Book review

Model-based design and evaluation of interactive applications

By F Paterno
Published by Springer, 2000, 192 pp
ISBN 1 85233 155 0

Task-oriented approaches form an important class of systematic, model-based design and evaluation methods for interactive applications. They provide many of the links that connect the software design and development theories with the usability analysis and evaluation of interactive applications. By means of task models, we can obtain significant information for analysing and evaluating existing systems or designing new ones. Moreover, given the difficulty in obtaining a precise identification of user activities and their relationships, they help designers, developers and end users to clarify many issues, predict users' performance in reaching goals, integrate requirements, as well as interpret and assimilate knowledge of the application domain using different levels of abstraction. In this book, Paterno provides a comprehensive presentation of state-of-the-art model-based approaches, with special emphasis on applications of task-based approaches in areas such as user interface design and co-operative applications analysis and design. He covers many issues in the field, providing insight into analytical and architectural aspects, as well as applications in real-life software design and evaluation problems.

The book is self-contained and starts with a presentation of basic concepts, including analysis techniques, that are necessary for requirement elicitation and building a model. The author gives a complete description of ConcurTask Trees, a notation for specifying task models, and applies this approach to the design of interactive applications. Furthermore, he considers various design aspects, such as the presentation of modern interactive user interfaces, the architectural model of an interactive application, and the identification of appropriate design and architectural patterns aimed at reducing development cost and opening the way for creating more powerful design environments. Coverage of more advanced topics, although not examined in detail, is stimulating enough to encourage further search. For example, the author studies some modern aspects of software design as related to co-operative systems and applications in distributed databases. Furthermore, he presents techniques for introducing and supporting adaptivity and adaptability in interactive applications.

I recommend this book to anyone interested in task models and user interface design and evaluation. Paterno effectively combines both theoretical and practical aspects of model-based design. He describes many topics while maintaining accessibility for readers outside the field. He covers the topic focusing on applications; thus, the theory provided is that which is necessary to support the plentiful examples from applied projects. This book will be useful as a source of reference for students with an elementary knowledge of user interfaces, software engineers and researchers.

George Magoulas
Department of Information Systems and Computing
Brunel University