Development of package **pisar**

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October 23, 2019

Contents

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] "_pkgdown.yml"  "DESCRIPTION"    "devel"         "doc"
 [5] "docs"          "inst"           "man"           "Meta"
 [9] "NAMESPACE"     "NAMESPACE.bak"  "out"           "pisar.prj"
[13] "pisar.prj.bak" "pisar.Rproj"    "R"             "README.md"
[17] "vignettes"

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

[1] "pisar-api-concordance.tex"
[2] "pisar-api.R"
[3] "pisar-initialize-concordance.tex"
[4] "pisar-initialize.R"
[5] "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("../devel", fctFile[i])
+         quiet = TRUE))
+ }
```

```
> childtxt <- ""
```

```
> for (i in 1:length(fctFile)) {
+     childtxt <- paste(childtxt, knit_child(file.path("../devel", 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("../devel", fctFile[i]),
+         output = file.path(pkgPath, "R", pkgFile[i])))
+ }
pisar-initialize.Rnw
```

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

```
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```

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  |
  |................................................................   |  97%
  |
  |..................................................................| 100%
output file: D:/OMIKE/pisar/R/pisar-initialize.R

pisar-api.Rnw


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

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  |...............                                                    |  25%
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  |.................................                                  |  50%
  |
  |..................................................                 |  75%
  |
  |..................................................................| 100%
```

5

```
output file: D:/OMIKE/pisar/R/pisar-api.R
> dir(file.path(pkgPath, "R"))
[1] "pisar-api-concordance.tex"
[2] "pisar-api.R"
[3] "pisar-initialize-concordance.tex"
[4] "pisar-initialize.R"
[5] "pisar.pdf"
```

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

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

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

2.2 Documentation

Probably not needed if we do the check?

```
> devtools::document(pkgPath)
Updating pisar documentation
Warning: @section [D:\OMIKE\pisar\R\pisar-initialize.R#18]: mismatched braces
Writing NAMESPACE
Loading pisar
Writing NAMESPACE
> usethis::use_package("knitr")
<U+221A> Setting active project to 'D:/OMIKE/pisar'
Warning in if (delta < 0) {: the condition has length > 1 and only the first e
Warning in if (delta > 0) {: the condition has length > 1 and only the first e
* 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
   0.50    0.17    0.87
```

2.4 Check results

```
> check()
Updating pisar documentation
Warning: @section [D:\OMIKE\pisar\R\pisar-initialize.R#18]: mismatched braces
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' (786ms)



-  preparing 'pisar': (1.5s)
   checking DESCRIPTION meta-information ...

   checking DESCRIPTION meta-information ...

<U+221A>  checking DESCRIPTION meta-information



-  installing the package to build vignettes


   creating vignettes ...

   creating vignettes ...

<U+221A>  creating vignettes (35.6s)



-  excluding invalid files (1.4s)
   Subdirectory 'R' contains invalid file names:
```

'pisar-api-concordance.tex' 'pisar-initialize-concordance.tex'
          '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/devel/TeX-Aux/TeX-Aux/Bkp'

    Removed empty directory 'pisar/devel/TeX-Aux/TeX-Aux'

Removed empty directory

    Removed empty directory 'pisar/devel/figs'

Removed empty directory

    Removed empty directory 'pisar/inst/extdata/_p_Demo/_I_Test/_S_Show/_A_Work

Removed empty directory

    Removed empty directory 'pisar/out'

Removed empty directory

    Removed empty directory 'pisar/vignettes/TeX-Aux/Bkp'

Removed empty directory

    Removed empty directory 'pisar/vignettes/TeX-Aux/TeX-Aux/Bkp'

Removed empty directory

    Removed empty directory 'pisar/vignettes/TeX-Aux/TeX-Aux'

```
-  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\RtmpmCSM3
   native.enc




-  using log directory 'C:/Users/ablejec/AppData/Local/Temp/RtmpmCSM3H/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' (351ms)


<U+221A>  checking for file 'pisar/DESCRIPTION'
-  checking extension type ... Package
-  this is package 'pisar' version '0.1.0.9000'
-  package encoding: UTF-8


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

   checking package dependencies ...

<U+221A>  checking package dependencies (2.8s)
   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 (772ms)
    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 ...

W  checking for portable file names
    Found the following file with a non-portable file name:


      devel/_Welcome · R packages.URL


    These are not fully portable file names.
    See section 'Package structure' in the 'Writing R Extensions' manual.




<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 (5.1s)
    checking installed package size ...

    checking installed package size ...

<U+221A>  checking installed package size (740ms)




<U+221A>  checking package directory (621ms)


<U+221A>  checking 'build' directory
    checking DESCRIPTION meta-information ...
```

```
    checking DESCRIPTION meta-information ...

N   checking DESCRIPTION meta-information (698ms)
    Package listed in more than one of Depends, Imports, Suggests, Enhances:
      'knitr'
    A package should be listed in only one of these fields.


N   checking top-level files
    Non-standard file/directory found at top level:
      'devel'
    checking for left-over files ...

    checking for left-over files ...

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

    checking index information ...

<U+221A>  checking index information (763ms)



    checking

    checking package subdirectories

    checking package subdirectories ...

    checking package subdirectories ...

<U+221A>  checking package subdirectories (707ms)
    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 ...
```

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```
<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 dependencie
   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 (421ms)
   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 (563ms)
   checking dependencies in R code ...

   checking dependencies in R code ...

<U+221A>  checking dependencies in R code (1.1s)
   checking S3 generic/method consistency ...

   checking S3 generic/method consistency ...

<U+221A>  checking S3 generic/method consistency (1.1s)
   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 ...

N  checking R code for possible problems (4.7s)
   pisa: no visible binding for global variable '.proot'
   pisa: no visible binding for global variable '.iroot'
   pisa: no visible binding for global variable '.sroot'
   pisa: no visible binding for global variable '.aroot'
   pisa: no visible binding for global variable '.imeta'
   pisa: no visible binding for global variable '.ameta'
```

```
pisa: no visible binding for global variable '.outfn'
pisa: no visible binding for global variable '.reproot'
pisa: no visible binding for global variable '.pname'
pisa: no visible binding for global variable '.iname'
pisa: no visible binding for global variable '.sname'
pisa: no visible binding for global variable '.aname'
pisa: no visible binding for global variable '.pmeta'
pisa: no visible binding for global variable '.smeta'
pisa: no visible binding for global variable '.inroot'
pisa: no visible binding for global variable '.pfn'
pisa: no visible binding for global variable '.ffn'
pisa: no visible binding for global variable '.rnwfn'
Undefined global functions or variables:
   .ameta .aname .aroot .ffn .imeta .iname .inroot .iroot .outfn .pfn
   .pmeta .pname .proot .reproot .rnwfn .smeta .sname .sroot
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 (966ms)
```
checking Rd \usage sections ...

checking Rd \usage sections ...
```

<U+221A> checking Rd \usage sections (1.4s)
```
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 sizes of PDF files under 'inst/doc' ...

    checking sizes of PDF files under 'inst/doc' ...

<U+221A> checking sizes of PDF files under 'inst/doc' (1.6s)
    checking installed files from 'inst/doc' ...

    checking installed files from 'inst/doc' ...

<U+221A> checking installed files from 'inst/doc'
    checking files in 'vignettes' ...

    checking files in 'vignettes' ...

<U+221A> checking files in 'vignettes'
    checking examples ...

    checking examples ...

<U+221A> checking examples (1.7s)

    checking for unstated dependencies in vignettes ...

    checking for unstated dependencies in vignettes ...

N checking for unstated dependencies in vignettes (661ms)
    'library' or 'require' calls not declared from:
      'RCurl' 'httr' 'jsonlite'
    checking package vignettes in 'inst/doc' ...

    checking package vignettes in 'inst/doc' ...

<U+221A> checking package vignettes in 'inst/doc'

    checking re-building of vignette outputs ...

```
    checking re-building of vignette outputs ...

W   checking re-building of vignette outputs (1.6s)
    Error in re-building vignettes:
       ...
    Quitting from lines 77-78 (FAIRdom-and-R.Rmd)
    Error: processing vignette 'FAIRdom-and-R.Rmd' failed with diagnostics:
    there is no package called 'RCurl'
    Execution halted




    See
      'C:/Users/ablejec/AppData/Local/Temp/RtmpmCSM3H/pisar.Rcheck/00check.log'
    for details.




-- R CMD check results ---------------------- pisar 0.1.0.9000 ----
Duration: 34.2s

> checking for portable file names ... WARNING
  Found the following file with a non-portable file name:
     devel/_Welcome · R packages.URL
  These are not fully portable file names.
  See section 'Package structure' in the 'Writing R Extensions' manual.

> checking re-building of vignette outputs ... WARNING
  Error in re-building vignettes:
     ...
  Quitting from lines 77-78 (FAIRdom-and-R.Rmd)
  Error: processing vignette 'FAIRdom-and-R.Rmd' failed with diagnostics:
  there is no package called 'RCurl'
  Execution halted

> checking DESCRIPTION meta-information ... NOTE
  Package listed in more than one of Depends, Imports, Suggests, Enhances:
     'knitr'
  A package should be listed in only one of these fields.

> checking top-level files ... NOTE
  Non-standard file/directory found at top level:
     'devel'

> checking R code for possible problems ... NOTE
  pisa: no visible binding for global variable '.proot'
  pisa: no visible binding for global variable '.iroot'
  pisa: no visible binding for global variable '.sroot'
  pisa: no visible binding for global variable '.aroot'
  pisa: no visible binding for global variable '.imeta'
  pisa: no visible binding for global variable '.ameta'
  pisa: no visible binding for global variable '.outfn'
```

```
pisa: no visible binding for global variable '.reproot'
pisa: no visible binding for global variable '.pname'
pisa: no visible binding for global variable '.iname'
pisa: no visible binding for global variable '.sname'
pisa: no visible binding for global variable '.aname'
pisa: no visible binding for global variable '.pmeta'
pisa: no visible binding for global variable '.smeta'
pisa: no visible binding for global variable '.inroot'
pisa: no visible binding for global variable '.pfn'
pisa: no visible binding for global variable '.ffn'
pisa: no visible binding for global variable '.rnwfn'
Undefined global functions or variables:
   .ameta .aname .aroot .ffn .imeta .iname .inroot .iroot .outfn .pfn
   .pmeta .pname .proot .reproot .rnwfn .smeta .sname .sroot

> checking for unstated dependencies in vignettes ... NOTE
  'library' or 'require' calls not declared from:
    'RCurl' 'httr' 'jsonlite'

0 errors <U+221A> | 2 warnings x | 4 notes x

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' ...
```

```
<U+221A>  checking for file 'D:\OMIKE\pisar/DESCRIPTION' (619ms)
```

```
—  preparing 'pisar': (1.3s)
   checking
```

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

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

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

```
—  installing the package to build vignettes
```

```
   creating vignettes ...
```

```
   creating vignettes ...
```

```
<U+221A>  creating vignettes (33.4s)
```

```
—  excluding invalid files (1.2s)
   Subdirectory 'R' contains invalid file names:
     'pisar-api-concordance.tex' 'pisar-initialize-concordance.tex'
     '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/devel/TeX-Aux/TeX-Aux/Bkp'

    Removed empty directory 'pisar/devel/TeX-Aux/TeX-Aux'

Removed empty directory

    Removed empty directory 'pisar/devel/figs'

Removed empty directory

    Removed empty directory 'pisar/inst/extdata/_p_Demo/_I_Test/_S_Show/_A_Work

Removed empty directory

    Removed empty directory 'pisar/out'

Removed empty directory

    Removed empty directory 'pisar/vignettes/TeX-Aux/Bkp'

Removed empty directory

    Removed empty directory 'pisar/vignettes/TeX-Aux/TeX-Aux/Bkp'

    Removed empty directory 'pisar/vignettes/TeX-Aux/TeX-Aux'

– 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)
data.table (1.12.4 -> 1.12.6) [CRAN]
digest     (0.6.21 -> 0.6.22) [CRAN]
Installing 2 packages: data.table, digest
Installing packages into 'D:/RUSER/R/win-library/3.5'
(as 'lib' is unspecified)


  There is a binary version available but the source version
  is later:
       binary source needs_compilation
digest 0.6.21 0.6.22              TRUE

package 'data.table' successfully unpacked and MD5 sums checked
Error: (converted from warning) cannot remove prior installation of package 'd
> ## 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)
[1] TRUE
> system(paste(shQuote(file.path(R.home("bin"), "R")), "CMD", "Rd2pdf", shQuot
> dir(pattern = pkgName)
 [1] "pisar-api.Rnw"               "pisar-functions.Rnw"
 [3] "pisar-initialize.Rnw"        "pisar-initialize.synctex(busy)"
 [5] "pisar-initialize.tex"        "pisar-makePkg.pdf"
 [7] "pisar-makePkg.Rnw"           "pisar-makePkg.synctex"
 [9] "pisar-makePkg.tex"           "pisar.pdf"


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

 Send package to R Windows builder

```
> devtools::build_win(pkgPath)
```

SessionInfo

Windows 10 x64 (build 17134) Warning in FUN(X[[i]], ...): DESCRIPTION file of package 'data.table' is missing or broken Error in FUN(X[[i]], ...): subscript out of bounds Project path: `D:/OMIKE/pisar`
Main file : `../devel/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("../devel",paste(mainFile,"Rnw",sep=".")))
> #
```