

Package ‘kirby21.base’

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Type Package

Title Example Data from the Multi-Modal MRI 'Reproducibility' Resource

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Description Multi-modal magnetic resonance imaging ('MRI') data from the 'Kirby21' 'reproducibility' study <<https://www.nitrc.org/projects/multimodal/>>, including functional and structural imaging.

License GPL-2

LazyData true

LazyLoad true

Imports utils, stats, git2r

RoxygenNote 7.1.0

URL <https://www.nitrc.org/projects/multimodal/>,
<http://dx.doi.org/10.1016/j.neuroimage.2010.11.047>

Encoding UTF-8

Suggests testthat (>= 2.1.0)

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all_modalities	<i>Return All Modalities</i>
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Description

Return the modalities for images where packages were developed

Usage

```
all_modalities()
```

Value

Vector of characters

copy_kirby21_data	<i>Copy Kirby21 Data to an output directory</i>
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Description

Copies files from Kirby21 Package to an output directory

Usage

```
copy_kirby21_data(copydir, ...)
```

Arguments

copydir	Output directory for data
...	Arguments to pass to get_image_filenames

Value

Logical if files are copied

Examples

```
on_cran = !identical(Sys.getenv("NOT_CRAN"), "true")
on_ci <- nzchar(Sys.getenv("CI"))
local_run = grepl("musch", tolower(Sys.info()[["user"]]))
run_example = !on_cran || on_ci || local_run
if (run_example) {
  tdir = tempfile()
  dir.create(tdir)
  outdir = tempdir()
  surv_installed = "kirby21.survey" %in% installed.packages()
  if (!surv_installed) {
    testthat::expect_error(
      download_kirby21_data("SURVEY",
        force = FALSE))
  } else {
    download_kirby21_data("SURVEY",
      force = FALSE)
  }
  res = download_kirby21_data("SURVEY", outdir = outdir, force = TRUE)
  if (!surv_installed) {
    try({remove.packages("kirby21.survey")})
  }
  copy_kirby21_data(copydir = tdir, outdir = outdir)
}
```

delete_kirby21_data *Delete Kirby21 Imaging Data*

Description

This function allows users to remove specific modalities for Kirby21 data sets. This allows this package to be on CRAN

Usage

```
delete_kirby21_data(modality = kirby21.base::all_modalities(), outdir = NULL)
```

Arguments

modality	modality of images that are to be downloaded. You must have the package downloaded for that modality.
outdir	output directory for files to download. It will default to the directory of the corresponding package for the data.

Value

Nothing is returned

Examples

```

on_cran = !identical(Sys.getenv("NOT_CRAN"), "true")
on_ci <- nzchar(Sys.getenv("CI"))
local_run = grepl("musch", tolower(Sys.info()[["user"]]))
run_example = !on_cran || on_ci || local_run
if (run_example) {
  outdir = tempdir()
  res = download_kirby21_data("SURVEY", outdir = outdir, force = TRUE)
  delete_kirby21_data("SURVEY", outdir = outdir)
}

```

download_kirby21_data *Download Kirby21 Imaging Data*

Description

This function allows users to download specific modalities for Kirby21 data sets. This allows this package to be on CRAN

Usage

```

download_kirby21_data(
  modality = kirby21.base::all_modalities(),
  progress = TRUE,
  force = FALSE,
  outdir = NULL
)

```

Arguments

modality	modality of images that are to be downloaded. You must have the package downloaded for that modality.
progress	Should verbose messages be printed when downloading the data
force	If the package of that modality is not installed stop. If force = FALSE, then this will download the data but not really install the package.
outdir	output directory for files to download. It will default to the directory of the corresponding package for the data.

Value

A logical indicating the data is there.

Examples

```
on_cran = !identical(Sys.getenv("NOT_CRAN"), "true")
on_ci <- nzchar(Sys.getenv("CI"))
local_run = grepl("musch", tolower(Sys.info()[["user"]]))
run_example = !on_cran || on_ci || local_run
if (run_example) {
  outdir = tempdir()
  res = download_kirby21_data("SURVEY", outdir = outdir)
}
```

`get_ids`*Get IDs with Data in Package*

Description

Return the IDs for the people scanned available in the kirby21 packages

Usage

```
get_ids()
```

Value

Vector of numeric ids

`get_image_filenames`*Get Image Filenames*

Description

Return the filenames for the images

Usage

```
get_image_filenames(...)
```

Arguments

... arguments passed to [get_image_filenames_df](#)

Examples

```
get_image_filenames()
```

`get_image_filenames_df`*Get Image Filenames in a data.frame*

Description

Return a data.frame of filenames for the images

Usage

```
get_image_filenames_df(  
  ids = get_ids(),  
  modalities = all_modalities(),  
  visits = c(1, 2),  
  long = TRUE,  
  warn = TRUE,  
  outdir = NULL  
)  
  
get_image_filenames_matrix(...)  
  
get_image_filenames_list(...)  
  
get_image_filenames_list_by_visit(...)  
  
get_image_filenames_list_by_subject(...)
```

Arguments

<code>ids</code>	ID to return
<code>modalities</code>	vector of image modalities within <code>c("FLAIR", "MPRAGE", "T2w", "fMRI", "DTI")</code> to return
<code>visits</code>	Vector of scan indices to return (1 or 2 or both)
<code>long</code>	if TRUE, each row is a subject, visit, modality pair
<code>warn</code>	if TRUE, warnings will be produced when packages are not installed
<code>outdir</code>	output directory for files to download. It will default to the directory of the corresponding package for the data.
<code>...</code>	arguments passed to get_image_filenames_df

Value

Data.frame of filenames

Examples

```
get_image_filenames_df()
get_image_filenames_matrix()
get_image_filenames_list()
get_image_filenames_list_by_visit()
get_image_filenames_list_by_subject()
```

get_par_filenames *Get Filenames of Par files*

Description

Return the filenames for the par files

Usage

```
get_par_filenames(
  ids = get_ids(),
  modalities = c("FLAIR", "MPRAGE", "T2w", "fMRI", "DTI"),
  visits = c(1, 2)
)
```

Arguments

ids	ID to return
modalities	vector of image modalities within c("FLAIR", "MPRAGE", "T2w", "fMRI", "DTI") to return
visits	Vector of scan indices to return (1 or 2 or both)

Value

Data.frame of filenames

Examples

```
get_par_filenames()
```

kirby21_demog	<i>Kirby 21 Demographics</i>
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Description

A dataset containing demographic information for kirby21 data sets

Format

A data frame with 21 rows and 3 columns.

Source

https://www.nitrc.org/frs/?group_id=313

modality_df	<i>All Modalities and the Corresponding package</i>
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Description

Return the modalities for images and the packages that contain them

Usage

```
modality_df()
```

Value

data.frame of two columns:

- modality: modality of image
- package: package that contains it

subject_id_to_visit_id

Kirby 21 Subject Identifiers to NITRC Visit Identifiers

Description

A dataset containing the mapping from the Subject IDs from the Kirby demographics to the KKI2009 identifiers on NITRC

Format

A data frame with 42 rows and 4 columns

Source

https://www.nitrc.org/frs/?group_id=313

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