Preface

The metaverse is emerging, through the increasing use of virtual world technologies that act as platforms for end-users to create, develop, and interact, expanding the realm of human communication, interaction, and creativity. Not only researchers and scholars are experiencing the importance of this new field, but also industry is strongly investing in these domains, and – more important than that – society is responding with huge impacts and transformations.

This book presents texts whose focus is the scientific research on uses, effects, developments, and applications of various metaverse platforms, such as Second Life, Open Croquet, World of Warcraft, and others, providing a forum for the research community to present and discuss innovative approaches.

Whereas metaverse platforms are no longer a novel topic, they still pose challenges for the adaption of conventional research methodologies and communication practices with topics as: digital identity, collaboration, entertainment and playing, affective responses, educational objects, communication design, virtual space and digital representation, simulation and substitution, technology, and arts. The book’s chapters present foundational research, models, case studies, and research results that researchers and scholars can port to their own environments to evolve their own research processes and studies.

The chapters cover scenarios of intellectual disciplines and technological endeavors in which metaverse platforms are currently being used and will be used: computation, human-computer interaction, design, media and communication, anthropology, sociology, psychology, education, philosophy, theology, arts, and aesthetics.

The drive for creating this book originated from our practice of teaching and researching in this domain; reading material and in-depth research knowledge are still lacking, albeit growing in numbers and quality, but often locked into specific fields. We believe that novel platforms require researchers and practitioners to acquire broad perspectives of their use and potential across diverse fields of human knowledge, in order to support their own activities and inspiration.

For this purpose we initiated the SLACTIONS conference series, organizing SLACTIONS 2009 and supporting the organization of SLACTIONS 2010. We are also establishing a steering committee to support the worldwide organization of SLACTIONS 2011 and future events. These conferences have been extremely rewarding moments of cross-pollination of ideas between diverse fields of knowledge, with researchers from diverse fields presenting and discussing multiple perspectives, viewpoints, and approaches to the use, analysis, and development of metaverse platforms and their use.

The present book comes as a common base resulting from this multidisciplinary research effort. It aims to provide a reference guide for researchers and scholars, but also for practitioners, such as educators, artists, business professionals, communication professionals, and organizations looking for
background on how to apply virtual worlds in their research, teaching, and business strategy: a set of pieces of knowledge with which one can open up new horizons to be creative.

The chapters, albeit diverse, form a structured encompassing view of the field. When reviewing and editing submissions, we took care to consider the overall structure of the book and how each chapter would contribute to the overall book. Hence, we follow a pathway style through the field, divided into six sections:

1. The World Arises: Creating Content
2. Our Immersion: Entering the Metaverse
3. Society Development: People, not Person
4. Built for fun: Playing in the Metaverse
5. Sustenance: Virtual Health Care
6. Life happens: Religion, Morality, and Ethics

In section 1, about content creation, we present different views on how to create actual virtual content. Opening it, we present the most hard to manage perspective: user-created content and the richness of approaches and possibilities it brings – but also its challenges. Since this viewpoint is known to social and educational scientists, we complement it with a viewpoint well-known to computer scientists, but little known in other fields, and critical for massive spaces: automated, procedural generation of content. Then we expand both views by bringing in the matter of co-creation, a foremost issue in virtual worlds, where content can go beyond an individual’s artifact into collecting creation. Finally, content creation in virtual platforms can support novel forms of artistic expression and reflection. We close this section with a provocative and inspiring view on how these platforms can be the heartland of different artistic approaches.

Content alone doesn’t make a virtual world of course – at least not one warranting its consideration as a vibrant part of the metaverse. So chapter 2 deals with how people engage with these media, platform, or realms, and discover their new bearings. The section opens with a view on the communication affordances of virtual worlds and how they are being approached. Then we focus on the critical topic of avatars, and how they place a novel issue in terms of human-computer interaction: the identification of the avatar as an extension of one’s persona and the role of this in the experience of using virtual worlds. We then conclude with two chapters that tackle a central detail whose impact is central to the experience: how verbal and non-verbal communication are used in worlds where three-dimensional space and embodiment are basic features, and how this affects the nature of person-to-person communication.

With the third section, about the development or emergence of societal relations in the metaverse, we take the reader a step further into these worlds. Now we delve into a concept more vast than a mere communication tool within a space, encompassing the notion that these worlds develop societies with their own rules, organization, and characteristics. We start from outside the metaverse, analyzing students’ attitudes to the use of these platforms, to provide insights on how their deployment must indeed consider social dynamics; then we present a view from the inside, looking into the development of communities that leverage the new platform and its possibilities. Finally, we take a step back and consider how these two realities are aligned or confront current perspectives – in this case, for the field of education, an area where many practitioners and researchers have embraced the metaverse wholeheartedly.

The second half of the book stands on the perspectives and examples of the first half, and presents specific cases as food for thought.
The fourth section presents the entertainment perspective, with chapters that provide complementary perspectives: starting with the possibility of expanding both reality and virtuality into novel entertainment varieties, and concluding with a chapter on how virtual games may open up paths to creative thinking, a concept based on classical culture. Between them, two bridging chapters provide key perspectives on the role and development of narratives and their relation to user behavior in multi-user virtual world games, and on how aspects of social relationship may develop between the human and the virtual personas.

In the fifth section, the relationship between the virtual and the physical worlds are explored via a subject with a strong impact in everyday lives: health. We initiate this with a chapter on the potential of virtual worlds for neuropsychological assessment, which may drive the reader to consider how important a role metaverse platforms may play in the near future. Then we take a broader perspective on the potential for development of health professionals, and conclude with another example from the field, describing a virtual world’s use to complement physical-world interventions in public health.

To conclude this pathway through which we (and the authors of all chapters) have been conducting the reader, we provide reflections on broader ideas: how does a virtual platform support a non-physical concept such as religion, whether morality and ethics are impacted or challenged by new means of social interaction, how professional users ponder their identity towards others via the embodiment of an avatar and its appearance, and – lastly, which is also the first dilemma – how our identities are constructed and perceived, through factual analysis of discourse and data.

So, we start from the basic building blocks of the metaverse, and conclude with issues which are present wherever humanity dwells. And this connection between the new virtuality and the ever-existing one is in itself also a concluding tenet from this book.

Nelson Zagalo
Universidade do Minho, Portugal

Leonel Morgado
University of Trás-os-Montes e Alto Douro, Portugal

Ana Boa-Ventura
University of Texas at Austin, USA