

Territory Defence is not for a Few: The "StereoFot" Programme

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KEY WORDS: Photogrammetry, Architecture, Cartography, Cultural_Heritage, Education, Training, Expert_System, Stereoscopic.

PURPOSE:

The "StereoFot" project has been started by the "model aircraft section" of the Fondazione Italiana Fotogrammetria Architettonica, within the framework of the project "Fotogrammetria e Tutela del Territorio", at the end of the international meeting about "Ecclesiastic Cultural Estate, registration problems" held in Bari in 5-6-7 June 1991.

The project consists in a didactic programme with which the "Fondazione Italiana Fotogrammetria Architettonica" and the "StereoFot BBS" are working towards the constitution of a "Cultural Estate Documentation Centre", opened to everybody, in the conviction that "territory defence is not for a few, it belongs to human dignity and so nobody can delegate it.

It is important to teach it and to offer the adequate instruments".

The project illustrates an "open multimedia card" for the documentation of Cultural Estate, with the aim of involving the students in the process of "census, documentation and catalogation of Cultural Estate". This multimedia card makes use of new technologies in the field of teaching methods.

StereoFot represents the natural development of the experimental project carried out in Bari at the primary school "Balilla" in 1985-1986.

The didactic check of "StereoFot" has been carried out within the Photogrammetric Course organized by Ce.I.P.E. (Centro di Iniziativa e di Programmazione Educativa) in collaboration with the Fondazione Italiana Fotogrammetria Architettonica, with the scientific support of the Cattedra di Fotogrammetria Architettonica of the Politecnico, in Bari.

"StereoFot" didactic programme and its applications are published on CD-ROM.

What is "StereoFot"...

Stereofot is an open multimedia card for the census and the catalogation of Cultural Estate.

The programme has been developed by the Cattedra di Fotogrammetria Architettonica (taught by the prof. Antonia Daddabbo) of the Politecnico in Bari in collaboration with the Fondazione Italiana Fotogrammetria Architettonica within the framework of the project "Fotogrammetria e Tutela del Territorio" alleged to the accord with the convention for the common use of photogrammetric-electronic

instruments, signed on 15 January 1985 between the Università degli Studi of Bari (cattedra di Fotogrammetria Architettonica della Facoltà d'Ingegneria) and the Regione Puglia (department Musei e Beni Culturali dell'Assessorato alla Cultura) (picture 1).

The diffusion of "StereoFot" is in shareWare form. The diffusion of "StereoFot" has the purpose of realizing the "International Centre of Digital Photogrammetric Documentation".

the centre of documentation...

the preliminary remarks on which the project is based are:

- the overcoming of the "museum vision of Cultural Estate". The position of student towards the Cultural Estate must change: it has to become a "consumer good" and not only a passive remark;
- the Culture Estate must "produce culture". Today, the technological progress allows people to have instruments which make easy the process of analysis and synthesis, indispensable for the study of Cultural Estate;
- the approach to the "new technologies" has to be realized from the junior secondary school. It represents a new form of diffusion of literacy, faced with which a great part of teachers is not prepared;
- the redaction of Cultural Estate documentation card cannot be the result of a little part of workers, but "to make culture" it must represent a moment of scholastic education;
- the "new technologies", indispensable for the catalogation of Cultural Estate, allow a "gratis" recording and a rapid reference of all informations (written, verbal, graphic, photographic, cinematographic and musical);
- the employment of "new technologies" in schools represent a new incitement for a motivated frequency of them and for a future youthful occupation.

The basic stone of the Centre was posed in 1980, when the Unità Fotogrammetrica dei Vigili Urbani in Bari, under the scientific direction of the Cattedra di Fotogrammetria Architettonica, carried on a survey about a series of churches damaged by an earthquake in Basilicata.

In May 1981, we organized a show-meeting, during which we opened, to the public an acting example of a documentation Centre, managed by skilled young people of Regione Puglia.

At the end of this meeting (composed by representatives of the Sovrintendenza ai monumenti della Puglia, dell'Università di Bari, della Regione Puglia, dell'Amministrazione Provinciale di Bari, dello stesso Comune e della Curia Arcivescovile), it was proposed to create the documentation Centre of Ecclesiastical Cultural Estate, assigned to receive the existing photogrammetric surveys. Moreover, the archbishop gave a church in the historic Centre for the realization of the project.

In 1983, the photogrammetric laboratory was transferred in the S.Scolastica monumental plant.

In this place it was presented, to the Assessorato alla Cultura della Regione Puglia, a project of documentation realized according to the convention about the common use of photogrammetric-electronic instruments, signed in

15 January 1985, between Università di Bari (Cattedra di Fotogrammetria Architettonica) and Regione Puglia (Assessorato della Cultura-Settore Musei e Beni Culturali).

In 1986 at the end of the national meeting about "Fotogrammetria e Progetto", some students, belonging to the Facoltà di Ingegneria in Bari, created the Fondazione Italiana Fotogrammetria Architettonica, which voluntarily obtained the management of the existing documentation.

In 1988, the project more and more improved, was tested during a national meeting of "Architettura Sacra" and repropoed it in 1991, during the International Symposium about "I Beni Culturali Ecclesiastici: problemi di archiviazione della documentazione fotogrammetrica".

Finally in 1993 at the end of 2nd International Symposium regarding "La Formazione del Rilevatore della Realtà Territoriale" the closed motion defined that: "...there would be to constitute an International Course about Architectonic Photogrammetry, which could be supported by the CIPA (Comité International de Photogrammétrie Architecturale) using a long distance teaching during a period of two years.

The School, which will be presented at the international symposium..., through the video-conference system, will give a certificate of specialization of Architettonic Photogrammetry.

The works, realized by the students of this school, will be destined "to feed" the International Centre of Digital Photogrammetric Documentation, opened by the Fondazione Italiana Fotogrammetria Architettonica".

the survey...

"StereoFot" makes possible the survey of the position and the dimensions of photographed objects. The objects must be photographed from two different datum points, thanks to the photogrammetric principles.

The tridimensional photographic image can be observed through a changeable window and registered in a numerical form.

The reported points are recorded in a scrolling field and can be exported in text.

The survey of the points can be done with two "click" on the corresponding points of the photograms, or with a single "click" on the stereo image, through the use of the "marca mobile".

The second button of the "palette" recalls the photogram-guide, with which it is possible to look, thanks to a "click", the part which has to be analyzed (picture 2).

the representation...

the button "xy" of the "palette", allows to pass to the second card, according to which it is possible to represent in planimetry the survey done.

The data are consequently transferred in the yellow scrolling field, from which they can be exported in a text model document.

Pushing the "palette" buttons it is possible to represent the reported points, to link them with a line, or to cancel the entire design.

If we select the "Reg" button we will finger a possible designed volume on the planimetry and report it on the blue scrolling field.

Both the survey and the new design can be exported either in the text model or in the "Paint" one.

In the same models it is possible, moreover, to introduce a design using the existing suitable button instead of the barra-menu (picture 3).

the environmental check...

The button of the "palette" of the previous picture (picture 3), has an icon which represents a camera.

It lets to pass to the next card, where the left photogram is displayed all over the page. On this photogram it is possible to represent (in the same perspective) the volume designed in the plan.

The perspective obtained by the numerical design realized in planimetry, can be finished thanks to the existing design instruments and exported on the "paint model".

The drawing can be treated with other programs in order to introduce it in a possible photomontage, or to import it again for a comparison with other solutions.

Two different buttons of the "palette" allow to show or to hide the photogram under the design.

To modify the designed volume it is always possible to return to the planimetry (picture 4).

the general catalogue...

If we push the button "general catalogue" we will open a dialogue window, which allows to open other documents of "StereoFot", such as the application drawn up with SuperCard and the documents of MoviePlayer (filmed).

In this case a "palette" can be displayed, containing all the functions of a common video recorder, and also all the orders to display every photogram and to memorize their positions (to recall them) or to export them on the "pict" model. This latter function has an important interest for the analysis of a monument, particularly to fix some framings to be used in other photogrammetric shots.

It is always possible the use of the same function for the analysis of every digital short film (picture 5).

the cartographic archive...

the folder "archivio" contains, both the photogrammetric images and the cartographic ones, and also three documents of StereoFot, called "fotogrammetria", "cartografia" and "StereoFot Help".

The first furnishes the data for the photogrammetric survey, the second - which can be recalled pushing the button with the same name - memorizes the data about every cartography in the "pict" model.

Together with the selected cartography, a "palette" is displayed which contains the tools allowing the map to scroll in the displayed window, to size the distance between two points, and to size the length of a polygonal line. It is also possible to calculate the area of a selected part.

We can open different numbers of maps at the same time, which can be transferred on the screen (picture 6).

helps...

The stack "StereoFot Helps" can be always recalled pushing the "Help" button, according to the philosophy of "HyperCard" helps.

At the opening of the stack the general index is displayed in a scrolling field.

If we select one of the voices, we will find a second scrolling field, containing a second index, which can be selected to obtain the descriptive card.

The selection regarding the project about photogrammetry has been taken from the volume "Antonio Daddabbo - Fotogrammetria e Tutela del Territorio - Editori Laterza - Bari", which deals with the research made by the Cattedra di Fotogrammetria Architettonica of the Politecnico in Bari, during the period 1985-1995.

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