Close Program | New Project | Load Project | Save Project | Edit Object | Edit Player | Player Script | Global Script | Play Game | About | Console

IRB Project tools   Editing   Scripting

Informations about this object

Model name:
Elf Female

Description:

Author:

Licence:

Dynamic object selection

Object collection

IRB-npc

Category

All
Animal
Monster - medium
Monster - Big
Human
need animation

Item

frog
goblin
goblin giant version
peasant
ard
Female
lf
Horse1
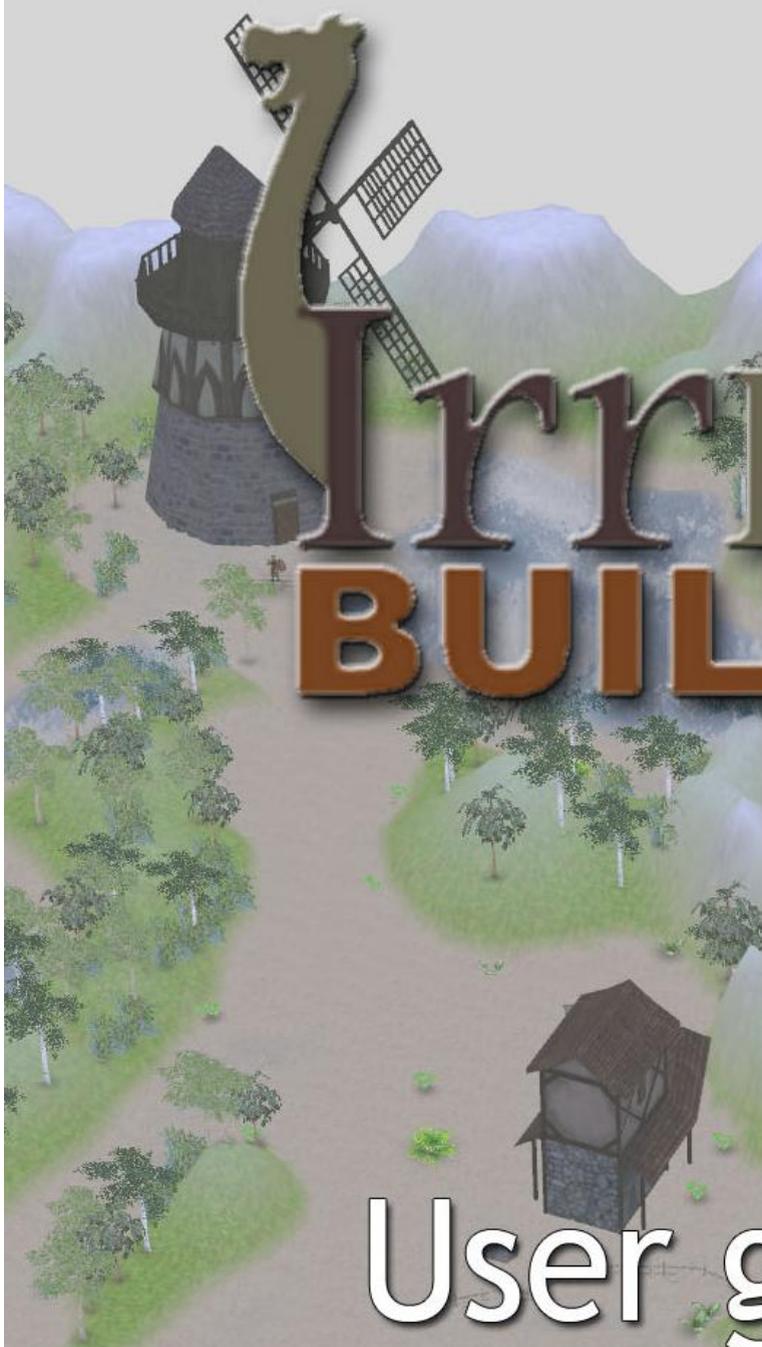
IrrRPG BUILDER

User guide

What is Irr RPG Builder?

IrrRPG Builder or simply "IRB" is a simple and powerful tool designed to help people new to programming and/or players who want to create RPG (Role Playing Game) games without advanced knowledge in programming languages.

This tool has a simple interface that enables the creation of 3D environments very quickly. The Lua scripting language is integrated into the system and assists the creation of game logic, artificial intelligence of NPCs and enemies.

The system come with 2 applications:

- *A "player" application.*
  This application will load a defined project and will allow the user to play directly.
- *A "Editor" application*
  This application will allow the user the place the object and create gameplay, the editor will also allow to playtest the project before using it in the player application.

What are the current features? (IRB Alpha 0.3)

- **It's FREE!**
- **It's open source, under MIT/X11 license.**
- Irrlicht based irrlicht.sourceforge.net
- Cross-platform (Windows and Linux)
- Real time terrain editing
- Auto paint terrain (grass, sand, ...)
- Dynamic grid based terrain system, extensible by adding segments
- Ocean system integrated to terrain
- Real time vegetation paint
- Drag-drop NPC/enemy positioning
- Lua scripting for in game actions, chats and AI
- Multi-lingual XML language file (favoring translations)
- XML based project file (user games are saved into a XML file)
- OpenGL and GLSL effects
- Exterior / Interior scenery
- Cutscene creation via LUA scripting

What are the file formats supported for the 3D assets

The same 3D file formats as the Irrlicht library support as version 1.8.0:

File extension	Description of the format	Animated (Morphs)	Animated (Bones)	Static only
IRRMESH	Irrlicht static meshes			•
3DS	3D Studio meshes			•
OBJ	Alias Wavefront			•
LWO	Lightwave objects			•
DAE / XML	Collada 1.4			•
MY3D	My3D Tool			•
LMTS	Pulsar LMTools			•
BSP	Quake 3 Levels geometry			•
DMF	DeleD			•
OCT	FSRad OCT			•
CSM	Cartography shop 4			•
STL	STereoLithography format			•
PLY	Polygon File Format Stanford Triangle Format			•
B3D	Blitz 3D		•	
X	Microsoft DirectX		•	
MS3D	Milkshape		•	
MD3	Quake 3 Models	•		
MD2	Quake 2 Models	•		

What are the file formats supported for the textures?

The same file formats as the Irrlicht library support as version 1.8.0:

File extension	Description of the format
JPG	JPEG File Interchange format
PNG	Portable network graphics
TGA	Truevision Targa
BMP	Windows bipmap
PCX	Zsoft Paintbrush
PPM	Portable Pixmaps
PSD	Adobe Photoshop
WAL	Quake 2 textures
RGB	SGI truecolor textures

Interface presentation

General interface presentation:

IRB is composed of "sections" of modules that allow for easy editing:
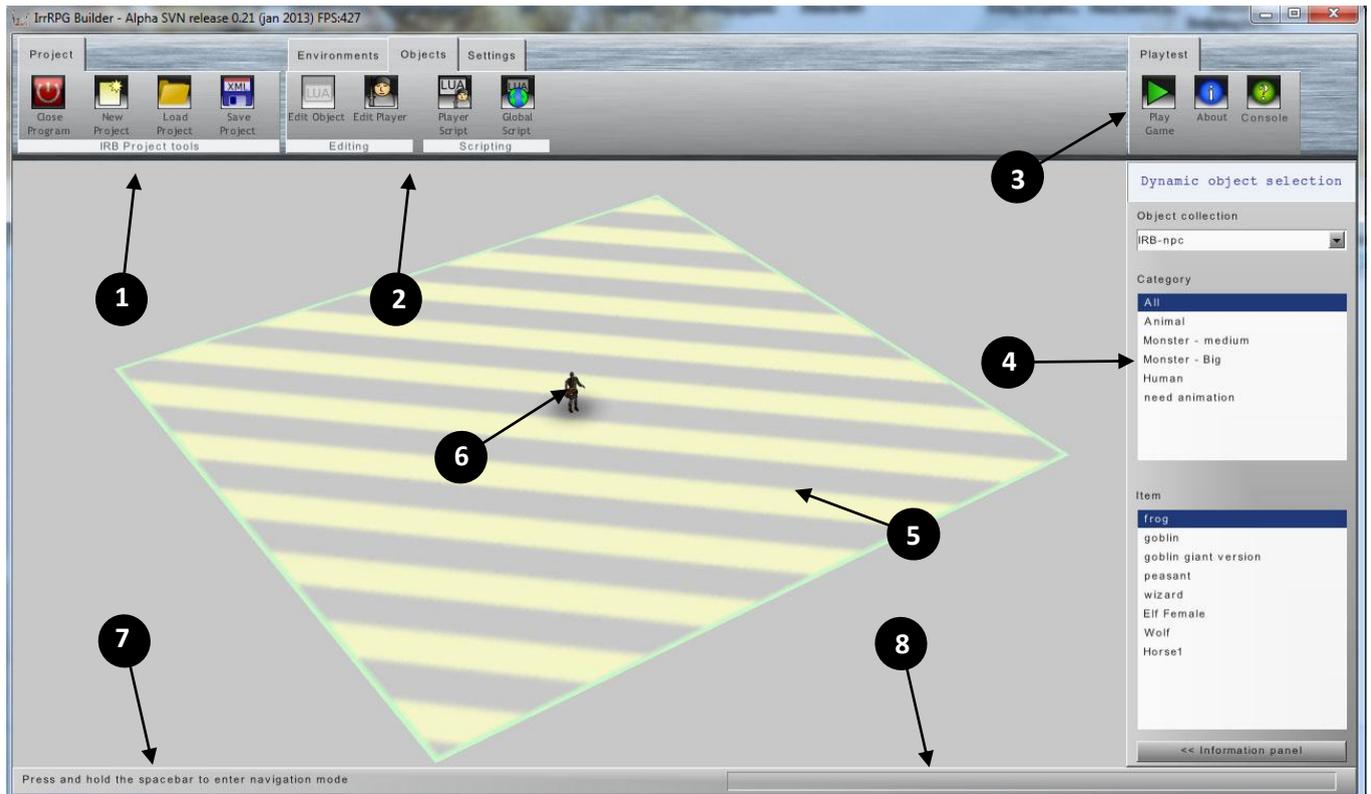
1. *Project control section*
2. *Mode control section*
3. *Play test section*
4. *Mode options section*
5. *Empty tile*
6. *Player*
7. *Informations notifications*
8. *Data information (object position, camera position)*

Sections presentation:

Project control section:

1. *Close program button*:
   Pressing this will close the application
2. *New project button*:
   Pressing this will remove everything and start fresh as new
3. *Load project button*:
   This will open a file requester to load a IRB project
4. *Save project button*:
   This will open a file requester to save the current IRB project

Object mode control section:
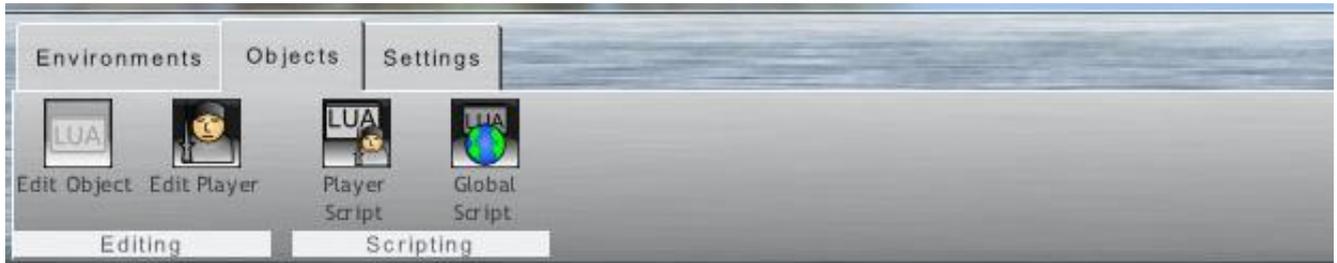
1. *Edit object button* (active mode)
   Pressing this button will enter *object edit mode*
2. *Edit player button*
   Pressing this button will enter *player edit mode*
3. *Player script button*
   Pressing this will open the script editor for the player
4. *Global script editing button*
   Pressing this will open the script editor for the "Global" script

Environments mode control section:

1. *Terrain tile button*:
   Pressing this will allow to add/remove IRB terrain tiles
2. *Empty tiles button*:
   Pressing this will allow to add/remove new empty tiles
3. *Edit elevation button*:
   Pressing this will allow to change the elevation of a IRB terrain
4. *Paint vegetation button*:
   Pressing this will switch to paint vegetation mode with pre-defined trees.

Settings mode control section:
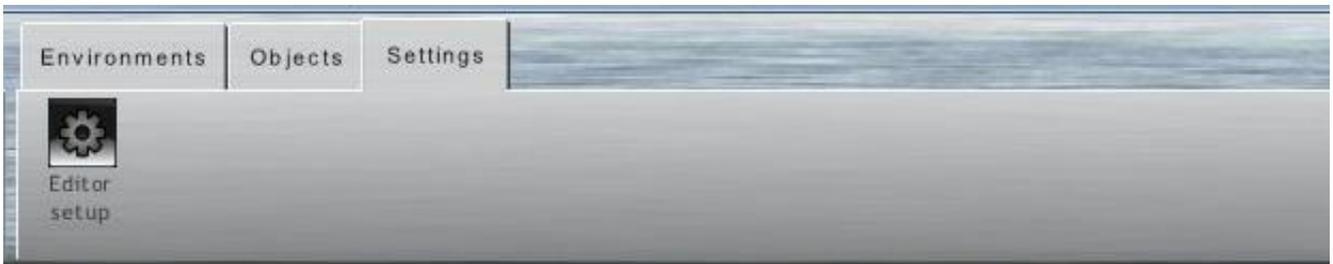
1. *Editor setup button:*
   Pressing this will open the Editor setup interface window. Using this you can customize lots of the editor parameters as:

   - The textures used for the IRB terrain.
   - The language of the interface and the game.
   - The display mode of the application, as full screen or windowed.
   - The size the window, screen and scaling mode of the application window.
   - Using overdraw to render the player when it is occluded by the environment.

Using the edit camera / Scene navigation
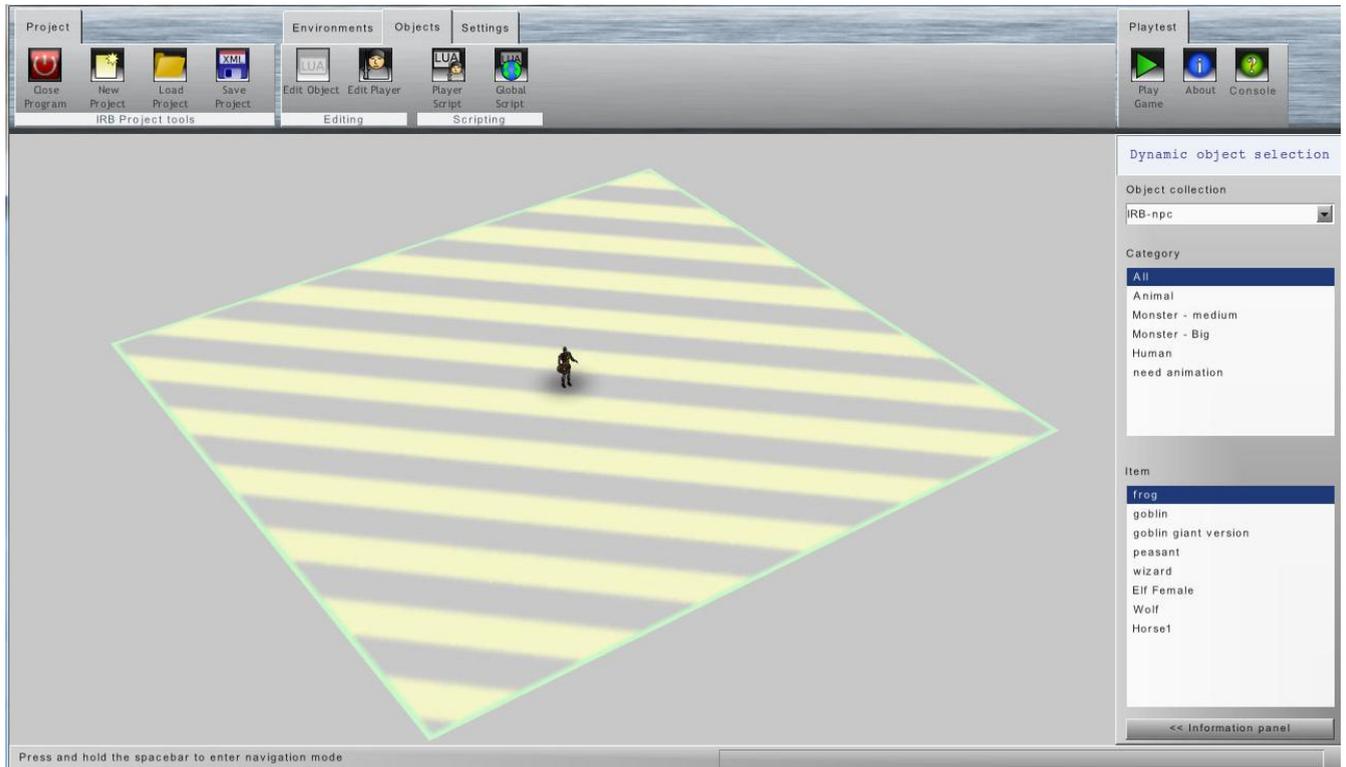
Most of scene navigation is done using the mouse. To determine that the user want to navigate the scene a key must be pressed and maintain. The default key for this is the **SPACE KEY**.

When the **SPACE KEY** is pressed and maintained, the mouse will allow the edit camera to change position and angle.

- Pressing and maintaining the left mouse button will **rotate the view**.
- Pressing and maintaining the right mouse button will **move the view**.
- Rotating the mouse wheel will **zoom the view**
- Pressing both left, right button and moving the mouse will **zoom the view**

Alternatively, the keyboard arrow key allow to move the current view.

Object edit mode

Selecting and placing items

The object edit mode will allow the user to add assets to the project. Once the button is pressed and the mode is activated, a window will appear on the right giving choices of models to place in the map.

When the edit object button is selected

Dynamic object panel

Collection selection

Category selection

Empty tile

Model selection

Show detailed info
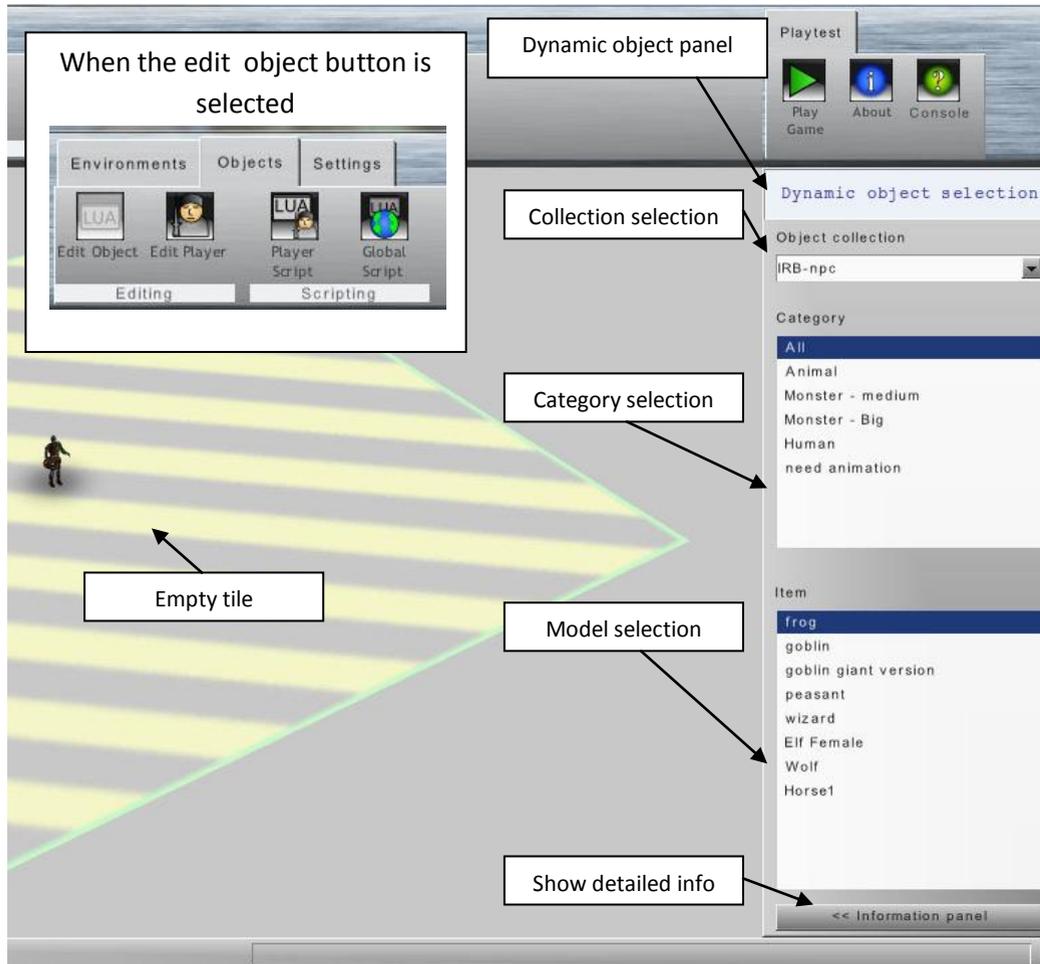
Collections

Collections: When the object edit mode is activated the user can select a collection of objects. As of now IRB have basic collections, but that can be expanded by users by creating new XML templates files.

Categories

Once the collection is selected in the list, the "Category" list will fill up with all the defined categories in the collection, and then the current items list will be filled also. This can be used to filter all item by the given category.

Items

By default IRB will display all the objects in the collection. Once a category item is selected the item list will refresh and ONLY display the list of items that are from the selected category.

Once an item has been selected it can be placed anywhere on the map by simply using the mouse and clicking on a position on the map. The only restriction is that it must be placed over:

- an empty tile
- a IRB terrain tile
- an object

Trying to place an object over "nothing" will fail, as IRB will place the item at the "floor" position of the model that is there (empty tile, IRB terrain tile, or object)

Note: *If you need to place models outside the current area, you will have to add new tiles first (IRB Terrain or Empty tiles) to be able to place them.*

The context menu

Once you place an item somewhere, you can place the mouse pointer over it and change some properties over it. When you do this, this menu will appear and offer you theses choices.

Moving the mouse pointer outside the menu will make it disappear.
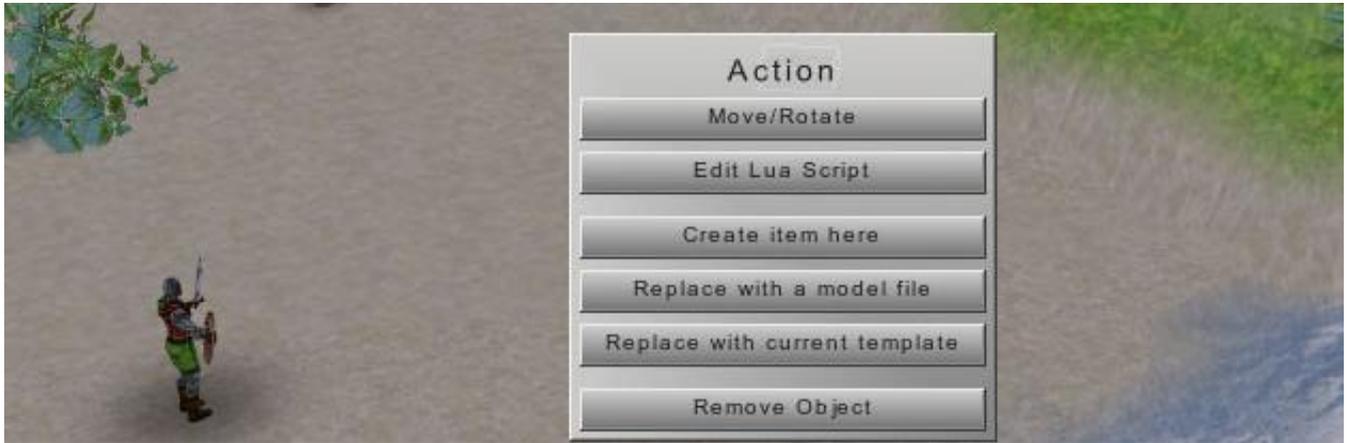
1. *Move / Rotate*:
   Will allow to move the object using the mouse, and rotate it with the mouse wheel.
   Note: There is a "**snap**" feature that can be activated if the user move the object while <u>pressing the **CTRL** key</u>.

2. *Edit Lua Script*:
   Will open the script editor and allow editing of the object LUA Script

3. *Create Item here*:
   Will place the current selected template object in the selection list, at this position. Useful for placing items over others (example: plates over a table)

4. *Replace with model file*:
   Will replace the current selected on the map with the one from a file. A file selector will open an allow the user to select his model. This should be only used to tests models directly, as projects saved with these models might have trouble getting the files back. (Objects have the full path of the file when it save it). The script of the object is preserved.

5. *Replace with current template*:
   Work like "replace with model file" but much safer, as it will replace the current selected model on the map with the item selected in the template object list. Since it's replaced with a template, the project will consider it like a standard asset. The script of the object is preserved.

6. *Remove object*:
   Will remove the current object from the map.

Item move/Rotate mode

Basic moving
When the user enter this mode (see context menu information), the model will be trying to follow the mouse pointer, by moving it over the ground.

The system will check the current position over the ground at the pointer position and place the object accordingly. This should allow for ultra easy placement of object since the user don't have to account on the "up/Y axis" position of the model while moving it.

Moving the model on the up/Y axis
There is an "override" key, in case the user would like to change the "up/Y axis" position of the model. Just press the right mouse button once and it will move the object on the "up/Y axis".

Rotating the model
Rotation of the model is done by rotating the mouse wheel. Rotation is done by 5 degrees increments.

Snapping
Sometimes objects need to be placed really precisely one next to the other, IRB have a SNAP feature that will move the object by exactly 64 units (as of IRB Alpha 0.3). Models should be based on a multiple of this to work adequately with the snap features (Current IRB models follow that rule).

To activate the snapping function while moving the model, just press and maintain the CTRL KEY while you move the model. Releasing the CTRL key will toggle back in standard moving mode.

Units
Since we are talking about IRB units IRB is using this as reference value:

      Imperial: 1 IRB unit = 1 inch
      Metric: 1 IRB unit = 2.5 cm
      Metric: 40 IRB units = 1 meter

      Current snap distance = 64 units:
      Imperial: 64 inches or 5 feet and 4 inches
   Metric: 1,6 meter or 160cm

Player edit mode

The player object is a special type of dynamic object in IRB and some part of it differ from any other object. Thus the interface provide separate controls that will allow to change some specific setting of the player object.

Once the user select the "edit player" button from the object tab it will change the application player edit mode, also the base of the player object will appear "green", like in the screenshot below:
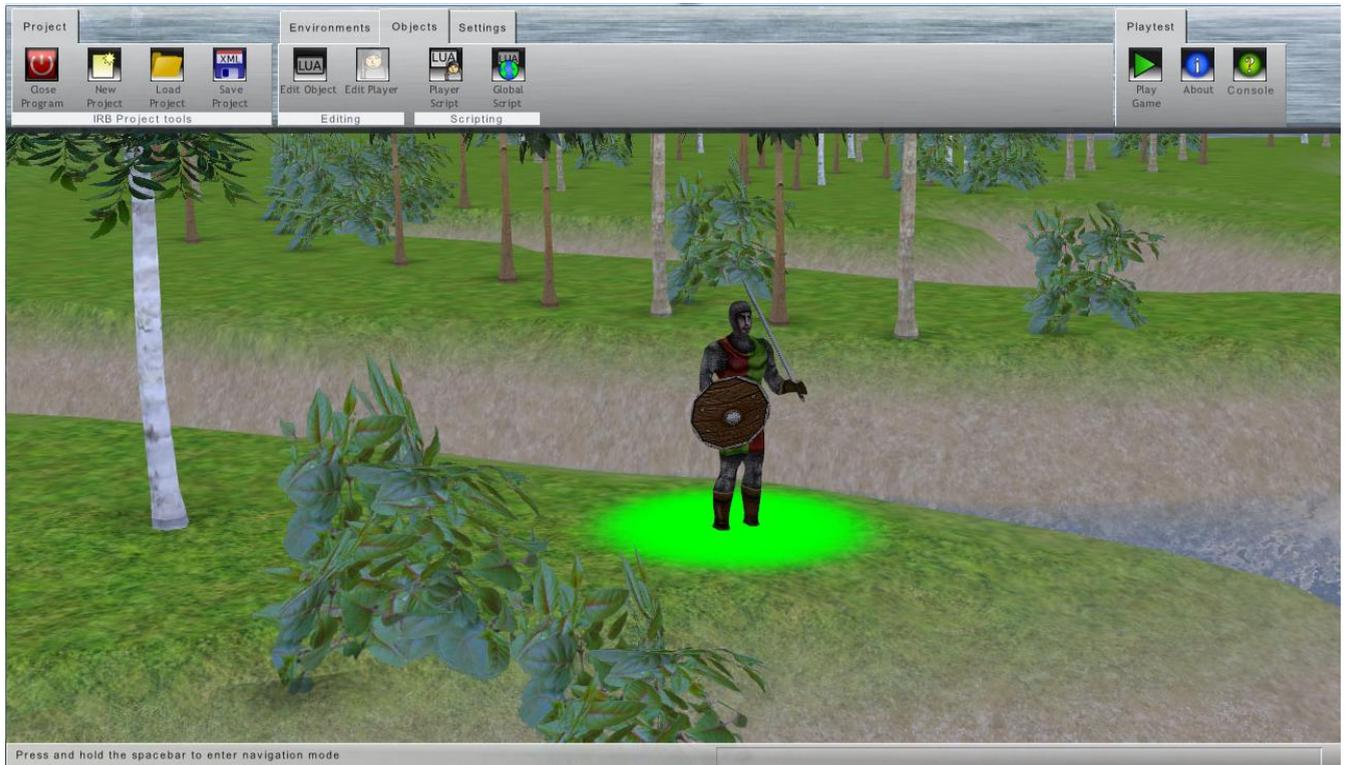
Once in that mode, if the user click somewhere on the terrain, the player object will be moved at the click location. If the user rotate the mouse wheel, the player object will be rotated (by 5 degree increments)

IRB Tiles / Environment
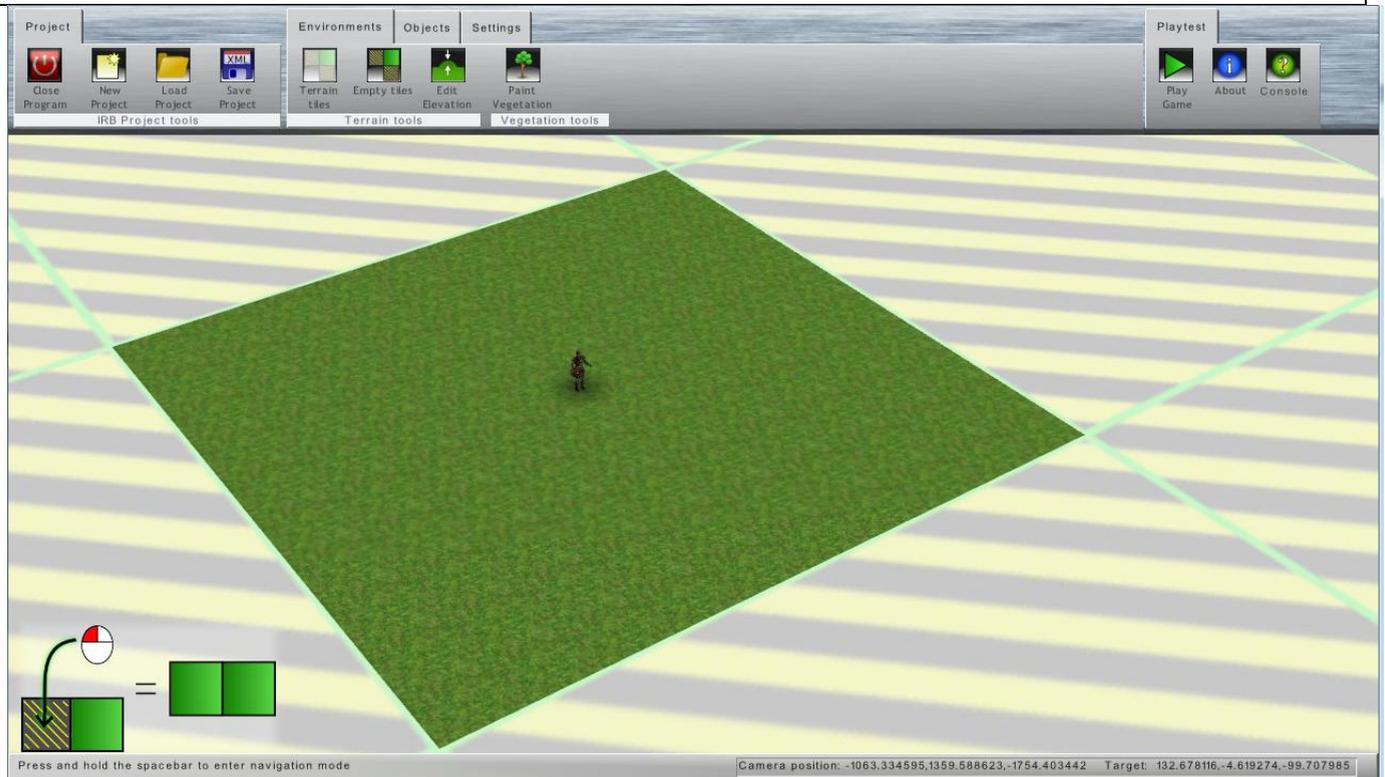
IRB Environments are composed of tiles. The tools to create environments are in the "environment" tab in the mode control section.

Empty tiles

The empty tiles are the base building block for anything in IRB. The more you have of those the bigger the map you can create. The is no current limit on how much tiles you can use but the more you add, the chances of lowering the rendering speed of the game and the memory requirement will increase.

To create empty tiles, you select the *Empty tile creation button*, that will activate the mode. Then using the mouse you click on a tile (IRB terrain or other empty tile) with the left mouse button. This will create a surrounding of empty tiles around the selection (as of the screenshot),

To remove tiles, simply click on an empty tile with the right mouse button. There must be at least have one tile in the environment so you can place models over it. There is a mechanism in the application that will not allow you to remove all tiles since there must be at least one.

IRB Terrain tiles / Terrain creation

IRB Terrain tiles are special tiles that can be used to create a basic terrain. This type of terrain as nothing to do with the Irrlicht terrain node as this only work with tiles and does not support LOD, and or elevation maps.

The texture generation of IRB Terrain tiles are done automaticaly using a splatting texture shader that will use the elevation as base information to mix the textures.

Lower elevation will reveal water, and higher elevation will reveal snowy/rocky material.

To create tiles, you need to have a empty tile to place it before. Once you have empty tiles around they can be converted directly by clicking on them.

Terrain tiles can also be removed by clicking with the right mouse button on them. The application will display a warning if the terrain tile elevation has been modified by the user. Once a terrain tile has been removed it will revert back to an empty tile.

IRB Terrain tiles / Elevation tool description
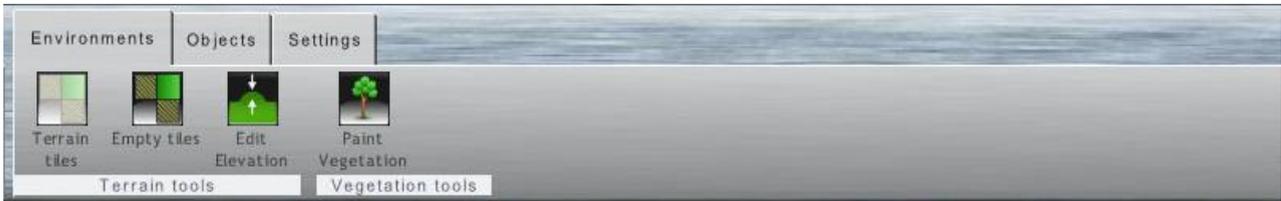
When you select the Edit Elevation button from the environment tab, you can change the elevation of IRB Terrain tiles.
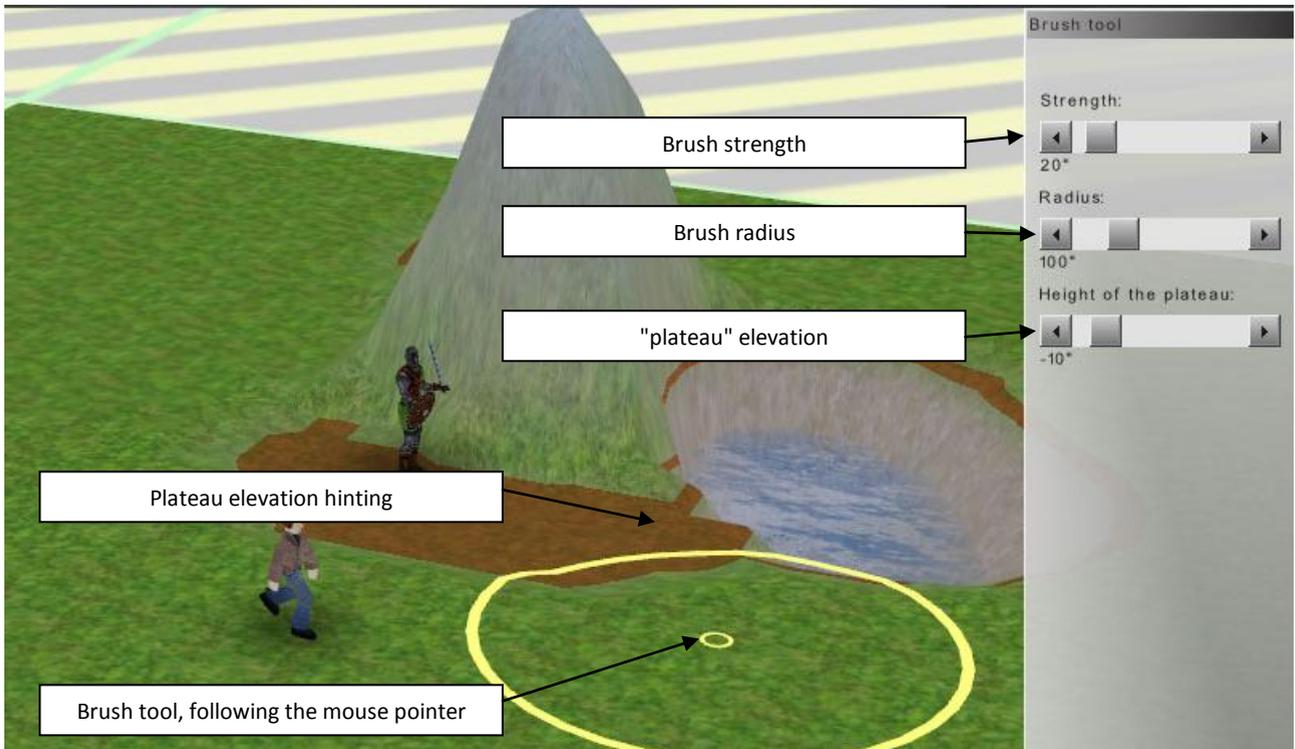
Brush strength
This define the elevation power strength of the brush tool over the terrain. The more value there is, the more the terrain elevation will change faster. Use lower value to have more precision over the terrain, and higher value to cover terrain more rapidly.

Brush radius
This define how large the brush will be. A smaller brush can create more details and a larger brush will create larger area faster.

Plateau elevation

This will define at what elevation the plateau area will be when the user will use the brush tool to create flat area.

Plateau elevation hinting

This coloring will appear when the user is in plateau creation mode to give a hint of the height of the plateau.

Brush tool

When editing elevation, this circle is draw over the terrain and every segment of it will follow the elevation to give the user a proper idea of the area of land that will be modified. The smaller circle is the center of the brush.

IRB Terrain tiles / Elevation tool usage

To change the elevation of the terrain the user will use the mouse. The left mouse button will "elevate" the ground while the right mouse button will dig the ground.

As the user is changing the terrain elevation, the terrain shader will recalculate the texture splatting and remix the textures adequately. See the last screenshot to see how the texturing affect the terrain model.

The user can still change the "look" of the terrain by changing the texture in the setting section, and thus provide way of changing the environment to different styles.

Plateau tool

Sometimes, a flat area of ground is desired (placing houses, etc.) By pressing the CTRL key on the keyboard and using the mouse, the user will be able to make the terrain "smooth" the terrain to reach the specified "plateau" elevation. When the tool is activated, the user should see some coloring (see screenshot) that will be displaying the current elevation line of the plateau.

Note: The user will not see a plateau line if the elevation is higher than any part of the terrain.

IRB Terrain tiles / Vegetation paint tool
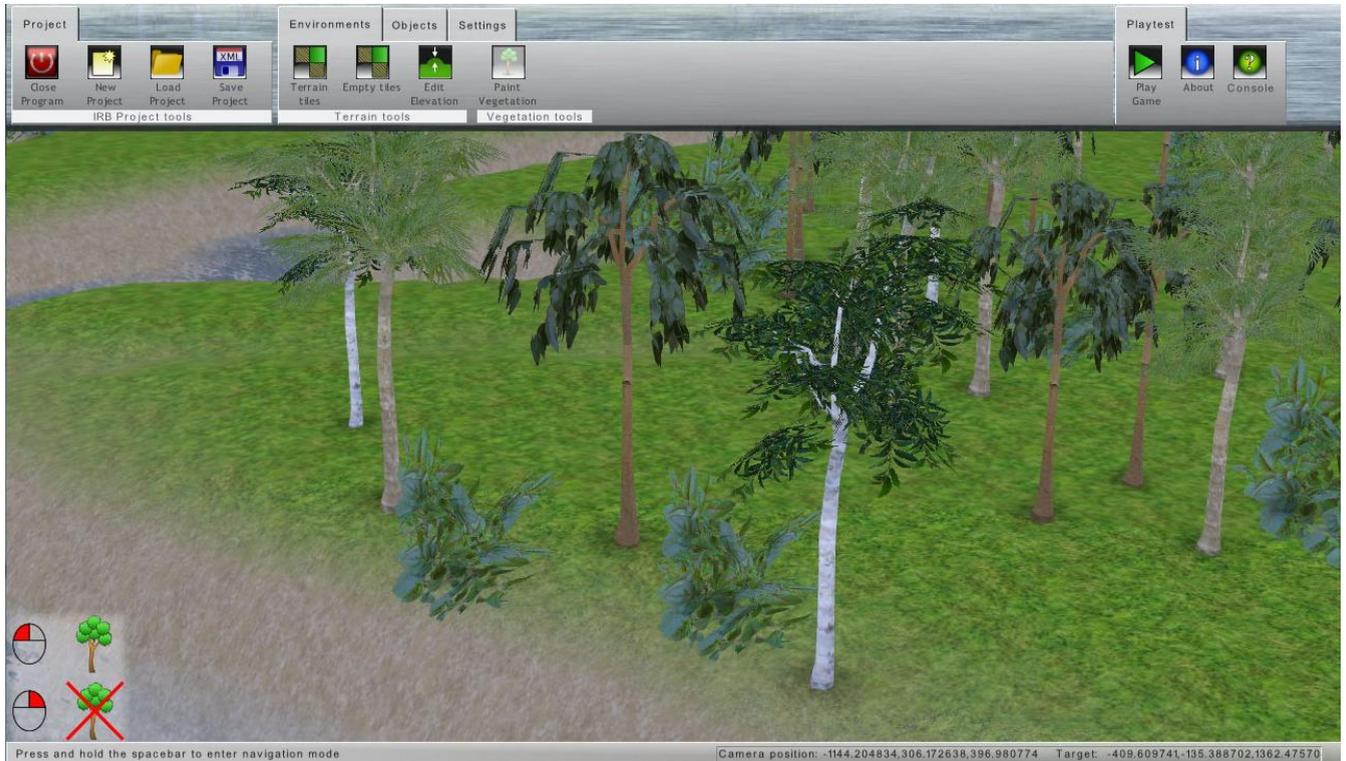
IRB provide a simple tool to add vegetation to the terrain. This tool will only work with IRB type terrain (IRB 0.3) To use it, simply select the "paint vegetation" mode button and click with the left mouse button somewhere on the terrain.

A tree or brush will appear (random selection). To remove a tree or bush, simply click on the object with the right mouse button.

The "Playtest" section

Playgame toggle button
This button enable "playing" the current game to test it. It can be stopped by pressing again on the same button

About button
This button will display "about" information on the project as the developers that worked on the project and other relative information.

Console toggle button
Pressing this button will display the console.

Console window presentation
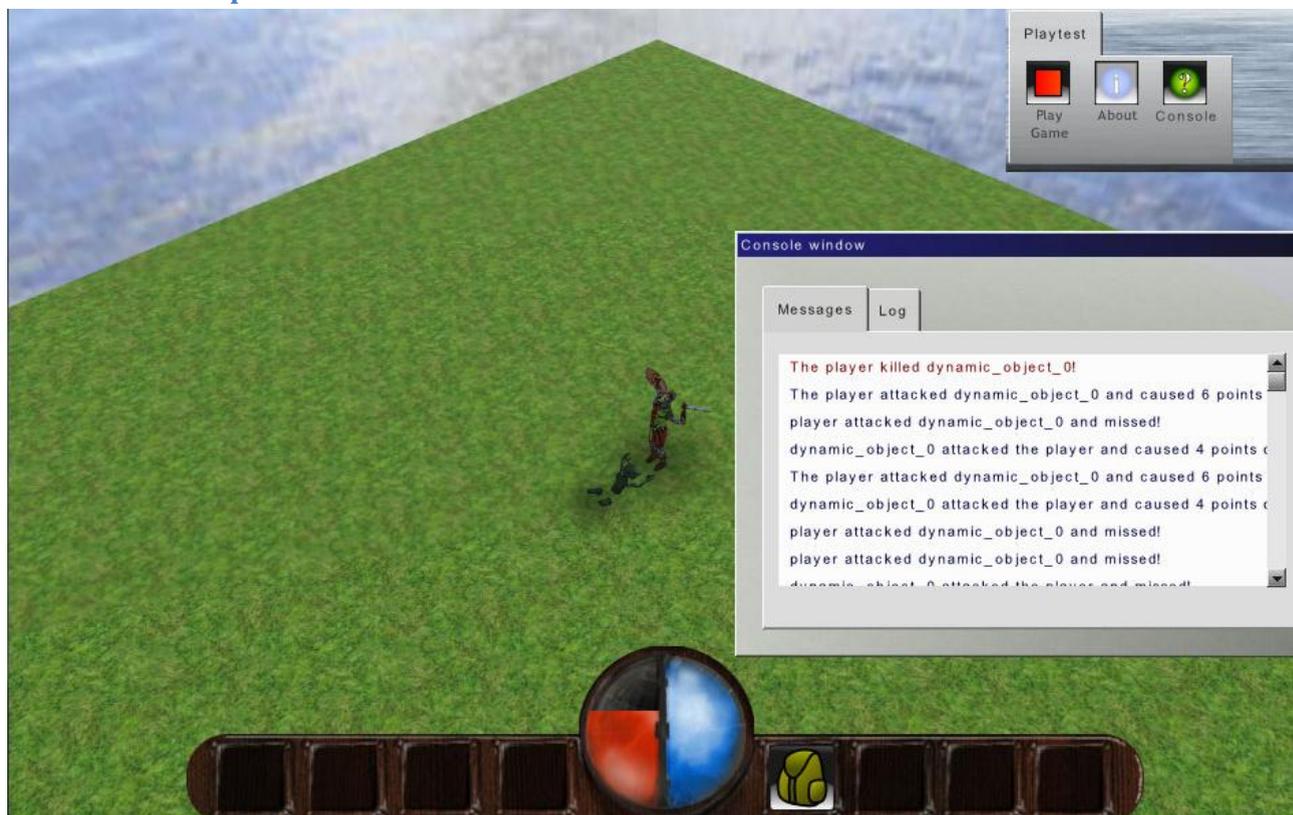
Console window
The console window can be moved around the screen in gameplay/edit mode and also can be scaled by using the mouse near the border of it. This window provide more information about certain actions and can help figuring out a problem.

Messages
"Messages" will contain specific IRB messages. In the current screenshot, you can have combat information when the player is being attacked or attack a NPC. Other messages type can also from loading problem warnings.

Log
Log will contain more "generic" messages, as shader compilation status, file loading status/errors, etc. They generally comes from the IRRlicht engine reporting. If a shader is failing this is the place to look for more information about the problem.

LUA Script editor
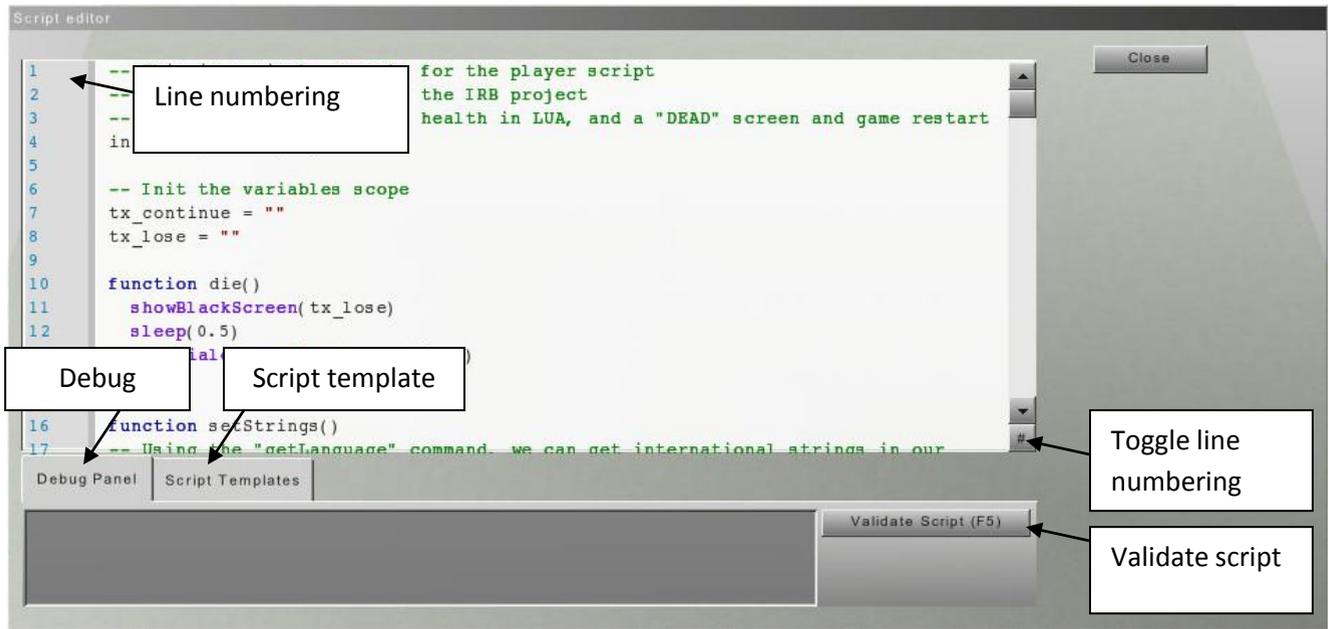
Line numbering
A panel on the left side will display a number for each line. Useful to find out problem reported in the output of the result of a script validation.

Toggle line numbering button
This button will enable the user to hide/display the line numbering window on the left

Debug panel (as in the screenshot)
This panel will have tools to debug a script. As a validate script button, and an output for the result.

Validate script button
When this is pressed, the LUA engine will try running the script and will report any errors in the output window.

Script templates panel
This panel will allow the user to replace the current script or empty script with a pre-written script. This should allow users to create NPC scripts or other useful script that can be shared in models. This will allow users with almost no coding or scripting knowledge to apply scripts to objects in the game.

LUA Script editor

This is the place where the user will write scripts that the game engine will then run to create "behaviors" to objects, change the scene, toggle a cutscene, etc.

IRB use the LUA scripting language as the script engine. The editor have some color coding, and most "purple" words will be specific to IRB. By specific, this mean that the commands that will highlighted in purple cannot be executed outside of the IRB environment.

There is a separate guide about those commands "LUA command reference" that explain each of these specific IRB commands.

There is 3 types of scripts:

- *Dynamic object scripts*
  Theses scripts will apply only to the specified dynamic object and will be executed at each LUA refresh of this object.
- *Player scripts*
  Almost the same but is applied at the player object
- *Global scripts*
  Is executed once at game start and will contain user created global commands. Also can be used to test some commands in IRB with the script validation button in the debug panel.

Note: As of IRB 0.3, the current update cycle for a script is 300ms interval. This might be changed to a higher interval in the future for performance.