JDemetra+ v3.x R ecosystem

P1: Overview of recent evolutions

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Table of Contents I

JDemetra+ algorithms in R (1/2)

By domain of use:

- Seasonal adjustment of low frequency data
  - rjd3x13 (Reg-Arima + x11 based decomposition)
  - rjd3tramoseats (Tramo+ AMB decomposition)
  - rjd3sts (Basic structural models)
  - rjd3stl (Local regression)
- Seasonal adjustment of high frequency data
  - rjd3highfreq (extended airline model + extended AMB decomposition)
  - rjd3x11plus (extended X11)
  - rjd3sts (basic structural models)
  - rjd3stl (local regression)

JDemetra+ algorithms in R (2/2)

By domain of use:

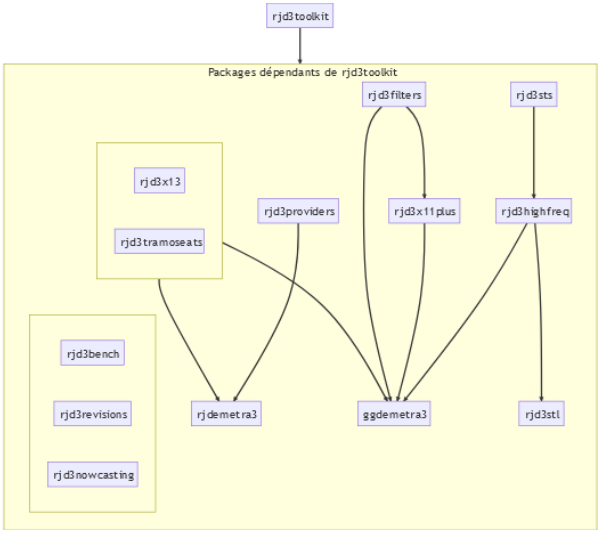
- Filtering and trend estimation
  - rjd3filters
  - rjd3x11plus (local polynomials)
- General purpose tools
  - rjd3toolkit (specifications, tests, regressors)
  - rjd3sts (state space framework)
  - rjd3filters (generating moving averages)

JDemetra+ algorithms in R (3/3)

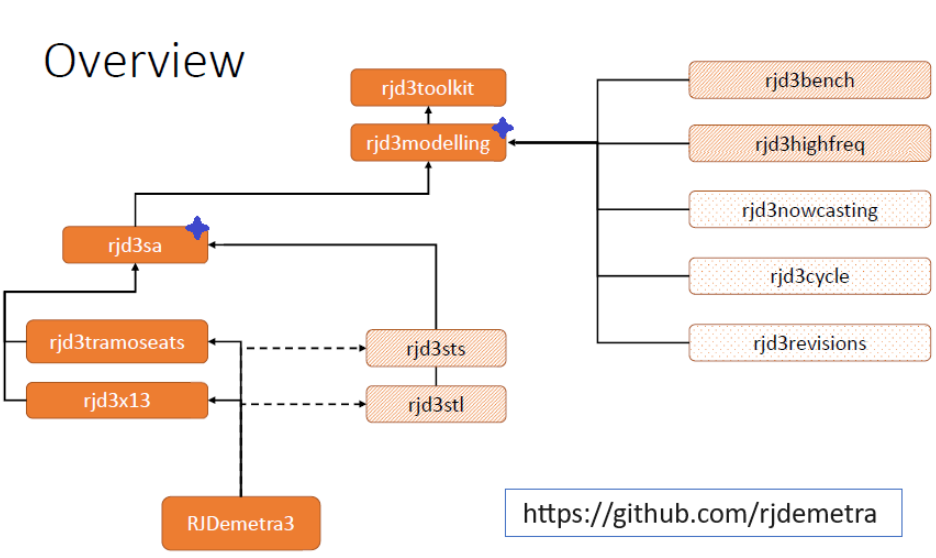
By domain of use:

- Tools related to GUI (workspaces)
  - rjd3providers (input data)
  - rjdemetra3 (workspace wrangling)
- Non Seasonal Adjustment related tools
  - rjd3bench (benchmarking and temporal disaggregation)
  - rjd3revisions (revision analysis)
  - rjd3nowcasting(nowcasting)

rjd3 ecosystem: current organisation



rjd3 ecosystem: (one) past organisation



Mindset of version 3

- modular organisation: independent more specific functions
- more "stand alone" tools (not only retrieving results from SA processing) such as
  - Tests (seasonality, auto-correlation, normality, randomness...)
  - (Fast) Arima Modelling
  - Flexible Calendar (and other) regressors generation
  - State space frame work as a toolbox (`rjd3sts`)
- extension to SA of high frequency data
- extension on non SA related tools, as well..

New acceptable data frequencies

- Low frequency data: p in $2, 3, 4, 6, 12$ is admissible in all algorithms
- In packages for HF data
  - no constraint on data input as no TS structure (numeric vector)
  - any seasonal patters, positive numbers

Installing packages

Installing (the develop version) from the new home GitHub repo

```
# install.packages("remotes")
remotes::install_github("rjdemetra/rjd3toolkit")
remotes::install_github("rjdemetra/rjd3x13")
remotes::install_github("rjdemetra/rjd3tramoseats")
remotes::install_github("rjdemetra/rjd3providers")
remotes::install_github("rjdemetra/rjd3filters")
remotes::install_github("rjdemetra/rjd3sts")
remotes::install_github("rjdemetra/rjd3highfreq")
remotes::install_github("rjdemetra/rjd3x11plus")
remotes::install_github("rjdemetra/rjd3stl")
remotes::install_github("rjdemetra/rjdemetra3")
remotes::install_github("rjdemetra/rjd3revisions")
remotes::install_github("rjdemetra/rjd3bench")
remotes::install_github("rjdemetra/rjd3nowcasting")
remotes::install_github("AQLT/ggdemetra3") #additional graphics
```

Documentation

What is "new"

- new repo dedicated to rjd3 exclusively: https://github.com/rjdemetra
- improved readme files
- improved function documentation in (almost) all R packages
- GitHub pages (linked in JD+ online documentation)

In JD+ online documentation: a dedicated chapter (tool perspective) but context and use are described when relevant in each algorithm.

Test and issues

- Testing and feedback are welcome
- Issues can (and should) be reported on GitHub

If you need assistance on that, we will be happy to help

Now, let's dive into some specifics....