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()

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()

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)

VECTOR

Vector3(x,y,z)
Vector4(x,y,z,w)
cross(vec)
get()
color()
mag()
magSq()

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```
lerp(b,t)
neg()
normalize()
m(index,val)
x(),y(),z(),w()
```

RENDERER

```
ClearScene(color)
CameraPerspective(fov,near,far,flipLH)
CameraOrthographic(w,h,near,fart,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)
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)
```

MESH

```
Mesh()
addPGroup(part)
addPart(part)
draw(mat)
```

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```
    clone()                                  setEmission(color)
    getFGroups()                             setPower(val)
    getParts()                               setOpacity(val)
    clear()                                  alphaIsTransparency(state)
    setName(name)                            setShaded(state)
    getName()                            VERTEX
    setMaterial(stage,tex)                   Vertex(x,y,z,su,tv,color,nx,ny,nz)
    getMaterial(stage)                       get()
PART / FACEGROUP                         FONT
    FaceGroup()                              Font(fontFamily,size,boldness,italic)
    clone()                                  drawText(color,text,x,y,w=0,h=0)
    addVertex(vert)                      RENDER TARGET
    addIndex(index)                          RenderTarget()
    addTriangle(a,b,c)                       RenderTarget(w,h)
    setMaterial(stage,mat)                   RenderTarget(w,h,hasDepth=false)
    getMaterial(stage)                       getHandle()
    getMaterialStage()                       bind()
    draw(mat)                            EFFECT
    build()                                  Effect(effectPath)
    calcNormals()                            begin(technique)
    clear()                                  end(),flush()
    getVertices()                            beginPass(pass)
    getIndices()                             endPass()
MATERIAL                                     commit()
    Material()                               setBool(name,val)
    Material(textureName)                    setFloat(name,val)
    Material(w,h)                            setMatrix(name,mat)
    setSamplerState(sampler,state)           setVector3(name,vec)
    getSamplerState(sampler)                 setVector4(name,vec)
    loadFile(textureName)                    setInteger(name,val)
    res()                                    setTexture(name,texHandle)
    data()                                   setTexture(name,slot,mat)
    getHandle(slot)                          setTexture(name,rtt)
    setHandle(slot,texHandle)            LIGHT
    setDiffuse(color)                        Light(slot)
    setAmbient(color)                        enable(state,slot)
    setSpecular(color)
```

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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

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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

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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
MOUSE_WHEEL_UP
MOUSE_WHEEL_DOWN

CURSORMODE_DEFAULT
CURSORMODE_CENTERED
CURSORMODE_WRAPPED

KEY_LBUTTON

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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_END
KEY_HOME
KEY_LEFT
KEY_UP
KEY_RIGHT
KEY_DOWN
KEY_SELECT
KEY_PRINT

KEY_EXECUTE
KEY_SNAPSHOT
KEY_INSERT
KEY_DELETE
KEY_HELP
KEY_LWIN
KEY_RWIN
KEY_APPS
KEY_SLEEP
KEY_NUMPAD0
KEY_NUMPAD1
KEY_NUMPAD2
KEY_NUMPAD3
KEY_NUMPAD4
KEY_NUMPAD5
KEY_NUMPAD6
KEY_NUMPAD7
KEY_NUMPAD8
KEY_NUMPAD9
KEY_MULTIPLY
KEY_ADD
KEY_SEPARATOR
KEY_SUBTRACT
KEY_DECIMAL
KEY_DIVIDE
KEY_F1
KEY_F2
KEY_F3
KEY_F4
KEY_F5
KEY_F6
KEY_F7
KEY_F8
KEY_F9
KEY_F10
KEY_F11
KEY_F12

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KEY_F13	KEY_BROWSER_STOP
KEY_F14	KEY_BROWSER_SEARCH
KEY_F15	KEY_BROWSER_FAVORITES
KEY_F16	KEY_BROWSER_HOME
KEY_F17	KEY_VOLUME_MUTE
KEY_F18	KEY_VOLUME_DOWN
KEY_F19	KEY_VOLUME_UP
KEY_F20	KEY_MEDIA_NEXT_TRACK
KEY_F21	KEY_MEDIA_PREV_TRACK
KEY_F22	KEY_MEDIA_STOP
KEY_F23	KEY_MEDIA_PLAY_PAUSE
KEY_F24	KEY_LAUNCH_MAIL
KEY_NAVIGATION_VIEW	KEY_LAUNCH_MEDIA_SELECT
KEY_NAVIGATION_MENU	KEY_LAUNCH_APP1
KEY_NAVIGATION_UP	KEY_LAUNCH_APP2
KEY_NAVIGATION_DOWN	KEY_OEM_1
KEY_NAVIGATION_LEFT	KEY_OEM_PLUS
KEY_NAVIGATION_RIGHT	KEY_OEM_COMMA
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

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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