Package 'ibutt'

March 3, 2016

Type Package

Version 0.0.0.9000

Title Processing data from ibuttons and hydrochrons

Date 2015-11-08

Description The package allows users to import a series of temperature and humidity data generated from ibutton and hydrochrons. I am just working on this package to make it useful and it's not really in order as of yet! But it will be because I have a crap load of these data files to go through.

Depends R (>= 3.2.3)

LazyData true

Imports plyr

License GPL-2

Suggests knitr, rmarkdown, chron, testthat

VignetteBuilder knitr

Collate 'data.R' 'process.R' 'import.func.R' 'ibuttProc.R'

RoxygenNote 5.0.1

NeedsCompilation no

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R topics documented:

humidity — *Humidity data Example humidity data taken from a hydrochron iButton*

Description

Humidity data Example humidity data taken from a hydrochron iButton

Format

A raw csv file saved from the Hydrochron iButton

ibuttProc — *Import and subset iButton files and data.*

Description

Import and subset iButton files and data.

Usage

```
ibuttProc(dir, date, time, list = TRUE)
```

Arguments

dir	The directory of the ibutton and/or hydrochron files.
date	The date, as a character string, that one wishes to subset. Note that the format of the date should be "year-month-day" with only a four digit year.
time	The hour (e.g. "11" or "14") or time range [e.g. c("11:30", "11:45")] one wishes to subset. Note that time should be given in a 24 hr clock. Time range is structured as a character string vector consisting of the lower time followed by the upper time limits as: c(lower time, upper time). When sub setting only a single hour period, simply just use the hour one is interested in sub setting. You must use two digits to to query each hour (i.e. "09" NOT "9").
list	A logical argument specifying whether the data frame returned should be kept as a list or amalgamated into a data frame that can be queried using column names.

Value

A data.frame or list of temperatures/humidity across the dates and times that data was collected.

Author(s)

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Examples

```
dir <- paste0(system.file("extdata",  package="ibutt"), "/")
data <- ibuttProc(dir, date = "2015-11-06", time = c("10:00", "11:00"), list = TRUE)
```

`import` *Import a list of .csv files generated from iButtons and Hydrochrons. Save these files to a list and name the data.frames the file names*

Description

Import a list of .csv files generated from iButtons and Hydrochrons. Save these files to a list and name the data.frames the file names

Usage

```
import(dir)
```

Arguments

`dir`	Directory path to the folder containing the temperature/humidity data. Files should be .csv. If more than one file is found it will separate each file as a list, if only one file is found then it will be read singly.

Value

A character string containing the ibutton or hydrochron data.

Author(s)

Daniel Noble - daniel.noble@unsw.edu.au

`process` *Function for processing the text read from ibuttons.*

Description

Function for processing the text read from ibuttons.

Usage

```
process(dat)
```

Arguments

`dat`	A text/csv string imported from a directory containing files for ibutton data.

Value

Returns a processed data frame with the following:

1. Date: A character string with the date.
2. AMPM: A character string defining 12 hr clock, AM or PM.
3. time: A character string of the time
4. time24: A character string containing the time in 24 hr format.
5. unit: The unit of measurement. 'C' = Celsius; 'RH' = Relative humidity in percentage
6. temp.hum: The temperature and humidity measurements from the ibutton
7. date.time: A formatted time string (as.numeric) based on time from July 1, 1970. Date/time can be used for plotting or querying using functions for numeric classes.

Author(s)

Daniel Noble - daniel.noble@unsw.edu.au

`subdate` *Sub setting a specific date.*

Description

Sub setting a specific date.

Usage

```
subdate(d, date)
```

Arguments

`d`	The processed iButton data frame.
`date`	The date, as a character string, one wishes to subset. Note that the format of the date should be "year-month-day" with only a four digit year.

Value

A data.frame consisting of the sub temperature and humidity values that are subset by the hour or time range of interest.

Author(s)

Daniel Noble - daniel.noble@unsw.edu.au

subtime — *Function for sub setting a specific hour or range of times*

Description

Function for sub setting a specific hour or range of times

Usage

```
subtime(d, time)
```

Arguments

d	The processed iButton data frame.
time	The hour (e.g. "11" or "14") or time range (e.g. c("11:30", "11:45")) one wishes to subset. Note that time should be given in a 24 hr clock. Time range is structured as a character string vector consisting of the lower time followed by the upper time limits as: c(lower time, upper time). When sub setting only a single hour period, simply just use the hour one is interested in sub setting.

Value

A data.frame consisting of the sub temperature and humidity values that are subset by the hour or time range of interest.

Author(s)

Daniel Noble - daniel.noble@unsw.edu.au

temp — *Temperature data Example temperature data taken from an iButton*

Description

Temperature data Example temperature data taken from an iButton

Format

A raw csv file saved from the iButton

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