Discussion on the Application of Computer TGIS in Promoting the Development of Tourism Economy

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Abstract. With the rapid development of computer technology, GIS technology is more and more mature, which has been applied to many fields, such as tourism. With the continuous improvement of people's living standards, the society pays more and more attention to the travel industry, which makes people have higher and higher requirements for TGIS. Through TGIS, people can get a variety of tourism products and related services, which will promote the development of tourism economy. Therefore, it is of great significance to study the role of TGIS in promoting tourism economy. Firstly, this paper analyzes the development principle and important functions of TGIS system. Then, this paper analyzes the important application of TGIS in the field of tourism. Finally, some suggestions are put forward.

Keywords: Computer Technology, Tgis, Function, Tourism Economy

1. Introduction
With the acceleration of economic globalization, China's industrial structure is gradually upgrading, which deepens the rapid development of China's tourism industry. When traveling, there will be many problems when tourists face unfamiliar areas, such as hotels, restaurants, scenic spots, routes and so on, which leads to some concerns about tourism¹. With the rapid development of TGIS, people can accurately find all kinds of information through mobile devices, which provides a variety of services for tourists. In 2019, the number of domestic tourists reached 6.006 billion, an increase of 8.4% over the same period of last year. The comprehensive contribution of tourism to GDP is 10.94 trillion Yuan, accounting for 11.05% of the total GDP². Therefore, China's tourism industry has entered a stage of rapid growth. With the rapid development of tourism, we need to do a good job in tourism publicity, which will improve the popularity of tourism resources and attract tourists. At the same time, tourist cities should provide high-quality tourism services, including food, housing, transportation, tourism, shopping, entertainment and other activities. With the rapid development of computer technology, TGIS technology is becoming more and more mature, which can fully meet the requirements of tourists³. Through computer technology, database technology and spatial information system technology, we have established a good TGIS, which has realized the digital management of tourism.

2. Research status of TGIS
2.1. Research status of TGIS abroad
Tourism industry has a strong dependence on information acquisition and output, which requires us to obtain tourism related information. In the 1980s, tourism managers began to explore the ways to obtain and transmit tourism information, which led to the emergence of tourism information system. Tourism information system is a way to receive and transmit data by installing terminal equipment of information system in scenic spots and public places. In this way, tourists can get a variety of information about scenic spots in different places, which is composed of detailed information database, such as tourism resources, tourism facilities, geographical environment, etc. With the rapid development of computer technology, tourists put forward higher requirements for tourism information and services. GIS has gradually become a new technology and has been widely used, including tourism[4]. In the 1990s, foreign countries began to integrate GIS technology and tourism information management, which can make better use of the geographic analysis and spatial data management functions of GIS. Through GIS, we can provide electronic map and spatial attribute support, which can better analyze and manage data, such as shortest path analysis, buffer analysis and so on. At present, many countries in the world have established tourism information systems based on different information technology and different levels of users, which has begun to realize the sharing of tourism resource information. After years of development, foreign TGIS research has become mature, which has integrated a variety of technologies, such as remote sensing technology, GPS, communication technology and so on[5].

2.2. Research status of TGIS in China
China's tourism industry started late. In the 1980s, China began to study tourism information system. However, in the 1990s, GIS technology was fully used in the tourism industry. At present, there are still many problems in TGIS in China, such as the single structure and insufficient performance of GIS software, which can’t meet the information needs of users. Subsequently, China established the regional tourism geographic information system, but there are various shortcomings and deficiencies. Through the seamless integration of attribute data and spatial data, China has realized the combination of management information system and spatial attributes, which can realize the function of spatial data search and 3D display. At the beginning of the 21st century, China has realized the seamless integration of multi-source data, which can better formulate the best tourism route. In short, the application and development of GIS in China's tourism industry is still relatively backward, which requires continuous research on the expression of tourism spatial information and sustainable development of tourism[6].

3. Development method and function of TGIS
3.1. System design of TGIS
TGIS is a special geographic information system, which is the application of GIS technology in tourism source management. TGIS can be divided into various modules according to functional objectives, which will determine the components of the system, as shown in Figure 1.
3.2. Functions of TGIS

Tourist attractions information service is the main way to attract tourists. Therefore, TGIS needs to provide powerful query and retrieval function, which is not available for ordinary tourism maps. Through the query and retrieval function of TGIS, tourists can quickly and conveniently query various tourism information, including information display, query, basic geographic information, traffic information, catering, entertainment, hotel, etc. Through TGIS, tourists can query the relevant information through graphics and text, which is a query path combined with geographical space. Through the network analysis function provided by TGIS, we can save time or cost. The function of TGIS developed in this paper, as shown in Figure 2.
4. Application of TGIS in Tourism

4.1. Survey of tourism resources
Through TGIS, tourists can conduct a comprehensive survey of tourism resources in various regions, which requires the city to integrate tourism resources with the government as the leading unit. At the same time, through the system development and application, we can improve the system statistics and analysis function, which will have a more in-depth analysis of the scenic area boundary and various attributes. Through reasonable calculation of tourism resources in multiple regions, we will obtain and accumulate more original data. In the TGIS development process, we should give full play to the data-oriented method, which will better realize the application value. Through TGIS, we can comprehensively improve the basic speed of the system. By investigating and storing spatial data resources, we can better classify resources. Through TGIS, we can comprehensively carry out diversified services, which can meet the basic application requirements of tourists and improve the application effect of the system. Through the expert resource system, the application can supplement and improve various information, which will lay the foundation for tourists to set up professional tourism plans.

4.2. Regional tourism planning
In the construction and application of TGIS, we can obtain more comprehensive data, including tourism resources, tourism economy, number of tourists, etc., which is an important indicator for tourists to formulate tourism routes and choose destinations. Through the full play of the system functions, we can comprehensively improve the comprehensive analysis ability of the system, which will give play to the system application simulation function. Through the comprehensive analysis and evaluation of regional tourism resources, we can do a good job in the development and application management of various tourism resources, which is more convenient to carry out tourism planning. Therefore, TGIS is a perfect auxiliary application tool, which can be used for tourism planning and regulation through the development direction of tourism resources market. Through TGIS, we can realize the development and perfection of various tourism products, which will regulate the traditional tourism planning and development mode.

4.3. Tourism cartography
Through computer technology, information technology and other applications, we can establish a perfect TGIS, which has a variety of functions, such as data analysis, storage, transmission and so on. By Comprehensively Strengthening the ability of data analysis, we can obtain digital features, which will supplement more applications in TGIS module. By improving the basic processing function of the program, we can improve the technical support ability through computer-aided technology. Through the mapping technology, we can standardize the electronic map and digital map, which will provide more convenient services and products for the traditional tourism map. This is an important advantage of digital tourism map, such as the integrated functions of text, data, video, etc. Through the development of tourism map, tourists can carry out two-way interactive query and retrieval, which will have a variety of graphic features, such as dynamic editing, spatial positioning, multi-scale conversion and so on. At the same time, we should establish a perfect user interface, which can improve the space conversion of spatial map and electronic map. Through mobile devices, we can realize the dynamic display of tourism digital map.

4.4. Macro control of Tourism
TGIS has outstanding analysis application function and dynamic simulation function, which can ensure the scientific, standardized and modern planning of tourism. Through TGIS, tourism cities can carry out more scientific macro-control, which will help cities to establish a more perfect urban form. Through the development of TGIS, we can establish the analysis and comparison model, which can deal with the comprehensive development and application of regional tourism resources. Through the
system dynamic simulation demonstration, we can analyze the development law of various virtual environment, which is the basic content of macro-control. At the same time, through TGIS, we can analyze a variety of corresponding relationships, such as passenger flow and tourism resource capacity, passenger flow and urban traffic environment. Through the corresponding relationship analysis, the relevant departments need to carry out macro-control, which will be more scientific to achieve effective passenger flow diversion management.

5. Conclusion
The application of TGIS in tourism has been very mature, but there are still many problems in the system development and application. With the further development of TGIS technology, network technology and multimedia information technology, TGIS will play an important role in the management and development of tourism. Through the integration of multi field development, we can establish a new TGIS, which can provide more valuable application tools for regional tourism development. Therefore, TGIS can promote the overall development of China's tourism industry.

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