Geoinformation System for the Organization of Recreational Fishing

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Abstract. In the article, an implementation of the geoinformation system for the organization of recreational fishing. Means and methods, based on which this system is implemented, are analyzed in detail. A diagram of the main business process of this system was developed. The purpose of the software and the prospects for research in this field are determined. A prototype of the geoinformation system for fishing was also created. The results will allow users to choose a fishing location and provide advice to other fishermen. The developed system has an intuitive user interface. PEST analysis of this system is also studied.

Keywords: geoinformation system, fishing, recreational fishing, resource.

Fish stocks are renewable resources. Such resources can be exploited forever, provided that their ability to self-renew is not carefully destroyed [1]. This requires resource management; that is, they must be stored to such an extent that the resource base can exist in the long run.

A prerequisite for managing any particular resource is that someone has the right and the means to control access to it. Clearly defined ownership of the resources ultimately secured through the state's legislative and judicial systems is the usual way this is done. In this respect, fish stocks have become a notable exception [2]. Most fish stocks are traditionally common property that anyone could freely operate.

Scientific and technological progress has led to the emergence of more and more sophisticated software for the creation of geoinformation systems, applications, and digital mapping materials, based on which spatial analysis tools are improved and new communication tools are developed. Modern GISs work on numerous hardware platforms with various operating systems and database management systems (DBMSs) [3], which are connected by communication networks. In this case, data processing is performed in such a way that, for the user, the management of the remote database is not logically different from the management of the local database. Remote database work is done by sending a user a custom request.

This paper presents a geoinformation system for organizing amateur fishing in designated areas. The project implemented the formation of information for fishing.

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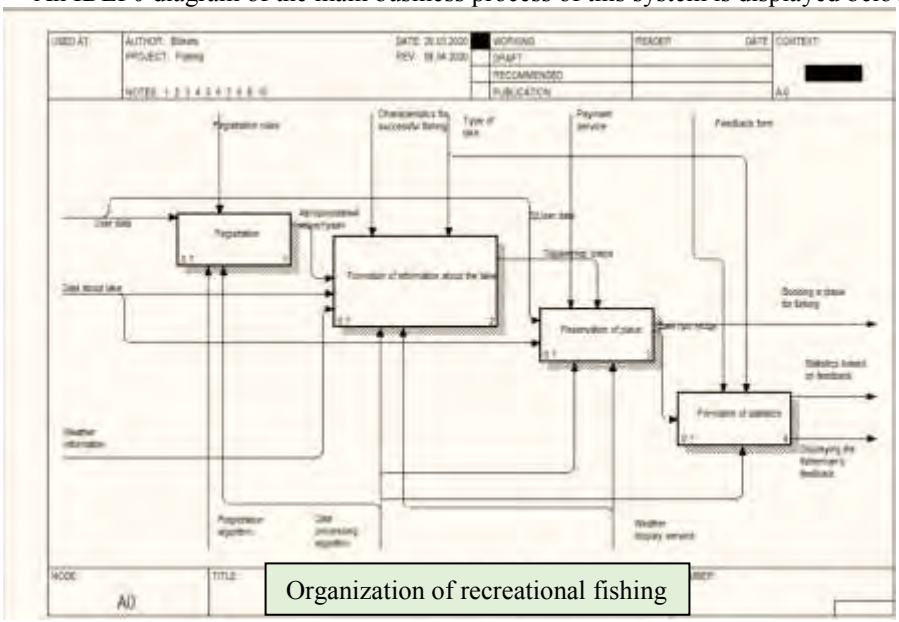
The system provides the opportunity to choose the location for further organization of the fishing itself, as well as to pay for the fishing location. In the case of a camping site, there are facilities for further booking by the user. The system provides the ability to determine the probability of a catch using the parameters of the weather and the characteristics of the lake. Based on reviews, we create statistics for the lake. The whole interaction of the user and the system can be accomplished by selecting the functions provided by the operation of the geoinformation system.

An IDEF0 diagram of the main business process of this system is displayed below:



The development of the geoinformation system for the organization of recreational fishing will lead to several improvements in different spheres of the local public. In the political sphere, it can change the legislation in terms of state regulation of competition in the fisheries sector. In the economic sphere - the development of such a system will also produce positive results that support the social activity of the population, change in styles and standards of living, and improve the attitude to work and hobbies. As for the social aspect, the software aims at reducing the cost of communication and organizing outdoor activities. And from the technological point of view, it can ensure the development of fishing in the automated space, increase the development of information technology for opportunities for active leisure.

References

1. Copes, P. , Fisheries management. Can.J.Reg.Sci., 2014,6(1).
2. Berkes, F., Local level management and the commons problem. Mar. Policy, 2013.
3. Pavlenko L., Geoinformation systems: a textbook. - H.: View. KNEU, 2013. - 260 p.