

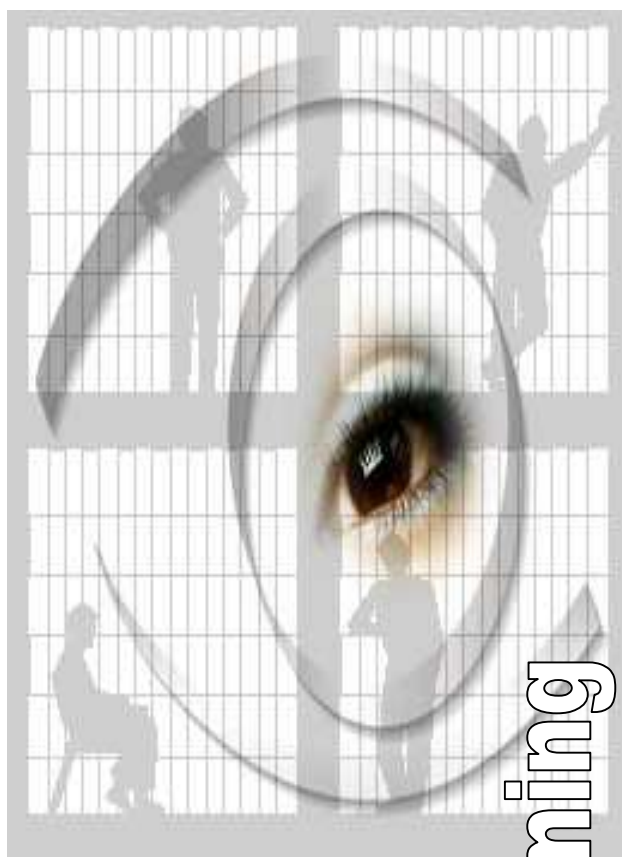
SE-FAST

3D rendering

Library

Graphical

Fast



Performing

Develop your own graphical application

FAST SCENE GENERATION TOOL

SE-FAST features:

- Open Scene Graph library based
- Associated C++ API for custom development
- [View management](#)
- [Point of view management](#)
- [Scene and object management](#)
- [Intersection management](#):
The computation of the intersection are based on the definition of a ray and the intersection mask. Information on the returned points are the position, the normal, the object and the intersected texture.
- [Environment management](#):
An environment can be defined by a date. The environment contains a fog and a sky. The sky can define a cloud cover, a sun, a moon, a sky color, an ambient and directional light.
- [Image capture capacities](#)

SE-FAST is a library aimed at developing, simply and fast, performing 3D graphical applications. SE-FAST eases the construction, animation and visualisation of 3D scenes in the visible and EO spectrum (completed with SE-FAST-IR tool).

Library

SE-FAST is based on the OpenSceneGraph 2.0. SE-FAST gives a way for users who don't master graphical technologies to realise a visualisation loop, compatible with 3D databases created by SE-Workbench tools.

To develop most applications based on SE-FAST, no specific knowledge of OpenSceneGraph is required. To develop complex graphical applications, SE-FAST gives the developer, familiar with the 3D basic concepts, many access to OpenSceneGraph functionalities.

The SE-FAST library is implemented in C++. Its classes were conceived to be extended and meet new needs.

Use cases

- Three-dimensional visual applications.
- Completed by SE-FAST-IR, SE-FAST enables to do infrared rendering of 3D terrain databases in real-time
- This API is the basis of visualisation tools of the SE-Workbench : SE-SCENARIO, SE-FAST-IR, SE-FAST-VIEWER and SE-TOOLKIT

Principle

A scene and a camera are associated to a visualisation window handled by SE-FAST. The scene is composed of 3D objects and an environment. The camera corresponds to the observer point of view. The position and orientation of the camera as well as the objects can be controlled dynamically.

Image avion en vol
Image objet 3D (avions, helico..) ou combattant
Image intérieur de batiment

Supported formats

The 3D formats supported by SE-FAST are:

- * SE-Workbench
- * All formats supported by the OpenSceneGraph 2.0 plug-ins

EO extension module



SE-FAST can be extended by the SE-FAST-IR library adding the following EO visualisation functionalities:

- a dynamic fog processing, allowing the user to simulate the atmospheric attenuation
- sensor effects

Remark: When using this module, or any application based on this module, the database to visualise must be precompiled in the EO spectrum with SE-FAST-IR module.

Benefits:

- Powerful and simple library strictly compliant with SE-FAST-IR product.
- Based on the powerful OpenScenGraph library
- Easy to use

System requirements :

Windows™ XP

Linux Red Hat Enterprise 4, gcc3