Rocessing: Interactive Visualizations in R

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Rocessing is a new package under development which combines *R* with *Processing* to produce highly interactive graphs and plots for Exploratory Data Analysis and presentation of data. *Processing* is an open source Java based language and environment which allows users to create images, animations and interact with data. There are two main objectives of this project:

- 1. Provide an in-depth visualization tool for analysing data in *R*.
- 2. Establish a platform that allows interactive applications written in *Processing* to be called from *R*.

Visualizing is often a key component of any analytical activity whether this is in the data cleansing stage, statistical modelling stage or the presentation of results. Being able to perform these tasks in an interactive manner can make these tasks simpler and quicker. In my presentation I will be going through a case study to show how **Rocessing** can be used at each step from data preperation and profiling right up to displaying the results of the analysis.

Rocessing utilises the **rJava** package to link *R* to *Processing*. The initial release scheduled for 20 April 2011 will provide interactive graphs such as scatterplots, histograms and mapping. In addition it will allow for user created *Processing* scripts to be called from *R*.

References

Fry, Ben (2008), Visualizing Data, O'Reilly Media, ISBN 0596514557.

Fry, Ben; Reas, Casey (2011). Processing, <u>http://processing.org</u>.

R Development Core Team (2010). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL http://www.Rproject.org.

Tufte, Edward R. (2001), The Visual Display of Quantitative Information, Graphics Press LLC.

Urbanek, Simon(2010). rJava: Low-level R to Java interface. R package version 0.8-6. http://CRAN.Rproject.org/package=rJava