

COORDINATOR CONTACT DETAILS

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RECOVER co-operative research project



<http://www.ics.forth.gr/recover/>

photoREalistic 3d reConstruction of perspectivE paintings and pictuRes



The RECOVER project (full title Photorealistic 3D Reconstruction of Perspective Paintings and Pictures) aims to develop a system for the semi-automatic extraction of three-dimensional (3D) models of scenes depicted in perspective paintings. 3D models of paintings constitute a new and exciting way for the general public to experience and appreciate fine art.

The viewer can experience a feeling of immersion; paintings are no longer perceived as static artefacts from a long-gone past but as living, vibrant entities.

With the aid of appropriate software, the viewer can literally dive into the painting, interacting with it and observing it from various viewpoints in impressive walk-through and inspiring fly-bys. This enables nonspecialists to step into history and experience the scene in the space and time frame perceived by the artist.

Ultimately, the viewing of paintings becomes a more appealing, exploratory endeavour, arousing the public's interest in fine art and cultural heritage in general.

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Funding source



Scientific and Strategic Objectives

To develop informative and easy to use interactive single view reconstruction (SVR) techniques. These techniques will assist users to extract 3D information from paintings, avoiding the laborious and time-consuming process of obtaining such information.

To enable SMEs that are active in the cultural sector to gain access to innovative technologies. More specifically, the goal is to bridge the gap between the state-of-the-art and the state-of-practice in the construction of 3D models from perspective 2D paintings, drawings, postcards and single photographs.

To empower SMEs to improve their competitiveness by capitalizing upon innovation.

To facilitate the international cooperation among participating SMEs and RTD performers, which will create opportunities for all involved parties.

Use and Impact

The primary envisaged use of the RECOVER system is to employ it for creating 3D models that will serve as digital content for developing multimedia/virtual reality cultural applications.

Furthermore, RECOVER technology can have a broad spectrum of possible practical applications ranging from the study of art history and assistive technologies for people with special needs in the fields of video games, video metrology, architectural photogrammetry and surveying engineering, urban visualization and planning, monuments preservation and conservation, real-time virtual reality, forensic science, maintenance, medical visualization, guidance and e-learning.

RECOVER will also have important implications related to improved accessibility and visibility of the European Cultural Heritage.



Key features

The RECOVER system includes the following key functions:

- ① Support for multiple input image formats
- ② Semi-automatic 3D model generation
- ③ Interactive 3D model editing and refinement
- ④ Automatic 3D model texture mapping
- ⑤ 3D model export in standard formats

