

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()

MUSIC

Sound(path)
play()
pause()
stop()
setVolume(vol)
setPan(val)
isPlaying()
getVolume()
getPan()

MATH

Color(r,g,b,a=255)
ColorLinear(r,g,b,a=1.0)
WorldToScreen(pos.view.proj)
ScreenToWorld(pos.view.proj)
str2vec(text)
vec2str(vec)

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MATRIX

```
MatrixO  
translate(x,y,z)  
rotate(x,y,z)  
scale(x,y,z)  
inverseO  
shadow(PlaneVec,lightVec)  
reflect(PlaneVec)  
lookAt(eye,at,up)  
m(row,col)  
row(index)  
col(index)  
bind(kind)  
persp(eye,at,pos,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)  
getO  
colorO  
magO  
magSqO  
lerp(b,t)  
negO  
normalizeO  
n(index,val)  
xO,yO,zO,wO
```

RENDERER

```
ClearScene(color)  
CameraPerspective(fov,near,far,flipLH)  
CameraOrthographic(w,h,near,far,flipLH)  
CameraOrthographicEx(l,r,t,b,near,far,flipLH)  
BindTexture(tex)  
GetResolutionO
```

```
GetMatrix(kind)  
IsFocusedO  
RenderState(kind,state)  
ToggleWireframe(state)  
SetFog(color,kind,start,end)  
SetFog(color,kind,density)  
ClearFogO  
SamplerState(stage,kind,state)  
EnableLighting(state)  
ToggleDepthTest(state)  
AmbientColor(color)  
ClearTargetO  
DrawBox(mat,dims,color)  
DrawQuad(x1,x2,y1,y2,color,flipY)  
DrawQuad3D(x1,x2,y1,y2,z1,z2,color)  
DrawQuadEx(vec3,color,usesDepth,flipY)  
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)  
getMeshesO  
getLightsO  
getFlattenNodesO  
getTargetsO  
findMesh(name)  
findLight(name)  
findTarget(name)  
getRootNodeO
```

NODE

```
NodeO
```

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```
clone()
getName()
setName(name)
getTransform()
setTransform(mat)
getFinalTransform()
addNode(node)
addMesh(mesh)
draw(mat)
drawSubset(index, mat)
getMeshes()
getMeshParts()
getLights()
getTargets()
getNodes()
findMesh(name)
findLight(name)
findTarget(name)
findNode(name)
getMeta(name)
```

MESH

```
Mesh()
addFGGroup(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()
```

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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)
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

TEXTA_WRAP
TEXTA_MIRROR
TEXTA_CLAMP
TEXTA_BORDER
TEXTA_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_NUMPAD9
KEY_HANJA	KEY_MULTIPLY
KEY_KANJI	KEY_ADD
KEY_ESCAPE	KEY_SEPARATOR
KEY_CONVERT	KEY_SUBTRACT
KEY_NONCONVERT	KEY_DECIMAL
KEY_ACCEPT	KEY_DIVIDE
KEY_MODECHANGE	KEY_F1
KEY_SPACE	KEY_F2
KEY_PRIOR	KEY_F3
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_NAVIGATION_ACCEPT	KEY_OEM_MINUS
KEY_NAVIGATION_CANCEL	KEY_OEM_PERIOD
KEY_NUMLOCK	KEY_OEM_2
KEY_SCROLL	KEY_OEM_3
KEY_OEM_NEC_EQUAL	KEY_GAMEPAD_A
KEY_OEM_FJ_JISHO	KEY_GAMEPAD_B
KEY_OEM_FJ_MASSHOU	KEY_GAMEPAD_X
KEY_OEM_FJ_TOUROKU	KEY_GAMEPAD_Y
KEY_OEM_FJ_LOYA	KEY_GAMEPAD_RIGHT_SHOULDER
KEY_OEM_FJ_ROYA	KEY_GAMEPAD_LEFT_SHOULDER
KEY_LSHIFT	KEY_GAMEPAD_LEFT_TRIGGER
KEY_RSHIFT	KEY_GAMEPAD_RIGHT_TRIGGER
KEY_LCONTROL	KEY_GAMEPAD_DPAD_UP
KEY_RCONTROL	KEY_GAMEPAD_DPAD_DOWN
KEY_LMENU	KEY_GAMEPAD_DPAD_LEFT
KEY_RMENU	KEY_GAMEPAD_DPAD_RIGHT
KEY_BROWSER_BACK	KEY_GAMEPAD_MENU
KEY_BROWSER_FORWARD	KEY_GAMEPAD_VIEW
KEY_BROWSER_REFRESH	KEY_GAMEPAD_LEFT_THUMBSTICK_BUTTON
KEY_BROWSER_STOP	KEY_GAMEPAD_RIGHT_THUMBSTICK_BUTTON
KEY_BROWSER_SEARCH	KEY_GAMEPAD_LEFT_THUMBSTICK_UP
KEY_BROWSER_FAVORITES	KEY_GAMEPAD_LEFT_THUMBSTICK_DOWN
KEY_BROWSER_HOME	KEY_GAMEPAD_LEFT_THUMBSTICK_RIGHT
KEY_VOLUME_MUTE	KEY_GAMEPAD_LEFT_THUMBSTICK_LEFT
KEY_VOLUME_DOWN	KEY_GAMEPAD_RIGHT_THUMBSTICK_UP
KEY_VOLUME_UP	KEY_GAMEPAD_RIGHT_THUMBSTICK_DOWN
KEY_MEDIA_NEXT_TRACK	KEY_GAMEPAD_RIGHT_THUMBSTICK_RIGHT
KEY_MEDIA_PREV_TRACK	KEY_GAMEPAD_RIGHT_THUMBSTICK_LEFT
KEY_MEDIA_STOP	KEY_OEM_4
KEY_MEDIA_PLAY_PAUSE	KEY_OEM_5
KEY_LAUNCH_MAIL	KEY_OEM_6
KEY_LAUNCH_MEDIA_SELECT	KEY_OEM_7
KEY_LAUNCH_APP1	KEY_OEM_8
KEY_LAUNCH_APP2	KEY_OEM_AX
KEY_OEM_1	KEY_OEM_102
KEY_OEM_PLUS	KEY_ICO_HELP
KEY_OEM_COMMA	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
KEY_OEM_ATTN
KEY_OEM_FINISH
KEY_OEM_COPY
KEY_OEM_AUTO
KEY_OEM_ENLW
KEY_OEM_BACKTAB
KEY_ATTN
KEY_CRSEL
KEY_EXSEL
KEY_EREOF
KEY_PLAY
KEY_ZOOM
KEY_NONAME
KEY_PA1
KEY_OEM_CLEAR