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The Barrister's Court, Browns, 82-84 St Martin's Ln, Covent Garden, London WC2N 4AG, UK. Nearest Tube: Leicester square.

Thursday 11 July 2019

09.00-09:30 Arrival, Registration, Coffee and welcome

09:30 – 12:45 Session 1

09:30 Welcome from the chair

09:35 Developing Excel Thought Leadership

David Lyford-Smith, ICAEW, Chartered Accountants' Hall

10:15 Practical aspects of applying an End User Computing policy

Roger Turner, Wesleyan Assurance Society, Birmingham

10:55 coffee break

11:20 A Case Study of Spreadsheet Use within the Finance and Academic Registry units within a Higher Education Institution

Simon Thorne and Jamie Hancock, Cardiff Metropolitan University

12:00 Abstracting spreadsheet data flow through hypergraph redrawing

*David Birch, Nicolai Stawinoga, Jack Binks, Bruno Nicoletti, Paul Kelly
Imperial College London, Filigree Technologies, London*

12:40 Lunch

13.30 – 17:30 Session 2

13:30 Implementation Strategies for Multidimensional Spreadsheets

*Paul Mireault, Founder, SSMI International, Honorary Professor, HEC
Montréal*

14:10 EQUUS - helping to see formulae

Chris R. Roast, Sheffield Hallam University

14:50 Tea break

15:10 From webtables to datatables

Mária Csernoch, University of Debrecen, Hungary

15:50 Will Dynamic Arrays finally change the way Models are built?

Peter Bartholomew , MDAO Technologies Ltd

16:30 Cubes an alternative to spreadsheets to mitigate risk and improve performance?

Marc BRAUN, Xcubes

17:05 Does the teaching of spreadsheeting skills have the potential to be a significant global education policy intervention?

Morten Siersted, Visiting Research Fellow, Centre for Development Studies, University of Bath

17:30 Conference Closes

Food and drink for the evening will be found locally, please come along and enjoy the post conference discussions. Details to be announced at the conference.

Friday 12: Training Sessions

09:00 – 10:45

Working through Modeloff example problems

David Lyford-Smith, ICAEW

11:00 – 12:45

Dynamic Arrays in Excel

Charles Williams, Decision Models Ltd

Developing Excel Thought Leadership

David Lyford-Smith

ICAEW, Chartered Accountants' Hall

Over a period of five years, the Institute of Chartered Accountants in England and Wales (ICAEW) has developed a suite of three 'thought leadership' papers surrounding good practice in spreadsheet use and spreadsheet work environments. We will review the history of these three papers, the key lessons which each has to teach, and discuss how the process of making them has helped ICAEW to develop its position in the field.

Practical aspects of applying an End User Computing policy

Roger Turner

Wesleyan Assurance Society, Colmore Circus, Birmingham, B4 6AR

The Wesleyan Assurance Society revised its End User Computing (EUC) policy in 2017 and the plan was put in place to address the EUC risks (Turner, 2018). This paper describes the challenges which were faced and how these were overcome.

We find that EUC applications are clustered in certain business areas and this information supports the need for addressing these risks on a wider scale with a view to improving overall business efficiency.

A BAU process has been put in place to monitor activity and we expect to see an improvement in the quality of EUC in the Society.

Implementation Strategies for Multidimensional Spreadsheets

Paul Mireault, Founder, SSMI International, Honorary Professor, HEC Montréal 

Seasoned Excel developers were invited to participate in a challenge to implement a spreadsheet with multi-dimensional variables. We analyzed their spreadsheet to see the different implement strategies employed.

A Case Study of Spreadsheet Use within the Finance and Academic Registry units within a Higher Education Institution

Simon Thorne and Jamie Hancock

Cardiff Metropolitan University

This paper presents the findings of a case study of spreadsheet use in a higher education institution in the UK. The paper considers the use of spreadsheets in two units of the organisation, academic registry and finance. Spreadsheet use is explored in terms of importance, training, experience, purpose, techniques deployed, size of spreadsheets created and sharing of spreadsheets. The implications of the results are then considered in terms of accurate reporting to external funding bodies such as the funding councils, internal data integrity and internal data efficiencies. The results show a large volume of spreadsheets being created and used, that the profile of spreadsheet developers is typical of other studies of spreadsheet use and the need for the organisation to have clear principles and guidelines for the development of spreadsheet models in the organisation to ensure data integrity, reduce duplication of effort and to optimise the use of spreadsheets to meet the universities goals.

From webtables to datatables

Mária Csernoch

University of Debrecen, Hungary

Webtables – tables and table-like structures on webpages – are excellent sources for teaching spreadsheeting by utilizing and developing knowledge-transfer items, presenting various real world problems and solutions, discussing and debugging, and in general, developing computational thinking skills. In the present paper the conversion process of one of the LOL (League of Legends, Riot Games Inc. 2019) Boards is detailed. After presenting the algorithm of the conversion, two solutions are offered – one in a word processor, the other purely in a spreadsheet application –, leaving space for discussions, inventing other solutions and combining them.

EQUUS - helping to see formulae

Chris R. Roast

Sheffield Hallam University

Visualisation is often presented as a means of simplifying information and helping people understand complex data. In this paper we describe the design development and evaluation of an interactive visualisation for spreadsheet formula (EQUUS). The work is justified on the grounds that these are widely used tools for significant numerical processing and modelling, yet the formula developed can be easily misunderstood. The development process was one of iterative refinement engaging a initial target audience of mid-teen learners, involving re-design and formative evaluation. The resulting visualisation techniques have been found to be broadly relevant to spreadsheet users beyond the initial target audience. EQUUS has since been developed as fully integrated plug-in for MS Excel.

Abstracting spreadsheet data flow

through hypergraph redrawing

David Birch*¹, Nicolai Stawinoga¹, Jack Binks², Bruno Nicoletti², Paul Kelly¹
¹Imperial College London, ²Filigree Technologies, London

We believe the error prone nature of traditional spreadsheets is due to their low level of abstraction. End user programmers are forced to construct their data models from low level Cells which we define as “a data container or manipulator linked by user-intent to model their world and positioned to reflect its structure”. Spreadsheet cells are limited in what they may contain (scalar values) and the links between them are inherently hidden. This paper proposes a method of raising the level of abstraction of spreadsheets by “redrawing the boundary” of the cell.

To expose the hidden linkage structure we transform spreadsheets into fine-grained graphs with operators and values as nodes. “Cells” are then represented as hypergraph edges by drawing a boundary “wall” around a set of operator/data nodes. To extend what cells may contain and to create a higher level model of the spreadsheet we propose that researchers should seek techniques to redraw these boundaries to create higher level “cells” which will more faithfully represent the end-user’s real world/mental model. We illustrate this approach via common sub-expression identification and the application of sub-tree isomorphisms for the detection of vector (array) operations.

Will Dynamic Arrays finally change the way Models are built?

Peter Bartholomew
MDAO Technologies Ltd

Spreadsheets offer a supremely successful and intuitive means of processing and exchanging numerical content. Their intuitive ad-hoc nature makes it hugely popular for use in diverse areas including business and engineering, yet these very same characteristics make it extraordinarily error-prone; many would question whether it is suitable for serious analysis or modelling tasks.

A previous EuSpRIG paper examined the role of Names in increasing solution transparency and providing a readable notation to forge links with the problem domain. Extensive use was made of CSE array formulas, but it is acknowledged that their use makes spreadsheet development a distinctly cumbersome task. Since that time, the new dynamic arrays have been introduced and array calculation is now the default mode of operation for Excel. This paper examines the thesis that their adoption within a more professional development environment could replace traditional techniques where solution integrity is important.

Cubes an alternative to spreadsheets to mitigate risk and improve performance?

Marc BRAUN

Xcubes

Multidimensional or even simple business modelling with traditional spreadsheets often leads to complex models which are difficult to understand and to maintain, is prone to errors and generally time consuming.

A cube-based system offers a structured and scalable approach to modelling, forecasting, reporting and data analysis with little manual intervention once the model is set up.

The practical demonstration will be made with XCubes, a Multidimensional Spreadsheet System software package.

Does the teaching of spreadsheeting skills have the potential to be a significant global education policy intervention?

Morten Siersted

This talk is based on a dissertation on the findings to three related sub-questions:

How does spreadsheeting feature in global education policy?

What academic literature is there on spreadsheeting?

What are the relevant 'ICT for development' frameworks?