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

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ABSTRACT

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.

Practical aspects of applying an End User Computing policy

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ABSTRACT

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.
Developing Excel Thought Leadership

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ABSTRACT

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.

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

Marc BRAUN

Xcubes

ABSTRACT

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.

Implementation Strategies for Multidimensional Spreadsheets

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ABSTRACT

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.
Abstracting spreadsheet data flow through hypergraph redrawing

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ABSTRACT

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?
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ABSTRACT
Spreadsheets offer a supremely successful and intuitive means of processing and exchanging numerical content. Its 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.