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

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()

AUDIO

SOUND

Sound(wavPath)
Play()
Pause()
Stop()
setVolume(vol)
setPan(val)
setCursor(val)
loop(state)
isLooping()
isPlaying()
getVolume()
getPan()
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)
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)

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

RENDERER

```
ClearScene(color)
CameraPerspective(fov,near,far,flipLH)
CameraOrthographic(w,h,near,far,flipLH)
CameraOrthographicEx(l,r,t,p,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()
getTargets()
getNodes()
findMesh(name)
findLight(name)
findTarget(name)
findNode(name)
getMeta(name)
```

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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)
end(),flush()
beginPass(pass)
endPass()
commit()
setBool(name,val)
setFloat(name,val)
setMatrix(name,mat)
setVector3(name,vec)
```

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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

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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_SLOPESCALEDEPTHBIAS
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

TEXF_NONE
TEXF_POINT
TEXF_LINEAR
TEXF_ANISOTROPIC
TEXF_PYRAMIDALQUAD
TEXF_GAUSSIANQUAD

TEXA_WRAP
TEXA_MIRROR
TEXA_CLAMP
TEXA_BORDER
TEXA_MIRRORONCE

INPUT
MOUSE_LEFT_BUTTON
MOUSE_MIDDLE_BUTTON

MOUSE_RIGHT_BUTTON	KEY_NEXT
MOUSE_WHEEL_UP	KEY_END
MOUSE_WHEEL_DOWN	KEY_HOME
	KEY_LEFT
CURSORMODE_DEFAULT	KEY_UP
CURSORMODE_CENTERED	KEY_RIGHT
CURSORMODE_WRAPPED	KEY_DOWN
	KEY_SELECT
KEY_LBUTTON	KEY_PRINT
KEY_RBUTTON	KEY_EXECUTE
KEY_CANCEL	KEY_SNAPSHOT
KEY_MBUTTON	KEY_INSERT
KEY_XBUTTON1	KEY_DELETE
KEY_XBUTTON2	KEY_HELP
KEY_BACK	KEY_LWIN
KEY_TAB	KEY_RWIN
KEY_CLEAR	KEY_APPS
KEY_RETURN	KEY_SLEEP
KEY_SHIFT	KEY_NUMPAD0
KEY_CONTROL	KEY_NUMPAD1
KEY_MENU	KEY_NUMPAD2
KEY_PAUSE	KEY_NUMPAD3
KEY_CAPITAL	KEY_NUMPAD4
KEY_KANA	KEY_NUMPAD5
KEY_HANGEUL	KEY_NUMPAD6
KEY_HANGUL	KEY_NUMPAD7
KEY_JUNJA	KEY_NUMPAD8
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_F4

KEY_F5

KEY_F6

KEY_F7

KEY_F8

KEY_F9

KEY_F10

KEY_F11

KEY_F12

KEY_F13

KEY_F14

KEY_F15

KEY_F16

KEY_F17

KEY_F18

KEY_F19

KEY_F20

KEY_F21

KEY_F22

KEY_F23

KEY_F24

KEY_NAVIGATION_VIEW

KEY_NAVIGATION_MENU

KEY_NAVIGATION_UP

KEY_NAVIGATION_DOWN

KEY_NAVIGATION_LEFT

KEY_NAVIGATION_RIGHT

KEY_NAVIGATION_ACCEPT

KEY_NAVIGATION_CANCEL

KEY_NUMLOCK

KEY_SCROLL

KEY_OEM_NEC_EQUAL

KEY_OEM_FJ_JISHO

KEY_OEM_FJ_MASSHOU

KEY_OEM_FJ_TOUROKU

KEY_OEM_FJ_LOYA

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

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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

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