DEVELOPMENT OF MANAGEMENT SYSTEM OF CITY PASSENGER TRANSPORTATION SYSTEM USING GEOFORMATION TECHNOLOGIES.

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РАЗРАБОТКА СИСТЕМЫ УПРАВЛЕНИЯ СИСТЕМОЙ ГОРОДСКОГО ПАССАЖИРСКОГО ПЕРЕВОЗКА С ИСПОЛЬЗОВАНИЕМ ГЕОИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ.

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Annotation: It is about the prevention of congestion of the population and passenger cars in the city of Namangan, as well as the application of geoinformation technologies in the territory of Uzbekistan using foreign experience, the development of measures to prevent various inconveniences.

Keywords: Geoinformation, city, electronic, raster, vector, GIS, ITSGIS, information, Tissen, model, GPS, technical, Data Mining, passenger, intellectual, telecommunications, site, tool, automation, measures, internet, navigation, route.

Аннотация: Речь идет о предотвращении скопления населения и легковых автомобилей в городе Намангане, а также о применении геоинформационных технологий на территории Узбекистана с использованием зарубежного опыта, разработке мер по предотвращению различных неудобств.

Ключевые слова: Геоинформация, город, электронная, растровая, векторная, ГИС, ИТСГИС, информация, Тиссен, модель, GPS,

техническая, Data Mining, пассажирская, интеллектуальная, телекоммуникационная, сайт, инструмент, автоматизация, меры, интернет, навигация, маршрут.

Introduction. Geoinformation technologies are aimed at the practical application of data expressed in the form of electronic mapping systems and data processing environments of various natures. The main class of geoinformation systems consists of coordinate data that store geometric information and reflect the spatial aspect. The main types of coordinate data are: point (nodes, ends), line (open), contour (closed line), polygon (sphere). In practice, a large amount of data is used to build real objects. These are: hanging point, pseudode, normal knot, coating, layer, and so on. These data types have different relationships to each other. Vector and raster models form the basis of visual representation of data using GIS technologies. Vector models are based on the representation of geometric information using vectors. In raster models, the object (region) is reflected in the spatial cells that make up the periodic table. Each cell of the raster model has the same level of parts, but different in characteristics (color, density). This procedure is called scaling. Raster models are regular, irregular and recursive or hierarchical. There are three types of flat regular mosaics: square, triangular and hexagonal. The square shape is convenient for processing large amounts of information, creating triangular spherical surfaces. Irregularly shaped triangular grids and Tissen polygons are used as irregular mosaics. [1]

Figure 1. The structure of the geoinformation system.

Methodology: Taxonomy models based on object-oriented design of the instrumental environment aimed at the development of complex systems in the activities of transport infrastructure are used as a methodological and informational basis for the construction of geoinformation management

systems. ITSGIS smart transport geographic information system is a tool for geodata storage and processing, with great potential in the field of rational decision support. ITSGIS programs are based on network-oriented management tasks. ITSGIS intelligence is provided by the presence of neural network technologies in functionality. One of the ITSGIS subsystems is the dislocation system of vehicle management techniques in the thematic layers of the electronic map, which is designed to verify the correct installation of the road map and traffic lights. In intelligent transport, the system for locating accident concentration locations on a map implements methods based on the use of intelligent Data Mining technology. The geoinformation component of ITSGIS tracks the geographical objects (polygon, line, point) of the electronic map.

As part of the assessment of the reliability of the transport network, a special method of obtaining and analyzing GPS tracks was developed, which is as follows:

- Record tracks along the route

Passenger car equipped with GPS-navigator;

- export tracks for different hours of the day and redirect the days of the week to the Microsoft database

Excel;

- use and speed of statistical tools for estimating travel time;
- Graphs based on Microsoft Excel database: calculation of speed dependence on distance, distance dependence on time.

To implement this technique, we used data obtained using a GPS-navigator. The passenger car movement schedule is based on the data obtained. Such universality is due to the fact that neural networks provide a standard way to solve many non-standard problems. Perhaps a program that specializes in solving a particular class of problems may be better, however, it is very important that one neuroimitator solve a problem of one class or another. [2]

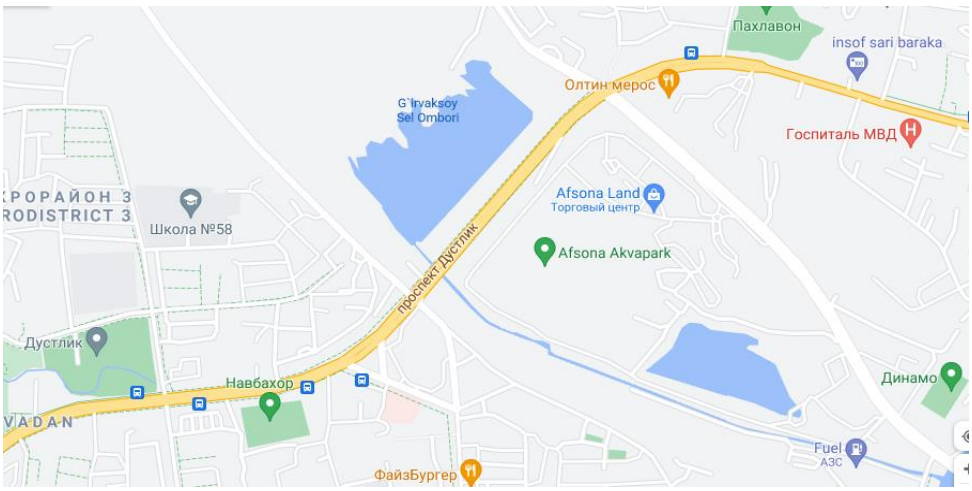

Figure 2. Namangan city route planning using GPS navigator.

With the help of this system, ie GPS navigator, we can prevent traffic jams by calculating the population density by introducing a program that automates the system of passenger transportation through the city of Namangan.

Analysis and results: Improving the quality of services provided to the population through the use of information and telecommunications technologies, the introduction of a system of remote control of rolling stock (GPS) to ensure compliance with traffic intervals and traffic schedules. Strengthening public control over the work of urban passenger transport, receiving SMS messages to take prompt action on citizens' appeals, complaints and suggestions related to urban passenger transport service organization. As a result of the creation and implementation of an automated system for recording information on the number of vehicles, including the number of vehicles, their condition, spare parts and other material assets, it will be possible to provide full information to the population. ladi. As a result of this work, we will make a significant contribution to the development of passenger transport in the city.

Discussions: In order to bring existing railway stations in line with international norms and standards (access to wireless Internet, electronic queues at ticket offices, centralized passenger notification system, security measures) to ensure the necessary convenience and safety of passengers , to create convenience for passengers with disabilities or those traveling with heavy luggage) modernization and equipping. By posting information on a special site, developing and implementing a system of notification of public transport activities, providing free access to databases on routes, schedules, services and other necessary information for the population and passengers. Increase the level of information provision for hunters. [3]

In short, we need to make extensive use of automated GPS to improve the city's passenger traffic. This is mainly due to the convenience of passengers, which means that we are constantly informed in the case of automated bus or passenger transport, so that we can know in advance the desired direction. In addition, as a result of the introduction of navigation systems and the introduction of remote control of moving vehicles (GPS), taking into account the provision of communication to drivers of vehicles, we can instantly find out which direction is on the Internet.

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