Technology Museum: An Interactive Exhibit on Recent Technological Developments

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ABSTRACT
The following essay discusses our thoughts behind the design process and the application of scene design, lighting, and audio as elements of mise-en-scène for our game design project, *Technology Museum*. The goal of our piece is to encourage others to appreciate more recent advancements in technology and consider creating a physical exhibit of this kind.

Keywords
Mise-en-scène, museum, technology, scene design, lighting, audio, history of technology

1. INTRODUCTION
The theme of the project, to be interpreted however we pleased, was the word "tech." We decided to go with an exhibition that displayed technology from different time periods. The aptly named *Technology Museum* is a single-player interactive museum exhibit game. The player gets to explore a series of rooms representative of four decades (the 1990s, the 2000s, the 2010s, and the 2020s). Within each of the first three galleries, there are five types of technology present to be displayed: computers, televisions, video game consoles, telephones, and music players. We felt that this range of devices was capable of accurately capturing the technological advances of each era. Each artifact comes with a text description that briefly describes the object, acting as an interactive museum plaque; some objects will also play specific sounds when the player is within range. The only exception to these attributes is the fourth gallery, which is a dark room containing a curved, illuminated screen and a luminous exit door. Notably, this particular section is devoid of any artifacts, but there is purpose behind this decision. In addition, every room comes with its own thematic looping background music, triggered upon entering a new area of the exhibit.

2. ENVIRONMENTAL DESIGN
2.1 The Functionality of Museums
Our group looked into how museums effectively showcase their subject matter. Exhibits are set up with an express purpose in mind, chiefly to document and educate. For their analysis of children's engagement with interactive museum exhibits, researchers Haywood and Cairns stated that "The goal of museums is to produce successful exhibits and therefore to be able to reliably design exhibits for learning and engagement" [1].

Regardless of whether the objects are well-regarded works of art, live organisms, or weathered artifacts, curated collections bring forth opportunities for accessible education to the general public. Access to venues that specialize in learning is limited outside of museums, so their presence is vital.

2.2 Working Within Spatial Limitations
We researched effective museum exhibit design to reflect functionality operating within limited environments. Often, exhibits must create lengthy, linear experiences with limited amounts of physical space. In these cases, designers will map out paths to elongate the visitor's journey through galleries [2]. We applied this creative handicap to ourselves. Our application of elongation was modeling our museum with a winding path that weaves back and forth through the various rooms. This lengthening process can be done again within the rooms themselves through small scale display design. Though our original designs were reduced in the final product, it is important to emphasize the forethought of this design element.

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3. MISE-EN-SCÈNE
3.1 Scene Design
As set designers, we had total control over the setting. Filmmakers may make use of constructed sets or pre-existing locales, but setting is not "only a container for human events, but can dynamically enter the narrative action" [3]. Though this game lacks a fabricated narrative, the linear progression through time creates a historical narrative for the artifacts. The environments can change the visitor's emotional perceptions of the displayed technology.

Each of the first three galleries have an aesthetic reminiscent of their decade. The nineties have psychedelic patterns, with cubic wallpaper and arcade-style flooring. Though this choice seems to be an immature caricature of the decade, the goal is to evoke a childhood nostalgic feeling in the player. Technology became increasingly accessible to children, so companies would cater their products in separate markets for kids and adults. Meanwhile, the aughts emit a bare-bones style, with cement walls and metal flooring to imitate the beginnings of the rough, minimalist trend in professional environments' room design. This invokes a grittier feeling from the player, representing the move from the childhood

awe people held for technology to its useful application in society. Finally, the teens have the smooth, sparse design that replicates modern, high-end technology stores. This is closer to using a real-life location, and results in a cool, detached feeling inspired in the visitor. The 2010s in particular make use of a "the future is now" motif in advertising technology, which is represented here in the clean presentation of the room.

3.2 Lighting

The lighting for each room goes about attempting to replicate the vibe of the decade. Bordwell, Thompson, and Smith explain lighting's influence on a film scene's representation, saying that "the image should have pictorial impact, and for that it's vital to control the lighting" [3]. Lighting's application on a non-fictional display remains just as important as it is for fictional works.

The 1990s room has distinctly yellow lighting. The warm glow mimics incandescent light bulbs, a commonly used light source at the time. The mellow aura that results plays on the nostalgia factor and inspires the feeling of having fond memories for the player. Meanwhile, both the 2000s and 2010s rooms utilize white lighting. They give the rooms harsher and more sterile moods, symbolizing the maturity of the technology it presents.

However, the room representing the twenty-twenties is a dark void because the decade has not come to pass. It is representative of the fact that, as of this writing, the 2020s do not have its own conclusive identity, neither technological nor aesthetically. The absence of light has as much meaning as its presence, in this case symbolizing the potential of the coming decade. It does host a large screen with the words "The technology of the future is up to you" over a backdrop of outer space, again, a metaphor for the vastness of our potential. Overlaying this, there is an artistic depiction of a robotic hand reaching out to a human one that spoofs Michelangelo's *The Creation of Adam*. Humanity will determine the outcome of our technological output, just as the biblical depiction of mankind's creation is dependent upon God's input.

3.3 Audio

The soundscape for the exhibits heightens immersion within the game environment. Each room has thematic background music that works in tandem with the scene design and lighting. The 1990s music uses a synth and reminds the player of cheesy commercial music from that decade, again playing off of feelings of happy-go-lucky nostalgia. The 2000s room has a hip-hop track playing over it, and its limited use of instruments and staccato beats reflect a maturity in the market for technology. The 2010s has an instrumental track similar to what is used in commercials displaying the modernity of tech products, with a bouncier sound imitating the emphasis on devices being lightweight and more aesthetically pleasing. Finally, the 2020s has an orchestral track that evokes the feeling of further exploration, aided by the primary visual of outer space on the screen. The combination of music with museum displays makes it so the player can subconsciously create the desired emotional relationships with each time period.

4. CONCLUSION

Though the importance of technology in society is undeniable, it seems that we neglect looking back on our progress in favor either admiring the accomplishments of the present or postulating on what advances might come in the future. To an extent, the constant presence of technology in our lives gives it the sense of being ahistorical [4]. Advancements blend together when companies actively encourage consumers to upgrade to the next best thing, leaving us in a never-ending cycle of trying to keep up with the Joneses. As a result, our process of documentation for the technology we take for granted ends up severely diminished and the nuances of evolution go unrecognized. In using elements of mise-en-scène to create emotional connections with the history of technology, we hope to inspire steps in the right direction: preserve tangible artifacts of recent pieces of technology so that they may be better appreciated and understood in the future.

5. REFERENCES

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