

First Fault
Software
Problem Solving

A Guide for
Engineers, Managers and Users

Dan Skwire

Published by OpenTask, Republic of Ireland

Copyright © 2009 by Dan Skwire

Cover design: Copyright © 2009 by Nancy Skwire

Cover graphics: Copyright © 2009 by Adam Varga

Illustrations: Copyright © 2009 by Nancy Skwire

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.

OpenTask books are available through booksellers and distributors worldwide. For further information or comments send requests to press@opentask.com.

Product and company names mentioned in this book may be trademarks of their owners.

A CIP catalogue record for this book is available from the British Library.

ISBN-13: 978-1-906717-42-1 (Paperback)

First printing, 2009

CONTENTS

Contents	3
Preface	5
Dedication	7
Acknowledgements	9
About the Author	11
Foundations	13
Chapter 1 Introduction.....	15
Chapter 2 Benefits.....	27
Chapter 3 Do-Overs	39
Technologies	49
Chapter 4 Types of faults, tool classifications and other design issues	51
Chapter 5 Software Service Tools.....	69
Chapter 6 What Users Can and Should Do	83
Chapter 7 Creating Software With First Fault Problem Solving Capability .	87
Chapter 8 The Special Needs of Hand-Held Computers, Cell-Phones, PDAs, and Other Small Systems	105
Chapter 9 Commercially-Available First-Fault Problem-Solving Tools	111
Chapter 10 "Second Fault" Tools	121
Chapter 11 Maximizing the Value of Diagnostic Data	131
The Future	141
Chapter 12 Leading Edge Software Tools.....	143

Chapter 13 Unanswered Questions.....	147
Chapter 14 Directions and Suggestions	151
Chapter 15 Summary	159
Bibliography	163
Index	173
Notes	177