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978-0-521-88103-6 - Open Source: Technology and Policy

Fadi P. Deek and James A. M. Mchugh

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## Open Source

From the Internet's infrastructure to operating systems like GNU/Linux, the open source movement comprises some of the greatest accomplishments in computing over the past quarter century. Its story embraces technological advances, unprecedented global collaboration, and remarkable tools for facilitating distributed development. The evolution of the Internet enabled an enormous expansion of open development, allowing developers to exchange information and ideas without regard to constraints of space, time, or national boundary. The movement has had widespread impact on education and government, as well as historic, cultural, and commercial repercussions. Part I discusses key open source applications, platforms, and technologies used in open development. Part II explores social issues ranging from demographics and psychology to legal and economic matters. Part III discusses the Free Software Foundation, open source in the public sector (government and education), and future prospects.

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# Open Source Technology and Policy

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CAMBRIDGE UNIVERSITY PRESS  
Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo, Delhi

Cambridge University Press  
32 Avenue of the Americas, New York, NY 10013-2473, USA  
[www.cambridge.org](http://www.cambridge.org)  
Information on this title: [www.cambridge.org/9780521881036](http://www.cambridge.org/9780521881036)

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First published 2008

Printed in the United States of America

*A catalog record for this publication is available from the British Library.*

*Library of Congress Cataloging in Publication Data*

Deek, Fadi P.

Open source : technology and policy / Fadi P. Deek, James A. M. McHugh.

p. cm.

Includes index.

ISBN-13: 978-0-521-88103-6 (hardback)

ISBN-10: 0-521-88103-X (hardback)

ISBN-13: 978-0-521-70741-1 (pbk.)

ISBN-10: 0-521-70741-2 (pbk.)

1. Open source software. I. McHugh, James A., 1944- II. Title.

QA76.76.S46D44 2007

005.3-dc22 2007019230

ISBN 978-0-521-88103-6 hardback

ISBN 978-0-521-70741-1 paperback

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To my children,  
Matthew, Andrew, and Rebecca

Fadi P. Deek

To my parents, Anne and Peter  
To my family, Alice, Pete, and Jimmy  
and to my sister, Anne Marie

James A. M. McHugh

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## Preface

The story of free and open software is a scientific adventure, packed with extraordinary, larger-than-life characters and epic achievements. From infrastructure for the Internet to operating systems like Linux, this movement involves some of the great accomplishments in computing over the past quarter century. The story encompasses technological advances, global software collaboration on an unprecedented scale, and remarkable software tools for facilitating distributed development. It involves innovative business models, voluntary and corporate participation, and intriguing legal questions. Its achievements have had widespread impact in education and government, as well as historic cultural and commercial consequences. Some of its attainments occurred before the Internet's rise, but it was the Internet's emergence that knitted together the scientific bards of the open source community. It let them exchange their innovations and interact almost without regard to constraints of space, time, or national boundary. Our story recounts the tales of major open community projects: Web browsers that fueled and popularized the Internet, the long dominant Apache Web server, the multifarious development of Unix, the near-mythical rise of Linux, desktop environments like GNOME, fundamental systems like those provided by the Free Software Foundation's GNU project, infrastructure like the X Window System, and more. We will encounter creative, driven scientists who are often bold, colorful entrepreneurs or eloquent scientific spokesmen. The story is not without its conflicts, both internal and external to the movement. Indeed the free software movement is perceived by some as a threat to the billions in revenue generated by proprietary firms and their products, or conversely as a development methodology that is limited in its ability to adequately identify consumer needs. Much of this tale is available on the Internet because of the way the community conducts its business, making it a uniquely

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accessible tale. As free and open software continues to increasingly permeate our private and professional lives, we believe this story will intrigue a wide audience of computer science students and practitioners, IT managers, policy-makers in government and education, and others who want to learn about the fabled, ongoing legacy of transparent software development.



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## Acknowledgments

Many people helped us during the process of writing and publishing this book. Although it is impossible to know all of them by name, we offer a word of appreciation and gratitude to all who have contributed to this project. In particular, we thank the anonymous reviewers who read the proposal for the text and carefully examined the manuscript during the earlier stages of the process. They provided excellent recommendations and offered superb suggestions for improving the accuracy and completeness of the presented material.

Heather Bergman, Computer Science Editor at Cambridge University Press, deserves enormous praise for her professionalism and competence. Heather responded promptly to our initial inquiry and provided excellent insight and guidance throughout the remaining stages. Her extraordinary efforts were instrumental in getting this book into the hands of its readers.