From the graph it follows that the manager should hire three masters to ensure the maximum profit of the beauty center.

Conclusion. When organizing a beauty center, it is advisable to conduct its simulation in advance with the help of mass service systems in order to pre-calculate the parameters of the salon.

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UDC 004.9:519.8

USING GIS TECHNOLOGIES FOR SOLVING OPTIMIZATION PROBLEMS IN HUMANITARIAN LOGISTICS

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The efficiency of humanitarian logistics is crucial, especially in emergencies or when distributing limited resources. A key task is optimally placing collection centers to minimize distances and costs. This task is complex due to various criteria, such as estimating the number of users and considering the service market's characteristics. There is a need for further research on developing methods for analyzing and evaluating locations. Decisions should consider regional features like population density and road network density. Traditional methods may not account for all real-world aspects, leading to unsuitable locations. Geographic Information System (GIS) technologies are vital in addressing these challenges, as they enable the consideration of geographical constraints in the planning stage [1]. Integrating optimization algorithms with GIS can enhance the process of determining efficient and practical locations for collection centers.

Determining the optimal locations for collection centers requires considering various criteria [2], among which are:

1. Minimizing delivery and organizational costs: minimizing the transportation costs to and from the collection centers is critical for the efficiency of logistics operations.

2. Minimizing delivery time: the speed of response and ensuring the availability of resources in the shortest possible time are important for humanitarian missions and emergency situations.

To achieve these goals, to achieve these goals, the authors [3] chose an approach that involves modeling the process of placing logistics centers while simultaneously determining their service areas in the form of continuous optimal partitioning problems with a linear functional, describing the total (across the considered region) distance from potential clients to the nearest centers. Applying duality theory to such problems reduces them to minimizing an auxiliary non-smooth function of several variables, which is solved using the subgradient method [3].

Let's consider the functionality and features of modern GIS technologies that should be used in the planning stage of logistics processes (evacuation, distribution of material resources, etc.):

Firstly, identifying potential locations (POI): GIS technologies allow identifying Points of Interests on the map [4], which can serve as potential locations for collection centers. For example, in an urban area, hospitals, schools, or administrative buildings can be chosen to ensure accessibility and convenience of location.

Secondly, applying geometric constraints: GIS allows defining the boundaries of areas, which is important for excluding places on the map that are unsuitable for location due to geographical or legal constraints. Thus, one can define the boundaries of a city or district and use this data for planning, prohibiting the use of points that fall outside these boundaries as potential locations for logistics centers.

Thirdly, applying the Reverse Geocoding algorithm [5]: this technology ensures the accessibility of collection centers. Reverse Geocoding helps find the nearest point on the road if the selected point is not available, or find the nearest accessible object for given coordinates, ensuring its suitability for vehicles.

A key feature and advantage of modern GIS technologies is the ability to obtain data on population density in specific points of the region. Knowing the population density in each area allows estimating the potential demand for resources in collection centers. This helps avoid situations where some centers are overcrowded while others have insufficient resources. Using GIS to analyze population density facilitates planning the placement of collection centers in a way that ensures optimal loading and efficient use of resources. Additionally, analyzing population density can identify areas with high risk or need for additional collection centers, allowing for a quick response to changing conditions and providing an adequate level of support for affected communities.

Thus, integrating population density data into the planning process allows for a more balanced distribution of resources and reduces the risk of overloading individual collection centers.

The use of GIS technologies enables the formation of an approach to solving the problem that ensures the optimal location of collection centers, considering the locality, and guarantees that the found locations can be used, rather than being just abstract points on the map.

A practical approach to solving the problem of optimal location of collection centers is based on the integration of optimization problem-solving algorithms with the capabilities of Geographic Information Systems (GIS) and includes the following steps:

1. Using GIS to determine the locality. Initially, GIS technologies are used to identify the locality where the collection centers need to be located. These can be urban areas or small towns. At this stage, geographical and legal constraints are considered.

2. Identifying areas where the location of collection centers is prohibited. Areas that are unsuitable for the location of collection centers are identified, such as uninhabited places without roads, industrial zones, private houses, and households.

3. Applying the subgradient descent algorithm, which is used to find optimal points for the location of collection centers. With each attempt to place an object, a projection of prohibited points is made: if a point does not belong to the allowed places or belongs to the prohibited ones, then a projection of the point to the coordinates of the nearest allowed location is performed.

4. Using GIS to find the nearest places. After finding the optimal placement points, GIS technologies are applied to determine the nearest places that meet the established criteria. For example, if the criterion is location in administrative buildings or hospitals, then each point obtained using the optimization problem-solving algorithm is moved to the nearest point on the map that belongs to the chosen POI category.

5. Ensuring accessibility. Technologies such as Reverse Geocoding are used if necessary to ensure the availability of access to the selected points on the map.

Thus, the described practical approach allows for the optimal location of collection centers considering the locality and ensures that the found locations can be used for humanitarian or logistical needs.

Conclusion. The research confirms that integrating minimization problem-solving algorithms with modern GIS technologies is an effective approach to optimizing the location of collection centers in humanitarian logistics. The use of GIS allows considering geographical constraints and identifying practically suitable locations for collection centers, which contributes to increasing the efficiency of logistics operations and reducing the time and costs of delivery.

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UDC 658.5

AGILE FRAMEWORKS. NEXUS FRAMEWORKS FOR SCALING SCRUM

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Overview

Agile is a project management philosophy that employs a set of principles and values to help software teams respond to change. Agile teams value individuals and interactions over processes and tools, working software over comprehensive documentation, customer collaboration over contract negotiation, and responding to change over following a plan. These values were set down in the Agile Manifesto along with 12 principles behind the manifesto [1].

An agile framework is a set of rules, processes, roles and practices that enable agile working in project management and product development. It provides a clear structure and approach to using agile methods in an organized manner.

Agile frameworks are based on the four agile values: customer centricity, adaptability, impact and connection. With these as a foundation, they define a