Instituto Superior Técnico

Computer Graphics

How to use the CGLIB under Linux

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2   How to use the CGLIB[1] under Linux

2.1   Pre-requisites:

- Although this guide may be suitable for other Linux distributions, it is assumed that you are running a recent Ubuntu Linux distribution, which can be obtained here:
  http://www.ubuntu.com.
- You have a working knowledge of how to perform Linux system management tasks, such as adding and removing packages from your Ubuntu installation.
- You know how to import projects into Eclipse.

2.2   Step 1: Configuring your Development Environment:

Skip this part of the guide if you have already installed Eclipse.

1. Make sure the following packages are correctly installed: `build-essential' and `freeglut3-dev', and all dependent packages.
2. Download the Eclipse IDE for C/C++ developers, which is available here:
    http://www.eclipse.org/downloads/packages/.
3. Follow the "User installation" section of the "EclipseIDE" set-up guide to configure the Eclipse IDE on your system:
    https://help.ubuntu.com/community/EclipseIDE#User%20installation
4. Run the Eclipse IDE and configure the default workspace directory (follow the on-screen instructions).

2.3   Step 2: Configuring CGLIB and CGLiTUTORIAL Projects:

1. Download the archive containing the two projects from this link:
    http://disciplinas.ist.utl.pt/leic-cg/laboratorio/cglib/cglib-linux.tar.gz
2. Make sure the Eclipse IDE is running.
3. Import both projects into the Eclipse workspace created in Step 1, no 4.
4. Eclipse will start building both projects automatically. If not, try building the cglibtutorial project manually.

2.4   Step 3: Using CGLIB in a new Eclipse C++ project

Refer to the `cglibtutorial' project when in doubt following the steps below.

1. **Make sure** the `cglib' project **is open** (refer to Step 2).

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[1] CGLIB: For more information on the Computer Graphics Library, refer to:
Carlos Martinho, Carolina Torres, Cglib Tutorial -- Creating a simple game using cglib,
http://disciplinas.ist.utl.pt/leic-cg/laboratorio/CGLib/Tutorial_CGLib_text_version.pdf

2. Create a new project C++ project using a name of your choice.

3. Press `next' and click on `Advanced Settings'.

4. Open the C/C++ Build -> Settings properties page.

5. **Make sure that the Configuration is set to** `All Configurations'.

6. In the `GCC C++ Compiler' section of the properties page, select the `Directories' folder.

7. Add the following **workspace** include path: ${workspace_loc:/cglib/src}

8. Select the `Warnings' folder within the `GCC C++ Compiler' section and enable the following options:

> Pedantic
> Pedantic warnings and errors
> All warnings
> Warnings as errors

9. Now switch to the `GCC C++ Linker' section of the properties page and select the `Libraries' folder.

10. Add the following libraries (**names are case sensitive**):

> X11
> m
> glut
> GLU
> cglib

11. Add the following **workspace** library path: ${workspace_loc:/cglib/Debug}

12. Switch to the C/C++ Build -> Environment properties page and **make sure the Configuration is set to** `All Configurations'.

13. Add a new environment variable with the following name and value:

> Name: PATH
> Value: /usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin

14. Switch to the `Project References' properties page and tick the box next to the `cglib' project.

15. Press OK at the bottom right corner of the properties page to save your project's settings.

16. Press FINISH to create the project.

17. Create a source folder named: `src', and add all your C++ source files to this directory.