

Cruncher

Mathcad distribution

Until recently there was competition between an Australian company and HRS, who were both selling Mathcad in New Zealand. We were never too worried about this, since we knew we were giving much better service than them. Our efforts have been recognised by Mathsoft, and they have decided to make HRS the sole New Zealand distributor of Mathsoft products.

We assure you that this privilege will make us work even harder on your behalf, and if you feel anything will be lost to you by this change please let us know and we will put it right.

Mathcad 2001 comes with a year's support included, which means you get all upgrades that come out in the 12 months after you buy, at no charge.

If you have recently purchased Mathcad from another supplier, please let us know, so we can take over this support obligation.

Note that S-Plus is no longer owned by Mathsoft, so this arrangement does not affect users of that product.

Market Research Survey

BMS Students at Waikato University complete a project as part of their degree requirements. We have invited one student to conduct a survey of our clients, including people who have purchased software and those who have not.

We want this survey to help us give you even better service, so we hope you will use this chance to give us some feedback if you are approached later in the year for some opinions.

SigmaPlot2001

There are significant advances in this product. The example on this page illustrates the Area Plot option, which lets you shade the area between curves.

The SigmaPlot WebViewer is the greatest new feature; a unique plug-in that enables you to view SigmaPlot graph files referenced in web documents as "live" graph objects. With the viewer, you can:

- zoom in and out of graphs
- grab and pan a zoomed view
- view the graph in its own window
- print the graph in the web document at full resolution

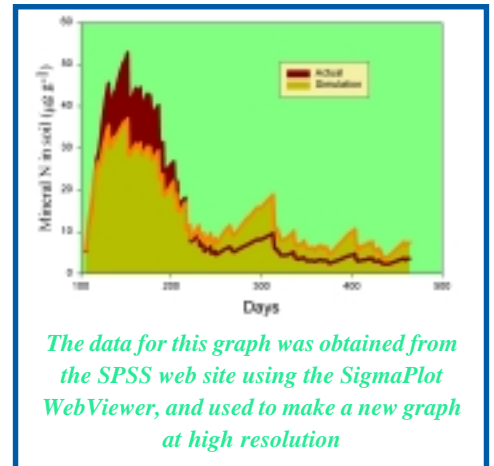
The WebViewer makes low-res GIF and JPEG figures a thing of the past. See <http://www.hrs.co.nz/more/webviewer.html>.

Slide shows

Many people can't get to our seminars to see what our products look like. One way to find out quickly, without the effort of installing trial copies of software, is to download a self-running slide show. We have shows for Mathcad, MATLAB, SPSS, SYSTAT and AnswerTree, all of which are about a megabyte in size, need PowerPoint or the free PowerPoint viewer, and are available from <http://www.hrs.co.nz/slideshows>.

User Story

The April issue of NZ PC World has a story about Kerry Spackman, who measures and models racing car performance. The story mentions the hardware Kerry uses, and notes that he writes software to analyse the performance. Some of you may be interested to know that Kerry is one of our keen MATLAB users, and that MATLAB forms part of his development kit.



The data for this graph was obtained from the SPSS web site using the SigmaPlot WebViewer, and used to make a new graph at high resolution



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New mathematics program

Calculation Centre is a brand new product from Wolfram. It is based on parts of the Mathematica engine, but has a new interface, that gives you lots of mathematical help. It is priced lower than any of the other mathematical products we sell, at about \$830 + gst, for both academic and commercial.

If you know Mathematica, but you only need 120 symbolic functions instead of Mathematica's 1500, and don't need symbolic solutions of differential equations or Mathematica's extensive programming techniques, then this may be the product for you.

We are looking for reviewers, especially ones that know both Mathematica and Mathcad well, so if you get in early we might be able to let you see it. Contact marc@hrs.co.nz.

SPSS hints

Using the ODBC link.

In version 10 of SPSS, the way that you set connections to database files was changed, due to some changes made by Microsoft. Many people believe that you have to set up separate dataset names to every file you use, and find this to be inconvenient. In fact you do not have to do this – the way you avoid this is described at www.hrs.co.nz/analysis/spssodbc.pdf

Use OLAP tables.

In older versions of SPSS you needed the Tables module to set up statistical summaries (means, medians) of numerical variables as a function of two or more category variables. This functionality has been incorporated in the OLAP tables of the Base module since version 9. If you wish to summarise numerical variables and have not yet experimented with OLAP, do try these tables - they are an easy and powerful way to summarise your data.

Hints and tips on the web

Raynald Levesque, a Canadian actuary, and a prolific SPSS list participant, has set up his own SPSS web page filled with tips and tricks. Well worth a visit from SPSS users of any experience level. Check it out at <http://pages.infinit.net/rlevesqu/>.

Grading tests

Use the optical mark recognition product Remark Office OMR for reading and automatically grading multiple choice tests! We recently demonstrated version 5 of this product, in an academic setting, and were really pleased how the statistical analysis and grading features have been developed. Of course, you can use it for conventional surveys as well, and it is especially useful when combined with SPSS for the detailed analysis.

You need to use Remark with a scanner of some kind. Most scanners these days are designed for scanning photos, and are not as fast as scanners designed for scanning forms. We recommend Fujitsu scanners designed for form scanning - you can get a 15 page per minute scanner for under \$2000. Why spend \$12,000 for a specialised card reader when you can read and analyse normal A4 forms for much less?

You can get more information and a demo copy at <http://www.hrs.co.nz/more/remark.htm>.

Economical Simulation

VisSim is an award winning program for the modeling and simulation of complex dynamic systems. It combines an intuitive drag and drop block diagram interface with a powerful simulation engine. Every VisSim product includes the unique VisSim Viewer - a run-time, view-only version of VisSim that enables users to distribute models to individuals not licensed to use VisSim. A "light" version of this comes with Mathcad 2001, but for serious modelling we can supply the more useful PE or higher versions. Contact marc@hrs.co.nz.

SPSS consulting

SPSS have expanded their consulting services, based in Sydney but serving all of Australia and New Zealand. Specific services include data auditing, survey design, web surveys, business modelling, model deployment and report automation. For more detail contact ray@hrs.co.nz.

Consultants

We have been encouraging consultants in mathematical and statistical areas to provide us with materials to put on our web site. Consultants who wish to be listed should prepare a Word document listing their services and how they should be contacted - this is free to our customers.



Ray Says:

All companies should ask themselves regularly "what is my most important business activity?". It is easy to focus on the mechanics of the business, such as "selling software" and to miss some more important activities, from which all the others flow. In the case of HRS, the most important activity is education. I am convinced of the value of the software we sell, but we need to see that potential customers are educated so they understand what is possible. They are likely then to see how they can do their work better, quicker, easier, or more accurately, by using our products. They can save time and serve their own customers better than their competitors do.

Often, our challenge is to provide re-education, because people already have a "number 8 wire" way to do things, based on what they know, instead of using the world's best practice. I once heard a "non-customer" say "if I can't do it in Excel, I don't do it". I am sure his competitors would love to hear him say that.

Universities already do some work in this area, particularly with MATLAB and SPSS, and we make it as easy as possible for them to do this. We know that more can be done – some students who ought to be introduced to Mathcad do not learn about it. Many students at universities do not learn about SPSS, despite it being available in their organisation, and it being the data analysis program most widely used by non-specialists in businesses. Scientists seldom get training in data analysis software, such as SYSTAT.

If you are an educator, then do ask for our help - we will make you a specific offer later in the year.

If you need to expand your own education, then use our web site to find courses, or come to our free seminars or paid training courses.

Education is the core of **our** business.

Finite Element modelling .

We are gathering information needed to support and sell FEMLAB and LUSAS. We have chosen FEMLAB because it fits in well with MATLAB and both have energetic supporters and consultants close at hand. If anyone has useful information on these or other finite element programs that will help us in serving our customers we would be glad to receive it – marc@hrs.co.nz.

Consultants who use these products are invited to ask us to put a notice on our web site.

Order Student MATLAB on the Web

The current version of Student MATLAB is version 6. Version 5.3 is no longer available in NZ, apart from old stock in some bookstores, and versions bundled with textbooks. At the moment, the only way to get Student MATLAB is by logging on to the TMW web site (<http://www.mathworks.com/products/studentversion/>) and making a credit card purchase. The product is shipped from the USA. We know this is inconvenient, and are working with TMW to hold stocks and to sell it from here, but we expect this will take some time to organise.

If your credit card is rejected by the TMW web site, or you have other problems, please contact us so we can get TMW to put it right. We have had some cases where credit has been wrongly withheld.

Electromagnetic Simulation

Remcom software helps engineers simulate electromagnetic propagation situations, using the Finite Difference Time Domain (FDTD) method. One product, called XFDTD, allows users to greatly decrease the cost and time required to bring new products to market by eliminating unnecessary generations of expensive physical prototypes. By using simulation software, engineers can evaluate the early and intermediary steps in the design process without the need for actual fabrication. (See picture on this page.)

Another new product, Wireless InSite, is used to apply physics-based propagation models to site-specific predictions. You import building and terrain data, define the antennas, specify the transmitter and receiver locations, and run the calculations.

Contact marc@hrs.co.nz.

MATLAB consulting

The MathWorks have combined the resources of their American and European offices to offer what they call "World-wide" consulting services. While these offices are still remote from New Zealand, some of our larger companies may find it to be helpful to bring the very great depth of experience of TMW staff to bear on some of their larger problems. Marc will help you to set it up if it is needed.

MATRIXx

This product is now being supported by The MathWorks, with an agreement for them to buy it in 2003. The MathWorks can assist MATRIXx customers to move over to the MATLAB and Simulink family of products, including giving credit for existing purchases. We recommend that all existing New Zealand users of MATRIXx contact Marc for reasons why new work should not be started with MATRIXx.

MATLAB Filter Design

Many real-world systems require digital filters with stringent specifications. These complex systems are constrained to resources such as power and speed. The Filter Design Toolbox provides MATLAB users with the ability to design advanced digital filters in fixed-point and floating-point implementations – see

www.mathworks.com/products/filterdesign/

Geometric optimisation

GrafiCalc can be applied to solve any mechanical design challenge that benefits from optimisation against shape, fit, and position design criteria - with unprecedented ease, speed, and accuracy. You specify a desired final result, and the software then iterates through a series of steps until it finds a set of initial conditions that yield the desired result. GrafiCalc displays the result as a picture containing values for key parameters.

GrafiCalc can be used within Autodesk Inventor, standalone, or in conjunction with any DXF compliant CAD package.

We have a special introductory price of \$495 + gst, but only to 31 May. Then it is \$1995 + gst. There are very good demo packages available.

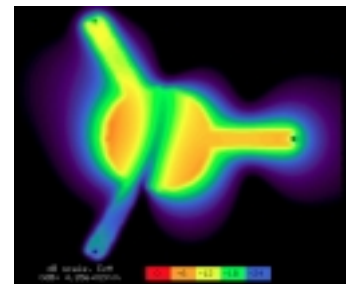
Contact marc@hrs.co.nz.

MATLAB shipping fee

We have been subsidising shipping costs for MATLAB subscribers for the last couple of years, because we did not know how often a major shipment would occur. We have now decided to plan for major shipments every two years, and this means that to cover the costs we have to increase the shipping component of your subscription from \$NZ15 to \$NZ40. We are sorry we have to do this but there is no cheap commercial way to distribute software manuals.

MATLAB and Data Acquisition

More and more people are finding it convenient to collect data directly in to MATLAB, and with version 2 of the Data Acquisition toolbox you can now communicate and control hundreds of boards from National Instruments, Agilent (HP) and Measurement Computing Corp (ComputerBoards), as well as sound cards. Contact marc@hrs.co.nz for details.



Steady state electric field in an anisotropic magnetized ferrite at 6.5 GHz, calculated by XFDTD

Simulating beam behaviour

Dr. Beam (\$225 + gst) is a direct manipulation beam analysis environment. It differs from other beam analysis programs in that it is designed primarily for simulating and visualizing behavior as opposed to simply performing analyses. Designing a beam becomes as simple as applying loads and supports and watching what happens.

Dr. Frame (\$1025 + gst) implements a rich direct manipulation environment in which users can interactively build and test 2-D truss and frame structures while receiving visual and numeric feedback to indicate structural behaviour — all in real time. Version 2 is now available.

A 3D version of Dr Frame is coming later this year.

Contact marc@hrs.co.nz.

Education

Free Mathcad Electronic books

Mathsoft is offering free a number of electronic books for users of its Mathcad technical calculation software. These books contain industry-specific content and functionality in areas such as electrical engineering, statistics, thermal analysis and electromagnetics. Because users read the books in Mathcad, all the computations are live and each book is fully interactive.

Users can modify the algorithms presented to build their own models, explore content by working directly in the book, or paste equations and numbers into their own Mathcad worksheets. Download the books from http://www.mathcad.com/library/Electronic_Books.asp.

SigmaPlot/SYSTAT seminar in Hamilton

The Vice-Chancellor of Waikato University recently claimed that 20% of NZ's research spending was done in the Waikato. We have decided that this justifies a special seminar on SigmaPlot and SYSTAT, at the McMeekan Centre on the Ruakura Agricultural Research Centre campus, on Tuesday 22 May. We will send out details directly to local people but to be sure you or your colleagues get an invitation please send an email to aandrea@hrs.co.nz.

SCOOP

Internet news sites for special interest groups

A news service for Science:

<http://www.scoop.co.nz/science.htm>.

And for Business:

<http://www.scoop.co.nz/mason/news/business.html>.

Advanced Statistics

There is some demand for advanced courses in statistics, and we contemplated running a set of courses this year. However, the low number of interested people means it is more economical for you to attend one of the many courses run by SPSS in Australia. We will be happy to assist you with information on these. Please contact ray@hrs.co.nz to discuss your needs.

SPSS white papers

We have enclosed a list of "white papers" which we think are useful discussions of data analysis issues. You can download them from our web site at <http://www.hrs.co.nz/whitepapers> as Adobe Acrobat files, send email to aandrea@hrs.co.nz asking for paper copies of any that look useful to you, or fax back the response form on the flyer.

@RISK Training

Quote – "We have trained well over 1000 people throughout the company on @RISK" Bob Hunt, Proctor and Gamble.

We have not trained that many, but our courses on quantitative risk analysis are always well received by the students, even though we work them hard. See the enclosed flyer for details of the forthcoming course.

Mathcad Training

We are running a public Mathcad training course in Auckland on Friday, 8 June. Remember you can come to us, or we can come to you and provide a tailored in-house course. To register for the 8 June public training, contact aandrea@hrs.co.nz, or visit www.hrs.co.nz/services/trainmathcad.html.

Seminars

A new round of SPSS and Mathcad seminars starts at the end of May. See the enclosed flyers or go to <http://www.hrs.co.nz/services/coming.html>.

FREE SPSS course

<http://web.uccs.edu/lbecker/spss/content.htm>

The above URL is a nicely-organised on-line course that covers both the use of SPSS and some background in statistics. Some of our clients use it to brush up on specific areas as they need them.

Courses in data analysis

If you are a teacher of data mining and would like to know about teaching with Clementine, then go to <http://www.hrs.co.nz/promo/clementine.html> for useful background.

If you are a student wanting to know where to get a course on data analysis, then go to <http://www.hrs.co.nz/tcourses>.

We welcome contributions by teachers to the list of courses on our site.

SPSS or SYSTAT training

Feedback from a recent SPSS course was that we cover much of the contents of an introductory data analysis course, even though we are not trying to!

We will be emailing our SPSS and SYSTAT customers to tell them the dates of our next courses, so if you are not a customer but would like information you should email aandrea@hrs.co.nz, or go to <http://www.hrs.co.nz/services/coming.html>.

Contacting us ...

We are based in Hamilton, but supply, support and demonstrate our products around all of New Zealand.

Web site: www.hrs.co.nz

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