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SILK, CULTURE AND TECHNOLOGY

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ABSTRACT

Historical memory forms people's identity and pride and helps creating a sense of belonging and unity. The exigency of safeguarding it has given birth to the idea of digitalizing the Statute of Art of Silk (1519), kept in the Chamber of Commerce of Catanzaro, by using multispectral acquisition techniques and image enhancement algorithms.

The Calabrian chief town was in fact a great and famous centre of silk production at the time of Swabian-Norman and Angevin rule (XIV - XV centuries).

The Statute is then a historical document of great value, which will be restored not only to the city of Catanzaro, but to the whole world of culture, thanks to a careful route that will bring to the realization of a CD-ROM and its diffusion on the Web.

AIMS

In these last years, because of the growth of the Information Society and the evolution of technology, the world of culture is increasingly using advanced techniques and methodologies developed in different scientific fields as information science, physics, statistics.

Using a mix of innovative techniques, it has in fact been possible to realize this "virtual Statute". The aim of the work has been making this important document enjoyable to the public in digital format, with the triple aim of guaranteeing its lasting preservation, improving its readability and diagnosing its health.

METHODOLOGY

The acquisition of the Statute of Art of Silk has been carried out using a multispectral camera, provided with a sensor that collects the light reflected from the objects and that, differently from common digital cameras, also measures the light energy emission in electromagnetic spectral bands invisible to the human eye, as infrared and ultraviolet.

The joint information of visible and invisible images provided useful information on the document, as the kind of ink used and the deteriorations occurred, the indication of the degradation that time, micro-organisms and humidity left on the sheets, the restoring interventions carried out previously.

In the following phase, the images have been processed using image enhancement techniques, in order to improve, where possible, the readability of the pages.

In the final phase, the "virtual Statute" has been arranged in the form of a web-site that can be viewed with any browser, in order to be easily available for any kind of user.

RESULTS

The final result of this work is represented by an exact, although virtual digital copy of the ancient manuscript. In the web site there are also two other sections, one dedicated to the history of the city at the age of silk, and the other reporting, with the help of texts and short movies, testimonies of this ancient art, such as the instruments used for silk manufacturing and some sample of work conserved in town museums.

This work responded to the double aim of diffusing an ancient and precious document, without removing it from its safe storage, and underlining how innovative methodologies and techniques can make the cultural heritage not just available to everyone, but available in a different way, giving it an added value.

* TEA s.a.s. is the coordinator of Isyreadet, a research project financed under RST 5th FP, in partnership with CNR. Its aim is to create an integrated prototype Hw/Sw for the acquisition, the virtual restoration and the archiving of historical damaged documents, by using innovative methodologies, as multispectral cameras, image enhancement algorithms and OCR techniques.

