

Engine Workers: Scalability and Frictions in Game Engine Culture

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ABSTRACT

Game engines, particularly *Unity* (Unity Technologies) and *Unreal Engine* (Epic Games), have undergone a dramatic transformation, evolving from specialized tools for videogame development into expansive platforms that now serve film and television production, architectural visualization, live event broadcasting, automotive design, and interactive simulation development. This research examines the ramifications of this technological expansion for creative practitioners who have incorporated these engines into their professional workflows across non-gaming sectors.

Centering the investigation on London's creative economy—selected due to the United Kingdom's sustained policy emphasis on creative industries and the city's dense concentration of cultural workers—this study interrogates the uneven power dynamics that emerge when game engine technologies migrate beyond their original domain (McRobbie 2016). Through a methodological approach informed by Anna Tsing's conceptualization of *friction* (2004), this research attends to the specific moments where the scalability ambitions of game engine corporations encounter resistance, adaptation, and unexpected transformation. Rather than assuming seamless technological transfer across industries, this framework enables analysis of how different sectoral contexts, professional cultures, and creative practices generate friction against the universalizing logic of platform expansion.

To investigate these dynamics, I conducted interviews with what I term *engine workers*: artists, technicians, and creative professionals who perform the crucial labour of translating game engine workflows and visual languages into contexts for which these tools have only recently been adapted. Data collection comprises approximately 12 semi-structured interviews with London-based practitioners, conducted from April 2025, who have integrated game engines into their creative practice, supplemented by participatory observation within these emerging professional communities.

Engine workers navigate a complex terrain of dependencies and constraints. They confront technical lock-in mechanisms that bind them to proprietary ecosystems,

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must continuously adapt their expertise to accommodate platform updates and corporate strategic shifts, and operate within marketplace structures that mediate their access to clients and audiences. Drawing upon scholarship on the platformization of cultural production (Nieborg and Poell 2018; Poell, Nieborg and Duffy 2021) alongside critical analyses of game engine technologies and labour relations (Chia et al. 2020; Chia 2022; Freedman 2019; Nicoll and Keogh 2019; Lohmeyer 2021; Malazita 2024), this research conceptualizes game engines as platforms that accumulate power through their technical architecture, cultivate economic dependencies, and enforce particular aesthetic conventions and production methodologies.

Game engines operate as powerful intermediaries, extracting economic value from creative labour while simultaneously enabling new forms of cultural production and constraining others. They standardize aesthetic and functional approaches across previously distinct industries, raising urgent questions regarding artistic authorship, expressive heterogeneity, barriers to entry, environmental implications of increased digital infrastructure, and the consequences of accelerated digital consumption. However, these asymmetrical power relations do not remain unchallenged. Analysis of interview material and observational data reveals diverse strategies through which creative professionals—both collectively and individually—negotiate, resist, and subvert the demands imposed by client expectations and platform logics.

By analyzing how game engines reconfigure labour practices, professional autonomy, and occupational identities across multiple creative sectors, this research contributes to the theoretical understanding of platform capitalism's penetration into cultural production and the impact of videogame technologies beyond the gaming sector. It demonstrates that platformization generates not only new dependencies but also new sites of contestation, adaptation, and creative resistance. The study reveals how the supposedly neutral efficiency of technological standardization carries profound implications for who can create, what can be created, and how creative value is distributed. It examines how young graduates, established media artists, and mid-career professionals across diverse specializations are collectively rethinking creative practice in relation to game engine production.

REFERENCES

- Chia, Aleena. 2022. "The Metaverse, but not the way you think: Game engines and automation beyond game development." *Critical Studies in Media Communication* 39(3): 191–200.
- Chia, Aleena, Keogh, Brendan, Leorke, Dale, and Nicoll, Benjamin. 2020. "Platformisation in game development." *Internet Policy Review* 9(4).
- Freedman, Eric. 2019. *The Persistence of Code in Game Engine Culture*. London: Routledge.
- Lohmeyer, Eddie. 2021. *Unstable Aesthetics: Game Engines and the Strangeness of Modding*. New York: Bloomsbury Academic.
- Malazita, Jim. 2024. *Enacting Platforms: Feminist Technoscience and the Unreal Engine*. Cambridge, MA: MIT Press.

McRobbie, Angela. 2016. *Be Creative: Making a Living in the New Culture Industries*. London: Polity Press.

Nicoll, Benjamin and Keogh, Brendan. 2019. *The Unity Game Engine and the Circuits of Cultural Software*. New York: Palgrave MacMillan.

Nieborg, David and Poell, Thomas. 2018. "The platformization of cultural production: Theorizing the contingent cultural commodity." *New Media and Society* 20(11): 4275–4292.

Poell, Thomas, Nieborg, David B. and Duffy, Brooke Erin. 2021. *Platforms and Cultural Production*. Oxford: John Wiley & Sons.

Tsing, Anna Lowenhaupt. 2004. *Friction: An Ethnography of Global Connection*. Princeton: Princeton University Press.