

# Chapter 9

## Conclusions

**Abstract** This final chapter summarizes the material presented in this volume, the lessons learned from the case studies, and includes a brief look to the future. Tools for art and design (such as stone, pencil, paintbrush, or iPad) and collaboration opportunities are increasing. Artists and designers are products of their immediate environments to a greater or lesser extent and have both contributed to it, and received cultural benefits from it. Thus, there has been cultural and social interplay between artists and designers and the contextual setting of their artworks and designs. Collaboration across different kinds of creative environments and works can be difficult and challenging because of the cultural norms and assumptions that may be made by different artists. However, it is clear that design processes (particularly for large and extensive projects) can benefit from the involvement of all interested parties from an early stage. The digital revolution has created a connected world. The consequences for artist, designer, art galleries, and museums are significant. Galleries, exhibitions, artists, and designers now operate in a global world as well as the local one. The digital world has also provided many user-friendly tools and facilities at often relatively low cost, or open source, for the artist and designer. It has facilitated the production of new kinds of art, interactive art, and installation art not fully possible before. This has opened up new creative opportunities and horizons for the artist and designer. Modern information technology has also provided low-cost multimedia interfaces and virtual reality. The lessons learned from the case studies are reviewed and summarized.

**Keywords** Tools and materials • Creative applications • Cultural interplay • Connected world • User-friendly tools • Interactive art • Entrepreneurial artist and designer

## 9.1 Introduction

Art and design have used a variety of tools and materials throughout history depending to some degree on their availability. The three age systems of Stone Age, Bronze Age, and Iron Age which refer to the prehistorical and historical periods are identified in general terms by their tool manufacture and use. Although these tools may have been primarily aimed at easing working practices such as those involved with activities such as construction and transport, they have clearly also been utilized by artists and designers for creative applications. Thus, tools and collaboration have always been implicit in art and design to a greater or lesser extent. For example, to learn how to best use a tool (such as stone, pencil, paintbrush, or iPad) and also to interact with other contemporary artists to gain from their knowledge and experience. Thus, artists and designers have demonstrated a relationship with their environments and have both contributed to it, and received cultural benefits from it. Thus, there has been cultural interplay between artist and the contextual setting of the artwork.

## 9.2 Challenges and Benefits of Collaboration

Collaboration across different kinds of creative works can be difficult and challenging because of the cultural norms and assumptions that may be made by different artists. However, it is clear that design processes (particularly for large and extensive projects) can benefit from the involvement of all interested parties from an early stage. When the design is to a brief, it is also important that the eventual users of the final implementation are able to input their views at various stages in the design and implementation processes in order to ensure that their functional requirements can be fully met.

The digital revolution has provided a wide variety of low-cost interfaces (e.g., multimedia, VR) to enable the viewer to interact with, and explore, large artworks such as installation art which may not be directly physically accessible to viewers. This can increase the dimensions of the observer experience with regard to installation art.

## 9.3 Development of Technology

In addition, an understanding of artistic and design processes and the various ways of implementing them has been increased due to the development and application of the various technologies (just as current artificial intelligence procedures applied to the learning processes of humans has caused educational researchers to consider in more detail what the learning processes of humans actually are).

The digital revolution has created a connected world. The consequences for artist, designer, art galleries, and museums are significant and far reaching. It has also provided many user-friendly tools and facilities at often relatively low cost for the artist and designer. It has facilitated the production of new kinds of art, interactive art, and installation art not fully possible before. Thus, it has opened up new creative opportunities and horizons for the artist and designer. Modern information technology has also provided low-cost multimedia interfaces and virtual reality. This can provide new dimensions of interactivity with artworks, as well as providing access to remote viewers over networks and the Internet. It has enabled the viewer to use their mobile phone to interact with artworks where this is a facility that has been designed in by the artist as an integral part of the objective of the work. Thus, the experience of the viewer of an artwork is now able to move from passive observer to interactive participant in those circumstances where this is part of the creative purpose of the work.

## 9.4 Implementation

A wide variety of low-cost, or free, applications software is now currently available—to assist the artist and designer. Similarly, high-functionality hardware to perform functions in art and design that were not possible before, or at least, not easily (e.g., laser scanning, 3D printing, stereolithography) is available at many institutions, or accessible over networks. Software is also available to support art galleries and museums in the management and organization of exhibits, and for artists and designers to organize and keep a record of their own works.

## 9.5 Summary of Lessons Learned from the Case Studies

### 9.5.1 Chapter 6—*Dr. Tracy Piper Wright*

- Use as many opportunities as possible to gain feedback on the technology or product being developed—from its eventual users.
- The research needs to integrate with the participant’s life in order to encourage their engagement, and this requirement is likely to increase depending on the extent and severity of their personal barriers.
- Effective communication is vital to successful multidisciplinary collaborations.
- Arts researchers can make valuable contributions to research in an unrelated discipline. The insights brought to the subject from an alternative perspective can often lead to a new interpretation of an existing situation and the development of innovative responses.

### **9.5.2 Chapter 7—Dr. Stuart Cunningham, Steve Nicholls, and Steffan Owens**

- Technology has played a crucial role in the development of music, especially when it comes to the way that it can connect to its audience, and the diverse range of ways that it can interact with learners of differing style and level. However, the introduction of these technologies has, arguably, introduced a divide; the ability to work alone and in isolation affords many resource benefits, but endangers the ability to work collaboratively and learn from more experienced musicians.
- Music has embraced technological change and used it to full advantage, especially when it comes to being able to produce more diverse and larger scale creative works, as well as being able to distribute works in digital form.
- When it comes to training the next generation of musicians, it has been demonstrated that the use of multimedia, interactive platforms, and fast communication mechanisms has made education a more diverse and accessible opportunity.

### **9.5.3 Chapter 8—Dr. Karen Heald and Dr. Susan Liggett**

- Using visual images to improve the mental health of patients has produced positive results and appears to confirm the value of conducting further investigations.
- Possible applicability to further groups in society currently at the margins that could be helped by similar forms of visual treatment.
- Potential for putting treatment strategies online—to allow direct access by those likely to benefit.
- Potential for automating the diagnosis and treatment process by means of digital technology.

## **9.6 Summary**

As the lessons learned have identified, it is important to gain feedback from the eventual users if various kinds of technology are being proposed—in order to ensure that the user interfaces satisfy user needs, and the functionality incorporated in the creative works is able to accomplish both the design objectives and meet user requirements. Clearly, effective communication between artists, designers, and users is essential to ensure these objectives are met.

Technology can enable the creative processes to be advanced and produce new opportunities for the design and distribution of digital works, particularly where

they are part of a commercial enterprise such as digital music production and distribution. It has also facilitated in the education of the next generation of musicians.

Visual images have also been utilized in new application areas such as mental health. This could have the potential to revolutionize aspects of health in areas often marginalized in many countries due to economic constraints in health and social care.

## 9.7 The Future

Entrepreneurial artists and designers who see modern technology as an opportunity rather than a constraint will continue to be able to produce groundbreaking artworks and designs that exceed current expectations, and open up new visions for the future. They will also allow the viewers of artists' works to enter into new kinds of relationship with the works they view. This benefits all parties in the continuing development of artistic and design experience.

Continued increases in power, functionality, and capability in information technology and telecommunications will produce more products and services that could be attractive to many potential application areas in the future, including art and design.

## Further Reading

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