Preparatory Steps and Work Environment

November 14, 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
```

The `\puffMarker_data_and_dataQuality_phones_output` folder contains a zip file with puffmarker data for each participant. No files need to be placed in the `\puffmarker_unzipped` folder. Now, 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:

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

# Opens user-specific .Renviron file
file.edit(user.renviron)
```

After running this, an `.Renviron` 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 .Renviron 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   Running the R scripts

Once set up process described above is complete, the R scripts below can be run. Files in the `Depends on` column need to be run prior to running the files in the `R file` column.

3.1   Break Free

R file	Depends on	Description
breakfree-curate-data-01.R	None	Lapse to smoking datasets
breakfree-curate-data-02.R	breakfree-curate-data-01.R	Lapse to smoking datasets
breakfree-curate-data-03.R	None	Engagement dataset

3.2   PNS

R file	Depends on	Description
pns-curate-data-01.R	None	Lapse to smoking datasets
pns-curate-data-02.R	None	Engagement dataset

4   Display session information

To facilitate reproducibility, we display details on the set-up of our work environment 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     httr_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
```