SciViews package

The SciViews package and its object browser

Eric Lecoutre[1] and Philippe Grosjean[2]

Abstract for the R User Conference, useR! 2004, Vienna

The `SciViews` package, which is in development since nearly one year, aims to provide useful graphical tools to work with `R` objects.

Some of those tools deals with importation/exportation of data, by example the exportation of a data frame to `SAS` by writing `SAS` code to the clipboard or to an external file.

Another class of functions defines *views* on objects. In `R`, we have `show` (S4 classes) or `print` (S3 classes) and `summary` for most objects. Here, we enlarge with other presentations of the content such as a report on missing values for instance. We use the `HTML` format that allows to embed graph, leading to complete output such as full reports for PCA (loadings, scores, screeplot, biplot,...). Views are written by calling functions from the `R2HTML` package, which use `CSS` styles. Thus, the look of all generated views may be changed by the user, through a custom `CSS` (Cascaded Stype Sheet) file. Moreover, we allow the user to easily define his own custom views.

The main feature of the package is available for Windows platform, as an add-in object browser that allows interaction with `R`. This object browser lists all objects within a `R` session, one can then filter by using predefined filters (data, data types, functions) or user-defined filters based on regular expressions. A `taskCallback()` function handles the autorefresh feature for the main workspace (.GlobalEnv). The `GUI` part of this object browser adds user friendly functionalities such as icons for objects, sorting abilities, selections and menus. Thus, the user could easily delete objects, export them, save his workspace, access to predefined views, change the display style (by changing the `CSS` file), etc.

This object browser is currently available for Windows plateform. The final objective is to both incorporate it in SciViews program[3] and to code a platform-independent version. Most code is either `R`, or `HTML` (for *views*), and both are platform-independent, so that only the graphical frontend interface must be rewritten to achieve this goal.

A first version of the `SciViews` package should be available in May 2004.

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[1]Institut de statistique, Université catholique de Louvain, Belgium, lecoutre@stat.ucl.ac.be

[2]Laboratoire d'écologie numérique, Université de Mons-Hainaut, Belgium, phgrosjean@sciviews.org

[3]SciViews, http://www.sciviews.org