# Using WebGrid in Your Research and Teaching

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## Abstract

WebGrid is a freely available web service for repertory grid elicitation and analysis that may be used by anyone with access to the Internet through a web browser. It is in use by thousands of people world-wide, including professionals who have made it an integral part of their research and teaching. This workshop is designed to demonstrate WebGrid in use, to show potential users how they may use it effectively, and to ensure that experienced users have full access to all its capabilities.

## Summary

WebGrid III is the latest in a series of computer-based repertory grid elicitation and analysis programs commencing in 1975. The objective of WebGrid has been to make personal construct psychology methods freely available to researchers, teachers, students and the public at large world-wide. We ported the basic technology (RepGrid) to the web in 1994 and WebGrid has come into use internationally from ’94 on with over 10,000 users.

WebGrid provides interactive grid elicitation and analysis features incorporating continuous feedback from the analysis to improve the quality of the elicitation. The screens are designed to be easy to use with those with little computer experience, and the default analyses provide interesting feedback to initial users with no knowledge of repertory grid techniques.

The available analyses include FOCUS clustering, principal components mapping and production rule generation, each fully supported with both graphical and numerical output, control of parameters, and interaction with the elicitation and editing processes.

WebGrid is not just a port of our personal computer repertory grid elicitation and analysis programs, but takes full advantage of features of the World Wide Web and Internet. It supports the use of national character sets in web browsers and hence allows constructs and elements to be entered in the local language. It allows images, sounds and movies to be used as elements. It supports distributed elicitation of grids with a common set of elements and comparisons between grids elicited this way.

WebGrid allows grids elicited to be stored on the users’ local computers. It also allows a researcher or teacher to register one or more directories, store grids in them, make them

available to clients, students or subjects, and automatically collect the resultant grids in the researchers' or teachers' directories.

Grids elicited can be downloaded in a form suitable for loading in a spreadsheet or database so that researchers can carry out their own forms of analysis if they wish.

WebGrid extends the range of data types that can be elicited in a grid to include rating scales with different ranges, categorical data and numeric data.

The workshop will include live demonstrations of all the features of WebGrid with explanations of how to use them.

**Instructors**

Brian Gaines and Mildred Shaw are well-known personal construct psychology researchers who have presented papers on PCP and repertory grids at many conferences world-wide. They have also presented major tutorials to large audiences at a number of major conferences, including the World Wide Web conference, the International Joint Conference on Artificial Intelligence, Computer Supported Cooperative Learning, Knowledge Acquisition and Machine Learning. They retired and became Professor Emeriti from the University of Calgary in 2000, Brian from the Killam Chair and Mildred from the Industrial Research Chair in Software Engineering.

# NAPCN2002 Workshop

## *Using WebGrid in Your Research and Teaching*

**Brian Gaines & Mildred Shaw, 11th July 2002, 4.30-6.00**

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**Access**: There are two WebGrid servers, **http://tiger.cpsc.ucalgary.ca** which currently offers WebGrid II but will be updated soon to WebGrid III, and **http://gigi.cpsc.ucalgary.ca** which currently offers WebGrid III. Relevant papers can be accessed at **http://repgrid.com/reports**.

**Demo—Entering an Existing Grid**: A fast method of entering existing grids is provided to support use of WebGrid as an analysis tool for data not elicited through WebGrid.

**Demo—Elicitation and Analysis**: WebGrid supports interactive grid elicitation in which clients can elicit grids and view basic analyses in graphic form with little instruction and supervision. It supports dyadic and triadic construct elicitation and provides feedback from continuous online analysis on matching elements and constructs suggesting adding additional constructs and elements to break matches.

**Demo—Advanced Analysis**: The basic FOCUS and Principal Components analyses screen are kept simple to be used by clients, but it is also simple to switch them into advanced modes giving the researcher access to the underlying data and analyses.

**Demo—Online Documentation**: WebGrid documentation is available on line including research and expository papers, “how-to” notes, and context-specific help.

**Demo—Multimedia Integration**: WebGrid supports the use of non-verbal elements such as pictures and sounds by allowing elements to be annotated with web URL’s supporting the display of pictures and sounds either locally or from any location on the Internet.

**Demo—Saving and Downloading Grid Data**: WebGrid provides facilities for saving your ongoing elicitation session on your local computer, and continuing it at a later time. It also allows you to download your grid data in a form suitable for loading in a spread-sheet or statistics package, and to set up a password-protected directory on the server for automatic data collection.

**Demo—Using WebGrid in Class Projects**: WebGrid is very suitable for class projects where students have access to a web browser on a computer connected to the Internet. It is simple to establish links to WebGrid and to incorporate the results of analyses in web documents.

**Demo— Using WebGrid to Collect Research Data**: WebGrid III supports distributed research data collection in which grids are elicited across the Internet from clients at multiple sites and automatically collected in a directory under the control of the researcher. Researchers can register one or more directories for this purpose and access them for purposes of data analysis.

**Discussion—Supporting Your Research and Teaching**: Brian and Mildred will be pleased to answer questions relating to existing or potential uses of WebGrid.

**Followup**: Brian (gaines@ucalgary.ca) and Mildred (mildred@cpsc.ucalgary.ca) are available through email to answer any questions you may have after the workshop. WebGrid continues to be developed, largely in response to user needs.