Package: MSMGOptimizer (via r-universe)

November 26, 2026

Type Package

Title Mine Sustainability Modeling Group (MSMG) 'SimaPro' CSV Optimizer

Version 0.1.0

Description A 'Shiny' application for converting 'Excel'-based Life Cycle Inventory (LCI) data into 'SimaPro' CSV (Comma-Separated Values) format for use in Life Cycle Assessment (LCA) modeling. Developed by the Mine Sustainability Modeling Group (MSMG) at Missouri University of Science and Technology under NSF (National Science Foundation) funding (Award No. 2219086). See Pizzol (2022) <https://github.com/massimopizzol/Simapro-CSV-converter> for the original 'Python' implementation that inspired this tool.

URL https://github.com/Duah-Philip/MSMGOptimizer

BugReports https://github.com/Duah-Philip/MSMGOptimizer/issues

Depends R (>= 4.0.0)

License Apache License (>= 2)

Encoding UTF-8

Imports shiny (>= 1.10.0), shinydashboard (>= 0.7.3), readxl (>= 1.4.5), dplyr (>= 1.1.0), DT (>= 0.33), waiter (>= 0.2.5), htmltools (>= 0.5.8.1), zip (>= 2.3.0)

RoxygenNote 7.3.2

Suggests knitr, rmarkdown, spelling, testthat (>= 3.0.0)

VignetteBuilder knitr

Config/testthat/edition 3

Language en-US

NeedsCompilation no

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`msmg_example` *Get Path to MSMG (Mine Sustainability Modeling Group) Example Files*

Description

Returns the file path to bundled tutorial and example setup files included with the MSMGOptimizer package. These files are stored in the package's `inst/extdata` directory and can be used as templates for preparing Life Cycle Inventory (LCI) data for conversion with the `ShinyMSMGOptimizer()` application.

Available files:

- `"Setup_File.xlsx"` — Standard single-product LCI (Life Cycle Inventory) template
- `"Multiproduct_Setup_File.xlsx"` — Template for processes with multiple co-products
- `"Sheet_by_Sheet_Setup_File.xlsx"` — Template where each worksheet represents one LCI process
- `"Tutorial.docx"` — Step-by-step tutorial document

Usage

```
msmg_example(file = NULL)
```

Arguments

`file`	Character string. Name of a specific file to retrieve. If `NULL` (default), returns the path to the `extdata` directory containing all bundled files.

Value

A character string giving the absolute file path to the requested file or directory. If `file = NULL`, returns the path to the `extdata` directory. If a specific file is requested, returns the full path to that file. Raises an error if the requested file does not exist in the package.

Examples

```
# List all bundled example files
list.files(msmg_example())

# Get the path to a specific setup file
msmg_example("Setup_File.xlsx")

# Check that the tutorial file exists
file.exists(msmg_example("Tutorial.docx"))
```

`ShinyMSMGOptimizer` *Launch the MSMG 'SimaPro' CSV Optimizer 'Shiny' Application*

Description

Launches a 'Shiny' (web application framework for R) application that converts 'Excel'-based Life Cycle Inventory (LCI) data into 'SimaPro' CSV (Comma-Separated Values) format compatible with the 'SimaPro' Life Cycle Assessment (LCA) software. The app provides an interactive interface for uploading 'Excel' files, previewing worksheet contents, converting all sheets to individual CSV files, and downloading the results as a ZIP (compressed archive) file. Developed by the Mine Sustainability Modeling Group (MSMG) at Missouri University of Science and Technology.

Usage

```
ShinyMSMGOptimizer()
```

Value

No return value. This function is called for its side effect of launching an interactive 'Shiny' application in the user's default web browser or 'RStudio' viewer pane.

See Also

`msmg_example` for accessing bundled example files.

Examples

```
if (interactive()) {
  ShinyMSMGOptimizer()
}
```

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