
NSSpeechRecognizer Class Reference

User Experience: Speech Technologies



2009-04-22



Apple Inc.
© 2009 Apple Inc.
All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, mechanical, electronic, photocopying, recording, or otherwise, without prior written permission of Apple Inc., with the following exceptions: Any person is hereby authorized to store documentation on a single computer for personal use only and to print copies of documentation for personal use provided that the documentation contains Apple's copyright notice.

The Apple logo is a trademark of Apple Inc.

Use of the "keyboard" Apple logo (Option-Shift-K) for commercial purposes without the prior written consent of Apple may constitute trademark infringement and unfair competition in violation of federal and state laws.

No licenses, express or implied, are granted with respect to any of the technology described in this document. Apple retains all intellectual property rights associated with the technology described in this document. This document is intended to assist application developers to develop applications only for Apple-labeled computers.

Every effort has been made to ensure that the information in this document is accurate. Apple is not responsible for typographical errors.

Apple Inc.
1 Infinite Loop
Cupertino, CA 95014
408-996-1010

Apple, the Apple logo, Cocoa, Mac, and Mac OS are trademarks of Apple Inc., registered in the United States and other countries.

Simultaneously published in the United States and Canada.

Even though Apple has reviewed this document, APPLE MAKES NO WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS DOCUMENT, ITS QUALITY, ACCURACY, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. AS A RESULT, THIS DOCUMENT IS PROVIDED "AS IS," AND YOU, THE READER, ARE ASSUMING THE ENTIRE RISK AS TO ITS QUALITY AND ACCURACY.

IN NO EVENT WILL APPLE BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY

DEFECT OR INACCURACY IN THIS DOCUMENT, even if advised of the possibility of such damages.

THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS, ORAL OR WRITTEN, EXPRESS OR IMPLIED. No Apple dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty.

Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Contents

NSSpeechRecognizer Class Reference 5

Overview	5
Tasks	6
Creating Speech Recognizers	6
Configuring Speech Recognizers	6
Listening	6
Instance Methods	7
blocksOtherRecognizers	7
commands	7
delegate	7
displayedCommandsTitle	8
init	8
listensInForegroundOnly	8
setBlocksOtherRecognizers:	8
setCommands:	9
setDelegate:	9
setDisplayCommandsTitle:	10
setListensInForegroundOnly:	10
startListening	10
stopListening	11

Document Revision History 13

Index 15

NSSpeechRecognizer Class Reference

Inherits from	NSObject
Conforms to	NSObject (NSObject)
Framework	/System/Library/Frameworks/AppKit.framework
Availability	Available in Mac OS X v10.3 and later.
Companion guide	Speech
Declared in	NSSpeechRecognizer.h

Overview

The `NSSpeechRecognizer` class is the Cocoa interface to Speech Recognition on Mac OS X. Speech Recognition is architected as a “command and control” voice recognition system. It uses a finite state grammar and listens for phrases in that grammar. When it recognizes a phrase, it notifies the client process. This architecture is different from that used to support dictation.

Through an `NSSpeechRecognizer` instance, Cocoa applications can use the speech recognition engine built into Mac OS X to recognize spoken commands. With speech recognition, users can accomplish complex, multi-step tasks with one spoken command—for example, “schedule a meeting with Adam and John tomorrow at ten o’clock.”

The `NSSpeechRecognizer` class has methods that let you specify which spoken words should be recognized as commands (`setCommands:` (page 9)) and to start and stop listening (`startListening` (page 10) and `stopListening` (page 11)). When the Speech Recognition facility recognizes one of the designated commands, `NSSpeechRecognizer` invokes the delegation method `speechRecognizer:didRecognizeCommand:`, allowing the delegate to perform the command.

Speech Recognition is just one of the Mac OS X speech technologies. The Speech Synthesis technology allows applications to “pronounce” written text in U.S. English; the `NSSpeechSynthesizer` class is the Cocoa interface to this technology. These technologies provide benefits for all users, and are particularly useful to those users who have difficulties seeing the screen or using the mouse and keyboard. By incorporating speech into your application, you can provide a concurrent mode of interaction for your users: In Mac OS X, your software can accept input and provide output without requiring users to change their working context.

Tasks

Creating Speech Recognizers

- [init](#) (page 8)
Initializes and returns an instance of the NSSpeechRecognizer class.

Configuring Speech Recognizers

- [commands](#) (page 7)
Returns an array of strings defining the commands for which the receiver should listen.
- [setCommands:](#) (page 9)
Sets the list of commands for which the receiver should listen to *commands*.
- [displayedCommandsTitle](#) (page 8)
Returns the title of the commands section or *nil* if there is no title.
- [setDisplayCommandsTitle:](#) (page 10)
Sets whether the speech-recognition commands should be displayed indented under a section title in the Speech Commands window, and if so, sets the title string to display.
- [listensInForegroundOnly](#) (page 8)
Returns whether the receiver should only enable its commands when the receiver's application is the frontmost one.
- [setListensInForegroundOnly:](#) (page 10)
Sets whether the receiver should only enable its commands when the receiver's application is the frontmost one.
- [blocksOtherRecognizers](#) (page 7)
Returns whether the receiver should block all other recognizers (that is, other applications attempting to understand spoken commands) when listening.
- [setBlocksOtherRecognizers:](#) (page 8)
Sets whether the receiver's commands should be the only enabled commands on the system.
- [delegate](#) (page 7)
Returns the receiver's delegate.
- [setDelegate:](#) (page 9)
Sets the receiver's delegate.

Listening

- [startListening](#) (page 10)
Tells the speech recognition engine to begin listening for commands.
- [stopListening](#) (page 11)
Tells the speech recognition engine to suspend listening for commands.

Instance Methods

blocksOtherRecognizers

Returns whether the receiver should block all other recognizers (that is, other applications attempting to understand spoken commands) when listening.

- (BOOL)blocksOtherRecognizers

Availability

Available in Mac OS X v10.3 and later.

See Also

- [setBlocksOtherRecognizers:](#) (page 8)

Declared In

NSSpeechRecognizer.h

commands

Returns an array of strings defining the commands for which the receiver should listen.

- (NSArray *)commands

Availability

Available in Mac OS X v10.3 and later.

See Also

- [setCommands:](#) (page 9)

Declared In

NSSpeechRecognizer.h

delegate

Returns the receiver's delegate.

- (id < NSSpeechRecognizerDelegate >)delegate

Return Value

The receiver's delegate.

Availability

Available in Mac OS X v10.3 and later.

See Also

- [setDelegate:](#) (page 9)

Declared In

NSSpeechRecognizer.h

displayedCommandsTitle

Returns the title of the commands section or `nil` if there is no title.

- (NSString *)displayedCommandsTitle

Discussion

Commands are displayed in the Speech Commands window indented under a section with this title.

Availability

Available in Mac OS X v10.3 and later.

See Also

- [setDisplayCommandsTitle:](#) (page 10)

Declared In

NSSpeechRecognizer.h

init

Initializes and returns an instance of the NSSpeechRecognizer class.

- (id)init

Discussion

Returns `nil` if initialization did not succeed.

Availability

Available in Mac OS X v10.3 and later.

Declared In

NSSpeechRecognizer.h

listensInForegroundOnly

Returns whether the receiver should only enable its commands when the receiver's application is the frontmost one.

- (BOOL)listensInForegroundOnly

Availability

Available in Mac OS X v10.3 and later.

See Also

- [setListensInForegroundOnly:](#) (page 10)

Declared In

NSSpeechRecognizer.h

setBlocksOtherRecognizers:

Sets whether the receiver's commands should be the only enabled commands on the system.

- (void)setBlocksOtherRecognizers:(BOOL)flag

Discussion

If *flag* is YES, all other speech recognition commands on the system are disabled until the receiver object is released, listening is stopped, or this method is called again with *flag* as NO. Because this option effectively takes over the computer at the expense of other applications using speech recognition, you should use it only in circumstances that warrant it, such as when listening for a response important to overall system operation or when an application is running in full-screen mode (such as games and presentation software). The default is NO.

Availability

Available in Mac OS X v10.3 and later.

See Also

- [blocksOtherRecognizers](#) (page 7)

Declared In

NSSpeechRecognizer.h

setCommands:

Sets the list of commands for which the receiver should listen to *commands*.

- (void)setCommands:(NSArray *)commands

Discussion

If the receiver is already listening, the current command list is updated and listening continues. *commands* should be an array of NSString objects. The commands must be in U.S. English.

Availability

Available in Mac OS X v10.3 and later.

See Also

- [commands](#) (page 7)

Declared In

NSSpeechRecognizer.h

setDelegate:

Sets the receiver's delegate.

- (void)setDelegate:(id < NSSpeechRecognizerDelegate >)anObject

Parameters

anObject

The delegate to set as the receiver's. The delegate must conform to the NSSpeechRecognizerDelegate Protocol protocol.

Availability

Available in Mac OS X v10.3 and later.

See Also

- [delegate](#) (page 7)

Declared In

NSSpeechRecognizer.h

setDisplayCommandsTitle:

Sets whether the speech-recognition commands should be displayed indented under a section title in the Speech Commands window, and if so, sets the title string to display.

```
- (void)setDisplayCommandsTitle:(NSString *)title
```

Discussion

When *title* is a non-empty string, the receiver's commands are displayed under a section with *title*. If *title* is *nil* or an empty string, the commands are displayed at the top level of the Speech Commands window. This default is not to display the commands under a section title.

Availability

Available in Mac OS X v10.3 and later.

See Also

- [displayCommandsTitle](#) (page 8)

Declared In

NSSpeechRecognizer.h

setListensInForegroundOnly:

Sets whether the receiver should only enable its commands when the receiver's application is the frontmost one.

```
- (void)setListensInForegroundOnly:(BOOL)flag
```

Discussion

If *flag* is YES, the receiver's commands are only recognized when the receiver's application is the frontmost application—normally the application displaying the menu bar. If *flag* is NO, the commands are recognized regardless of the visibility of applications, including agent applications (agent applications, which have the `LSUIElement` property set, do not appear in the Dock or Force Quit window). The default is YES.

Availability

Available in Mac OS X v10.3 and later.

See Also

- [listensInForegroundOnly](#) (page 8)

Declared In

NSSpeechRecognizer.h

startListening

Tells the speech recognition engine to begin listening for commands.

- (void)startListening

Discussion

When a command is recognized the message `speechRecognizer:didRecognizeCommand:` is sent to the delegate.

Availability

Available in Mac OS X v10.3 and later.

See Also

- [stopListening](#) (page 11)

Declared In

NSSpeechRecognizer.h

stopListening

Tells the speech recognition engine to suspend listening for commands.

- (void)stopListening

Availability

Available in Mac OS X v10.3 and later.

See Also

- [startListening](#) (page 10)

Declared In

NSSpeechRecognizer.h

Document Revision History

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

Date	Notes
2009-04-22	Updated for Mac OS X v10.6. Delegate methods moved to NSSpeechRecognizerDelegate Protocol Reference.
2007-04-03	Updated for Mac OS X v10.5.
2006-05-23	First publication of this content as a separate document.

REVISION HISTORY

Document Revision History

Index

B

blocksOtherRecognizers **instance method** [7](#)

C

commands **instance method** [7](#)

D

delegate **instance method** [7](#)

displayedCommandsTitle **instance method** [8](#)

I

init **instance method** [8](#)

L

listensInForegroundOnly **instance method** [8](#)

S

setBlocksOtherRecognizers: **instance method** [8](#)

setCommands: **instance method** [9](#)

setDelegate: **instance method** [9](#)

setDisplayCommandsTitle: **instance method** [10](#)

setListensInForegroundOnly: **instance method** [10](#)

startListening **instance method** [10](#)

stopListening **instance method** [11](#)