Package: textgRid (via r-universe)

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Title Praat TextGrid Objects in R

Version 1.0.2

Description The software application Praat can be used to annotate
waveform data (e.g., to mark intervals of interest or to label
events). (See <http://www.fon.hum.uva.nl/praat/> for more
information about Praat.) These annotations are stored in a
Praat TextGrid object, which consists of a number of interval
tiers and point tiers. An interval tier consists of sequential
(i.e., not overlapping) labeled intervals. A point tier
consists of labeled events that have no duration. The
'textgRid' package provides S4 classes, generics, and methods
for accessing information that is stored in Praat TextGrid
objects.

Depends R (>= 3.2.3)

Imports methods, readr, stringi

Suggests testthat

License GPL-3

Encoding UTF-8

LazyData true

RoxygenNote 6.0.1

Collate 'Tier-class.R' 'IntervalTier-class.R'
'IntervalTier-accessors.R' 'IntervalTier-constructor.R'
'IntervalTier-utilities.R' 'PointTier-class.R'
'PointTier-accessors.R' 'PointTier-constructor.R'
'PointTier-utilities.R' 'TextGrid-class.R'
'TextGrid-accessors.R' 'TextGrid-constructor.R'
'TextGrid-utilities.R' 'Tier-accessors.R' 'Tier-utilities.R'
'as.data.frame.R' 'finders.R' 'length.R' 'textgRid.R'
'writeTextGrid.R'

URL www.praat.org,
<http://www.fon.hum.uva.nl/praat/manual/TextGrid.html>

BugReports <https://github.com/patrickreidy/textgRid>

Contents

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findIntervals   *Find intervals within an IntervalTier.*

Description

Find intervals according to various search criteria.

Usage

```
findIntervals(tier, pattern = "*", from = -Inf, to = Inf,
  at = numeric(), stringsAsFactors = FALSE, ...)
```

Arguments

tier	An `IntervalTier` object.
pattern	A regular expression for matching interval labels. Default is `'*'` so that the search finds all intervals within `[from, to]`.
from	A numeric, the earliest time from which to search for intervals. Default is `-Inf` so that the search includes the start of `tier`.

to	A numeric, the latest time to which to search for intervals. Default is `Inf` so that the search includes the end of `tier`.
at	A numeric, an exact time at which to find intervals. Default is `numeric()` so that intervals are searched within [`from`, `to`].
stringsAsFactors	
	A logical, default is `FALSE`.
...	optional arguments passed to `grep`.

Details

Default behavior of `findIntervals` is to search for intervals within [`from`, `to`]. If the `at` argument is a non-empty numeric vector, then this default behavior is overridden, and the `tier` is searched only at the time given by `at`.

Value

A `data.frame` whose rows correspond to the intervals found according to the search criteria, and whose columns are: `$Index`, `$StartTime`, `$EndTime`, `$Label`,

See Also

[IntervalTier-class](), [grep]()

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findPoints	*Find points within a PointTier.*

Description

Find points according to various search criteria: e.g., that occur within a time range, whose labels match a pattern.

Usage

```
findPoints(tier, pattern = "*", from = -Inf, to = Inf,
  stringsAsFactors = FALSE, ...)
```

Arguments

tier	A `PointTier` object.
pattern	A regular expression for matching point labels. Default is `'*'` so that the search finds all points within [`from`, `to`].
from	A numeric, the earliest time from which to search for points. Default is `-Inf` so that the search includes the start of `tier`.
to	A numeric, the latest time to which to search for points. Default is `Inf` so that the search includes the end of `tier`.
stringsAsFactors	
	A logical, default is `FALSE`.
...	optional arguments passed to `grep`.

Value

A data.frame whose rows correspond to the points found according to the search criteria, and whose columns are: $Index, $Time, $Label.

See Also

[PointTier-class](), [grep]()

IntervalTier-accessors

Access the slots of IntervalTier objects.

Description

Functions for accessing the slots of an [IntervalTier]() object.

Usage

```
intervalStartTimes(tier)

intervalEndTimes(tier)

intervalLabels(tier)
```

Arguments

tier   An [IntervalTier]() object.

See Also

[IntervalTier-class](), [IntervalTier-constructor](), [Tier-accessors]()

IntervalTier-class   *IntervalTier S4 class for Praat TextGrids.*

Description

The IntervalTier class extends the [Tier]() class. An IntervalTier object describes a sequence of non-overlapping labeled intervals. An interval's label is typically the annotation of some contiguous portion of waveform data (e.g., a phonetic segment or word in speech data).

Slots

name A character string, the name of the Tier.

number An integer, the number of the Tier within the TextGrid.

startTimes A numeric vector, the start times of the intervals in the IntervalTier.

endTimes A numeric vector, the end times of the intervals in the IntervalTier.

labels A character vector, the labels of the intervals in the IntervalTier.

See Also

IntervalTier-constructor, IntervalTier-accessors, TextGrid-class, Tier-class

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IntervalTier-constructor

Create an instance of the IntervalTier class.

Description

An S4 generic and S4 methods for creating an IntervalTier object.

Usage

```
IntervalTier(praatText, ...)

## S4 method for signature 'character'
IntervalTier(praatText)
```

Arguments

praatText   A character vector, the lines of text from a .TextGrid file that define an Inter-
            valTier.

...   optional arguments for multiple dispatch (in development).

Value

A IntervalTier object. Values for the tierName, tierNumber, startTimes, endTimes, and
labels slots are parsed automatically from the praatText.

See Also

IntervalTier-class, IntervalTier-accessors

PointTier-accessors *Access the slots of PointTier objects.*

Description

Functions for accessing the slots of a `PointTier` object.

Usage

```
pointTimes(tier)

pointLabels(tier)
```

Arguments

tier   A `PointTier` object.

See Also

`PointTier-class`, `PointTier-constructor`, `Tier-accessors`

PointTier-class *PointTier S4 class for Praat TextGrids.*

Description

The `PointTier` class extends the `Tier` class. A `PointTier` object describes a sequence of labeled points in time. A point's label is typically the annotation of some event in waveform data (e.g., the onset of voicing in speech data).

Slots

name A character string, the name of the Tier.

number An integer, the number of the Tier within the TextGrid.

times A numeric vector, the times of the points in the PointTier.

labels A character vector, the labels of the points in the PointTier.

See Also

`PointTier-constructor`, `PointTier-accessors`, `TextGrid-class`, `Tier-class`

PointTier-constructor   *Create an instance of the PointTier class.*

Description

An S4 generic and S4 methods for creating an `PointTier` object.

Usage

```
PointTier(praatText, ...)

## S4 method for signature 'character'
PointTier(praatText)
```

Arguments

praatText	A character vector, the lines of text from a `.TextGrid` file that define a PointTier.
...	optional arguments for multiple dispatch (in development).

Value

A `PointTier` object. Values for the `tierName`, `tierNumber`, `times`, and `labels` slots are parsed automatically from the `praatText`.

See Also

`PointTier-class`, `PointTier-accessors`

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textgRid   *textgRid: Praat TextGrid Objects in R*

Description

The software application Praat can be used to annotate waveform data (e.g., to mark intervals of interest or to label events). These annotations are stored in a Praat TextGrid object, which consists of a number of interval tiers and point tiers. An interval tier consists of sequential (i.e., not overlapping) labeled intervals. A point tier consists of labeled events that have no duration. The textgRid package provides S4 classes, generics, and methods for accessing information that is stored in Praat TextGrid objects.

S4 classes

`Tier`, `IntervalTier`, `PointTier`, `TextGrid`

S4 generics and methods

   [TextGrid()](#) object constructor

Functions

   [findIntervals](#), [findPoints](#)

   TextGrid-accessors   *Access the slots of TextGrid objects.*

Description

   Functions for accessing the slots of a [TextGrid](#) object.

Usage

```
textGridStartTime(textGrid)

textGridEndTime(textGrid)
```

Arguments

   textGrid   An [TextGrid](#) object.

See Also

   [TextGrid-class](#), [TextGrid-constructor](#)

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   textgRid-as.data.frame
                         Coerce to a data.frame.

Description

   Coerce an `IntervalTier`, `PointTier`, or `TextGrid` object to a `data.frame`.

Usage

```
## S3 method for class 'IntervalTier'
as.data.frame(x, row.names = NULL, optional = FALSE,
  ..., stringsAsFactors = FALSE)

## S3 method for class 'PointTier'
as.data.frame(x, row.names = NULL, optional = FALSE,
  ..., stringsAsFactors = FALSE)

## S3 method for class 'TextGrid'
as.data.frame(x, row.names = NULL, optional = FALSE, ...,
  stringsAsFactors = FALSE)
```

Arguments

x	An `IntervalTier`, `PointTier`, or `TextGrid` object.
row.names	NULL or a character vector giving the row names for the returned `data.frame`. If NULL (the default), the rows of the returned `data.frame` are named numerically beginning at 1.
optional	A logical, default is FALSE. If TRUE, setting row names and converting column names is optional.
...	Additional optional arguments. (Only here for consistency with the generic.)
stringsAsFactors	A logical, default is FALSE.

Details

`IntervalTier`s and `PointTier`s are coerced by passing them to `findIntervals()` and `findPoints()`, respectively. Only intervals and points that have contentful, non-empty labels are returned after coercion.

Value

A `data.frame` object whose rows represent the contentful intervals or points within `object`, and whose columns are: TierNumber, TierName, TierType, Index, StartTime, EndTime, Label.

TextGrid-class   *TextGrid S4 class for Praat TextGrids.*

Description

The `TextGrid` class extends the [list](#) class. A `TextGrid` object is essentially a list of [IntervalTier](#) and [PointTier](#) objects.

Slots

.Data A list of [IntervalTier](#) and [PointTier](#) objects.

startTime A numeric, the start time of the TextGrid.

endTime A numeric, the end time of the TextGrid.

See Also

[TextGrid-constructor](#), [TextGrid-accessors](#), [IntervalTier-class](#), [PointTier-class](#)

TextGrid-constructor   *Create an instance of the TextGrid class.*

Description

An S4 generic and S4 methods for creating a [TextGrid](#) object.

Usage

```
TextGrid(textGrid, ...)

## S4 method for signature 'character'
TextGrid(textGrid, encoding = NULL)
```

Arguments

textGrid	A character vector
...	optional arguments for multiple dispatch (in development).
encoding	The character encoding of the .TextGrid file. If NULL, then the encoding of the file is guessed using [guess_encoding](#). Plausible encodings that might be used by Praat are "ASCII", "UTF-8", or "UTF-16BE" (if non-ASCII characters occur in the TextGrid).

Value

A [TextGrid](#) object.

Details for signature c(textGrid = 'character')

If textGrid is a string (i.e., a character vector with length(textGrid)=1), then it is assumed that the textGrid argument is the path to a .TextGrid file. Otherwise, the textGrid argument is assumed to be a character vector whose elements are the lines of some .TextGrid file.

See Also

[TextGrid-class](#), [TextGrid-accessors](#)

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textgRid-length　　　　　　　*Length of an IntervalTier or PointTier*

Description

Get the number of intervals on an `IntervalTier` or the number of points on a `PointTier`.

Usage

```
## S3 method for class 'IntervalTier'
length(x)

## S3 method for class 'PointTier'
length(x)
```

Arguments

x   An `IntervalTier` or `PointTier` object.

Details

`length.IntervalTier()` checks that the vectors stored in the `startTimes`, `endTimes`, and `labels` slots of the `IntervalTier` object all have the same length. If so, the length of the `labels`-vector is returned; otherwise, `NULL` is returned.

`length.PointTier()` checks that the vectors stored in the `times` and `labels` slots of the `PointTier` object both have the same length. If so, the length of the `labels`-vector is returned; otherwise, `NULL` is returned.

Value

A `numeric`. The number of intervals or points on `x`.

Tier-accessors　　　　　　　*Methods for* Tier *objects.*

Description

Get the values of slots in a [Tier](#) object.

Usage

```
tierName(tier)

tierNumber(tier)
```

Arguments

tier   A `Tier` object.

See Also

`Tier-class`

Tier-class   *Tier S4 class for Praat TextGrids.*

Description

The `Tier` class is extended by the `PointTier` and `IntervalTier` classes. As such, the `Tier` class encapsulates only very general information that is common to both subtypes of tier-like object.

Slots

name A character string, the name of the Tier.

number An integer, the number of the Tier within the TextGrid.

See Also

`IntervalTier-class`, `PointTier-class`, `TextGrid-class`, `Tier-accessors`

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writeTextGrid   *Write Praat-compatible TextGrid.*

Description

Convert a `TextGrid` object to a Praat-compatible character string and (optionally) write it to a file.

Usage

```
writeTextGrid(x, path = NULL, ...)
```

Arguments

x   A TextGrid object to be written.

path   Either a character string naming a file to write to, a connection open for writing, or `NULL` (default) for no output. When writing to file or connection, `path` is passed on as the con argument to `writeLines`

...   Additional arguments passed on to `writeLines` when writing to a file or connection.

Value

A character vector, Each element is one row of the TextGrid file.

See Also

TextGrid-class

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