ESTABLISHING ELECTRONIC MAP FOR TOURISM ADVERTISEMENT AND PROPAGANDA FOR ENVIRONMENTAL PROTECTION OF HA LONG CITY

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Abstract: Nowadays, the superior developments of the economy increase human entertainment needs. Tourism needs and supported services have grown rapidly [1]. The number of tourists to Vietnam rose continously. In 2009, Vietnam welcomed 3.8 million foreign arrivals but just in January 2011, there have been over 400 000 visitors to our country, up 20% over the same period in 2010. That makes Vietnam's revenue from tourism, service clearly increase and contribute positively to our economy. However, another aspect of tourism development is negative impacts to the environment. The main causes are unorganized exploitation of tourism sites, messy construction, excessive service exploitation and low consciousness of environmental protection from some tourists. Therefore, we need to carry out tourism advertisement and propaganda for protecting either our around environment or environment at the tourism sites. Our paper presents the result of research and application Multimedia Technology for establishing electronic map for tourism advertisement and propaganda for environmental protection of Ha Long city.

1. INTRODUCTION

Currently, our country is on track to join the global economy. Especially, tourism and services have played an important part that is indispensable for the sustainable development. Tourism has been becoming our advantage; however it is also having negative influence on the environment. Therefore, not only Vietnam but many other countries all over the world are giving solutions to protect our environment for a substainable future.

The development of information technology has a major impact on science in the our society. Because of inheriting technological achievements, cartography and geodesy have obtained fast progression and strong development. Nowadays, digital maps are predominating more and more, the diversification of information on the map is taken more interesting. Digital maps do not only change storage methods but they also change using map's applications by integrating much new technology: Multimedia, GIS, GPS…Multimedia maps are designed for using maps on computers directly and link multimedia components simultaneously, so that they promote advantages and limit disadvantages of digital maps. Multimedia technology can be defined as a technology of communication which uses many kinds of media such as sound, images, texts, animation. In a short period of time, human can get information by various ways such as listen to sound, see the animation, pictures, understand the texts,...Multimedia technology help users to reproduce a part of "real space" in an event. Most of favourite applications of multimedia technology are modern televison technology, films and 3D effects, help audiences feel the real world in film, make them feel more attractive, recognize deep information and be close with natural senses. Therefore, application of multimedia technology for advertising tourism and propaganda of environmental protection will be more effective.

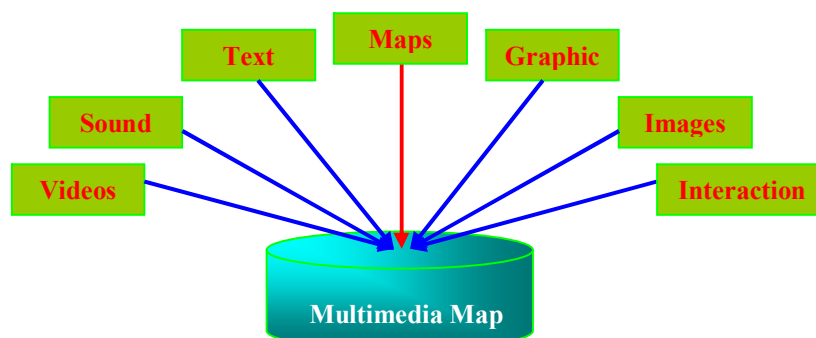## 2. MULTIMEDIA MAP FOR ADVERTISING TOURISM AND PROPAGANDA OF ENVIRONMENTAL PROTECTION

Figure 1: Description of a multimedia map [1]

Multimedia map for advertising tourism and propaganda of environmental protection is a kind of digital map that used efficiently to support tourists in understanding more about tourist sites and preserving the environment.

Multimedia components includes: Maps, videos, sound, text, graphic, images and interaction.

3. CASE STUDY

Situated in the north-east region of Vietnam, Hạ Long Bay is a part of the Gulf of Tonkin, and comprises Hạ Long City, the township of Cam Pha and a part of the island district of Van Don. To the south-west it borders the island of Cat Ba, to the east is the sea and the mainland follow a coastline of 120 km. It stretches between the 106º58 and 107º22 eastern meridians and the 20º45 and 20º50 northern parallels.

Ha Long Bay covers a total area of 1,553 sq. km, including 1,969 islands of various sizes, 989 of which have been given names. There are two kinds, limestone and schist, which are concentrated in two main zones: the south-east (belonging to Bai Tu Long Bay), and the south-west (belonging to Hạ Long Bay). The average geological age of the islands is between 250 and 280 million years old.

The densely concentrated zone of stone islands, grottoes and caves, world famous for its spectacular scenery, forms the central zone of Ha Long Bay, which has been listed as one of UNESCO's World Heritage Sites. This protected site covers an area of 434 sq. km, comprises 775 islands and forms a triangle: with the Đau Go Island (Driftwood Island) to the west; the Ba Ham Lake (Three Shelter Lake) to the south; and the Cong Tay Island to the east. The regions immediately surrounding the area were classified as a national site by the Ministry of Culture and Information in 1962.

In 1962, Ha Long Bay was recognized as a vestige and beauty spot of national significances by Ministry of Culture and Information of Viet Nam and was also recognized as a world national heritage site twice by UNESCO organization. The first time, in 1994 for the exceptional and universal value of the landscape and the second time in 2000 for the special value of geology and geomorphology.

4. ESTABLISH MULTIMEDIA MAP ABOUT TOURISM AND ENVIRONMENT OF HA LONG

4.1 TECHNOLOGY DIAGRAM FOR ESTABLISHING MULTIMEDIA MAP ABOUT TOURISM AND ENVIRONMENT OF HA LONG
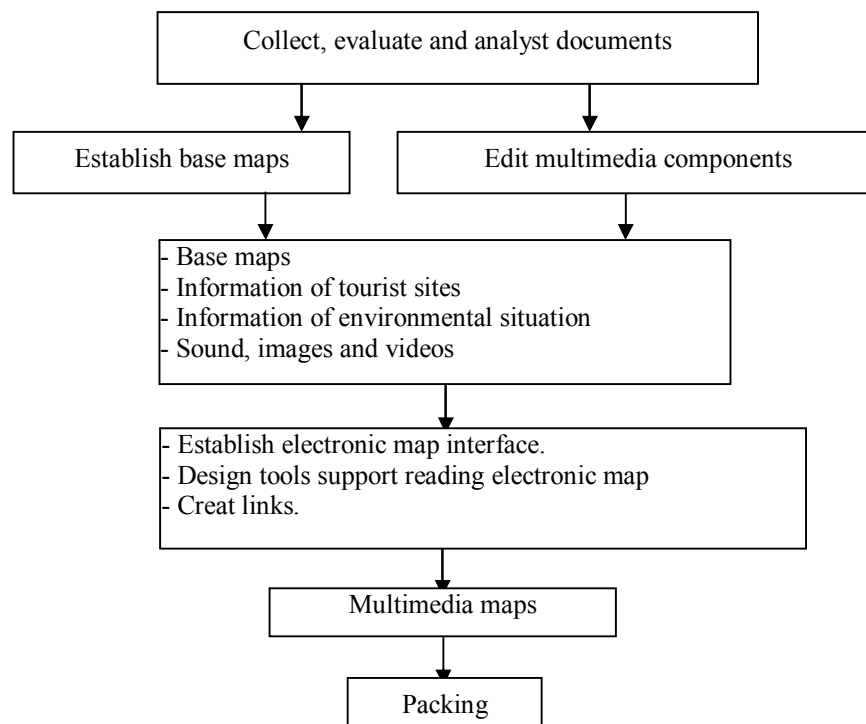

Figure 2: Technology diagram for establishing Multimedia map about tourism and environment of Ha Long

4.2 ESTABLISH MULTIMEDIA MAP FOR ADVERTISING TOURISM AND PROPAGANDA OF ENVIRONMENTAL PROTECTION OF HA LONG

4.2.1. Interface design

In general, Multimedia electronic maps are established with friendly and easily used interface include two kinds: First page's interface (Home page) corresponds with Overview page and individual pages' interface. Homepage's design depends on the author's idea but it has to be ensured enough information about: General content of the map, displayed territory, agencies responsible for producing, overall introduction, user guide and links to individual pages. Eachpage's interface is designed more simply and suitable for content displayed methods as well as elements on the map. This following figure shows general layout of the maps:
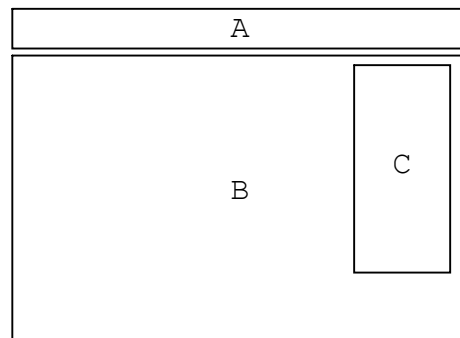

Figure 3: Individual pages' interface [2]

+ **A:** Electronic map's heading, utilized tools on the map.

+ B: Displayed content (occupies large area on the layout). Recently, we can design multi-level map or multi-scale map through displayed content.

+ C: Displayed information about objects on the map such as multimedia information, content layer of the map…They are linked to cartographic symbols or hidden pages which just appear when users click.

Our product includes 4 pages: Homepage, Quang Ninh's position on Viet Nam's map, Ha Long tourism, Quang Ninh tourism.

4.2.2. Establish individual pages

4.2.2.1. Content design

Figure 4: Homepage's interface   **Figure 5:** Quang Ninh's position on Viet Nam's map

+ Homepage - General introduction involves: Map's name, link button to individual pages, movie…(Fig 4)'

+ Quang Ninh's position on Viet Nam's map includes: Viet Nam's map at the centre and Quang Ninh's position is shown by visual animation and color, Ha Long city's position at the left-top corner (Fig 5).

3

4.2.2.2 Establish tourism and environmental objects

Tourism and environmental objects are designed as cartographic symbols. Each symbol is linked to the image and text or video through programming language.

Simultaneously, each symbol is also linked to some information and images for propaganda of environmental protection. Thus, users easily recognize the opposites between different pictures in the video and understand the bad influence on the tourism sites' environment.
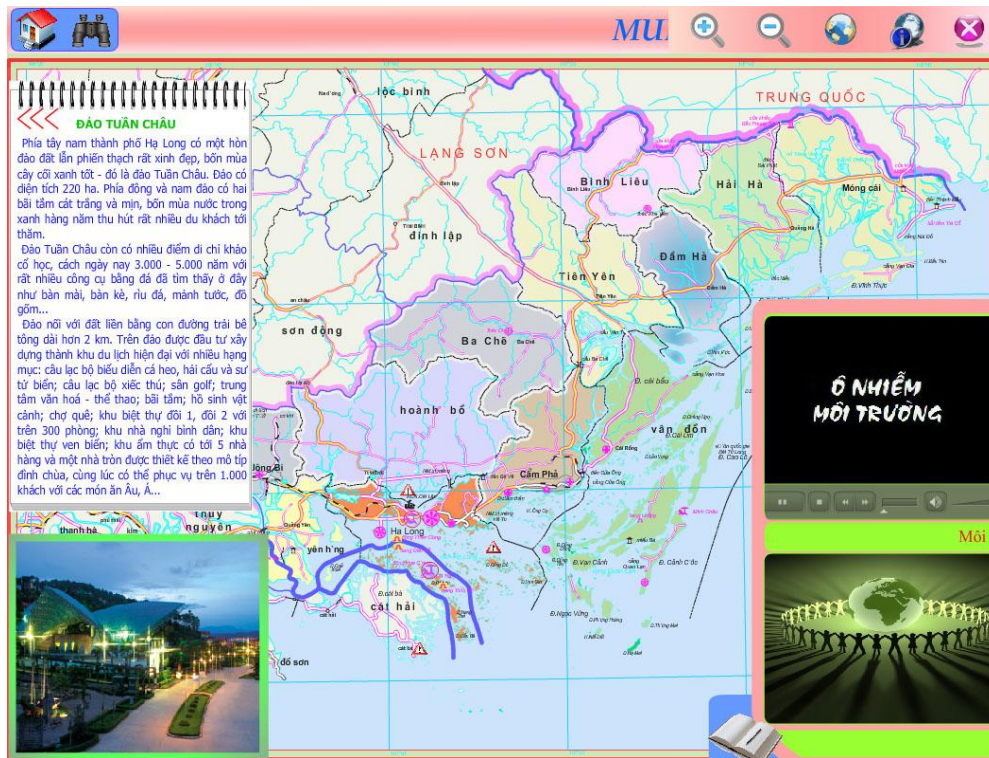

Figure 6: Propagandic page for environmental protection of Ha Long city

4.3 CONNECT TOURISM AND ENVIRONMENTAL OBJECTS TO MULTIMEDIA COMPONENTS

After building basic map, tourism and environmental objects, we need to connect them to multimedia components and thematic objects. They are connected to each other through programming language.

4.4 BUILD FUNCTIONAL BUTTONS FOR CONTROLLING THE MAP

Electronic maps are used directly by the computer, thus, we need to create tools in order for controlling and manipulating the map efficiently. Functional buttons include: Zoom in, zoom out, information display, map movement…

4.5 RESULTS

The result is the electronic map for tourism advertisement and propaganda for environmental protection of Ha Long city. Users can view and find information through cartographic symbols, video, images, text…created and connected to each other.

Figure 7: Tourism and environmental page of Ha Long city

Figure 8: Environmental disasters are warning

5. CONCLUSION

The report has shown not only the idea but also the process of building the forms of map which supports activities of propaganda and diffusion knowledge about environmental protection. It has also figured out methods to connect between the map and multimedia components such as: Text, images, videos,…

After the process of research and experimental product building process, we find that this is a new research and approach way to the field of tourism associated with the propagation and environmental protection in territories which have effective tourism activities. The results of the research can be uploaded on the internet to universalize more widely to more and more different users.

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