POCKET ARCHITECTURE: TECHNICAL DESIGN SERIES

KAREN M. KENSEK

BUILDING INFORMATION MODELING

PocketArchitecture:
Technical Design Series

Building Information Modeling

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Building Information Modeling

This is a design guide for architects, engineers, and contractors concerning the principles and specific applications of building information modeling (BIM). BIM has the potential to revolutionize the building industry, and yet not all architects and construction professionals fully understand what the benefits of BIM are or even the fundamental concepts behind it.

As part of the PocketArchitecture Series it includes two parts: fundamentals and applications, which provide a comprehensive overview of all the necessary and essential issues. It also includes case studies from a range of project sizes that illustrate the key concepts clearly and use a wide range of visual aids.

Building Information Modeling addresses the key role that BIM is playing in shaping the software tools and office processes in the architecture, engineering, and construction professions. Primarily aimed at professionals, it is also useful for faculty who wish to incorporate this information into their courses on digital design, BIM, and professional practice. As a compact summary of key ideas it is ideal for anyone implementing BIM.

Karen Kensek teaches at the University of Southern California, School of Architecture. For over 25 years, her teaching and research have concentrated on the evolving role of digital design and its applications to the building profession. Her current research focuses on BIM analytics. She has organized seven building information modeling symposia at USC (2007–2013) with themes on education; sustainable design; construction and fabrication; analytical modeling and evidence-based design; BIM management, implementation, coordination, and evaluation; and the future of BIM. Under her leadership, the School received the Autodesk Revit BIM Experience Award in 2008 and a BIM award by the AIA Technology in Architectural Practice knowledge community in 2010. She is a past president of the Association of Computer Aided Design in Architecture (ACADIA).

PocketArchitecture: Technical Design Series

Series Editor: Ryan E. Smith

Building Information Modeling
Karen M. Kensek

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Architectural Acoustics
Ana M. Jaramillo and Chris Steel

This book is dedicated to Joseph E. Pingree,
my husband and best friend

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Series Editor's Preface

Although architects and building professionals come into contact with, specify, design, and build technical practices every day, they spend relatively little time thinking about them. They are "abstract systems" construed and constructed upon industry norms passed through generations of professionals. Most of them are correct, but many, when disassociated with their cultural underpinnings of building vernacular and, more importantly, their scientific basis and practice contexts, present challenges that cause buildings to not perform as intended or worse lead to physical, economic, or social catastrophe.

PocketArchitecture: Technical Design Series fills this void. The series comprises succinct, easy to use, topic-based volumes that collate in one place unbiased, need-to-know technical information about specific subject areas by expert authors. This series demystifies technical design criteria and solutions. It presents information without overladen theory or anecdotal information. *PocketArchitecture* is on point.

As the name would suggest, the volumes in this series are pocket-sized and collectively serve as a knowledge base on technical subjects in architecture, creating a value-added information base for building novices and masters alike. In addition to architects, engineers, and contractors that deliver building projects, the series is appropriate for students and academics interested in accessible information on technical information as it relates to building design and construction.

Despite their size, the series volumes are highly illustrated. Furthermore, the volumes use easily accessible language to succinctly explain the fundamental concepts and then apply these basic ideas to cases of common issues encountered in the built environment. *PocketArchitecture* is essential, accessible, and authoritative. This makes it important reading for architectural technologists, architects, building surveyors, building commissioners, building engineers, other construction professionals, even owners and clients.

This volume, *Building Information Modeling*, is a book that addresses the key role that BIM is playing in shaping the software tools and office processes in the design and construction industry. This book is intended as a professional design guide on the topic of digital practices. Not all architects and construction professionals understand the concepts or the benefits of BIM. This book covers the basic and specific applications of building information modeling in designing, making, assessing, and maintaining buildings. Although its primary audience are professionals, the volume is also useful for academicians who wish to incorporate this information into their courses on digital design, BIM, and professional practice. Its compact summary of key ideas makes it ideal for a range of applications in which readers need clear direction.

Ryan E. Smith
Series Editor