

Preface

Separation of concerns is one of the most fundamental and powerful principles in systems development. We use it to divide complex tasks into simpler ones that are manageable by individuals and that can help establish division of labor in project groups. Separation of concerns must, however, be complemented with a concern for integration. If the artifacts and processes we design are to be useful they must constitute coherent and well-functioning wholes that fit into their context of use. This is the primary reason why tests, prototypes, and systems thinking play dominant roles in systems development practice.

Systems development research is itself a complex task to which we apply separation of concerns. We present most results in scientific papers addressing one specific and clearly formulated research question. We have established specialized institutions with each their perspective on systems development. Information systems researchers mainly apply social and managerial perspectives while software engineering researchers apply technical and engineering perspectives. In addition, many research efforts take place in institutions that are quite isolated from practice and they are based on observation of practice rather than direct involvement in practice.

Quality research is always based on separation of concerns. But I believe that systems development research have gone too far in this direction and needs to emphasize a concern for integration. I have therefore tried with this book to provide a complete survey of my own contributions to systems development research and to explicate the assumptions and beliefs that have driven it. In this way, I want to make available to others a comprehensive view which goes beyond what is normally presented in separate scientific papers. My approach to systems development research and practice is based on close integration between research and practice. I argue that researchers should become engaged in practice and that practitioners should participate actively in research.

The presented research is the result of a collaborative effort in which many practitioners, students, and research colleagues have participated. The major part of it has been developed at the De-

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