



# Hydra Renderer

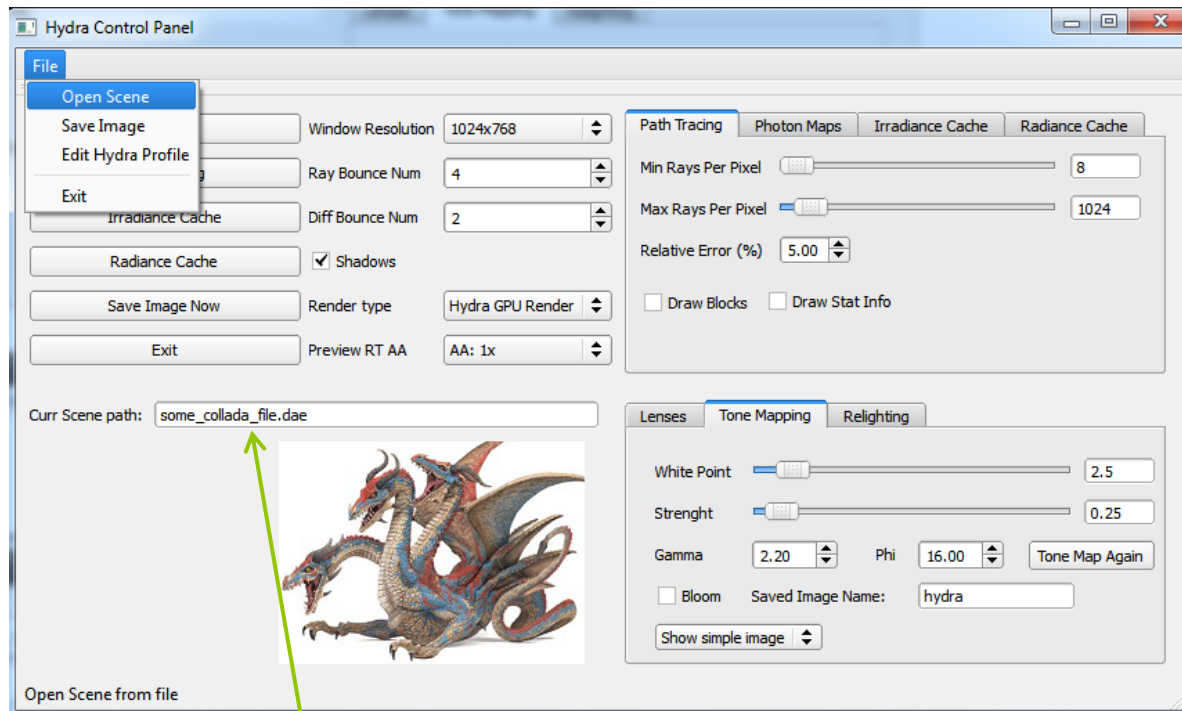
Quick Start  
v1.5a

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# Installation

- CUDA 4.2 or higher
- For this version (v1.5a) GPU with CUDA Compute Capability 2.0 (i.e. 400 series and higher) required
- Please visit <https://developer.nvidia.com/cuda-downloads>

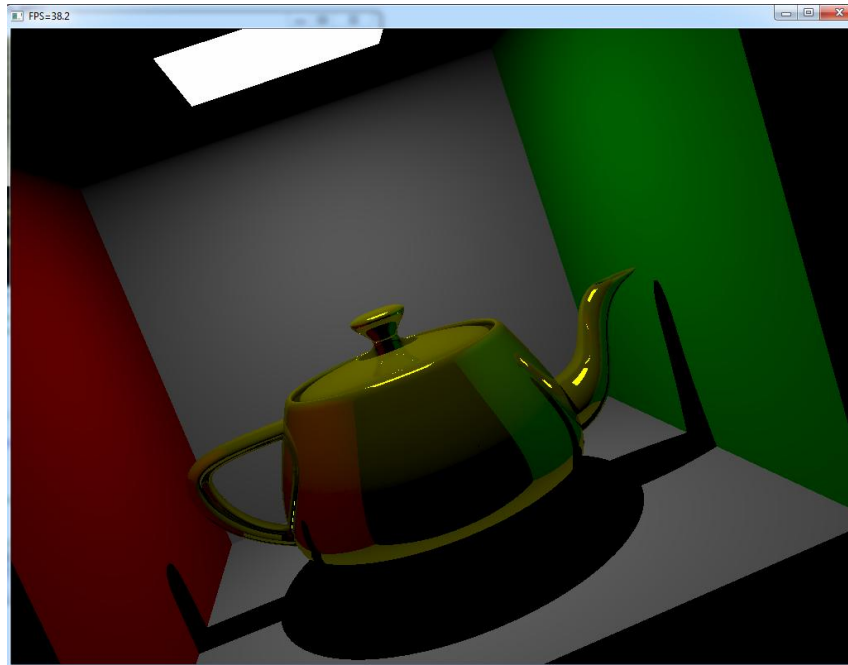
# Open the scene (.DAE)



Current path displayed here

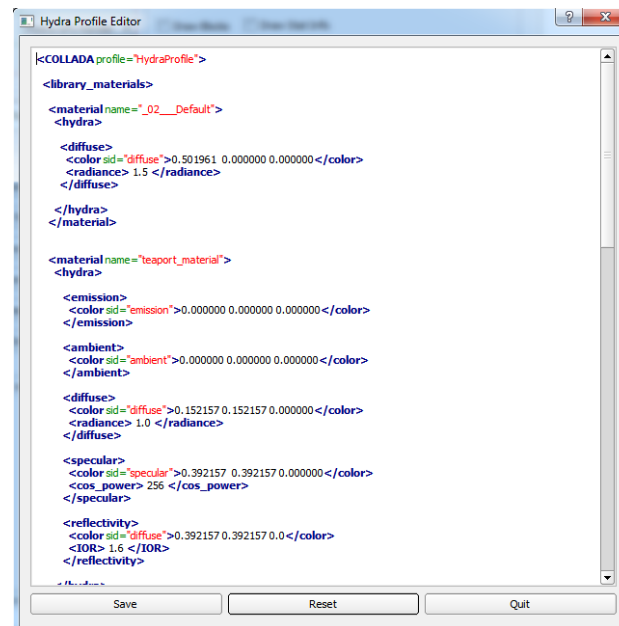
# Move over the scene

- W,A,S,D (like in 3D shooters)
- R,F (up and down)
- Q,E (rotate)



# Hydra materials and lights

- File->Edit Hydra Profile
- Documentation located here
  - <http://ray-tracing.ru/articles235.html> (rus)
  - Samples can be found in 'lessons' folder



# Hydra materials and lights

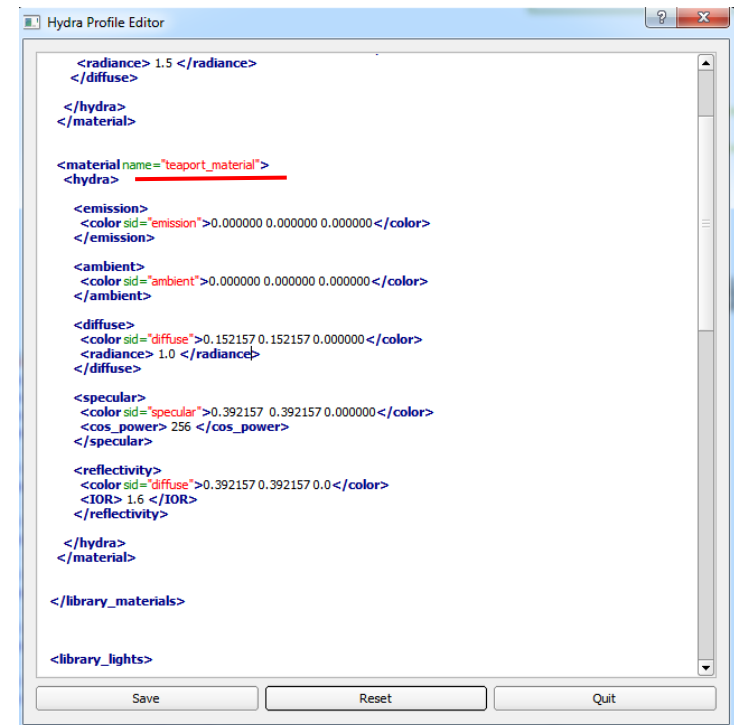
- The 'Hydra profile' mechanism was created to replace any 'standard' materials and lights with internal Hydra materials and lights
- But you also can add lights to the scene with this mechanism
- To replace material or light you need to specify appropriate same material/light name
- When adding light you may specify any light name

# Hydra materials and lights

- Example of replacing:  
Collada file:

```
<effect id="teaport_material-fx" name="teaport_material">
  <profile_COMMON>
    <technique sid="standard">
      <phong>
        <emission>
          <color sid="emission">0.000000 0.000000 0.000000 1.000000</color>
        </emission>
        <ambient>
          <color sid="ambient">0.000000 0.000000 0.000000 1.000000</color>
        </ambient>
        <diffuse>
          <color sid="diffuse">0.392157 0.392157 0.000000 1.000000</color>
        </diffuse>
        <specular>
          <color sid="specular">0.392157 0.392157 0.000000 1.000000</color>
        </specular>
        <shininess>
          <float sid="shininess">256.000338</float>
        </shininess>
        <transparency>
          <float sid="transparency">0.000000</float>
        </transparency>
      </phong>
    </technique>
  </profile_COMMON>
</effect>
```

hydra profile:



# Features in progress

- Will not work for now
  - Photon maps
  - Radiance cache
  - Relighting GUI



# Saving images

- In this version, please don't forget to press "Save Image Now" when you want to save image

# Run Hydra without GUI

- Run cmd line:
  - test\_app.exe “path\_to\_my\_scene.dae” “path\_to\_hydra\_profile.xml”
- Move: **W,A,S,D, R,F**, (up & down) **Q,E** (“Roll”)
- Path tracing : **P**
  - Enable/Disable diffuse bounces: **C**
  - Draw stat and blocks: **N,M**
- Irradiance Cache : **I**
- Trace depth: **1,2,3,4,5**
- Shadows : **Z**
- Aliasing (for RT only): **G,H,J,K,I**
- Compute images for relighting: **O**

# “Other” hotkey list

- Shift+B – Draw IC records
- Shift+R – Compute Radiance Cache
- Shift+P – Trace Photons (in progress)
- Shift+N – Draw diffuse photons photons
- Shift+M – Draw caustic photons photons
- Shift+(3,4,5) – Save camera
- (F3,F4,F5) – Load camera
- Shift+F – Enable/disable ray samples storing

Looks like this

