Writing CRAN Task Views

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CRAN task views should provide some guidance which part of the growing number of packages on CRAN are useful for a certain topic. They should give a brief overview of the contained packages and allow automatic installation. Infrastructure for both tasks is provided in .ctv files, an XML-based specification of CRAN task views. The format is based on just a handful of new tags and is mostly self-explanatory. A brief artificial example is given here, more detailed explanations are given below:

<CRANTaskView>

```
<name>Econometrics</name>
<topic>Computational Econometrics</topic>
<maintainer email="Achim.Zeileis@R-project.org">Achim Zeileis</maintainer>
<version>2008-02-15
<info>
  Emphasize something <b>important</b> with standard HTML tags,
  and reference the package <pkg>foo</pkg> and also the view
  <view>MachineLearning</view>.
</info>
<packagelist>
  <pkg>foo</pkg>
  <pkg priority="core">bar</pkg>
</packagelist>
ks>
  <a href="http://path/to/homepage/">The Title of a Relevant Homepage</a>
  <view>MachineLearning</view>
</links>
```

</CRANTaskView>

The whole document is framed by an opening and closing <CRANTaskView> tag. Within these, there are six sections: <name>, <topic>, <maintainer>, <info>, <packagelist> and <links>.

<name> gives the name of the task view. This is used as the identifier for installing the view
and as the name for the XML file, e.g., Econometrics.ctv, and the auto-generated HTML file,
e.g., Econometrics.html. Hence, it should be not too long and contain no special characters like
spaces.

<topic> is a plain text specification of the topic of the task view. (Note that in XML files there are three special characters <, > and & that need to be escaped by their HTML counterparts.)

<maintainer> gives the name of the maintainer in plain text with support for specification of an e-mail address.

<version> is specified by a date (in ISO format).

<info> should be a short description of the packages that explains which packages are useful
for which tasks. It can also contain any further informations and should be written in plain
HTML code, i.e., any HTML markup can be used (preferably following XHTML conventions).
There are five additional tags available: <pkg>, <view>, <bioc>, <ohat>, <rforge>, <gcode>,
and <code>. <pkg> and <view> should be used as markup for packages and views (in the same
repository), respectively. During generation of the corresponding HTML file, they will be replaced by hyperlinks to the packages/views. Similarly, <bioc>, <ohat>, <rforge>, and <gcode>
can be used to refer to projects on Bioconductor, Omegahat, R-Forge, and Google Code. These
will be replaced by the appropriate hyperlinks to the project on http://www.Bioconductor.org/,
http://www.Omegahat.org/, http://R-Forge.R-project.org/, and http://Code.Google.com/,
respectively. Finally, <code> can be used as markup for R code which will simply be set in a typewriter font.

<packagelist> contains the list of packages associated with the view. It should contain (at
least) all packages mentioned in the <info> section and allows for a distinction between "core"
and "normal" (default) priority packages. The distinction is only important for the installation
of certain views because the user can specify whether all packages (default) or only the most
important core packages should be installed (with all their dependencies).

is a means of specifying further places where information about the discussed topic and related issues is discussed, e.g., manuals/books/tutorials on how to do Econometrics, say, with R.

Remark: If you need to include special characters, e.g., an umlaut, in a .ctv file, you can do so in the <info> section by simply writing it in HTML code (note, however, that & is the escape character in XML/HTML). Otherwise, you can include special characters in UTF-8 encoding provided you add the declaration <?xml version="1.0" encoding="UTF-8"?> in the first line of the .ctv file. This applies in particular if you need an umlaut in the <maintainer> field.

For a template of a .ctv file, look at the included Econometrics.ctv. It can be read and printed by

```
> library("ctv")
> x <- read.ctv(file.path(.find.package("ctv"), "ctv", "Econometrics.ctv"))
> x
```

CRAN Task View

Name: Econometrics

Topic: Computational Econometrics

Maintainer: Achim Zeileis

Contact: Achim.Zeileis@R-project.org

Version: 2008-11-03

Packages: AER, bayesm, betareg, bivpois, boot, bootstrap, car*, CDNmoney,

crq, Design, dlm, dse, dyn, dynlm, Ecdat, FinTS, forecasting,
Hmisc, ineq, its, lmtest*, Matrix, meboot, mFilter, micEcon,

mlogit, MNP, MSBVAR, nlme, np, plm*, pscl, pwt, quantreg, reldist,

sampleSelection, sandwich*, sde, segmented, sem, simpleboot,

SparseM, strucchange, systemfit, timeSeries, tseries*, tsfa, urca*,

uroot, vars, VR, zoo*
(* = core package)

The resulting object can be transformed into HTML by ctv2html(x). Once this view has been installed at a CRAN-style repository as http://CRAN.R-project.org/web/views/, it can be installed by the user by install.views("Econometrics").