EDTracker 2 for ShiVa

Oculus gives you headaches? Don't want to throw away your 50" gaming screen? Looking for a little more immersion in your games without breaking the bank? Then you have come to the right place! With EDTracker 2, you have a very cost-effective way of getting into "sortof" VR without getting motion sick from tiny screens that are glued to your face.

At the time of writing, EDTracker comes as a DIY kit for home assembly and a software package. Depending on which kit you choose, you have to follow different assembly guides, which are readily available from the EDTracker website:
http://edtracker.org.uk/index.php/building

This document covers the software side of things, how to get EDTracker play nice with ShiVa and how to make your games fit for head tracking.

1. The EDTracker GUI

EDTracker devices are flashed, configured and calibrated using the EDTracker GUI, which is a free download from the EDTracker website:
http://edtracker.org.uk/index.php/downloads/category/4-gui

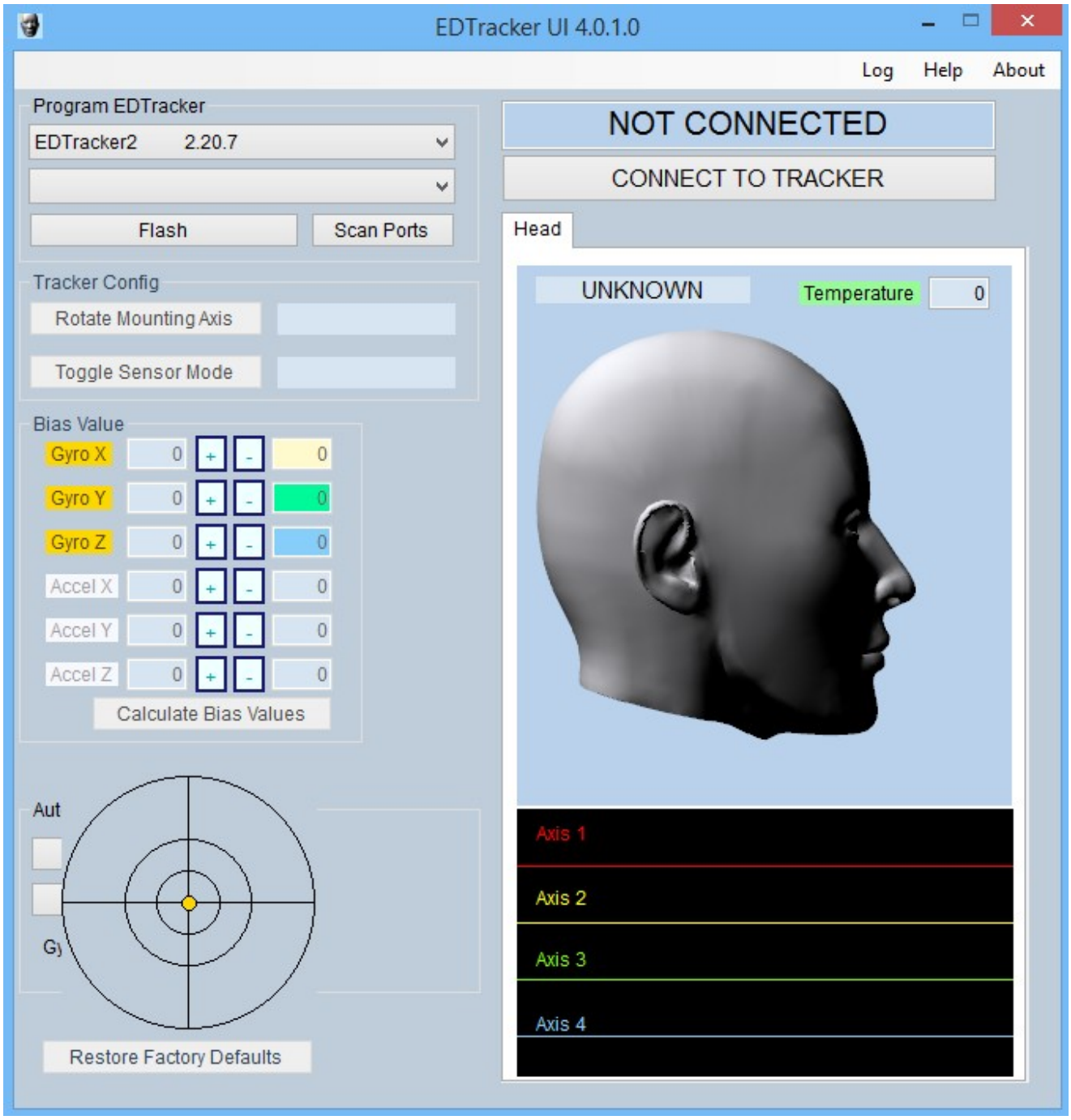
All the settings you change in this GUI will have a direct effect on ShiVa. If you set the response to Linear, the tracking in ShiVa will be linear, if you set it to Exponential, it will be exponential in your game, and so forth.

Please watch the videos on the edtracker website to calibrate your device properly:
http://www.edtracker.org.uk/index.php/using/calibration

The ShiVa AI in this product is pre-configured for the following settings:

- EDTracker 2 4.0 firmware
- MPU 9150
- Smoothness 20
- Response: linear
- X/Y scaling: 1
- USB: top left

If you would like more smoothing, more acceleration, or move the USB cord to another side, that would be totally fine. Just be aware that the head movement is no longer 1:1 then, so the effect of a "window into a virtual word" will be less "virtual reality" and more "game with one additional controller" - you decide.


EDTracker UI 4.0.1.0
Log
Help
About
Program EDTracker
EDTracker2 2.20.7
Flash
Scan Ports
Tracker Config
Rotate Mounting Axis
Toggle Sensor Mode
Bias Value
Gyro X 0 + - 0
Gyro Y 0 + - 0
Gyro Z 0 + - 0
Accel X 0 + - 0
Accel Y 0 + - 0
Accel Z 0 + - 0
Calculate Bias Values
Aut
Restore Factory Defaults
NOT CONNECTED
CONNECT TO TRACKER
Head
UNKNOWN
Temperature 0
Axis 1
Axis 2
Axis 3
Axis 4

2. ShIVa EDTracker2 Product content

This ShiVa product contains the following components:

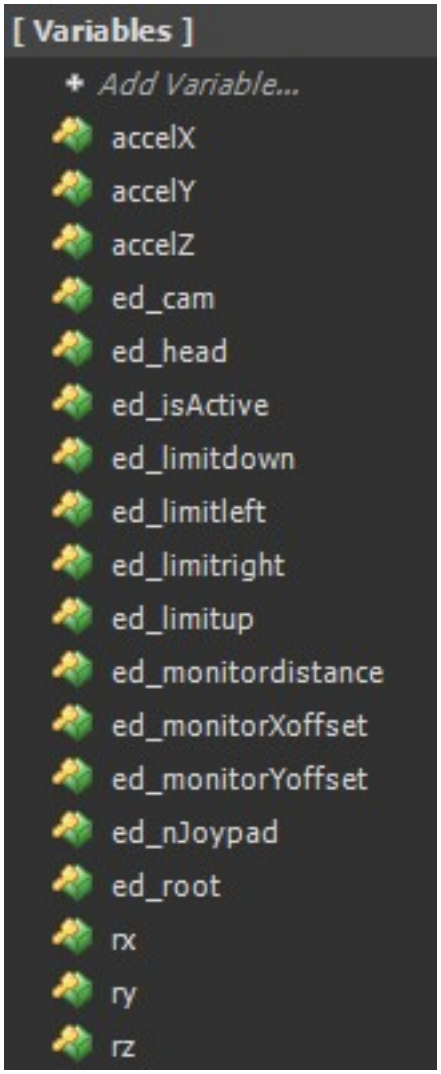
- a PDF guide -> you are reading it
- edtracker2_[date].ste -> a single User AIModel for ShiVa
- EDTracker2Demo.7z -> a win32 demo with a DR version of the 2.0 b3 engine
- edtracker_testscene_[date].ste -> the project files to the demo above

The AI will work in ShiVa 1.9.2 to 2.0 b2 in limited capacity. B3 and up are recommended for all features. B3 adds:

- 16bit rotation values instead of 8bit (smoother)
- auto-detection of the device and mapping the proper nJoypad ID to the tracker

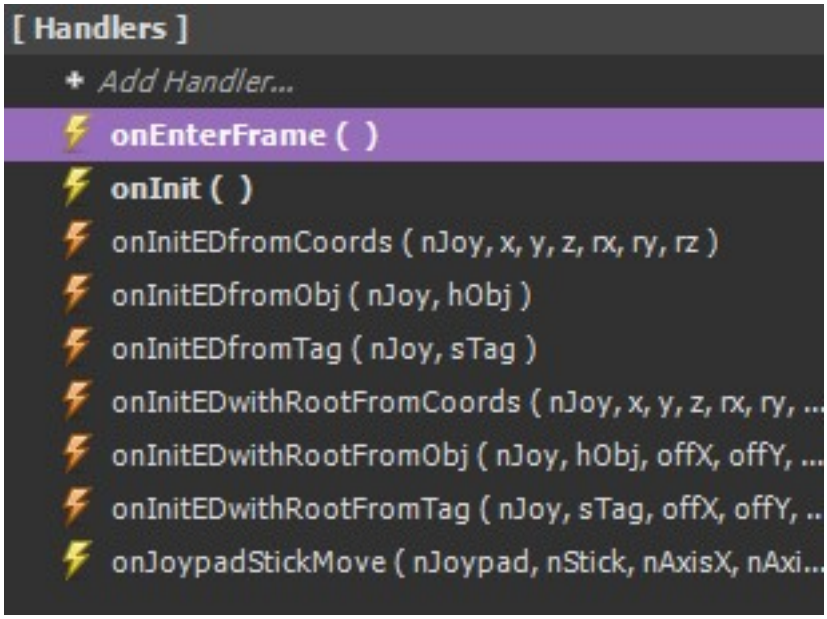
3. ShIVa EDTracker2 AIModel

The “edtracker2” AI is a User AIModel that needs to be in the main user AI stack in the Game Editor. Several AIs are predefined that influence its behaviour:



- accelX/Y/Z -> acceleration value, default 1; 2 and up are faster.
- ed_cam -> camera object. needs to be ~= nil.
- ed_head -> head joint, only for "..withRoot.." handlers. created automatically. has edtracker orientation
- ed_isActive -> on/off switch for tracking.
- ed_limitdown/up/left/right -> limit movement. default all 90 (meaning 90 degrees).
- ed_monitordistance -> camera-player distance, only for "..withRoot.." handlers.
- ed_monitorX/Yoffset -> camera-player offset, only for "..withRoot.." handlers.
- ed_nJoypad -> joypad ID of the device used for tracking.
- ed_root -> head/neck root. has player orientation. forms "joint" with child ed_head which has the EDTracker orientation.
- rx/ry/rz -> internal temp rotation storage, do not touch.

A number of handlers are available to invoke the tracker:



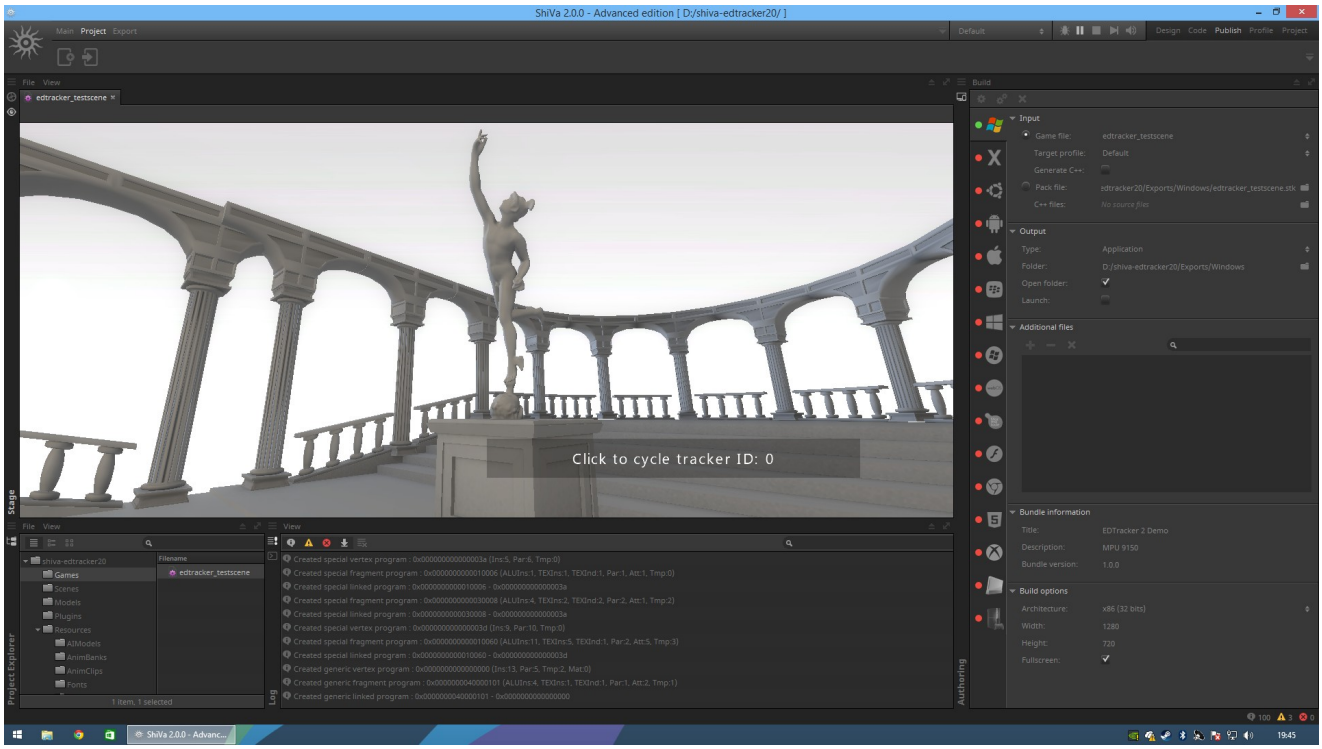
.. EDfromCoords -> create edtracker rig at position x/y/z with rotation rx/ry/rz
.. EDfromObj -> create edtracker rig at position and rotation matching hObj
.. EDfromTag -> create edtracker rig at position and rotation matching object with tag sTag
.. withRoot.. -> same as above, but with offset and distance values

Please check the demo testscene for an possible implementation into a 1st person game.

4. Testscene Demo Project

The testscene demo project is a win32 application that contains a ready to run 1st person setup:

- arrow keys to move forward/backward and rotate left/right
- EDTracker to rotate your head (pitch and yaw limited to 90 deg. in each direction, no roll)
- alt+f4 to quit



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