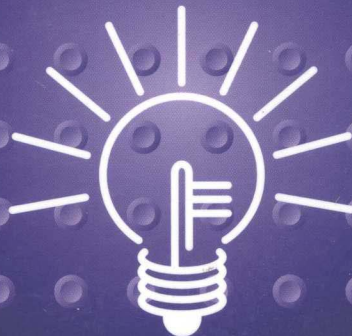


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STREAMING MEDIA

DEMYSTIFIED

- **Content delivery techniques**
 - **Interactive multimedia**
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- **Digital rights management and MPEG-21**



MICHAEL TOPIC

Streaming Media Demystified

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ABOUT THE AUTHOR

MICHAEL TOPIC is a professional innovator and product design engineer, running his own consultancy, Imaginative Engineering Ltd. Originally trained in electrical, electronic, and computer engineering, in his native Australia, he now lives in the UK, with a cat, a family, and a large collection of electric guitars. Michael has spent 18 years creating digital media tools for creative and demanding customers. During his career, Michael has lead design teams creating Internet streaming media encoders, audio and video nonlinear editing systems, synthesizers, and music sequencers.

PREFACE

This book, my first, was written under fairly difficult circumstances. The project coincided with the birth of my second child and first daughter, high-pressure project deadlines relating to the Aqua streaming media encoder, the building up of a business with only bootstrap finance, a near-death experience and dealing with the negative consequences of the September 11, 2001 atrocity, the U.S. high-tech recession and the Nimda virus. I am particularly pleased to have completed this book during all of that.

The book's content may strike the reader accustomed to technical books as somewhat unusual, since there are chapters dealing with the social, political and business issues relating to the technology. The reason for including such peripheral information is that I strongly believe technologists ought to understand their technologies within a human context. If a technology does not serve humanity and improve people's lives, what justification is there for its existence?

Scientists and engineers must take responsibility for what they thrust upon humanity. I have never agreed with technologists who hide behind the beauty of their creations in order to avoid having to confront the problems their technology creates. I also cringe at business decisions made solely on the basis of technical argument, without some basic understanding of the people the technology is for, what it will do for them and why they might buy it. Only by understanding the context within which a technology will exist can technologists make sound judgments about how to shape their products, fashion the features and create solutions that are relevant to people's real lives. Too many bad applications and products get made because the designers don't take into account the context of their work.

Technical books that failed to give the "big picture" have always tended to bewilder rather than clarify. The old adage of not being able to see the wood for the trees always applied. I have endeavored to set my own

explanations of streaming media technology against a background of the issues surrounding the technology. I hope that my peculiar and particular viewpoint serves to illumine the process of demystification.

The book could have been very much longer, since there is a lot of ground to cover in explaining everything about streaming media. Consequently I have, in places, reluctantly resorted to sketches rather than detailed examinations of various aspects of the technology and medium.

This is a fast-moving technology, so I expect much of the book to date very rapidly. By concentrating on the underlying principles rather than the specifics of various current solutions, however, I hope that the work will serve the reader for many years to come.

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I used to read the acknowledgments in other books with a good deal of skepticism, but having now written a book of my own, I have come to appreciate just how essential the efforts of other people are in the process and what a great debt they are owed. I, therefore, offer my humble thanks and appreciation to the following people:

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devices and for having the intelligence to play a part in shaping the industry according to what you can see. There are many people in the industry, who I met at trade shows and conferences, or else interviewed as part of my consultancy work, that generously spent time debating various hot issues with me, adding insight and opinions to my partly formed views. Listing everybody by name would be an impossible task and I am sure to overlook somebody vital. Please accept my sincere and heartfelt thanks for shaping and forming my ideas.

Thanks are due to Steve Chapman, Jessica Hornick, and all the wonderful “behind-the-scenes” people at McGraw-Hill, for acting as calm, collected and patient midwives to this project, even when I was struggling to get the book written. Extra special thanks are due to Patty Wallenburg of TypeWriting for making my work look so darn good and for providing me with a much needed “buffer;” to Marion Brady for patiently reconstructing my awkward sentences and mending all my split infinitives, and to Joann Woy for proofreading with the eyes of a hawk and for indexing this diverse, free-ranging subject matter intelligently.

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To my parents, I will never be able to adequately thank you or repay you for working like slaves so that I could get a decent education. Dad, I especially thank you for teaching me that the world is really very simple to understand, once you figure out how it works. Nothing is too complicated to attempt to grasp.

Finally, to Clare, Alexander and Elise, thank you for understanding when I couldn't be at places I should have been with you, for accepting fewer hugs while I was busy writing, locked away in my office, or in some far-off city working out how streaming media works, for creating precious peace and quiet when I needed it and for tolerating this obsession that overtakes you when you begin to write a book. I've been working on this book for your entire life, Elise. Now that it's done, daddy has returned to normal. I'm afraid this as normal as it gets, sweetheart.

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