GEOMARKETING...

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ABSTRACT

In this paper we describe the steps we followed in planning a GIS that is based on the knowledge of the territory and it is able to monitor the development of the distribution system so that the managers can adapt continuously the commercial supply on demand.
The territory we considered is Reggio Calabria. We began with the acquisition of data and than we imput them opportunely. Secondly we designed a conceptual modelling where all the entities involved are considered and also their attributes and relations. In the end we implemented the logical modelling .

1. INTRODUCTION

In the last years people is studying the territory with new tools and with another approach. That is that all the problems and the aspects of the land are examined not separately but people studies all their interactions. From this approach the concept of land Information System (LIS) is born. The technological aspects of the LIS are known as Geographic Information Systems. The information that belong to a map may be stored in a data base of a GIS and so a LIS is obtained.
Looking at the world of business and government we see applications for GIS, activities and tools which deal with spatial data, all of which have different names, among them one of the names that we often find is *Geomarketing*.
Geomarketing is a new tool of management that allows us to visualise the data of commercial archives on a map, and it also includes many other statistical data to describe the social and economical situation of the considered territory.
Geomarketig is based on the knowledge of the land-use, and it aims to the management of the territory and, more in detail, it is a tool that allows to adapt the commercial supply on demand. In this way it's possible to locate the inefficient areas, to update the sales organisation, to monitor the development of the distribution system and, in doing so, to protect the interests of the people involved.

2. GEOMARKETING FOR REGGIO CALABRIA

The territory that we consider is the city of Reggio Calabria.

The new policy in the South of Italy it is to promote a process of reorganisation and regulation, in the view that cities now are big, complex and dynamic. This process is useful for the monitoring and the

transformations of the cities and it becomes a support to all those activities attached to the management of the territory.

The same policy is followed in Reggio Calabria; particularly a task force is working to reconstruct the map of the distribution system, to locate people who gravitate on the distribution areas. The aim of this work consists in defending people's interests with a good planning of the distribution system. It is also a guide to those managers the want to invest in the distribution net.

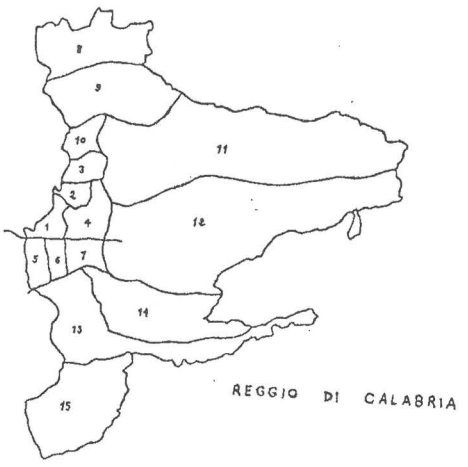
If we want to succeed in this work, we need a good tool that allow us to control all the transformations that happen in the territory.
The transformations of cities are influenced by a lot of different causes: government trend, business, internal dynamics. So the GIS are becoming an useful tool to manage and survey all the transformation in the territory.

2. DATA

The acquisition of data is the first step in the planning of a GIS and it asks an investment in terms of time and money. As we already know the data involved in a GIS are very different from each other; in our work we can subdivide the data into three categories.

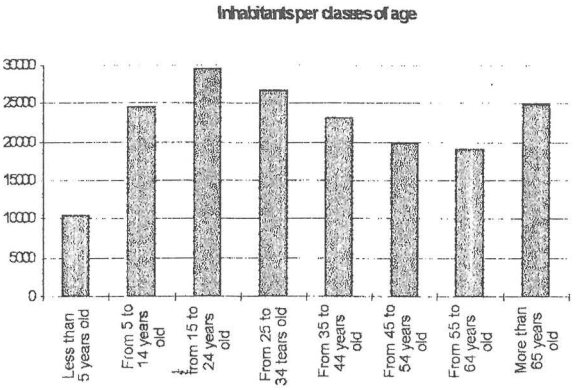
- Cartographic Data

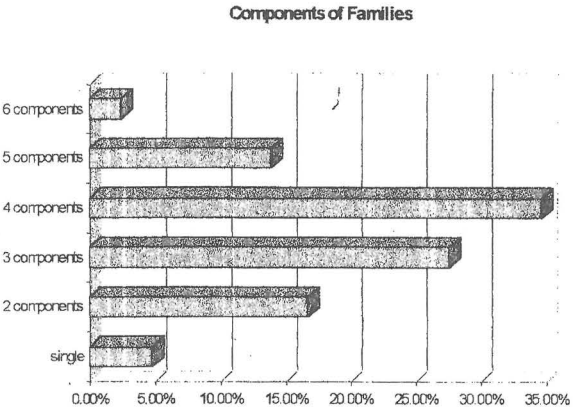
It's available a map of the city with all the most important objects (homogeneous areas, census areas, roads, buildings, etc.). All the information's of Demand-Supply are put on this map. Of course the first operation we did with these data was to digitise and then reference the map using a good number of reference points (translation rotation and scale variations).

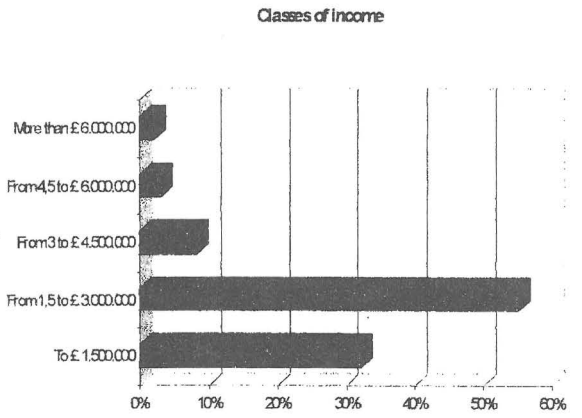


- Statistical Data of population (Demand)

For each area of the city we caught the data about population (density, age, sex, mobility, habit of shopping, etc.). From all these data it's possible to evaluate the demand in every area.

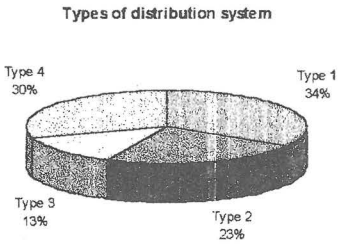


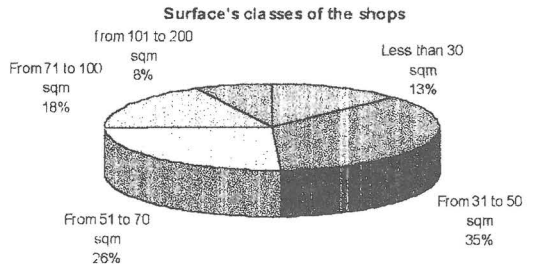




- Data about Distribution System (Supply)

A long and detailed work of acquisition permitted to realise archives of the distribution system. In this way it's possible to know where the shops are placed, which kind of things they sell, how big they are, how many people work there, etc.





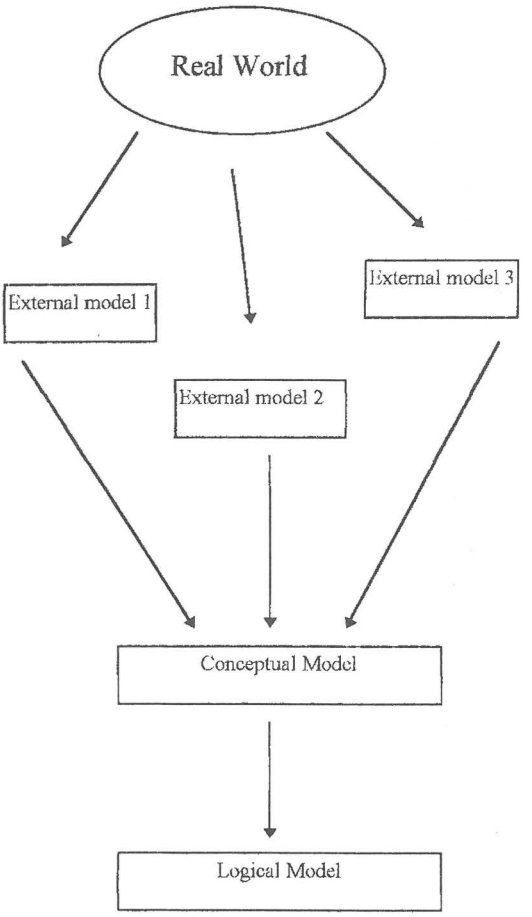
We divided the territory in zones and for each zone and for each type of shops we studied the gravitation and the evasion, so we know the mobility of people on the territory.

Gravitation Evasion						
	Zone A		Zone B		Zone...	
	Grav.	Evas.	Grav.	Evas.	Grav.	Evas.
Type 1	20.62	10.56	3.07	10.67	...	...
Type 2	28.25	10.55	3.81	8.38	...	...
Type 3	29.05	10.57	3.13	7.87	...	...
Type 4	79.67	3..51	4.38	83.23	...	...

3. CONCEPTUAL MODELLING

An other important aspect of the GIS realization is the plan of the conceptual model; in fact the way we plan depends on the needs of the buyer, that in our case is an expert of Geomarketing.

We approach the question of design of spatial information systems at a conceptual level. The real world is seen from an external view and it is represented from different people or organizations. All the different views are integrated and so the conceptual modelling is obtained.

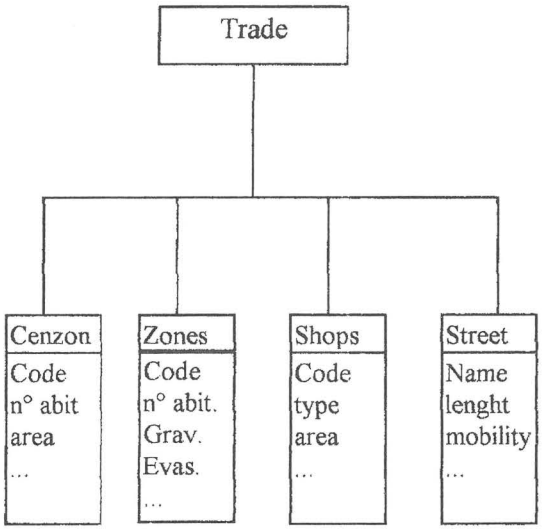


Although the conceptual modelling is an abstraction of the real world, it results quite concrete in nature, it represents all the phenomena and how they are related (Laurini 92).

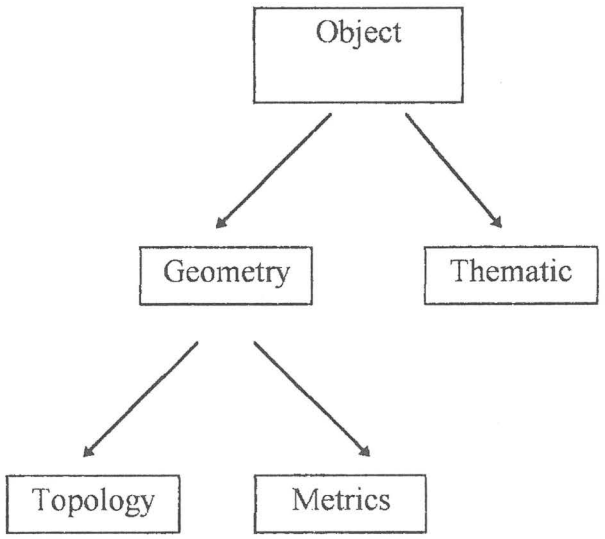
The basic components in this model are:

- Entities
- Relationships between entities
- Attributes for entities

The most important components we used in our model are visualised in the following figure.



The modelling is one of the most important steps in the implementation of a GIS. It is necessary to know exactly the answers that the systems must give from this step, so that the data base and our model are opportunely structured, and doing so the GIS is able to answer to the user's queries. In many cases it happens that a lot of data are caught but they are not implemented well enough in a model, so it is not possible to use them correctly.
For each entity we must describe both the thematic and the geometric aspects. The thematic modelling means the description of the object, the geometric modelling means the metric and topological aspects of the object.



The next step was to convert the conceptual model into the logic model in function of the particular software we used. So we have a data structure that may be compared with LEGO. This ingenious toy allows the modelling of real world aspects. We can build all the complex objects using the elementary blocks. In this way the model can be broken into small and elementary pieces. All the elementary pieces must be very simple and, on the same time, they must be complete enough to describe the complex structure.

The implementation of the logic model resulting from the individuation of the conceptual model above described, conduces to a trade' s GIS realization .
This tool has a determinant and important role in the achievement of a commercial plan. In this stage it really acts as a cognitive support to programming and subsequently, to provide and manage up to date information.
Thanks to the logical and physical interconnection of data and their geoframing, cartography really becomes a file, an integrating part in a plan of GIS.

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