compareWith

User-friendly diff viewing and VCS interaction

UseR! Toulouse, July 10\textsuperscript{th} 2019

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Issue

• Integration of **Version Control** tools in R and RStudio is still significantly behind what is desirable

• With the uprise of git and **GitHub** for R package development:
  • issues are being tackled through separate branches
  • contributors are more numerous and heterogeneous

• Command-line git interaction can cause additional problems
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- **compareWith** is a **R-package** that:
  - allows users to interact with **Meld** from within **RStudio**
  - provides addins that allow for:
    - comparing the same or two distinct files
    - editing files or directories
    - merging and resolving conflicts

https://github.com/miraisolutions/compareWith
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🔗 [https://github.com/miraisolutions/compareWith](https://github.com/miraisolutions/compareWith)
Compare with repo

Save file and choose addin
Compare with repo

Compare and edit
Three-way comparison!
Merge conflicts

```r
set.seed(12358)
x <- runif(10)
a <- x %>% foo_sum()
b <- x %>% foo_prod()
c <- x %>% foo_sqrt()
print(a)
print(b)
```

![Screenshot of a code editor with merge conflicts and a dialog box to mark conflicts as resolved.](image-url)
Merge conflicts

File Edit Changes View

miscellaneous bar.R(remote)

a <- x %>% foo_sum()

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File Edit Changes View

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Mark conflict as resolved?
If the conflict was resolved successfully, you may mark it as resolved now.

Cancel Mark Resolved
Command line functions

- From the RStudio **Console**:
  - `compare_with_other(path, location)`
  - `compare_with_repo(path)`
  - `compare_active_file_with_other(location)`
  - `compare_active_file_with_repo()`
  - `compare_project_with_repo()`

`path` to existing file / directory

`location` of the other file / directory
Installing compareWith

- Instructions to install the package are available in the README:

  - https://github.com/miraisolutions/compareWith#Installation

- remotes::install_github("miraisolutions/compareWith")

```r
> remotes::install_github("miraisolutions/compareWith")
Downloading GitHub repo miraisolutions/compareWith@master
✓ checking for file ‘/tmp/Rtmpg6f7jl/remotes9cc5cd5f39b/miraisolutions-compareWith-65e0072/DESCRIPTION’ ...
  - preparing ‘compareWith’:
  ✓ checking DESCRIPTION meta-information ...
  - checking for LF line-endings in source and make files and shell scripts
  - checking for empty or unneeded directories
  - building ‘compareWith_0.0.1.tar.gz’

Installing package into ‘/home/mirai_user/R/x86_64-pc-linux-gnu-library/3.6’
```
Conclusions and Remarks

• compareWith is a diff tool based on Meld that
  • provides user-friendly addins that enable and improve:
    • comparing the same or two distinct files
    • editing files or directories
    • merging and resolving conflicts
  • throws an error if:
    • Meld is not installed or version is not working properly
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