DUMPS, BUGS AND DEBUGGING FORENSICS

THE ADVENTURES OF DR. DEBUGALOV

NARASIMHA VEDALA

EDITED BY DMITRY VOSTOKOV

PUBLISHED BY OPENTASK, REPUBLIC OF IRELAND

COPYRIGHT © 2009 BY NARASIMHA VEDALA AND DMITRY VOSTOKOV

DR. DEBUGALOV: COPYRIGHT © 2008 BY NARASIMHA VEDALA

CARTOONS: COPYRIGHT © 2008 BY NARASIMHA VEDALA

COVER DESIGN: COPYRIGHT © 2008 BY NARASIMHA VEDALA

BUGTATION COMPILATION: COPYRIGHT © 2008 BY DMITRY VOSTOKOV

C++ PROGRAM IN APPENDIX: COPYRIGHT © 2008 BY DMITRY VOSTOKOV

ALL RIGHTS RESERVED. NO PART OF THIS BOOK MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM, OR TRANSMITTED, IN ANY FORM OR BY ANY MEANS, WITHOUT THE PRIOR WRITTEN PERMISSION OF THE PUBLISHER.

YOU MUST NOT CIRCULATE THIS BOOK IN ANY OTHER BINDING OR COVER AND YOU MUST IMPOSE THE SAME CONDITION ON ANY ACQUIRER.

PRODUCTS AND COMPANY NAMES MENTIONED IN THIS BOOK MAY BE TRADEMARKS OF THEIR OWNERS.

OPENTASK BOOKS ARE AVAILABLE THROUGH BOOKSELLERS AND DISTRIBUTORS WORLDWIDE. FOR FURTHER INFORMATION OR COMMENTS SEND REQUESTS TO PRESS@OPENTASK.COM.

A CIP CATALOGUE RECORD FOR THIS BOOK IS AVAILABLE FROM THE BRITISH LIBRARY.

ISBN-13: 978-1-906717-25-4 (PAPERBACK)

FIRST PRINTING, 2008

CONTENTS

PREFACE 5
ACKNOWLEDGEMENTS 7
ABOUT THE AUTHOR 9
SNAPSHOT 001: BUGS, WORMS, ... 11
MOTHER BUG EXPLAINS MORRIS WORM 11
DEBUGGING IN NATURE 12
SNAPSHOT 010: CRASH DUMP ANALYSIS 13
ANALOGIES 13
DUMMIES 15
HISTORY 16
TEXTBOOKS 18
RESISTANCE 19
SNAPSHOT 011: DATA STRUCTURES AND ALGORITHMS 21
HEAP 21
RECURSION 22
STACK 23
SNAPSHOT 100: DEBUGALOV'S LIFE 25
HOUSE 25
EMPTY OFFICE 26
AT NIGHT 27
LEISURE TIME 30
SNAPSHOT 101: DEBUGGING 31
DEFINITION 31
CHAMPIONSHIPS AND AWARDS 32
CODE READING 34
WINDBG COMMANDS 35

HARDWARE 36
GOING LIVE 37
NEW METHODS 40
GOING REMOTE 42
PHILOSOPHY, SCIENCE AND RELIGION (PSR) 44
WEB 48
FAILURES 50
SNAPSHOT 110: SOFTWARE ENGINEERING 51
DEFECT MANAGEMENT 51
SNAPSHOT 111: TRAINING 53
DEBUGGING CLASS 53
CERTIFICATION 54
REFERENCES 55
AFTER ALL HAS BEEN DONE 56
Q&A 57
APPENDIX 0XA 59
TRY-CATCH PSEUDO-RANDOM NUMBER GENERATOR 59
THE OUTPUT OF THE PROGRAM: 60
APPENDIX 0XE2 61
BEHIND BUGTATIONS 61