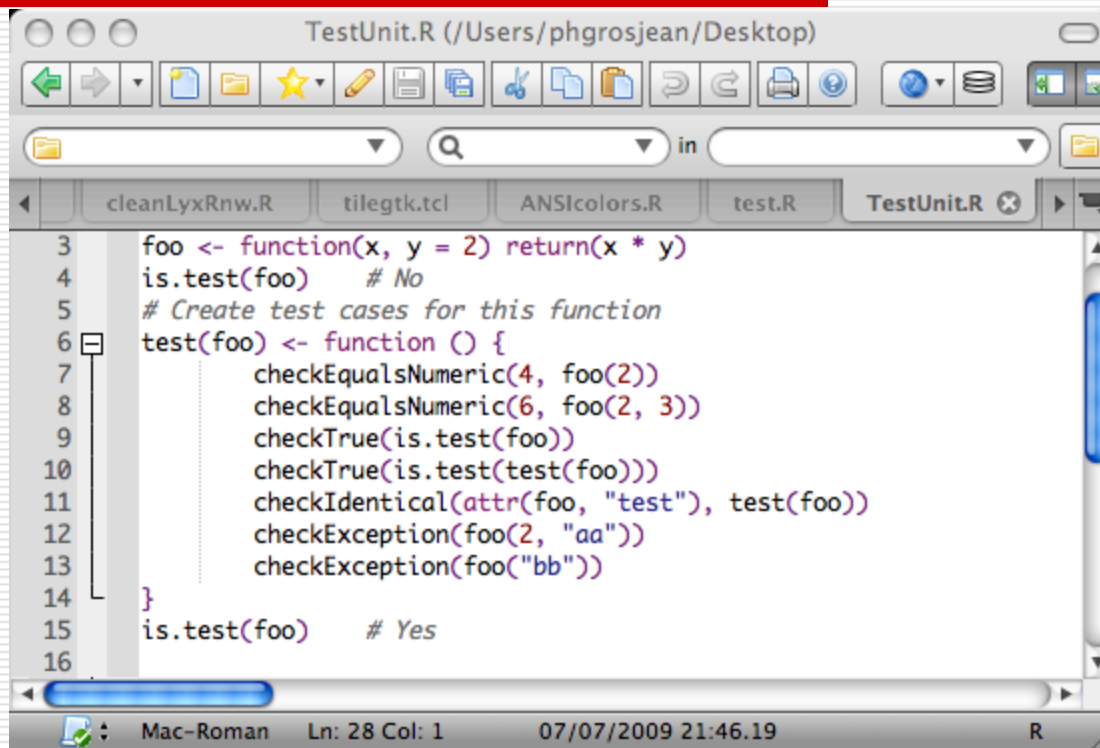


SciViews-K and Komodo Edit, a new platform-independent GUI/IDE for R

Ph. Grosjean, R. François & K. Barton



The screenshot shows a window titled "TestUnit.R (/Users/phgrosjean/Desktop)". The window contains a code editor with the following R code:

```
3  foo <- function(x, y = 2) return(x * y)
4  is.test(foo)      # No
5  # Create test cases for this function
6  test(foo) <- function () {
7      checkEqualsNumeric(4, foo(2))
8      checkEqualsNumeric(6, foo(2, 3))
9      checkTrue(is.test(foo))
10     checkTrue(is.test(test(foo)))
11     checkIdentical(attr(foo, "test"), test(foo))
12     checkException(foo(2, "aa"))
13     checkException(foo("bb"))
14 }
15 is.test(foo)      # Yes
16
```

The status bar at the bottom of the window displays "Mac-Roman Ln: 28 Col: 1 07/07/2009 21:46.19 R".



What is SciViews?

- **SciViews** was one of the first GUI for R (back to DSC 2003), with a feature-rich code editor, an R object browser, and integration of R Commander. The old SciViews runs only under Windows and is now replaced by ...
- **The new SciViews**, aims to provide the combined tools of the old one with Tinn-R features (a widely used R code editor for Windows).
- **SciViews-R, a series of R packages** to provide functions for the GUI/IDE at the R level: svGUI, svIDE, svSocket, svWidgets, svDialogs, tcltk2, ... (see <http://www.sciviews.org/SciViews-R>, also usable separately to build other GUIs, e.g., Zoolmage).
- **SciViews-K, a Komodo Edit plugin** adding interaction with R into this Open Source, and platform independent code Editor (see <http://www.sciviews.org/SciViews-K>).

Komodo Edit

- ❑ **Komodo Edit** (http://www.activestate.com/komodo_edit/) is a “free and open source multi-language editor that makes writing quality code easy”.
- ❑ It runs on **Windows, Mac OS X & Linux**
- ❑ It features classical standard and advanced editing fonctions, plus syntax coloring, code folding, projects, emacs bindings, ...
- ❑ It provides calltips and autocomplete and more...

```
    }  
  }  
  if ($this->data) $this->outputData();  
  $this->outputForm();  
}  
GuestBook  
/* GuestBook(dataFile)  
   GuestBook constructor  
   reads the initializes guestbook data data file  
*/  
function _getData() {
```

```
  if ($this->data) $this->o;  
  $this->outputForm  
}  
/*  
  _getData  
  reads the data from the guestbook data file  
*/  
function _getData() {  
  $lines = @file($this->gb_dat);  
  if ($lines) {
```

- SciViews-K makes Komodo Edit “R-aware”. It also features a series of additions: R object browser, Unit test integration and code snippets for “R beginners” with dialog boxes.

SciViews-R communication through svSocket

- ❑ svSocket is a powerful socket server in CLI mode.
- ❑ R is controlled in the background; the R console remains fully functional.
- ❑ Concurrent connection of several clients to the same port. Non-blocking computations for the clients.
- ❑ You can configure as many ports as you like.
- ❑ Fully bidirectional communication and uses asynchronous (non-blocking) communication, both in R and in Komodo (or any other client).

Unit testing with svUnit

- Unit compatible with Runit, but provides many more features:
 - Attach test to functions or any R objects
 - Automatic detection and execution of tests
 - Automatic construction of test units from loaded objects
 - Easy and flexible integration with R CMD check.

- Extreme programming approach (code the unit test first) and automatic generation of testing reports in Komodo everytime you save your file in 'auto' mode.

SciViews-K, little demo

- ...

Thank you for your attention

