

NEON86

LEGEND

color: Color(r,g,b,a=255)
vec: Vector3 / Vector4
mat: Matrix
tex: Material / RTT / texture handle
rtt: Render Target
texHandle: texture handle
eye,at,up: Vector3
key: "a" or KEY_SPACE etc.
su,tv: UV coordinates (floats)
nx,ny,nz: normal
v1,v2,v3: Vertex
Sound support: WAV, OGG

EVENTS

_init()
_shutdown()
_update(dt)
_render()
_render2D()
_charInput(letter)

BASE

ShowMessage(caption, text)
LogString(text)
ExitGame()
RestartGame()
IsDebugMode()
SetFPS(fps)
doFile(scriptName)
loadFile(fileName)
getTime()/GetTime()
SaveState(data)
LoadState()

AUDIO

SOUND

Sound(path)
play()
pause()
stop()
setVolume(vol)
setPan(val)
setFrequency(val = -1)
setCursor(val)
loop(state)
isLooping()
isPlaying()
getVolume()
getPan()
getFrequency()
getCursor()
getData()

MATH

Color(r,g,b,a=255)
ColorLinear(r,g,b,a=1.0)
str2vec(text)
vec2str(vec)

MATRIX

Matrix()
translate(x,y,z)
rotate(x,y,z)
scale(x,y,z)
inverse()
shadow(planeVec,lightVec)
reflect(planeVec)
lookAt(eye,at,up)
m(row,col)
row(index)
col(index)

NEON86

```
bind(kind)
persp(eye.atPos,up)
ortho(w,h,near,far,flipLH)
orthoEx(l,r,t,b,near,far,flipLH)
```

VECTOR

```
Vector3(x,y,z)
Vector4(x,y,z,w)
cross(vec)
get()
color()
mag()
magSq()
lerp(b,t)
neg()
normalize()
n(index,val)
x().y().z().w()
```

RENDERER

```
ClearScene(color)
CameraPerspective(fov,near,far,flipLH)
CameraOrthographic(w,h,near,far,flipLH)
CameraOrthographicEx(l,r,t,b,near,far,flipLH)
BindTexture(tex)
GetResolution()
GetMatrix(kind)
IsFocused()
RenderState(kind,state)
ToggleWireframe(state)
SetFog(color,kind,start,end)
SetFog(color,kind,density)
ClearFog()
SamplerState(stage,kind,state)
EnableLighting(state)
ToggleDepthTest(state)
AmbientColor(color)
ClearTarget()
```

```
DrawBox(mat,dims,color)
DrawQuad(x1,x2,y1,y2,color,flipY)
DrawQuad3D(x1,x2,y1,y2,z1,z2,color)
DrawPolygon(v1,v2,v3)
CullMode(mode)
FillScreen(color,flipY)
RegisterFontFile(path)
```

SCENE

```
Scene(modelName,loadMaterials=true,optimizeMesh=false)
draw(mat)
drawSubset(index,mat)
loadModel(modelName,loadMaterials=true,optimizeMesh=false)
loadScene(modelName,loadMaterials=true,optimizeMesh=false)
getMeshes()
getLights()
getFlattenNodes()
getTargets()
findMesh(name)
findLight(name)
findTarget(name)
getRootNode()
```

NODE

```
Node()
clone()
getName()
setName(name)
getTransform()
setTransform(mat)
getFinalTransform()
addNode(node)
addMesh(mesh)
draw(mat)
drawSubset(index, mat)
getMeshes()
getMeshParts()
getLights()
```

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```
getTargets()
getNodes()
findMesh(name)
findLight(name)
findTarget(name)
findNode(name)
getMeta(name)
```

MESH

```
Mesh()
addFGroup(Part)
addPart(Part)
draw(mat)
clone()
getFGroups()
getParts()
clear()
setName(name)
getName()
setMaterial(tex)
getMaterial(matId)
```

PART / FACEGROUP

```
FaceGroup()
clone()
addVertex(vert)
addIndex(index)
addTriangle(a,b,c)
setMaterial(mat)
getMaterial()
draw(mat)
build()
calcNormals()
clear()
getVertices()
getIndices()
```

MATERIAL

```
Material()
Material(textureName)
Material(w,h)
setSamplerState(sampler,state)
getSamplerState(sampler)
loadFile(textureName)
res()
data()
getHandle(slot)
setHandle(slot, texHandle)
setDiffuse(color)
setAmbient(color)
setSpecular(color)
setEmission(color)
setPower(val)
setOpacity(val)
alphaIsTransparency(state)
alphaTest(state)
setAlphaRef(val)
setShaded(state)
```

VERTEX

```
Vertex(x,y,z,su,tv,color,nx,ny,nz)
get()
```

FONT

```
Font(fontFamily,size,boldness,italic)
drawText(color,text,x,y,w=0,h=0,flags)
measureText(text,flags,width)
```

RENDER TARGET

```
RenderTarget()
RenderTarget(w,h)
RenderTarget(w,h,hasDepth=false)
getHandle()
bind()
```

EFFECT

```
Effect(effectPath)
begin(technique)
```

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```
end().flush()
beginPass(pass)
endPass()
commit()
setBool(name,val)
setFloat(name,val)
setMatrix(name.mat)
setVector3(name.vec)
setVector4(name.vec)
setInteger(name,val)
setTexture(name.texHandle)
setTexture(name.slot.mat)
setTexture(name.rtt)
```

LIGHT

```
Light(slot)
enable(state.slot)
setPosition(vec)
setDirection(vec)
setDiffuse(color)
setSpecular(color)
setAmbient(color)
setRange(val)
setFalloff(val)
setAttenuation(a,b,c)
setInnerAngle(val)
setOuterAngle(val)
setType(kind)
setSlot(slot)
getType()
getSlot()
```

INPUT

```
GetKey(key)
GetKeyDown(key)
GetKeyUp(key)
GetMouseXY()
```

```
GetMouseDelta()
SetMouseXY(x,y)
GetMouse(button)
GetMouseDown(button)
GetMouseUp(button)
IsCursorVisible()
ShowCursor(state)
GetCursorMode()
SetCursorMode(mode)
ShowCursor(state)
```

GLOBALS

RENDERER

```
PRIMITIVEKIND_POINTLIST
PRIMITIVEKIND_LINELIST
PRIMITIVEKIND_LINESTRIP
PRIMITIVEKIND_TRIANGLELIST
PRIMITIVEKIND_TRIANGLESTRIP
PRIMITIVEKIND_TRIANGLEFAN
```

```
MATRIXKIND_VIEW
MATRIXKIND_PROJECTION
MATRIXKIND_TEXTURE0
MATRIXKIND_TEXTURE1
MATRIXKIND_TEXTURE2
MATRIXKIND_TEXTURE3
MATRIXKIND_TEXTURE4
MATRIXKIND_TEXTURE5
MATRIXKIND_TEXTURE6
MATRIXKIND_TEXTURE7
MATRIXKIND_WORLD
```

```
CLEARFLAG_COLOR
CLEARFLAG_DEPTH
CLEARFLAG_STENCIL
CLEARFLAG_STANDARD
```

TEXTURESLOT_ALBEDO
TEXTURESLOT_SPECULAR
TEXTURESLOT_NORMAL
TEXTURESLOT_DISPLACE
TEXTURESLOT_USER_END
MAX_TEXTURE_SLOTS

FOGKIND_NONE
FOGKIND_EXP
FOGKIND_EXP2
FOGKIND_LINEAR

WORLD
VIEW
PROJ

CULLKIND_NONE
CULLKIND_CW
CULLKIND_CCW

LIGHTKIND_DIRECTIONAL
LIGHTKIND_POINT
LIGHTKIND_SPOT

RENDERSTATE_ZENABLE
RENDERSTATE_FILLMODE
RENDERSTATE_SHADEMODE
RENDERSTATE_ZWRITEENABLE
RENDERSTATE_ALPHATESTENABLE
RENDERSTATE_LASTPIXEL
RENDERSTATE_SRCBLEND
RENDERSTATE_DESTBLEND
RENDERSTATE_CULLMODE
RENDERSTATE_ZFUNC
RENDERSTATE_ALPHAREF
RENDERSTATE_ALPHAFUNC

RENDERSTATE_DITHERENABLE
RENDERSTATE_ALPHABLENDENABLE
RENDERSTATE_FOGENABLE
RENDERSTATE_SPECULARENABLE
RENDERSTATE_FOGCOLOR
RENDERSTATE_FOGTABLEMODE
RENDERSTATE_FOGSTART
RENDERSTATE_FOGEND
RENDERSTATE_FOGDENSITY
RENDERSTATE_RANGEFOGENABLE
RENDERSTATE_STENCILENABLE
RENDERSTATE_STENCILFAIL
RENDERSTATE_STENCILZFAIL
RENDERSTATE_STENCILPASS
RENDERSTATE_STENCILFUNC
RENDERSTATE_STENCILREF
RENDERSTATE_STENCILMASK
RENDERSTATE_STENCILWRITEMASK
RENDERSTATE_TEXTUREFACTOR
RENDERSTATE_WRAP0
RENDERSTATE_WRAP1
RENDERSTATE_WRAP2
RENDERSTATE_WRAP3
RENDERSTATE_WRAP4
RENDERSTATE_WRAP5
RENDERSTATE_WRAP6
RENDERSTATE_WRAP7
RENDERSTATE_CLIPPING
RENDERSTATE_LIGHTING
RENDERSTATE_AMBIENT
RENDERSTATE_FOGVERTEXMODE
RENDERSTATE_COLORVERTEX
RENDERSTATE_LOCALVIEWER
RENDERSTATE_NORMALIZENORMALS
RENDERSTATE_DIFFUSEMATERIALSOURCE
RENDERSTATE_SPECULARMATERIALSOURCE
RENDERSTATE_AMBIENTMATERIALSOURCE

RENDERSTATE_EMISSIVEMATERIALSOURCE
RENDERSTATE_VERTEXBLEND
RENDERSTATE_CLIPPLANEENABLE
RENDERSTATE_POINTSIZE
RENDERSTATE_POINTSIZE_MIN
RENDERSTATE_POINTSPRITEENABLE
RENDERSTATE_POINTSCALEENABLE
RENDERSTATE_POINTSCALE_A
RENDERSTATE_POINTSCALE_B
RENDERSTATE_POINTSCALE_C
RENDERSTATE_MULTISAMPLEANTIALIAS
RENDERSTATE_MULTISAMPLEMASK
RENDERSTATE_PATCHEDGESTYLE
RENDERSTATE_DEBUGMONITORTOKEN
RENDERSTATE_POINTSIZE_MAX
RENDERSTATE_INDEXEDVERTEXBLENDENABLE
RENDERSTATE_COLORWRITEENABLE
RENDERSTATE_TWEENFACTOR
RENDERSTATE_BLENDOP
RENDERSTATE_NORMALDEGREE
RENDERSTATE_SCISSORTESTENABLE
RENDERSTATE_SLOPESCALEDDEPTHBIAS
RENDERSTATE_ANTIALIASEDLINEENABLE
RENDERSTATE_MINTESSELLATIONLEVEL
RENDERSTATE_MAXTESSELLATIONLEVEL
RENDERSTATE_ADAPTIVETESS_X
RENDERSTATE_ADAPTIVETESS_Y
RENDERSTATE_ADAPTIVETESS_Z
RENDERSTATE_ADAPTIVETESS_W
RENDERSTATE_ENABLEADAPTIVETESSELLATION
RENDERSTATE_TWOSIDEDSTENCILMODE
RENDERSTATE_CCW_STENCILFAIL
RENDERSTATE_CCW_STENCILZFAIL
RENDERSTATE_CCW_STENCILPASS
RENDERSTATE_CCW_STENCILFUNC
RENDERSTATE_COLORWRITEENABLE1
RENDERSTATE_COLORWRITEENABLE2

RENDERSTATE_COLORWRITEENABLE3
RENDERSTATE_BLENDFACTOR
RENDERSTATE_SRGBWRITEENABLE
RENDERSTATE_DEPTHBIAS
RENDERSTATE_WRAP8
RENDERSTATE_WRAP9
RENDERSTATE_WRAP10
RENDERSTATE_WRAP11
RENDERSTATE_WRAP12
RENDERSTATE_WRAP13
RENDERSTATE_WRAP14
RENDERSTATE_WRAP15
RENDERSTATE_SEPARATEALPHABLENDENABLE
RENDERSTATE_SRCBLENDALPHA
RENDERSTATE_DESTBLENDALPHA
RENDERSTATE_BLENDOPALPHA

SAMPLERSTATE_ADDRESSU
SAMPLERSTATE_ADDRESSV
SAMPLERSTATE_ADDRESSW
SAMPLERSTATE_BORDERCOLOR
SAMPLERSTATE_MAGFILTER
SAMPLERSTATE_MINFILTER
SAMPLERSTATE_MIPFILTER
SAMPLERSTATE_MIPMAPLODBIAS
SAMPLERSTATE_MAXMIPLEVEL
SAMPLERSTATE_MAXANISOTROPY
SAMPLERSTATE_SRGBTEXTURE
SAMPLERSTATE_ELEMENTINDEX
SAMPLERSTATE_DMAPOFFSET

TEXTF_NONE
TEXTF_POINT
TEXTF_LINEAR
TEXTF_ANISOTROPIC
TEXTF_PYRAMIDALQUAD

TEXTF_GAUSSIANQUAD

TEXTF_WRAP

TEXTF_MIRROR

TEXTF_CLAMP

TEXTF_BORDER

TEXTF_MIRRORONCE

FONTFLAG_TOP

FONTFLAG_LEFT

FONTFLAG_CENTER

FONTFLAG_RIGHT

FONTFLAG_VCENTER

FONTFLAG_BOTTOM

FONTFLAG_WORDBREAK

FONTFLAG_SINGLELINE

FONTFLAG_EXPANDTABS

FONTFLAG_NOCLIP

FF_TOP

FF_LEFT

FF_CENTER

FF_RIGHT

FF_VCENTER

FF_BOTTOM

FF_WORDBREAK

FF_SINGLELINE

FF_EXPANDTABS

FF_NOCLIP

RTKIND_COLOR

RTKIND_DEPTH

RTKIND_COLOR16

RTKIND_COLOR32

INPUT

MOUSE_LEFT_BUTTON

MOUSE_MIDDLE_BUTTON

MOUSE_RIGHT_BUTTON

MOUSE_WHEEL_UP

MOUSE_WHEEL_DOWN

CURSORMODE_DEFAULT

CURSORMODE_CENTERED

CURSORMODE_WRAPPED

KEY_LBUTTON

KEY_RBUTTON

KEY_CANCEL

KEY_MBUTTON

KEY_XBUTTON1

KEY_XBUTTON2

KEY_BACK

KEY_TAB

KEY_CLEAR

KEY_RETURN

KEY_SHIFT

KEY_CONTROL

KEY_MENU

KEY_PAUSE

KEY_CAPITAL

KEY_KANA

KEY_HANGEUL

KEY_HANGUL

KEY_JUNJA

KEY_FINAL

KEY_HANJA

KEY_KANJI

KEY_ESCAPE

KEY_CONVERT

KEY_NONCONVERT

KEY_ACCEPT

KEY_MODECHANGE

KEY_SPACE

KEY_PRIOR

KEY_NEXT	KEY_F4
KEY_END	KEY_F5
KEY_HOME	KEY_F6
KEY_LEFT	KEY_F7
KEY_UP	KEY_F8
KEY_RIGHT	KEY_F9
KEY_DOWN	KEY_F10
KEY_SELECT	KEY_F11
KEY_PRINT	KEY_F12
KEY_EXECUTE	KEY_F13
KEY_SNAPSHOT	KEY_F14
KEY_INSERT	KEY_F15
KEY_DELETE	KEY_F16
KEY_HELP	KEY_F17
KEY_LWIN	KEY_F18
KEY_RWIN	KEY_F19
KEY_APPS	KEY_F20
KEY_SLEEP	KEY_F21
KEY_NUMPAD0	KEY_F22
KEY_NUMPAD1	KEY_F23
KEY_NUMPAD2	KEY_F24
KEY_NUMPAD3	KEY_NAVIGATION_VIEW
KEY_NUMPAD4	KEY_NAVIGATION_MENU
KEY_NUMPAD5	KEY_NAVIGATION_UP
KEY_NUMPAD6	KEY_NAVIGATION_DOWN
KEY_NUMPAD7	KEY_NAVIGATION_LEFT
KEY_NUMPAD8	KEY_NAVIGATION_RIGHT
KEY_NUMPAD9	KEY_NAVIGATION_ACCEPT
KEY_MULTIPLY	KEY_NAVIGATION_CANCEL
KEY_ADD	KEY_NUMLOCK
KEY_SEPARATOR	KEY_SCROLL
KEY_SUBTRACT	KEY_OEM_NEC_EQUAL
KEY_DECIMAL	KEY_OEM_FJ_JISHO
KEY_DIVIDE	KEY_OEM_FJ_MASSHOU
KEY_F1	KEY_OEM_FJ_TOUROKU
KEY_F2	KEY_OEM_FJ_LOYA
KEY_F3	KEY_OEM_FJ_ROYA

KEY_LSHIFT
KEY_RSHIFT
KEY_LCONTROL
KEY_RCONTROL
KEY_LMENU
KEY_RMENU
KEY_BROWSER_BACK
KEY_BROWSER_FORWARD
KEY_BROWSER_REFRESH
KEY_BROWSER_STOP
KEY_BROWSER_SEARCH
KEY_BROWSER_FAVORITES
KEY_BROWSER_HOME
KEY_VOLUME_MUTE
KEY_VOLUME_DOWN
KEY_VOLUME_UP
KEY_MEDIA_NEXT_TRACK
KEY_MEDIA_PREV_TRACK
KEY_MEDIA_STOP
KEY_MEDIA_PLAY_PAUSE
KEY_LAUNCH_MAIL
KEY_LAUNCH_MEDIA_SELECT
KEY_LAUNCH_APP1
KEY_LAUNCH_APP2
KEY_OEM_1
KEY_OEM_PLUS
KEY_OEM_COMMA
KEY_OEM_MINUS
KEY_OEM_PERIOD
KEY_OEM_2
KEY_OEM_3
KEY_GAMEPAD_A
KEY_GAMEPAD_B
KEY_GAMEPAD_X
KEY_GAMEPAD_Y
KEY_GAMEPAD_RIGHT_SHOULDER
KEY_GAMEPAD_LEFT_SHOULDER

KEY_GAMEPAD_LEFT_TRIGGER
KEY_GAMEPAD_RIGHT_TRIGGER
KEY_GAMEPAD_DPAD_UP
KEY_GAMEPAD_DPAD_DOWN
KEY_GAMEPAD_DPAD_LEFT
KEY_GAMEPAD_DPAD_RIGHT
KEY_GAMEPAD_MENU
KEY_GAMEPAD_VIEW
KEY_GAMEPAD_LEFT_THUMBSTICK_BUTTON
KEY_GAMEPAD_RIGHT_THUMBSTICK_BUTTON
KEY_GAMEPAD_LEFT_THUMBSTICK_UP
KEY_GAMEPAD_LEFT_THUMBSTICK_DOWN
KEY_GAMEPAD_LEFT_THUMBSTICK_RIGHT
KEY_GAMEPAD_LEFT_THUMBSTICK_LEFT
KEY_GAMEPAD_RIGHT_THUMBSTICK_UP
KEY_GAMEPAD_RIGHT_THUMBSTICK_DOWN
KEY_GAMEPAD_RIGHT_THUMBSTICK_RIGHT
KEY_GAMEPAD_RIGHT_THUMBSTICK_LEFT
KEY_OEM_4
KEY_OEM_5
KEY_OEM_6
KEY_OEM_7
KEY_OEM_8
KEY_OEM_AX
KEY_OEM_102
KEY_ICO_HELP
KEY_ICO_00
KEY_PROCESSKEY
KEY_ICO_CLEAR
KEY_PACKET
KEY_OEM_RESET
KEY_OEM_JUMP
KEY_OEM_PA1
KEY_OEM_PA2
KEY_OEM_PA3
KEY_OEM_WSCTRL
KEY_OEM_CUSEL

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KEY_OEM_LATTN
KEY_OEM_FINISH
KEY_OEM_COPY
KEY_OEM_AUTO
KEY_OEM_ENLW
KEY_OEM_BACKTAB
KEY_LATTN
KEY_CRSEL
KEY_EXSEL
KEY_EREOF
KEY_PLAY
KEY_ZOOM
KEY_NONAME
KEY_PA1
KEY_OEM_CLEAR