The rChoiceDialogs package:
Cross-platform dialogs for lists, files and folders

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1 Overview

The rChoiceDialogs package provides a single mechanism for multiple-selection choice dialogs with acceptable modal-window behavior.

The motivating use case was the need for a cross-platform File Open dialog supporting multiple selections. On Windows, `utils::choose.files()` can cause confusion by disappearing behind other windows. In addition, on Mac OS X and Linux this is unavailable. Another approach is `tcltk::choose.files()`. While the tcltk package comes with a standard installation on Mac OS X, its availability on Linux depends on an option selected during the R installation. Another deficiency of the tcltk solution is that modal dialogs tend to disappear under other windows. The third approach, a Java-based solution, using for example the rJava package[1], should work for systems with Java installed, but there are complications with the operating system Mac OS X. Apple ships its own Java implementation which Apple ships with Mac OS X, causing difficulties for rJava. The Mac OS X user can also install a generic Java from SUN, but this entails additional complications.

This package attempts to overcome these deficiencies. Wrapper functions make the best choice among the three approaches in the previous paragraph, and dispatch the appropriate function calls. They also achieve uniformity in the argument lists (signatures).

The package rChoiceDialogs is used in IdMappingRetrieval and IdMappingAnalysis, which address problems related to ID mapping, data collection and analysis in bioinformatics, also developed by our group.

2 Usage

Currently the package supports the general-purpose multiple-choice widget `rselect.list()`, and two special-purpose widgets: `rchoose.dir()` for choosing a directory, and `rchoose.files()` for choosing multiple files. Each of these functions utilizes `canUseJava()` and `canUseTclTk()` to determine suitability of the corresponding graphics dispatch mechanism. (The Java branch is the first choice when it is suitable.)

- For `rselect.list()`, the dispatch proceeds as follows:

	`rselect.list()`
JAVA	`rChoiceDialogs::jselect.list()`
Windows, or OS X with Aqua graphics	`utils::select.list()`
TCL/TK	`tcltk::tk_select.list()`

- For `rchoose.dir()`, the dispatch proceeds as follows:

	`rchoose.dir()`
JAVA	`rChoiceDialogs::jchoose.dir()`
TCL/TK	`tcltk::tk_choose.dir()`

- For `rchoose.files()`, the dispatch proceeds as follows:

	`rchoose.files()`
JAVA	`rChoiceDialogs::jchoose.files()`
TCL/TK	`rChoiceDialogs::tkchoose.files()`

On Mac OS X, the Java mechanism is bypassed for the reasons discussed above. One can install an alternative Java SE, but this package does not attempt to detect the presence of an alternative.

On Windows one could use the native `choose.files()` coming with the R installation, but instead this package's `rchoose.files()` dispatches to `jchoose.files()` for Windows when possible, for the reasons outlined above.

Note that, when the tcltk alternatives are needed, then the tcltk version must be at level 8.5 (see `http://cran.r-project.org/bin/macosx/tools/`).

3 Session information

This version of rChoiceDialogs has been developed with R 2.11.0 and has been tested with R 2.12.0 as well.

R session information:

```
> library(rChoiceDialogs)
> toLatex(sessionInfo())
```

- R version 2.15.1 (2012-06-22), `i386-pc-mingw32`

- Locale: `LC_COLLATE=C`, `LC_CTYPE=English_United States.1252`, `LC_MONETARY=English_United States.1252`, `LC_NUMERIC=C`, `LC_TIME=English_United States.1252`

- Base packages: base, datasets, grDevices, graphics, methods, stats, utils

- Other packages: rChoiceDialogs 1.0.3, rJava 0.9-3

- Loaded via a namespace (and not attached): tools 2.15.1