BLOCKCHAIN BASICS

A NON-TECHNICAL INTRODUCTION IN 25 STEPS

Daniel Drescher

Apress®

Contents

About the Author vii
About the Technical Reviewer ix
Introduction xi

Stage I: Terminology and Technical Foundations 1
Step 1: Thinking in Layers and Aspects 3
Step 2: Seeing the Big Picture 9
Step 3: Recognizing the Potential 19

Stage II: Why the Blockchain Is Needed 27
Step 4: Discovering the Core Problem 29
Step 5: Disambiguating the Term 33
Step 6: Understanding the Nature of Ownership 39
Step 7: Spending Money Twice 49

Stage III: How the Blockchain Works 55
Step 8: Planning the Blockchain 57
Step 9: Documenting Ownership 63
Step 10: Hashing Data 71
Step 11: Hashing in the Real World 81
Step 12: Identifying and Protecting User Accounts 93
Step 13: Authorizing Transactions 103
Step 14: Storing Transaction Data 111
Step 15: Using the Data Store 123
Step 16: Protecting the Data Store 135
Step 17: Distributing the Data Store Among Peers 145
Step 18: Verifying and Adding Transactions 153
Step 19: Choosing a Transaction History 165

Step 20: Paying for Integrity 183
Step 21: Bringing the Pieces Together 189

Stage IV: Limitations and How to Overcome Them 203
Step 22: Seeing the Limitations 205
Step 23: Reinventing the Blockchain 213

Stage V: Using the Blockchain, Summary, and Outlook 221
Step 24: Using the Blockchain 223
Step 25: Summarizing and Going Further 235

Index 249