Package 'SurveyDefense'

June 13, 2024

Type Package

Title Survey Defense Tool

Version 0.1.0

Description
This tool is designed to analyze up to 5 Fraud Detection Questions integrated into a survey, focusing on potential fraudulent participants to clean the survey dataset from potential fraud. Fraud Detection Questions and further information available at <https://surveydefense.org>.

License GPL-3

Encoding UTF-8

Depends R (>= 3.5.0)

Imports flextable

Suggests officer

RoxygenNote 7.3.1

NeedsCompilation no

Author Philipp Brüggemann [aut, cre]

Maintainer Philipp Brüggemann <philippbrueggemann@web.de>

Repository CRAN

Date/Publication 2024-06-13 10:20:04 UTC

Contents

FraudDetec1 *Fraud Detection Analysis Tool 1*

Description

Fraud Detection Analysis Tool 1

Usage

```
FraudDetec1(
  output_dir,
  data,
  FraudList,
  correct_answers = c(0, 0, 0, 0, 0),
  ...
)
```

Arguments

output_dir	Path specifying where the Word and HTML files will be saved.
data	The data frame containing all the survey data.
FraudList	A character vector of up to 5 Fraud Detection Questions.
correct_answers	A numeric vector representing correct answers for each question. Default is c(0, 0, 0, 0, 0).
...	Survey questions to be analyzed.

Value

A flextable object with the results.

Examples

```
if (requireNamespace("flextable", quietly = TRUE) && requireNamespace("officer", quietly = TRUE)) {
  library(flextable)
  library(officer)

  # Example data for fraud detection analysis
  Q1 <- c(4, 5, 3, 2, 5, 2)
  Q2 <- c(3, 4, 2, 5, 4, 3)
  Q3 <- c(5, 4, 3, 5, 4, 5)
  Q4 <- c(1, 2, 3, 4, 5, 2)
  Q5 <- c(5, 2, 2, 1, 4, 1)
  Q6 <- c(5, 2, 3, 5, 1, 2)
  Q7 <- c(5, 2, 4, 5, 3, 4)

  Fraud1 <- c(0, 1, 0, 0, 0, 0)
```

```
  Fraud2 <- c(0, 0, 0, 0, 0, 0)
  Fraud3 <- c(0, 1, 0, 0, 0, 0)
  Fraud4 <- c(0, 0, 1, 0, 0, 1)
  Fraud5 <- c(0, 0, 0, 1, 1, 1)

 Test_Data_Fraud <- data.frame(Q1, Q2, Q3, Q4, Q5, Q6, Q7, Fraud1, Fraud2, Fraud3, Fraud4, Fraud5)

  temp_dir <- tempdir()

  FraudDetec1(
    output_dir = temp_dir,
    data = Test_Data_Fraud,
    FraudList = c("Fraud1", "Fraud2", "Fraud3", "Fraud4", "Fraud5"),
    correct_answers = c(0, 0, 0, 0, 0),
    Q1, Q2, Q3, Q4, Q5, Q6, Q7
  )
}
```

`FraudDetec2` *Fraud Detection Analysis Tool 2*

Description

Fraud Detection Analysis Tool 2

Usage

```
FraudDetec2(
  output_dir,
  data,
  FraudList,
  correct_answers = c(0, 0, 0, 0, 0),
  ...
)
```

Arguments

`output_dir`	Path specifying where the Word and HTML files will be saved.
`data`	The data frame containing all the survey data.
`FraudList`	A character vector of up to 5 Fraud Detection Questions.
`correct_answers`	A numeric vector representing correct answers for each question. Default is `c(0, 0, 0, 0, 0)`.
`...`	Survey questions to be analyzed.

Value

A flextable object with the results.

Examples

```
if (requireNamespace("flextable", quietly = TRUE) && requireNamespace("officer", quietly = TRUE)) {
  library(flextable)
  library(officer)

  # Example data for fraud detection analysis
  Q1 <- c(4, 5, 3, 2, 5, 2)
  Q2 <- c(3, 4, 2, 5, 4, 3)
  Q3 <- c(5, 4, 3, 5, 4, 5)
  Q4 <- c(1, 2, 3, 4, 5, 2)
  Q5 <- c(5, 2, 2, 1, 4, 1)
  Q6 <- c(5, 2, 3, 5, 1, 2)
  Q7 <- c(5, 2, 4, 5, 3, 4)

  Fraud1 <- c(0, 1, 0, 0, 0, 0)
  Fraud2 <- c(0, 0, 0, 0, 0, 0)
  Fraud3 <- c(0, 1, 0, 0, 0, 0)
  Fraud4 <- c(0, 0, 1, 0, 0, 1)
  Fraud5 <- c(0, 0, 0, 1, 1, 1)

 Test_Data_Fraud <- data.frame(Q1, Q2, Q3, Q4, Q5, Q6, Q7, Fraud1, Fraud2, Fraud3, Fraud4, Fraud5)

  temp_dir <- tempdir()

  FraudDetec2(
    output_dir = temp_dir,
    data = Test_Data_Fraud,
    FraudList = c("Fraud1", "Fraud2", "Fraud3", "Fraud4", "Fraud5"),
    correct_answers = c(0, 0, 0, 0, 0),
    Q1, Q2, Q3, Q4, Q5, Q6, Q7
  )
}
```

`FraudDetec3` *Fraud Detection Analysis Tool 3*

Description

Fraud Detection Analysis Tool 3

Usage

```
FraudDetec3(
  output_dir,
  data,
  FraudList,
  correct_answers = c(0, 0, 0, 0, 0),
  ...
)
```

Arguments

output_dir	Path specifying where the Word and HTML files will be saved.
data	The data frame containing all the survey data.
FraudList	A character vector of up to 5 Fraud Detection Questions.
correct_answers	A numeric vector representing correct answers for each question. Default is c(0, 0, 0, 0, 0).
...	Survey questions to be analyzed.

Value

A flextable object with the results.

Examples

```
if (requireNamespace("flextable", quietly = TRUE) && requireNamespace("officer", quietly = TRUE)) {
  library(flextable)
  library(officer)

  # Example data for fraud detection analysis
  Q1 <- c(4, 5, 3, 2, 5, 2)
  Q2 <- c(3, 4, 2, 5, 4, 3)
  Q3 <- c(5, 4, 3, 5, 4, 5)
  Q4 <- c(1, 2, 3, 4, 5, 2)
  Q5 <- c(5, 2, 2, 1, 4, 1)
  Q6 <- c(5, 2, 3, 5, 1, 2)
  Q7 <- c(5, 2, 4, 5, 3, 4)

  Fraud1 <- c(0, 1, 0, 0, 0, 0)
  Fraud2 <- c(0, 0, 0, 0, 0, 0)
  Fraud3 <- c(0, 1, 0, 0, 0, 0)
  Fraud4 <- c(0, 0, 1, 0, 0, 1)
  Fraud5 <- c(0, 0, 0, 1, 1, 1)

 Test_Data_Fraud <- data.frame(Q1, Q2, Q3, Q4, Q5, Q6, Q7, Fraud1, Fraud2, Fraud3, Fraud4, Fraud5)

  temp_dir <- tempdir()

  FraudDetec3(
    output_dir = temp_dir,
    data = Test_Data_Fraud,
    FraudList = c("Fraud1", "Fraud2", "Fraud3", "Fraud4", "Fraud5"),
    correct_answers = c(0, 0, 0, 0, 0),
    Q1, Q2, Q3, Q4, Q5, Q6, Q7
  )
}
```

FraudDetec4 *Fraud Detection Analysis Tool 4*

Description

Fraud Detection Analysis Tool 4

Usage

```
FraudDetec4(
  output_dir,
  data,
  FraudList,
  correct_answers = c(0, 0, 0, 0, 0),
  ...
)
```

Arguments

output_dir	Path specifying where the Word and HTML files will be saved.
data	The data frame containing all the survey data.
FraudList	A character vector of up to 5 Fraud Detection Questions.
correct_answers	A numeric vector representing correct answers for each question. Default is c(0, 0, 0, 0, 0).
...	Survey questions to be analyzed.

Value

A flextable object with the results.

Examples

```
if (requireNamespace("flextable", quietly = TRUE) && requireNamespace("officer", quietly = TRUE)) {
  library(flextable)
  library(officer)

  # Example data for fraud detection analysis
  Q1 <- c(4, 5, 3, 2, 5, 2)
  Q2 <- c(3, 4, 2, 5, 4, 3)
  Q3 <- c(5, 4, 3, 5, 4, 5)
  Q4 <- c(1, 2, 3, 4, 5, 2)
  Q5 <- c(5, 2, 2, 1, 4, 1)
  Q6 <- c(5, 2, 3, 5, 1, 2)
  Q7 <- c(5, 2, 4, 5, 3, 4)

  Fraud1 <- c(0, 1, 0, 0, 0, 0)
```

```
  Fraud2 <- c(0, 0, 0, 0, 0, 0)
  Fraud3 <- c(0, 1, 0, 0, 0, 0)
  Fraud4 <- c(0, 0, 1, 0, 0, 1)
  Fraud5 <- c(0, 0, 0, 1, 1, 1)

 Test_Data_Fraud <- data.frame(Q1, Q2, Q3, Q4, Q5, Q6, Q7, Fraud1, Fraud2, Fraud3, Fraud4, Fraud5)

  temp_dir <- tempdir()

  FraudDetec4(
    output_dir = temp_dir,
    data = Test_Data_Fraud,
    FraudList = c("Fraud1", "Fraud2", "Fraud3", "Fraud4", "Fraud5"),
    correct_answers = c(0, 0, 0, 0, 0),
    Q1, Q2, Q3, Q4, Q5, Q6, Q7
  )
}
```

`FraudDetec5` *Fraud Detection Analysis Tool 5*

Description

Fraud Detection Analysis Tool 5

Usage

```
FraudDetec5(
  output_dir,
  data,
  FraudList,
  correct_answers = c(0, 0, 0, 0, 0),
  ...
)
```

Arguments

`output_dir`	Path specifying where the Word and HTML files will be saved.
`data`	The data frame containing all the survey data.
`FraudList`	A character vector of up to 5 Fraud Detection Questions.
`correct_answers`	A numeric vector representing correct answers for each question. Default is `c(0, 0, 0, 0, 0)`.
`...`	Survey questions to be analyzed.

Value

A flextable object with the results.

Examples

```
if (requireNamespace("flextable", quietly = TRUE) && requireNamespace("officer", quietly = TRUE)) {
  library(flextable)
  library(officer)

  # Example data for fraud detection analysis
  Q1 <- c(4, 5, 3, 2, 5, 2)
  Q2 <- c(3, 4, 2, 5, 4, 3)
  Q3 <- c(5, 4, 3, 5, 4, 5)
  Q4 <- c(1, 2, 3, 4, 5, 2)
  Q5 <- c(5, 2, 2, 1, 4, 1)
  Q6 <- c(5, 2, 3, 5, 1, 2)
  Q7 <- c(5, 2, 4, 5, 3, 4)

  Fraud1 <- c(0, 1, 0, 0, 0, 0)
  Fraud2 <- c(0, 0, 0, 0, 0, 0)
  Fraud3 <- c(0, 1, 0, 0, 0, 0)
  Fraud4 <- c(0, 0, 1, 0, 0, 1)
  Fraud5 <- c(0, 0, 0, 1, 1, 1)

 Test_Data_Fraud <- data.frame(Q1, Q2, Q3, Q4, Q5, Q6, Q7, Fraud1, Fraud2, Fraud3, Fraud4, Fraud5)

  temp_dir <- tempdir()

  FraudDetec5(
    output_dir = temp_dir,
    data = Test_Data_Fraud,
    FraudList = c("Fraud1", "Fraud2", "Fraud3", "Fraud4", "Fraud5"),
    correct_answers = c(0, 0, 0, 0, 0),
    Q1, Q2, Q3, Q4, Q5, Q6, Q7
  )
}
```

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