## Core

Abs( a )	GetDeviceLanguage( )	Mid( strin, position, length )	SetSyncRate( fps, mode )
ACos( a )	GetDeviceName( )	MinimizeApp()	SetTransitionMode( mode )
ACosRad( a )	GetDeviceNetworkType()	Mod( a, b )	SetViewOffset( x, y )
Asc( strin )	GetDevicePlatform()	Pow( a, b )	SetViewZoom( zoom )
ASin( a )	GetDeviceType()	Random( )	SetViewZoomMode( mode )
ASinRad( a )	GetDevice Type() GetDeviceWidth()	Random2()	SetVirtualResolution( iWidth, iHeight )
ATan( a )	GetDisplayAspect()	RandomSign( value )	SetVSync( mode )
ATan2( y, x )	GetExpansionFileError()	Render()	SetWindowAllowResize( mode )
ATan2Rad( y, x )	GetExpansionFileProgress()	Render2DBack( )	SetWindowAnowNesize( mode ) SetWindowPosition( x, y )
ATanFull(x, y)	GetExpansionFileState()	Render2DFront( )	SetWindow Ostron ( x, y ) SetWindowSize( width, height, fullscreen,
ATanFullRad( x, y )	GetExpansion nestate() GetFrameTime()	Render3D()	allowOverSized )
ATanRad( a )	GetMaxDeviceHeight()	RenderShadowMap( )	SetWindowTitle( szTitle )
Bin(i)	GetMaxDeviceHeight() GetMaxDeviceWidth()	,	Sha1(str)
ByteLen( strin )	GetMilliseconds()	ReplaceString( str, find, replace, qty ) ResetTimer()	Sha256( str )
Ceil( a )	GetNumProcessors()	RestoreApp()	Sha512( str )
	W .		ShareFile( szFilename )
Chr( unicodevalue )	GetOrientation()	Right( strin, count )	
ClearDepthBuffer()	GetPaused()	Round( a )	ShareImage( szFilename )
ClearScreen()	GetPolygonsDrawn()	RunApp( szFilename, szParameters )	ShareImageAndText( szFilename, szText )
ClearURLSchemeText()	GetResumed()	ScreenFPS()	ShareText( szText )
CompareString( str, str2 )	GetScreenBoundsBottom()	ScreenToWorldX( x )	Sin(a)
Cos( a )	GetScreenBoundsLeft()	ScreenToWorldY( y )	SinRad( a )
CosRad( a )	GetScreenBoundsRight()	SetAntialiasMode( mode )	Sleep( milliseconds )
CountStringTokens( str, delimiters )	GetScreenBoundsTop()	SetBorderColor( red, green, blue )	Spaces( length )
CountStringTokens2( str, delimiter )	GetSeconds()	SetClearColor( red, green, blue )	Sqrt(a)
DownloadExpansionFile()	GetShadowPolygonsDrawn()	SetDefaultMagFilter(filter)	StepPhysics( time )
DrawBox( x, y, x2, y2, color1, color2, color3,	GetStorageRemaining( path )	SetDefaultMinFilter( filter )	Str( valueFloat )
color4, filled )	GetStorageTotal( path )	SetDefaultWrapU( mode )	StringToBase64( input )
DrawEllipse(x, y, radiusx, radiusy, color1,	GetStringToken( str, delimiters, token )	SetDefaultWrapV( mode )	StripString( str, chars )
color2, filled )	GetStringToken2( str, delimiter, token )	SetDisplayAspect( aspect )	Swap()
DrawLine( x, y, x2, y2, red, green, blue )	GetURLSchemeText()	SetExpansionFileKey( key )	Sync()
EnableClearColor( clear )	GetVerticesProcessed()	SetExpansionFileVersion(int version)	Tan(a)
EnableClearDepth( clear )	GetViewOffsetX()	SetGenerateMipmaps( generate )	TanRad( a )
FindString( str, findStr, ignoreCase, start )	GetViewOffsetY()	SetImmersiveMode( mode )	TerminateApp( appID )
FindStringCount( str, findStr )	GetViewZoom()	SetIntendedDeviceSize( width, height )	Timer()
FindStringReverse( str, findStr, ignoreCase,	GetVirtualHeight()	SetOrientationAllowed( portrait, portrait2,	TrimString( str, chars )
start )	GetVirtualWidth()	landscape, landscape2)	Trunc( a )
Floor( a )	GetWindowHeight()	SetRandomSeed( seed )	TruncateString( str, character )
FMod( a, b )	GetWindowWidth()	SetRandomSeed2( seed )	Update( time )
GetAppName( )	Hex( i )	SetRenderToImage( colorImage, depthImage )	Update2D( time )
GetAppPackageName()	HexToBase64( input )	SetRenderToScreen()	Update3D( time )
GetAppRunning( appID )	IsSupportedDepthTexture()	SetResolutionMode( mode )	UpdateDeviceSize( w, h )
GetColorBlue( color )	Left( strin, count )	SetScissor( x, y, x2, y2 )	Upper( strin )
GetColorGreen( color )	Len( strin )	SetScreenResolution( width, height )	Val( str )
GetColorRed( color )	Log( a )	SetSleepMode( mode )	ValFloat( str )
GetDeviceBaseName()	Lower( strin )	SetSortCreated( sort )	ViewFile( szFilename )
GetDeviceDPI()	MakeColor( red, green, blue )	SetSortDepth( sort )	WorldToScreenX( x )
GetDeviceHeight()	MaximizeWindow()	SetSortTextures( sort )	WorldToScreenY( y )
GetDeviceID()	Message( msg )	SetSortTransparentDepth( sort )	

## **Sprites**

AddSpriteAnimationFrame( iSpriteIndex, iImageIndex ) GetSpriteDistancePoint2X() GetSpriteVisible( iSpriteIndex ) AddSpriteShapeBox( iSpriteIndex, x, y, x2, y2, angle ) GetSpriteDistancePoint2Y() GetSpriteWidth( iSpriteIndex ) AddSpriteShapeChain( iSpriteIndex, numPoints, index, loop, x, y ) GetSpriteExists( iSpriteIndex ) GetSpriteX( iSpriteIndex ) AddSpriteShapeCircle(iSpriteIndex, x, y, radius) GetSpriteFlippedH( iSpriteIndex ) GetSpriteXByOffset( iSpriteIndex ) AddSpriteShapePolygon( iSpriteIndex, numPoints, index, x, y ) GetSpriteFlippedV( iSpriteIndex ) GetSpriteXFromPixel( iSpriteIndex. x ) CalculateSpritePhysicsCOM( iSpriteIndex ) GetSpriteFrameCount( iSpriteIndex ) GetSpriteXFromWorld( iSpriteIndex, x, y ) GetSpriteY(iSpriteIndex) ClearSpriteAnimationFrames(iSpriteIndex) GetSpriteGroup(iSpriteIndex) ClearSpriteShapes( iSpriteIndex ) GetSpriteHeight( iSpriteIndex ) GetSpriteYByOffset( iSpriteIndex ) CloneSprite( iSpriteIndex, iOtherSprite ) GetSpriteHit(x, y) GetSpriteYFromPixel( iSpriteIndex, y ) GetSpriteHitCategory( categories, x, y ) GetSpriteYFromWorld( iSpriteIndex, x, v ) CreateDummySprite( iSpriteIndex ) GetSpriteHitGroup(group, x, y) CreateSprite(ilmageIndex) GetWorldXFromSprite( iSpriteIndex, x, y ) DeleteAllSprites() GetSpriteHitTest( iSpriteIndex, x, y ) GetWorldYFromSprite(iSpriteIndex, x, y) DeleteAllText() GetSpriteImageID( iSpriteIndex ) LoadSprite( imagefile ) DeleteSprite( iSpriteIndex ) GetSpriteInBox(iSprite, x1, y1, x2, y2) PlaySprite( iSpriteIndex ) DrawSprite( iSpriteIndex ) GetSpriteInCircle(iSprite, x1, y1, radius) ResetSpriteUV( iSpriteIndex ) FixSpriteToScreen( iSpriteIndex, mode ) GetSpriteInScreen( iSpriteIndex ) ResumeSprite( iSpriteIndex ) GetPhysicsCollision( iSprite1, iSprite2) GetSpriteNumShapes(iSpriteIndex) SetSpriteActive( iSpriteIndex, bActive ) GetPhysicsCollisionWorldX() GetSpriteOffsetX( iSpriteIndex ) SetSpriteAdditionalImage( iSpriteIndex, iImageIndex, iStage ) GetPhysicsCollisionWorldY() GetSpriteOffsetY( iSpriteIndex ) SetSpriteAngle( iSpriteIndex, fAng ) GetPhysicsCollisionX() GetSpritePhysicsAngularVelocity( iSpriteIndex ) SetSpriteAngleRad( iSpriteIndex, fAng ) GetPhysicsCollisionY() GetSpritePhysicsCOMX( iSpriteIndex ) SetSpriteAnimation( iSpriteIndex, iFrameWidth, iFrameHeight, GetSpriteActive( iSpriteIndex ) GetSpritePhysicsCOMY( iSpriteIndex ) iFrameCount ) GetSpriteAngle( iSpriteIndex ) GetSpritePhysicsMass( iSpriteIndex ) SetSpriteCategoryBit( iSpriteIndex, category, flag ) GetSpriteAngleRad( iSpriteIndex ) GetSpritePhysicsVelocityX( iSpriteIndex ) SetSpriteCategoryBits( iSpriteIndex, categories, shapeID ) GetSpriteCollision(iSprite1, iSprite2) GetSpritePhysicsVelocityY( iSpriteIndex ) SetSpriteCollideBit( iSpriteIndex, category, flag, shapeID ) GetSpriteColorAlpha( iSpriteIndex ) GetSpritePixelFromX( iSpriteIndex, x ) SetSpriteCollideBits( iSpriteIndex, mask ) GetSpriteColorBlue( iSpriteIndex ) GetSpritePixelFromY( iSpriteIndex, y ) SetSpriteColor( iSpriteIndex, iRed, iGreen, iBlue, iAlpha ) GetSpriteColorGreen( iSpriteIndex ) GetSpritePlaying( iSpriteIndex ) SetSpriteColorAlpha(iSpriteIndex, iAlpha) GetSpriteColorRed( iSpriteIndex ) GetSpriteScaleX( iSpriteIndex ) SetSpriteColorBlue( iSpriteIndex, iBlue ) GetSpriteCurrentFrame( iSpriteIndex ) GetSpriteScaleY( iSpriteIndex ) SetSpriteColorGreen( iSpriteIndex, iGreen ) GetSpriteDepth( iSpriteIndex ) GetSpriteShapeNumVertices( iSpriteIndex, shapeID ) SetSpriteColorRed( iSpriteIndex, iRed ) GetSpriteDistance(iSprite1, iSprite2) GetSpriteShapeVertexX( iSpriteIndex, shapeID, vertex ) SetSpriteDepth( iSpriteIndex, iDepth ) GetSpriteShapeVertexY( iSpriteIndex, shapeID, vertex ) GetSpriteDistancePoint1X() SetSpriteFlip( iSpriteIndex, horz, vert ) GetSpriteDistancePoint1Y() GetSpriteTransparency( iSpriteIndex ) SetSpriteFrame( iSpriteIndex, iFrame ) SetSpriteGroup(iSpriteIndex, group, shapeID) SetSpritePhysicsOff( iSpriteIndex ) SetSpriteY(iSpriteIndex, fY) SetSpriteImage( iSpriteIndex, iImageIndex, bUpdateShape ) SetSpritePhysicsOn( iSpriteIndex, mode ) StopSprite( iSpriteIndex ) SetSpriteOffset( iSpriteIndex, x, v ) SetSpritePhysicsRestitution( iSpriteIndex, restitution ) SetSpriteShapeCircle(iSpriteIndex, x, y, radius) SetSpriteShapePolygon(iSpriteIndex, numPoints, index, x, y) SetSpritePhysicsAngularDamping(iSpriteIndex, damp) SetSpritePhysicsTorque(iSpriteIndex, torque) SetSpritePhysicsAngularImpulse( iSpriteIndex, impulse ) SetSpritePhysicsVelocity( iSpriteIndex, vx, vy ) SetSpriteSize( iSpriteIndex, width, height ) SetSpritePhysicsAngularVelocity( iSpriteIndex, va ) SetSpritePosition( iSpriteIndex, fX, fY ) SetSpriteSnap(iSpriteIndex, snap) SetSpritePhysicsCanRotate(iSpriteIndex, rotate) SetSpritePositionByOffset( iSpriteIndex, fX, fY ) SetSpriteSpeed( iSpriteIndex, fFps ) SetSpritePhysicsCOM( iSpriteIndex, x, y ) SetSpriteScale( iSpriteIndex, x, y ) SetSpriteTransparency( iSpriteIndex, mode ) SetSpritePhysicsDamping(iSpriteIndex, damp) SetSpriteScaleByOffset( iSpriteIndex, x, y ) SetSpriteUV(iSpriteIndex, u1, v1, u2, v2, u3, v3, u4, v4) SetSpritePhysicsDelete( iSpriteIndex ) SetSpriteScissor( iSpriteIndex, x, y, x2, y2 ) SetSpriteUVBorder( iSpriteIndex, border ) SetSpritePhysicsDensity( iSpriteIndex, density, shapeID ) SetSpriteShader( spriteID, shaderID ) SetSpriteUVOffset( iSpriteIndex, u, v ) SetSpritePhysicsForce( iSpriteIndex, x, y, vx, vy ) SetSpriteShape(iSpriteIndex, shape, shapeID) SetSpriteUVScale( iSpriteIndex, scaleU, scaleV ) SetSpriteShapeBox( iSpriteIndex, x, y, x2, y2, angle, shapeID ) SetSpritePhysicsFriction( iSpriteIndex, friction ) SetSpriteVisible( iSpriteIndex, bVisible ) SetSpritePhysicsImpulse( iSpriteIndex, x, y, vx, vy ) SetSpriteShapeChain( iSpriteIndex, numPoints, index, loop, x, y, SetSpriteX( iSpriteIndex, fX ) SetSpritePhysicsIsBullet( iSpriteIndex, bullet ) SetSpriteY( iSpriteIndex, fY ) shapeID) SetSpritePhysicsIsSensor( iSpriteIndex, sensor ) SetSpriteVisible( iSpriteIndex, bVisible ) StopSprite( iSpriteIndex ) SetSpritePhysicsMass( iSpriteIndex, mass ) SetSpriteX( iSpriteIndex, fX )

## *Images*

Copylmage( newImage, fromImage, x, y, width, height )
CreateImageColor( imageID, red, green, blue, alpha )

 $Create Render Image (\ width,\ height,\ format,\ mipmap\ )$ 

DecodeQRCode( image )

DeleteAllImages()

DeleteImage( ilmageIndex )

EncodeQRCode( text, errormode )

GetCapturedImage()

GetChosenImage()

GetDeviceCameraType( cameraID )

GetImage( imageID, x, y, width, height )

GetImageExists( iImageIndex )

 ${\sf GetImageFilename(imageID)}$ 

GetImageHeight( iImageIndex )

GetImageSizeFromFile( filename )

GetImageWidth( iImageIndex )

GetNumDeviceCameras()

IsCapturingImage()

IsChoosingImage()

LoadImage( sImageFilename, bBlackToAlpha )

LoadImageResized( iImageID, szFilename, scaleX, scaleY, cache )

LoadSubImage( ilmageIndex, iParentIndex, sImageFilename )
PrintImage( image, size )

ResizeImage( imageID, width, height )

SaveImage( ilmageIndex, filename )

SetDeviceCameraToImage( cameraID, imageID )

SetImageMagFilter(ilmageIndex, mode)

SetImageMask( iDstImage, iSrcImage, dst, src, x, y )

SetImageMinFilter( ilmageIndex, mode )

SetImageTransparentColor(ilmage, r, g, b)

SetImageWrapU(ilmageIndex, mode)

SetImageWrapV(ilmageIndex, mode)

ShowChooseImageScreen()

ShowImageCaptureScreen()

### Skeletons

CreateSkeleton2D()

DeleteSkeleton2D( iSkeleton )

FixSkeleton2DToScreen( iSkeleton, mode )

FixSpriteToSkeleton2D( spriteID, iSkeletonID, bone, zorder )

GetSkeleton2DAngle(iSkeleton)

GetSkeleton2DAnimationTime( iSkeleton, anim )

GetSkeleton2DBone( iSkeleton, name )

GetSkeleton2DBoneAngle( iSkeleton, bone )

GetSkeleton2DBoneCurrAngle(iSkeleton, bone)

GetSkeleton2DBoneCurrX( iSkeleton, bone )

GetSkeleton2DBoneCurrY( iSkeleton, bone )

GetSkeleton2DBoneParent( iSkeleton, bone )

GetSkeleton2DBoneX( iSkeleton, bone )

GetSkeleton2DBoneY( iSkeleton, bone )

GetSkeleton2DCurrentTime( iSkeleton )

GetSkeleton2DDepth(UINT iSkeleton)

GetSkeleton2DExists( iSkeleton )

GetSkeleton2DIsAnimating( iSkeleton )

GetSkeleton2DIsTweening(iSkeleton)

GetSkeleton2DX( iSkeleton )

GetSkeleton2DY( iSkeleton )

LoadSkeleton2DFromSpineFile(filename, scale, atlasImage,

loadAnim

LoadSkeleton2DFromSpriterFile( filename, scale, atlasImage )

PlaySkeleton2DAnimation( iSkeleton, anim, starttime, loop,

tweentime)

SetSkeleton2DAnimationFrame(iSkeleton, anim, time, tweentime)

SetSkeleton2DAnimationSpeed( iSkeleton, speed )

SetSkeleton2DBoneAngle(iSkeleton, bone, r)

SetSkeleton2DBoneMode( iSkeleton, bone, mode ) SetSkeleton2DBonePosition( iSkeleton, bone, x, y)

SetSkeleton2DBoneScale( iSkeleton, bone, sx, sy )

SetSkeleton2DDepth( iSkeleton, depth )

SetSkeleton2DFlip(iSkeleton, flipH, flipV)

SetSkeleton2DPosition( iSkeleton, x, y )

SetSkeleton2DRotation(iSkeleton, r)

SetSkeleton2DVisible( iSkeleton, mode )

## Tweening

AddTweenChainCamera( chainID, tweenID, cameraID, delay ) AddTweenChainChar( chainID, tweenID, textID, charID, delay ) AddTweenChainCustom( chainID, tweenID, delay ) AddTweenChainObject( chainID, tweenID, objectID, delay ) AddTweenChainSprite( chainID, tweenID, spriteID, delay ) AddTweenChainText( chainID, tweenID, textID, delay ) ClearTweenChain( chainID ) CreateTweenCamera( duration ) CreateTweenChain() CreateTweenChar( duration ) CreateTweenCustom( duration ) CreateTweenObject( duration ) CreateTweenSprite( duration ) CreateTweenText( duration ) DeleteTween( tweenID ) DeleteTweenChain( chainID ) GetTweenCameraExists( tweenID ) GetTweenCameraPlaying( tweenID, cameraID ) GetTweenChainEndTime( chainID ) GetTweenChainPlaying( chainID ) GetTweenCharExists( tweenID ) GetTweenCharPlaying( tweenID, textID, charID ) GetTweenCustomExists( tweenID ) GetTweenCustomFloat1( tweenID ) GetTweenCustomFloat2( tweenID ) GetTweenCustomFloat3( tweenID ) GetTweenCustomFloat4( tweenID ) GetTweenCustomInteger1( tweenID ) GetTweenCustomInteger2( tweenID ) GetTweenCustomInteger3( tweenID ) GetTweenCustomInteger4( tweenID ) GetTweenCustomPlaying( tweenID ) GetTweenExists( tweenID ) GetTweenObjectExists( tweenID ) GetTweenObjectPlaying( tweenID, objectID ) GetTweenSpriteExists( tweenID ) GetTweenSpritePlaying( tweenID, spriteID ) GetTweenTextExists( tweenID ) GetTweenTextPlaying( tweenID, textID ) PauseTweenCamera( tweenID, cameraID ) PauseTweenChain( chainID ) PauseTweenChar( tweenID, textID, charID ) PauseTweenCustom( tweenID ) PauseTweenObject( tweenID, objectID ) PauseTweenSprite( tweenID, spriteID ) PauseTweenText( tweenID, textID ) PlayTweenCamera( tweenID, cameraID, delay ) PlayTweenChain( chainID )

PlayTweenChar( tweenID, textID, charID, delay ) PlayTweenCustom( tweenID, delay ) PlayTweenObject( tweenID, objectID, delay ) PlayTweenSprite( tweenID, spriteID, delay ) PlayTweenText( tweenID, textID, delay ) ResumeTweenCamera( tweenID, cameraID ) ResumeTweenChar( tweenID, textID, charID ) ResumeTweenCustom( tweenID ) ResumeTweenObject( tweenID, objectID ) ResumeTweenSprite( tweenID, spriteID ) ResumeTweenText( tweenID, textID ) SetTweenCameraAngleX( tweenID, beginAX, endAX, interpolation ) SetTweenCameraAngleY( tweenID, beginAY, endAY, interpolation ) SetTweenCameraAngleZ( tweenID, beginAZ, endAZ, interpolation ) SetTweenCameraFOV( tweenID, beginF, endF, interpolation ) SetTweenCameraX( tweenID, beginX, endX, interpolation ) SetTweenCameraY( tweenID, beginY, endY, interpolation ) SetTweenCameraZ( tweenID, beginZ, endZ, interpolation ) SetTweenChainTime( chainID, time ) SetTweenCharAlpha( tweenID, beginA, endA, interpolation ) SetTweenCharAngle( tweenID, beginA, endA, interpolation ) SetTweenCharBlue( tweenID, beginB, endB, interpolation ) SetTweenCharGreen( tweenID, beginG, endG, interpolation ) SetTweenCharRed( tweenID, beginR, endR, interpolation ) SetTweenCharX( tweenID, beginX, endX, interpolation ) SetTweenCharY( tweenID, beginY, endY, interpolation ) SetTweenCustomFloat1( tweenID, begin, end, interpolation ) SetTweenCustomFloat2( tweenID, begin, end, interpolation ) SetTweenCustomFloat3( tweenID, begin, end, interpolation ) SetTweenCustomFloat4( tweenID, begin, end, interpolation ) SetTweenCustomInteger1( tweenID, begin, end, interpolation ) SetTweenCustomInteger2( tweenID, begin, end, interpolation ) SetTweenCustomInteger3( tweenID, begin, end, interpolation ) SetTweenCustomInteger4( tweenID, begin, end, interpolation ) SetTweenDuration( tweenID, duration ) SetTweenObjectAlpha( tweenID, beginA, endA, interpolation ) SetTweenObjectAngleX( tweenID, beginAX, endAX, interpolation ) SetTweenObjectAngleY( tweenID, beginAY, endAY, interpolation ) SetTweenObjectAngleZ( tweenID, beginAZ, endAZ, interpolation ) SetTweenObjectBlue( tweenID, beginB, endB, interpolation ) SetTweenObjectGreen( tweenID, beginG, endG, interpolation ) SetTweenObjectRed( tweenID, beginR, endR, interpolation ) SetTweenObjectScaleX( tweenID, beginSX, endSX, interpolation ) SetTweenObjectScaleY( tweenID, beginSY, endSY, interpolation ) SetTweenObjectScaleZ( tweenID, beginSZ, endSZ, interpolation ) SetTweenObjectX( tweenID, beginX, endX, interpolation ) SetTweenObjectY( tweenID, beginY, endY, interpolation ) SetTweenObjectZ( tweenID, beginZ, endZ, interpolation )

SetTweenSpriteAlpha( tweenID, beginA, endA, interpolation ) SetTweenSpriteAngle( tweenID, beginA, endA, interpolation ) SetTweenSpriteBlue(tweenID, beginB, endB, interpolation) SetTweenSpriteGreen( tweenID, beginG, endG, interpolation ) SetTweenSpriteRed( tweenID, beginR, endR, interpolation ) SetTweenSpriteSizeX( tweenID, beginSX, endSX, interpolation ) SetTweenSpriteSizeY( tweenID, beginSY, endSY, interpolation ) SetTweenSpriteX( tweenID, beginX, endX, interpolation ) SetTweenSpriteXByOffset( tweenID, beginX, endX, interpolation ) SetTweenSpriteY( tweenID, beginY, endY, interpolation ) SetTweenSpriteYByOffset( tweenID, beginY, endY, interpolation ) SetTweenTextAlpha( tweenID, beginA, endA, interpolation ) SetTweenTextAngle( tweenID, beginA, endA, interpolation ) SetTweenTextBlue( tweenID, beginB, endB, interpolation ) SetTweenTextGreen( tweenID, beginG, endG, interpolation ) SetTweenTextLineSpacing( tweenID, beginLSP, endLSP, interpolation) SetTweenTextRed( tweenID, beginR, endR, interpolation ) SetTweenTextSize( tweenID, beginS, endS, interpolation ) SetTweenTextSpacing( tweenID, beginSP, endSP, interpolation ) SetTweenTextX( tweenID, beginX, endX, interpolation ) SetTweenTextY( tweenID, beginY, endY, interpolation ) StopTweenCamera( tweenID, cameraID ) StopTweenChain( chainID ) StopTweenChar( tweenID, textID, charID ) StopTweenCustom( tweenID ) StopTweenObject( tweenID, objectID ) StopTweenSprite( tweenID, spriteID ) StopTweenText( tweenID, textID ) TweenBounce() TweenEaseIn1() TweenEaseIn2() TweenEaseOut1() TweenEaseOut2() TweenLinear() TweenOvershoot() TweenSmooth1() TweenSmooth2() UpdateAllTweens(fTime) UpdateTweenCamera( tweenID, cameraID, fTime ) UpdateTweenChain( chainID, fTime ) UpdateTweenChar( tweenID, textID, charID, fTime ) UpdateTweenCustom( tweenID, fTime ) UpdateTweenObject( tweenID, objectID, fTime ) UpdateTweenSprite( tweenID, spriteID, fTime ) UpdateTweenText( tweenID, textID, fTime )

## **2D Physics**

CreateDistanceJoint(iJointIndex, iSpriteIndex1, iSpriteIndex2, x, y, x2, y2, colConnected) CreateGearJoint( iJoint1, iJoint2, ratio ) CreateLineJoint( iSpriteIndex1, iSpriteIndex2, x, y, vx, vy, CreateMouseJoint( iJointIndex, iSpriteIndex, x, y, maxForce ) CreatePhysicsForce(x, y, power, limit, range, fade) CreatePrismaticJoint( iSpriteIndex1, iSpriteIndex2, x, y, vx, vy, CreatePulleyJoint( iJointIndex, iSpriteIndex1, iSpriteIndex2, gnd1x, gnd1y, gnd2x, gnd2y, a1x, a1y, a2x, a2y, ratio, colConnected) CreatePulleyJoint2( iSpriteIndex1, iSpriteIndex2, ratio, colConnected ) CreateRevoluteJoint( iSpriteIndex1, iSpriteIndex2, x, y, colConnected) CreateRopeJoint(iSpriteIndex1, iSpriteIndex2, x, y, x2, y2, maxLength, colConnected) CreateWeldJoint( iJointIndex, iSpriteIndex1, iSpriteIndex2, x, y, colConnected) DeleteJoint( iJointIndex ) DeletePhysicsForce( iForceIndex ) FinishPulleyJoint(gnd1x, gnd1y, gnd2x, gnd2y, a1x, a1y, a2x, a2y) GetContactSpriteID1() GetContactSpriteID2() GetContactWorldX() AddParticlesColorKevFrame(ID, time, red, green, blue, alpha)

GetContactWorldY() GetFirstContact() GetJointExists(iJointIndex) GetJointReactionForceX( iJointIndex ) GetJointReactionForceY( iJointIndex ) GetJointReactionTorque( iJointIndex ) GetNextContact() GetPhysicsIslandCount() GetPhysicsSolveTime() GetRavCastFraction() GetRayCastNormalX() GetRayCastNormalY() GetRayCastSpriteID() GetRayCastX() GetRayCastY() GetSpriteContactSpriteID2() GetSpriteContactWorldX() GetSpriteContactWorldY() GetSpriteFirstContact( iSprite1) GetSpriteNextContact() PhysicsRayCast(x, y, x2, y2) PhysicsRayCastCategory( category, x, y, x2, y2) PhysicsRayCastGroup(group, x, y, x2, y2) SetJointDamping(iJointIndex, dampingRatio, frequency) SetJointLimitOff( iJointIndex )

SetJointLimitOn( iJointIndex, lowerLimit, upperLimit ) SetJointMotorOff( iJointIndex ) SetJointMotorOn( iJointIndex, speed, maxForce ) SetJointMouseMaxForce( iJointIndex, maxForce ) SetJointMouseTarget( iJointIndex, x, y ) SetPhysicsCCD( mode ) SetPhysicsDebugOff() SetPhysicsDebugOn() SetPhysicsForcePosition( iForceIndex, x, y ) SetPhysicsForcePower( iForceIndex, power ) SetPhysicsForceRange( iForceIndex, range ) SetPhysicsGravity(x, y) SetPhysicsMaxPolygonPoints( points ) SetPhysicsScale( scale ) SetPhysicsSleeping( mode ) SetPhysicsThreading(threads) SetPhysicsWallBottom( mode ) SetPhysicsWallLeft( mode ) SetPhysicsWallRight( mode ) SetPhysicsWallTop( mode ) SpriteRayCast(x, y, x2, y2) SpriteRayCastCategory( category, x, y, x2, y2 ) SpriteRayCastGroup(group, x, y, x2, y2) SpriteRayCastSingle(sprite, x, y, x2, y2)

### **Particles**

AddParticlesForce( ID, starttime, endtime, x, y)
AddParticlesScaleKeyFrame( ID, time, scale )
ClearParticlesColors( ID )
ClearParticlesForces( ID )
ClearParticlesScales( ID )
CreateParticles( ID )
DrawParticles( ID )
DrawParticles( ID )
FixParticlesToScreen( ID, mode )
GetParticlesAngle( ID )
GetParticlesAngle( ID )
GetParticlesAngleRad( ID )
GetParticlesDepth( ID )
GetParticlesDirectionX( ID )
GetParticlesDirectionY( ID )
GetParticlesDirectionY( ID )

GetParticlesLife(ID)
GetParticlesMaxReached(ID)
GetParticlesSize(ID)
GetParticlesSize(ID)
GetParticlesVisible(ID)
GetParticlesY(ID)
GetParticlesY(ID)
OffsetParticles(ID, x, y)
ResetParticleCount(ID)
SetParticlesAngle(ID, active)
SetParticlesAngle(ID, angle)
SetParticlesAngle(ID, angle)
SetParticlesColorInterpolation(ID, mode)
SetParticlesDepth(ID, depth)
SetParticlesDirection(ID, vx, y)

GetParticlesExists(ID)

GetParticlesFrequency(ID)

SetParticlesFaceDirection( ID, mode )
SetParticlesFrequency( ID, freq )
SetParticlesImage( ID, imageID )
SetParticlesLife( ID, time )
SetParticlesMax( ID, max )
SetParticlesPosition( ID, x, y )
SetParticlesRotationRange( ID, angle1, angle2 )
SetParticlesRotationRangeRad( ID, angle1, angle2 )
SetParticlesSize( ID, size )
SetParticlesStartZone( ID, x1, y1, x2, y2 )
SetParticlesTransparency( ID, mode )
SetParticlesVelocityRange( ID, v1, v2 )
SetParticlesVisible( ID, visible )
UpdateParticles( ID, time )

#### Text

CreateText( string) GetTextTotalWidth( iTextIndex ) SetTextColorAlpha( iTextIndex, iAlpha ) DeleteText( iTextIndex ) GetTextVisible( iTextIndex ) SetTextColorBlue( iTextIndex, iBlue ) DrawText( iTextIndex ) GetTextX( iTextIndex ) SetTextColorGreen( iTextIndex, iGreen ) FixTextToScreen( iTextIndex, mode ) GetTextY( iTextIndex ) SetTextColorRed( iTextIndex, iRed ) GetTextAlignment( iTextIndex ) Print(i) SetTextDefaultExtendedFontImage( iImageID ) GetTextCharAngle( iTextIndex, iCharIndex ) PrintC( szString) SetTextDefaultFontImage( iImageID ) GetTextCharAngleRad( iTextIndex, iCharIndex ) SetPrintColor( iRed, iGreen, iBlue ) SetTextDefaultMagFilter( mode ) GetTextCharColorAlpha( iTextIndex, iCharIndex ) SetPrintFont( fontID ) SetTextDefaultMinFilter( mode ) GetTextCharColorBlue(iTextIndex, iCharIndex) SetPrintSize(fSize) SetTextDepth( iTextIndex, iDepth ) GetTextCharColorGreen( iTextIndex, iCharIndex ) SetPrintSpacing(fSpacing) SetTextExtendedFontImage( iTextIndex, iImageID ) GetTextCharColorRed( iTextIndex, iCharIndex ) SetTextAlignment( iTextIndex, iMode ) SetTextFont( iTextIndex, iFontID ) GetTextCharX( iTextIndex, iCharIndex ) SetTextAngle( iTextIndex, fAngle ) SetTextFontImage( iTextIndex, iImageID ) GetTextCharY( iTextIndex, iCharIndex ) SetTextAngleRad( iTextIndex, fAngleRad ) SetTextLineSpacing( iTextIndex, fSpacing ) GetTextColorAlpha( iTextIndex ) SetTextBold( iTextIndex, bold ) SetTextMaxWidth( iTextIndex, width ) GetTextColorBlue( iTextIndex ) SetTextCharAngle( iTextIndex, iCharIndex, angle ) SetTextPosition( iTextIndex, fX, fY ) GetTextColorGreen( iTextIndex ) SetTextCharAngleRad( iTextIndex, iCharIndex, angle ) SetTextScissor( iTextIndex, x, y, x2, y2 ) GetTextColorRed( iTextIndex ) SetTextCharBold( iTextIndex, iCharIndex, bold ) SetTextSize( iTextIndex, fSize ) GetTextDepth( iTextIndex ) SetTextSpacing( iTextIndex, fSpacing ) SetTextCharColor( iTextIndex, iCharIndex, red, green, blue, alpha ) GetTextExists( iTextIndex ) SetTextCharColorAlpha( iTextIndex, iCharIndex, alpha ) SetTextString( iTextIndex, string ) GetTextHitTest( iTextIndex, x, y ) SetTextCharColorBlue( iTextIndex, iCharIndex, blue ) SetTextTransparency( iTextIndex, mode ) GetTextLength( iTextIndex ) SetTextCharColorGreen( iTextIndex, iCharIndex, green ) SetTextVisible( iTextIndex, bVisible ) GetTextLineSpacing( iTextIndex ) SetTextCharColorRed( iTextIndex, iCharIndex, red ) SetTextX( iTextIndex, fX ) GetTextSize( iTextIndex ) SetTextCharPosition( iTextIndex, iCharIndex, x, y ) SetTextY( iTextIndex, fY ) GetTextSpacing( iTextIndex ) SetTextCharX( iTextIndex, iCharIndex, x ) UseNewDefaultFonts( mode ) GetTextString( iTextIndex ) SetTextCharY( iTextIndex, iCharIndex, y ) GetTextTotalHeight( iTextIndex ) SetTextColor( iTextIndex, iRed, iGreen, iBlue, iAlpha ) **Fonts** GetSystemFontExists( szFontFile ) DeleteFont( iFontID ) GetFontExists( iFontID ) LoadFont( iFontID, szFontFile )

earPointLights()	CatObjectPanaNama(abiID banaInday)	CotObjectPayCastPaymonV( inday )
oneObject( objID )	GetObjectBoneName( objID, boneIndex ) GetObjectBoneQuatW( objID, boneIndex )	GetObjectRayCastBounceX( index ) GetObjectRayCastBounceY( index )
eateObject(ObjiD ) eateObjectBox( width, height, length )	GetObjectBoneQuatW( objlD, boneIndex ) GetObjectBoneQuatX( objlD, boneIndex )	GetObjectRayCastBounce7( index )
eateObjectCapsule( diameter, height, axis )	GetObjectBoneQuatY( objID, boneIndex ) GetObjectBoneQuatY( objID, boneIndex )	GetObjectRayCastBodince2( index )  GetObjectRayCastDistance( index )
eateObjectCone( objID, height, diameter, segments )	GetObjectBoneQuat7( objID, boneIndex )  GetObjectBoneQuatZ( objID, boneIndex )	GetObjectRayCastHitlD( index )
		, , , , , ,
eateObjectCylinder( height, diameter, segments )	GetObjectBoneWorldAngleX( objID, boneIndex )	GetObjectRayCastNormalX( index )
eateObjectFromHeightMap( objID, szImageFile, width, height,	GetObjectBoneWorldAngleY( objID, boneIndex )	GetObjectRayCastNormalY( index )
ngth, smoothing, split )	GetObjectBoneWorldAngleZ( objID, boneIndex )	GetObjectRayCastNormalZ( index )
eateObjectFromObjectMesh( fromObjID, meshIndex )	GetObjectBoneWorldQuatW( objID, boneIndex )	GetObjectRayCastNumHits()
eateObjectFromRawHeightMap( szFilename, width, height,	GetObjectBoneWorldQuatX( objID, boneIndex )	GetObjectRayCastSlideX( index )
ngth, smoothing, split, rawWidth, rawHeight)	GetObjectBoneWorldQuatY( objID, boneIndex )	GetObjectRayCastSlideY( index )
eateObjectPlane( width, height )	GetObjectBoneWorldQuatZ( objID, boneIndex )	GetObjectRayCastSlideZ( index )
eateObjectQuad( objID )	GetObjectBoneWorldX( objID, boneIndex )	GetObjectRayCastX( index )
eateObjectSphere( objID, diameter, rows, columns )	GetObjectBoneWorldY( objlD, boneIndex )	GetObjectRayCastY( index )
eatePointLight( lightID, x, y, z, radius, red, green, blue )	GetObjectBoneWorldZ( objlD, boneIndex )	GetObjectRayCastZ( index )
eleteAllObjects()	GetObjectBoneX( objID, boneIndex )	GetObjectReceiveShadowMode( objID )
eleteObject( objID )	GetObjectBoneY( objID, boneIndex )	GetObjectSizeMaxX( objID )
eleteObjectTree( objID )	GetObjectBoneZ( objID, boneIndex )	GetObjectSizeMaxY( objID )
eleteObjectWithChildren( objID )	GetObjectCastShadowMode( objID )	GetObjectSizeMaxZ( objID )
eletePointLight( lightID )	GetObjectChildID( objID, childIndex )	GetObjectSizeMinX( objID )
eleteShader( shaderID )	GetObjectColorBlue( objID )	GetObjectSizeMinY( objID )
rawObject( objID )	GetObjectColorGreen( objID )	GetObjectSizeMinZ( objID )
(ObjectPivot( objID )	GetObjectColorRed( objID )	GetObjectTextureName(UINT objID, textureIndex)
ObjectToBone( objID, toObjID, toBoneIndex )	GetObjectCullMode( objID )	GetObjectTransparency( objID )
ObjectToObject( objID, toObjID )	GetObjectDepthBias( objID )	GetObjectVisible( objID )
et3DVectorXFromScreen( x, y )	GetObjectDepthReadMode( objID )	GetObjectWorldAngleX( objID )
et3DVectorYFromScreen( x, y )	GetObjectDepthWrite( objID )	GetObjectWorldAngleY( objID )
et3DVectorZFromScreen( x, y )	GetObjectExists( objID )	GetObjectWorldAngleZ( objID )
etCameraAngleX( cameraID )	GetObjectHeightMapHeight( objID, x, z )	GetObjectWorldQuatW( objID )
etCameraAngleY( cameraID )	GetObjectInScreen( objID )	GetObjectWorldQuatX( objID )
etCameraAngleZ( cameraID )	GetObjectIsAnimating( objID )	GetObjectWorldQuatY( objID )
etCameraFOV( cameraID )	GetObjectIsTweening( objID )	GetObjectWorldQuatZ( objID )
etCameraQuatW( cameralD )	GetObjectMeshName( objID, meshIndex )	GetObjectWorldX( objID )
etCameraQuatX( cameraID )	GetObjectMeshPSSource( objID, meshIndex )	GetObjectWorldY( objID )
etCameraQuatY( cameraID )	GetObjectMeshSizeMaxX( objID, meshIndex )	GetObjectWorldZ( objID )
etCameraQuatZ( cameraID )	GetObjectMeshSizeMaxY( objID, meshIndex )	GetObjectX( objID )
etCameraX( cameraID )	GetObjectMeshSizeMaxZ( objID, meshIndex )	GetObjectY( objID )
etCameraY( cameraID )	GetObjectMeshSizeMinX( objID, meshIndex )	GetObjectZ( objID )
etCameraZ( cameraID )	GetObjectMeshSizeMinY( objID, meshIndex )	GetPointLightExists( lightID )
etFogMode()	GetObjectMeshSizeMinZ( objID, meshIndex )	GetScreenXFrom3D( x, y, z )
etObjectAlpha( objID )	GetObjectMeshVSSource( objID, meshIndex )	GetScreenYFrom3D( x, y, z )
etObjectAngleX( objID )	GetObjectName( objID )	GetShaderExists( shaderID )
etObjectAngleY( objID )	GetObjectNumAnimations( objID )	GetShadowMappingMode()
etObjectAngleZ( objID )	GetObjectNumBones( objID )	GetShadowMappingSupported()
etObjectAnimationDuration( objID, animName )	GetObjectNumChildren( objID )	GetSupportedShaderVaryings()
etObjectAnimationName( objID, index )	GetObjectNumMeshes( objID )	InstanceObject( objID )
etObjectAnimationTime( objID )	GetObjectNumTextures(UINT objID)	LoadFullScreenShader( szPixelFile )
etObjectBoneAngleX( objID, boneIndex )	GetObjectQuatW( objID )	LoadObject( szFilename, height )
etObjectBoneAngleY( objID, boneIndex )	GetObjectQuatX( objID )	LoadObjectWithChildren( objID, szFilename )
etObjectBoneAngleZ( objID, boneIndex )	GetObjectQuatY( objID )	LoadShader( shaderID, szVertexFile, szPixelFile )
etObjectBoneByName( objID, name )	GetObjectQuatZ( objID )	LoadShaderFromString( shaderID, szVertexSource, szPixelSource

#### 3D

SetFogMode( mode ) SetObjectRotation(objID, angx, angy, angz) SetFogRange( minDist, maxDist ) LoadSpriteShader( szPixelFile ) SetObjectRotationQuat(objID, w, x, y, z) MoveCameraLocalX( cameralD, amount ) SetFogSunColor( red, green, blue ) SetObjectScale( objID, x, y, z ) MoveCameraLocalY( cameraID, amount ) SetGlobal3DDepth( depth ) SetObjectScalePermanent(objID, x, y, z) MoveCameraLocalZ( cameraID, amount ) SetObjectAlpha( objID, alpha ) SetObiectScreenCulling( obiID, mode ) MoveObjectLocalX( objID, amount ) SetObjectAlphaMask( objID, mode ) SetObjectShader( objID, shaderID ) MoveObjectLocalY( objID, amount ) SetObjectAnimationFrame(UINT objID, animName, time, SetObjectShaderConstantArrayByName(objID, szName, MoveObjectLocalZ( objID, amount ) tweentime) arrayIndex, value1, value2, value3, value4) ObjectRayCast(objID, oldx, oldy, oldz, newx, newy, newz) SetObjectAnimationSpeed( objID, speed ) SetObjectShaderConstantByName(objID, szName, value1, value2, ObjectSphereCast( objID, oldx, oldy, oldz, newx, newy, newz, SetObjectBlendModes( objID, src. dst ) value3, value4) radius ) SetObjectBoneCanAnimate( objID, boneIndex, animate ) SetObjectShaderConstantDefault( objID, szName ) ObjectSphereSlide(objID, oldx, oldy, oldz, newx, newy, newz, SetObjectBoneLookAt( objID, boneIndex, x, y, z, roll ) SetObjectTransparency( objID, mode ) SetObjectUVOffset( objID, textureStage, offsetU, offsetV) radius ) SetObjectBonePosition( objID, boneIndex, x, y, z ) PlayObjectAnimation(objID, animName, starttime, endtime, loop, SetObjectBoneRotation(objID, boneIndex, angx, angy, angz) SetObjectUVScale( objID, textureStage, scaleU, scaleV ) SetObjectBoneRotationQuat(objID, boneIndex, w, x, y, z) SetObjectVisible( objID, mode ) tweentime) ResetObjectAnimation(objID) SetObjectCastShadow( objID, mode ) SetPointLightColor( lightID, red, green, blue ) RotateCameraGlobalX( cameraID, amount ) SetObjectCollisionMode( objID, mode ) SetPointLightMode( lightID, mode ) RotateCameraGlobalY( cameraID, amount ) SetObjectColor( objID, red, green, blue, alpha ) SetPointLightPosition( lightID, x, y, z ) RotateCameraGlobalZ( cameraID, amount ) SetObjectColorEmissive( objID, red, green, blue ) SetPointLightRadius( lightID, radius ) RotateCameraLocalX( cameraID, amount ) SetObjectCullMode( objID, mode ) SetShaderConstantArrayByName( shaderID, szName, arrayIndex, RotateCameraLocalY( cameraID, amount ) SetObjectDepthBias(objID, bias) value1, value2, value3, value4) RotateCameraLocalZ( cameraID, amount ) SetObjectDepthRange(objID, zNear, zFar) SetShaderConstantByName(shaderID, szName, value1, value2, RotateObjectBoneLocalX( objID, boneIndex, amount ) SetObjectDepthReadMode( objID, mode ) value3, value4) RotateObjectBoneLocalY( objID, boneIndex, amount ) SetObjectDepthWrite(objID, mode) SetShadowBias(bias) RotateObjectBoneLocalZ(objID, boneIndex, amount) SetObjectFogMode( objID, mode ) SetShadowCascadeValues( cascade1, cascade2, cascade3 ) RotateObjectGlobalX( objID, amount ) SetShadowLightStepSize( step ) SetObjectImage( objID, imageID, texStage ) RotateObjectGlobalY( objID, amount ) SetObjectLightMap(objID, imageID) SetShadowMappingMode( mode ) SetShadowMapSize( width, height ) RotateObjectGlobalZ(objID, amount) SetObjectLightMode( objID, mode ) RotateObjectLocalX( objID, amount ) SetObjectLookAt(objID, x, y, z, roll) SetShadowRange( range ) RotateObjectLocalY( objID, amount ) SetObjectMeshCollisionMode(UINT objID,int meshIndex, mode) SetShadowSmoothing( mode ) SetSkyBoxHorizonColor( red, green, blue ) RotateObjectLocalZ(objID, amount) SetObjectMeshImage(objID, meshIndex, imageID, textureStage) SaveObject(objID, szFilename) SetObjectMeshLightMap(objID, meshIndex, imageID) SetSkyBoxHorizonSize( size, height ) SetObjectMeshNormalMap( objID, meshIndex, imageID ) SetAmbientColor( red, green, blue ) SetSkyBoxSkyColor( red, green, blue ) SetCameraAspect( cameraID, aspect ) SetObjectMeshNormalMapScale( objID, meshIndex, scaleU, scaleV) SetSkyBoxSunColor( red, green, blue ) SetCameraBounds( cameraID, left, right, top, bottom ) SetObjectMeshShader( objID, meshIndex, shaderID ) SetSkyBoxSunSize( sun, halo ) SetCameraFOV( cameraID, fov ) SetObjectMeshUVOffset(objID, meshIndex, textureStage, offsetU, SetSkyBoxSunVisible( visible ) SetCameraLookAt( cameraID. x, v, z, roll ) offsetV) SetSkvBoxVisible( active ) SetCameraOffCenter( cameraID, mode ) SetObjectMeshUVScale(objID, meshIndex, textureStage, scaleU, SetSunActive( active ) SetCameraOrthoWidth( cameraID, width ) scaleV) SetSunColor( red, green, blue ) SetObjectMeshVisible(UINT objID, meshIndex,int mode) SetCameraPosition( cameraID, x, y, z ) SetSunDirection( vx, vy, vz ) SetCameraRange( cameralD, fNear, fFar ) SetObjectNormalMap(objID, imageID) StopObjectAnimation(objID) SetCameraRotation( cameraID, angx, angy, angz ) SetObjectNormalMapScale( objID, scaleU, scaleV ) SetCameraRotationQuat( cameraID, w, x, y, z ) SetObjectPosition(objID, x, y, z) SetFogColor( red, green, blue ) SetObjectReceiveShadow( objID, mode )

#### **3D Particles**

Add3DParticlesColorKeyFrame(ID, time, red, green, blue, alpha) Get3DParticlesDirectionZ(ID) Add3DParticlesForce(ID, starttime, endtime, x, y, z) Get3DParticlesExists(ID) Add3DParticlesScaleKeyFrame(ID, time, scale) Get3DParticlesFrequency(ID) Clear3DParticlesColors(ID) Get3DParticlesLife(ID) Clear3DParticlesForces(ID) Get3DParticlesMaxReached(ID) Clear3DParticlesScales(ID) Get3DParticlesSize(ID) Get3DParticlesVisible(ID) Create3DParticles(x, y, z) Delete3DParticles(ID) Get3DParticlesX(ID) Draw3DParticles(ID) Get3DParticlesY(ID) Get3DParticlesActive(ID) Get3DParticlesZ(ID) Get3DParticlesDirectionRange1(ID) Offset3DParticles(ID, x, y, z) Get3DParticlesDirectionRange2(ID) Reset3DParticleCount(ID) Get3DParticlesDirectionX(ID) Set3DParticlesActive(ID, active) Get3DParticlesDirectionY(ID) Set3DParticlesColorInterpolation(ID, mode) Set3DParticlesDirection( ID, vx, vy, vz, roll )
Set3DParticlesDirectionRange( ID, angle1, angle2 )
Set3DParticlesFrequency( ID, freq )
Set3DParticlesImage( ID, imageID )
Set3DParticlesLife( ID, time )
Set3DParticlesMax( ID, max )
Set3DParticlesPosition( ID, x, y, z )
Set3DParticlesSize( ID, size )
Set3DParticlesStartZone( ID, x1, y1, z1, x2, y2, z2 )
Set3DParticlesTransparency( ID, mode )
Set3DParticlesVelocityRange( ID, v1, v2 )
Set3DParticlesVisible( ID, visible )

Update3DParticles(ID, time)

## **3D Physics**

Add3DPhysicsRagDollBone( startBoneID, endBoneID, diameter, collisionGroup, collisionMask) Add3DPhysicsRagDollHingeJoint( boneAID, boneBID, objBoneID, jointRotationVec3, minLimit, maxLimit) Add3DPhysicsRagDollTwistJoint(boneAID, boneBID, objBoneID, iointRotationVec3, limitsVec3) AddObjectShapeBox(objID, positionVec3, rotationVec3, sizeVec3) AddObjectShapeCapsule(objID, positionVec3, rotationVec3, sizeVec3. axis ) AddObjectShapeCone(objID, positionVec3, rotationVec3, sizeVec3, AddObjectShapeCylinder(objID, positionVec3, rotationVec3. sizeVec3, axis) AddObjectShapeSphere( objID, positionVec3, diameter ) AssignTo3DPhysicsRagDollBoneObjectBone( ragdollBoneID, Create3DPhysics6DOFJoint(objA, objB, positionVec3, rotationVec3 Create3DPhysicsCharacterController(objID, axis, objOffsetVec3, objOrientationVec3, crouchScale) Create3DPhysicsConeTwistJoint(objA, objB, positionVec3, rotationVec3, disableCollisions) Create3DPhysicsDynamicBody(objID) Create3DPhysicsFixedJoint(objA, objB, positionVec3) Create3DPhysicsHingeJoint(objA, objB, positionVec3, rotationVec3, disableCollisions) Create3DPhysicsKinematicBody(objID) Create3DPhysicsPickJoint(objID, positionVec3) Create3DPhysicsRagDoll( objID, objTotalWeight ) Create3DPhysicsRay() Create3DPhysicsSliderJoint(objA, objB, positionVec3, rotationVec3 Create3DPhysicsStaticBody(objID)

Create3DPhysicsStaticPlane( normalX, normalY, normalZ, offsetPosition ) Create3DPhysicsWorld( scaleFactor ) Crouch3DPhysicsCharacterController(objID) Debug3DPhysicsCharacterController(objID, isDebug) Debug3DPhysicsWorld() Delete3DPhysicsBody( obiID ) Delete3DPhysicsCharacterController(objID) Delete3DPhysicsJoint( jointID ) Delete3DPhysicsPickJoint( jointID ) Delete3DPhysicsRagdoll(objID) Delete3DPhysicsRay( rayID ) Delete3DPhysicsStaticPlane( planeID ) Delete3DPhysicsWorld() Finalize3DPhysicsRagDoll() Get3DPhysicsActiveObjects() Get3DPhysicsCharacterControllerExists(objID) Get3DPhysicsCharacterControllerGravity(objID) Get3DPhysicsCharacterControllerMaxSlope(objID) Get3DPhysicsJointEnabled(jointID) Get3DPhysicsJointPositionVector(jointID) Get3DPhysicsJointRotationVector(jointID) Get3DPhysicsRagdollExist(objID) Get3DPhysicsRagdollFromBoneObject(objID) Get3DPhysicsRayCastClosestContactPosition( rayID, outVec3ID ) Get3DPhysicsRayCastClosestObjectHit( rayID ) Get3DPhysicsRayCastContactPosition( rayID, fractionIndex, outVec3ID) Get3DPhysicsRayCastFraction( rayID ) Get3DPhysicsRayCastNormalVector( rayID, returnVec3ID ) Get3DPhysicsRayCastNumHits( rayID ) Get3DPhysicsRayCastObjectHit( rayID, fractionIndex ) Get3DPhysicsTotalJoints()

Get3DPhysicsTotalObjects() GetObject3DPhysicsAngularDamp(objID) GetObject3DPhysicsAngularSleepingThreshold(objID) GetObject3DPhysicsAngularVelocityX(objID) GetObject3DPhysicsAngularVelocityY(objID) GetObiect3DPhysicsAngularVelocityZ( obiID ) GetObject3DPhysicsContactObjectB() GetObject3DPhysicsContactVector(int outPosVec3) GetObject3DPhysicsContactX() GetObject3DPhysicsContactY() GetObject3DPhysicsContactZ() GetObject3DPhysicsFirstContact( obiID ) GetObject3DPhysicsFriction(objID) GetObject3DPhysicsGroup(objID) GetObject3DPhysicsLinearDamp(objID) GetObject3DPhysicsLinearSleepingThreshold(objID) GetObject3DPhysicsLinearVelocityX(objID) GetObject3DPhysicsLinearVelocityY( objID ) GetObject3DPhysicsLinearVelocityZ(objID) GetObject3DPhysicsMask( objID ) GetObject3DPhysicsMass(objID) GetObject3DPhysicsNextContact() GetObject3DPhysicsRestitution(objID) GetObject3DPhysicsRollingFriction(objID) GetObjects3DPhysicsContactPositionVector(objA, objB, outPosVec3) Is3dPhysicsRagdollStatic(objID) Jump3DPhysicsCharacterController( objID ) LoadObjectShape( objID, fileName ) Move3DPhysicsCharacterController(objID, x, z, velocity) Ray3DPhysicsExist( rayID ) RayCast3DPhysics( rayID, fromVec3ID, toVec3ID, allOrClosest )

## **3D Physics**

RayCast3DPhysicsObject(objID, rayID, fromVec3ID, toVec3ID, allOrClosest) Reset3DPhysicsWorld() Rotate3DPhysicsCharacterController(objID, angle) SaveObjectShape(objID, fileName) Set3DPhysicsCharacterControllerFallSpeed(objID, fallSpeed) Set3DPhysicsCharacterControllerGravity(objID, gravity) Set3DPhysicsCharacterControllerJumpSpeed( objID, jumpSpeed ) Set3DPhysicsCharacterControllerMaxSlope(objID, maxSlopeDegress ) Set3DPhysicsCharacterControllerPosition(objID, posX, posY, posZ) Set3DPhysicsCharacterControllerStepHeight( objID, stepHeight ) Set3DPhysicsGravity(x, y, z) Set3DPhysicsHingeJointMaxMotorImpulse(jointID, maxImpulse) Set3DPhysicsHingeJointMotorIsEnabled(jointID, isEnabled) Set3DPhysicsHingeJointMotorVelocity(jointID, targetVelocity) Set3DPhysicsJointBreakingThreshold(jointID, breakThreshold) Set3DPhysicsJointConeTwistLimits(jointID, swingSpan1, swingSpan2, twistSpan) Set3DPhysicsJointEnabled(jointID, isEnabled) Set3DPhysicsJointHingeLimits( jointID, minAng, maxAng ) Set3DPhysicsJointSliderAngularLimits(jointID, lowerLimit, upperLimit)

Set3DPhysicsJointSliderLinearLimits(jointID, lowerLimit, upperLimit ) Set3DPhysicsRagdollBonesVisible(objID, isVisible) Set3DPhysicsRagdollDamping(linear, angular) Set3DPhysicsRagdollDeactivation(objID, isDisabled) Set3DPhysicsRagdollDeactivationTime( time ) Set3DPhysicsRagdollSleepingThresholds( linear, angular ) Set3DphysicsRagdollStatic(objID, isStatic) Set3DPhysicsSliderJointMaxLinearMotorForce(jointID, maxLinearForce ) Set3DPhysicsSliderJointPoweredLinearMotorIsEnabled(jointID, isEnabled) Set3DPhysicsSliderJointTargetLinearMotorVelocity(jointID, linearMotorVelocity) Set3DPhysicsStaticPlanePosition( planeID, posX, posY, posZ ) Set3DPhysicsStaticPlaneRotation( planeID, angX, angY, angZ ) Set3DPhysicsTwistJointMaxMotorImpulse(jointID, maxImpulse) Set3DPhysicsTwistJointMotorIsEnabled(jointID, isEnabled) Set3DPhysicsTwistJointMotorRotationTarget(jointID, rotationVec3ID ) SetObject3DPhysicsAngularVelocity(objID, angX, angY, angZ, initialSpeed) SetObject3DPhysicsAnisotropicFriction(objID, type) SetObject3DPhysicsCanSleep(objID, canSleep) SetObject3DPhysicsDamping(objID, linearDamp, angularDamp)

SetObject3DPhysicsDeactivationTime( objID, time ) SetObject3DPhysicsFriction( objID, friction ) SetObject3DPhysicsGroupAndMask(objID, group, mask) SetObject3DPhysicsLinearVelocity(objID, dirX, dirY, dirZ, initialSpeed) SetObject3DPhysicsMass( objID, mass ) SetObject3DPhysicsMaxLinearVelocity( objID, maxLinearVelocity ) SetObject3DPhysicsRestitution(objID, friction) SetObject3DPhysicsRollingFriction(objID, friction) SetObject3DPhysicsSleepingThreshold(objID, angular, linear) SetObjectShapeBox( objID, sizeX, sizeY, sizeZ ) SetObjectShapeCapsule(objID, axis, sizeX, sizeY, sizeZ) SetObjectShapeCompound(objID) SetObjectShapeCone( objID, axis, height, diameter ) SetObjectShapeConvexHull(objID) SetObjectShapeCylinder(objID, axis) SetObjectShapeSphere(objID) SetObjectShapeStaticPolygon(objID) SphereCast3DPhysics( rayID, fromVec3ID, toVec3ID, radius ) SphereCast3DPhysicsObject(objID, rayID, fromVec3ID, toVec3ID, Stand3DPhysicsCharacterController(objID)

Step3DPhysicsWorld()

Update3DPhysicsPickJoint( jointID, positionVec3 )

#### Music

DeleteMusic( iID )

DeleteMusicOGG( musicID )

GetMusicDuration(iID)

GetMusicDurationOGG( musicID )

GetMusicExists( iID )

GetMusicExistsOGG( musicID )

GetMusicLoopCountOGG( musicID )

GetMusicPlaying()

GetMusicPlayingOGG( musicID )

GetMusicPosition()

GetMusicPositionOGG( musicID )

LoadMusic( iID, sFile )

LoadMusicOGG( musicID, sFile )

PauseMusic()

PauseMusicOGG( musicID )

PlayMusic( iID, bLoop )

PlayMusicOGG( musicID, iLoop )

ResumeMusic()

ResumeMusicOGG( musicID )

SeekMusic( seconds, mode )

SeekMusicOGG( musicID, seconds, mode )

SetMusicFileVolume(ID, vol)

SetMusicLoopCountOGG(UINT musicID, loop)

SetMusicLoopTimesOGG(UINT musicID, startTime, endTime)

SetMusicSystemVolume(iVol)

SetMusicSystemVolumeOGG(vol)

SetMusicVolumeOGG( musicID, vol )

StopMusic()

StopMusicOGG( musicID )

#### Sound

DeleteSound( iID )

GetSoundExists(iID)

GetSoundInstanceLoopCount(iID)

GetSoundInstancePlaying(iID)

GetSoundInstanceRate(iID)

GetSoundInstances(iID) GetSoundInstanceVolume(iID)

GetSoundMaxRate()

GetSoundMinRate()

GetSoundsPlaying(iID)

GetSpeechNumVoices()

GetSpeechVoiceID( index )

GetSpeechVoiceLanguage(index)

GetSpeechVoiceName( index )

GetTextToSpeechReady()

IsSoundRecording()

IsSpeaking()

LoadSound( sFilename )

LoadSoundOGG( iID, sFilename )

PlaySound( iID, iVol )

RecordSound( szFilename )

SaveSound( iID, sFilename )

SetSoundInstanceBalance( iID, balance )

SetSoundInstanceRate( iID, rate )

SetSoundInstanceVolume( iID, vol )

SetSoundSystemVolume( iVol )

SetSpeechLanguage( lang )

SetSpeechLanguageByID( sID )

SetSpeechRate( rate )

Speak( text )

StopSound( iID )

StopSoundInstance(iID)

StopSoundRecording()

StopSpeaking()

TextToSpeechSetup() VibrateDevice( seconds )

Video

DeleteVideo()

GetVideoDuration()

GetVideoHeight()

GetVideoPlaying()

GetVideoPosition()

GetVideoWidth() IsScreenRecording() LoadVideo( szFilename )

PauseVideo()

PlayVideo()

PlayVideoToImage( imageID )

PlayYoutubeVideo( developerKey, videoID, startTime )

SetVideoDimensions(x, y, width, height)

SetVideoPosition( seconds )

SetVideoVolume(volume)

StartScreenRecording( szFilename, microphone)

StopScreenRecording()

StopVideo()

## Input

AddVirtualButton( index, x, y, size ) GetPointerY() SetEditBoxScissor(index, x, y, x2, y2) AddVirtualJoystick(index, x, y, size) GetTextInput() SetEditBoxSize(index, width, height) CreateEditBox() GetTextInputCancelled() SetEditBoxText( index, str ) DeleteEditBox( index ) GetTextInputCompleted() SetEditBoxTextColor(index, red, green, blue) DeleteVirtualButton( index ) GetTextInputState() SetEditBoxTextSize( index. size ) DeleteVirtualJoystick(index) GetVirtualButtonExists( index ) SetEditBoxUseAlternateInput(index, mode) FixEditBoxToScreen( index, fix ) GetVirtualButtonPressed( index ) SetEditBoxVisible(index, visible) GetButtonPressed(index) GetVirtualButtonReleased(index) SetEditBoxWrapMode( index, mode ) GetButtonReleased(index) GetVirtualButtonState( index ) SetJoystickDeadZone(threshold) GetButtonState( index ) GetVirtualJoystickExists( index ) SetJoystickScreenPosition(x, y, size) GetCurrentEditBox() GetVirtualJoystickX(index) SetTextInputMaxChars( max ) GetDirectionAngle() GetVirtualJoystickY(index) SetVirtualButtonActive(index, active) SetButtonScreenPosition(index, x, y, size) SetVirtualButtonAlpha(index, alpha) GetDirectionSpeed() GetDirectionX() SetCursorBlinkTime( seconds ) SetVirtualButtonColor(index, red, green, blue) GetDirectionY() SetEditBoxActive( index, active ) SetVirtualButtonImageDown( index, imageID ) GetEditBoxActive(index) SetEditBoxBackgroundColor(index, red, green, blue, alpha) SetVirtualButtonImageUp( index, imageID ) GetEditBoxChanged(index) SetEditBoxBackgroundImage( index, image ) SetVirtualButtonPosition( index, x, y ) GetEditBoxCursorPosition(index) SetEditBoxBorderColor(index, red, green, blue, alpha) SetVirtualButtonSize( index, sizeX, sizeY ) GetEditBoxDepth(UINT index) SetEditBoxBorderImage( index, image ) SetVirtualButtonText( index, str ) GetEditBoxExists( index ) SetEditBoxBorderSize( index, size ) SetVirtualButtonVisible(index, visible) SetEditBoxCursorBlinkTime( index, time ) SetVirtualJoystickActive( index, active ) GetEditBoxHasFocus( index ) SetEditBoxCursorColor( index, red, green, blue ) GetEditBoxHeight( index ) SetVirtualJoystickAlpha(index, alpha1, alpha2) GetEditBoxLines( index ) SetEditBoxCursorPosition( index, pos ) SetVirtualJoystickDeadZone(threshold) GetEditBoxText( index ) SetEditBoxCursorWidth( index, width ) SetVirtualJoystickImageInner(index, imageID) GetEditBoxVisible(index) SetEditBoxDepth(index, depth) SetVirtualJoystickImageOuter( index, imageID ) GetEditBoxWidth( index ) SetEditBoxExtendedFontImage( index, image ) SetVirtualJoystickPosition( index, x, y ) GetEditBoxX( index ) SetEditBoxFocus( index, focus ) SetVirtualJoystickSize(index, size) GetEditBoxY( index ) SetEditBoxFont( index, fontID ) SetVirtualJoystickVisible(index, visible) StartTextInput(initial) GetJoystickX() SetEditBoxFontImage( index, image ) GetJoystickY() SetEditBoxInputType( index, inputType ) StopTextInput() GetLastChar() SetEditBoxMaxChars( index, max ) GetPointerPressed() SetEditBoxMaxLines( index, max ) GetPointerReleased() SetEditBoxMultiLine( index, multiline ) GetPointerState() SetEditBoxPasswordMode( index, mode ) GetPointerX() SetEditBoxPosition(index, x, y)

## **Input Raw**

GetRawJoystickName( index )

CompleteRawJoystickDetection() GetAccelerometerExists() GetCameraExists() GetCharBuffer() GetCharBufferLength() GetGPSSensorExists() GetGyroSensorExists() GetJoystickExists() GetKeyboardExists() GetLightSensorExists() GetMagneticSensorExists() GetMouseExists() GetMultiTouchExists() GetNFCExists() GetProximitySensorExists() GetRawAccelX() GetRawAccelY() GetRawAccelZ() GetRawFirstTouchEvent( bIncludeUnknown ) GetRawGPSAltitude() GetRawGPSLatitude() GetRawGPSLongitude() GetRawGyroVelocityX() GetRawGyroVelocityY() GetRawGyroVelocityZ() GetRawJoystickButtonPressed( index, button ) GetRawJoystickButtonReleased( index, button ) GetRawJoystickButtonState( index, button ) GetRawJoystickConnected( index ) GetRawJoystickExists(index)

GetRawJoystickPOV( index, pov ) GetRawJoystickRX( index ) GetRawJoystickRY( index ) GetRawJovstickRZ( index ) GetRawJoystickSlider(index, slider) GetRawJoystickX( index ) GetRawJoystickY( index ) GetRawJoystickZ(index) GetRawKeyPressed( key ) GetRawKeyReleased( key ) GetRawKeyState( key ) GetRawLastKey() GetRawLightLevel() GetRawMagneticX() GetRawMagneticY() GetRawMagneticZ() GetRawMouseLeftPressed() GetRawMouseLeftReleased() GetRawMouseLeftState() GetRawMouseMiddlePressed() GetRawMouseMiddleReleased() GetRawMouseMiddleState() GetRawMouseRightPressed() GetRawMouseRightReleased() GetRawMouseRightState() GetRawMouseWheel() GetRawMouseWheelDelta() GetRawMouseX() GetRawMouseY()

GetRawNextTouchEvent() GetRawProximityDistance() GetRawRotationVectorW() GetRawRotationVectorW2() GetRawRotationVectorX() GetRawRotationVectorX2() GetRawRotationVectorY() GetRawRotationVectorY2() GetRawRotationVectorZ() GetRawRotationVectorZ2() GetRawTouchCount( bIncludeUnknown ) GetRawTouchCurrentX(iIndex) GetRawTouchCurrentY( iIndex ) GetRawTouchLastX(iIndex) GetRawTouchLastY( iIndex ) GetRawTouchReleased( iIndex ) GetRawTouchStartX( iIndex ) GetRawTouchStartY( iIndex ) GetRawTouchTime(iIndex) GetRawTouchType( iIndex ) GetRawTouchValue(iIndex) GetRotationVectorSensorExists() SetRawJoystickDeadZone(threshold) SetRawMousePosition(x, y) SetRawMouseVisible( visible ) SetRawTouchMoveSensitivity( distance ) SetRawTouchValue(iIndex, value) StartGPSTracking() StopGPSTracking()

# Multiplayer

AddNetworkMessageFloat( iMsgID, value ) AddNetworkMessageInteger( iMsgID, value ) AddNetworkMessageString( iMsgID, value ) CloseNetwork( iNetID ) ConnectSocket( socketID, szIP, port, timeout ) CopyNetworkMessage(iFromMsgID) CreateBroadcastListener( szIP, port ) CreateNetworkMessage() CreateSocketListener( listenerID, szIP, port ) CreateUDPListener( listenerID, ip, port ) DeleteBroadcastListener(iID) DeleteNetworkClient( iNetID, client ) DeleteNetworkMessage( iMsgID ) DeleteSocket( socketID ) DeleteSocketListener( listenerID ) DeleteUDPListener( listenerID )

FlushSocket( socketID )

GetDeviceIPv6()
GetNetworkClientDisconnected( iNetID, client )
GetNetworkClientFloat( iNetID, client, name )
GetNetworkClientInteger( iNetID, client, name )
GetNetworkClientInteger( iNetID, client, name )
GetNetworkClientName( iNetID, client )
GetNetworkClientPing( iNetID, client )
GetNetworkClientUserData( iNetID, client, index )
GetNetworkExists( iNetID )
GetNetworkFirstClient( iNetID )
GetNetworkMessage( iNetID )
GetNetworkMessageFloat( iMsgID )
GetNetworkMessageFromClient( iMsgID )
GetNetworkMessageFromPl( iMsgID )
GetNetworkMessageFromPort( iMsgID )
GetNetworkMessageFromPort( iMsgID )
GetNetworkMessageFromPort( iMsgID )

GetBroadcastMessage( iID )

GetDeviceIP()

GetNetworkMessageString( iMsgID ) GetNetworkMyClientID( iNetID ) GetNetworkNextClient(iNetID) GetNetworkNumClients(iNetID) GetNetworkServerID( iNetID ) GetSocketByte( socketID ) GetSocketBytesAvailable( socketID ) GetSocketConnected( socketID ) GetSocketExists( socketID ) GetSocketFloat( socketID ) GetSocketInteger(socketID) GetSocketListenerConnection( listenerID ) GetSocketRemoteIP( socketID ) GetSocketString(socketID) GetUDPNetworkMessage( listenerID ) HostNetwork( szNetworkName, szMyName, port, portv6)

IsNetworkActive(iNetID)

JoinNetwork( szIP, port, szMyName) KickNetworkClient( iNetID, client ) SendNetworkMessage(iNetID, toClient, iMsgID) SendSocketByte( socketID, value ) SendSocketFloat( socketID, value )

SendSocketInteger( socketID, value ) SendSocketString( socketID, value ) SendUDPNetworkMessage( listenerID, messageID, toIP, toPort ) SetNetworkAllowClients(iNetID) SetNetworkClientUserData( iNetID, client, index, value )

SetNetworkLatency( iNetID, latency ) SetNetworkLocalFloat(iNetID, name, f) SetNetworkLocalInteger(iNetID, name, i) SetNetworkNoMoreClients( iNetID )

### **Memblocks**

AddObjectMeshFromMemblock(objID, memID) CopyMemblock( memSrcID, memDstID, srcOffset, dstOffset, size ) CreateFileFromMemblock(filename, memID) CreateImageFromMemblock(imageID, memID) CreateMemblock( memID. size ) CreateMemblockFromFile(filename) CreateMemblockFromImage( imageID )

CreateMemblockFromObjectMesh( objID, meshIndex )

CreateMemblockFromSound( soundID ) CreateObjectFromMeshMemblock( memID )

CreateSoundFromMemblock( memID )

DeleteMemblock( memID )

GetMemblockByte( memID, offset )

GetMemblockByteSigned( memID, offset )

GetMemblockExists( memID )

GetMemblockFloat( memID, offset )

GetMemblockInt( memID, offset ) GetMemblockShort( memID, offset ) GetMemblockSize( memID )

GetMemblockString( memID, offset, length ) GetMeshMemblockVertexAlpha( memID, vertexIndex )

GetMeshMemblockVertexBlue( memID, vertexIndex ) GetMeshMemblockVertexGreen( memID, vertexIndex )

GetMeshMemblockVertexNormalX( memID, vertexIndex ) GetMeshMemblockVertexNormalY( memID, vertexIndex )

GetMeshMemblockVertexNormalZ( memID, vertexIndex ) GetMeshMemblockVertexRed( memID, vertexIndex )

GetMeshMemblockVertexU( memID, vertexIndex )

GetMeshMemblockVertexV( memID, vertexIndex )

GetMeshMemblockVertexX( memID, vertexIndex )

GetMeshMemblockVertexY( memID, vertexIndex ) GetMeshMemblockVertexZ( memID, vertexIndex )

File

AddZipEntry( zipID, path, zipPath )

CancelZipExtract() ChooseRawFile( ext )

CloseFile( iFileID )

CloseRawFolder(ID)

CloseZip(zipID)

CountWindowsDrives()

CreateZip(filename)

DeleteFile( szFile ) DeleteFolder( szName )

ExtractZip(const zipfilename, path, password)

ExtractZipASync(const zipfilename, path, password)

FileEOF( iFileID ) FileIsOpen(iFileID)

GetCurrentDir()

GetDocumentsPath()

GetFileCount( mode )

GetFileExists( szFile )

GetFilePos(iFileID) GetFileSize( iFileID ) GetFirstFile( mode )

GetNextFile()

GetNextFolder()

GetRawFolderNumFiles(ID)

GetZipExtractComplete()

JoinPaths( szPath, szPath2)

MakeFolder( szName )

OpenRawFolder( szPath )

OpenToRead(ID, szFile)

SetMemblockByte( memID, offset, value )

SetMemblockByteSigned( memID, offset, value )

SetMemblockFloat( memID, offset, value )

SetMemblockInt( memID, offset, value )

SetMemblockShort( memID, offset, value )

SetMemblockString( memID, offset, value )

SetMeshMemblockVertexColor( memID, vertexIndex, red, green,

SetMeshMemblockVertexNormal( memID, vertexIndex, x, y, z )

SetMeshMemblockVertexPosition( memID, vertexIndex, x, y, z )

SetMeshMemblockVertexUV( memID, vertexIndex, u, v )

SetObjectMeshFromMemblock( objID, meshIndex, memID )

GetFirstFolder()

GetFolder()

GetFolderCount( mode )

GetRawFolderFileName(ID, index) GetRawFolderFolderName(ID, index)

GetRawFolderNumFolders(ID)

GetReadPath()

GetWindowsDrive(index)

GetWritePath()

GetZipExtractProgress()

IsAbsolutePath( szPath )

OpenToWrite(ID, szFile)

ReadByte( iFileID )

ReadFloat( iFileID ) ReadInteger( iFileID )

ReadLine( iFileID )

ReadString( iFileID )

ReadString2(iFileID)

SetCurrentDir( szPath )

SetFilePos( iFileID, pos )

SetFolder( str )

SetRawWritePath( str )

SimplifyPath( szPath)

WriteByte( iFileID, b )

WriteFloat(iFileID, f)

WriteInteger( iFileID, i ) WriteLine( iFileID, str )

WriteString( iFileID, str )

WriteString2( iFileID, str )

#### **Extras**

ARControlCamera() ARCreateAnchorFromHitTest(index) ARCreateAnchorFromPlane(index) ARDeleteAnchor( anchorID ) ARDestroy() ARDrawBackground() ARFixObjectToAnchor( objID, anchorID ) ARGetAnchorStatus( anchorID ) ARGetHitTestNormalX( index ) ARGetHitTestNormalY( index ) ARGetHitTestNormalZ( index ) ARGetHitTestType( index ) ARGetHitTestX( index ) ARGetHitTestY( index ) ARGetHitTestZ(index) ARGetLightEstimate() ARGetPlaneAngleX(index) ARGetPlaneAngleY(index) ARGetPlaneAngleZ(index) ARGetPlanes( reserved ) ARGetPlanesFinish() ARGetPlaneSizeX( index ) ARGetPlaneSizeZ(index) ARGetPlaneX(index) ARGetPlaneY( index ) ARGetPlaneZ( index ) ARGetStatus() ARHitTest( screenX, screenY) ARHitTestFinish() ARSetLightEstimationMode( mode ) ARSetPlaneDetectionMode( mode ) ARSetup() CancelLocalNotification(iID) CheckPermission( szPermission ) DeleteCloudDataVariable( varName ) DeleteSharedVariable( varName ) FacebookActivateAppTracking()

ActivateSmartWatch( szReserved )

FacebookDestroyLikeButton() FacebookDownloadFriendsPhoto(iIndex) FacebookGetAccessToken() FacebookGetFriends() FacebookGetFriendsCount() FacebookGetFriendsID( iIndex ) FacebookGetFriendsName(iIndex) FacebookGetFriendsState() FacebookGetUserID() FacebookGetUserName() FacebookInviteFriend( szID, szMessage ) FacebookLogin() FacebookLogout() FacebookPostOnFriendsWall( szID, szLink, szPicture, szName, szCaption, szDescription) FacebookPostOnMyWall( szLink, szPicture, szName, szCaption, szDescription) FacebookSetup( szID ) FacebookShowLikeButton( szURL, iX, iY, iWidth, iHeight ) FirebaseLogEvent( event name ) FirebaseSetup() GameCenterAchievementsReset() GameCenterAchievementsShow() GameCenterLogin() GameCenterLogout() GameCenterSetup() GameCenterShowLeaderBoard( szBoardID ) GameCenterSubmitAchievement( szAchievementID, iPercentageComplete) GameCenterSubmitScore( iScore, szBoardID ) GetClipboardText() GetCloudDataAllowed() GetCloudDataChanged() GetCloudDataVariable( varName, defaultValue ) GetFacebookDownloadFile() GetFacebookDownloadState() GetFacebookLoggedIn() GetGameCenterExists()

GetGameCenterLoggedIn() GetGameCenterPlayerDisplayName() GetGameCenterPlayerID() GetInAppPurchaseAvailable(iID) GetInAppPurchaseDescription( iID ) GetInAppPurchaseLocalPrice(iID) GetInAppPurchaseSignature(int iID) GetInAppPurchaseState() GetLocalNotificationExists(iID) GetLocalNotificationMessage( iID ) GetLocalNotificationTime(iID) GetPushNotificationToken() GetSmartWatchState() InAppPurchaseActivate(iID) InAppPurchaseAddProductID( szID, type ) InAppPurchaseRestore() InAppPurchaseSetKeys( szData1, szData2 ) InAppPurchaseSetTitle( szTitle ) InAppPurchaseSetup() LoadSharedVariable( varName, defaultValue ) PushNotificationSetup() RateApp( szID, szTitle ) ReceiveSmartWatchData()

Maths

CreateVector3( x, y, z )

DeletVector3( vectorID )

GetVector3Length( vectorID )

GetVector3Add( resultVec, addVec )

GetVector3Add( resultVec, vectorU, vectorV )

GetVector3Cross( resultVec, vectorU, vectorV )

GetVector3Distance( vectorID, vectorV )

GetVector3V( vectorID )

GetVector3Z( vectorID )
SetVector3( vectorID, x, y, z )

RequestAppReview()

RequestPermission( szPermission )

SendSmartWatchData( szJson )

SetClipboardText( szText )

SetupCloudData( reserved )

SaveSharedVariable( varName, varValue )

SetCloudDataVariable( varName, varValue )

SetSharedVariableAppGroup(group)

SetLocalNotification(iID, datetime, szMessage)

SetPushNotificationKeys( keyName, keyValue )

#### Time

GetCurrentDate()
GetCurrentTime()
GetDayOfWeek()

GetDaysFromUnix( unixtime )

 ${\sf GetHoursFromUnix(unixtime)}$ 

GetLeapYear( year )

GetMinutesFromUnix( unixtime )

GetMonthFromUnix( unixtime )

GetSecondsFromUnix( unixtime )

GetUnixFromDate( year, month, days, hours, minutes, seconds )

GetUnixTime()

GetYearFromUnix( unixtime )

#### HTTP

AddHTTPHeader( iHTTP, headerName, headerValue )

 ${\bf CloseHTTPConnection(~iHTTP~)}$ 

CreateHTTPConnection()

DeleteHTTPConnection( iHTTP )

GetHTTPFile( iHTTP, szServerFile, szLocalFile, szPostData )

GetHTTPFileComplete( iHTTP )
GetHTTPFileProgress( iHTTP )

GetHTTPResponse(iHTTP)

GetHTTPResponseReady( iHTTP )

GetHTTPStatusCode( iHTTP )

GetInternetState()

HTTPDecode( str )

HTTPEncode( str )
OpenBrowser( url )

RemoveHTTPHeader( iHTTP, headerName )

SendHTTPFile(iHTTP, szServerFile, szPostData, szLocalFile)

SendHTTPRequest( iHTTP, szServerFile )

SendHTTPRequestASync(iHTTP, szServerFile)

SetHTTPHost( iHTTP, szHost, iSecure )

SetHTTPTimeout( iHTTP, milliseconds )

SetHTTPVerifyCertificate( iHTTP, mode )

#### **Adverts**

CacheRewardAdChartboost()

CreateAdvert( type, horz, vert, test )

CreateAdvertEx( type, horz, vert, test, offsetx, offsety)

CreateFullscreenAdvert()

DeleteAdvert()

GetConsentStatusAdMob()

GetFullscreenAdvertLoadedAdMob()

GetFullscreenAdvertLoadedAmazon()

GetFullscreenAdvertLoadedChartboost()

GetRewardAdLoadedAdMob()

GetRewardAdLoadedChartboost()

GetRewardAdRewardedAdMob()

GetRewardAdRewardedChartboost()

LoadConsentStatusAdMob( szPubID, privacyPolicy )

OverrideConsentAdMob( consent )

OverrideConsentChartboost( consent )

RequestAdvertRefresh()

RequestConsentAdMob()
ResetRewardAdMob()

ResetRewardChartboost()

SetAdMobDetails( szID )

SetAdMobRewardAdDetails( szID )

SetAdMobTesting( mode )

SetAdvertLocation( horz, vert, width )

SetAdvertLocationEx( horz, vert, offsetx, offsety, width )
SetAdvertPosition( x, y, width )

SetAdvertVisible( iVisible )

SetAmazonAdDetails( szKey )

SetAmazonAdTesting( mode )

SetChartboostDetails( szKey1, szKey2 )

SetInneractiveDetails( szCode )

ShowFullscreenAdvertAdMob()

ShowFullscreenAdvertAmazon()

ShowFullscreenAdvertChartboost()

ShowRewardAdAdMob()

ShowRewardAdChartboost()

## **Benchmarking**

GetDrawingSetupTime()

GetDrawingTime()

GetImageMemoryUsage()

GetLoadedImages()

GetManagedSpriteCount()

GetManagedSpriteDrawCalls()

GetManagedSpriteDrawnCount()

GetManagedSpriteSortedCount()

 ${\sf GetParticleDrawnPointCount()}$ 

GetParticleDrawnQuadCount()

GetPhysicsTime()

GetPixelsDrawn()

 $Get Un assigned Image File Name (\ index\ )$ 

GetUnassignedImages()

GetUpdateTime()

**Errors** 

SetErrorMode( mode )

GetErrorOccurred()
GetLastError()
Log( szMessage )