

**ACTUAL CONDITION FOR THE APPLICATION'S DEVELOPMENT OF THE
GEOGRAPHICALY INFORMATION SYSTEM**

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Abstract

In this work are described in general, the results of our center in the application's development of the Geographicaly Information System, for some specific tasks like the study of natural resources, handling of tourist information and demography of the country.

Analysis of the actual condition to introduce this technology in our country is been made.

State, besides some methodological criteria to face the design of the application's development so much as the practical experiences acquired in a demonstrative way, that were developed in this center.

1 Introduction

The Geographics Informations Systems are a powerful tool of work for the analysis and decisions over the geographical environment and as advanced thecnologic is being applied in the world [1,2].

The exactly knowledge of the existence, state and location of the natural riches, touristics and economics objetives are indispensable for the territorial planification of the economic development and it's branches. Just like the monitoring of the geographical environment in several short task. However get this information in short period requires of the introduction of new investigation thecnologic, and here it is where the digital cartography and GIS play a determinal roll; the first one, because among other things gives the digital cartographical bases for the spacial information to the GIS and these are capable to manage and integrate the spacial and thematical information (attribute) of severals sources allowing the analysis, that in practical we won't have it with traditional methods [3].

In this context, like a principal line of investigation, our center is now development the digital cartography and the design of GIS application, getting good results that give no doubt that make it the pionner of this activity in the country.

2 Develop of GIS application

The succes of the GIS use as an efficient resource in the solution of territorial problems depend of the application design, the initial conception and strategic that define in order of the problematics task, matter that the investment is aproximatly 25 % of the cost of the GIS proyect. The other component is very important and it is the adquisition of data, in this case the creation of the digital cartographical base (spacial information) and also the thematical data (alphanumerical information) that together with the adecuacion that requires for the input to GIS spend about 50 % of the total cost and it is obviously the more worker period, including this could be bigger in dependance of the complexity of the application.

In our institution we have faced the develop of the GIS application, starting that those that always are choose in function of the defined objetive and necessities, we have a great assorted of activities in which this thecnologic could be use.

So we established and check metodologic for the design of the application that could be resume as follow:

- Definition and description of the application objetives and thecnical especification of the design.
- Recopilation, selection and analysis of the primary source for the obtention of geographical and statistical data.
- Valoration of real necessities of data and its availability.
- Geocoding of geographical elements and evaluation of a necessities of georeferences.
- Election of a data model and definition of a GIS model.
- Determination of the thematical layers of the spacial information.
- Definition and description of the hardware and software.

- Determination of methods for getting information:

- Creation of data alphanumeric base.
- Creation of digital cartographical data base and the other layers of thematical spacial information.

- Adequation of spacial information for its input to GIS and integration of this with the thematical or statistical files.

- Check of the effectisness of the design. Pilot proyect.

- Economical value of design and the pilot proyect.

- Analysis oh the design alternatives. Redesign.

-Implementation of the definitive alternative.

The implementation of the design alternative that finally is decided should be acompained with the preparation of the thecnical personal that further will work with the system, and of course will be considered the thecnical and organizative strategic that requires, in order to get the objetives of the proyect.

3 Practical experiences in the application design of GIS

Among the developed investigation in our center in what thecnologic of GIS concern, one is the design of several demostrative application guide to the manage of natural resource and the administration of the touristic information of the country in where were used this methodologic.

For example we made, using GIS thecniques, the characterization of the soils and potencial erosion of a mountain region in the east zone of the country; and besides the manage of information concerning quimical composition of the under ground waters in two river basin in this territory.

Also was designed with a touristical target, one application that allow handle the touristical information of Cuba and the City of Havana. In the application of the city were considered the following thematicals elements: hotel, restaurant, hospital and cultural center as museum, monument, park and others. The information concerning the national territory include: places of historical interest, places where are medicinal waters, touristic sport places as hunting, fishing and diving, beaches and principals touristics poles.

Manage and analysis of this all information allow obtain several thematical maps with all the requirements to each application.

This and other results, no less important, is the starting point of the superior strategic of work in the development of the GIS thecnologic and digital cartography, in which the Research, Development and Consultory Center of GEOCUBA has a very good position with references to other scientific center in the country.

References

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