EAGLDrawable Protocol Reference

Graphics & Animation: 3D Drawing

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EAGLDrawable Protocol Reference

Adopted by	CAEAGLLayer
Framework	/System/Library/Frameworks/OpenGLES.framework
Availability	Available in iOS 2.0 and later.
Companion guide	OpenGL ES Programming Guide for iOS
Declared in	EAGLDrawable.h

Overview

iOS objects that implement the `EAGLDrawable` protocol can be used as a rendering surface and displayed to the screen by an `EAGLContext` object. In iOS 2.0, this protocol is implemented only by the `CAEAGLLayer` class, but in the future other classes may choose to implement the protocol. The `EAGLDrawable` protocol is not intended to be implemented by objects outside of the iOS.

Tasks

Drawable Properties

`drawableProperties` (page 5) *required property*
A dictionary of values that specify the desired characteristics of the drawable surface. (required)

Properties

For more about Objective-C properties, see “Properties” in *The Objective-C Programming Language*.

drawableProperties

A dictionary of values that specify the desired characteristics of the drawable surface. (required)

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```
@property(copy) NSDictionary* drawableProperties;
```

Discussion
The `drawableProperties` dictionary specifies the properties that are used by this object when it is attached to an OpenGL ES renderbuffer. Your application should set these properties before passing this object into the `EAGLContext` method `renderbufferStorage:fromDrawable:`. If you change the `drawableProperties` dictionary, your application must call `renderbufferStorage:fromDrawable:` again on the context for the new values to take effect.

Availability
Available in iOS 2.0 and later.

Related Sample Code
aurioTouch
GLSprite
SpeakHere

Declared In
`EAGLDrawable.h`

Constants

Drawable Property Keys

Keys to specify in the `drawableProperties` dictionary.

```
EAGL_EXTERN NSString * const kEAGLDrawablePropertyColorFormat;
EAGL_EXTERN NSString * const kEAGLDrawablePropertyRetainedBacking;
```

Constants

`kEAGLDrawablePropertyColorFormat`

The key specifying the internal color buffer format for the drawable surface. The value for this key is an `NSString` object that specifies a specific color buffer format. This color buffer format is used by the `EAGLContext` object to create the storage for a renderbuffer. The default value is `kEAGLColorFormatRGBA8`.

Available in iOS 2.0 and later.

Declared in `EAGLDrawable.h`.

`kEAGLDrawablePropertyRetainedBacking`

The key specifying whether the drawable surface retains its contents after displaying them. The value for this key is an `NSNumber` object containing a `BOOL` data type. If `NO`, you may not rely on the contents being the same after the contents are displayed. If `YES`, then the contents will not change after being displayed. Setting the value to `YES` is recommended only when you need the content to remain unchanged, as using it can result in both reduced performance and additional memory usage. The default value is `NO`.

Available in iOS 2.0 and later.

Declared in `EAGLDrawable.h`.

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Color Formats

Color formats that can be specified under the `kEAGLDrawablePropertyColorFormat` key.

```
EAGL_EXTERN NSString * const kEAGLColorFormatRGB565;
EAGL_EXTERN NSString * const kEAGLColorFormatRGBA8;
```

Constants

`kEAGLColorFormatRGB565`

Specifies a 16-bit RGB format that corresponds to the OpenGL ES `GL_RGB565` format.

Available in iOS 2.0 and later.

Declared in `EAGLDrawable.h`.

`kEAGLColorFormatRGBA8`

Specifies a 32-bit RGBA format that corresponds to the OpenGL ES `GL_RGBA8888` format.

Available in iOS 2.0 and later.

Declared in `EAGLDrawable.h`.

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Document Revision History

This table describes the changes to *EAGLDrawable Protocol Reference*.

Date	Notes
2009-06-11	Added link to programming guide.
2008-09-09	Made minor corrections to wording.
2008-06-05	Initial release.

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Document Revision History

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