

Development of package **pisar**

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1 Preparation

Set package source directory

```
> purl <- TRUE
> (pkgPath <- gsub("/R/", "/R/packages/", dirname(getwd())))
[1] "D:/OMIKE/pisar"
> (pkgPath <- gsub("/R/", "/R/packages/", dirname(getwd())))
[1] "D:/OMIKE/pisar"
> (pkgName <- basename(dirname(getwd())))
[1] "pisar"
> dir(pkgPath)
[1] "DESCRIPTION" "doc" "inst" "man"
[5] "NAMESPACE" "NAMESPACE.bak" "out" "packrat"
[9] "pisar.prj" "pisar.prj.bak" "pisar.Rproj" "R"
[13] "README.md"
> dir(file.path(pkgPath, "R"))
[1] "pisar-api.R" "pisar-initialize.R" "pisar.pdf"
> fctFile <- c("pisar-initialize.Rnw", "pisar-api.Rnw")
> (pkgFile <- gsub("\\.Rnw$", "\\R", fctFile))
[1] "pisar-initialize.R" "pisar-api.R"
```

Files and directories:

Original R source file(s): `pisar-initialize.Rnw`, `pisar-api.Rnw`

Package directory: `D:/OMIKE/pisar`

Package source file(s): `pisar-initialize.R`, `pisar-api.R`

```
> childtxt <- ""

> for (i in 1:length(fctFile)) {
+   childtxt <- paste(childtxt, knit_child(file.path("../doc", fctFile[i]),
+       quiet = TRUE))
+ }
```

2 Export as source for package

perform steps for building a package. Extract code, make documentation files (*.Rd), build a package.

2.1 Extract code

Code is extracted to `pkgPath`.

```
> childtxt <- ""
> for (i in 1:length(fctFile)) {
+   cat(fctFile[i], "\n")
+   childtxt <- paste(childtxt, purl(file.path("../doc", fctFile[i]), output
+       "R", pkgFile[i]))
+ }
```

`pisar-initialize.Rnw`

processing file: `../doc/pisar-initialize.Rnw`

	0%
..	3%
....	7%
.....	10%
.....	14%
.....	17%
.....	21%
.....	24%
.....	28%
.....	31%
.....	34%
.....	38%
.....	41%
.....	45%
.....	48%
.....	52%

```

|
| ..... | 55%
|
| ..... | 59%
|
| ..... | 62%
|
| ..... | 66%
|
| ..... | 69%
|
| ..... | 72%
|
| ..... | 76%
|
| ..... | 79%
|
| ..... | 83%
|
| ..... | 86%
|
| ..... | 90%
|
| ..... | 93%
|
| ..... | 97%
|
| ..... | 100%

```

```

output file: D:/OMIKE/pisar/R/pisar-initialize.R
pisar-api.Rnw

```

```

processing file: ../doc/pisar-api.Rnw

```

```

|
| ..... | 0%
|
| ..... | 25%
|
| ..... | 50%
|
| ..... | 75%
|
| ..... | 100%

```

```

output file: D:/OMIKE/pisar/R/pisar-api.R

```

```

> dir(file.path(pkgPath, "R"))

```

```

[1] "pisar-api.R"          "pisar-initialize.R" "pisar.pdf"

```

```

D:/OMIKE/pisar/R/pisar-initialize.R D:/OMIKE/pisar/R/pisar-api.R

```

2.2 Documentation

Probably not needed if we do the check?

```
> devtools::document(pkgPath)
Updating pisar documentation
Warning: @note [D:\OMIKE\pisar\R\pisar-initialize.R#225]: requires a value
Writing NAMESPACE
Loading pisar
Writing NAMESPACE

> usethis::use_package("knitr")
<U+221A> Setting active project to 'D:/OMIKE/pisar'
* Refer to functions with `knitr::fun()`

> usethis::use_package("rio")
* Refer to functions with `rio::fun()`

> usethis::use_package("tools")
* Refer to functions with `tools::fun()`
```

2.3 Check

```
> # system.time(check <- devtools::check(pkgPath))  
> system.time(miss <- devtools::missing_s3(pkgPath))
```

Loading `pisar`

user	system	elapsed
0.58	0.18	0.78

2.4 Check results

```
> check()
```

```
Updating pisar documentation
```

```
Warning: @note [D:\OMIKE\pisar\R\pisar-initialize.R#225]: requires a value
```

```
Writing NAMESPACE
```

```
Loading pisar
```

```
Writing NAMESPACE
```

```
-- Building ----- pisar --
```

```
Setting env vars:
```

```
* CFLAGS      : -Wall -pedantic
```

```
* CXXFLAGS    : -Wall -pedantic
```

```
* CXX11FLAGS  : -Wall -pedantic
```

```
checking for file 'D:\OMIKE\pisar/DESCRIPTION' ...
```

```
checking for file 'D:\OMIKE\pisar/DESCRIPTION' ...
```

```
<U+221A> checking for file 'D:\OMIKE\pisar/DESCRIPTION' (712ms)
```

```
- preparing 'pisar': (15.1s)
```

```
checking DESCRIPTION meta-information ...
```

```
checking DESCRIPTION meta-information ...
```

```
<U+221A> checking DESCRIPTION meta-information
```

```
- excluding invalid files (7.3s)
```

```
Subdirectory 'R' contains invalid file names:
```

```
'pisar.pdf'
```

```
- checking for LF line-endings in source and make files and shell scripts
```

```
- checking for empty or unneeded directories
```

```
Removed empty directory
```


Removed empty directory 'pisar/doc'

Removed empty directory

Removed empty directory 'pisar/out'

Removed empty directory 'pisar/packrat'

- building 'pisar_0.1.0.9000.tar.gz'

-- Checking ----- pisar --

Setting env vars:

```
* _R_CHECK_CRAN_INCOMING_USE_ASPELL_ : TRUE
* _R_CHECK_CRAN_INCOMING_REMOTE_     : FALSE
* _R_CHECK_CRAN_INCOMING_            : FALSE
* _R_CHECK_FORCE_SUGGESTS_           : FALSE
```

-- R CMD check -----

Loading from R_PROFILE_USER [

Loading from R_PROFILE_USER [C:\Users\ablejec\AppData\Local\Temp\RtmpM9HEfo\native.enc

- using log directory 'C:/Users/ablejec/AppData/Local/Temp/RtmpM9HEfo/pisar.R
- using R version 3.5.3 (2019-03-11)
- using platform: x86_64-w64-mingw32 (64-bit)

- using session charset: CP1250

- using options '--no-manual --as-cran'

checking for file 'pisar/DESCRIPTION' ...

<U+221A> checking for file 'pisar/DESCRIPTION'

```

- checking extension type ... Package
- this is package 'pisar' version '0.1.0.9000'
- package encoding: UTF-8
  checking package namespace information ...

<U+221A> checking package namespace information
  checking package dependencies ...

  checking package dependencies ...

<U+221A> checking package dependencies (2.5s)
  checking if this is a source package ...

  checking if this is a source package ...

<U+221A> checking if this is a source package
<U+221A> checking if there is a namespace

  checking for executable files ...

  checking for executable files ...

<U+221A> checking for executable files (551ms)

  checking for hidden files and directories ...

  checking for hidden files and directories ...

<U+221A> checking for hidden files and directories
  checking for portable file names ...

  checking for portable file names ...

<U+221A> checking for portable file names

<U+221A> checking serialization versions

  checking whether package 'pisar' can be installed ...

  checking whether package 'pisar' can be installed ...

<U+221A> checking whether package 'pisar' can be installed (4.2s)
  checking installed package size ...

  checking installed package size ...

<U+221A> checking installed package size (435ms)

```

```

<U+221A>  checking package directory (431ms)
           checking DESCRIPTION meta-information ...

           checking DESCRIPTION meta-information ...

<U+221A>  checking DESCRIPTION meta-information (703ms)
<U+221A>  checking top-level files

           checking for left-over files ...

           checking for left-over files ...

<U+221A>  checking for left-over files
<U+221A>  checking index information
           checking package subdirectories ...

           checking package subdirectories ...

<U+221A>  checking package subdirectories
           checking R files for non-ASCII characters ...

           checking R files for non-ASCII characters ...

<U+221A>  checking R files for non-ASCII characters
           checking R files for syntax errors ...

           checking R files for syntax errors ...

<U+221A>  checking R files for syntax errors
           checking whether the package can be loaded ...

           checking whether the package can be loaded ...

<U+221A>  checking whether the package can be loaded
           checking whether the package can be loaded with stated dependencies ...

           checking whether the package can be loaded with stated dependencies ...

<U+221A>  checking whether the package can be loaded with stated dependencies
           checking whether the package can be unloaded cleanly ...

           checking whether the package can be unloaded cleanly ...

<U+221A>  checking whether the package can be unloaded cleanly
           checking whether the namespace can be loaded with stated dependencies ...

           checking whether the namespace can be loaded with stated dependencies ...

```

```

<U+221A>  checking whether the namespace can be loaded with stated dependencies
           checking whether the namespace can be unloaded cleanly ...

           checking whether the namespace can be unloaded cleanly ...

<U+221A>  checking whether the namespace can be unloaded cleanly (427ms)
           checking loading without being on the library search path ...

           checking loading without being on the library search path ...

<U+221A>  checking loading without being on the library search path (547ms)
           checking dependencies in R code ...

           checking dependencies in R code ...

<U+221A>  checking dependencies in R code (1s)
           checking S3 generic/method consistency ...

           checking S3 generic/method consistency ...

<U+221A>  checking S3 generic/method consistency (1s)
           checking replacement functions ...

           checking replacement functions ...

<U+221A>  checking replacement functions
           checking foreign function calls ...

           checking foreign function calls ...

<U+221A>  checking foreign function calls
           checking R code for possible problems ...

           checking R code for possible problems ...

<U+221A>  checking R code for possible problems (3.2s)
           checking Rd files ...

           checking Rd files ...

<U+221A>  checking Rd files
           checking Rd metadata ...

           checking Rd metadata ...

<U+221A>  checking Rd metadata
           checking Rd line widths ...

           checking Rd line widths ...

<U+221A>  checking Rd line widths
           checking Rd cross-references ...

```

```

    checking Rd cross-references ...

<U+221A>  checking Rd cross-references
    checking for missing documentation entries ...

    checking for missing documentation entries ...

<U+221A>  checking for missing documentation entries
    checking for code/documentation mismatches ...

    checking for code/documentation mismatches ...

<U+221A>  checking for code/documentation mismatches (758ms)
    checking Rd \usage sections ...

    checking Rd \usage sections ...

<U+221A>  checking Rd \usage sections (1.3s)


    checking Rd contents ...

    checking Rd contents ...

<U+221A>  checking Rd contents
    checking for unstated dependencies in examples ...

    checking for unstated dependencies in examples ...

<U+221A>  checking for unstated dependencies in examples


    checking examples ...

    checking examples ...

W  checking examples (1.6s)
    Found the following significant warnings:
      Warning: working directory was changed to 'C:/Users/ablejec/AppData/Local

    See
      'C:/Users/ablejec/AppData/Local/Temp/RtmpM9HEfo/pisar.Rcheck/00check.log'
    for details.

-- R CMD check results ----- pisar 0.1.0.9000 -----

```

Duration: 24.1s

> checking examples ... WARNING

Found the following significant warnings:

Warning: working directory was changed to 'C:/Users/ablejec/AppData/Local/

0 errors <U+221A> | 1 warning x | 0 notes <U+221A>

Error: R CMD check found WARNINGS

2.5 Build a package

Build the package

```
> devtools::build(pkgPath, manual = TRUE, quiet = FALSE)
```

```
checking for file 'D:\OMIKE\pisar/DESCRIPTION' ...
```

```
checking for file 'D:\OMIKE\pisar/DESCRIPTION' ...
```

```
<U+221A> checking for file 'D:\OMIKE\pisar/DESCRIPTION' (610ms)
```

```
- preparing 'pisar': (14s)
```

```
checking DESCRIPTION meta-information ...
```

```
checking DESCRIPTION meta-information ...
```

```
<U+221A> checking DESCRIPTION meta-information
```

```
- excluding invalid files (8.8s)
```

```
Subdirectory 'R' contains invalid file names:  
'pisar.pdf'
```

```
- checking for LF line-endings in source and make files and shell scripts
```

```
- checking for empty or unneeded directories
```

```
Removed empty directory
```

```
Removed empty directory 'pisar/doc'
```

```
Removed empty directory
```

```
Removed empty directory 'pisar/out'
```

```
Removed empty directory
```

Removed empty directory 'pisar/packrat'

building 'pisar_0.1.0.9000.tar.gz'

- building 'pisar_0.1.0.9000.tar.gz'

[1] "D:/OMIKE/pisar_0.1.0.9000.tar.gz"

> *devtools::load_all()*

Loading pisar

Install

> *devtools::install(pkgPath)*

checking for file 'D:\OMIKE\pisar/DESCRIPTION' ...

<U+221A> checking for file 'D:\OMIKE\pisar/DESCRIPTION' (637ms)

- preparing 'pisar': (14.4s)
checking DESCRIPTION meta-information ...

checking DESCRIPTION meta-information ...

<U+221A> checking DESCRIPTION meta-information

- excluding invalid files (6.6s)
Subdirectory 'R' contains invalid file names:
'pisar.pdf'

- checking for LF line-endings in source and make files and shell scripts

- checking for empty or unneeded directories

Removed empty directory

Removed empty directory 'pisar/doc'

Removed empty directory

Removed empty directory 'pisar/out'

Removed empty directory 'pisar/packrat'

- building 'pisar_0.1.0.9000.tar.gz'

Running "C:/PROGRA~1/R/R-35~1.3/bin/x64/Rcmd.exe" INSTALL \
"C:\Users\ablejec\AppData\Local\Temp\RtmpM9HEfo\pisar_0.1.0.9000.tar.gz" \
--install-tests

* installing to library 'D:/RUSER/R/win-library/3.5'

* installing *source* package 'pisar' ...

** R

** inst

** byte-compile and prepare package for lazy loading

** help

*** installing help indices

converting help for package 'pisar'

finding HTML links ... done

fileName	html
----------	------

fileType	html
----------	------

fsummary	html
----------	------

getLayer	html
----------	------

```

getMeta                                html

getRoot                                html

pisar                                  html

print.pISAMeta                         html

readMeta                              html

** building package indices

** testing if installed package can be loaded

*** arch - i386

*** arch - x64

* DONE (pisar)

In R CMD INSTALL

> ## str(out)(shell(paste( file.path(R.home('bin')), 'Rcmd.exe'), ' INSTALL
> ## --no-multiarch --with-keep.source', pkgPath) ,intern=FALSE))

Load

> devtools::load_all()
Loading pisar
> cat("Package:", pkgName, "\n")
Package: pisar
> library(pkgName, character.only = TRUE)
> help(package = (pkgName))

```

3 PDF documentation

```

> (pkgName <- basename(dirname(getwd())))
[1] "pisar"
> (instPath <- find.package(pkgName))
[1] "D:/OMIKE/pisar"
> pdfFile <- file.path(getwd(), paste(pkgName, "pdf", sep = "."))
> if (file.exists(pdfFile)) file.remove(pdfFile)
> system(paste(shQuote(file.path(R.home("bin")), "R")), "CMD", "Rd2pdf", shQuote
> dir(pattern = pkgName)
[1] "pisar-api.Rnw"           "pisar-functions.Rnw"
[3] "pisar-initialize.Rnw"    "pisar-initialize.tex"
[5] "pisar-makePkg.pdf"       "pisar-makePkg.Rnw"
[7] "pisar-makePkg.synctex"   "pisar-makePkg.tex"
[9] "pisar.pdf"

> help(package = (pkgName), help_type = "pdf")

Send package to R Windows builder

> devtools::build_win(pkgPath)

```

SessionInfo

Windows 10 x64 (build 17134)

- R version 3.5.3 (2019-03-11), x86_64-w64-mingw32
- Locale: LC_COLLATE=Slovenian_Slovenia.1250, LC_CTYPE=Slovenian_Slovenia.1250, LC_MONETARY=Slovenian_Slovenia.1250, LC_NUMERIC=C, LC_TIME=Slovenian_Slovenia.1250
- Running under: Windows 10 x64 (build 17134)
- Matrix products: default
- Base packages: base, datasets, graphics, grDevices, methods, stats, utils
- Other packages: devtools 2.2.1, knitr 1.25, pisaR 0.1.0.9000, usethis 1.5.1
- Loaded via a namespace (and not attached): assertthat 0.2.1, backports 1.1.5, callr 3.3.2, cellranger 1.1.0, cli 1.1.0, clisymbols 1.2.0, commonmark 1.7, compiler 3.5.3, crayon 1.3.4, curl 4.2, data.table 1.12.4, desc 1.2.0, digest 0.6.21, ellipsis 0.3.0, evaluate 0.14, forcats 0.4.0, foreign 0.8-72, formatR 1.7, fs 1.3.1, glue 1.3.1, haven 2.1.1, hms 0.5.1, magrittr 1.5, memoise 1.1.0, openxlsx 4.1.0.1, pillar 1.4.2, pkgbuild 1.0.6, pkgconfig 2.0.3, pkgload 1.0.2, prettyunits 1.0.2, processx 3.4.1, ps 1.3.0, purrr 0.3.2, R6 2.4.0, rcmdcheck 1.3.3, Rcpp 1.0.2, readxl 1.3.1, remotes 2.1.0, rio 0.5.16, rlang 0.4.0, roxygen2 6.1.1, rprojroot 1.3-2, rstudioapi 0.10, sessioninfo 1.1.1, stringi 1.4.3, stringr 1.4.0, tibble 2.1.3, tools 3.5.3, vctrs 0.2.0, withr 2.1.2, xfun 0.10, xml2 1.2.2, xopen 1.0.0, zeallot 0.1.0, zip 2.0.4

Project path: D:/OMIKE/pisar

Main file: ../doc/pisar-makePkg.Rnw

View as vignette

Project files can be viewed by pasting this code to R console:

```
> projectName <-"pisaR"; mainFile <-"pisar-makePkg"

> commandArgs()
> library(tkWidgets)
> openPDF(file.path(dirname(getwd()), "doc",
> paste(mainFile, "PDF", sep=". ")))
> viewVignette("viewVignette", projectName, #
> file.path("../doc", paste(mainFile, "Rnw", sep=". ")))
> #
```