Designing for Time: Game Developer Insights on Temporality in Digital Play

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INTRODUCTION
Digital play involves a combination of both a player's time and a game's interactive capacity. While this capacity has been examined spatially (levels and content) and in terms of aspiration (challenge and immersion), this project seeks to examine the *temporal* capacity of a game and how it is designed. Juul (2003) notes that time is an unavoidable cost for players, regardless of a game's design, genre, or goal. This raises the question of how this cost is designed in game development. How are dimensions of game time, play time, and player time valued, measured, and implemented into video game production? How are these aspects communicated, prioritised, and supported by a studio? To answer these questions this project will conduct semi-structured interviews with game developers of diverse genres and across both indie and AAA studios. These interviews will target topics such as pacing, player time data, and temporal aspects (flow theory [Csikszentmihalyi 2014], cooldowns [Alvarez Igarzábal 2019], and menu systems [Kraj 2020]). This project also aims to capture the subjective perspectives of game developers toward temporal dimensions in design, including their personal experiences and their views on broader industry practices.

Despite discussions on temporal aspects of game design across developer interviews, there is still a lack of clear insight into how time is integrated into industry practices and commercial priorities. In a rare example, the developer of *Braid* (Number None 2008), spoke about how the rewind system presented not only an infinite resource to give temporal agency to players but also to minimise programming hurdles for the solo developer (Yeung 2014). Temporal player data has also been examined by Drachen et al. (2013) as a metric to benefit game developers by addressing the utility of average playtimes and time spent at checkpoints. Yet how developers value or approach these metrics initially, iteratively, and developmentally is under-explored. As Seif El-Nasr et al. (2013, 367) summarise in *Game Analytics Maximizing the Value of Player Data*, temporal player data is essential in the development of progression, path building, AI systems, retention, strategy building, and various other analytical frames that impact design and game balance. The use of tools like heatmaps, overlays, and trajectory analysis help visualise temporal data, but whether there is a standardised approach, novel systems, or unique organisational cultures surrounding these practices remains unclear in current literature.

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While temporal data and design aspects align with commercially driven goals, how time affects players through design choices is also worth understanding. Howe, (2017), the Creative Producer and overseer at Owlchemy Labs, spoke at the 2017 Game Developers Conference with the recognition that “Time is the core currency for live games”. In a talk that was focused on Freemium mobile games, the qualitative value of player engagement, being the emotional and psychological thought and effort towards a game over time, was highlighted as a key design value over player retention and engagement metrics. This perspective is supported by Klassen et al. (2007), who examined the development strategies of the game studio Meantime. A central aspect of Meantime’s design philosophy was the goal of filling users' 'deadtime' with meaningful interactivity. By probing how developers value temporal dimensions in design and player affect, a standardised framework can be developed to benefit and inform ethical game design choices.

This project is currently applying an deductive framework to structure the analysis of time in game design around two key priorities. The first is an *operational* priority that situates the temporal dimensions of game design to be embedded in a commercial reality. That design choices are made not only to create a more marketable and commercially viable game but also to streamline workflows, improve team efficiency, and reach production goals for the developers themselves. To complement this is a *user-centered* priority, one that identifies the affect of temporal design choices on the player. How temporal design elements may encourage extended play sessions or time-based behaviours, enhancing player retention and engagement without necessarily being ethically motivated. These priorities are not exclusive and are expected to overlap and even contradict each other throughout data collection. Video games are complex systems of use and effect that can be both commercial products (which must balance creativity with financial support and compensation to continue development [Keogh 2023]) and cultural artefacts (that impact individuals and groups in multifaceted ways [Greenfield 1970; Henderson 2005]) and the subjective priorities of developers towards either dimension is of equal merit.

This project aims to address the gap and provide insight into the understudied area of time and temporality in game design. By examining developer strategies, this study aims to develop a more nuanced understanding of the dimensions of play that compel or motivate player engagement, while also addressing the organisational and commercial realities of game development.

BIO

Tom Byers is a PhD candidate at the University of Melbourne in the Faculty of Engineering & IT, examining time and temporality in user experience and game development. He is currently engaged as a research assistant for the Centre of Wellbeing Science in a project to embed positive wellbeing experiences in commercial games.

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