

TOWARDS AN INTERNATIONAL NETWORK OF 3D HIGH QUALITY COLOUR IMAGING STUDIOS.

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Abstract

The ESPRIT IV Project 23276 ACOHIR (Accurate Colour High Resolution Recording and Reproduction of 3 D Objects for Electronic Publishing and the Consumer Market) was funded by the European Community from April 1997 till March 2000. The main results at the end of ACOHIR are 5 working 3D high quality colour imaging studios in Athens, Paris, Southampton and Valencia, and 2 studios under development in Greece and Germany.

The purpose of the project was to construct a modular system for acquiring and presenting 2D images from 3D objects at accurate colour and resolution dependent on the capturing device. The system is designed for acquisition, processing and display of colour corrected images of 3D objects. It comprises of three basic modules: the acquisition module, the editing module and the viewing module. The system modularity will allow the user to upgrade each module, depending on technology advances. The system will offer an integrated approach to capturing, processing and storing of digital images of 3D objects with full control over lighting and colour. Benefits for the user will be to have control over the whole chain from capturing to display. Identified target markets are museums, industries, catalogue builders, education as well as auction houses, insurance companies and photographic studios. First applications were developed for museums, the furniture and the porcelain industry.

The project consisted of four industrial partners (Barco Display Systems, cobax, Vasari and Athens Technology Center, the prime contractor of ACOHIR), one research group and two user groups. The project partners developed 5 industrial prototypes with varying components. Each system consists of a digital camera, a turntable, lighting equipment, a workstation and software supporting the complete capturing and publishing workflow with efficient delivery via the Internet. In Greece one system is used by the Christian and Byzantine Museum of Athens, the Museum of Cycladic Art and the Aristotle University of Thessaloniki. In Paris a high end system is available for the research laboratories of the Louvre and the Ecole Nationale Superieure des Telecommunications. Another prototype was developed in UK by the University of Southampton and the National Gallery of London. In Spain 2 systems are in use for the furniture and the porcelain industry (Asociacion de I & D en la Industria del Mueble y Affines and Porcelanas Lladro).

The presentation will summarise the results of the projects, show examples and applications, and update current and future activities and co-operations.