Lua command reference document

Version information: This document is based on the commands available in IRB SVN revision 578

Content

Global LUA pre-defined functions (basicFunctions.lua)

Theses functions can be called from anywhere in IRB. But these have been written in LUA, so they could be modified by the user.

---- internals

IRBStoreGlobalParams()
IRBRestoreGlobalParams()

---- Global functions

setObjectName(string 'name'**)**
set the global name of the current object

chaseObject(string 'name', float speed, float near, float far**)**
chase the specified object
speed = move speed
near = stop when reaching this distance (also IDLE state is triggered)
far = start walking from this position (also WALK state is triggered)

walkRandomly(float radius, float speed**)**
Walk randomly in a specified radius
radius = random point to get there specified from a radius around the object
speed = move speed

walkToObject(otherObj**)**
Walk to an object, current command doesn't account the animations

CustomDynamicObjectUpdate()
update the dynamic objects, work with the 'walkToObject' command
Should be placed in the 'step' callback

programAction(*time*, *action*, *parameter*...**)**
Call a specified custom function at the specified time interval.
time = time interval in second
action = function name to call
parameters = parameter (up to 10 parameters)
Ex: programAction(10, print, 'hello world')
Will call: print "hello world" after 10 seconds.

CustomDynamicObjectUpdateProgrammedAction()
Update programmed action if it exist

action = **hasActionProgrammed()**
Will return the name of the action that is programmed. if any.

enableObject()
will enable the current object

disableObject()
Will disable the current object

decreasePlayerLife(points**)**
Remove 'point' from the current life of the player

increasePlayerLife(points**)**
Increase the current player life with 'points'

decreasePlayerMoney(points**)**
Remove 'points' from the current player money

increasePlayerMoney(points**)**
Increase the current money of the player with 'point'

playSound(soundName, looped**)**
Play a 2D sound

emitSound(soundName, looped**)**
Play a sound from the current position of the object (3D Sound)

sleep(time**)**
Will 'sleep' until the time is reached. 'time' **is in seconds.**

Global Functions

Theses functions can affect about anything in IRB: Objects, lighting, setting of the game, camera… They are not restricted to the object from which they has been invoked.

Global variables creation

setGlobal(string '*name*', *value***)**
Create a global unique name

value = **getGlobal(**string 'name'**)**
Retrieve the value of the global

deleteGlobal(string 'name'**)**
Delete the specified global

Lighting / ambiance commands

setTimeOfDay(int *time*)
set the time of day

setAmbientLight(int *r*,int *g*, int *b***)**
Set the ambient light to the specified RGB colors

r,g,b = **getAmbientColor()**
Give back the ambient color

setFogColor(int *r*, int *g*, int *b***)**
Set the color of the fog to the specified RGB color

r,g,b = **getFogColor()**
Retrieve the current fog color in RGB color

setFogRange (float *near*, float *far***)**
Define the range of the fog

near, far = **getFogRange()**
Retrieve the range of fog

String = **getLanguage()**
Return the current language for the game, the currently supported languages strings are:
“en-us” -> English, US
“pt-br” -> Portugese, Brazil
“fr-ca” -> French, Canada
“de-ge” -> Deutch, Germany

Background

setSkydomeTexture(string *'texturefilename*')
Change the texture of the skydome

setSkydomeVisible(bool *visible*)
Set the visibility of the skydome

setBackgroundColor(int *r*, int *g*, int *b*)
Set the background rendering color

Special FX post-process commands

setPostFX(string 'name')

Create a postprocess FX, Theses can be useful in a lot of circonstances. Applied FX will change all of the display. The shader modify the rendered output.

name can be:

```
adaptive_bloom
blur
color
depth_of_field
desaturate
displacement
dream_vision
embossed
gray_scale
invert
motion_blur
none
night_vision
pencil
posterize
pulsing
radial_blur
scratched
sepia
shake
sharpen
simple_bloom
tiling
vignette
water
```

Theses FX are based on shaders and there might be modified in the future.

Cameras commands

setCameraTarget(float x, float y, float z**)**

Set a new position for the camera, use the specified coordinates

setCameraTarget(string 'objectname'**)**

Set a new position for the camera, use the object name as reference

x,y,z **= getCameraTarget()**

Get the current camera target

x,y,z **= getCameraPosition(**string 'objectname'**)**

Retrieve the position of the current camera

setCameraPosition(float x, float y, float z**)**

Set a new position for the camera, use the specified coordinates

setCameraPosition(string 'objectname'**)**

Set a new position for the camera, use the object name as reference

setCameraRange(float start, float end)

Set the range of the ingame camera zoom (mouse wheel)

Default values are min=72, max=2000

setCameraZoom(float zoom)

Set distance for the camera zoom

Default value is 600

Start, end = **getCameraRange()**

Retrieve the current range limits of the camera zoom

setCameraAngleLimit(float low, float high)

Define the angle limit (up/down) limits of the game camera

The default values are -25, 89

low, high = **getCameraAngleLimit()**

Retrieve the current rotation information of the RTS camera

setCameraRTSRotation(float X, float Y)

Redefine the angle of the rotation of the RTS camera

The default values are 135.0, 45.0

Start, end = **getCameraRTSRotation()**

Retrieve the current rotation information of the RTS camera

Cameras commands (continued)

cutsceneMode()

switch the current camera to the cutscene camera

gameMode()

switch the current camera to the ingame camera

setRTSView()

switch the ingame camera view to a RTS game type view

setRTSFixedView()

switch the ingame camera view to a RTS game type view, rotation is locked

setRPGView()

switch the ingame camera view to third person view type view

setFPSView()

switch the ingame camera view to first person view type view

defineKeys(string key, string command)

Define key ingame keyboard keys
key is a string to the keyboard key desired: ex: “A”
command is the assignated command for the key:
“FORWARD” → Move forward
“BACK” → Move backward
“LEFT” → Move on the left
“RIGHT” → Move on the right
“INVENTORY” → Open the inventory panel
“INTERACTION” → Activate the interaction (like clicking on the object)

New shortcuts:
key=”ARROWS” → Will automatically set the movement for the player to the arrow keys.
Key=”WASD” or “QWERTY” -> use WASD for movement
key=”ZQSD” or ”AZERTY” -> use ZQSD for movement
key=”QZERTY” -> use ZASD for movement

When using shortcuts, put “” for the command ex: **defineKeys(“QWERTY”,””)**

Cameras commands (continued)

setCameraAttachment(string bone)

Will define a bone in the player character where to attach a camera. This is only used in the FPS Camera mecanic. If you don't want to use a bone as attachment, just enter this: setCameraAttachment(""). Then the camera system will place the camera at 0,0,0 locally in the player character.

setCameraOffset(float x,y,z)

Will set the position for the offset of the camera in FPS camera mecanic.

GUI commands

printToConsole(string text)

Will print the specified text to the IRB main console

Object search commands

findInSphere(float radius, x,y,z, string object type)

Will return a table with the names of the object from the specified position in a specified radius of the specified types.
radius = contain the size of the sphere
x,y,z = position of the center of the sphere
object type = type of objects to selects

Current object types are the following:
“player” -> the player
“npc” -> a NPC
“interactive” -> an interactive object
“non-interactive” -> a non-interactive object
“all” -> all the object in the radius

Sound commands

playSound2D(string '*filename*', boolean looped**)**
PLay the specified 2D sound, 'looped' is optional.

playSound3D(string '*filename*',bool *looped*, float *x*, float *y*, float *z***)**
Play the specified sound, at the specified coordinates. Looped is for a looping sound

setSoundListenerPosition(float x, int y, int z**)**
Define the position of the listener for a 3D sound
Note: is now updated directly by the engine to the player position. Will need to be overridden to change the position.

setSoundVolume (float volume**)**
Set the volume to a specified level

stopSounds()
Stop all sounds

Player affecting commands

setPlayerLife(int life**)**
Set the player life to the specified value.
A change in the value will rise a "injured state" on the player
A value of 0 will set the "die" state on the player

life = **getPlayerLife()**
Get the current player life

setPlayerMoney(int money**)**
Set the amount of money the player will have

money = **getPlayerMoney()**
Retrieve the current amount of money the player have

moveObjectLoot()
Add the current item to the player loot. Item must be a “loot type” object.

destroyAfterUse(boolean)
Will set if the loot object will be destroyed once used. Good for potions for example.

Dialogs /GUI commands

showBlackScreen(string 'optional text'**)**
Show a black screen with an optional text (mostly used when player is dead)

hideBlackScreen()
Remove the black screen

showDialogMessage(string 'message'**)**
Show the specified message

answer = **showDialogQuestion(**string '*question*'**)**
Show the specified question. (note: this can only be called from within a dynamic object)

Bool **= getAnswer()**

Will return the answer of the dialog question. Used principally in the **OnAnswer()** callback to do an action based on the response of the Question Dialog.

Game Commands

saveGame()
save the game

loadGame()
load back the game

Callbacks for the global function:

These functions are for the internal use of the engine. They should not be tampered with unless you know what you are doing.

IRBStoreGlobalParams()

IRBRestoreGlobalParams()

Misc Commands:

x,y,z **= getObjectPosition(**string 'objectname'**)**

Retrieve the position of the specified object

addObjectLoot(String objectname, loot template name)

Will create a loot item and place it in the desired object loot inventory

int=**getObjectItemCount**(String itemname)

give the number of duplicate items in the loot with this name

useGlobalFunction(String function name)—DISABLED

Will use a simple function defined in the LUA global script.

getObjectProperty(string odisplbject name, property name)

Retrieve the current value of the named object property.

Look on page 15 for the properties names.

setObjectProperty(string object name, property name, float value)

Set the named property of the specified object to a new value

Look on page 15 for the properties names.

Boolean = **checkObjectItem**(string object name, string item name)

Return true if the named item is found in the specified object inventory. False if not.

destroyObjectItem(string object name, string item name)

Will seek for the first occurrence of the item name in the specified object and remove it.

setObjectVisible(string object name, Boolean visible)

set the specified object visible or invisible

Boolean = **isObjectVisible**(string object name)

Return the visibility of the object (true/false)

attachObject(string object name, string attachment name)

Attach the current object, to another object attachment point.

Dynamic objects functions:

These function can only be used inside the dynamic object. It will affect only the object it has been invoked with.

Label management

showObjectLabel()

Display the object label

hideObjectLabel()

Hide the object label

setObjectLabel(string 'newlabel'**)**

Define the new object label

Ex: *setObjectLabel("baddie")*

Object type management

setObjectType("type")

Allow the developer to override the dynamic object type from LUA.

Type is a string and can contain theses values:

"interactive", "non-interactive"

Position/rotation management

setPosition(float *x*,float *y*,float *z***)**

Move the object to this specified position

x,y,z = **getPosition()**

Give back the position of the object (x,y,z)

setRotation(float *x*,float *y*,float *z***)**

Rotate the object to the specified angle

x,y,z = **getRotation()**

Give back the current angle rotation of the object (x,y,z)

x,y,z = **getParentPosition()**

Give back the position of the object (x,y,z)

x,y,z = **getParentRotation()**

Give back the position of the object (x,y,z)

Position/rotation management (continued)

turn(float *degrees***)**

Turn relative of a specified degree angle

move(float *speed***)**

Set the walk speed of the object
Also activate the "walk" animation state

walkTo(float *x*,float *y*,float *z***)**

Set the destination of the object and the object will walk there with the current speed defined in the XML file
Ex: **walkTo(10,0,10)**

`true/false` **= hasReached()**

Will tell if a walking character has reached the destination point

lookAt(float *x*,float *y*,float *z***)**

The object turn to face the specified coordinates
Ex: *lookAt(10,0,10)*

lookToObject(string *'objectname'***)**

The object turn to face the specified object name

Getting information

string '*objectname*' = **getName()**

Return the defined name of the template used

setName(string name)

set the new name for this object. The object keep the internal name, but this set the alias

distance = **distanceFrom(**float *x*, float *y*, float *z***)**

Give back the specified distance from the specified coordinates to the object.

distance = **distanceFrom(**string *'object'***)**

Give back the specified distance from the the object to the specified object.

setEnabled(boolean**)**

Set the state of the dynamic object (enabled/disabled)
Ex: *setEnabled(false)*

Note: Disabling a NPC will remove it from the map (as if the character had died)

Animation/AI specific functions

setFrameLoop(int *start***,** int *end***)**

Set the animation frameloop for the object

setAnimationSpeed(float *speed***)**

set the animation speed to the specified value. (frame rate)

setAnimation(string *'animation name*'**)**

Set the current animation of the object to the specified animation name

ex: *setAnimation("Cutscene1")*

Default animation names

Here are the default animation names for the specific animation states. The animation states are associated with the AI in the engine.

Using these names will trigger the proper animation state for the AI.
Currently there only a few defined name. Will need more.

idle, set the state to *OBJECT_ANIMATION_IDLE*

- Special, must be there (xml) as this is the strict minimum for a NPC

walk, set the state *to OBJECT_ANIMATION_WALK*

- Used by the animation system for walking

run, set the state to *OBJECT_ANIMATION_RUN*
attack, set the state to *OBJECT_ANIMATION_ATTACK*

- Special, will trigger the attack damage if an **attack event** has been defined in the XML template definition

hurt, set the state to *OBJECT_ANIMATION_INJURED*

- Used by the animation/combat system for the injured state in combat

die, set the state to *OBJECT_ANIMATION_DIE*

- Used by the animation system/combat to show the die state

spawn, set the state to *OBJECT_ANIMATION_SPAWN*
despawn, set the state to *OBJECT_ANIMATION_DESPAWN*

Dynamic objects: (properties and combat)

Current properties names:

Property name		Description
life	-->	Current life points
mana	-->	Current mana points
maxlife	-->	Maximum life points
regenlife	-->	Points of life regeneration
regenmana	-->	Points of mana regeneration
money	-->	Current money
level	-->	Current level
experience	-->	Current experience (or given experience if NPC)
mindamage	-->	minimum damage per hit
maxdamage	-->	maximum damage per hit
armor	-->	armor point
magic_armor	-->	magic armor point
hurt_resist	-->	hurt resistance probability
dotduration	-->	duration for the dot (damage over time, poison)
hit_prob	-->	probability of hitting the target
dodge_prob	-->	probability of dodging the hit from the attacker
mindefense	-->	minimum defense points
maxdefense	-->	maximum defense points
weight	→	base weight for this object
maxweight	→	maximum weight this object can carry
currentweight	→	current weight the object carries

Current properties and combat commands:

setEnemy()

This object will become an enemy of the player

setObject()

This object will become an object (non-aggressive) (default)

getEnemyCount()

Will return the number of active enemies on the map

setProperty (string 'property name', float value**)**

This will set the named propertie to the value entered

Ex: setPropertie("life",100)

float *value* **getProperty(**string *'property name*'**)**

Give back the entered value from the named propertie entered

Ex: *value = getPropertie("life")*

addLoot(string “Template name”**)**

Add a template (should be a loot template to work), inside the current object backpack directly. It can be a NPC or the player.

string name **Spawn**(string “template name”, x, y, z, r)

create a new dynamic object on the map, x,y and z are for the position and r is for the rotation of the element. Once created, the function return the name of the new dynamic object. The Y position will be recalculated so the spawned item will be placed on the ground.

attack(string *'enemy name'***)**

This will trigger the combat system to do a battle with the current object and the object entered. The combat system will check the properties of each opponent and do damages on the defender.

This will not check of the faction, nor the distance.

Ex: *attack("player")*

Special Variables

ObjName = NAME OF THE OBJECT

objType = *ENEMY* or *OBJECT*

Callbacks:

onLoad()

Called when the object is loading in the game

onUpdate() or **step()** -- old name

Called at each interval (default interval is 1/4 sec)

onClicked()

Called when the object as been clicked on with the mouse

onCollision()

Called when a collision occur with the object

onAnswer()

Called when the user respond to the Question Dialog. The answer return only to the dialog caller. *Ex:* If the player is invoking the question dialog, only him will receive the answer.

onUse()

Called when the user select an item from the backpack inventory and press the USE button

CustomDynamicObjectUpdate()

CustomDynamicObjectProgrammedAction()