

Glue - A GLUT wrapper for Euphoria 2.1+

Version 3

Mic, 2000/2003

The package

- glue.e The main include file. This is the one to include in you program.
- gl.e GL wrapper.
- glu.e GLU wrapper.
- validate.e Used for defining C functions/procedures.

- glut32.dll Needed by Glue programs when running in Windows. This particular version is modified to use stdcall callbacks, which Glue relies on. So if you want to replace the dll with a newer one, be sure to #define GLUTCALLBACK as __stdcall instead of __cdecl in glut.h.

- glut_cube.exw A rotating cube.
- glut_torus.exw A rotating torus (doughnut). Also demonstrates basic lighting.
- glut_triangle.exw A very basic example. Doesn't get much simpler than this.
- quadrics.exw Shows how to draw quadric objects (in this case a sphere) using GLU.
- scene.exw Shows how to create popup menus with GLUT.
- spots.exw Some colourful spotlight moving across a shiny surface.

Updates

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- Brought gl.e and glu.e up to par with the latest version of EuGL.
- Glue now supports Linux. It will look for libGL.so, libGLU.so.1 and libglut.so.3 in /usr/X11R6/lib/, so if you keep these libraries elsewhere you'll have to change the GL_LIBPATH constant in gl.e. If you don't have these libraries you'll have to download them (<http://www.opengl.org> or <http://www.mesa3d.org>).
- In conjunction with adding support for Linux I discovered that the Linux version of GLUT doesn't expect callbacks to be cdecl, so I decided to use stdcall for both platforms to achieve portability. This has the pleasant side effect that you no longer have to use the cdecl_callback function or put dummy arguments in your callback functions. The GLUT dll included with this package was recompiled to use stdcall instead of cdecl which is default for the win32 version. So if you want to use a newer version of GLUT (this one is 3.7.6), remember to change the definition of GLUTCALLBACK from __cdecl to __stdcall in glut.h.

000711

- Added `cdecl_callback()`.
- Added two more examples - `scene.exw` and `spots.exw`.
- Linked 70+ functions from `OpenGL32.dll`.

Usage

The most commonly used GL, GLU and GLUT functions have been given Euphoria equivalents to hide the use of `c_proc/c_func` from the user. The naming convention is the following:

```
glutCreateWindow("Caption");
```

becomes

```
glut_createWindow("Caption")
```

```
glColor3f(0.0, 0.0, 1.0);
```

becomes

```
gl_color3f({0.0, 0.0, 1.0})
```

and so on.

When calling `glut_init` you can use the global variables `glue_argc` and `glue_argv` as arguments, instead of creating your own pointers. These two just point to some dummy location.

Since the keyboard callback should take an unsigned char as its first argument, but you have to use the `integer` type in Euphoria, be sure to `and_bits` the keycode with `#FF` (255), since the upper 3 bytes may not always be zero. Also, use the `atom` type for arguments to callbacks where the C equivalent would use `int`, `uint`, `long` or similar.

Problems

Shutting down an application by clicking the close-button on the window doesn't seem to work. Even though the window is closed, `glutMainLoop` won't return, and the program just keeps running in the background. I have no idea why this happens. In the meantime, exiting by calling `abort` e.g. in the keyboard callback works just fine.

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