

CUSTOMIZATION OF OPEN-SOURCE SOLUTIONS ON THE EXAMPLE OF LMS MOODLE DISTANCE LEARNING PLATFORM

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Abstract: Open-source software is a vast topic of thought and discussion since its appearance. Many companies and developers did not understand for what purpose this software was developed, and some of them even opposed the existence of such solutions. Others, on the contrary, supported and still support the creation and distribution of this kind of programs, despite their profitableness. One of these programs is Moodle. It is a free web application that provides the ability to create websites for online learning, created in the early 2000s. Anyone can easily create or modify their own learning platform for free and without problems with copyright and licenses. The platform supports a huge number of languages, it is constantly updated and also easy and convenient to customize. The user can add and customize his plugins and add-ons. The system has found wide application in connection with the emergence of COVID-19, since most schools and universities have switched to distance learning.

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As we know, a personal computer is a universal device for information processing. They can perform any information processing action. To do this, it is necessary to compose an exact and detailed sequence of instructions for a computer in a language it understands: software on how to process information. Ada Lovelace, daughter of the famous poet George Byron, is considered to be the very first creator of software. The first programmable personal computer is considered to be the z3 computer, the software was written using machine codes and numerical instructions understandable by the processor for which the program is written. The writing of software as we know it today dates back to the 1950s. It is not known at what point or even the year the first open-source software appeared, however, some people consider the first exchange of programs as such appearance. The most famous bands whose members shared "source" with each other were PACT, SHARE and DECUS. Software is one of the most important and high-speed components of world modern information technologies, systems and resources.

In this article, the reader was invited to familiarize himself with the concept of open-source software, goals, reasons and problems of its creation, while covering the history of its creation and development.

This article also showed software development of CI/CD process of open-source software using gitlab. Moodle, open-source software designed to improve the learning process, was chosen as the open-source product. Third-party modules were introduced into the software, extending the functionality of the original product, placed in third-party repositories: file locations.

Autotesting of the received customized product was carried out. Based on the test results, a product server was deployed and this code was uploaded to this server.

On the grounds described in the article, we can safely say that open-source software not only has the right to exist, but even is needed in the modern market. The reason for this is the ability of users to customize this software according to their needs and desires, as well as the ability to view the source code of the program in order to make sure it is safe. However, a complete transition to free software is not only impossible, but also undesirable. Such a transition could severely hit the economies of most countries, bankrupting corporations, slowing down scientific and technological progress, and also creating the threat of widespread malware, since despite the increased security of free software, if a vulnerability or malicious code is found in it, many users will find themselves threatened by. In addition, free software tends to be rapidly and ubiquitous, as it was noted earlier in one of the previous paragraphs.

Thank you for your attention!