
Abstract
ET: Enhanced tool
The effectiveness of <spreadsheets> in supporting the design of <worksheets> has been demonstrated. An enhanced tool is described for the design of <worksheets> based on <fostering reuse through abstractions without stepping out of the bounds of the traditional dataflow paradigm>. Examples are provided confirming the effectiveness of its support for <worksheets> in design.

Question - [Feasibility]
Spreadsheets had been around for over twenty years when this paper was written. The main goal of this tool, Forms/3, is to evaluate whether it is feasible to incorporate more reusability constructs into the spreadsheet without violating the functional dataflow paradigm.

Note that previous tools had attempted to provide some of these results, but only in a limited way. For example, although Penguims had provided support for abstraction, it relied on imperative programming to link the user’s data structures with the user interface. Although NoPumpG had enabled users to embed graphics in spreadsheets, the creators of Forms/3 wanted to let end users define completely new graphical data types.

Results - [Tool]
Forms/3 succeeded in providing all these features without ever leaving the first-order functional paradigm inherent to the spreadsheet concept. That is, users still entered values into cells and linked those cells with formulas, even while creating new data types. The tool essentially embodied an affirmative answer to the researchers’ feasibility question.

Validation – [Examples; some Analysis (experiments)]
The authors demonstrate the viability of their tool using a number of toy examples. They support their claims that the tool improves the speed and accuracy of users by referencing secondary studies discussed in detail in other papers.