DEVELOPMENT OF AN AUTOMATED SYSTEM FOR PROGRAMMING CONTESTS MANAGEMENT

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Currently, programming contests have become a popular means of education, self-improvement, testing, participant selection and motivation. There is a large number of different contests, among which it is worth highlighting the International Olympiad of Informatics (IOI) [1] - and the International Collegiate Programming Contest (ICPC) [2]. The National School Olympiad in Informatics serves as a qualifying round for IOI.

There are several systems available that provide organizers of programming contests [3] with tools for managing competitions and keeping track of results. Most of these systems include features such as automatic submission and solution verification, score calculation, and ranking generation. However, despite the availability of such systems, there are certain drawbacks that can hinder their usage. For instance, all international and national level competitions are automated, but until 2021, most districts in Moldova organized their competitions

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manually at the municipal level. Currently, the Romanian program Evaluator is used at the municipal level, but it only provides solution verification and comes with several issues.

One of the drawbacks of existing systems for automating the organization of programming contests is the complexity of installation and configuration. Working with these systems requires a certain level of knowledge. Additionally, most of these systems do not support the Windows operating system, which limits their usage among a wide range of organizations. Another problem is the inconvenience or even absence of importing and exporting tasks, participants, and contests. All existing systems do not provide a simple and efficient way to exchange data between different systems or file formats.

The aforementioned limitations of existing systems for automating the organization of programming contests create difficulties in organizing such contests at the municipal level. In light of these drawbacks, a new system called Olymp [4, 5, 6] is being developed to automate the organization of programming contests. The main focus is on simplifying the installation process, providing intuitive management (UX), and enhancing the capabilities of data import and export. The new system aims to provide organizers and participants with tools that will allow them to conduct programming contests more effectively and conveniently.

References:

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