ray@ray-VirtualBox:~/home/OpenSceneGraph$ svn info
Path: .
URL: http://www.openscenegraph.org/svn/osg/OpenSceneGraph/trunk
Repository Root: http://www.openscenegraph.org/svn/osg
Repository UUID: 16af8721-9629-6410-8352-f15c8da7e697
Revision: 12466
Node Kind: directory
Schedule: normal
Last Changed Author: robert
Last Changed Rev: 12466
Last Changed Date: 2011-05-28 06:04:18 +0800 (Sat, 28 May 2011)
ray@ray-VirtualBox:~/home/OpenSceneGraph$
CMake 2.8.3 - /home/build_OpenSceneGraph

File  Tools  Options  Help

Where is the source code:  /home/OpenSceneGraph
Where to build the binaries:  /home/build_OpenSceneGraph
Search:  [ ] Grouped  [ ] Advanced

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMAKE_EXE_LINKER_FLAGS_DEBUG</td>
<td></td>
</tr>
<tr>
<td>CMAKE_EXE_LINKER_FLAGS_MINISIZEREL</td>
<td></td>
</tr>
<tr>
<td>CMAKE_EXE_LINKER_FLAGS_RELEASE</td>
<td></td>
</tr>
<tr>
<td>CMAKE_EXE_LINKER_FLAGS_RELWITHDEBINFO</td>
<td></td>
</tr>
<tr>
<td>CMAKE_INCLUDE_PATH</td>
<td></td>
</tr>
<tr>
<td>CMAKE_INSTALL_PREFIX</td>
<td>/usr/local</td>
</tr>
<tr>
<td>CMAKE_LIBRARY_PATH</td>
<td></td>
</tr>
<tr>
<td>CMAKE_LINKER</td>
<td>/usr/bin/ld</td>
</tr>
<tr>
<td>CMAKE_MAKE_PROGRAM</td>
<td>/usr/bin/make</td>
</tr>
<tr>
<td>CMAKE_MINISIZEREL_POSTFIX</td>
<td>s</td>
</tr>
<tr>
<td>CMAKE_MODULE_LINKER_FLAGS</td>
<td></td>
</tr>
<tr>
<td>CMAKE_MODULE_LINKER_FLAGS_DEBUG</td>
<td></td>
</tr>
<tr>
<td>CMAKE_MODULE_LINKER_FLAGS_MINISIZEREL</td>
<td></td>
</tr>
<tr>
<td>CMAKE_MODULE_LINKER_FLAGS_RELEASE</td>
<td></td>
</tr>
<tr>
<td>CMAKE_MODULE_LINKER_FLAGS_RELWITHDEBINFO</td>
<td></td>
</tr>
<tr>
<td>CMAKE_NM</td>
<td>/usr/bin/nm</td>
</tr>
<tr>
<td>CMAKE_OBJCOPY</td>
<td>/usr/bin/objcopy</td>
</tr>
<tr>
<td>CMAKE_OBJDUMP</td>
<td>/usr/bin/objdump</td>
</tr>
<tr>
<td>CMAKE_PREFIX_PATH</td>
<td></td>
</tr>
<tr>
<td>CMAKE_RANLIB</td>
<td>/usr/bin/ranlib</td>
</tr>
</tbody>
</table>

Press Configure to update and display new values in red, then press Generate to generate selected build files.

Configure  Stop  Current Generator: Unix Makefiles

package 'gtkglext-x11-1.0' not found
Could NOT find TIFF (missing: TIFF_LIBRARY TIFF_INCLUDE_DIR)
checking for module 'xrandr'
package 'xrandr' not found
Configuring done
Linking CXX shared module ../..../lib/osgPlugins-2.9.15/osgdb_png.so
Built target osgdb_png
Scanning dependencies of target osgdb_3dc
Building CXX object src/osgPlugins/3dc/CMakeFiles/osgdb_3dc.dir/ReaderWriter3DC.
  o
Linking CXX shared module ../..../lib/osgPlugins-2.9.15/osgdb_3dc.so
Built target osgdb_3dc
Scanning dependencies of target osgdb_p3d
Building CXX object src/osgPlugins/p3d/CMakeFiles/osgdb_p3d.dir/ReaderWriterP3D.
  o
Building CXX object src/osgPlugins/p3d/CMakeFiles/osgdb_p3d.dir/ReaderWriterPath.
  s
Linking CXX shared module ../..../lib/osgPlugins-2.9.15/osgdb_p3d.so
Built target osgdb_p3d
Scanning dependencies of target osgdb_curl
Building CXX object src/osgPlugins/curl/CMakeFiles/osgdb_curl.dir/ReaderWriterCURL.
  o
Linking CXX shared module ../..../lib/osgPlugins-2.9.15/osgdb_curl.so
Built target osgdb_curl
Scanning dependencies of target osgdb_gz
Building CXX object src/osgPlugins/gz/CMakeFiles/osgdb_gz.dir/ReaderWriterGZ.
  o
Linking CXX shared module ../..../lib/osgPlugins-2.9.15/osgdb_gz.so
Built target osgdb_gz
Scanning dependencies of target osgdb_lwo

Solution Explorer - Package ALL

oosgT
  osgShadow
  osgSim
  osgTerrain
  osgText
  osgUtil
  osgViewer
  osgVolume
  osgWidget
  Package ALL
  Package libopenscenegraph
  Package libopenscenegraph-dev
  Package libopenthreads
  Package libopenthreads-dev
  Package openscenegraph
  Package openscenegraph-all
**Namespace List**

Here is a list of all namespaces with brief descriptions:

<table>
<thead>
<tr>
<th>Namespace</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>osg</td>
<td>The core osg library provides the basic scene graph classes such as Nodes, State and Drawables, and maths and general helper classes</td>
</tr>
<tr>
<td>osgAnimation</td>
<td>The osgAnimation library provides general purpose utility classes for animation</td>
</tr>
<tr>
<td>osgDB</td>
<td>The osgDB library provides support for reading and writing scene graphs, providing a plugin framework and file utility classes</td>
</tr>
<tr>
<td>osgDB::FileOpResult</td>
<td></td>
</tr>
<tr>
<td>osgFX</td>
<td>The osgFX library is a NodeKit that extends the core scene graph to provide a special effects framework</td>
</tr>
<tr>
<td>osgGA</td>
<td>The 'GA' in osgGA stands for 'GUI Abstraction'; the osgGA namespace provides facilities to help developers write the glue to allow the osg to work with varying window systems</td>
</tr>
<tr>
<td>osgManipulator</td>
<td>The osgManipulator library is a NodeKit that extends the core scene graph to support 3D interactive manipulators</td>
</tr>
<tr>
<td>osgParticle</td>
<td>The osgParticle library is a NodeKit that extends the core scene graph to support particle effects</td>
</tr>
<tr>
<td>osgQt</td>
<td>The osgQt utility library provides various classes to aid the integration of OpenSceneGraph and Qt</td>
</tr>
<tr>
<td>osgShadow</td>
<td>The osgShadow library is a NodeKit that extends the core scene graph to add support for a range of shadow techniques</td>
</tr>
<tr>
<td>osgSim</td>
<td>The osgSim library is a NodeKit that extends the core scene graph to support nodes and drawables that specific to the visual simulation, such a navigational light point support and OpenFlight style degrees of freedom transform</td>
</tr>
<tr>
<td>osgTerrain</td>
<td>The osgTerrain library is a NodeKit that provides geospecific terrain rendering support</td>
</tr>
<tr>
<td>osgText</td>
<td>The osgText library is a NodeKit that extends the core scene graph to support high quality text</td>
</tr>
<tr>
<td>osgUtil</td>
<td>The osgUtil library provides general purpose utility classes such as update, cull and draw traverses, scene graph operators such a scene graph optimization, in clipping, and tessellation</td>
</tr>
</tbody>
</table>
```cpp
int main(int argc, char **argv)
{
    // create the model
    osg::Group* root = new osg::Group;
    root->addChild(createScene(1));
    root->addChild(createBackground(1));

    // osgDB::writeNodeFile(root, "geometry.osg");
    osgViewer::Viewer viewer;

    // add model to viewer.
```

---

Show output from: Build
1) Build started: Project: INSTALL, Configuration: Release Win32 ------
1) Performing Post-Build Event...
1) Installing: E:\Works\OSG_Cookbook\I_CUSTOMIZING\OPENSCEPHERGRAPH\build\bin\cookbook_01_01.exe
1) Build log was saved at 'E:\Works\OSG_Cookbook\I_CUSTOMIZING\OPENSCEPHERGRAPH\build\INSTALL_dir\Release\Build\osg\build\osg\build\install\install.log'
1) INSTALL - 0 error(s), 0 warning(s)
1) BUILD succeeded, 0 failed, 3 up-to-date, 0 skipped
-------
Chapter 2:

Drawable 1;
DFS Visitor traversal:
osg::Group
    osg::MatrixTransform
    osgParticle::ModularEmitter
    osgParticle::ModularEmitter
    osgParticle::ModularEmitter
    osgParticle::ParticleSystemUpdater
    osg::Geode

BFS Visitor traversal:
osg::Group
osg::MatrixTransform
osgParticle::ParticleSystemUpdater
osg::Geode
osgParticle::ModularEmitter
osgParticle::ModularEmitter
osgParticle::ModularEmitter
Chapter 4:
\[
M_{\text{proj}} = \begin{bmatrix}
\frac{2 \cdot z_{\text{near}}}{\text{right} - \text{left}} & 0 & 0 & 0 \\
0 & \frac{2 \cdot z_{\text{near}}}{\text{top} - \text{bottom}} & \frac{z_{\text{far}} + z_{\text{near}}}{z_{\text{far}} - z_{\text{near}}} & -1 \\
\frac{\text{right} + \text{left}}{\text{right} - \text{left}} & \frac{\text{top} + \text{bottom}}{\text{top} - \text{bottom}} & \frac{2 \cdot z_{\text{far}} \cdot z_{\text{near}}}{z_{\text{far}} - z_{\text{near}}} & 0 \\
0 & 0 & -1 & 0 
\end{bmatrix}
\]
$$M_{tile} = \begin{bmatrix}
\frac{2 \times z_{near}}{right' - left'} & 0 & 0 & 0 \\
0 & \frac{2 \times z_{near}}{top' - bottom'} & 0 & 0 \\
\frac{right' + left'}{right' - left'} & \frac{top' + bottom'}{top' - bottom'} & \frac{z_{far} + z_{near}}{z_{far} - z_{near}} & -1 \\
0 & 0 & \frac{2 \times z_{far} \times z_{near}}{z_{far} - z_{near}} & 0
\end{bmatrix}$$

$$= \begin{bmatrix}
\frac{2 \times z_{near}}{(right - left)/numCols} & 0 & 0 & 0 \\
0 & \frac{2 \times z_{near}}{(top - bottom)/numRows} & 0 & 0 \\
\frac{right + left}{(right - left)/numCols} - A & \frac{top + bottom}{(top - bottom)/numRows} - B & \frac{z_{far} + z_{near}}{z_{far} - z_{near}} & -1 \\
0 & 0 & \frac{2 \times z_{far} \times z_{near}}{z_{far} - z_{near}} & 0
\end{bmatrix}$$

$$= M_{proj} \begin{bmatrix}
\text{numCols} & 0 & 0 & 0 \\
0 & \text{numRows} & 0 & 0 \\
0 & 0 & 1 & 0 \\
0 & 0 & 0 & 1
\end{bmatrix} \begin{bmatrix}
1 & 0 & 0 & 0 \\
0 & 1 & 0 & 0 \\
0 & 0 & 1 & 0 \\
A & B & 0 & 1
\end{bmatrix}$$
Chapter 5:
Chapter 6:
Generated tasks file = build_master.tasks
mkpath(output)
  created directory output
Revision source = output/output.osgb.0.source
Setting up MachinePool to use all 1 cores on this machine.
Beginning run
  tasks/build_root L0 X0 Y0.task
  tasks/build_subtile L2 X0 Y0.task
  tasks/build_subtile L2 X0 Y1.task
  tasks/build_subtile L2 X1 Y0.task
  tasks/build_subtile L2 X1 Y1.task
  tasks/build_subtile L2 X2 Y0.task
  tasks/build_subtile L2 X2 Y1.task
  tasks/build_subtile L2 X3 Y0.task
  tasks/build_subtile L2 X3 Y1.task
  machine=ray-VirtualBox running task=tasks/build_root L0 X0 Y0.task
<table>
<thead>
<tr>
<th>Description</th>
<th>Location</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product: SRTM 60m DEM version 4</td>
<td>![Map of Ireland]</td>
<td>![Map of Ireland]</td>
</tr>
<tr>
<td>Data File Name: srtm_30_e2.cبلب</td>
<td>![Map of Ireland]</td>
<td>![Map of Ireland]</td>
</tr>
<tr>
<td>Mask File Name: srtm_mm_30_02.bبلب</td>
<td>![Map of Ireland]</td>
<td>![Map of Ireland]</td>
</tr>
<tr>
<td>Latitude min: 50 N, max: 55 N</td>
<td>![Map of Ireland]</td>
<td>![Map of Ireland]</td>
</tr>
<tr>
<td>Longitude min: 10 W, max: 5 W</td>
<td>![Map of Ireland]</td>
<td>![Map of Ireland]</td>
</tr>
<tr>
<td>Center point: Latitude 52.50 N, Longitude 7.50 W</td>
<td>![Map of Ireland]</td>
<td>![Map of Ireland]</td>
</tr>
</tbody>
</table>
Chapter 8:

<table>
<thead>
<tr>
<th>Frame Rate: 26.44</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frame Rate: 59.89</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
### GPU Usage

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 44%</td>
</tr>
</tbody>
</table>

### GPU Dedicated Memory

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>156.9 MB</td>
</tr>
</tbody>
</table>

### GPU Shared Memory

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>45.6 MB</td>
</tr>
</tbody>
</table>

### Dedicated GPU Memory (KB)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>156,566</td>
</tr>
<tr>
<td>Limit</td>
<td>1,017,280</td>
</tr>
</tbody>
</table>

### Shared GPU Memory (KB)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>46,832</td>
</tr>
<tr>
<td>Limit</td>
<td>3,145,576</td>
</tr>
</tbody>
</table>

View individual GPU engine usage and select engines used for GPU usage calculations: [Engines](#)
[SHARING] The name cessna.osg is already added to the sharing list.
[SHARING] The name cessna.osg is already added to the sharing list.
[SHARING] The name cow.osg is already added to the sharing list.
[SHARING] The name cessna.osg is already added to the sharing list.
[REMOVING] The name dumptruck.osg is removed from the sharing list.
Frame Rate: 60.21

Level 0

Level 1

Level 2
Chapter 9:
Plugin Name []: osgWeb
Plugin Identifier [osgWeb]:
Plugin Prefix [CWE]:
Plugin MIME type [application/x-osgweb]:
Plugin Description []: OSG webplugin
Plugin has no UI [false]:
Company Name []: OSG
Company Identifier [0SG]:
Company Domain [osg.com]: www.openscenegraph.org
String: Rui Wang
Integer: 101
Bool: 1
Matrix: {
  2.22045e-016 1 0 0
  -1 2.22045e-016 0 0
  0 0 1 0
  0 0 0 1
}
<Scene>
  <Version attribute="78"/>
  <Generator attribute="OpenSceneGraph 3.1.0"/>
  <MatrixTransform>
    <UniqueID attribute="1"/>
    <UserDatasContainer attribute="TRUE">
      <DefaultUserDataContainer>
        <StringValueObject>
          <UniqueID attribute="3"/>
          <Name attribute="Creator"/>
          <Value attribute="Rui Wang"/>
        </StringValueObject>
        <IntValueObject>
          <UniqueID attribute="4"/>
          <Name attribute="NodeID"/>
          <Value attribute="101"/>
        </IntValueObject>
        <BoolValueObject>
          <UniqueID attribute="5"/>
          <Name attribute="IsMain"/>
          <Value attribute="TRUE"/>
        </BoolValueObject>
        <MatrixValueObject>
          <UniqueID attribute="6"/>
          <Name attribute="OriginMatrix"/>
          <Value text="2.22045e-016 0 0 -1 2.22045e-016 0 0 0 0 1 0 0 0 0 1"/>
        </MatrixValueObject>
      </DefaultUserDataContainer>
    </UserDatasContainer>
    <Matrix text="2.22045e-016 0 0 -1 2.22045e-016 0 0 0 0 1 0 0 0 0 1"/>
  </MatrixTransform>
</Scene>
Saved to Image_1.bmp
<table>
<thead>
<tr>
<th><strong>Your email address:</strong></th>
<th><a href="mailto:wangray84@foxmail.com">wangray84@foxmail.com</a></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Your name (optional):</strong></td>
<td>Rus</td>
</tr>
</tbody>
</table>

You may enter a privacy password below. This provides only mild security, but should prevent others from messing with your subscription. **Do not use a valuable password as it will occasionally be emailed back to you in cleartext.**

If you choose not to enter a password, one will be automatically generated for you, and it will be sent to you once you’ve confirmed your subscription. You can always request a mail-back of your password when you edit your personal options.

<table>
<thead>
<tr>
<th><strong>Pick a password:</strong></th>
<th>*****</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reenter password to confirm:</strong></td>
<td>*****</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Which language do you prefer to display your messages?</strong></th>
<th>English (USA)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Would you like to receive list mail batched in a daily digest?</strong></td>
<td>☐ No ☰ Yes</td>
</tr>
</tbody>
</table>