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Development of a cartographic service for
the optimal placement of infrastructure
facilities

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ANNOTATION

This thesis is aimed at the development of a cartographic service for the optimal placement of infrastructure facilities. The goal is to design, develop and test an application that provides recommendations for the profitable opening of a pharmacy business in the city of Taganrog. These recommendations take into account the weighting coefficients of the optimality criteria specified by the user.

The first section of the thesis contains the analysis of the task and the subject area. Based on this analysis the requirements for the application were extracted. An analysis of existing analogs was also carried out. Software implementation embodies the development of MVC-based architecture, a user interface, and program components. Particular attention was focused on application testing. For this purpose, test cases were developed, unit tests were written, and the program was profiled. In the section of the feasibility study, development costs were calculated, methods of recoupment were considered, and the relevance of the development of a cartographic application was substantiated.

The application was implemented in C# programming language using the Microsoft Visual Studio 2017 development environment. The GMap.NET library was used to develop the map application.

The thesis consists of an introduction, five chapters, a conclusion, a bibliography, and five appendices.

The thesis was successfully approved at three student conferences and publications were published in the proceedings of these conferences.