

Role of Web Application Security in the Modern Educational Process at Higher Education Institutions

Mariia Kulyk

ORCID 0009-0009-0446-9723

dept. of Computer Engineering and Management

Kharkiv National University of Radio Electronics

Kharkiv, Ukraine

mariia.kulyk1@nure.ua

Olha Myttseva

ORCID 0000-0002-3398-2982

dept. of Philosophy

Kharkiv National University of Radio Electronics

Kharkiv, Ukraine

olha.myttseva@nure.ua

Abstract—The purpose of the presentation is to raise awareness about the security issues of web applications, provide an overview of potential threats, and offer recommendations for effective protection methods.

Keywords—web applications, cybersecurity, web application security, protection methods

I. INTRODUCTION

The role of web application security in the modern higher education process is crucial and cannot be underestimated. Web applications, such as distance learning platforms, electronic document management systems, student accounting programs, and others, provide convenience and greatly enhance the quality of education for students and teachers [1]. However, if the security of these systems is not properly considered, it can lead to significant consequences.

II. WEB APPLICATION SECURITY: REDUCING RISKS AND PROTECTING CONFIDENTIALITY

The main security risks of web applications include system breaches, leakage of confidential information, viruses, and other types of malicious software [2]. Firstly, web application security is important for ensuring the confidentiality, integrity, and availability of the information transmitted and stored within the application. Students and teachers must have confidence that their data is protected from unauthorized access and malicious attacks.

The second most important aspect of web application security is protection against cyber-attacks and data breaches. In today's digital world, where attackers are constantly seeking ways to infiltrate systems, it is essential to have effective security measures in place to prevent data leaks and theft [3-6].

III. CONCLUSION

Therefore, implementing effective security strategies and practices, educating students and teachers about the basics of cybersecurity, and ensuring secure learning environments are important steps in improving the educational process [7-11]. The development of advanced technologies and collaboration between universities and experts are also key factors in ensuring web application security in higher education.

Implementing effective security measures enhances the quality of education and learning experience, allowing students to learn safely.

REFERENCES

- [1] Aspects of Quality Assurance of the Educational Process of Higher Technical Education. / Semenets, V., Chumak V., Svyd I., Myttseva O., Vorgul O., Boiko N. // III International Scientific and Practical Conference Theoretical and Applied Aspects of Device Development on Microcontrollers and FPGAs. 2021 – C. 49–51.
- [2] Web Application Security Challenges: A Case Study of Higher Education Institutions. / Khan H.U., Bilal H.S., Saeed K. // Journal of Computer Sciences and Applications. 2015 - C. 68–72.
- [3] Web Application Security Assessment and it's Adoption in Higher Education Institutions. / Bhatti N.A., Javaid A., Ahmad A., Abbas H. // International Journal of Advanced Computer Science and Applications. 2015 - C. 23–29.
- [4] A Study on Web Application Security in Higher Education Institutions. / Lee K., Lee M., Yoon S. // Journal of Educational Technology & Society. 2010 - C. 13–14.
- [5] Quality assurance system of educational activities. Approved by the order of the rector No 50 dated 02.02.2022 [Access mode]: https://nure.ua/wp-content/uploads/Main_Docs_NURE/sistema-vnutr-zabezp-jakosti.pdf
- [6] The Development of Soft Skills for Professional Activity (Trend or Reality) / Korniienko V., Myttseva O. // III International Scientific and Practical Conference Theoretical and Applied Aspects of Device Development on Microcontrollers and FPGAs. 2021 – C. 23-24.
- [7] N. Franko, O. Myttseva. "Mentoring in IT – the Way to Improve the Skills of a Young Specialist", 2021 IV International Scientific and Practical Conference Theoretical and Applied Aspects of Device Development on Microcontrollers and FPGAs, 2021. DOI: 10.35598/mcfpga.2022.009.
- [8] O. С. Митцева. "Класифікація типів іміджу", Науковий часопис Національного педагогічного університету імені М. П. Драгоманова. Серія 5 : Педагогічні науки : реалії та перспективи : зб. наук. праць. – Київ : Вид-во НПУ ім. М. П. Драгоманова, 2018. – Вип. 63. – С. 121-124.
- [9] O. Митцева, "Професійний імідж фахівця: суть, функції, структура", Zenodo, 2022. DOI: 10.5281/zenodo.1227103
- [10] I. Svyd, V. Semenets, O. Vorgul, and I. Shevtsov, "Aspects of STEM education in the design of devices on microcontrollers and FPGAs," Theoretical and Applied Aspects of Device Development on Microcontrollers and FPGAs 2022, 2022. doi:10.35598/mcfpga.2022.018
- [11] V. Semenets et al., "Aspects of quality assurance of the educational process of Higher Technical Education," 2021 III International Scientific and Practical Conference Theoretical and Applied Aspects of Device Development on Microcontrollers and FPGAs, 2021. doi:10.35598/mcfpga.2021.017