

SNDDEX.VBX Custom Control

Description

The SNDDEX custom control performs Soundex word matching comparisons. The SNDDEX.VBX custom control contains two versions of the Soundex word comparison algorithm.

These versions are:

The standard Soundex comparison algorithm where the first character in each compare word is used "as is" as the first character in the Soundex code word, the remaining characters in the word are processed by the Soundex algorithm and converted to a Soundex code.

The standard Soundex comparison algorithm where the first character in each COMPARE word is used "as is" for the first character in the Soundex code word, the remaining characters in the word are processed by the Soundex algorithm and converted to a Soundex code.

The second version is a derivative version that allows the first character to not determine the search outcome. In this method, the first character is also converted to the equivalent Soundex code and used in the Soundex comparison. This reduces the "weight" assigned to the first character of a compare word. All remaining characters in the word are also converted to a Soundex code.

Selection of which version of Soundex comparison to use is determined by which Action property is used.

See [Soundex](#) operation for a more complete description of the Soundex algorithm.

File Name

SNDDEX.VBX

Remarks

When you create and distribute applications that use the SNDDEX control, you should install the file SNDDEX.VBX in the customer's Microsoft Windows \WINDOWS\SYSTEM sub directory. All of the properties, events, and methods for this control are listed below. Properties and events that apply only to this control, or require special considerations when used with it, are underlined. They are documented in this help file. See the *Visual Basic Language Reference* or on-line Help for documentation of the remaining properties, events, and methods.

Properties

Action
SearchText
KeyText
SoundsLike
SoundexCode
CtlName
Index
Left
Top
Tag

Events

none

Methods

The SNDDEX.VBX Action property is used as a pseudo method.

Tips and Techniques

See Also: Examples

Programming Examples

SNDDEX.VBX custom control code examples.

1. To use the control to search two words;

```
' To perform standard soundex search
' load the words to match
SndDex1.KeyText = TXTKeyString.Text
SndDex1.SearchText = TXTSearchString.Text
' do standard search
SndDex1.Action = IDC_SNDEX_STDSEARCH      '(20)
' use result
Result% = Str$(SndDex1.SoundsLike)

' To perform modified soundex search
' load the words to match
SndDex1.KeyText = TXTKeyString.Text
SndDex1.SearchText = TXTSearchString.Text
' do modified search
SndDex1.Action = IDC_SNDEX_INTSEARCH      '(21)
' use result
Result% = Str$(SndDex1.SoundsLike)
```

2. To perform a repeating search where the Key Text is held constant and the Search Text is varied (i.e., as in searching through a list of words for a match).

```
' To perform repeating standard soundex search
' load the words to match
SndDex1.KeyText = TXTKeyString.Text
SndDex1.SearchText = TXTSearchString.Text
' do standard search
SndDex1.Action = IDC_SNDEX_STDSEARCH      '(20)
' use result
Result% = SndDex1.SoundsLike

' repeat loop starts here
' assumes the word list to search is an array
For nDex =1 To Length
    SndDex1.SearchText = SearchText[ nDex ]
    SndDex1.Action = IDC_SNDEX_REPEATSTD  '( 30 )
'use results
```

```

        Result% = SndDex1.SoundsLike
Next nDex

' To perform repeating standard soundex search
' load the words to match
SndDex1.KeyText = TXTKeyString.Text
SndDex1.SearchText = TXTSearchString.Text
' do standard search
SndDex1.Action = IDC_SNDEX_INTSEARCH '(21)
' use result
Result% = SndDex1.SoundsLike

' repeat loop starts here
' assumes the word list to search is an array
For nDex =1 To Length
    SndDex1.SearchText = SearchText[ nDex ]
    SndDex1.Action = IDC_SNDEX_REPEATINT '( 31 )
    'use results
    Result% = SndDex1.SoundsLike
Next nDex

```

3. To retrieve the Soundex code value for any word

```

' To retrieve the Soundex Standard code
' load the word to retrieve the code for in KeyText
SndDex1.KeyText = TXTKeyString.Text
SndDex1.Action = IDC_SNDEX_GETSTDCODE '( 25 )
' use result,
' the Soundex code is returned
' in the control property SoundsLike
SoundexStdCode% = SndDex1.SoundsLike

' To retrieve the Soundex Integer code
' load the word to retrieve the code for in KeyText
SndDex1.KeyText = TXTKeyString.Text
SndDex1.Action = IDC_SNDEX_GETINTCODE '( 26 )
' use result
' the Soundex code is returned
' in the control property SoundsLike
SoundexIntCode% = SndDex1.SoundsLike

```

Tips and Techniques

The debugging version of SNDDEX.VBX will most likely resolve any program errors encountered when developing your application.

Keep in mind the following guidelines when implementing Soundex comparison searching in your application:

1. Soundex Basics:

Soundex comparison searching is not an exact comparison search. If you want to know if two character strings exactly match, then use the built in VISUAL BASIC compare function

2. Soundex Limitations:

Long words may not give the results expected. The Soundex algorithm stops generating additional characters to add to the Soundex code after the first four are added. Long words may not compare correctly. This is a limitation of the basic Soundex algorithm. In practice, the results obtained by a Soundex search are presented to the user for additional scrutiny before final use. Typically, present the user with a selection list of potential matching choices upon completion of a Soundex search. The user would then make the final choice.

3. Soundex And The User:

When implementing a Soundex search option in an application, the application should specifically advise the user that Soundex is being used as the basis for the search. Otherwise the user may experience confusing search results.

Action Property, SNDDEX Control

Description

Setting the SNDDEX.VBX controls action property to either IDC_SNDEX_STDSEARCH or IDC_SNDEX_INTSEARCH causes the custom control to compare the two words presented for matching Soundex codes. If the Soundex codes returned by each word is identical then SNDDEX.VBX returns the result in the property "SoundsLike".

The text used to generate the Soundex compare codes must be loaded in the respective SNDDEX control property, KeyText or SearchText prior to issuing the Action command. If either search word is a zero length string, the compare result in the "SoundsLike" property will be FALSE (property SoundsLike = 0). If the Soundex codes match, the return result in the "SoundsLike" property will be non-zero (property SoundsLike = 1).

Repeating Soundex searches start with a normal search, this fixes the KeyText value, and then repeat the search by setting the SearchText and issuing the appropriate Action command. The repeat result is returned the same as the non-repeating search.

To retrieve the appropriate Soundex code, set the word in the KeyText property and issue the appropriate action command. The Soundex code is returned as a STRING (for both the Standard Soundex and the Integer Soundex code retrieval) in the SoundexCode property.

Usage

[*form.*]CALCKER.**Action**[= *setting* %]

Settings

The Action property settings are:

Setting	Value	Description
IDC_SNDEX_STDSEARCH	20	Perform standard Soundex search
IDC_SNDEX_INTSEARCH	21	Perform modified Soundex search
IDC_SNDEX_GETSTDCODE	25	Retrieve the Soundex standard code
IDC_SNDEX_GETINTCODE	26	Retrieve the Soundex integer code
IDC_SNDEX_REPEATSTD	30	Repeat previous Soundex standard search.
IDC_SNDEX_REPEATINT	31	Repeat previous Soundex Integer search

Remarks

The return result of a search is available in "SoundsLike" property immediately after issuing the appropriate action command. See programming [examples](#) for more detail on use of the Action properties.

Data Type

All Action parameters are constant Integers.

KeyText Property, SNDDEX Control

One of the two words presented for searching. For a repeat search, this property is set once and the SearchText property is varied for successive searches.

Value

Any valid VB string. Numbers, punctuation marks, and spaces are ignored by the Soundex algorithm.

See [Soundex](#) for details on individual character to Soundex code conversion.

SearchText Property, SNDDEX Control

One of the two words presented for searching.

Value

Any valid VB string. Numbers, punctuation marks, and spaces are ignored by the Soundex algorithm.

See [Soundex](#) for details on individual character to Soundex code conversion.

SoundsLike Property, SNDDEX Control

The result returned from a Soundex search or a request for a Soundex code. The returned value is placed in the SNDDEX.VBX property SoundsLike.

Value

Value returned is dependent on the action parameter sent to the control. For a normal and repeat search where both the KeyText and the Search Text are provided the return values are as follows.

- 0** Soundex code **DOES NOT** match
- 1** Soundex code **DOES** match

For retrieving the Soundex code, the property SoundsLike is the actual Soundex code. The Soundex code value returned is an integer.

SoundexCode Property, SNDDEX Control

The result returned from a Soundex code request. The returned value is placed in the SNDDEX.VBX property SoundexCode.

Value

String value returned is dependent on the action parameter sent to the control. See the Action properties for the appropriate values.

For retrieving the Soundex code, the property SoundexCode is the actual Soundex code. The Soundex code value returned is an Alphanumeric String of four or fewer characters.

Soundex Technology Brief

How it works.

Soundex searching is a word search algorithm that compares two words for a similar sound match. Soundex searching is often used to search for names in databases; although, it is by no means restricted to name searching. The typical use is to find a name when the exact spelling may not be known. The Soundex code returned from the algorithm is an alphanumeric representation of the words being converted.

Soundex searching is accomplished by taking two words, generating the Soundex code for each word, and then comparing the resultant Soundex codes. SNDDEX.VBX returns only the result of this comparison, giving only a yes/no result.

In SNDDEX.VBX these two words are arbitrarily represented by the properties "KEYTEXT" and SEARCHTEXT. You may use either property for either word; but, for searching long lists of words for a match, the algorithm used by SNDDEX.VBX will run slightly faster if the KEYTEXT property is the fixed one, and SEARCHTEXT is the variable one.

Soundex codes that are generated by the Soundex algorithm are four characters long; so, very long words, or multiple words may not fully compute to a proper match code. For these reasons, the developer should exercise some care in structuring the word presentation to SNDDEX.VBX to maximize the search effectiveness.

Soundex Code	Letters
1	B,F,P,V
2	C,G,J,K,Q,S,X
3	D,T
4	L
5	M,N
6	R

The above table shows how letters in a word are converted into the appropriate Soundex code. Letters not shown are ignored and generate no Soundex code. When the number of Soundex code characters generated equals four, searching stops and the Soundex code is ready for comparison.

The main difference in the standard Soundex search and the modified Soundex search is the use of the first character in the word. In the standard Soundex search, the first character is used as is; therefore, words that do not begin with the same first character cannot match. In the modified version of Soundex, a Soundex code is generated for the first character in the word, so the searching is somewhat relaxed over the standard version.

Soundex is presented in detail in several books on algorithms; so if you desire more information, it is suggested you look in one of these texts,

