Preface

This book of the *International Journal of Art, Culture and Design Technologies (IJACDT)* is dedicated to cross boundaries of art, design, science, and culture with emerging technologies. We will aim to explore and to uncover a variety of creative and innovative insights arising from academic perspectives.

**VIRTUAL ART AND DESIGN**

The first chapter The “Metaplastic Techne: Cyber Art and Design Innovations” by Gianluca Mura introduces the theoretic enhancements of the Metaplastic Metadiscipline, a science-art-design research field that studies the most recent technological influences into the contemporary culture. It discusses the realization of the metaplastic virtual media through interdisciplinary methodologies between reality and virtual realities.

The second chapter starts the theme of interactive media art describing the installation “Liquid Views” by Monika Fleischmann and Wolfgang Strauss. It is the virtual well in which the visitor - Ovid’s Narcissus of today - discovers her reflection. The work was first exhibited at Siggraph 1993 in Simon Penny’s “Machine Culture” show. Since then it was presented worldwide in more than 50 cities with different cultural background across the globe. Now, more than 20 years later, the work is on exhibition again to study the changed conditions of human media communication and to examine the meaning of the interactive mirror installation in the time of the Selfie as screen identity. Would emerge almost a knowledge dependent, upon an economy that barter information.

The “Smooth Space’ for Avatars A Proun in the Metaverse” chapter by Elif Ayiter re-create El Lissitzky’s “Proun #5A” from 1919 in the MetaVerse, as a virtual world architecture for avatars.

The process in which the translation from analogue drawing to three dimensional digital artifact was undertaken, the challenges encountered during its re-building; framed within a literature review that examines both El Lissitzky’s influence on contemporary cyber-architecture, as well as the significance of his spatial investigations and his sources of inspiration during the early decades of the twentieth century will form the contents of this chapter.

The “On Virtual FLUXUS” chapter by Patrick Lichty presents a study about Contemporary Technologies in art are available from the 1960’s. Virtual Fluxus is the result of more than a decade of digital practice events, which give a definition of the online world. This chapter on Virtual Fluxus discusses the paradoxes of the Virtual in Contemporary Art. It starts its discussion with a citation from Al Hansen, as: “Fluxus is a Virtual Reality system where the glove doesn’t work properly and the helmet doesn’t fit. Other things happen than what was intended”. In this text, the author underlines that when Virtual
Fluxus happened, the gloves and goggles began to work, and when inside, things were more gloriously broken than could have been imagined.

The “Exploring the Liminal between the Virtual and the Real” chapter by Dew Harrison explores ways of bringing the virtual to the real through a range of differing conceptual positions and research approaches while demonstrating the creative interplay of variable media and online platforms for producing liminal works which cross the boundary between the analogue and the digital. The chapter presents relevant theoretical frameworks and examples of current practice in the area of digitally enabled transitional spaces for artists, theorists and curators, as well as researchers working both in the field and beyond to those working with new technologies, social media platforms, and digital/material culture.

The “Abstraction in Motion: Folding Pattern – A Study about Perception” chapter by Cristina Ghetti and Emanuele Mazza describes Folding Pattern is an art project developed by the team of artists. Cristina Ghetti and Emanuele Mazza. The work starts from the idea of proposing a revision of the foundations of perceptual abstraction, that had in its derivations, one of the art movements more connected with the use of new technologies and one of the art tendencies with more powerful and interesting arguments. The authors are interested in exploring the developments of abstraction in the digital era, incorporating new media tools, and analyzing how contemporary art is developing the ideas of modernist abstraction introducing the utilization of new technologies, in a context where the influence of science, and of new ways of producing and exhibiting the art works, changes completely the art world.

The “Wanderlost” chapter by Michael Johansson discusses an art and design project called Wanderlost. In this project stages the author developed a method for gathering input and inspiration for early stages in the design process designing virtual worlds. He will through some example of work show how worlds, real and virtual are as much made as found, and how they can be used to challenged each other into new forms of experiences and expressions, of both physical and virtual spaces. To create a process where digital worlds challenge and inspire digital expressions, tools and models with physical play and exploration. Supporting the long-term aim with research in new media is to set up design methods that can be used in a creative and collaborative process. The wanderlost method turns everyday walks into discoveries of both urban contexts as well as ideas for possible virtual worlds.

The “Augmented Reality Game in the Hybrid Urban Environment” chapter by Alena Mesárošová and Manuel Ferrer presents the uniqueness of the Augmented Reality game technology within the context of the process of hybridization of contemporaneous city and its derivative changes in the relationship between citizen and city. The authors will review the Augmented Reality game by approaching it from the different focuses. They will discuss the themes like aesthetics, gamification, gamespace classification and mobile application development challenges related to the Augmented Reality games. The own project ARecycleNOID, the Augmented Reality art game in the hybrid urban space will be presented and analyzed in the terms of the creation of the experimental urban interactive environment. A new form of game experiences the city.

**VIRTUAL HERITAGE**

The “Exploring the Use of a 3D Virtual Environment in Cultural Transmission to Show Chinese Cultural Project “Confucius’ Journey” as an Example” chapter by Yungang Wei, Xiaoye Tan, Xiaoran Qin, Xiaohang Yu, Bo Sun and Xiaoming Zhu describes The use of 3D virtual technology in cultural transmission has been more and more innovative and popular in the recent years. Meanwhile, with the high interactiv-
ity, experience of virtual technology deeply rooted in the people’s hearts, the use of 3D virtual world in cultural transmission shows an evident advantage. Through scene construction and intelligent interaction in a 3D virtual world environment, we developed the project “Confucius’ Journey”. Considering the problems in such applications, such as the lack of interaction and reduced effectiveness in representing the application purpose, the authors explored interactive objects and virtual human technology.

The “New Ways of Seeing: Evaluating Interactive User Experiences in Virtual Art Galleries” chapter by Matthew Anderson, Damian Schofield and Lisa Dethridge describes as computer-driven display technology becomes more powerful and accessible, the online, virtual art gallery may provide a new platform for artists to exhibit their work. Virtual exhibits may afford opportunities for both the artist and the patron to display, view and perhaps purchase various digital art forms. The aim of this chapter is to examine user interaction with digital artworks inside a virtual gallery space.

NEW MEDIA CREATIVE SOCIAL PROCESSES

The “Power to Share: Facebook and Collaborative Arts Practice” chapter by Sophy Smith presents Online social media tools have made it increasingly easy to communicate, cooperate and collaborate with others online, and as such offers new frameworks for making creative work. Facebook claims that it helps members connect and share, but what if the people you want to connect and share with are your artistic collaborators? Can Facebook be used creatively, as a collaborative artistic environment? This article draws on two practical research projects - ‘Feedback’, carried out by the author, exploring new methodologies for collaborative creation supported by online social media. The projects focused on the creative use of Facebook as a tool for creative collaboration, establishing a possible working model of artistic collaboration using the social media tool.

The “Subjectivity and Inadverence in Computational Art: Muta-Morphosis” chapter by Murat Germen describes Creativity is stochastic and assumptive in nature. The importance of randomness in the creative process must not be ignored, underestimated or intentionally disregarded in a condescending way. Notions of chance, randomness, or unpredictability are much important, especially when it comes to artistic creation. In addition to above notions, serendipity can be seen as the expected contribution for making expedient discoveries by coincidence, by chance. To put serendipity into work the author analyzes a list of questions that need solving and he starts to talk about a traditional ‘prescriptive, authoritarian and rather conventional’ aesthetics vs. a new ‘generative, irregular, unprescribed’ aesthetics.

The “A Model for a Collective Aesthetic Consciousness” chapter by Sherry Mayo describes the Web 2.0 technologies as an emergence of a collectivist aesthetic consciousness. As the prophecy of a post-industrial society becomes fulfilled, a post-media society emerges whose quest is for knowledge dependent upon economy that barterers information. This chapter identifies a conceptual model of this recent paradigmatic shift and to identify some of the possibilities that are emerging.

The “Revealing Passwords: Using Social Engineering Methods to Monitor Scammer Email Communication” chapter by Andreas Zingerle addresses three social engineering techniques that vigilante online communities of scambaiters use for ’Inbox diving’: an act of gaining access to Internet scammers email accounts. The methods have been gathered by analyzing scambaiting forums and were put on the test in direct email exchange between the author and Internet scammers. By diving into the scammers’ inboxes, their working methods can be observed, gang structures investigated and potential victims warned. The author discusses the moral issues an ‘Inbox diver’ faces and question the ethics of scambaiting com-
munities that prefer social engineering techniques rather than hacking email accounts. The research lead into the creation of the artistic installation ‘Password: ******’ and the data sculpture ‘Monitoring Harry Brooks’ and presents two artistic positions dealing with password security and data visualization.

INNOVATIVE TECHNOLOGY FOR LEARNING AND TEACHING

The “Preparing Students to Engage the Arts in the 21st Century” chapter by Jeffrey M. Morris describes The Department of Performance Studies at Texas A&M University is building a culture of innovation through strategic facility development, a focus on students sharing work through public performance, and interdisciplinary collaboration. The department has embraced the celebrated strengths of our university in STEM fields (Science, Technology, Engineering, and Mathematics) by developing interdisciplinary experiences and inspiring facilities (through technology and curriculum grants). These experiences contribute to the university at large by demonstrating how technology can connect with the human element and how technology impacts human expression. Students benefit by joining faculty in exploring the new and also rediscovering the traditional.

The “Smart Textile as a Creative Environment to Engage Girls in Technology” chapter by Daniela Reimann describes In the context of the converging media technologies, the concept of mobile media embedded in wearable material was introduced. In the research project, contemporary media art works in the field of Fashionable Technology are explored to inspire interdisciplinary technology education form an artistic perspective. A learning-through-design-approach using electronic media for sewing, hacking the traditional model of technology education. In the chapter, the conceptual framework for the research project “Artistic approaches to Engage Girls and Young Women in Technology and Engineering in Education at School and University (Acronym: IBP-GirlsLab)” is presented. It aims to engage girls in technology and engineering by integrating artistic processes as well as a more playcentric approach to technology and engineering education in order to engage girls in shaping technology, is discussed.

INTERACTIVE DESIGN THEORIES AND PRACTICES

The “Formatization Unleashed” chapter by Ulrich Gehmann, Marco Zampella and Matthias Wölfel proposes the thesis that the evolution of information technology, which promises nearly unlimited possibilities, is actually not leading to an increase of individual freedom, but to the very opposite. Since a seemingly increase in individual user-freedom is accompanied by a de facto-increase in preformatted devices for achieving it, and hence, does lead to the actual decrease of this very freedom. All in all, the evolutionary process of information technology described in the following has led to an increasing number of abstraction layers the hierarchy of which can be interpreted as a pyramid of formats. The top of this pyramid is a format in itself that builds upon formats of lower layers. As the final consequence we as the users of these technologies are losing our actual degrees of freedom, with every layer introduced.

The “Making Design Review Interactive” chapter by Rojin S. Vishkaie and Richard M. Levy offers the opportunity to rethink the status of current technologies within the design review process. It suggests the potential for transforming the complex participatory, communicative, and technical nuances of the design review process to coexist with the affordances of the new genre of digital media. Thus, this chapter presents the final stage of an ongoing study that focuses on the design and evaluation of
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an interactive communication medium, called SketchBoard, for the design review process. Findings reveal that SketchBoard that embodies intelligent and intelligible behavior could potentially remedy the vagueness of visualization. This could further provide an insight into improving participatory communication and visualization around technical activities within the design review process using mobile interactive surfaces.

The “Physicality in Technological Interface Design” chapter by Andrew J. Wodehouse and Jonathon Marks explores emotional response to gesture in order to inform future product interaction design. After describing the emergence and likely role of full-body interfaces with devices and systems, the importance of emotional reaction to the necessary movements and gestures is outlined. A gestural vocabulary for the control of a web page is then presented, along with a semantic differential questionnaire for its evaluation. An experiment is described where users undertook a series of web navigation tasks using the gestural vocabulary, then recorded their reaction to the experience. These insights will be of help in interaction design, and provide a basis for further development of gestural vocabularies.

The “Design for Consciousness in the Wild: Notes on Cognition and Space” chapter by Silvia Torsi describes consciousness as a metabolic process having place through the apprehension with the world. Consciousness is not an isolated entity; it is instead growing up and reproducing itself by relating with the world. In this frame higher psychological processes, cognition levered by cultural elements, take place. Cognition itself has its bases on the cultural milieu, and it is related with consciousness being one of the possible expressions of it. Therefore in this chapter the author declines some possible dimension on how consciousness, through cognition, but also through emotions, reflexivity, relationships, expression, takes place and allows the individual cogently participate through the world. Mobility is a novel chance for the individual to take chance of the context to reverberate its consciousness. The chapter explains with examples how mobile and GPS technologies represent a new frontier for the sharing of culture and for leaving traces that, according to the statements of cultural-historical psychology, form the starting point for individual’s life of mind.

The “Computer Graphics Reflection in African Digital Age Visual Designs: An Alternative to Paint Box Design in 21st Century” chapter by Bankole O. Oladumiye describes the African concept of visual design derived from the concept of creation which has been noted to be the exclusive preserved of the gods. Design and art as it were, are created with intrinsic value such as inventions, innovations technical prowess and deep imagination. This chapter concluded that the conventional African visual designs should be guided against because African design is center on values and experience which is concern with the essence of African personality and existence of transmission of design legacy from parents to children which leads to physical or merit pattern, which later becomes the object of perception, admiration, and utilization. Computer graphics and visual design reflection in African design is therefore cognitive reaction scientifically which implies conceptualization and, inspiration in 21st century.

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