method is form – based authentication. This authentication method can be used by developers of ASP .NET Applications. In particular, the performance can be different in different developers. User props can be stored in databases and XML files. The second method is the Microsoft Passport authentication centralized scheme. Its main advantage is that it is not necessary to re-enter data when switching to another Web service that uses Passport to access the Passport Service. Support for this technology in <URL> is implemented in the Passport Authentication Module class . Another modern authentication method is Kerberos v5 protocol authentication. In Windows 2000 and later operation systems, the Kerberos protocol is used to unlock the Active Directory directory service. One of the most important advantages of the Kerberos protocol is mutual authentication, that is, verification can be carried out in both directions: from client to server and vice versa. Kerberos is considered to be more reliable and faster than NTLM.

X.Authentication based on 509 certificates is used in SSL/TLS protocols. In addition, there is also an implementation of customer certificates for working with smart cards. The use of IPSec (Internet

Protocol Security) only refers to server authentication. In addition, it supports the integrity and confidentiality of data. The RADIUS service is used to authenticate remote users.

2. Authorization. Under authorization, an examination is provided in which the range of resources allowed for the authenticated participant is determined and access is granted to them. The .NET platform has the following authorization mechanisms:

- ACL access control lists (a set of access control records, each of which determines what actions the security participant will be given in relation to the resource);
- privileges-a right granted to the user, valid throughout the system;
- IP restrictions related to the features of the implementation of Web servers that can restrict information based on the client'S IP addresses;
- server permissions used in most server software products, which carry lists and permissions for users of these products.

In addition, the developer can use the following security technologies: using SSL/TLS protocols when transferring data over the network; using IPsec; using DCOM and RPC security mechanisms; using Windows encryption file system (EFS) capabilities; using CryptoAPI; Security checks of .NET-Type platforms are carried out automatically when developing applications (when creating traditional desktop or web applications in C/C++ languages, these checks are not carried out automatically, and the programmer must perform a safe citation of types); digital signature of programs (permission of symmetric and asymmetric encryption algorithms to prevent data integrity violations, and the ability to sign created projects); code entry security, with which the developer can specify the privileges necessary to execute the code, the resulting code will not have more privileges than required (the system administrator may not allow access to a particular code to important system resources, as a result of which the code will not be able to access it); user role-based security (developers can specify whether or not to allow these users access to protected resources based on the security groups to which the specified users belong); insulated storage space is a specially allocated space for the user where he can safely store his data and execute the code.

Thus, the main conclusion arising from the analysis of existing Web-oriented platforms is that the well-thought-out and secure architecture of the .NET platform is the compliance of its basic technologies with the requirements of standards . Also, the availability of software that implements the main capabilities of this platform - made it possible to choose this platform as a subject for training higher education students in the field of software development and use.

REFERENCES:

1. Липаев В.В. Обеспечение качества программных средств. Методы и стандарты. Серия «Информационные технологии». М.: СИНТЕГ, 2001. - 380 с.
2. Ховард М., Лебланк Д. Защищенный код /Пер. с англ. - М.: Издательско- торговый дом «Русская редакция», 2003. - 704 с.
3. Шумаков П.В. ADO .NET и создание приложений баз данных в среде Visual Studio .NET. Руководство разработчика с примерами на C#. - М.: ДИАЛОГ-МИФИ, 2003.
4. iSpiftnei. Introduction to Web-services Architecture.<http://www.systinet.com/>.
5. Gayratovich, E. N. (2021). SPECIFIC ASPECTS OF EDUCATIONAL MATERIAL DEMONSTRATION ON THE BASIS OF VISUAL TECHNOLOGIES. International Engineering Journal For Research & Development, 6, 3-3.

6. G'ayratovich, E. N. (2022). It Is A Modern Educational Model Based On The Integration Of Knowledge. *Eurasian Scientific Herald*, 5, 52-55.
7. G'ayratovich, E. N. (2022). The Theory of the Use of Cloud Technologies in the Implementation of Hierarchical Preparation of Engineers. *Eurasian Research Bulletin*, 7, 18-21.
8. Gayratovich, E. N., & Yuldashevna, T. O. (2020). Use of visualized electronic textbooks to increase the effectiveness of teaching foreign languages. *European Journal of Research and Reflection in Educational Sciences* Vol, 8, 12.
9. Ergashev, N. (2021). METHODS OF USING VISUALIZED EDUCATIONAL MATERIALS IN TEACHING PROGRAMMING LANGUAGES IN TECHNICAL UNIVERSITIES. INNOVATION IN THE MODERN EDUCATION SYSTEM.
10. Ergashev, N. (2020). Didactic fundamentals of electronic books visualization. *An International Multidisciplinary Research Journal*.
11. Ergashev, N. (2020). Using the capabilities of modern programming languages in solving problems of technical specialties. *An International Multidisciplinary Research Journal*.
12. Ergashev, N. (2022, May). FEATURES OF MULTI-STAGE TRAINING OF TEACHERS'CONTENT TO PROFESSIONAL ACTIVITIES USING CLOUD TECHNOLOGY IN THE CONDITIONS OF DIGITAL EDUCATION. In *International Conference on Problems of Improving Education and Science* (Vol. 1, No. 02).
13. Ergashev, N. (2022, May). THEORETICAL STAFF TRAINING USING CLOUD TECHNOLOGY IN CONTINUING EDUCATION. In *International Conference on Problems of Improving Education and Science* (Vol. 1, No. 02).
14. Ergashev, N. (2022, May). PROBLEMS OF USING DIGITAL EDUCATION IN PEDAGOGICAL THEORY AND PRACTICE. In *International Conference on Problems of Improving Education and Science* (Vol. 1, No. 02).
15. Ergashev, N. (2022, May). THEORY OF TRAINING OF PEDAGOGICAL PERSONNEL IN HIGHER EDUCATION USING CLOUD TECHNOLOGIES IN THE CONDITIONS OF DIGITAL EDUCATION. In *International Conference on Problems of Improving Education and Science* (Vol. 1, No. 02).
16. Ergashev, N. (2022, May). PROBLEMS OF DIGITAL EDUCATION IN PEDAGOGICAL THEORY AND PRACTICE. In *International Conference on Problems of Improving Education and Science* (Vol. 1, No. 02).
17. Ergashev, N. (2021). METHODS OF USING VISUALIZED EDUCATIONAL MATERIALS IN TEACHING PROGRAMMING LANGUAGES IN TECHNICAL UNIVERSITIES. INNOVATION IN THE MODERN EDUCATION SYSTEM.
18. G'ayratovich, E. N. (2022). The Problem of Training Future Engineer Personnel on the Basis of Cloud Technology in Technical Specialties of Higher Education. *Eurasian Scientific Herald*, 13, 1-4.