UIPickerView Class Reference

User Experience: Controls

2009-08-25

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Contents

UIPickerView Class Reference

Inherits from	UIView : UIResponder : NSObject
Conforms to	NSCoding NSCoding (UIView) NSObject (NSObject)
Framework	/System/Library/Frameworks/UIKit.framework
Availability	Available in iOS 2.0 and later.
Declared in	UIPickerView.h

Overview

The `UIPickerView` class implements objects, called picker views, that use a spinning-wheel or slot-machine metaphor to show one or more sets of values. Users select values by rotating the wheels so that the desired row of values aligns with a selection indicator.

The `UIDatePicker` class uses a custom subclass of `UIPickerView` to display dates and times. To see an example, tap the add ("+") button in the the Alarm pane of the Clock application.

The user interface provided by a picker view consists of components and rows. A component is a wheel, which has a series of items (rows) at indexed locations on the wheel. Each component also has an indexed location (left to right) in a picker view. Each row on a component has content, which is either a string or a view object such as a label (`UILabel`) or an image (`UIImageView`).

A `UIPickerView` object requires the cooperation of a delegate for constructing its components and a data source for providing the numbers of components and rows. The delegate must adopt the `UIPickerViewDelegate` protocol and implement the required methods to return the drawing rectangle for rows in each component. It also provides the content for each component's row, either as a string or a view, and it typically responds to new selections or deselections. The data source must adopt the `UIPickerViewDataSource` protocol and implement the required methods to return the number of components and the number of rows in each component.

You can dynamically change the rows of a component by calling the `reloadComponent:` (page 9) method, or dynamically change the rows of all components by calling the `reloadAllComponents` (page 9) method. When you call either of these methods, the picker view asks the delegate for new component and row data, and asks the data source for new component and row counts. Reload a picker view when a selected value in one component should change the set of values in another component. For example, changing a row value from February to March in one component should change a related component representing the days of the month.

Tasks

Getting the Dimensions of the View Picker

`numberOfComponents` (page 7) *property*
Gets the number of components for the picker view. (read-only)

– `numberOfRowsInComponent:` (page 8)
Returns the number of rows for a component.

– `rowSizeForComponent:` (page 10)
Returns the size of a row for a component.

Reloading the View Picker

– `reloadAllComponents` (page 9)
Reloads all components of the picker view.

– `reloadComponent:` (page 9)
Reloads a particular component of the picker view.

Selecting Rows in the View Picker

– `selectRow:inComponent:animated:` (page 10)
Selects a row in a specified component of the picker view.

– `selectedRowInComponent:` (page 10)
Returns the index of the selected row in a given component.

Returning the View for a Row and Component

– `viewForRow:forComponent:` (page 11)
Returns the view used by the picker view for a given row and component.

Specifying the Delegate

`delegate` (page 7) *property*
The delegate for the picker view.

Specifying the Data Source

`dataSource` (page 7) *property*
The data source for the picker view.

Managing the Appearance of the Picker View

`showsSelectionIndicator` (page 8) *property*
A Boolean value that determines whether the selection indicator is displayed.

Properties

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

dataSource

The data source for the picker view.

```
@property(nonatomic, assign) id<UIPickerViewDataSource> dataSource
```

Discussion
The data source must adopt the `UIPickerViewDataSource` protocol and implement the required methods to return the number of components and the number of rows in each component.

Availability
Available in iOS 2.0 and later.

Declared In
`UIPickerView.h`

delegate

The delegate for the picker view.

```
@property(nonatomic, assign) id<UIPickerViewDelegate> delegate
```

Discussion
The delegate must adopt the `UIPickerViewDelegate` protocol and implement the required methods to return the drawing rectangle for rows in each component. It also provides the content for each component’s row, either as a string or a view, and it typically responds to new selections or deselections.

Availability
Available in iOS 2.0 and later.

Declared In
`UIPickerView.h`

numberOfComponents

Gets the number of components for the picker view. (read-only)

```
@property(nonatomic, readonly) NSInteger numberOfComponents
```

Discussion
A `UIPickerView` object fetches the value of this property from the data source and and caches it. The default value is zero.

Availability
Available in iOS 2.0 and later.

See Also
– `numberOfRowsInComponent:` (page 8)
– `rowSizeForComponent:` (page 10)

Declared In
`UIPickerView.h`

showsSelectionIndicator

A Boolean value that determines whether the selection indicator is displayed.

```
@property(nonatomic) BOOL showsSelectionIndicator
```

Discussion
If the value of the property is `YES`, the picker view shows a clear overlay across the current row. The default value of this property is `NO`.

Availability
Available in iOS 2.0 and later.

Declared In
`UIPickerView.h`

Instance Methods

numberOfRowsInComponent:

Returns the number of rows for a component.

```
- (NSInteger)numberOfRowsInComponent:(NSInteger)component
```

Parameters

component

A zero-indexed number identifying a component.

Return Value
The number of rows in the given component.

Discussion
A picker view fetches the value of this property from the data source and and caches it. The default value is zero.

Availability
Available in iOS 2.0 and later.

See Also
`@property numberOfComponents` (page 7)
`- rowSizeForComponent:` (page 10)

Declared In
`UIPickerView.h`

reloadAllComponents

Reloads all components of the picker view.

```
- (void)reloadAllComponents
```

Discussion
Calling this method causes the picker view to query the delegate for new data for all components.

Availability
Available in iOS 2.0 and later.

See Also
`- reloadComponent:` (page 9)

Declared In
`UIPickerView.h`

reloadComponent:

Reloads a particular component of the picker view.

```
- (void)reloadComponent:(NSInteger)component
```

Parameters

component

A zero-indexed number identifying a component of the picker view.

Discussion
Calling this method causes the picker view to query the delegate for new data for the given component.

Availability
Available in iOS 2.0 and later.

See Also
`- reloadAllComponents` (page 9)

Declared In
`UIPickerView.h`

rowSizeForComponent:

Returns the size of a row for a component.

```
- (CGSize)rowSizeForComponent:(NSInteger)component
```

Parameters

component

A zero-indexed number identifying a component.

Return Value

The size of rows in the given component. This is generally the size required to display the largest string or view used as a row in the component.

Discussion

A picker view fetches the value of this property by calling the `pickerView:widthForComponent:` and `pickerView:rowHeightForComponent:` delegate methods, and caches it. The default value is (0, 0).

Availability

Available in iOS 2.0 and later.

See Also

`@property numberOfComponents` (page 7)
`- numberOfRowsInComponent:` (page 8)

Declared In

`UIPickerView.h`

selectedRowInComponent:

Returns the index of the selected row in a given component.

```
- (NSInteger)selectedRowInComponent:(NSInteger)component
```

Parameters

component

A zero-indexed number identifying a component of the picker view.

Return Value

A zero-indexed number identifying the selected row, or `-1` if no row is selected.

Availability

Available in iOS 2.0 and later.

See Also

`- selectRow:inComponent:animated:` (page 10)

Declared In

`UIPickerView.h`

selectRow:inComponent:animated:

Selects a row in a specified component of the picker view.

```
- (void)selectRow:(NSInteger)row inComponent:(NSInteger)component
    animated:(BOOL)animated
```

Parameters

`row`
: A zero-indexed number identifying a row of *`component`*.

`component`
: A zero-indexed number identifying a component of the picker view.

`animated`
: `YES` to animate the selection by spinning the wheel (component) to the new value; if you specify `NO`, the new selection is shown immediately.

Availability

Available in iOS 2.0 and later.

See Also

`– selectedRowInComponent:` (page 10)

Declared In

`UIPickerView.h`

viewForRow:forComponent:

Returns the view used by the picker view for a given row and component.

```
- (UIView *)viewForRow:(NSInteger)row forComponent:(NSInteger)component
```

Parameters

`row`
: The zero-indexed number of a row of the picker view.

`component`
: The zero-indexed number of a component of the picker view.

Return Value

The view provided by the delegate in the `pickerView:viewForRow:forComponent:reusingView:` method. Returns `nil` if the specified row of the component is not visible or if the delegate does not implement `pickerView:viewForRow:forComponent:reusingView:`.

Availability

Available in iOS 2.0 and later.

Declared In

`UIPickerView.h`

Document Revision History

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

Date	Notes
2009-08-25	Improved descriptions for the `numberOfComponents` (page 7) property and the `numberOfRowsInComponent:` (page 8) instance method.
	Additional minor improvements throughout document.
2008-06-10	New document that describes the class used to implement a view that allows users to select values by rotating wheels.