Package 'ClimMobTools'

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Type Package

Title API Client for the 'ClimMob' Platform

Version 0.3.5

URL https://agrobioinfoservices.github.io/ClimMobTools/

BugReports https://github.com/agrobioinfoservices/ClimMobTools/issues

Description API client for 'ClimMob', an open source software for crowdsourcing
citizen science in agriculture under the 'tricot' method <https://climmob.net/>.
Developed by van Etten et al. (2019) <doi:10.1017/S0014479716000739>, it turns the
research paradigm on its head; instead of a few researchers designing complicated
trials to compare several technologies in search of the best solutions,
it enables many farmers to carry out reasonably simple experiments that
taken together can offer even more information. 'ClimMobTools' enables project
managers to deep explore and analyse their 'ClimMob' data in R.

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Encoding UTF-8

LazyData true

Depends R (>= 3.5.0), climatrends, PlackettLuce

Imports httr, jsonlite, Matrix, methods, RSpectra

Suggests knitr, rmarkdown, testthat (>= 2.1.0)

Language en-GB

RoxygenNote 7.1.0

VignetteBuilder knitr

NeedsCompilation no

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R topics documented:

ClimMobTools   *API Client for the 'ClimMob' platform in R*

Description

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Author(s)

Kauê de Sousa and Jacob van Etten and Brandon Madriz

See Also

Useful links:

- Development repository: <https://github.com/agrobioinfoservices/ClimMobTools>

- Static documentation: <https://agrobioinfoservices.github.io/ClimMobTools/>

- Report bugs: <https://github.com/agrobioinfoservices/ClimMobTools/issues>

- ClimMob Platform: <https://climmob.net/climmob3/>

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getDataCM *Get ClimMob data*

Description

Fetch the data from a ClimMob project using an application programming interface (API) key

Usage

```
getDataCM(key = NULL, project = NULL, as.data.frame = TRUE, ...)

## S3 method for class 'CM_list'
as.data.frame(x, ..., tidynames = TRUE, pivot.wider = FALSE)
```

Arguments

key	a character for the user's application programming interface (API) key
project	a character for the project id
as.data.frame	logical, to return a data frame
...	additional arguments passed to methods
x	an object of class CM_list
tidynames	logical, if TRUE suppress ODK strings
pivot.wider	logical, if TRUE return a wider object where each observer is a row

Details

Additional arguments:

server: a character to select from which server the data will be retrieved, either "prodution" (the default) or "testing"

Value

An object of class 'CM_list' or a data.frame with class "CM_df" with the variables:

id	the participant's package id
moment	the data collection moment
variable	the variable name
value	the value for each variable

Author(s)

Kauê de Sousa

See Also

ClimMob website <https://climmob.net/>

Other GET functions: [getProjectsCM]( )()

Examples

```
## Not run:

# This function will not work without an API key
# the user API key can be obtained once a free ClimMob account
# is created via https://climmob.net/

my_key <- "add_your_key"
my_project <- "my_climmob_project"

data <- getDataCM(key = my_key, project = my_project)


## End(Not run)
```

---

getProjectsCM   *Get ClimMob projects*

Description

Fetch the status of ClimMob projects

Usage

```
getProjectsCM(key = NULL, ...)
```

Arguments

key	a character for the user's application programming interface (API) key
...	additional arguments passed to methods. See details

Details

Additional arguments:

server: a character to select from which server the data will be retrieved, either "prodution" (the default) or "testing"

Value

A data frame with the ClimMob projects

`project_id`	the project unique id
`name`	the project name
`status`	the current status
`creation_date`	the project's creation date
`intended_participants`	
	the number of participants the project intended to register
`registration_progress`	
	the percentage of intended participants which were registered
`last_registration_activity`	
	number of days since the submission of the last registration

Author(s)

Kauê de Sousa

See Also

ClimMob website <https://climmob.net/>

Other GET functions: [getDataCM()](#)

Examples

```
## Not run:
# This function will not work without an API key
# the user API key can be obtained once a free ClimMob account
# is created via https://climmob.net/

my_key <- "add_your_key"

getProjectsCM(key = my_key)


## End(Not run)
```

---

randomise	*Randomised group of items*

Description

Set a randomised group of items for crowdsourcing citizen science. Generate designs for ranking of options. It is designed for tricot trials specifically (comparing 3 options), but it will also work with comparisons of any other number of options. The design strives for approximate A optimality, this means that it is robust to missing observations. It also strives for balance for positions of each option. Options are equally divided between first, second, third, etc. position. The strategy is to create a "pool" of combinations that does not repeat combinations and is A-optimal. Then this pool is ordered to make subsets of consecutive combinations also relatively balanced and A-optimal

Usage

```
randomise(ncomp = 3, nobservers = NULL, nitems = NULL, itemnames = NULL)
```

Arguments

ncomp	an integer for the number of items each observer compares
nobservers	an integer for the number of observers
nitems	an integer for the number of items tested in the project
itemnames	a character for the name of items tested in the project

Value

A dataframe with the randomised design

Author(s)

Jacob van Etten

Examples

```
ni <- 3
no <- 10
nv <- 4
inames <- c("mango","banana","grape","apple")

randomise(ncomp = ni,
          nobservers = no,
          nitems = nv,
          itemnames = inames)
```

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seed_need   *Required seed amount in a tricot project*

Description

Calculate the required amount of seeds (or other technology) required for a triadic comparison of technologies (tricot) project.

Usage

```
seed_need(nobservers = 100, ncomp = 3, nitems = 10, nseeds = 0.15, unit = "kg")
```

Arguments

nobservers	an integer for the number of observers
ncomp	an integer for the number of items each observer compares
nitems	an integer for the number of items tested in the project
nseeds	an integer for the metric of seeds each bag receives
unit	optional, a character specifying the metric unit used

Value

a dataframe with required number of seeds

Author(s)

Kauê de Sousa

Examples

```
# allocate 0.2 kg of seeds per variety in a project with 500
# participants and 14 varieties
seed_need(nobservers = 500,
          ncomp = 3,
          nitems = 14,
          nseeds = 0.2)

# allocate 100 seedlings per variety in a project with 400
# participants, 8 varieties and 3 comparisons between varieties
seed_need(nobservers = 400,
          ncomp = 3,
          nitems = 9,
          nseeds = 100,
          unit = "unit")
```

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