# Realtime visualization of civil engineering projects

Overview

Using ParallelGraphics Cortona SDK, the Strab company, a supplier of AutoCAD applications for road planning, railway and canal construction, has developed the Strab Virtual Reality application that allows the user to easily and quickly create Web enabled 3D visualizations of engineering projects.
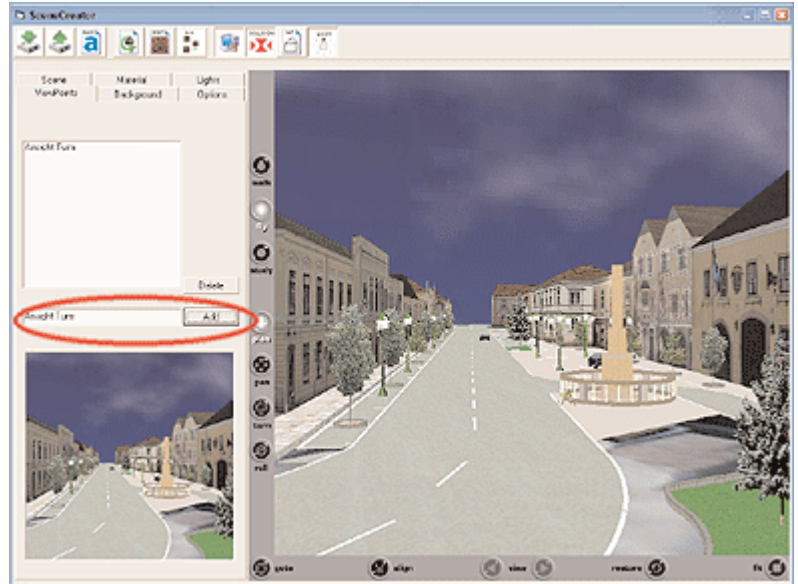
The Challenge

The Strab company (Austria) produces a wide range of AutoCAD applications for civil enginering - road planning, railway and canal construction.

The company's clients have a growing demand for visualizing engineering data. Although software is available for creating high-quality 3D images, the rendering speed is very slow. Strab needed a product that allows for the creation of Web enabled 3D visualization of engineering data.

The Solution

The Strab company has developed the Strab Virtual Reality application that allows the user to easily and quickly create Web enabled 3D visualizations of engineering projects. The visualization module of StrabVR was created using the ParallelGraphics Cortona SDK.

Technology features

• Ability to use AutoCad drawings for the creation of 3D visualizations
• Ability to use exisiting building and aerial photos, so the 3D models look very realistic
• User-friendly interface - very easy to learn and use
• Realtime - no rendering delays
• Web-compatible - 3D visualizations can be delivered to the customers via Internet
• Interactivity - no predefined camera paths, the user can easily navigate the 3D landscape
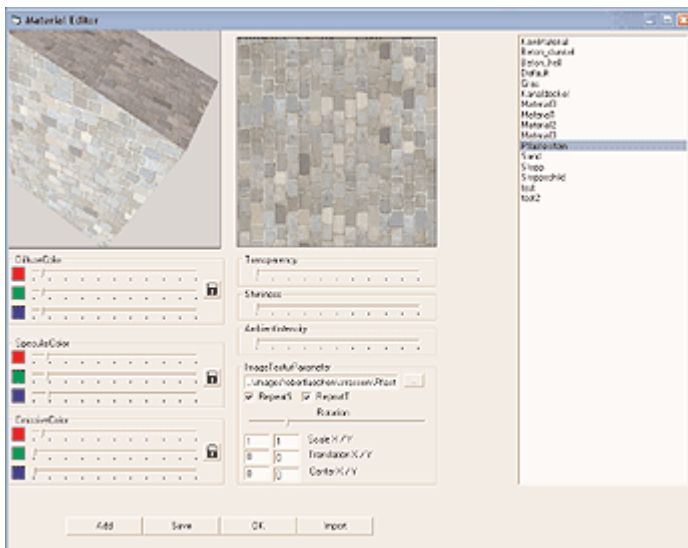
Workflow

1. Initial data

- The road plan created in AutoCAD and saved in DWG format.
- Photos of the buildings and landscape.

2. Generate the buildings

Simply draw a cube in AutoCad, place a roof on it and export it into StrabVR. Apply the photos of the building on the all sides of the cube and the roof. The time necessary for the creation of a photorealistic house is less than 5 minutes!

3. Arrange the objects on 3D landscape, add textures

Place the buildings into the AutoCAD drawing; add trees, and cars from pre-defined galleries. When all objects are arranged, export the whole model into StrabVR and add material to roads and other surfaces by using built-in catalog of materials.The time of creation is 10 times faster than provided by CAD software!

4. Publish landscape on the Web

Now the 3D visualization of the engineering project can be delivered via Internet.The customers need only Internet Explorer and VRML client to examine this interactive 3D model!

Links

Cortona SDK: http://www.parallelgraphics.com/products/sdk
Strab Virtual Reality: http://www.strabvr.com

About ParallelGraphics

ParallelGraphics is a world leader in the provision of Web3D graphics solutions with a proven track record of innovation and development over the last decade. The company's technologies and tools have been used widely in providing online training solutions, remote user support, virtual manuals for technical maintenance, and interactive applications for design and modeling. The Company's list of clients includes Boeing, NASA, Ford, MAN Roland, Siemens and Samsung.

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