
UITouch Class Reference

Data Management: Event Handling



2008-02-29



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C O N T E N T S

UITouch Class Reference

Inherits from:	NSObject
Conforms to:	NSObject (NSObject)
Framework	/System/Library/Frameworks/UIKit.framework
Availability:	Available in iPhone OS 2.0 and later.
Declared in:	UITouch.h

Overview

Important: This is a preliminary document for an API or technology in development. Although this document has been reviewed for technical accuracy, it is not final. Apple is supplying this information to help you plan for the adoption of the technologies and programming interfaces described herein. This information is subject to change, and software implemented according to this document should be tested with final operating system software and final documentation. Newer versions of this document may be provided with future seeds of the API or technology. For information about updates to this and other developer documentation, view the New & Updated sidebars in subsequent documentation seeds.

A `UITouch` object represents the presence or movement of a finger on the screen for a particular event. You access `UITouch` objects through `UIEvent` objects passed into responder objects for event handling.

A `UITouch` object includes methods for accessing the view or window in which the touch occurred and for obtaining the location of the touch in a specific view or window. It also lets you find out when the touch occurred, whether the user tapped more than once, whether the finger is swiped (and if so, in which direction), and the phase of a touch—that is, whether it began, moved, or ended the gesture, or whether it was canceled.

See "Event Handling" in *iPhone OS Programming Guide* for further information on event handling.

Tasks

Getting the Location of Touches

[locationInView](#) (page 7) *property*

The location of the touch in the view in which it occurred. (read-only)

[previousLocationInView](#) (page 7) *property*

The previous location of the touch in the view in which it occurred. (read-only)

[view](#) (page 8) *property*

The view in which the touch initially occurred. (read-only)

[window](#) (page 9) *property*

The window in which the touch initially occurred. (read-only)

Getting Touch Attributes

[tapCount](#) (page 8) *property*

The number of times the finger was tapped for this given touch. (read-only)

[timestamp](#) (page 8) *property*

The time when the touch occurred or when it was last mutated. (read-only)

[info](#) (page 6) *property*

The constants indicating whether the touch is a swipe and, if so, its direction. (read-only)

[phase](#) (page 7) *property*

The type of touch. (read-only)

Properties

For more about Objective-C properties, see “Properties” in *The Objective-C 2.0 Programming Language*.

info

The constants indicating whether the touch is a swipe and, if so, its direction. (read-only)

```
@property(readonly) UITouchInfo info
```

Discussion

The property value is a bitmask of type `UITouchInfo` in which flags are set to indicate whether the finger (touch) is being swiped and which direction the finger is moving in. For further information, see “[Touch Information](#)” (page 10).

Availability

Available in iPhone OS 2.0 and later.

Declared In

UITouch.h

locationInView

The location of the touch in the view in which it occurred. (read-only)

@property(readonly) CGPoint locationInView

Discussion

The value of this property is a point identifying the location of the touch in the owning view's local coordinate system.

Availability

Available in iPhone OS 2.0 and later.

See Also

[@property previousLocationInView](#) (page 7)

Declared In

UITouch.h

phase

The type of touch. (read-only)

@property(readonly) UITouchPhase phase

Discussion

The property value is a constant that indicates whether the touch began, moved, ended, or was canceled. For descriptions of possible UITouchPhase values, see ["Touch Phase"](#) (page 9).

Availability

Available in iPhone OS 2.0 and later.

Declared In

UITouch.h

previousLocationInView

The previous location of the touch in the view in which it occurred. (read-only)

@property(readonly) CGPoint previousLocationInView

Discussion

The property value is a point identifying the previous location of the touch in the owning view's local coordinate system.

Availability

Available in iPhone OS 2.0 and later.

See Also

[@property locationInView](#) (page 7)

Declared In

UITouch.h

tapCount

The number of times the finger was tapped for this given touch. (read-only)

```
@property(readonly) NSUInteger tapCount
```

Discussion

The value of this property is an integer indicating the number of times the user tapped their fingers on a certain point within a predefined period. If want to determine whether the user single-tapped, double-tapped, or event triple-tapped a particular view or window, you should evaluate the value returned by this method.

Availability

Available in iPhone OS 2.0 and later.

Declared In

UITouch.h

timestamp

The time when the touch occurred or when it was last mutated. (read-only)

```
@property(readonly) NSTimeInterval timestamp
```

Discussion

The value of this property is the time, in seconds, since system startup the touch either originated or was last changed. You can store and compare the initial value of this attribute to subsequent timestamp values of the `UITouch` instance to determine the duration of the touch and, if it is being swiped, the speed of movement.

Availability

Available in iPhone OS 2.0 and later.

Declared In

UITouch.h

view

The view in which the touch initially occurred. (read-only)

```
@property(readonly) UIView *view
```

Discussion

The value of the property is the view object in which the touch originally occurred. This object might not be the view the touch is currently in.

Availability

Available in iPhone OS 2.0 and later.

See Also

[@property window](#) (page 9)

Declared In

UITouch.h

window

The window in which the touch initially occurred. (read-only)

```
@property(readonly) UIWindow *window
```

Discussion

The value of the property is the window object in which the touch originally occurred. This object might not be the window the touch is currently in.

Availability

Available in iPhone OS 2.0 and later.

See Also

[@property view](#) (page 8)

Declared In

UITouch.h

Constants

Touch Phase

The phase of a finger touch.

```
typedef enum {
    UITouchPhaseBegan,
    UITouchPhaseMoved,
    UITouchPhaseStationary,
    UITouchPhaseEnded,
    UITouchPhaseCanceled,
} UITouchPhase;
```

Constants

UITouchPhaseBegan

A finger for a given event touched the screen.

Available in iPhone OS 2.0 and later.

Declared in UITouch.h

UITouchPhaseMoved

A finger for a given event moved on the screen.

Available in iPhone OS 2.0 and later.

Declared in UITouch.h

UITouchPhaseStationary

A finger is touching the surface but hasn't moved since the previous event.

Available in iPhone OS 2.0 and later.

Declared in UITouch.h

UITouchPhaseEnded

A finger for a given event was lifted from the screen.

Available in iPhone OS 2.0 and later.

Declared in `UITouch.h`

UITouchPhaseCanceled

The system canceled tracking for the touch, as when (for example) the user puts the device to his or her face.

Available in iPhone OS 2.0 and later.

Declared in `UITouch.h`

Discussion

The phase of a `UITouch` instance changes in a certain order during the course of an event. You access this value through the `touchPhase` (page 7) property.

Declared In

`CocoaTouch/UITouch.h`

Touch Information

The movement of a finger on the screen during an event, including its direction.

```
enum {
    UITouchSwipedUp      = 1 << 0,
    UITouchSwipedDown    = 1 << 1,
    UITouchSwipedLeft    = 1 << 2,
    UITouchSwipedRight   = 1 << 3,
};
```

Constants**UITouchSwipeUp**

The finger is swiping up across the screen.

UITouchSwipeDown

The finger is swiping down across the screen.

UITouchSwipeLeft

The finger is swiping to the left across the screen.

UITouchSwipeRight

The finger is swiping to the right across the screen.

Discussion

The constants may be combined (via a bitwise operator) to indicate a direction such as “to the upper-right of the screen.” The swipe directions are relative to the current user-interface orientation. You access this constant value through the `touchInfo` (page 6) property.

Declared In

`CocoaTouch/UITouch.h`

Document Revision History

This table describes the changes to *UITouch Class Reference*.

Date	Notes
2008-02-29	First version of this document.

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