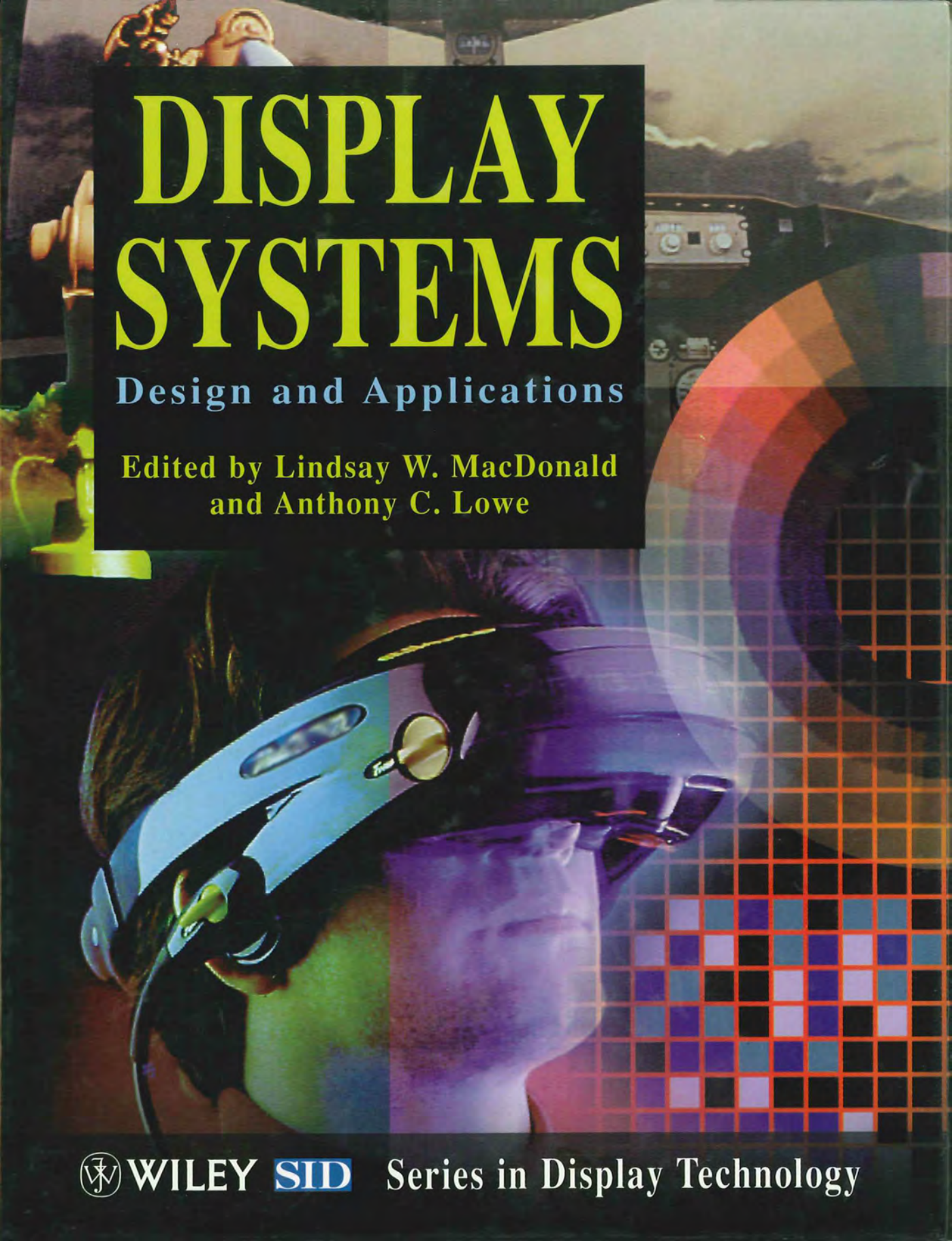

DISPLAY SYSTEMS

Design and Applications

Edited by Lindsay W. MacDonald
and Anthony C. Lowe

WILEY SID Series in Display Technology

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Preface

Display technology and (just as importantly) display systems have been subject to rapid development over the past few years. This development has been substantially enabled by the advances in performance and simultaneous reduction in the cost/performance ratio of computer systems. So rapid has been the rate of this development that users are increasingly expecting, and can increasingly afford, almost unlimited resolution and performance from display systems.

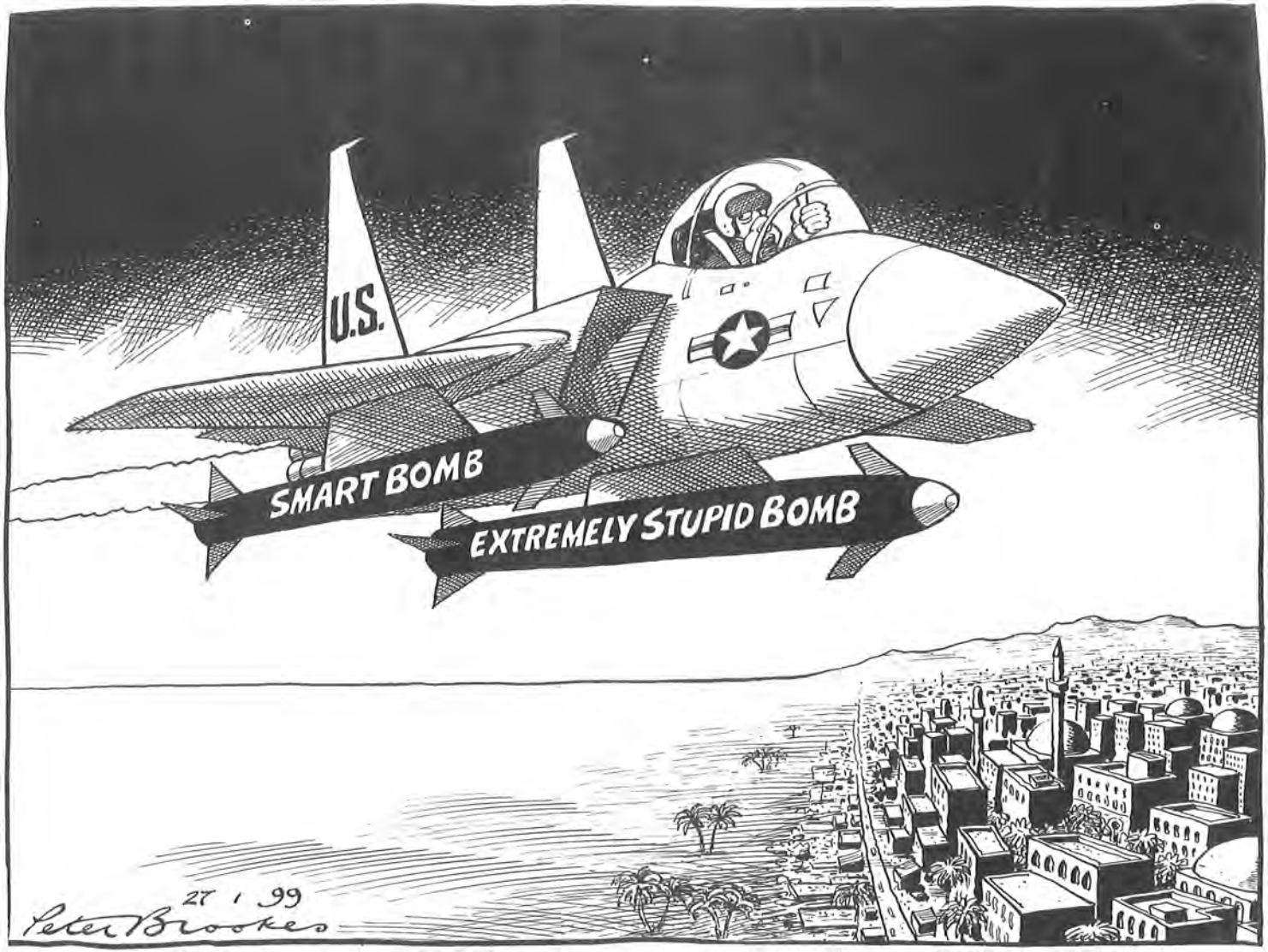
Such customer expectations create additional challenges for the display systems engineer and for the designer of any product that uses a display system. What performance is possible? What are the limits? What is permissible or not in terms of standards requirements and legislation? What are the trade-offs between cost, size, resolution, image quality, weight, power consumption, etc.? Which new display technologies are becoming available that might be more appropriate for the application?

For any display-based product to be successful, the needs of the application must be properly matched to the capabilities of the display system. This match can only be made in the context of the whole product design and development process. It must start with the analysis of market requirements, including an understanding of the tasks and needs of the users. It must figure in the prototyping and refining of the user interface and transaction dialogues. And it must be central to the integration of the display with the computer platform hardware and operating system software.

Seamless matching of the display to the application requires an understanding of system design from many perspectives, and brings to bear multidisciplinary skills in hardware, software, human factors, imaging, usability assessment and many other fields. The continuing development of display technology is just as much driven by the needs of new applications (in multimedia and virtual reality, for example) as the applications are shaped to exploit the capabilities of displays.

Recognizing these issues and realizing the need to create a forum where representatives of the wide range of disciplines encompassed by this subject could meet and interact, the European Region of the Society for Information Display (SID) organised an international two-day conference, 'Getting the Best from State-of-the-Art Display Systems', at the National Gallery, London, in February 1995. This event brought together a number of the leading experts from around the world and succeeded in placing the closer integration of display capabilities with application needs on the agenda for leading display system developers.

The objective of this volume is to extend the discussion to a wider audience. It contains a majority of the papers presented at the London conference, the authors of which are all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