GAMETOOLS

## Advanced Tools for Developing Highly Realistic Computer Games

GOALS: Developing 3D libraries in the areas of **Visibility, Geometry & Lighting** To increase **Realism & Visual Quality** In:

1. Computer Games
2. Graphical Simulators
3. Industrial Models
4. VR environments

- The libraries are free.
- Join the GTP Special Interest Group, to get access to GameTools technology right now.
- The GameTools Project is funded by the European Union to support the European 3D software industry.
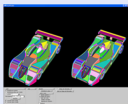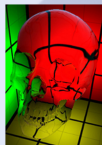
Illumination

GameTools brings physically correct rendering to the domain of realtime graphics.

Effects that will be possibly included:
- Soft Shadow / Lighteffects
- Dynamic Lightsources
- Indirect Illumination
- Reflections
- Realtime Radiosity
- High-Quality Materials
- Cloud Rendering

Geometry

- A *fast image based simplification algorithm* to efficiently create high quality MLODs without human intervention.

- *Multiresolution triangle strip generation* taking into account *topology* and *texture* of the base model.

- A *memory & runtime compressed multiresolution mesh format* that contains triangle strip information, avoiding the need for costly on-the-fly tristrip generation.


- A new multiresolution model *specially fitted for plants* allowing for an *incredible amount of close up detail* for e.g. leaves.
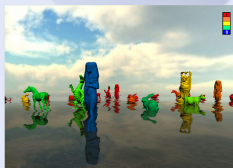
Visibility

The *GameTools VisibilityLib* renders faster by only displaying the visible objects in your scenes, through:

1. *Fast precalculated visibility* based on modern visibility research.

2. *Efficient visibility* for *dynamically changing scenes* employing *modern day graphic hardware*.
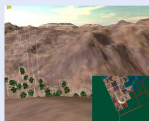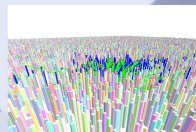
Both approaches work for *indoor & outdoor* scenes, and are much *faster* and *flexible* than existing techniques.

University

Industrial Partner