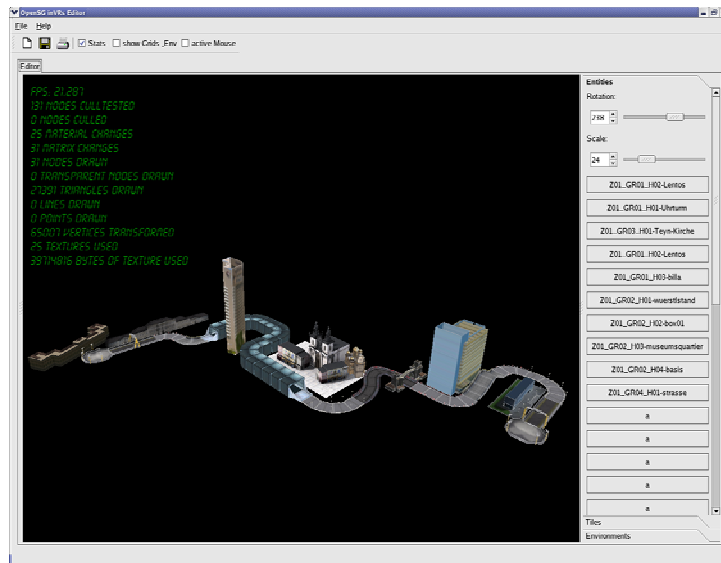


inVRsEditor

10h – programming practical for computer science degree
WS 2006
&
distributed graphical applications
SS 2007
Robert Owen [0055413]



The aim of this project was to develop an editor which makes it possible to create virtual worlds. These can be loaded by inVRs and used in the Virtual Reality Center. The tiles and entities are loaded by inVRs functions and then displayed as buttons in the QT – GUI. To be able to use the cursor coordinates a "PassiveWindow" is implemented for the OpenSG Widget.

The inVRsEditor can also be started as a server-client-application, where up to five users are able to work on the same virtual world. Once the server is started (uses ports 21580 and 21581) clients can connect to the server.

Szenario:

- server is started and inserts a few objects
- client connects
- server sends spacing and performed actions to the client
- client performs action, which is first sent to the server
- server checks if the client's action is ok
- server performs the client's action and sends it to all the connected clients

Mouse movements:

- clients perform their mouse movements and send a message regularly to the server
- server sends own and received mouse movements to clients

Keyboard functions:

Enter: places object

Control: switches between "Design Mode" and "Select Mode"

In "Select Mode" objects can be selected to show the related information and be deleted.

Key "D": deletes objects in "Select Mode"

Features:

- a wizard to initialize and/or load a virtual world
- simple creation of a virtual world
- displays the relevant objects in tree
- displays information of objects
- manipulation of objects and virtual worlds
- multi-user capability

Versions:

- gcc 4.0.2
- QT 3.3.4
- OpenSG 1.6

Compiling:

cd inVRsEditor

clean: "make clean" or "make Clean"

make: "make"

Walkthrough:

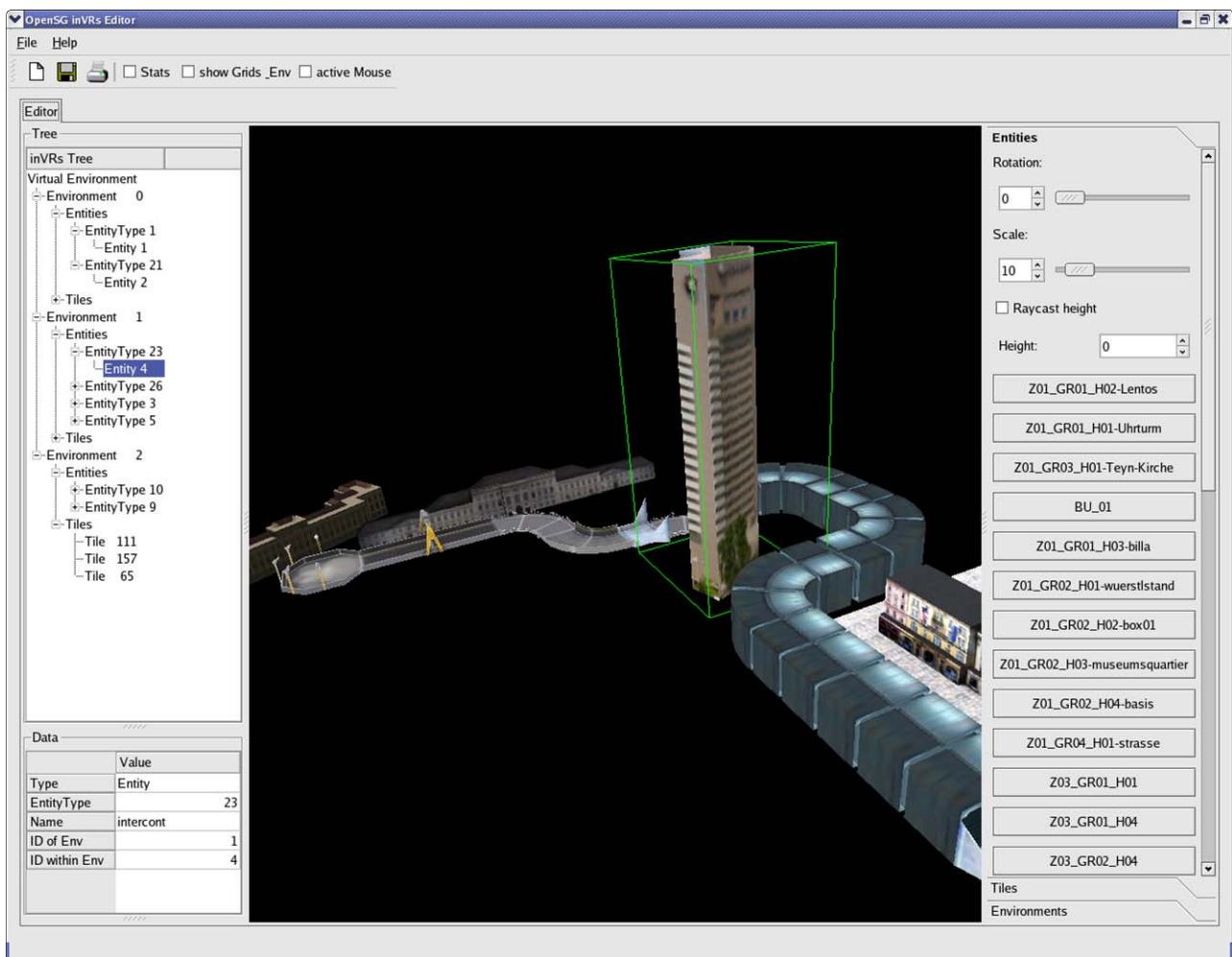
1. Start the program with "./inVRsEditor".

2. The wizard will guide you through the different settings.

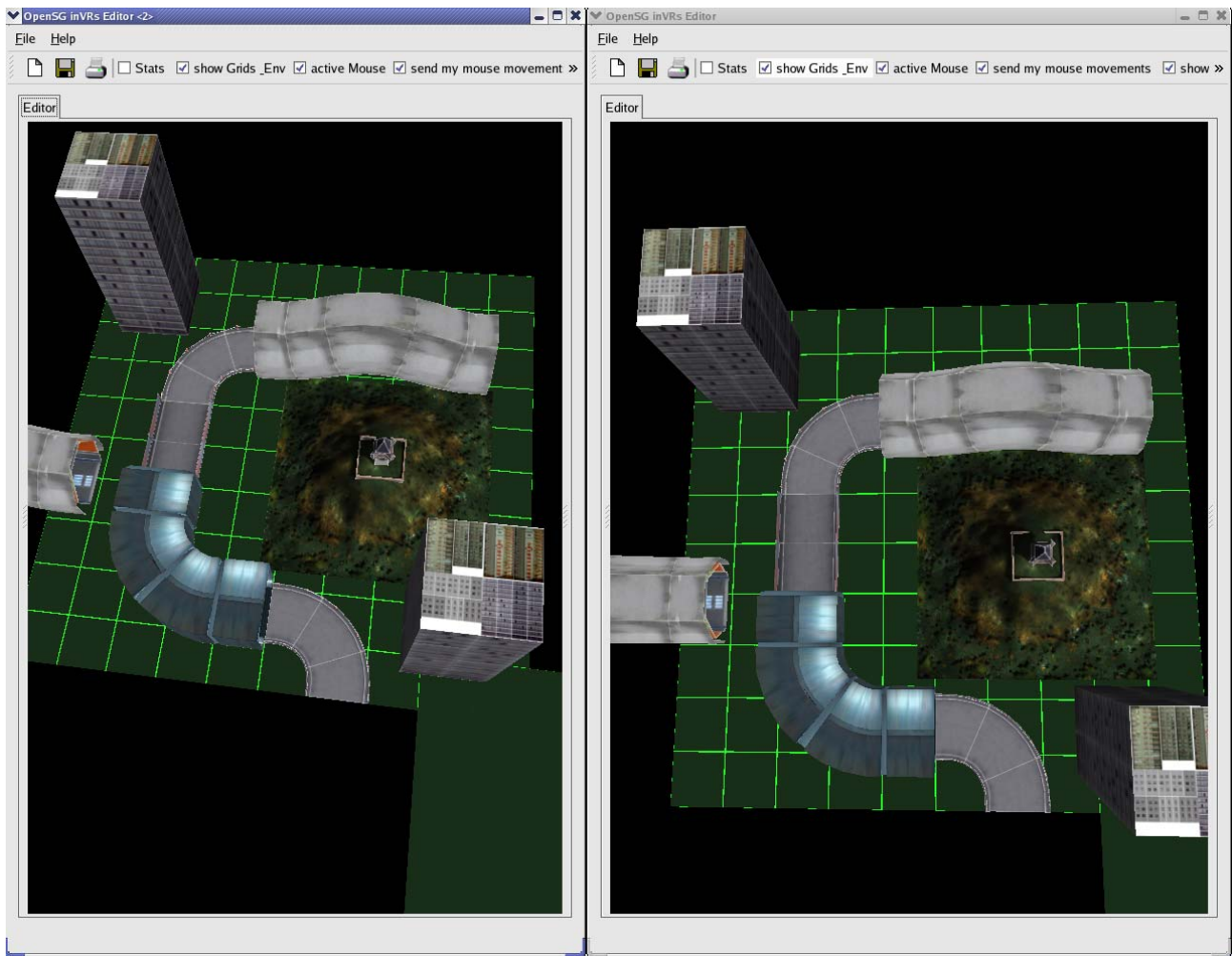
Note: The size of the tiles allowed that can be placed in an environment is set by the spacing value and a multiple of it.

If a virtual world is loaded, all the used models must be specified in the xml files which load the tiles and entities.

3. As soon as all the models are loaded, the editor will be displayed. On the left-hand side the Virtual World is shown in terms of a tree; if one of the tree items is selected, as an Environment, an Entity or a Tile, the appropriate information is shown.



On the right-hand side, buttons for the loaded tiles and entities are displayed.



This is an example of a server (right) and a client (left). As one can see, the objects are identical with the "mouse-object" of the server also being shown on the client's interface and vice versa.

Saving:

To save the created world, just choose a name for the file.

The xml files for each environment automatically get an incremental number added to this name.