Pieter E. Vermaas Delft University of Technology Delft

the Netherlands

Andrew Light University of Washington Seattle USA Peter Kroes Delft University of Technology Delft the Netherlands

Steven A. Moore University of Texas Austin USA

ISBN 978-1-4020-6590-3 e-ISBN 978-1-4020-6591-0

Library of Congress Control Number: 2007937486

© 2008 Springer Science + Business Media B.V.

No part of this work may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission from the Publisher, with the exception of any material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work.

Printed on acid-free paper.

9 8 7 6 5 4 3 2 1

springer.com

Contents

List of Contributors	ix
Design in Engineering and Architecture: Towards an Integrated Philosophical Understanding	1
Part I Engineering Design	
Design, Use, and the Physical and Intentional Aspects of Technical Artifacts	21
Designing is the Construction of Use Plans	37
The Designer Fallacy and Technological Imagination	51
Technological Design as an Evolutionary Process	61
Deciding on Ethical Issues in Engineering Design	77
Morality in Design: Design Ethics and the Morality of Technological Artifacts	91
Thinking about Design: Critical Theory of Technology and the Design Process	105