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Research on design and implementation of leisure sports tourism planning system based on geographic information system

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ABSTRACT

Leisure Sports tourism is the product when human material and spiritual civilization developed to a certain stage and it is a social and cultural events and leisure activity. With the rapid development of today's society, the increase of people's income and the exaltation of people's living standards, people's way of life gradually change from the basic material needs into mental needs of health, family and psychological experience. The outdoor sports and travel has become the pursuit of modern fashion. At the same time, leisure sports tourism has gradually developed into a sunrise industry in today's society with broad market space and huge development potential. Therefore, the planning of leisure sports tourism has become the shackles bottleneck of leisure sports tourism development. In recent years, the rapid development of leisure sports tourism makes the traditional tourism resources survey, assessment, analysis, planning and management methods cannot meet the needs of multi-level user, and therefore, it is necessary to introduce advanced technology - geographic Information system (GIS).

KEYWORDS

Leisure sports tourism; Planning system; Geographic information system; Design; Implementation.

INTRODUCTION

Leisure and sports tourism resources are conferred or nature exist in human society, through the development and utilization to attract tourists interested in leisure and sports needs, has to relax, relieve stress, return to natural features, and can produce economic, social , cultural and ecological resources of the sum of all kinds of benefits. It has attractive, ornamental, fitness and entertainment such three functional benefits. With diversity, historic, regional, seasonal, cultural, educational and participatory features such as the presence of economic, social, ecological and effects of cultural development in four areas.

Geographic information systems are developed in the late 1960s and it has caused world-wide attention technologies. GIS is a decision support system is built on a unified geographic coordinates based on the spatial database model to analyze the use of geo-spatial data, spatial information environment, resources management, analysis, real-time offers a variety of space, dynamic geography information. In addition, tourists as the main tourist tourism consumption demand and tourist information influence decision-making processes and spatial behavior of tourists. The information before the departure time from tourists need to travel are many, in addition to traditional sources of information, more and more tourists want to work with representatives of the prospective Internet information highway for convenient, timely obtain high reliability the tourist information. GIS spatial analysis system to selectively collect all kinds of information, and analysis provided for tourists to make decisions, to prepare before and after travel, tourism activities performed satisfactorily provide online help to stimulate tourism potential consumers, which is established one of the main objectives and tasks of GIS spatial analysis system[1].

The concept of leisure sports tourism

Sports tourism is to meet the needs of a variety of sports, to a certain sport resources as the basis, in order to participate in sports activities have significance for the primary purpose or content of tours and excursions way. Leisure and sports tourism is not a leisure sports, sports tourism, leisure and tourism simple sum of the three, but the organic integration of the three inner texture is the meeting point of three trends, the overall performance of the energy produced is greater than the sum of the parts sum. Tourism and Sports of marriage, will effectively promote the diversification of recreational sports, social, popular. Leisure and sports tourism as a new form of tourism, the future will have broad prospects for development. On the basis of study of many scholars on the definition of the concept of the three, I believe, leisure sport tourism refers to people in the pursuit of physical and mental freedom, health and returning to nature, and actively participation in the special outdoor sports tourism. Leisure and sports tourism is not a simple form of sport, but also different from the traditional forms of tourism, leisure and sports tourism collection of leisure sports, sports tourism, leisure and tourism among the features and kernel in one, is a way to travel, sports , a special form of cultural tourism, leisure, entertainment, interpersonal closely together.

The characteristics of leisure sports travel

(l)The pursuit of freedom. The purpose of leisure sports tourism is the tourism body for the pursuit of physical and mental freedom. People go out to leisure travel, is actually so tired soul to be free, to relax, to relieve work, study and life stress.

(2)The hope for health. Fast-paced life and work, to people's health caused great threat, involved in recreational sports tourism activities, both the release of the soul, but also physical fitness, people thereby obtaining good health, happy life.

(3)The returning to nature. Leisure and sports tourism relies on the natural environment, emphasizing the ecological environment of their activities, and meet the people's pursuit of the meaning of life - back to nature, trying to understand the psychological needs of the entire world.

(4)The Travel. Leisure sports tourism is one of the leisure ways which is that people offsite leisure travel, access to spiritual freedom and physical relaxation and healthy leisure, asking people to go outdoors and back to nature, to achieve freedom, health, entertainment purposes.

The application and development status of GIS in the tourism industry

In China, the overall application and development status of GIS in tourism is still relatively backward. Research is currently established at the provincial level and put into operation less better system, typically as Yunnan Province, on its travel network, there are relatively abundant tourism information, but the expression of spatial information in travel and tourism for sustainable development side also seems to be rather weak, even though most provinces have information systems, information is quite poor, or not even a simple computer sites are not, they clearly do not fit the requirements of today's information age, the development of tourism. In addition, examples of regional tourism development of Geographic Information System established in the country, although there are many, but there are shortcomings and deficiencies in various forms, such as the seamless integration of spatial data and attribute data on the implementation and management information systems (MIS) systems management quickly realized find spatial data, ground-dimensional display, the seamless integration of multi-source data, the best tourist circuit design, load and other multimedia information, are very difficult to meet the actual needs of the user[2].

The advantage of GIS in the leisure sports travel planning

(1)It can quickly collect and input geographic tourism data (tourist maps, travel thematic data, photographs, video, sound, etc.) in a variety of ways.

(2)It is able to unified manage and maintain travel geographic database (spatial database, tourism thematic databases, etc.).

(3)It can quickly modify and update obtained travel information and supplement to travel geographic database. And it has data compatibility with other information systems which makes it can data exchange with other information systems.

(4)It not only through data visualization software to travel geographic database for processing, in order to effect a similar general tourist map displayed on the screen, window zoom, roaming, fast switching between different scales and map projections; but also to various multimedia information superimposed on the electronic map, increasing the amount of travel information acquisition.

(5)The most important feature of GIS unlike most tourist maps and e-tourism map of is that it provides users with a multimedia query and analysis capabilities. GIS not only can query the single tourist information, you can also check more complex travel information. GIS analysis functions can even be based on the number of tourists, the time, the economic capacity of the actual situation, different tours designed for users of different attractions for reference selection.

(6)It is able to query and analyze the results and generate a variety of thematic maps, tables, etc. for screen display, print or plot output.

(7)It provides general tourist maps and multimedia electronic map production means. According to user needs, through the Tourism Geography data in the database editor, fast output map, print publishing, greatly shortening the production cycle is generally the tourist map, and improve the current situation of the map. It also can burn data software and tourism geography database to disc, made into a multimedia CD-ROM.

The GIS-based leisure sports tourism planning process

Travel planning is derived from the regional planning theory and management science theory out, is specific regional tourism development around the topic of layout, macro-control systems engineering, has its vertical and horizontal linkages, is an integral part of the regional planning system , is also planning area tourism development, tourism and resource development activities such as guidance and basis. On the whole the planning process has to go through three phases. They are preliminary investigation, medium-term planning, post-implementation.

(1)Survey and evaluate the resource. It namely tourism resources survey, evaluation and compilation of basic data collection stage. Information entered into the computer initially built on the basis of tourism planning information base, which is the basis for GIS assisted planning requirements, maximum workload. The qualitative and quantitative evaluation is a key point. Qualitative evaluation can be assisted in the screen display, quantitative mathematical model is established and programming. Auxiliary GIS helps quantification, the evaluation more objective and reasonable.

(2)Prepare a planning framework. GIS at this stage in addition to providing basic information to query, analyze and evaluate relevant assisted, should also build predictive models for environmental capacity, tourists and other analysis and forecasting. While taking advantage of the powerful GIS mapping and graphics management, display the outline of the envisaged simulation display and provide an outline of the status quo map and plan the necessary sketches.

(3)Master plan. GIS at this stage still provides fast query and statistics related information. At this stage, another major task of GIS is to complete the general rules relating to the production of maps. GIS powerful charting features an auxiliary master plan drawings, commonly used GIS software has a dedicated graphics subsystem provides a map editing toolbox. GIS is a computer aided drawing the most practical significance in the application of general rules, so that the total regulatory mapping from the traditional drawing board, saving a lot of manpower and material resources. Meanwhile, GIS provides planning results in electronic form, for example, reported using computers for multimedia presentations, making the assessment more vivid.

(4)Decide the program. In assessing GIS provides presentation capabilities, and provide on-site information database query and analysis by answering questions related to the experts. Meanwhile according to the assessment sense, we finished modifying the planning maps until approval. This phase of work needs to spend some time, human and financial resources, so as a separate stage. This stage is the implementation of the overall regulatory scheme for the management of scenic spots, while outward publicity and attract tourists. On the basis of available information base on GIS, production area management information system to improve management efficiency; making travel service information system, to visitors and provide appropriate counseling propaganda.

The implementation of GIS-based leisure sports tourism planning system function

(1)Data integration and updates. Integration with database update is very important, because the economy is developing, things are changed, the input data cannot be static, it is necessary to achieve one of the vitality reflect real-time updates .GIS data in its data updates, if the software data cannot be updated, its role is merely an "electronic atlas" and cannot reflect the actual situation of course, you can set permissions for user modification, the average user can not modify the records. use of GIS can be relatively easy to complete above tasks, but more important is the updated data and comparative analysis of the original data, allows users to get important information such as the user can be a month of tourists each region stored, if necessary, can be carried out to determine the longitudinal comparison regional tourist season in order to strengthen coordination.

(2)Thematic map production. GIS capabilities performance data on a map for all types of users is very attractive. Thematic maps are generally used to display the contents of the location of the different elements of the properties and activities, or related activities, or to display and attribute information. It can be divided into three basic forms, namely planar graph, line graph, and dot map. According to the conventional thematic maps can be divided into point-like figure, line charts, pie charts, range maps, contour area map and so on.

(3)Data Query. The data present in the system, most of the spatial data, which means that a data record comprises an address or a point in the area of the positioning system allows the use of query methods are: location query attribute query, select inquiries and structured Query Language (SQL) queries. Locate queries that the user through a mouse click on the map layer and call function to display query information in real time. Attribute query that the user can ask for qualifying feature attribute the results to show demand, prompts users of some relevant information. Selection query can not only see the results of the query table lists and dialog boxes, you can see the query results indicated on the map. and data queries based on the needs of users, such as the tourism sector would like to know annual tourists the number more than 100,000 people in areas through human-computer interaction, in line with user needs in areas designated on the map is different from other color or size blinking out, and gives detailed information for reference. System also supports multiple different types of conditions complex queries[3].

In this operation, the user of the map as a query tool, not just a data carrier, a model of operating space in the query, the user will be displayed by determining the spatial extent of the map to access the database. At this time, the system will look in the database the results of those records fall in the query window, and will meet the user requirements are displayed in tabular form report, such as the present system, the tourism sector would like to know within a given region m radius of the area, the number of tourist hotels and grade , can be selected by dragging the mouse as the center point on the map display area of the radius of the circle m this case, where the elements in the circle to meet the requirements are different colors, form or size is displayed, and the corresponding region detailed form instructions.

(4)Overlay analysis. Overlay analysis is a unique feature of GIS, GIS is different from other information systems major mark, which provides abstract data types and object types overlay analysis of the mathematical model, the same area, with the scale of two or more sets of graphical elements superimposed as the use of regional climate, hydrology, vegetation, transportation and other graphics overlay analysis, analysis of regional tourism environment and tourism environmental Assessment.

(5)Analysis the buffer. The buffer is drawn around the feature elements of fixed-width region, the buffer point is the pie, line buffer is a multi-banded, buffer is greater similar polygons. Buffers for the establishment / Impact zone 0 is essential, such as: to establish a scenic tourist path through the buffer analysis, the user can determine the channel on both sides need to beautify the area and the construction of the channel needs to occupy the number of various tourist sites and so on.

(6)Travel expert advice. The system uses the popular expert advisory systems, including databases, knowledge base, model base and method library. Database includes regional profiles, travel information, etc. to the renowned tourist expert knowledge for knowledge objects for consultation. Model library using the current Tourism analysis model analysis methods, mathematical models and geographic information systems, such as tourism resources evaluation model, tourist flow forecasting model, travel demand forecasting, AHP, multi-factor model analysis, etc. can be smart by regional tourism resources evaluation method library, predict areas (spots) the number of visitors, the best tourist route selection, environmental capacity estimation, and other tourist attractions, tourism planning, management and decision-making.

CONCLUSIONS

The applications of geographic information system technology in leisure sports tourism planning, reflects its many advantages and great potential. The system can quantitative study the travel issues, many influencing factors are stored in digital form. Information is digitized electronic stored on your computer in the form of information, which is easy to modify and reusable and it also can store and manage multiple data, to ensure the accuracy and precision of management of sports tourism planning. GIS has a powerful spatial data processing and multi-computing capability for kinds of data. And it can generate a lot of useful information using the basic elements to conduct a comprehensive analysis to provide recreational sports tourism decisions. Additionally it can timely update data so that it can be better, more convenient and efficient services for the leisure sports travel.

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