

genertest: a package for the developing exams in R

Lara Lusa*

*Institute for Biostatistics and Medical Informatics, University of Ljubljana, Slovenia; lara.lusa@mf.uni-lj.si

Keywords: Teaching, Sweave, RExcel

Preparing the tests for written examinations can be a very time-consuming task for instructors. Test preparation can be even more demanding if some stratagem has to be adopted to prevent students from cheating during written exams, for instance when multiple versions of same test are necessary.

Many instructors collect the past tests in electronic format and maintain an updated questions database. The availability of a questions database can considerably reduce the time needed for the preparation of tests for new examinations especially if some specialized software for the preparation of tests is used.

This paper presents **genertest**, an R package for development of tests. The questions to include in the test can be sampled based on their topic and/or on the number of points; the user can decide how many versions of the test should be produced, if the order of the questions and/or sub-questions should be permuted, etc. The tests can be customized providing the name of the course and date of the examination, and languages different than English can be used. The database of questions needed for using **genertest** is a tab-delimited text file and it has a simple structure. **Sweave** syntax can be used in the formulation of questions and answers, and the tests can contain pictures.

genertest can be invoked also from Microsoft [®]Office Excel (Excel), where the end-user can specify how to generate the tests answering to twenty questions in "plain-English" contained in an Excel spreadsheet, and obtain the printable tests simply by invoking an Excel macro written in Visual Basic for Applications. To manage the connection between Excel and R we use the RExcel add-in for Excel together with the statconn server and rcom package, all of which were developed within the statconn project (Baier and Neuwirth, 2007).

The package is available at
<http://sites.google.com/site/lara3107/Home/software/genertest>.

References

Thomas Baier and Erich Neuwirth (2007). Excel :: Com :: R. *Computational Statistics*, 22:91–108.