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# TELEPRESENCE

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Edited by

**P. J. Sheppard and G. R. Walker**

*B.T. Laboratories,  
U.K.*



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A C.I.P. Catalogue record for this book is available from the Library of Congress.

ISBN 978-1-4613-7414-5      ISBN 978-1-4615-5291-8 (eBook)  
DOI 10.1007/978-1-4615-5291-8

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*Printed on acid-free paper*

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Originally published by Kluwer Academic Publishers in 1999  
Softcover reprint of the hardcover 1st edition 1999  
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# Contributors

S D Benford	Reader in Computer Science, Nottingham University
P A Bowman	Media Environments, BT Laboratories
J M Bowskill	Wearable Computing and Communications, BT Laboratories
A Bullock	Department of Computer Science, Nottingham University
D Burraston	Multi-modal Perception, BT Laboratories
I B Cockburn	Wholesale Finance, Syntegra
M Collins	Telematics Applications, BT Laboratories
P Cordell	Multimedia Applications, BT Laboratories
G Cosier	Applied Research and Technology, BT Laboratories
J M Courtenay	Value Added Service Development, BT Laboratories
K J Fisher	On-line Futures, BT Laboratories
C J H Fowler	Education and Training Research, BT Laboratories
P Garner	Telematics Applications, BT Laboratories
D L Gibson	Speech Platform Technology, BT Laboratories
C M Greenhalgh	Department of Computer Science, Nottingham University
N Haque	Systems Integration Sales, Syntegra
D J T Heatley	Mobile Systems, BT Laboratories
M R Hinds	Shared Spaces, BT Laboratories
M P Hollier	Multi-modal Perception, BT Laboratories
P J Lawrence	Media Environments, BT Laboratories
A V Lewis	Speech Coding and Adaptive Audio Systems, BT Laboratories
F T Lyne	Mobile Systems, BT Laboratories

viii CONTRIBUTORS

D Machin	Natural Communication Systems, BT Laboratories
J T Mayes	Centre for Learning and Teaching Innovation, Glasgow Caledonian University
S McConnell	Natural Communication Systems, BT Laboratories
J Morphet	Shared Spaces, BT Laboratories
D G Morrison	Video Coding and Standards, BT Laboratories
A N Mortlock	Natural Communication Systems, BT Laboratories
P J Mulroy	Distributed Information Systems, BT Laboratories
I Neild	Mobile Systems, BT Laboratories
I Parke	Broadcast and Conferencing Services, BT Laboratories
D Pauley	Applied Research and Technology, BT Laboratories
R W Picard	Associate Professor of Media Technology, MIT
S J Powers	Shared Spaces, BT Laboratories
A N Rimell	Multi-modal Perception, BT Laboratories
D A D Rose	Telematics Applications, BT Laboratories
S Rudkin	Distributed Systems, BT Laboratories
M Russ	Audiographic Conferencing, BT Laboratories
P J Sheppard	Natural Communication Systems, BT Laboratories
C K Sidhu	Human Factors, BT Laboratories
D M Traill	Media Environments, BT Laboratories
J Tromp	Department of Computer Science, Nottingham University
R M Voelcker	Multi-modal Perception, BT Laboratories
G R Walker	Telepresence Campaign Manager, BT Laboratories
S M Webster	Telematics Applications, BT Laboratories
M W Whybray	Video and Audio Coding, BT Laboratories
A K Williamson	Systems Integration, BT Business Sales
L Willis	Applied Research and Technology, BT Laboratories



# Preface

More than a century ago, when Alexander Graham Bell and his assistant made the first telephone connection, there was much debate and speculation about whether anyone would find a practical use for such a contraption. Who could have envisaged that Bell was laying the groundwork for something as dynamic and complex as the telecommunications infrastructure that exists today?

Yet no matter how sophisticated our telecommunications system becomes, the greatest use is still the ordinary phone call. Telephony is the ultimate example of how successful technology adapts to the very human need to communicate; and, whether it is a call home while travelling on business or an interactive journey through the Internet, bringing people together remains the foundation of the global telecommunications industry.

Telephony is a basic form of telepresence — enabling human interaction at a distance, creating a sense of being present at a remote location. As we move from a physical to an information economy, demand will grow for services which transport bits not atoms and which support the output of the human mind. In the next millennium we are certain to be increasingly ‘telepresent’ both at work and at play, with an expanding market for telepresence services.

Building on a strong base of established audiovisual conferencing and interactive multimedia services, BT Laboratories, together with its research partners, is leading the way in the multi-disciplinary exploration of the social opportunities and technical challenges of future telepresence services. The content of this book has been selected to provide a snapshot of these groundbreaking activities — conveying the complexity, uncertainty and enthusiasm involved in this challenging and exciting work.

The opening chapter overviews the status and prospects for telepresence providing a context for the remainder of the book. Telepresence services will be built on a diversity of technologies, and a wide-ranging coverage is provided of the future of audio, data, video and virtual environments. These chapters highlight the remarkable functionality that will become available through continued advances in processing power and global network connectivity.

We are ultimately concerned with telepresence as a service, not as isolated technologies. The starting point for all such communications services is a customer need, a particular desire for contact. The importance of the human experience in achieving that contact through telepresence, including issues of usability, quality of service and emotional interaction, should not be underestimated. We have therefore included a number of chapters that address the human factors of user experience and assessment of service quality.

In looking forward to prospective telepresence services we can anticipate a future of greatly increased diversity of media. There will be a much wider choice in matching an appropriate degree of presence with the initial desire for human contact. Making that match, with a cost-effective and easy-to-use solution, will be the key to commercial telepresence. With this in mind we have included not only some chapters which combine the various technologies to meet generic needs and also a few early examples of the application of telepresence to specific markets, namely education, medicine and finance.

The telephone has set high standards for telepresence services that stress ‘people as content’. The future promises a remarkable diversity of multimedia telepresence — we invite you to enjoy the various contributions presented here as pointers to just some of the exciting possibilities.

Graham Walker and Phil Sheppard  
BT Laboratories