Package 'riceware'

October 14, 2022

Title A Diceware Passphrase Implementation

Version 0.4

Description The Diceware method can be used to generate strong passphrases.
In short, you roll a 6-faced dice 5 times in a row, the number obtained is
matched against a dictionary of easily remembered words. By combining together 7
words thus generated, you obtain a password that is relatively easy to remember,
but would take several millions years (on average) for a powerful computer to guess.

URL https://github.com/fmichonneau/riceware

BugReports https://github.com/fmichonneau/riceware/issues

Depends R (>= 3.1.3)

Imports random (>= 0.2.4)

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LazyData true

Suggests testthat

NeedsCompilation no

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Repository CRAN

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R topics documented:

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check_token   *Check the Token*

Description

Checks the validity of the token.

Usage

```
check_token(token)
```

Arguments

token   a character vector of length 1 representing the outcomes of 5 rolls of a dice.

Details

The token is a 5-digit number representing the outcomes of 5 rolls of a 6-faced dice. The function
returns TRUE if the token is correctly formatted and FALSE otherwise.

Value

TRUE if correctly formatted, FALSE otherwise.

Author(s)

Francois Michonneau

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generate_passphrase   *Generates a passphrase*

Description

Generates a passphrase.

Usage

```
generate_passphrase(tokens = generate_token(7), verbose = TRUE, ...)
```

Arguments

tokens	a vector of character representing the tokens to be used to generate the passphrase. By default, 7 are randomly generated using generate_token(7).
verbose	if TRUE the passphrase is displayed as a message
...	additional parameters to be passed to [match_token](#)

Details

Given a wordlist and a number of words, this function generates a passphrase. You can control the wordlist you choose and whether the passphrase uses title case by providing additional arguments that will be passed to [match_token](#).

Value

a character string representing the passphrase

Author(s)

Francois Michonneau

See Also

[match_token](#), [generate_token](#)

Examples

```
generate_passphrase(tokens = generate_token(7, "pseudorandom"),
                     verbose = FALSE)
```

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generate_token	*Generate the tokens*

Description

Generates the tokens.

Usage

```
generate_token(n_words, method = c("pseudorandom", "random"))
```

Arguments

n_words	The number of tokens to generate.
method	The method used to draw the random numbers. See below for more details.

Details

This function generates as many tokens as needed to create the passphrase. Currently, two methods can be used to generate the random tokens.

1. The simplest and the default (`pseudorandom`) uses the function `sample` to simulate the dice rolls. Numbers generated this way are not truly random but are a decent approximation.

2. The other option (`random`) uses the `random` package that gets truly random numbers by converting atmospheric noise into numbers. The main issue is that someone could monitor your network and intercept the numbers that are being used. If you are concerned about this, use a physical dice.

Note that if you want to use the `random` method, you will need an internet connection. The service that provides these random numbers (http://www.random.org) has daily quotas, don't go too crazy (if you need to, you can purchase additional bits, see http://www.random.org/quota).

Value

A character vector representing the generated tokens.

Author(s)

Francois Michonneau

See Also

http://www.random.org the website that generates the true random numbers, and the random package from Dirk Eddelbuettel.

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match_token   *Match the token to a word*

Description

Retrieves the word corresponding to a given token.

Usage

```
match_token(token, wordlist = riceware::wordlist_en, title_case = TRUE)
```

Arguments

token	A correctly formatted token
wordlist	A `data.frame` with at least 2 columns: one named 'token' that contains the tokens, one named 'word' that contains the words corresponding to the tokens.
title_case	If `TRUE`, the first letter of each word in the passphrase will be capitalized

Details

Given a token and a list of words, this function returns the word matching the supplied token.

Value

A character vector of length 1 representing the word corresponding to the token.

Author(s)

Francois Michonneau

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wordlist_de   *Diceware word list (German)*

Description

The German Diceware word list as provided at http://world.std.com/~reinhold/diceware_german.txt. This list is provided by Benjamin Tenne under the terms of the GNU General Public License.

Usage

```
wordlist_de
```

Format

A `data.frame` with 2 columns: `token` a 5-digit number representing the results of 5 rolls of a dice, `word` the Diceware word corresponding to the dice rolls.

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wordlist_en   *Diceware word list (English)*

Description

The English Diceware word list as provided at http://world.std.com/~reinhold/diceware.wordlist.asc. To the extent that a word list is protected by copyright, A G Reinhold licenses its rights to the English Diceware Wordlist under the Creative Commons CC-BY 3.0 license. Diceware is a trademark of Arnold G. Reinhold.

Usage

```
wordlist_en
```

Format

A `data.frame` with 2 columns: `token` a 5-digit number representing the results of 5 rolls of a dice, `word` the Diceware word corresponding to the dice rolls.

wordlist_es	*Diceware word list (Spanish)*

Description

The Spanish Diceware word list as provided at http://world.std.com/~reinhold/diceware_espanol/DW-Espanol-1.txt. This list is provided by Manuel Palao, CISM, CISA (manuel@palao.com) under the terms of the GNU General Public License.

Usage

```
wordlist_es
```

Format

A data.frame with 2 columns: token a 5-digit number representing the results of 5 rolls of a dice, word the Diceware word corresponding to the dice rolls.

wordlist_fr	*Diceware word list (French)*

Description

The French Diceware list as provided at http://weber.fi.eu.org/software/diceware/src/francais.wordlist.asc. This list is provided by Matthieu Weber, no licensing information is provided.

Usage

```
wordlist_fr
```

Format

A data.frame with 2 columns: token a 5-digit number representing the results of 5 rolls of a dice, word the Diceware word corresponding to the dice rolls.

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wordlist_it   *Diceware word list (Italian)*

Description

The Italian Diceware list as provided at http://www.taringamberini.com/download/diceware_it_IT/word_list_diceware_in_italiano.txt. This list is provided by Tarin Gamberini under a GNU General Public License.

Usage

```
wordlist_it
```

Format

A `data.frame` with 2 columns: `token` a 5-digit number representing the results of 5 rolls of a dice, `word` the Diceware word corresponding to the dice rolls.

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wordlist_jp   *Diceware word list (Japanese)*

Description

The Japanese Diceware list as provided at http://s3.amazonaws.com/dotclue.org/diceware_jp.txt translated by Hiroshi Yuki, and provided in Romaji by J Greely. No license information provided.

Usage

```
wordlist_jp
```

Format

A `data.frame` with 2 columns: `token` a 5-digit number representing the results of 5 rolls of a dice, `word` the Diceware word corresponding to the dice rolls.

wordlist_sv	*Diceware word list (Swedish)*

Description

The Swedish Diceware list as provided at <http://x42.com/diceware/diceware-sv.txt> provided by by Magnus Bodin. No license information provided.

Usage

```
wordlist_sv
```

Format

A `data.frame` with 2 columns: `token` a 5-digit number representing the results of 5 rolls of a dice, `word` the Diceware word corresponding to the dice rolls.

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