Abstract

In an era of rapid development in digital technology, the Cyberpunk style finds increasingly broad applications in various artistic domains, greatly appealing to the younger generation. Compared to the well-developed research on the Cyberpunk literary genre, there is still a lack of a comprehensive theoretical framework for studying Cyberpunk style visual imagery, leaving ample room for exploration across interdisciplinary media expressions. Simultaneously, with the ongoing digitalization and smartification trends in the new energy vehicle industry, the user base for new energy vehicles is becoming younger, with a growing demand for novel driving experiences. Currently, personalized design in new energy vehicles mainly focuses on exterior aesthetics, with limited research on dashboard interface design.

However, the dashboard plays a crucial role in enhancing the driving experience, catering to the personalized demands of adventurous individuals. Therefore, this project aims to keep pace with contemporary trends by providing design examples and methodologies for Cyberpunk style design directions through the analysis of visual elements. Additionally, integrating Cyberpunk culture into new energy vehicle dashboard interfaces can offer young users customized experiences, bridging the gap between virtual and real-world experiences. This exploration represents a pioneering effort in combining Cyberpunk aesthetics with dashboard interface design.

Against this backdrop, this project conducts an analysis of sub-genre elements within Cyberpunk and explores visual design practices for new energy vehicle dashboards. On a theoretical level, the project employs a design semiotics approach to construct an analytical dimensional model, systematically categorizing Cyberpunk sub-genres and deconstructing their elements. In practice, the project conducts explorations in five aesthetic style directions for dashboard interfaces based on theoretical analyses, inviting design experts for evaluations and subsequent iterative optimizations. Furthermore, through experiments on sub-genre preferences, the project identifies sub-genres suitable for future style fusion inno-

vations, ultimately generating designs for Cyberpunk-styled new energy vehicle dashboards.

In summary, the research outcomes include: (1) categorizing Cyberpunk style into five sub-genres: Neon/Artificial Light Style, Scene Sub-genre, Cartoon/2D Style, Mechanical Prosthesis Style, and Vintage Comic Style; (2) constructing an analytical dimensional model based on design semiotics theory, extracting design elements corresponding to each sub-genre, enriching and evolving the Cyberpunk sub-genre image analysis system; (3) conducting visual design practices of Cyberpunk sub-genres for new energy vehicle dashboards, producing various dashboard design concepts and validating their association with Cyberpunk style and high user preference; (4) innovating further on sub-genres based on validation results, ultimately producing two new Cyberpunk-style dashboard application designs and verifying their safety and high user satisfaction through usability testing. Finally, the project summarizes design experiences concerning the application of Cyberpunk design elements in this scheme.

Keywords: Cyberpunk Style, New Energy Vehicles, Dashboard, Design Semiotics