Appendix C: Verification of the Installation Procedure

I. CONVENTIONS

During verification of the installation procedure, standard output and standard error from `./bootstrap`, `./configure`, `cmake`, `make`, and `make install` commands were re-directed to files to confirm successful installation. The installation procedure was verified as follows:

II. ARCHIVE THE BASE INSTALLATION

The author archived the base installation using the YaST "System Backup" utility before installing any additional applications from packages or source. See Appendix A.

III. DEVELOP THE INSTALLATION PROCEDURE

The author developed the installation procedure. See Appendix A.

IV. DOCUMENT THE INSTALLATION PROCEDURE

The author documented the installation procedure. See Appendix B.

V. RESTORE THE BASE INSTALLATION

The author restored the base installation from backup using the YaST "System Restoration" utility. The author decided not to re-install openSUSE because versions of packaged software may have changed from those installed during the base installation. However, the "System Restoration" utility functioned more or less as a new installation of openSUSE 11.2, "restoring" the system by installing updated versions of packages installed as part of the base installation package groups.

VI. UNINSTALL APPLICATIONS AND SOURCE INSTALLED IN ACCORDANCE WITH APPENDIX B

The author uninstalled applications and source installed in accordance with

Appendix B using the `make uninstall` and `make clean` commands, with the following exceptions:

VI.A.   FreeImage

The attempt to `make uninstall` resulted in the following output:

```
make: *** No rule to make target 'uninstall'.  Stop.
```

As a result, the author reviewed the output of the previous `make install` command to determine which files were installed, then deleted the following files:

```
/usr/include/FreeImage.h

/usr/lib/libfreeimage.a

/usr/lib/libfreeimage-3.13.0.so
```

VI.B.   FLTK

Packages `fltk` and `fltk-devel` were deleted when the base installation was restored from backup.

VI.C.   Cg

Packages `cg` and `cg-devel` were not installed during development of the installation procedure.

VI.D.   Player

The first attempt to run command `make uninstall` failed because `cmake` was deleted when the base installation was restored from backup. The author installed `cmake` from the openSUSE repository using YaST. Because `cmake` was installed during verification of the installation procedure, it was not necessary to install it later. The author did not revise the installation procedure to delete this step because the intent

of the installation procedure is to provide instructions which will result in the successful installation of Player and Gazebo on the first attempt using the base installation as a baseline.

The command `make clean` resulted in no output.

VI.E.   Gazebo

The attempt to `make uninstall` resulted in the following output:

`make: *** No rule to make target 'uninstall'.  Stop.`

As a result, the author archived the existing installation of Gazebo by renaming the containing directory and then downloading Revision 8443 of the Gazebo 0.9.0 source code using `svn`:

`svn co https://playerstage.svn.sourceforge.net/`

`svnroot/playerstage/code/gazebo/trunk@8443 gazebo`

File `.gazeborc` was deleted by the author.

The command `make clean` resulted in no output.

VII. RE-INSTALL APPLICATIONS AND SOURCE IN ACCORDANCE WITH APPENDIX B

The author re-installed applications and source in accordance with Appendix B, with the following exceptions:

VII.A.   Step "Path environment variables"

The author exported CPATH, LIBRARY_PATH, and PKG_CONFIG_PATH. It

was not necessary to export PATH, which included directory `/usr/local/bin`. The

author notes that development of the installation procedure resulted in a successful

installation of Gazebo without exporting additional paths.

VII.B.   Step "Install Cg"

When attempting to install `cg` and `cg-devel` from the openSUSE repository

using YaST, the author received the following warning:

`nothing provides libGLU.so needed by cg-2.2-1.1.1-i586`

The author confirmed package `Mesa` provides `libGLU.so.1`, and created the

following symbolic link:

`/usr/lib/libGLU.so -> libGLU.so.1`

then forced installation to continue. Package `libstdc++33 3.3.3-15.3`

was installed by YaST to resolve a dependency.

VII.C.   Step "Install Player"

The first attempt to use `ccmake` to "Set BUILD_PYTHONC_BINDINGS to

OFF" failed because `cmake` had not been run. As a result, there was no

`CMakeCache.txt` file. The author revised step "Install Player" to require `cmake` to

be run before using `ccmake` to complete this step.

VIII. VERIFY A WORKING INSTALLATION OF GAZEBO

The author confirmed a working installation of Player and Gazebo by constructing a simple Gazebo world file and Player configuration file, then executing the following commands from the gazebo directory:

```
$ gazebo worlds/test.world
$ player player_cfgs/test.cfg
$ playerv
```