R and spreadsheets -
combining different programming paradigms

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R has a rather steep learning curve due to the fact that it is a programming language and not a a menu driven program. Most users working with data are familiar with the spreadsheet paradigm, which among other things gives a view on data and on formulas underlying data simultaneously. Combining spreadsheet programs and R allows to embed the computational strength of R into the widely familiar spreadsheet model.

Our systems (RExcel based on the R/Scilab Server and ROOo based on the RUno extension for OpenOffice) make R accessible from within spreadsheet programs.

Since the paradigms of using a spreadsheet is radically different from using a programming language and also from using a menu driven statistics program, it is very important to design different user interfaces for different user groups of our integrated software system.

Different user groups to be considered are

- Learners and students of statistics with no programming background

- Experienced programmers with only little knowledge of statistics

- Users of "canned" statistical method

- Power users able to adapt existing statistical methods and adapt and design spreadsheet formulas

- Software developers preparing in house solutions for naive end users

We will show what kind of interfaces support which kind of user model, and we will also show how it is possible to integrate existing or newly written R packages directly into the spreadsheet model in any of these user models.