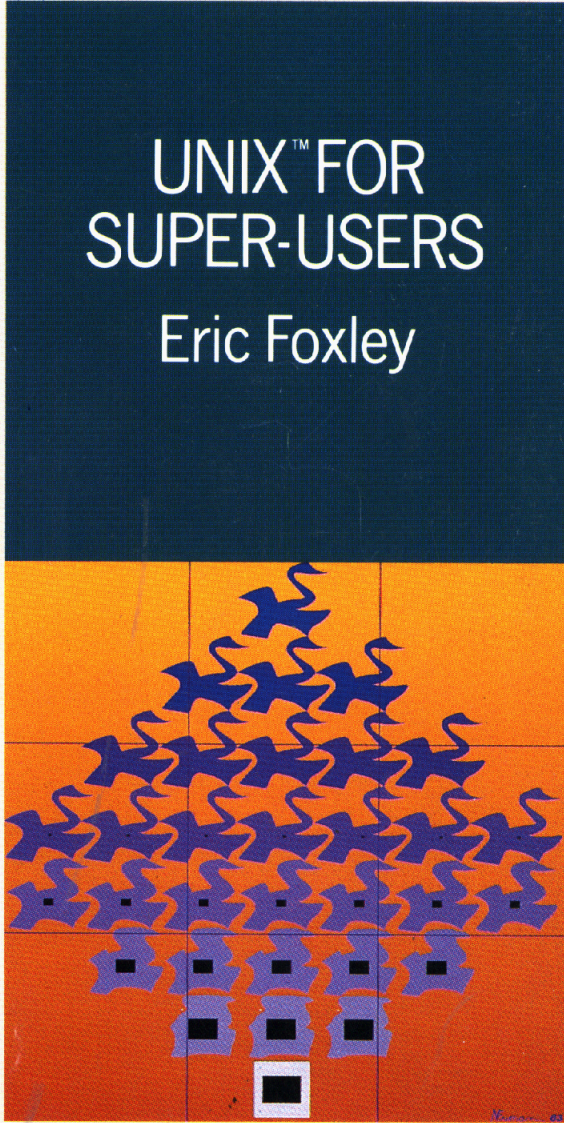




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# UNIX™ FOR SUPER-USERS

Eric Foxley



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**UNIX for  
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**ERIC FOXLEY**



**ADDISON-WESLEY PUBLISHING COMPANY**

Wokingham, England · Reading, Massachusetts · Menlo Park, California  
New York · Don Mills, Ontario · Amsterdam · Bonn · Sydney  
Singapore · Tokyo · Madrid · San Juan

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Printed in Finland by Werner Söderström Osakeyhtiö.

First printed in 1985. Reprinted 1986, 1987, 1988, 1989 and 1990.

Cover computer graphic courtesy of Dicomed.

**British Library Cataloguing in Publication Data**

Foxley, E.

Unix for super-users, -- (International computer science series).

1. UNIX (Computer operating systems)

I. Title II. Series

001.64'25 QA76.76.063

ISBN 0-201-14228-7

**Library of Congress Cataloging-in-Publication Data**

Foxley, Eric.

UNIX for super-users.

(International computer science series)

Includes index.

1. UNIX (Computer operating system) I. Title.

II. Series.

QA76.76.063F69 1985 005.4'3 85-15841

ISBN 0-201-14228-7

5558

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*To my Mum and Dad*

# Preface

The need for a wide-ranging introductory text on the administration of Unix systems became apparent at a very early stage of the author's experience of Unix. Although all the necessary information was in the documentation somewhere, it was not collected together in a convenient way. Talking to an experienced Unix user was often the best way of sorting out problems, and of gaining a better understanding of the system. People who attended some of the early Unix courses run in the UK asked for particular emphasis to be placed on problems of systems administration, and the notes for those courses formed the basis of this book.

The book attempts to cover a wide range of user needs, over a wide variety of sizes and styles of computer system, running a wide variety of variants of Unix. This is a daunting task. The author owes a debt of gratitude to a large number of people, since the breadth of coverage which has been achieved would have been impossible without their help. The ideas covered in the book reflect experience arising from a variety of computer systems, from some which are small and informal, to others larger and more security conscious.

In chronological order, the first to thank are the people who attended the early Unix courses on which this material was developed; they suffered the original experimental versions of the notes which eventually became the basis for this book. Their questioning showed the need for a text on the administration of Unix systems.

As far as the content of the book is concerned, particular thanks to my colleague Julian Onions for extensive original contributions; each time I asked him for a few ideas on a given area, the electronic mail system soon carried from him to me an outline for a fairly full text for that area. Thanks must also go both to William Armitage and to Julian Onions for checks on points of detail and for answering endless questions from the author.

Many people from other computer installations have helped in the development of the content of the book. A number of them have spent a considerable amount of time commenting on the draft text; their efforts have been very much appreciated and have resulted in a text improved almost beyond recognition. Of course, the responsibility for accuracy still rests with the author! A major contribution came from Peter Collinson at the University of Kent at Canterbury, whose experienced advice has always been



particularly appreciated. I would also like to include in my thanks Steve Bourne, Selwyn Castleden, Jan van Leeuwen, Andrew McGettrick, John Quarterman and Steven Simmons; all of these gave generously of their time and their many detailed comments and helpful criticisms have broadened the value of the book considerably. It was interesting to observe the difference in the pattern of comments from different sources. There were significant differences between the comments from those concerned with the relevance of the book for users of small Unix systems (perhaps those growing out of single-user machines) and those whose experience was mainly in the running of large multi-user systems; and between hardened administrators who were concerned to restrain a large community of users and those much more concerned for the provision of a helpful user environment. It is to be hoped that the final version of the text balances their two sides of the scene in a satisfactory way. It was also interesting to see how many people used locally developed commands and assumed that they were part of standard releases!

Thanks must also go to Eddie Bleasdale, who through his company (Bleasdale Computer Systems PLC) organised the original Unix courses which showed a need for the type of information covered by this book.

The book has been produced on a Unix system; the fact that this was a pleasure and convenience is due to the excellent design and implementation of Unix, which, although not perfect by any means, far outstrips all other systems to which the author has access in these two respects. The author is greatly indebted to the designers and implementors of all the relevant software on the machine, including the general Unix system software itself, the software used in the generation of the text, and that used in the production of the final copy. For the Unix system, thanks must go to the original trio of Brian Kernighan, Dennis Ritchie and Ken Thompson who set up a basis on which many others could add small but significant enhancements.

As far as the text preparation goes, the main item was a superb general-purpose editor by Andy Walker of this department, modified and extended by John Haxby. For the production of the final copy, the standard *troff* and related software has been much modified (and improved) locally by Douglas Woodall and Julian Onions. George Paechter is the local wizard at typesetting macros who sorted out the final photo-typesetting to conform both to the publisher's house style and to his own very high standards, and who undertook the preparation of the final copy. Betty Hickling, who looks after the photo-typesetter, was calm and unruffled throughout the exercise. Thanks again to Andy Walker who has improved a number of our Unix text-processing tools (such as those for spelling checking) and general author support considerably. Thanks to Ali Haddara for the multi-window environment which helps poor users who have only one terminal on one serial line to pretend that they have several. All those named in the above paragraph are colleagues with whom I continue to work: such tolerance! I also use with much appreciation an on-line *Roget's Thesaurus* supplied by Longmans, which makes writing even more of a pleasure; the programs to access it have been augmented by Dave Allsopp.



The final copy was produced using the *tiroff* program and related software, locally modified, run on a DEC PDP 11/44 computer into a Linotron 202 photo-typesetter.

In spite of the above help, all failures in accuracy remain squarely the responsibility of the author; he would be happy to hear about them and to be told of any other improvements which would make the book more readable, more generally applicable to different versions of Unix, and thence more useful. This is an area where as much experience of different situations as possible should be combined, and contributions would be very welcome.

Last, but not least, thanks go to my wife Joy and the rest of the family, who have survived without me for many hours during the preparation of this text; apologies for all the missed and late meals, but, I am glad to say, never a missed music performance.

Eric Foxley  
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June 1985

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