The Study of “China Traffic and Tourism Electronic Atlas”

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Abstract In this paper, the situation and the tendency of the electronic map at home and abroad were analysed, and the traditional technology of China traffic and tourism atlas design was combined. The principals and methods of the electronic cartography were expounded by means of the software “Atlas”. Multimedia of traffic and tourism atlas was studied.

Keyword Electronic Map , Traffic and Tourism Atlas

1. A Survey of Electronic Map

Electronic map is a new kinds of map developed with the multimedia and visualization technologies. The study of the electronic map was mainly epitomized in the study of hardware and software. Some electronic map was exploited at the multimedia made platform, and others were exploited at the special electronic map made platform, each had its own strong points.

The electronic map has its’ own features compared with paper maps and digital maps, showed in:

1. The contents of the electronic map were animated, were not static;
2. The storage and show of the dates in the electronic map were alternately.
3. It had the convenient function for inquiring and retrieving;
4. It had the vision effect of “What you see is what you get”;
5. The electronic map has the information of picture, words and videos, made up for the insufficient graphic information;
6. The electronic map could share the wide-range information.

The electronic map was improved its’ own connotation with the development of computer and multimedia technology. The development tendencies were showed:

1. The development of software and hardware improved the development of electronic map;
2. The data storage and management, and the OOP technology of databases had many rooms for studying. Only thus, could content the users’ need for the searching and analysis of the simple and complicated objects;
3. The development of electronic map must be linked with the development of multimedia technology;
4. The graphic inference must be objected;
5. The development direction was virtual Reality.

2.The Design of “China Traffic and Tourism Electronic Atlas”

The aim of the design of China Traffic and Tourism Electronic Atlas (CTTEA) was not the same as the design of normal tourist electronic map. During the process of designing, we considered not only of the use aim, but also the storage and display of the computer, the software and the hardware and the need of the peoples’ living. In the design of the content, the first was to show the detailed characters of every tourist scenery, second was to reflect the characters of the installation related with tourism, for example: the sceneries’ natural, culture environment and traffic, entertainment, shopping etc; the last was to display the traffic lines and instruments.

The concrete contexts of CTTEA included:

1. Cartographic elements, include river, residential area, network of communication lines, boundaries etc;
2. Tourist scenery, included the ancient and modern famous persons' moving place, famous mountain, famous hotel, famous waterfall, famous spring, famous temple, seldom seen or unique natural scene or the location of the natural phenomena, park, zoological and botanical garden etc;
3. Traffic and loading: bigger hotel, airport, station, road concerned with tourist line, traffic circumstances related to neighbor city etc;
4. Diet and social service: hotel, restaurant, market, hospital etc;
5. Multimedia information: audio, video, photo and coordinate.

The representation of CTTEA included:

CTTEA	Graphic	Politic area map
		Traffic and tourist map
	Audio	Background music
		Introduction
	Video	Sketch scene of the fine motherland
	Photo	Photo of the tourist scene
	Text	General situation of every province
		Introduce of tourist line
		Introduce of scene characters

Graphic. The main tourist map of every province, provincial capital and the famous scenery;

Image. The main image was the photo, which was used to show the detailed feather on the map;

Audio. Include the background music and the text expression;

Video. It was the video image. It was on the spot picture recordings of the same area or phenomena, and after that, they were processed and get the video image;

Text, It included the digital and word information, which were used to further explain the characters.

Audio, vidio, photo and text were used to further explain the tourist scene. With the help of the advanced computer techniques to process the data, the electronic map not only had the character of the paper maps, but also had the merit of the electronic map.

3. Research processing

The study of this electronic map was at the platform of Atlas, which developed by our college. It was a kind of convenient and practical integrated tools of electronic map. With the help of Atlas, the user could integrate multimedia information of the graphic (vector and raster), text, audio, video and image etc. Atlas had the merit of quickly inquire function, superior expended performance.

The vector processing of the graphic was under the CorelDraw software. The image process was under the Photoshop. With the help of Visual FoxPro, the multimedia conjunctive database

had been built. With the help of Cool 3D and Media Studio, the video file and audio file had been made and processed.

The process of the study of CTTEA included:

1. The paper maps were scanned and got the file which form was JPG. Under the CorelDraw software, these file were imported. In screen, we tracked the scanned map at every layer, and got the CDR file. The productions of this duration were digital map, including province, city, and scene.

2. The production of the beginning and the end. The beginning and the end were an important stage in the electronic map. Their manufacture results affected the whole effect of the atlas in some extent. These beginning and end were made by Cool 3D. At last, the .AVI video files were made.

3. The made of the front cover. The front cover was the interface, by which the user could choose the group map in the system. The indexed code of every group map and the ‘Quit” code in the front cover were designed. Thus the change over between the group map and the quit were convenient.

4. The management of the group map. The group maps were the integrated of every province’s political maps, tourist maps, plates, the photo’s expression words etc. Every province (or city) could be made a group map.

5. The establishment and conjunctive of the main map. The main map was a special map that showed automated when opens a group map. It was the introduction of the group map. At the same time, it included some important map indexes. When first to built the main map, the color zone of every province (city) boundary was made, so as to prominence their outline feature. If the maps had been built, the index would be added on the main map.

6. The management of the map. When managed the map, first we would give the name of the map, then we should united the date form, so as the electronic software could accept them. At last, we should add the hot point on the map.

7. Plates. The plate was the special map, which related with the special object. The plate was the last class of the group map.

8. Establish and conjunctive the multimedia database. The multimedia database was the form of DBF built in the Visual FoxPro. The database file also included photo, video, introduces.

4. The function of the CTTEA

The function of the CTTEA included:

1. Multimedia inquires. The user could inquire the related attributed according to the graphic, and vise verse.

2. The atlas had the new political, roadway, railway, airplane, population and area information etc. It integrated the graphic, word, audio, video, and realize the infuriation of the related context quickly and conveniently.

3. Animated function. The beginning and end were made by 3D. For example, fly, shutter, melt etc.

4. Picture recording. Picture recording showed some important travel scene, the natural condition and social customs of a place etc. The result was very living.

5. Photos. The photo were used to display the scene, traveling sever organization.

6. Texts. They were displayed by rolling and moving, provided every detailed words information.

7. Audios. It provided the background music, the voice of expression and effect.

8. The map toured. Realized the function of enlarge, shrink and wander etc.

9. Hyperlink. This link was by the hotpot. When pointed the place, there were the reference of the graphics, words, audios and videos etc.

10. For the use of the traveler, it could print the map according to the user’s need.