Core Animation Function Reference

Graphics & Imaging > Quartz

2007-07-24

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Functions

CACurrentMediaTime

Returns the current absolute time, in seconds.

```
CFTimeInterval CACurrentMediaTime (void);
```

Return Value
A `CFTimeInterval` derived by calling `mach_absolute_time()` and converting the result to seconds.

Availability
Available in Mac OS X v10.5 and later.

Declared In
`CABase.h`

CATransform3DConcat

Concatenate 'b' to 'a' and return the result: t' = a * b.

```
CATransform3D CATransform3DConcat (CATransform3D a, CATransform3D b);
```

Availability
Available in Mac OS X v10.5 and later.

Declared In
`CATransform3D.h`

CATransform3DEqualToTransform

Returns a Boolean value that indicates whether the two transforms are exactly equal.

```
bool CATransform3DEqualToTransform (CATransform3D a, CATransform3D b);
```

Return Value

`YES` if *a* and *b* are exactly equal, otherwise `NO`.

Availability

Available in Mac OS X v10.5 and later.

Declared In

`CATransform3D.h`

CATransform3DGetAffineTransform

Returns the affine transform represented by 't'. If 't' can not be exactly represented as an affine transform the returned value is undefined.

```
CGAffineTransform CATransform3DGetAffineTransform (CATransform3D t);
```

Availability

Available in Mac OS X v10.5 and later.

Declared In

`CATransform3D.h`

CATransform3DInvert

Invert 't' and return the result. Returns the original matrix if 't' has no inverse.

```
CATransform3D CATransform3DInvert (CATransform3D t);
```

Availability

Available in Mac OS X v10.5 and later.

Declared In

`CATransform3D.h`

CATransform3DIsAffine

Returns true if 't' can be exactly represented by an affine transform.

```
bool CATransform3DIsAffine (CATransform3D t);
```

Availability

Available in Mac OS X v10.5 and later.

Declared In

`CATransform3D.h`

CATransform3DIsIdentity

Returns a Boolean value that indicates whether the transform is the identity transform.

```
bool CATransform3DIsIdentity (CATransform3D t);
```

Return Value
`YES` if *t* is the identity transform, otherwise `NO`.

Availability
Available in Mac OS X v10.5 and later.

Declared In
`CATransform3D.h`

CATransform3DMakeAffineTransform

Return a transform with the same effect as affine transform 'm'.

```
CATransform3D CATransform3DMakeAffineTransform (CGAffineTransform m)
```

Availability
Available in Mac OS X v10.5 and later.

Declared In
`CATransform3D.h`

CATransform3DMakeRotation

Returns a transform that rotates by 'angle' radians about the vector '(x, y, z)'. If the vector has length zero the identity transform is returned.

```
CATransform3D CATransform3DMakeRotation (CGFloat angle, CGFloat x, CGFloat y,
CGFloat z);
```

Availability
Available in Mac OS X v10.5 and later.

Declared In
`CATransform3D.h`

CATransform3DMakeScale

Returns a transform that scales by `(sx, sy, sz)': * t' = [sx 0 0 0; 0 sy 0 0; 0 0 sz 0; 0 0 0 1].

```
CATransform3D CATransform3DMakeScale (CGFloat sx, CGFloat sy,
    CGFloat sz);
```

Availability
Available in Mac OS X v10.5 and later.

Related Sample Code
CALayerEssentials

Core Animation QuickTime Layer

Declared In
`CATransform3D.h`

CATransform3DMakeTranslation

Returns a transform that translates by '(tx, ty, tz)'. t' = [1 0 0 0; 0 1 0 0; 0 0 1 0; tx ty tz 1].

```
CATransform3D CATransform3DMakeTranslation (CGFloat tx, CGFloat ty, CGFloat tz)
```

Availability
Available in Mac OS X v10.5 and later.

Declared In
`CATransform3D.h`

CATransform3DRotate

Rotate 't' by 'angle' radians about the vector '(x, y, z)' and return the result. If the vector has zero length the behavior is undefined: t' = rotation(angle, x, y, z) * t.

```
CATransform3D CATransform3DRotate (CATransform3D t, CGFloat angle, CGFloat x,
CGFloat y, CGFloat z)
```

Availability
Available in Mac OS X v10.5 and later.

Declared In
`CATransform3D.h`

CATransform3DScale

Scale 't' by '(sx, sy, sz)' and return the result: * t' = scale(sx, sy, sz) * t.

```
CATransform3D CATransform3DScale (CATransform3D t, CGFloat sx, CGFloat sy, CGFloat
 sz)
```

Availability
Available in Mac OS X v10.5 and later.

Declared In
`CATransform3D.h`

CATransform3DTranslate

Translate 't' by '(tx, ty, tz)' and return the result: * t' = translate(tx, ty, tz) * t.

```
CATransform3D CATransform3DTranslate (CATransform3D t, CGFloat tx, CGFloat ty,
CGFloat tz);
```

Availability
Available in Mac OS X v10.5 and later.

Declared In
`CATransform3D.h`

Document Revision History

This table describes the changes to *Core Animation Function Reference*.

Date	Notes
2007-07-24	New document that describes C functions that provide supporting functionality for the classes and protocols in Core Animation.

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