README File

Raquel Database System

The Raquel Database System uses RAQUEL (= **R**elational **A**lgebra **Q**uery, **U**pdate and **E**xecutive **L**anguage) as a programming language that utilises up-to-date relational database concepts (as specified in *The Third Manifesto*) and so is automatically object-relational.

The Raquel Database System has a 'Lego-like' architecture of building blocks and plug-ins (c.f. a monolithic architecture) to provide wider applicability and flexibility.

Comprehensive information about the Raquel Database System and the project that is supporting its development is to be found at

> http://computing.northumbria.ac.uk/raquelDBsystem/

The Raquel Database System needs a 'Driver Application' to supply it with statements to execute and receive back the results of executing the statements. So a GUI frontend to the DBMS is also provided to act as a Driver Application.

The Raquel GUI is (also) known as the Raquel Teaching Tool, because it is designed to allow a user to easily pick up, explore, and experiment with using the RAQUEL notation.

The Raquel DBMS and GUI/Teaching Tool are available for Linux/Unix systems.

The source code for the DBMS and GUI/Teaching Tool can be downloaded for installation, each in its own tar.gz file, from SourceForge at

> http://sourceforge.net/projects/raqueldbsystem/files/

The Sourceforge homepage for the Raquel Database System is at

> http://raqueldbsystem.sourceforge.net/

Note that the Raquel GUI/Teaching Tool uses Tcl/Tk, which therefore should be already installed. See the TCLTK_ON_LINUX file for supporting information about its installation. (The Raquel DBMS does *not* use Tcl/Tk).

In addition to source code, the tar.gz files supplied also have :

- Autotool files to automate the build and installation of the software;
- Information files about the Raquel DBMS and the Raquel GUI/Teaching Tool. They are held in a separate directory called 'Information'. The files are typical Open Source 'Boilerplate' files, plus other information files that are all (with their contents) noted below.

  In addition to the information files (which are actually common to both the DBMS and the GUI/Teaching Tool) the directory contains a subdirectory. The DBMS tar.gz file has a subdirectory called DBMS containing files specific to the DBMS. Likewise the GUI/Teaching Tool tar.gz file has a subdirectory called TeachingTool containing files specific to the GUI/Teaching Tool.

The Raquel DBMS is very much a prototype, with a limited functionality. It focuses on a subset of the Raquel notation to illustrate what a full-strength implementation of the Raquel notation would be like. In particular it provides a set of 12 Join operators (plus Cartesian Product as a special case of a join) – possibly the most comprehensive set of Joins available ? The FEATURES.DBMS file lists the current features of the Raquel DBMS.

The Raquel GUI/Teaching Tool may be considered a straightforward product at the beta level of development. The FEATURES.GUI file summarises the functionality it provides.

The INSTALL.DBMS+GUI file provides specific instructions for downloading, compiling and installing the DBMS and GUI/Teaching Tool. Note that currently installing the DBMS and GUI/Teaching Tool as a combined product is currently the only working option.

The INSTALLED file gives a general overview and background to the installation of the Raquel DBMS and Teaching Tool.

The INSTALLATION_FILES file lists all the Autotool files and others required by the automated installation process.

The CHANGES.DBMS and CHANGES.GUI files summarise changes to the DBMS and GUI in reverse chronological order.

The Raquel DBMS and GUI/Teaching Tool are being developed under the GNU Lesser General Public License (= LGPL). The details are given in file COPYING.LESSER. Because LGPL is a set of additional permissions on top of the GNU GPL, details of GPL are also given, in file COPYING. See also the GNU website at

> http://www.gnu.org/copyleft/lesser.html and

> http://www.gnu.org/copyleft/gpl.html

for full details of the licenses and their usage.

To report concerns or information to the Raquel Database System project, please send an email with the details to
> david.livingstone@northumbria.ac.uk