ABSTRACT

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Actuality. In 2011, Stanford University offered free to all who wish to pass three of their courses via the Internet. One of these courses was attended by about 160,000 students from 190 countries. That's how the public learned about the new format of massive open online courses (MOOC) - a combination of free video lectures, best teachers, interactive assignments and discussion forums for learning materials.

MOOC platform gets a lot of information about users and their behavior during the course. Based on this information possible to construct useful for teachers, students and staff infographics to help understand better trends in online education. Moreover, these data can help you understand which factors affect student success. This paper is the considering problem of predicting student performance.

Connection with academic papers, plans, themes. The work was done at the branch of the department of automated data processing systems and management at the V.M. Glushkov Institute of Cybernetics NAS of Ukraine within the research topic "Development of methods and algorithms for parallel and distributed computing for the researching of mathematical models with sparse data structures" (state registration: 0114U002091).

The goal of the research is to build an effective analytical system platform online courses that can solve computational problems in a reasonable time for the user.

To achieve the goal the following **task** should be performed:

- perform the overview of known methods of formalizing user's behavior;

- perform a comparative analysis of mathematical models used in modeling user's behavior;

- perform a formalization of the problem of determining the user's behavior in online courses with a large number of input;

- to compare methods of parallelization approaches for classification and clustering;

- develop a software implementation of the algorithm for prediction with large amounts of data;

- to compare received results with the efficiency of modern approaches of Big Data.

The object of the research is the process of separation of user's behavior for online courses.

Subject of the research is classification methods and approaches for implementing parallel algorithms for online courses.

Research methods - statistical analysis, stochastic programming.

USER BEHAVIOUR MODELLIING, MASSIVE OPEN ONLINE COURSES, PERSONALIZED LEARNING, CLASSIFICATION, CLUSTERING, PARALLEL ARCHITECTURE