The Convergence of Visual Styles in Games: The Impact of Technological Integration on Creative Decisions and Aesthetic Choices

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- **Keywords**

Aesthetic Homogenization, Technological Convergence, Game Visual Styles, Industrial Engines, Auto-Ethnography

- **Format of Work**

This is a research examining aesthetic homogenization in game development, with a focus on the role of industrial engines and technology convergence in shaping visual styles.

- **Description of Work**

This research examines the convergence of visual styles in the gaming industry, aiming to prompt industry-wide reflection on this phenomenon. This convergence is driven by the increasing use of standardized tools such as Unreal Engine and auto-generation algorithms. Through an auto-ethnographic approach, the study highlights how technological integration affects aesthetic diversity and draws on industry experience to showcase the limitations and challenges that technical frameworks impose on artistic expression in game development

- **Research Statement**

Background

Technological convergence has significantly shaped the gaming industry, influencing not only the efficiency of production but also aesthetic decisions. Industrial engines like Unreal Engine and Unity have become dominant in game development, integrating various technologies such as physics simulations, rendering systems, and procedural generation. This integration has improved production efficiency but has also contributed to aesthetic homogenization across different games (Ip, 2008).

While technological advancements in graphics processing and asset generation have allowed developers to create visually stunning games, the reliance on standardized tools and algorithms can lead to uniformity in visual styles. For example, the widespread use of Physically Based Rendering (PBR) workflows in Unreal Engine games, as seen in *Back 4 Blood* and *Fortnite*, demonstrates how developers often gravitate towards similar artistic choices due to the convenience and efficiency provided by the engine's built-in tools.

Contribution to Field

This research examines how technological integration, particularly through the use of industrial engines and standardized tools, affects game aesthetics. By reflecting on my experiences as a rendering technical artist, the study explores how the reliance on industrial engines and automated generation tools can constrain aesthetic diversity. It provides a critical perspective on how developers can address these challenges, encouraging reflection on the impact of technological convergence on aesthetic choices. The research aims to help the game industry maintain the uniqueness and diversity of artistic expression while continuing to advance technologically.

Significance

The significance of this research lies in its focus on aesthetic homogenization within the context of the Australian game industry, which is home to many small studios and independent developers. These developers often rely on standardized tools to reduce costs and streamline production. This study aims to raise awareness of the potential risks of creative stagnation associated with these practices. By highlighting these challenges, the research encourages the industry to explore new visual styles and artistic expressions, fostering a more diverse and innovative landscape for Australian game development.

Exhibition

The work will be presented as part of a poster session at the DiGRA Australia conference. A monitor displaying game visuals that demonstrate the aesthetic homogenization discussed in the paper will be available, along with a set of handouts summarizing key research findings.

BIO

Ziya Gao is a rendering technical artist with over three years of experience in AAA game development. She has worked at Sakura Studio, where she served as the Technical Artist Engineer for *Visions of Mana* Specializing in rendering technologies and their impact on game aesthetics, her research focuses on the relationship between technological integration and aesthetic choices in game development, with a particular emphasis on how industrial engines affect the diversity of visual styles.

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