

THE MAIN ASPECTS OF ROUTE PLANNING IN NAVIGATION SYSTEMS ON THE EXAMPLE OF THE COMPANY «HERE TECHNOLOGIES»

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This study is aimed at establishing the foundations of the scientific and theoretical base of navigation mapping. Navigation mapping is one of the leading areas in cartography, which has been rapidly developing thanks to satellite and digital technologies. Navigation mapping activities resulted in navigation applications for motorists, for a wide range of consumers, various emergency services, fire departments, ambulance services. This wide range of navigation applications is used via smart phones, personal computers, walking and hand-held navigators. In addition to orientation on the terrain, the navigation system allows routing: to calculate the shortest or most profitable route, to guide you along the route. Road routing works in accordance with the algorithm based on previously created road graph. The route is built according to certain rules, taking into account the static attributes of the road network and dynamic geospatial factors. These aspects of routing are covered by the example of HERE Technologies. HERE Technologies is a large international navigation company for the creation, updating and use of navigation charts. The article also discusses the main static attributes of the navigation system, which are involved in building a route both online and offline; analyzed the main dynamic factors of geospace, influencing the construction and adjustment of the route. The research uses the cartographic research method, the routing method and the basic concepts of graph theory.

Keywords: navigation cartography, navigation map, navigation system, road graph, routing, attributes of the road network, shortest path, dynamic factors of geospace, algorithm, calculating the route

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