Code Guide for VisioTherapy

Requirements:

You must have all of these for the code to work:

Ogre3d 1.9 built using Visual C++ 2012 compiler (either with CMake or a redistributed build)

Latest version of Eigen

Qt 5.4

ViconDataStream SDK, 32 bit version

Visual Studio 2013 using the Visual Studio 2012 C++ Compiler (any Visual Studio version with this compiler should work)

The Qt .dlls were copied into the Ogre debug folder, along with the ViconDataStream dll, and the debug executable copied into this folder. This is required as the executable must be in a folder with all these .dlls to run.

Environment Variables Used:

Name	Directory
EIGEN	Eigen Root Folder (e.g. C:\Eigen
OGRE_HOME	Ogre Root Folder in which Ogre was built (e.g. C:\Ogre)
QTDIR	Qt directory containing files built for Visual C++ 2012 compiler (e.g. C:\Qt\5.4\msvc2012_openGL\

Notes:

All environment variables must be as detailed for all the include directories and linked paths to work correctly in the build options of the project. You can of course change these paths if you do not want to use environment variables. The Vicon Datastream SDK can be changed to the 64 bit version; 64 bit must then be selected in visual studio. This may cause issues with Qt and Ogre (untested as of now).

Notes on code functionality:

The vast majority of calculations for processing (e.g. cluster finder, calibrate, playback of animations) are executed in void functions in the render loop. This was the thinking behind the framework in that extra functions could simply be added in the render loop.

Tips to get started:

I would recommend trying at least a few of the Ogre Tutorials before editing this code, especially the one covering the rendering loop process (buffered input). A few Qt tutorials are also useful, especially to understand how the XML signals and slots metaobject system works, if you are planning to edit the GUI. This implementation of Qt with Ogre was used: http://www.ogre3d.org/tikiwiki/tiki-index.php?page=Integrating+Ogre+into+QT5&structure=Cookbook

You should read and understand this before attempting to modify the code.

Sources \ code snippets used:

Integration of Qt with Ogre: http://www.ogre3d.org/tikiwiki/tiki-index.php?page=Integrating+Ogre+into+QT5&structure=Cookbook

Text Overlay: http://www.ogre3d.org/tikiwiki/tiki-index.php?page=Simple+Text+Output&structure=Cookbook

Grid: http://www.ogre3d.org/tikiwiki/tiki-index.php?page=PetersGridSystem

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File format required for loading animations:

Meshname.mesh
Animationname
Animationdata.csv
Framerate

Example:

ninja.mesh
Backflip
TestData.csv
150