Book Review

An Introduction to Virtual and Augmented Reality

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This book introduces Virtual Reality (VR) and Augmented Reality (AR), equipping learners with a deep understanding of these media and enabling them to create impactful experiences across a wide range of industries.

Book Overview

• **Title**: *An Introduction to Virtual and Augmented Reality: Designing Impactful Experiences* (1st Edition)

• **Authors**: Marco Gillies and Sylvia Xueni Pan (both Professors of Computing/Virtual Reality at Goldsmiths, University of London)

• **Publisher**: Chapman and Hall/CRC (Taylor & Francis)

• **Publication Date**: August 2026

• **Length**: 298 pages
This book serves as a foundational textbook designed to equip learners with a deep understanding of VR and AR media, enabling them to create impactful, real world applications across a wide range of industries.

Structure and Content
The book is logically divided into four main parts, progressing from core concepts to advanced social and interactive dynamics:

Part I: Virtual Reality
Covers the fundamentals of VR, including hardware (displays and tracking), the construction of virtual worlds, and the psychological phenomenon of "presence" (how users feel truly "inside" a virtual environment).

Part II: Augmented and Mixed Reality
Introduces AR concepts, AR-specific displays and graphics, the critical role of computer vision and AI in AR, and the technical challenges of registration and tracking in real-world spaces.

Part III: 3D Interaction
Focuses on user interaction paradigms, including locomotion (how users move in VR), object manipulation, haptics (touch feedback), and methodologies for evaluating VR/AR experiences.

Part IV: Virtual Humans
Explores the creation and psychology of virtual humans, the concept of "embodiment" (feeling ownership over a virtual avatar), social VR, and AI-driven virtual agents.

Strengths

Balanced Technical and Psychological Approach: Unlike many books that focus purely on coding or hardware, this text successfully bridges technical fundamentals with human factors. It explains how perception, presence, and interaction psychology ground the technology.

Real World Context: The content is supported by a wealth of case studies and exclusive interviews with VR/AR industry experts, providing practical, real world context to theoretical concepts.

Pedagogical Design: It is explicitly structured for education, featuring discussion points, exercises, and well structured learning resources. Dr. Helen C. Miles (Aberystwyth University) notes it is "an ideal course textbook for structuring new courses and supporting existing ones".

Accessibility: The authors explain complex hardware, software, and computer vision concepts in clear, accessible terms, making it suitable for both creative (design, media) and technical (computer science, engineering) students.

Target Audience

Primary: Undergraduate and graduate students taking VR/AR courses in creative, technical, or allied health fields.

Secondary: UX/UI designers, immersive experience developers, and researchers looking for a high-level, principles first guide to designing impactful XR (Extended Reality) experiences.

Potential Limitations to Consider

Not a Step-by-Step Coding Manual: If you are looking for a deep, line by line programming tutorial for specific game engines (like Unity or Unreal Engine), this is not the book's primary focus. It emphasizes *design principles, psychology, and system architecture* over engine specific implementation

Rapidly Evolving Field: While the 2026 publication date ensures it covers modern AI and connected virtual spaces, the XR hardware landscape evolves quickly. Readers may need to supplement the text with the latest documentation for specific headsets or software SDKs.

Final Verdict

An Introduction to Virtual and Augmented Reality is a highly recommended, rigorous, yet approachable resource; it provides "an excellent foundation for building impactful immersive experiences, connecting hardware, software, and human factors in an accessible way," serving as both a course backbone and a practical field guide.

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