The Influence Of Technology On Interior Design In The 21st Century

Technology is a powerful tool that could make or break a designer. In the present world, there is a strong use of technology within different sectors such as gaming, education, and healthcare. As interior designers, we should learn and abstract positive qualities to be integrated into our interior design practice.

Technological advancement in interior design consists of positive and negative perspectives concerning the use of programs that helps designers to ensure the project turns into reality. I will be explaining why technology is used in the context and interior design and what type of technology is used within different sectors and how it could be adapted to the field of interior design.

Introduction

As technology in the 21st century is constantly changing, interior designers are required to keep up with the range of programs that offers speed and efficiency in terms of 3D visualization of interior environments.

BIM technology is comprehensive and efficient software which proves new design thinking and methods for interior designers (Zhu, 2018). Autodesk Revit, Bentley, ArchiCAD are examples of BIM programs which allows parametric design model with integrated block libraries for efficiency (Zhu, 2018).

The visualisation programs in interior design encompass programs such as AutoCAD, SketchUp, Revit, or 3DS Max (Lee, 2009). Generally, these programs are popular due to the increased efficiency and productivity in the workflow, it also allows easier communication and understanding between designers and clients (Lee, 2009).

Why is the technology used in the context of interior design?

Technology provides the basis of helping interior designers understand and organize large, complex information effectively (Bustos et al., 2007; Rushmeier et al., 2007). As interior designers are often required to provide a clear understanding for clients of what is the expected outcome of the project, however, there is often a gap between clients' understanding of 2D architectural plans and drawings. With the current range of visualisation programs, it offers clients “accurate simulations of the space that is designed for consumers” so they can better comprehend what they are paying for (Lee, 2009).

With the continuous improvement of technology, it is highly beneficial for interior designer’s interaction and communication with clients as it helps designers convey their design ideas more clearly and effectively (Tyrka, 1999; Schuldt, 2005; Mullins, 2006; Ichioka, 2008). Visual information conveyed through 3D visualisation affects consumer’s buying decisions as it is strongly affected by “colour, pattern, texture and the appearance materials applied” in interior

environments (Lee, 2009). In the digital world, Oh et al (2004) further emphasise on how consumers can “interact with objects and materials using features online by changing the products’ attributes such as colour and pattern”. Hence, technology is highly advantageous for interior designers in the competitive market as it provides a clearer understanding of intended design effectively towards consumers and clients.

What type of technology is used in other fields and how is it adapted to interior design?

Game engines are often used to create photorealistic environment and interactions, similarly with the 3D visualization programs which interior designers use for presentation renders. According to Fritsch & Kada (2004), Unreal Engine 2 is one of the most extensively used game engines as it provides an extensive range of products from video games to architectural visualisation.

Virtual reality is a term that has been used for a simulated three-dimensional environment where the visitor is given the sensation of immersing into a computer-generated virtual world as if it were real (Huang, Rauch, & Liaw 2010). Second Life, a form of virtual reality, was chosen for the Interior Design Class as it is an effective program to prepare students for the profession of interior design (Meggs, Greer & Collins, 2012). SL is particularly strong and for which it was used in this interior design course is the social interaction and communication in peer review (Meggs, Greer & Collins, 2012). Students can create personalised avatars, take part in the interactive community and buy resources such as virtual land, buildings, furniture, and other items within the virtual world. In short, SL mimics the cultures and subcultures of the real world with communities such as healthcare and educational systems (PC Magazine, 2009).

VR has been used to facilitate the rehabilitation of patients. Merions et al. (2002) used VR to create an interactive and motivating environment for individuals to retain the movement of the hand. A 3DIDS sweet home study depicts an interactive simulation of the home area which can be easily navigated through in real-time (Merions et al., 2002). This allows patients to “walk” through their home, via a PC or laptop and could help therapists consider barriers to everyday performance (Merions et al., 2002).

Implications and future speculation for interior design

Technology can be seen as beneficial from the education and healthcare sector, interior designers could abstract these positive aspects to be injected into the broader context of interior design. While the benefits of technological advancements in interior design practice is effective in the workflow and client presentation, there are also downfalls with technology within the interior design domain. Despite that BIM and CAD gives the interior designer a lot of efficiency and convenience in the workflow, it also takes away the exploration process that contributes towards the most inspired and meaningful designs (Carr, 2015). This speed of technology causes various implications in the workplace as the expectation of project delivery becomes more unreasonable which therefore contributes to stress in the workplace.

The over-reliance on technology creates further implications such as the loss of hand drawing and sketching skills. As Carr (2015) described that “sketching enables exploration of the problem space and the solution space to proceed together”. This depicts the lack of balance in

technology and the use of traditional methods in this modern world today. As interior designers, we should strive for a balance of technological and hand-drawing skills in our workflow to produce the best solutions and innovative ideas.