

Preparatory Steps and Work Environment

November 07, 2019

1 Preparatory steps

Prior to performing calculations, let us first set up our work environment. Create the following folder structure on your machine:

```
\MARS_data_files
  \input_data
    \BreakFree
      breakfree_quit_dates.csv
      Rice_EMAs.csv
      \puffMarker_data_and_dataQuality_phones_output
      \puffmarker_unzipped
    \OnTrack
    \PNS
      pns_quit_dates.csv
      Post_Quit_About_to_Slip.csv
      Post_Quit_About_to_Slip_Part2.csv
      Post_Quit_Already_Slipped.csv
      Post_Quit_Random.csv
      Post_Quit_Urge.csv
    \STEPS
  \output_data
    \BreakFree
    \OnTrack
    \PNS
    \STEPS
  \plots
    \BreakFree
    \OnTrack
    \PNS
    \STEPS
  \summary_stats
    \BreakFree
    \OnTrack
    \PNS
    \STEPS
```

Download the Github repository <https://github.com/jamieyap/MARS> and save contents to a folder named MARS on your machine. Run the following lines of code in an R console:

```
# Creates or reads existing user-specific .Renviron file
user.renvir = path.expand(file.path("~", ".Renvir"))

# Opens user-specific .Renvir file
file.edit(user.renvir)
```

After running this, an `.Renvir` file will pop up. Specify the location of the folder for input data, output data, code, plots, and summary statistics. For example on a machine running on a Windows OS, specify the following in the `.Renvir` file

```
path.code = "~/MARS"
```

```

path.input_data = "~/MARS_data_files/input_data"
path.output_data = "~/MARS_data_files/output_data"
path.plots = "~/MARS_data_files/plots"
path.summary_stats = "~/MARS_data_files/summary_stats"
folder.puffmarker_data = "puffMarker_data_and_dataQuality_phones_output"
folder.puffmarker_unzipped = "puffmarker_unzipped"

```

In the above, replace `~` with the path where the MARS folder is stored. Now, restart R so that these paths can be loaded into R's namespace.

2 List of packages used

- dplyr
- assertthat
- ggplot2

3 Display session information

To facilitate reproducibility, we display details on the set-up of our work environment when running power calculation computations in illustrative examples below.

```
sessionInfo()
```

```

## R version 3.6.1 (2019-07-05)
## Platform: x86_64-w64-mingw32/x64 (64-bit)
## Running under: Windows 10 x64 (build 18362)
##
## Matrix products: default
##
## locale:
##  [1] LC_COLLATE=English_United States.1252
##  [2] LC_CTYPE=English_United States.1252
##  [3] LC_MONETARY=English_United States.1252
##  [4] LC_NUMERIC=C
##  [5] LC_TIME=English_United States.1252
##
## attached base packages:
## [1] stats      graphics  grDevices  utils      datasets  methods    base
##
## other attached packages:
## [1] ggplot2_3.2.1    assertthat_0.2.1 dplyr_0.8.3      formatR_1.7
## [5] kableExtra_1.1.0 knitr_1.25        rmarkdown_1.15
##
## loaded via a namespace (and not attached):
##  [1] Rcpp_1.0.2      pillar_1.4.2     compiler_3.6.1
##  [4] tools_3.6.1     zeallot_0.1.0    digest_0.6.20
##  [7] gtable_0.3.0    evaluate_0.14    tibble_2.1.3
## [10] viridisLite_0.3.0 pkgconfig_2.0.2   rlang_0.4.0
## [13] rstudioapi_0.10 yaml_2.2.0        xfun_0.9
## [16] withr_2.1.2     stringr_1.4.0    http_1.4.1
## [19] xml2_1.2.2      vctrs_0.2.0      hms_0.5.1
## [22] grid_3.6.1      webshot_0.5.1    tidyselect_0.2.5
## [25] glue_1.3.1      R6_2.4.0         purrr_0.3.2

```

```
## [28] readr_1.3.1      magrittr_1.5      backports_1.1.4
## [31] scales_1.0.0     htmltools_0.3.6   rvest_0.3.4
## [34] colorspace_1.4-1 stringi_1.4.3      lazyeval_0.2.2
## [37] munsell_0.5.0     crayon_1.3.4
```