AUGMENTED REALITY FOR INTERACTIVE EDUCATION

|| A MONOGRAPH ||

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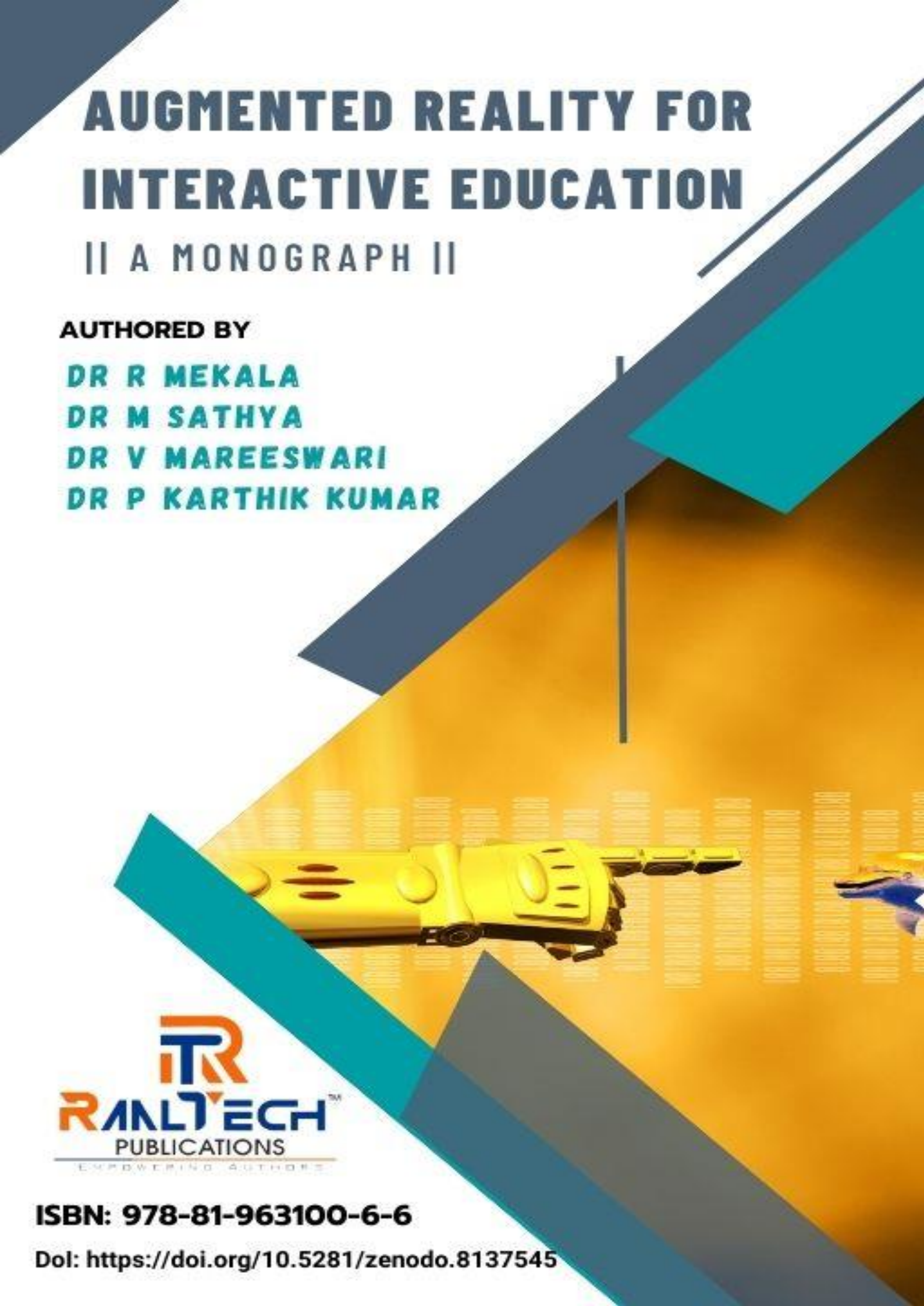

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With deep gratitude, this book is dedicated to the Almighty God, whose divine guidance, along with the unwavering support of my family and friends, has brought this creation to life.

Preface

This monograph, titled "Augmented Reality for Interactive Education," aims to explore the potential of augmented reality as a powerful tool for transforming the educational landscape. Augmented reality, with its ability to overlay digital information onto the real world, has the capacity to create engaging and interactive learning environments that bridge the gap between the physical and virtual worlds.

The primary objective of this monograph is to provide an in-depth understanding of augmented reality in the context of education. It delves into the theoretical foundations, practical applications, and pedagogical implications of using augmented reality as an interactive educational tool. Through a comprehensive examination of relevant research and case studies, this monograph seeks to inspire educators, policymakers, and researchers to explore the untapped potential of augmented reality in educational settings.

It is our hope that this monograph will serve as a valuable resource for educators, researchers, and professionals interested in leveraging the power of augmented reality to create dynamic and immersive learning experiences

We would like to express our sincere gratitude to all the contributors who have shared their expertise and insights in this monograph. Their dedication and passion for advancing educational technology have been instrumental in creating this comprehensive resource.

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TABLE OF CONTENT

AUGMENTED REALITY FOR INTERACTIVE EDUCATION

ABSTRACT

Augmented Reality (AR) can offer engaging learning settings through interactive activities in addition to simulating real-world situations. In the case of expensive educational demands, AR has the ability to save both time and money. The use of technology in the classroom can stimulate students to actively engage in their learning, which will result in a more efficient learning process. In the absence of technology that fosters critical thinking, meaning-making, or metacognition, learning will become passive, according to previous study. Since its inception, augmented reality (AR) has demonstrated that it may significantly improve learning by making it more engaging, efficient, and meaningful. This is so that users may engage with virtual and real-time apps and have authentic experiences thanks to its cutting-edge technology. Additionally, because it enables students to be engaged in authentic experiences, the integration of AR with education has lately received study attention. Therefore, the research that has been done on AR is reviewed in this concept paper. Reviewing the research's findings reveals that, overall, AR technologies offer promise and benefits that may be applied in education. The paper also highlights AR's shortcomings, which might be investigated in other studies. AR systems may be included into lecturers' lecture notes using these capabilities. Thus, the people may get the abstract knowledge to be presented in a tangible manner. Using augmented reality (AR) in the classroom can enhance learning by assisting teachers in setting up engaging, interactive learning environments. The goal of this study is to quantify and comprehend how an augmented reality mobile application affects students' motivation to learn. The primary innovation of this research is to encourage the use of augmented reality to enhance children's communication and teamwork abilities, particularly those of autistic children, and the game-based assessment of students in various educational areas, allowing for a testing atmosphere free from stress. The following chapters, we are going describes about the concept of augmented reality, traditional interactive and modern education, how the augmented reality is used for interactive education is clearly explained.

Keywords: Augmented reality, technology, education, technology-assisted learning, 3D Learning Environment.

The monograph on "**Augmented Reality for Interactive Education**" covers a wide range of topics related to the Implementation of augmented reality in modern education platform. Augmented reality (AR) has revolutionized education by making learning interactive and immersive. It enhances student engagement and motivation, bridging the gap between theory and practice. As AR technology advances, it will continue to reshape education, offering captivating learning experiences. AR is already being utilized in various subjects, and its potential in e-learning is vast. With its integration with mobile learning and other technologies, AR opens up new possibilities for situated learning. Overall, AR has a significant impact on education, transforming the learning landscape and empowering students to reach their full potential.

Dr R Mekala received her B.E. Degree in Computer Science and Engineering from Kumaraguru College of Technology, Coimbatore, M.E. Degree in Computer Science and Engineering from Anna University, Coimbatore, and Doctorate from Anna University, Chennai in the field of Satellite Image Compression. She has 20 years of teaching and research experience. Her research area includes Cloud Computing, Machine learning, Artificial Intelligence and Network Security. She has published 25 papers in National and International Journals. Chaired more than 15 conferences, presented lectures in various reputed institutions all over India. Presently she is working as an **Associate Professor** in **M.Kumarasamy College of Engineering**, Karur, TamilNadu.

Dr M Sathya Graduated with Bachelor's Degree in Computer Science and Engineering from Syed Ammal Engineering College, M.Tech in Information Technology from Anna University, Coimbatore, MBA in HRD from Madras University and Doctorate in Information and Communication Engineering from Anna University, Chennai. Her research interests include Cloud Computing, Ad-hoc Networks & ML algorithms. She contributed to more than 30 publications. She has 10 Patent Publications and received the Best Women Faculty Award from Novel Research Academy Puducherry. She has 14 years of teaching and research experience. Currently, she is working as an **Associate Professor and Head** at **Nadar Saraswathi College of Engineering and Technology**, Tamilnadu.

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Dr P Karthik Kumar received his B.E. degree in Electronics and Communication Engineering from the Coimbatore Institute of Engineering and Information Technology, M.E. degree in Computer Science and Engineering from Anna University, Coimbatore, and Doctorate in Information and Communication Engineering from Anna University, Chennai. He is with a combined experience of 6 years in teaching and 5 years in research, currently serving as an **Assistant Professor** at **Karpagam College of Engineering** in Coimbatore, Tamil Nadu. His research interests include Wireless Communication, Vehicular Ad-hoc Networks and Renewable Energy. He has authored and published six papers in prestigious Journals.

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