

Ephemeral: Poetic Game Design for Existential Reflection

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Abstract

While videogames are increasingly recognized as expressive media, their potential to support existential reflection remains underexplored in both game studies and game design. Existing research often focuses on narrative, with limited attention to how procedural rhetoric and environmental design can evoke philosophical reflection. This thesis addresses this gap by investigating how poetic game design, which relies not on conventional fun gameplay but on simple representations, symbolism, and rhythm, can function as a medium for existential reflection.

To explore this question, the project adopts a research-creation methodology. A videogame prototype was developed in Unreal Engine 5, in which the player inhabits the brief life of a mayfly. Born at sunrise and fading away at sunset, the player is invited to explore a world without a specific objective. In this game, player agency becomes part of the meaning-making process, as players choose how to spend their limited time within the world. Players can choose to explore freely or chase the fading sunset. The game aims to evoke moments of philosophical reflection through procedural rhetoric and environmental design.

This research contributes to the field of games as a philosophical medium by presenting a playable prototype and outlining an approach for translating existential themes into interactive systems. It suggests that existential themes can be meaningfully explored not only through narrative but also through procedural rhetoric and environmental design.

Keywords: Game Design; Existentialism; Procedural Rhetoric; Environmental Design; Research-Creation

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Chapter 1: Introduction

In recent years, I have increasingly found myself caught in a sense of existential crisis—a quiet, persistent suspicion that life unfolds along a predetermined and standardized line. This line appears to be composed of socially prescribed milestones: go to school, find a job, get married, and eventually face death. This has thrown me into confusion: if life is already arranged in advance, what meaning remains within it? What are we ultimately living for?

This reflection frequently brought to mind the life cycle of the mayfly. A mayfly emerges, lives for a single day, reproduces, and disappears, leaving the next generation to repeat the same brief cycle. Observing this pattern made it difficult not to notice a similar rhythm in human life, where repetition and external expectations can sometimes structure existence in ways that feel programmed. Such observations raised a deeper concern: if life follows socially prescribed patterns, where does authentic choice or personal meaning emerge?

My perspective began to shift when I read Irvin Yalom's *existential psychotherapy* (1980), which treats nihilism not as a dead end but as a signal: it is an invitation to confront the deeper anxieties behind it. Through Yalom's four existential concerns—death, freedom, isolation, and meaninglessness—I realized that the problem was not the milestones themselves, but the assumption that they must structure a life. Between those socially prescribed nodes lies an entire field of possibilities. We can choose different paths or even step away from some nodes entirely. More importantly, I began to understand that meaning forms in the present: in moments of attention, hesitation, choice, and feeling. As these moments accumulate, they trace a path that becomes uniquely one's own. Yet this theoretical shift raises a further question: if existential reflection emerges through lived experience, how might a designed experience intentionally create the conditions for such reflection?

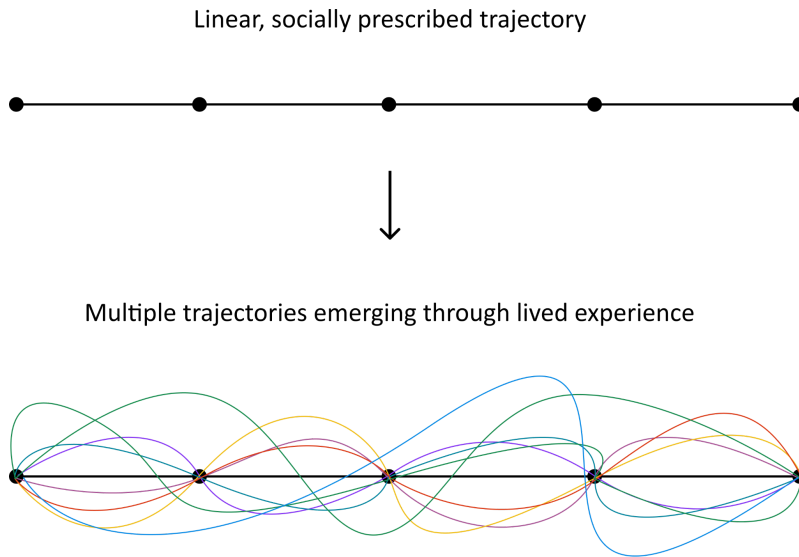


Figure 1. Conceptual diagram illustrating a shift from a linear, socially prescribed life trajectory (top) to multiple trajectories emerging through lived experience (bottom).

This realization became the foundation of my research. I wanted to explore how people engage with existential reflection not only through reading abstract philosophical theory, but through experiences that feel direct and personal. I needed a medium that could express these questions in a way that is lived, not just understood intellectually.

Videogames became my primary medium of choice. As both a player and a game designer, I have long been drawn to the way games allow players to act, choose, and explore. Unlike literature or film, videogames operate through interactive systems. These rule-based systems respond to player input and generate different outcomes depending on the player's actions. They shape how players move, interact with the world, and experience consequences within the game environment. Rather than simply observing events unfold, players participate in shaping them. Decisions such as where to go, what to interact with, or how to respond to constraints become part of the experience itself. As a result, elements such as time pressure or irreversible choices are not only represented narratively but are encountered through the player's own actions within the system. Linear media such as literature and film can also evoke complex meanings and emotional responses through narrative, imagery, and

identification with characters. However, these meanings emerge primarily through interpretation and observation. In contrast, games allow players to experience certain conditions through participation. Because the player actively performs actions within the system, the experience can feel personally enacted rather than simply witnessed.

This unique ability perhaps finds its most succinct expression in a genre known as the poetry game. Works such as *Passage* (2007) and *Everything* (2017) demonstrate that a game's impact does not need to rely on fun gameplay or flashy graphics. Instead, poetic games rely on simple representations, symbolism, metaphor, and rhythm (Magnuson, 2023). In these works, meaning is not told through dialogue but emerges from the player's interaction with the world. By stripping away traditional rewards, poetic games transform play into a form of interactive contemplation, letting players feel the essence of existence through the mechanics of the experience itself.

In recent years, there has been growing research exploring existential themes in videogames. For example, Rusch and Phelps (2020) discussed how symbolic enactment can create meaningful experiences through play. However, in many existing works, existential ideas are primarily communicated through narrative layers. A well-known example is *NieR: Automata* (2017), which explores philosophical questions about consciousness, purpose, and the value of existence through its storyline and characters. The game's multiple endings and repeated playthroughs gradually reveal these themes through narrative progression and dialogue, guiding players toward reflection through story structure. Despite these developments, there remains room to explore other approaches. Instead of relying primarily on narrative exposition, it is possible to ask whether existential reflection might emerge from gameplay mechanics and spatial experience themselves. In other words, can philosophical questions be evoked through mechanics, interaction, and environmental design rather than through scripted storytelling? This project approaches the question through research-creation, a methodology in which knowledge is generated through the process of making creative work. By designing and iteratively developing a

playable prototype, the project investigates how abstract philosophical ideas can be translated into specific interactive form. By focusing on mechanics and level design as the primary expressive elements, this project explores how gameplay systems and spatial design can evoke existential reflection through player interaction.

For this reason, I chose to advance this project through the development of playable prototypes. A prototype is an approximation of a final product used to test specific ideas (Ulrich and Eppinger, 2012). In this project, prototyping allows existential questions to be tested in the moment-to-moment experience of the player. This is because a concept like limited time only becomes real when the player must actively manage their actions within a closing window of opportunity. Following a research-creation framework (Chapman and Sawchuk, 2012), I use the act of making as a way to think through ideas. This approach lets me understand existential reflection as something that emerges from interaction rather than explanation. By this, I mean the player finds meaning through what they do in the game, rather than being told what to think through text or dialogue.

Given these motivations, this thesis investigates the following question: How might procedural rhetoric and environmental design in videogames be designed to evoke affective experiences related to existential reflection?

This research focuses on two primary components. The first is procedural rhetoric, a concept introduced by Ian Bogost (2007), which describes how videogames can express ideas through the rules and behaviors of their systems. In this project, procedural rhetoric is used to embed metaphorical meaning directly into gameplay mechanics. For instance, the visible trace left by the mayfly's flight path functions as a procedural metaphor for the accumulation of meaning and existence. This can be understood as a form of mapping, where abstract concepts such as meaning are translated into perceivable gameplay experience. The second component is environmental design, particularly the use of level structure and art style to shape the player's movement and perception within the world. The

landmarks and environmental composition guide exploration and shape the player's affective experience within the environment. These two components operate together. The environment provides the spatial and atmospheric context, while the player's actions within that space activate the procedural systems that generate meaning. Through iterative prototyping and design exploration, this thesis proposes an approach for translating existential concepts into interactive systems and spatial experiences, allowing philosophical reflection to emerge through gameplay rather than narrative explanation.

Chapter 2: Literature & Contextual Review

My research project engages both philosophical research and creative practice. Therefore, this literature and contextual review covers existential philosophy, game studies, and game design. In this chapter, I will discuss three central areas: first, existentialist philosophy and its application in psychotherapy, tracing how concerns with death, freedom, isolation, and meaninglessness (Yalom, 1980) might translate into interactive experience. Second, how games function as procedural rhetoric (Bogost, 2007) and as a tool for symbolic enactment (Rusch & Phelps, 2020). Third, I review poetic and affective game experiences. I draw on Jordan Magnuson's (2023) concept of Game Poems, which focuses on how minimal mechanics and symbolic imagery create emotional resonance rather than traditional fun. Resonance refers to the moment when an experience within the game echoes with the player's own thoughts, emotions, or lived experience, prompting reflection beyond the immediate gameplay. It is essential because it creates a deeper reflective connection between the game and the player's life. By synthesizing these three domains, my project moves beyond theoretical analysis toward a practice-based exploration of existential themes. This trajectory allows for a design approach that uses game mechanics and environmental design to bridge the gap between abstract philosophical ideas and the player's felt experience of presence within the game world.

Existentialist Philosophy

Reviewing existentialist literature is crucial because it provides the theoretical backbone for understanding how players interact with a world that offers no pre-defined goals. By examining the works of thinkers like Søren Kierkegaard and Friedrich Nietzsche, I can better ground my design choices in the context of human agency. Their ideas help explain how the feeling of uncertainty or the pressure of time—elements I build into my prototypes—can actually drive a player to create their own meaning. This section explores how the existential confrontation with the unknown and the fragility of being are

not just abstract ideas, but practical tools for shaping a player's journey. Rather than a static exploration of self, this process focuses on the active construction of meaning within a transient environment.

Philosophical Foundations of Existentialism

To explain the core concept of this project, I first need to outline the philosophical origins and key tenets of existentialism. Existentialism is a philosophical movement emphasizing individual existence, freedom, and choice. Its roots can be traced back to the writings of Søren Kierkegaard and Friedrich Nietzsche in the 19th century, but it truly flourished in 20th-century Europe, particularly after the devastation of World War II. With social upheaval, technological advancement, and the decline of religion and tradition, people began to deeply contemplate the meaning and value of life and human existence.

One of the core principles of existentialism is that existence precedes essence, a principle famously articulated by Jean-Paul Sartre (1946). This viewpoint is radically different from traditional essentialist philosophy, which posits that the essence of a thing is pre-determined before it exists. In contrast, Sartre argues that humans exist first, appear on the scene, and only afterwards define themselves through their choices and actions. For Sartre, freedom is inescapable; he suggests that humans are condemned to be free and must therefore bear full responsibility for the meanings they create. This absolute freedom grants individuals autonomy but also produces anguish, as they must confront the heavy burden of responsibility for their own self-definition.

Existentialist thinkers also emphasize the absurdity of life: the world lacks inherent purpose, requiring individuals to create meaning in the face of an indifferent universe. Albert Camus (1942/1955) explored this concept in *The Myth of Sisyphus*, using the Greek myth as a metaphor for the human condition. Finally, Sartre emphasizes the tension between authenticity and bad faith: living authentically means accepting one's freedom, while bad faith stems from denying this responsibility by pretending

one's life is determined by external circumstances. The pursuit of authenticity requires confronting the uncertainties of existence, which inevitably leads to existential anxiety (Sartre, 1946).

Existentialist thought developed through the writings of several major philosophers. Søren Kierkegaard and Friedrich Nietzsche are often identified as precursors, emphasizing the importance of subjective truth and personal faith over objective knowledge. Martin Heidegger (1927/2008) introduced the concept of being-towards-death, arguing that an authentic life arises from confronting one's finitude. Simone de Beauvoir (1949/2015) argued that human freedom is always situated within concrete social and embodied conditions. Her account of situated freedom emphasizes that meaning is not created in abstraction but emerges from one's lived relations with the world and with others. Jean-Paul Sartre (1943/1956) extended these ideas to human freedom and responsibility, while Albert Camus (1942/1955) explored the absurd as the defining feature of the human condition. Together, these thinkers position existentialism as a response to crises of meaning.

Despite their shared concerns, Sartre and Camus diverged in emphasis. Sartre (1943/1956) argued that radical freedom allows people to look ahead and build meaning for their lives through the choices they make, even in a world without inherent purpose. Camus (1942/1955), by contrast, stressed the need to face the absurd with clarity and to live fully in the present without relying on any transcendent meaning. Sartre's view highlights a future-oriented project of self-creation, while Camus emphasizes a clear-eyed acceptance of the present. Their disagreement shows two different existential strategies: actively creating meaning versus consciously resisting meaninglessness. This tension is taken up in my project, where players can choose their preferred experience: either focusing on the objective and the outcome or immersing themselves in the game and enjoying the experience itself.

Influence outside philosophy

Beyond pure philosophy, existentialism is an important theme within both psychology and the arts to address the universal human search for meaning. In psychotherapy, for instance, the existential

given (Yalom, 1980)—such as the confrontation with death and isolation—is used as a clinical tool to help individuals reclaim their agency. Similarly, in literature and media, existentialist themes provide a narrative structure for exploring characters who must define themselves in a void, as seen in the works of Samuel Beckett or the cinema of Andrei Tarkovsky. These cross-disciplinary applications are relevant here because they demonstrate that existential themes are not merely abstract theories; they are active, affective tools used to evoke deep personal reflection. By surveying these fields, I can identify specific strategies—such as the use of silence, spatial isolation, and repetitive action—which I can apply to the design of my own game prototypes.

One of the most influential applications is in the field of psychology. Existential psychotherapy emerged in the mid-20th century, based on the theory that certain psychological disorders (including anxiety and depression) stem from the struggles individuals experience when confronting fundamental existential questions. In his book, *Existential Psychotherapy*, Yalom (1980) identifies four ultimate concerns—death, freedom, isolation, and meaninglessness—that structure human life. Within this theoretical framework, psychotherapy aims to help individuals directly confront these existential concerns, rather than avoiding them, emphasizing the importance of responsibility, authenticity, and creating personal meaning. This approach demonstrates how existential philosophy can move from abstract theory to practical application, by integrating philosophical concepts with clinical practice.

Beyond the realm of psychology, existential themes have also found fertile ground in literature. Literary narratives provide an excellent medium for dramatizing philosophical issues. Camus's *The Stranger* (1946) portrays an individual who is at odds with societal and traditional emotional norms, revealing the world's indifference and the absurdity of life through the protagonist's refusal to conform to conventional values. Tolstoy's *The Death of Ivan Ilyich* (1973) emphasizes that death catalyzes reflection, demonstrating how the approach of death compels people to re-examine the meaning and value of life. Sartre's play *The Flies* (1989) explores the conflict between individual freedom and societal

or religious expectations, stressing that while free choice carries burdens, it remains essential. These works collectively demonstrate how literature can serve as a vehicle for expressing existential concerns, although primarily through narrative rather than direct personal experiences.

In addition to literature, existentialism has had a profound impact on modern popular culture, notably in the Japanese anime series *Neon Genesis Evangelion* (Anno, 1995). Beyond its surface narrative of mecha battles, the series serves as a profound exploration of individuality, consciousness, and the dilemma of the self. Academic analysis often highlights how the show reflects the Hedgehog's Dilemma, illustrating the existential gap between the self and others (Napier, 2002). Characters suffer from profound isolation, mirroring the existentialist struggle to establish genuine connections in an indifferent world. As scholar Susan J. Napier (2002) observes, *Evangelion* uses the medium of animation to confront the anxieties of freedom and the burden of responsibility in a post-modern, absurd landscape. Ultimately, the series suggests that meaning is not pre-determined but created through the painful process of accepting one's existence and choosing to relate to others. Thus, *Evangelion* demonstrates how mass media can translate abstract philosophical concepts into a globally resonant visual language, bridging the gap between existential theory and contemporary lived experience.

Interactive media has further expanded the reach of existentialist ideas by transforming passive observation into active participation. Videogames offer unique possibilities for existential reflection because they function as a philosophical laboratory (Gualeni, 2015), allowing players to navigate the constraints of a finite life through their own agency.

Journey (Thatgamecompany, 2012) serves as a prominent example of this, widely recognized for its minimalist mechanics that function as a metaphor for the human condition. By stripping away traditional dialogue and complex UI, the game forces players to rely on simple, non-verbal interactions. These brief, anonymous encounters highlight the fleeting nature of human connection and the inevitability of loss. The spatial progression—moving from expansive golden deserts to oppressive icy

peaks—mirrors the stages of life, where the meaning of the experience is found in the act of traveling rather than the arrival at a destination.

Similarly, *Outer Wilds* (Mobius Digital, 2019) uses the time-loop mechanic to explore the certainty of death and the search for meaning in an indifferent universe. As the winner of Best Game at the 2020 BAFTA Games Awards, it is celebrated for transforming a 22-minute countdown into a profound reflection on impermanence. Unlike traditional narratives, *Outer Wilds* relies on player agency; the player must choose to pursue knowledge and curiosity even when faced with unavoidable destruction. This shifts existentialism from abstract theory into a lived, immersive experience.

Overall, these cultural and artistic works indicate the enduring relevance of existentialist thought. As Thomas Flynn (2006) notes, existentialism remains a vital philosophical resource because it directly addresses the universal challenges of individual responsibility and the search for meaning. Rather than the theory itself being passively adapted, contemporary creators are actively integrating existentialist themes into their works to find resonance with modern audiences facing today's social and technological uncertainties. This integration allows creators to move beyond traditional storytelling, using new media formats to explore the human condition in real-time. Building from this foundation, my research project explores how procedural rhetoric and emotional resonance can serve as a practical approach for existential exploration through game design.

Games as Rhetorical and Reflective Media

Persuasive Games

Academic discussions of videogames have increasingly shifted from treating them as entertainment to recognizing their rhetorical and expressive capacities. An important contribution to this shift is Ian Bogost's *Persuasive Games: The Expressive Power of Videogames* (2007), which introduces the concept of procedural rhetoric. Unlike traditional rhetoric that relies on verbal or visual representation,

procedural rhetoric highlights how rules and interactive logics themselves construct arguments. Games persuade players by requiring them to participate in systems that embody a particular worldview.

Bogost (2007) illustrates this through examples such as *SimCity*, where rules about taxation and growth implicitly promote specific political assumptions, and *September 12th*, where the ruleset critiques military retaliation by making civilian casualties inevitable. These cases indicate that games can argue procedurally, embedding ideological positions into systemic operations experienced by players. Bogost refers to this approach as procedural rhetoric, an approach that describes how computational systems can make claims about the world through their rules and behaviors. He extends this framework across politics, advertising, and learning, arguing that games can expose the workings of institutions, persuade consumers through interaction, and cultivate procedural literacy, or the ability to interpret systemic arguments.

However, Bogost's emphasis has also drawn criticism. In his paper *Against Procedurality* (2011), Miguel Sicart argued that procedural game theory places too much emphasis on the determinism of rules, neglecting the player's interpretive abilities. He contends that games are not closed, rule-bound systems, but rather open-ended experiences influenced by various factors, including the game itself, the gaming environment, and cultural context. This critique highlights the reflexive nature of games: rules not only dictate player behavior but also encourage players to reflect on and understand the assumptions behind the rules and even challenge those assumptions.

Examples of games featuring reflective gameplay mechanics—mechanics designed not for skill mastery, but to prompt players to critically evaluate their own choices and values—are numerous. *Papers, Please* (2013) places the player in the role of a border control officer, forcing them to enforce arbitrary bureaucratic rules under the pressure of personal survival. The game does not simply persuade players that bureaucracy is oppressive; it implicates them in the system, requiring them to weigh complicity against conscience.

Similarly, the Polish-developed game *This War of Mine* (11 bit studios, 2014) simulates civilian survival during wartime to provoke reflection on moral compromise. It is inherently reflexive because every choice—such as stealing medicine from an elderly couple—has direct, irreversible consequences for both the NPCs (non-player characters) and the player’s own survival resources and psychological state. In this context, gameplay becomes a mirror: it forces players to confront their own capacity for selfishness or altruism. These games demonstrate how mechanics can transcend instrumentality and enter the realm of philosophical thought, prompting players to examine systems through a moral and emotional lens. These examples demonstrate that game mechanics can serve not only as persuasive arguments but also as an experience that allows players to actively engage with philosophical conditions rather than merely interpret them.

Philosophy Games

Based on the reflective potential of procedural rhetoric, another group of scholars explicitly view games as a philosophical medium. Stefano Gualeni is a central figure in this discourse. In *Virtual Worlds as Philosophical Tools* (2015), he argues that virtual worlds do not merely provide escapist pleasures but function as philosophical laboratories.

This is achieved through the creation of playable thought experiments: by translating philosophical questions into interactive rules, the game forces players to act out their values through direct agency. A frequently discussed example is the myth of Sisyphus, interpreted by Albert Camus in *The Myth of Sisyphus* (1942) as a metaphor for the human confrontation with the absurd. In a game context, this idea can be translated into mechanics rather than narrative description. Instead of merely reading about the absurdity of repetitive labor, the player may be required to physically perform the task—such as pushing an object uphill—only to watch it inevitably roll back down. Through this direct engagement, the feeling of futility and the subsequent choice to continue become a lived experience. Players confront freedom and absurdity in ways that abstract argumentation cannot; they do not just

observe Sisyphus, they become Sisyphus through the game's mechanics. These environments allow for a safe confrontation with existential dread, making philosophical inquiry something that is felt through the player's own persistence rather than just contemplated.

This approach is evident in a growing number of experimental and indie titles. David O'Reilly's *Everything* (2017) invites players to shift seamlessly from microbes to galaxies while listening to archival lectures by Alan Watts. Its central mechanic—traversing scales of being—enacts a monistic worldview in which everything is interconnected, translating metaphysical speculation into systemic experience. Pippin Barr's *The Trolley Problem* (2011) similarly transforms a canonical ethical thought experiment into interactive form. Forcing players to decide whether to divert a runaway trolley compels players to perform moral reasoning rather than merely contemplate it. *The Stanley Parable* (2013) takes a different approach, parodying the illusion of free choice by trapping players in recursive narrative loops. Its humor and absurdity dramatize questions of agency, determinism, and complicity.

Doris Rusch and Andrew Phelps (2020) expand on this by exploring the transformative potential of symbolic enactment. They draw on depth psychology—a field focusing on the unconscious mind and underlying motives—and ritual studies to argue that games can resonate on both conscious and unconscious levels. Unlike mere visual representations, symbolic enactment involves physical engagement that carries deep metaphorical meaning.

A key reference here is the concept of psychomagic, popularized by filmmaker Alejandro Jodorowsky. Psychomagic involves performing a physical, symbolic act to address a psychological blockage—for example, burying a symbolic object to lay to rest a personal grief. In a game context, this is similar to the ritualistic, almost meditative mechanics found in titles like *Unpacking* (2021), where the act of organizing a space becomes a metaphor for organizing one's life. Rusch and Phelps argue that when players perform these existential actions within a game, the boundary between the virtual play

and the player's internal reality blurs, allowing the game to function as a space for profound emotional processing and personal growth.

Their analysis of *Papo & Yo* (2012) demonstrates both the strengths and limitations of this design philosophy. Feeding a bottle to the monstrous father figure, or ultimately pushing him into the abyss, symbolizes freedom from trauma. Not all mechanics work, and sometimes the abstraction of game mechanics can weaken this symbolism; however, when designed well, players can achieve emotional catharsis through actual gameplay actions rather than merely through narrative. Other titles also showcase similar mechanics. Jason Rohrer's *Passage* (2007) compresses a lifetime of experiences into three minutes, forcing players to contemplate the meaning of life and the inevitability of death. Thatgamecompany's *Journey* (2012) transforms companionship during a journey into a spiritual ritual, allowing players to explore the meaning of life through cooperation and silence. *Outer Wilds* (Mobius Digital, 2019) incorporates the ephemeral nature of the universe and human curiosity into a 22-minute cyclical world, letting players experience the finite nature of the cosmos through gameplay.

In summary, the perspectives of Stefano Gualeni, Doris C. Rusch and Andrew M. Phelps highlight the philosophical and reflective capacities of games. Game worlds can transform thought experiments into lived experiences, while symbolic mechanics can engage players in ritual-like processes of reflection and self-discovery through action. While these studies emphasize the rhetorical and philosophical potential of games, relatively little research has examined how poetic and symbolic mechanics might further deepen this experiential dimension. This gap connects to my own interests as a game designer, I am particularly interested in how abstract philosophical ideas can be translated into interactive systems that players can experience directly. Motivated both by this and by my personal curiosity about designing reflective experiences, this project investigates how poetic game design can support existential reflection through mechanics and environmental design.

Poetic and Affective Game Experiences

Game Poems

Magnuson (2023) introduces the concept of *game poems*, positioning videogames as a form of lyric practice. Rather than focusing on challenge, clear objectives, or traditional notions of fun, these works emphasize slowing down, paying attention, and engaging with particular emotions or moments. Their appeal relies not on conventional fun or flashy graphics, but on minimalist representation, symbolism, metaphor, and rhythm. Notable examples include *The Graveyard* (Tale of Tales, 2008), where the player simply controls an elderly woman walking across a cemetery to sit on a bench, and *Mountain* (David O'Reilly, 2014), an ambient experience centered on observing a mountain floating in space.

Like lyrical poetry, which traditionally focuses on expressing an emotional state or moment of subjective experience, the value of these experiences lies in their condensed imagery and ability to evoke emotional resonance. Game poems similarly prioritize presence—the feeling of being fully immersed in a singular, contemplative moment. According to Magnuson (2023), this is achieved by encouraging reflection rather than reaction. Instead of fast responses or complex goals, these works invite players to slow down and attend to subtle shifts in mood, space, or emotion. In this sense, they resonate with the idea of poetic gameplay, where interaction itself functions as a metaphor, offering players a space for existential contemplation beyond the goal-oriented pressures of mainstream gaming.

Many characteristics of lyric poetry, which is a formal type of poetry that expresses personal emotions or feelings, typically spoken in a first-person narrative (Scott, 1990), help us understand the mechanics of poetic video games. First, lyric poems are short, often condensing profound themes into moments of intensity, creating a powerful emotional impact. Jason Rohrer's *Passage* (2007), which compresses an entire life into a five-minute game experience, exemplifies this concision, transforming philosophical reflections on life into a brief yet symbolic journey. Second, lyric poems are subjective, prioritizing personal feeling and perspective. In *The Graveyard* (2008) by Tale of Tales, players control an

elderly person slowly walking to a bench, highlighting the intense subjective emotional experience of aging and death. Third, lyric poems make use of poetic address, directly engaging the reader through gestures that feel intimate and participatory. The quiet ritual of guiding the woman in *The Graveyard* functions as a kind of address, evoking empathy through minimal interaction. Fourth, lyric poems frequently adopt a ritual-like structure, where repetition, rhythm, and atmosphere become more important than narrative progression. In this sense, ritual refers to patterned actions that create meaning through repetition and duration rather than through plot development. Many poetic videogames similarly abandon traditional linear storytelling, instead employing cyclical structures or meditative pacing to cultivate a contemplative experience. Fifth, lyric poems are hyperbolic, magnifying emotions or images to intensify affect. The brevity of *Passage* amplifies the sensation of life's transience, making each minute hyperbolically weighty. Sixth, lyric poems rely on metaphor and ambiguous imagery, often resisting closure. Both *Passage* and *The Graveyard* leave interpretive space open, allowing players to supply their own emotional and symbolic readings. Seventh, lyric poems juxtapose signified meaning with material meaning, balancing symbolic associations with the materiality of form. In games, this means the mechanics themselves, such as the slowness of movement, the fading of pixels, operate alongside metaphor to generate meaning.

Overall, these qualities reveal how game poems prioritize affective and existential reflection over goal-oriented progress. By staging brevity, ritual, and metaphor, these works suggest the possibility of a unique poetic space within interactive media, where meaning is felt rather than solved. For my project, the concept of the game poem serves as a creative point of departure. My intention is not to construct a traditional game defined by rewards, but to facilitate an experience that invites reflection on death, freedom, and connection. I seek to achieve this poetic quality not through explicit labels, but through aesthetic resonance—relying on minimal mechanics and symbolic actions to carry deep existential

weight. In this sense, game poems illustrate one way interactive media can function as a site for philosophical inquiry, where the player's own presence completes the work's meaning.

Environmental Storytelling

Environmental narrative emphasizes the crucial role of space as a vehicle for storytelling and emotional expression. Jenkins (2004) defines games as narrative architectures, meaning that the story is not merely presented through dialogue or cutscenes, but is integrated into the game environment, guiding the player's understanding and experience. Game environments are not simply backgrounds; through spatial layout, scene design, and atmosphere, they actively convey information and meaning. Nitsche (2008) extends this insight by analyzing how videogame spaces operate structurally: they provide navigational frameworks, symbolic meanings, and a sense of rhythm, thus influencing how players interact with the game world. Therefore, the environment is crucial in shaping the meaning of the game.

Reading Gaston Bachelard's *The Poetics of Space* (1994) helps us better understand the importance of environmental narrative. Bachelard argued that intimate spaces such as houses, corners, and nests are not merely geometric spaces, but rather symbolic spaces with poetic connotations that evoke memories, imagination, and emotions. These spaces feel lived-in because they gather our experiences and shape our inner life.

Extending Bachelard's insights into video games suggests that virtual environments can also function as intimate spaces—not in the literal architectural sense, but in the way they hold and shape the player's emotional experience. Even expansive or fantastical digital worlds can become intimate when they invite personal reflection or when their atmosphere resonates with the player's inner state. In this way, game spaces operate metaphorically: a quiet cemetery can represent sorrow, a foggy valley can evoke uncertainty, and a collapsing ruin can embody loss. The symbolic value of these environments does not come from realism but from how players inhabit them through perception, attention, and

action. Keogh (2018) reinforces this by showing how players perceive games not only cognitively but through moods and atmosphere, where design choices of pacing, audiovisual rhythm, and spatial framing generate felt experiences.

Flower (Thatgamecompany, 2009) shows how environmental storytelling creates emotional arcs without words. The player, controlling the wind, gathers flowers while traversing fields, canyons, and ruined cities. Its narrative of renewal is communicated entirely through spatial transformation: meadows full of color and music evoke vitality; later industrial ruins, rendered in muted tones, convey oppression; the eventual restoration of lush fields suggests healing and rebirth. In Jenkins's terms, the space itself becomes a narrative device. *Gris* (Nomada Studio, 2018) also offers a parallel but distinct case. Structured around stages of grief, the game's environments shift in color and form to embody emotional states. Monochrome fragility conveys despair; storms of red winds signal anger; later gardens in green and gold suggest reconciliation. The player's journey is less about overcoming obstacles than about moving through emotional landscapes.

In summary, *Flower* and *Gris* demonstrate how environmental storytelling can serve as a poetic expression to shape emotional space. Jenkins' theory of narrative structure gains new depth through the combination with Bachelard's poetics of space and Keogh's focus on perception, while Nitsche's structural analysis clarifies how game spaces harmonize symbolic and experiential dimensions. These games show that the environment can serve as a narrative tool, a poetic metaphor, and an emotional atmosphere simultaneously. They don't force players to experience a specific emotion; rather, they create a space that allows players to experience emotions through exploration and personal interpretation. Therefore, environmental storytelling provides an important framework for poetic game design, demonstrating how virtual spaces can convey emotions, symbolism, and the power of transformation.

Chapter 3: Methodology & Methods

Research-creation

This project explores how symbolic mechanics and environmental storytelling can evoke affective experiences related to existential reflection, which cannot be fully answered through theoretical research alone. Existential themes such as death, freedom, and meaninglessness are fundamentally experiential, and they concern how individuals feel when faced with the limits and possibilities of life. Traditional qualitative methods are often insufficient for capturing these emotional and rapidly changing dynamics. In this case, this research adopts a research-creation methodology (Chapman & Sawchuk, 2015), which treats creative practice not as a secondary illustration of theory but as a primary mode of research. Through cycles of designing, prototyping, playtesting, and reflective analysis, the act of making becomes a way of thinking through existential questions and observing how they have shown in interactive form.

Within Chapman and Sawchuk's (2015) framework, this project primarily engages three modes of research-creation: research-for-creation, research-from-creation, and creation-as-research.

Research-for-creation structures the project's early phase, during which conceptual materials, theoretical frameworks, technical tools, and some related works were gathered to ground the creative process. Existential philosophy, poetic games, environmental art practices, and studies of reflective play provided the base for raising initial design questions. This mode also includes decisions about technologies, such as Unreal Engine 5, which were selected because they can support the kinds of atmospheric and symbolic interactions required for the game. In this project, research-for-creation directly shaped three early important decisions: choosing the mayfly as a symbolic avatar, adopting existential concerns as structural design prompts, and defining atmospheric interaction as a core

experiential focus. These priorities did not predetermine the outcomes but established conceptual and technical conditions that guided subsequent experimentation.

Research-from-creation describes the insights that emerge through the act of making and interacting with prototypes. As the mechanics, environment, and interactions gradually took shape, the game experience began to unfold, such as how adjustments to lighting and color tones transform the atmosphere of a scene, or how the trajectory of mayflies becomes a metaphor for meaning. These insights were not foreseeable in advance; they arose only through iterative testing and direct interaction with the evolving prototype. In this project, such discoveries are not treated as by-products but as core research material. Each iteration—whether successful or not—fed back into subsequent phases, allowing meaning to emerge from direct practice rather than theoretical speculation.

Creation-as-research positions the entire development process as a mode of research. Rather than treating the game as an outcome that illustrates the theory, the making of the game itself becomes a mode of thinking. Each mechanic, spatial arrangement, or sensory adjustment is regarded as an attempt to explore how existential concepts can be transformed into perceptible, interactive forms. The evolving prototype thus serves a dual function as both outcome and method: It both embodies the research question and fosters critical reflection upon it, continuously generating knowledge through iterative development. Therefore, the creative process is not an adjunct to research but an integral part of it.

Across these modes, reflexivity plays a central role. Reflection does not occur only at the end of development but continuously throughout the process; each mechanic adjustment or unexpected emotional response becomes material for revising both the creative approach and the research questions.

Together, these modes of research-creation establish a cohesive methodological framework. This approach allows the project to investigate existential reflection not merely as an abstract philosophical theme, but as an interactive experience that must be explored through the act of making.

Specifically, this process functions as Research-through-Design (RtD), where the iterative development of prototypes serves as the primary vehicle for philosophical inquiry. In this model, the act of making is not merely the production of a final artifact, but a way of generating knowledge. By designing and refining the game’s core elements—such as the visual manifestation of flight trajectories or the symbolic qualities of the environment—I am able to explore how specific mechanics might evoke existential resonance. This process of thinking through making transforms the creative workflow into a continuous loop of experimentation and reflection, ensuring that the project’s philosophical insights emerge from the designer’s embodied process of making rather than remaining purely theoretical.

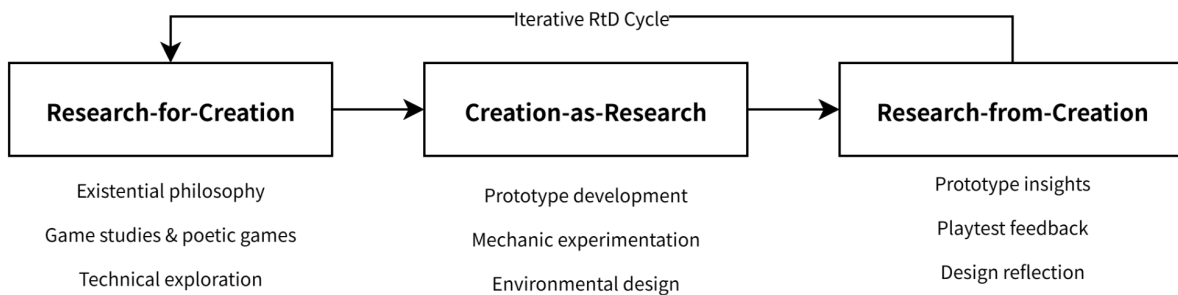


Figure 2: Research-Creation methodology framework.

Research Methods

Within the research-creation framework, this project adopts a cyclical, practice-led approach in which conceptual research, prototyping and playtest feedback continuously reshape one another. Rather than treating creative production as the final stage of research, the project positions making as a central mode of research that allows existential themes to be explored through symbolic interaction and

environmental storytelling. The methods employed include conceptual groundwork, iterative prototyping and player playtesting with qualitative analysis.

Conceptual Groundwork

The research began at the conceptual grounding stage, aiming to explore the philosophical, aesthetic, and technical issues driving the project. Literature review drew upon theories from existentialist thinkers—including Sartre's notion of freedom, Heidegger's being-towards-death and Yalom's ultimate concerns—to identify conceptual tensions that the interactive system could explore meaningfully. These theories establish existential experience as something to be embodied rather than abstractly understood, directing the project's focus toward embodied movement, temporality, and atmospheric tone.

Close analysis of poetic experimental games further informs the research questions. Works like *Journey* (thatgamecompany, 2012), *Flower* (thatgamecompany, 2009), *Proteus* (Key and Kanaga, 2013), *The Night Journey* (Bill Viola and USC Game Innovation Lab, 2007), and *Everything* (O'Reilly, 2017) demonstrate how minimalist mechanics, symbolic mechanics, environment-driven narratives, and rhythm can foster affective reflection without relying on explicit storytelling. Game studies literature on procedural rhetoric (Bogost, 2007) and on environmental design as a means of shaping player perception provides theoretical tools for understanding how interaction constructs thought and emotion.

Rusch's (2020) existential transformative game design builds a methodological bridge between existentialist philosophy and gameplay practice. Her research reveals how ritualistic actions, metaphorical systems, and ambiguous choices can create reflective spaces for players. This perspective informs the project's use of symbolic mechanisms, such as the traces, three minutes from sunrise to sunset, and environmental exploration, as mechanisms for existential meaning-making.

Finally, the conceptual groundwork includes a technical dimension. Early experimentation with Unreal Engine 5, Gaea, Substance Designer, and Maya identified the material affordances and constraints

through which existential themes can be expressed. Understanding how lighting systems, terrain workflows, and particle effects operate set the practical parameters for later research. Together, these conceptual, aesthetic, and technical inputs form the foundation from which research questions and prototypes emerge.

Iterative Prototyping

Iterative prototyping constitutes a core practice-oriented research method. Rather than following a linear procedure, the process operates through a cyclical structure of Build → Test → Reflect → Iterate, while the research goal remains constant. Through this iterative cycle, design decisions are explored and refined through the creative process rather than being determined solely by predetermined theory.

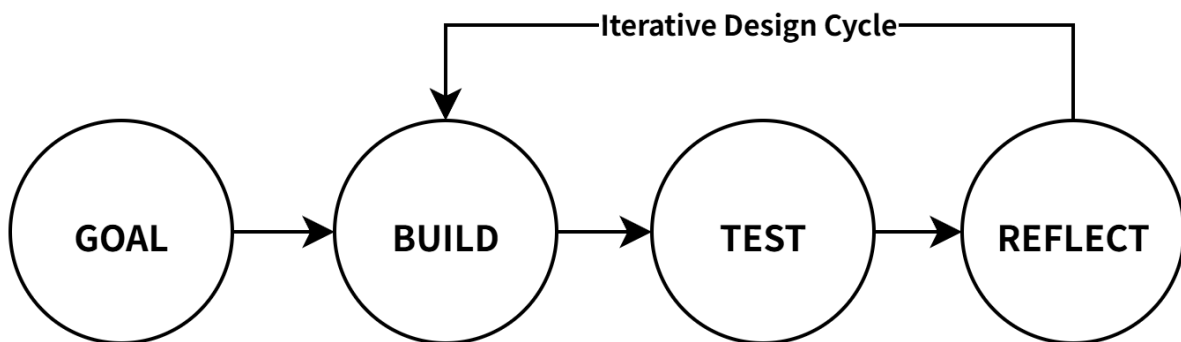


Figure 3: Iterative prototyping process.

Each cycle began with a focused research question coming from the conceptual groundwork, for example, how might flight convey a sense of fragility, how traces could symbolize existence, or how environmental tone might evoke existential atmosphere. The act of building prototypes served as a way of thinking through these questions: decisions about movement curves, color palettes, environmental fog, or trail functions as experiments that explore the implications of existential ideas.

Testing primarily occurred through self-play and playtesting. The goal was not merely to confirm hypotheses, but to uncover unforeseen qualities—moments of tension, peace, loss, or disorientation.

These moments reveal the bidirectional translation between philosophical concepts and their perceptual and interactive forms. While the creative process involved translating abstract existential ideas into specific mechanics and aesthetics, the player's experience moves in the opposite direction: sensory and interactive engagements are synthesized into the contemplation of philosophical concepts. The reflection phase will synthesize these observations, iteratively refining the prototype based on how effectively the designed forms evoke the intended philosophical resonance.

Importantly, iterative prototyping is not treated merely as a technical production workflow but as a research mechanism through which knowledge is generated. Each iteration functions as a small-scale experiment in which design decisions—such as the behavior of flight mechanics, the visibility of trails, or the atmosphere of the environment—are implemented and then evaluated through testing and reflection. Rather than simply improving technical quality, this process enables the research to examine how specific mechanics and environmental design contribute to affective experiences of existential reflection. In this way, the iterative loop became a method for exploring philosophical questions through design experimentation rather than abstract analysis alone. The detailed outcomes of these iterations are discussed in the Creative Process chapter.

Playtesting and Qualitative Analysis

Player playtests served as a complementary research method to explore how others experienced the symbolic and atmospheric design choices. The goal was to understand whether the prototype evoked existential reflection, and how players interpreted symbolic mechanics such as trails and limited lifespan. For testing, players engaged with the three-minute prototype while their screen, voice, and gameplay behavior were recorded. A think-aloud protocol encouraged them to verbalize perceptions, emotions, and intentions in real time. Prior to gameplay, participants were given only minimal instructions, limited to basic controls and the premise of inhabiting a short-lived creature. No explicit explanation of the game's themes or intended meanings was provided. This was intentional, as the

project seeks to explore how existential reflection emerges from player experience rather than from directed interpretation. By reducing upfront guidance, the study aimed to better understand how participants independently make sense of the game, both emotionally and interpretively.

After playing, participants completed a semi-structured interview targeting affective response, symbolic interpretation, and overall gameplay experience (see Appendix A: Data collection instruments for detail on the research methods design). The interview design was structured around three complementary aspects: overall affective experience, interpretation of specific mechanics and environmental design, and the clarity and flow of the gameplay experience. This structure reflects the research focus on how mechanics and environmental design contribute to existential reflection, while also ensuring that usability and moment-to-moment experience are accounted for. A semi-structured and open-ended format was chosen to allow participants to express their own interpretations and meanings. As the project aims to create a space for reflection rather than communicate a fixed concept, it was important not to constrain responses to predefined interpretations, but instead to encourage diverse interpretations to emerge.

The analysis phase used thematic analysis (Braun & Clarke, 2006) to process think-aloud transcripts, interview data, and researcher observations. Codes were developed around emotional tone, interpretive strategies, and symbolic associations. These findings were then compared with my reflective documentation to understand divergences between designer intention and player experience. The results informed the iteration of subsequent builds, for example, extending trail persistence based on player interpretation.

Playtesting was conducted under OCAD University REB ethical approval (REB #102823), with full confidentiality of recordings and separation of identifying data. Through this process, feedback and creative reflection continuously shaped one another, demonstrating how existential themes can be experienced through interactive form.

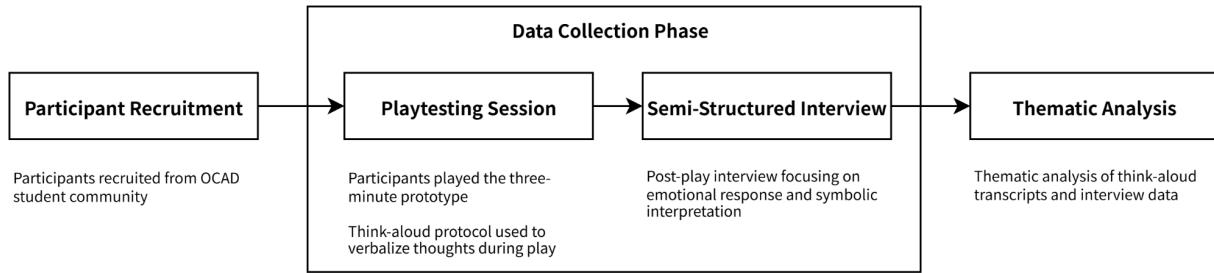


Figure 4: Playtesting and analysis process.

Taken together, these methods form an integrated, cyclical framework that enables existential concepts to be investigated through theory, practice, and experience. The process ensures that these ideas do not merely guide the development of *Ephemeral* but also ground the analytical insights presented in the following chapter. More broadly, this framework demonstrates how research-creation can be used to translate abstract philosophical concepts into interactive systems and experiential forms, offering a practical approach for philosophy-based game design.

Chapter 4: Creative Process

The creative process of this project unfolds through three phases, systematically transforming existentialist concepts into playable experiences. The journey began with the establishment of the ephemeral mayfly as a symbolic anchor, where the first phase focused on exploring themes of temporality, fragility, and embodied presence. These abstract concerns took form within Prototype 1, where the vulnerability of the mayfly was translated into a sensitive and lightweight flight system. Building upon this foundation, the second phase investigated how mechanics might interpret deeper existential themes such as death, freedom, isolation, and the search for meaning, directly leading to the development of Prototype 2. The final phase extrapolated this philosophical thinking into spatial design, crafting a game world where the thematic intent is supported by the environment. Through Prototype 3, level design and environmental art were integrated to construct a play space where symbolism, mechanics, and atmosphere converge, allowing the game to function as a medium for direct existential reflection.

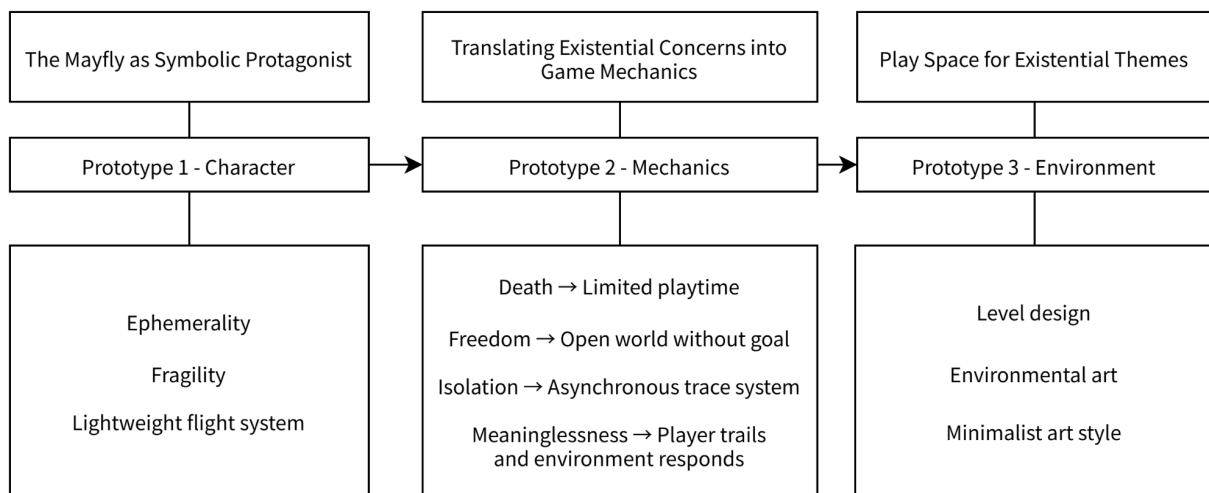


Figure 5: The three phases of the creative process.

The Mayfly as Symbolic Protagonist

The creative journey of *Ephemeral* began with a search for a symbol that could carry its central existential concerns: temporality, fragility, and the tension between freedom and finitude. The mayfly became the central icon because its unique biological cycle offered a structure for the game. By choosing a creature that lives only for a day, I could compress a lifetime of experiences into a few minutes of gameplay. Within this structure, death is not a narrative event explained through text; it is a built-in limit that shapes the player's pacing, movement, and decision-making.



Figure 6: Mayfly (Ephemeroptera). Photo by Erik Karits on Unsplash. Licensed under the Unsplash License.

Using a non-human protagonist allowed me to focus on a life defined by clear boundaries. The mayfly's short life draws the player's attention to duration itself. Every action unfolds under the constant awareness of an approaching end. This design encourages players to reflect on life through lived time inside the game system, rather than through dialogue or storytelling.

Visually, the mayfly connects natural cycles with player perception. The progression from sunrise to noon to sunset serves as a non-verbal narrative arc. This visible change in light acts as a clock: when the sun rises, the player begins; as it lowers, the end feels inevitable. Time becomes something sensed through atmosphere and rhythm—an affective mechanic that requires no translation.

The physical characteristics of the mayfly also shaped the flight mechanics. Its thin wings and sensitivity to air currents inspired a movement system focused on fragility rather than control. Unlike birds, which move with strength, mayflies have trajectories that are unpredictable and easily disturbed. This instability supports the tension between freedom and vulnerability. The design suggests that existence is something to be felt, not mastered.

Across cultures, the mayfly has long symbolized fleeting life. In classical Chinese literature, phrases such as '寄蜉蝣于天地' (a tiny mayfly in the universe) describe human life as brief within a vast cosmos. In Western traditions, it often represents the fragile beauty of a moment. *Ephemeral* draws on these meanings to evoke shared existential feelings—the passage of time and the desire to leave a mark.

Ultimately, the mayfly was chosen because it brings concept, mechanics, aesthetics, and atmosphere together. Its life cycle matches the structure of a short playable experience, and its fragile form echoes the emotional tone of the project. Through the mayfly, *Ephemeral* presents existential reflection as something felt directly through play.

Prototype 1: Character

Goal: The primary objective of Prototype 1 was to translate the symbolic qualities of the mayfly into an embodied movement experience. These qualities center on its extreme temporality—represented by a life cycle compressed into a three-minute play session—and its physical fragility within the natural world. Rather than designing a stable, responsive flight system typical of many flying games, this prototype aimed to convey lightness, instability, and limited control. The intention was to allow players to experience the mayfly's delicate existence through moment-to-moment movement. This required constructing a movement system that emphasized drift, subtle instability, and sensitivity to environmental forces, encouraging players to move through the world with attentiveness rather than dominance.

Iteration 1: Testing Unrestricted Flight

Build: The initial build utilized a standard first-person controller to establish basic navigation logic. In this version, the mayfly could move freely in all directions using the left thumbstick, while the left trigger button provided continuous forward propulsion. The purpose of this iteration was to test how players interacted with unrestricted omnidirectional flight within a first-person perspective.

Player Feedback and Observation: Formative feedback from peers and advisors revealed several issues with the initial movement model. Participants reported that the controls felt unintuitive and lacked the qualities associated with a living creature. A recurring observation was that the motion resembled floating rather than flying. The first-person perspective also prevented players from seeing the visual traces produced by their movement. Another behavioral pattern was observed: many players immediately ascended to high altitudes to gain a safe overview of the environment. In this situation, players bypass much of the intended interaction with the landscape, particularly the river surface where much of the experience was designed to occur.

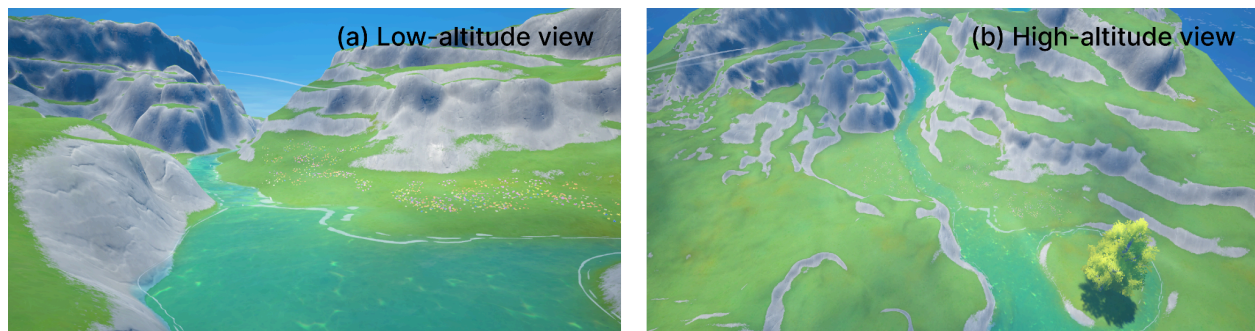


Figure 7: Comparison of movement perspectives.

Solution and Next Steps: To address these issues, three major changes were made. First, the camera perspective would shift to third person so that players could see the mayfly's body and its traces in the air. Second, vertical mobility would be constrained to prevent effortless ascent. Finally,

environmental influences such as wind resistance would be introduced to reduce the mechanical smoothness of the movement system.

Iteration 2: Embodied Flight Effort

Build: Following the findings from Iteration 1, the second build aimed to transform movement from a floating mechanic into active effort. The most significant change was the implementation of a third-person camera positioned behind the mayfly. This allowed players to see the character's delicate form and the traces it leaves in the air. The control scheme was also redesigned to introduce physical effort into the act of flight. The previous system of constant forward propulsion was removed and replaced with a natural downward pull simulating gravity and air resistance. To remain airborne, players were required to repeatedly press the A button, simulating the rhythmic effort of wing flapping.

As a result, flight became an unstable condition that had to be continuously sustained through player input. Without active effort, the mayfly would gradually lose altitude and drift toward the ground.



Figure 8: In-game screenshot of the mayfly's forward movement.

Player Feedback and Observation: Feedback from peers and advisors suggested that this system successfully introduced a stronger sense of effort into the act of flight. The repeated input required to maintain altitude made the movement feel more active and better aligned with the fragile nature of the mayfly. However, two issues were observed. First, the constant button pressing could lead to fatigue

during longer sessions. Second, the falling speed was perceived as too fast, causing the motion to resemble small jumps rather than continuous flight.

Analysis: Despite these issues, the revised control system significantly improved feelings of embodiment of the mayfly's fragile existence. Flight was no longer a stable state but a temporary condition that required continuous effort. This reinforces the existential condition of a fragile existence, where being is not given but must be continuously sustained through effort.

Solution and Next Steps: To address the identified issues, the overall duration of gameplay will remain short in order to reduce physical fatigue. In addition, the gravity and descent speed would be adjusted to produce a smoother and more natural motion. The core mechanic of rhythmic wing-flapping input would remain unchanged, as it successfully introduced the intended sense of fragility and effort.

Iteration 3: Environmental Resistance

Build: The third iteration introduced localized windfields into specific areas of the environment, such as narrow canyons. When the mayfly encountered a headwind, its forward velocity was reduced by air resistance. To continue progressing, players needed to increase the frequency of wing-flapping input. This mechanic was intended to externalize environmental resistance, reflecting how existence is shaped not only by individual agency but also by forces beyond one's control. In addition, particle effects known as windlines were introduced to indicate the direction and strength of the wind.

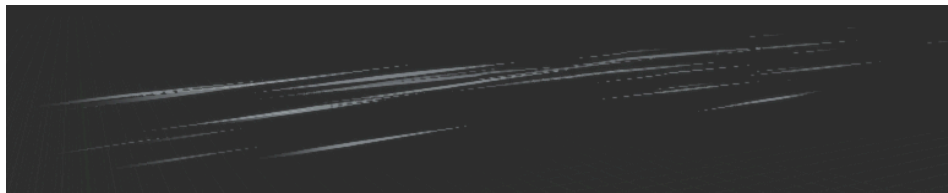


Figure 9: Screenshot of the windlines particles.

Player Feedback and Observation: Playtesting revealed that the wind resistance was not immediately noticeable during gameplay. Many players did not clearly perceive the slowdown when entering windfield areas. In addition, the windline particles used to indicate airflow were not clear, and most

players did not interpret them as environmental cues. Some players also avoided the intended challenge by flying above the canyon rather than passing through it, which reduced the mechanic's impact.

Solution and Next Steps: Future iterations will increase the strength of wind resistance to make its effect more perceptible. The windline particles will also be enhanced to improve visibility. Additional windfield zones may be placed in other areas of the map to ensure that players encounter this mechanic more consistently.



Figure 10: Spatial distribution of windfields across the landscape.

Iteration 4: Visualizing Ephemerality

Build: The final iteration of Prototype 1 focused on the visual representation of the mayfly. To avoid the rigid appearance of a traditional 3D mesh, the character was redesigned using a particle-based system. The mayfly's body was composed of small shimmering particles. This visual instability reinforces the perception of existence as ephemeral and transient, aligning the character's form with the project's existential themes.

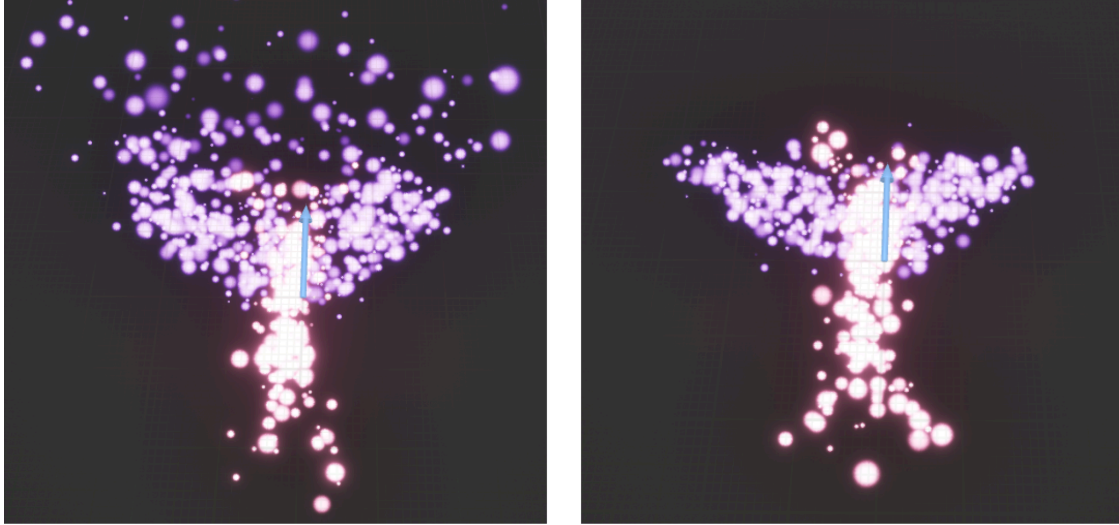


Figure 11: Particle-based mayfly character showing variations in wing motion.

Player Feedback and Observation: Playtest feedback suggested that the particle-based representation successfully conveyed a sense of lightness and fragility. However, some participants noted that the character’s movement still appeared rigid. In particular, several players expected to see a clearer wing-flapping motion.

Next Steps: Future iterations will explore ways to introduce a clearer wing-flapping effect in the particle system. This may involve adding oscillation or animation to the wing particles to simulate the motion of flapping. These adjustments aim to make the flight feel more alive and dynamic while preserving the lightweight and ephemeral visual style of the character.

Design Goal:

To embody the mayfly’s fragility and ephemerality through movement mechanics.

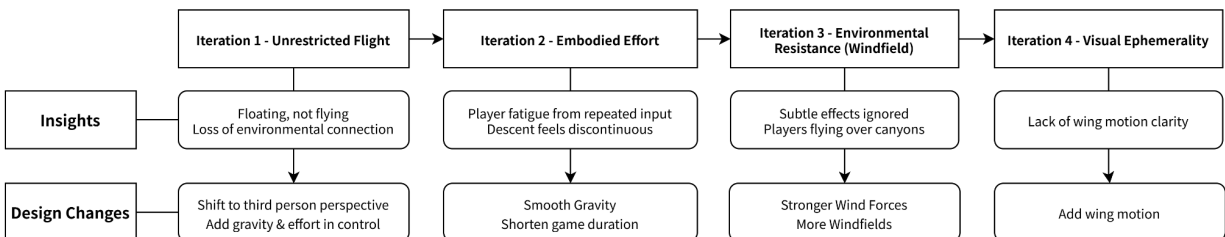


Figure 12: Iterative development process of Prototype 1.

Translating Existential Concerns into Game Mechanics

Translating existential concerns into game mechanics requires turning abstract ideas—death, freedom, isolation, and meaninglessness—into experiences that players can feel through action. Instead of explaining philosophy through text or narrative, the design focuses on systems that allow players to encounter these concerns during play. These translations can be understood through procedural rhetoric (Bogost, 2007), where philosophical concepts are expressed through game mechanics. More specifically, the design employs both isomorphic mapping, where real-world conditions are directly translated into game mechanics, and metaphorical mapping, where abstract concepts are expressed through symbolic and experiential mechanics. Together, these mechanics shape how players move, choose, and interpret their short time in the world. In this way, gameplay becomes a medium through which existential conditions are not explained but directly experienced.

Death: Limited Playtime

In existential philosophy, death reveals the undeniable limit of human life. It cannot be negotiated, and its presence shapes how we value our actions and choices. As Irvin Yalom said, though the physicality of death destroys us, the idea of death may save us. To translate this concern into gameplay, I designed the mayfly's lifespan to last three minutes of real play time. This number is not presented on screen; instead, time is communicated entirely through environmental cues. As the sun rises and gradually descends, the color palette shifts from warm morning tones to cooler evening hues. Shadows grow longer, ambient light fades, and the world slowly approaches night.

This creates a sense of time that players must perceive rather than measure. Without a timer, players cannot optimize their behavior or treat time as a resource to manage. Instead, they respond emotionally to the changing world. Some players rush toward distant landscapes, hoping to see as much as possible; others become more contemplative, slowing down as dusk approaches. Several testers

reported a subtle anxiety near sunset, demonstrating that the passing of time itself carries emotional weight.

The absence of explicit feedback also shifts the meaning of death. The game does not treat the end of life as failure or punishment; it is simply a fact. The objective in the game is not survival but awareness—awareness of time passing and how players choose to act within that limited time. Through these dynamics, death becomes something felt in the rhythm of play. This represents an isomorphic mapping, where the finite nature of human life is directly translated into a fixed duration of gameplay, allowing players to experience mortality as a structural condition rather than a narrative concept.

Freedom: Open world Without Goals

In existential philosophy, freedom refers to the responsibility to choose one's own path without external rules defining what is meaningful. However, freedom is not always comfortable. Without clear goals, people may experience uncertainty, hesitation, or even anxiety.

To simulate this, the game intentionally removes traditional mission structures. No quests, markers, or achievements appear in the world. The environment does not provide a correct path or a preferred pace for exploration. When players first enter the game, many pause for several seconds, unsure of what to do. This moment of hesitation is part of the intended experience. Some players quickly choose a direction and begin exploring, while others wander without a clear goal before gradually settling into a rhythm.

This unstructured freedom becomes more noticeable under the three-minute life constraint. Knowing that time is limited but receiving no instructions on how to spend it, players must decide their own priorities. They may choose to explore the landscape, observe the environment, experiment with movement, or simply drift through the world.

In this way, freedom becomes a gameplay condition that produces different emotional responses and behaviors among players. It reflects the existential idea that each person must decide how to spend

the time they are given. This can also be understood as an isomorphic mapping, where the absence of predefined meaning in existential philosophy is directly translated into a system without goals or instructions.

Isolation: Asynchronous Trace System

In existential philosophy, isolation is understood as an unavoidable condition of human existence. Individuals ultimately experience life alone, even when surrounded by others. While this condition cannot be removed, brief moments of connection may soften its intensity.

In this design, connection is explored through an asynchronous trace system that records the movements of previous players. As players travel through the environment, their paths are preserved as faint floating particles that remain in the world after they leave. Over time, these traces accumulate, forming patterns within the landscape.

When entering the world, players may notice these traces left by others. In some areas, clusters of particles reveal paths that many players have followed, suggesting shared curiosity or collective exploration. In quieter corners of the map, a player may discover a single faint trace, indicating that someone else once reached the same hidden place.

Importantly, these traces cannot be interacted with or altered. Players can only observe them quietly as they pass by. This design choice preserves the sense of existential distance: although players are aware of others who have been here before, they cannot meet them or influence their journeys. The traces therefore create a subtle form of asynchronous co-presence, allowing players to feel that their solitary exploration unfolds alongside the invisible paths of others.

Through this system, isolation is not eliminated but gently reframed. The player remains alone in the world, yet the presence of past journeys suggests that others have shared the same fleeting experience. This functions as a metaphorical mapping, where the traces of other players symbolically

represent the presence of others without direct interaction, reflecting the existential condition of being fundamentally alone while still aware of others.

Meaninglessness: Player trails and environment responds

Within existential philosophy, meaning is not provided by external systems but must be created through individual action. In a world without predetermined goals or evaluations, individuals must discover meaning through the choices they make and the paths they take.

In the game, this idea is expressed through two connected mechanics: the player's persistent trails and the environment's subtle responses to presence. As the mayfly flies through the world, a continuous line appears behind it, tracing the player's movement through space. This trail does not fade away; instead, it remains suspended in the air as a visible record of the player's journey. Functionally, the trail also provides spatial orientation, allowing players to see where they have been within the open landscape.

At the same time, the player's presence can gently influence the environment. When the mayfly passes close to certain elements, such as trees or plants, they may begin to grow or change. These transformations indicate that the world has responded to the player's movement.

Because the game contains no goals, rewards, or evaluation systems, players cannot determine whether their actions are correct or meaningful during play. Yet by the end of the three-minute lifespan, the accumulated trails and environmental changes reveal that the player's actions have left visible traces in the world. In this way, meaning does not emerge from the game but from the player's recognition that their brief presence has shaped the environment they passed through. This is a metaphorical mapping, where abstract notions of meaning are translated into visible traces and environmental responses, allowing meaning to emerge through accumulated action rather than predefined goals.

Together, these mappings demonstrate how procedural rhetoric can shift from argumentative expression toward experiential and poetic forms, where players do not interpret existential ideas but enact them through interaction.

Prototype 2: Mechanics

Goal: The goal of Prototype 2 was to translate four existential concerns—death, freedom, isolation, and meaninglessness—into concrete gameplay mechanics. Rather than explaining these philosophical ideas through narrative or text, the prototype explores whether they can be experienced directly through interaction with game systems.

These concerns were translated into mechanics through four key systems: the day cycle representing death, the absence of explicit goals representing freedom, asynchronous traces representing isolation, and player-generated trails together with environmental responses representing meaning. The design therefore focuses on how game mechanics can communicate existential themes within a short gameplay experience.

Iteration 1

Build: The first iteration introduced the core systems intended to represent existential themes through gameplay.

To represent death, the mayfly's lifespan was implemented as a limited play session. The environment gradually transitions through three stages of the day: sunrise, daytime, and sunset. At the beginning of the experience, the scene is illuminated with warm yellow light to represent sunrise. As time progresses, the lighting gradually shifts toward a brighter daytime color. In the final stage, the light transitions to a purple-red sunset tone, signaling that the end of the life cycle is approaching. Rather than presenting time through a visible countdown, the design aims to allow players to sense the passage of time through subtle environmental changes.



Figure 13: Screenshots of the process from sunrise to sunset.

To represent freedom, the prototype does not include explicit goals, missions, or instructions. Players are free to move through the environment and explore at their own pace within the limited lifespan of the mayfly.

To explore isolation and meaning, the prototype introduced a trail system that records the player's movement. As the mayfly flies through the environment, a continuous ribbon-like trail appears behind the player, visualizing the path taken through space. The trail persists in the environment and gradually accumulates over time. When the trail interacts with certain environmental elements, its color changes, creating a visual relationship between the player's movement and the surrounding world.



Figure 14: Screenshots of traces in different color.

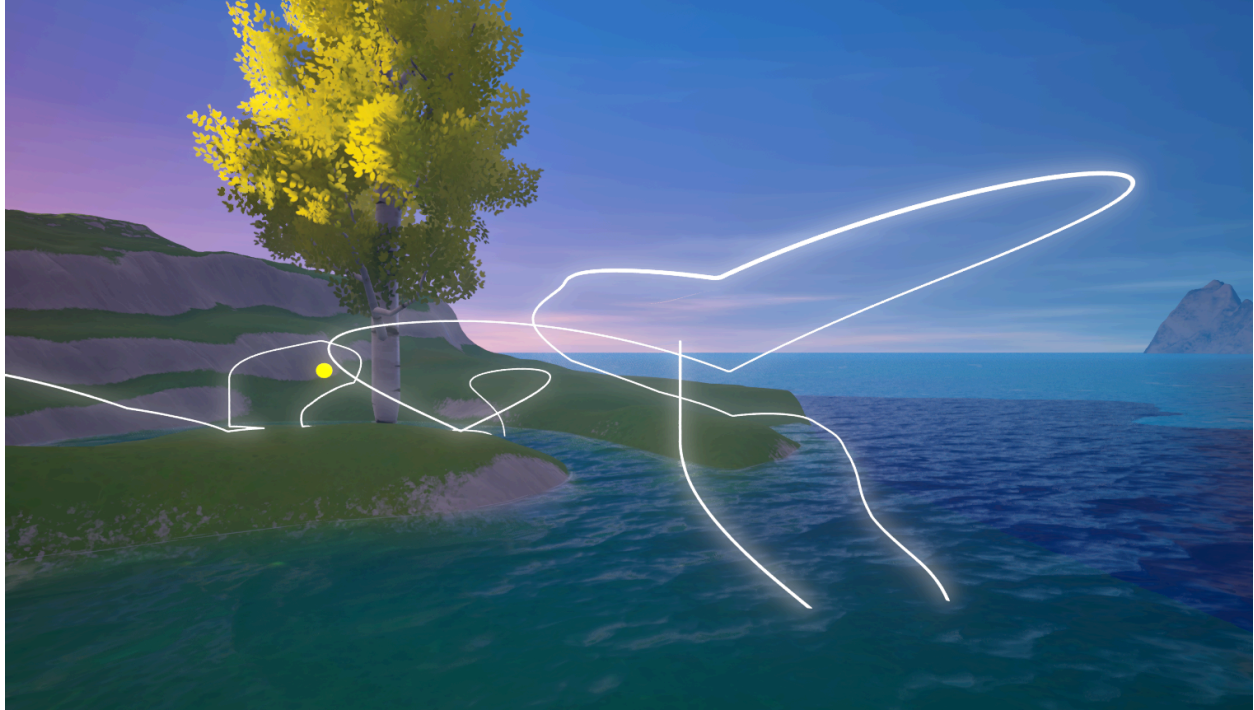


Figure 15: Player-generated trail visualizing movement through space.

Player Feedback and Observation: This iteration was evaluated through informal testing with peers and supervisors. Overall, the environmental day cycle was perceived as visually striking. Many players described the transition from sunrise to sunset as beautiful, and several reported feeling a sense of urgency as the sun gradually moved toward the horizon. The moment when the sun began to set often created a slight feeling of anxiety, as players intuitively sensed that time was running out.

However, most players did not realize that the experience would end exactly at sunset. Because the prototype did not explicitly communicate the time limit, several players appeared confused when the game suddenly ended. This abrupt ending produced a brief sense of disorientation, suggesting that while the environmental transition effectively conveyed the passage of time, its relationship to the end of the experience was not immediately clear.

Players generally responded positively to the absence of explicit goals. Most participants accepted the open-ended structure and began exploring the environment freely. However, some players commented that the environment offered relatively limited opportunities for exploration.

Another observation concerned the trail mechanic. Because this prototype was implemented in a first-person perspective, many players did not notice the trail behind them during play. As a result, the mechanic that allowed the trail to change color when interacting with environmental elements was rarely perceived. Even when players noticed the color changes, they often interpreted them as aesthetic variations rather than meaningful interactions with the world.

During discussions with my supervisor, it also became apparent that the color-changing trail system emphasized visual variation more than conceptual meaning. Although visually interesting, it did not strongly communicate the intended existential themes.

Analysis: These observations suggested that although the prototype successfully communicated the passage of time through environmental change, several design elements required reconsideration. The day–night transition effectively created an atmospheric sense of temporal progression, but its relationship to the end of the experience remained unclear to many players.

More importantly, the trail color interaction did not meaningfully support the existential themes explored in the project. Because many players did not notice the trail during gameplay, the mechanic failed to communicate its intended conceptual role. Even when noticed, the color changes were interpreted primarily as aesthetic variations rather than meaningful interactions with the environment.

These findings prompted a reconsideration of how the themes of isolation and meaninglessness could be expressed more clearly through gameplay systems. Instead of focusing on visual variation within the trail itself, the design began to explore mechanics that would make the player’s presence visibly affect the world.

Solution and Next Steps: Based on these observations, the next iteration shifted the design focus from aesthetic trail variations toward mechanics that more clearly express the player’s relationship with the world. The color-changing trail system was therefore removed. Instead, the following iteration explores new mechanics that allow the environment and the world state to respond to the player’s presence.

Several adjustments were also made to improve the overall experience. The lifespan of the mayfly was shortened to three minutes, more environmental elements were added to expand opportunities for exploration, and small transitions were introduced at the beginning and end of the experience to help players better understand the flow of the game.

Iteration 2

Build: The second iteration refined the previous mechanics and introduced new systems to more clearly express the themes of isolation and meaning.

First, the lifespan of the mayfly was shortened from five minutes to three minutes. The environmental day cycle continued to transition from sunrise to daytime and finally to sunset. The shorter duration was intended to create a stronger sense of temporal compression and encourage players to make decisions within a limited time. This makes the experience of finitude more immediate, intensifying players' awareness of limited time.

The absence of explicit goals was maintained. Players were still free to move through the environment and explore without missions or instructions.

More importantly, two new systems were introduced. The first system is environmental growth. When the mayfly flies close to certain areas along the riverbanks, nearby trees gradually begin to grow. These changes occur in response to the player's movement, suggesting that even a brief life can leave transformations in the world.



Figure 16: Screenshot of the trail behind the player.

The second system introduces asynchronous traces of previous players. The movements of earlier players are preserved as faint floating particles in the environment. These particles indicate paths that others have taken through the landscape. Players cannot interact with these traces directly; they can only observe them while exploring the world.

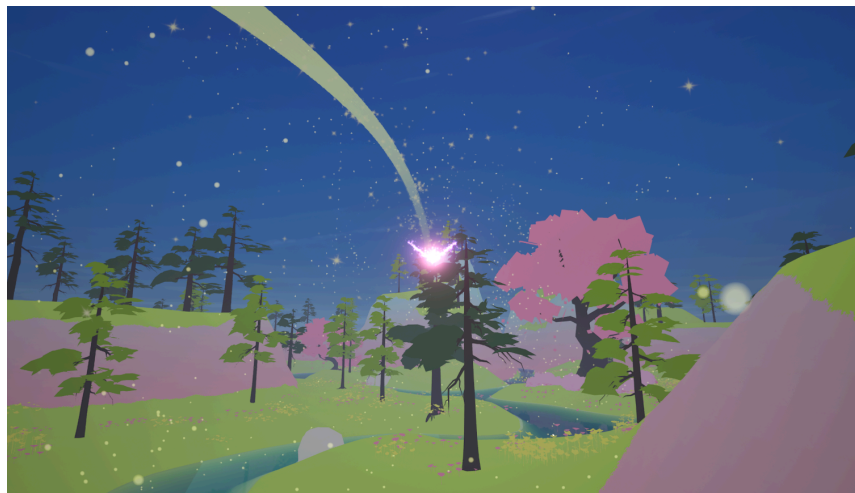


Figure 17: Screenshots of previous players' traces.

Player Feedback and Observation: This iteration was evaluated through a formal playtesting session conducted under REB approval. During testing, several issues related to clarity and perception were identified.

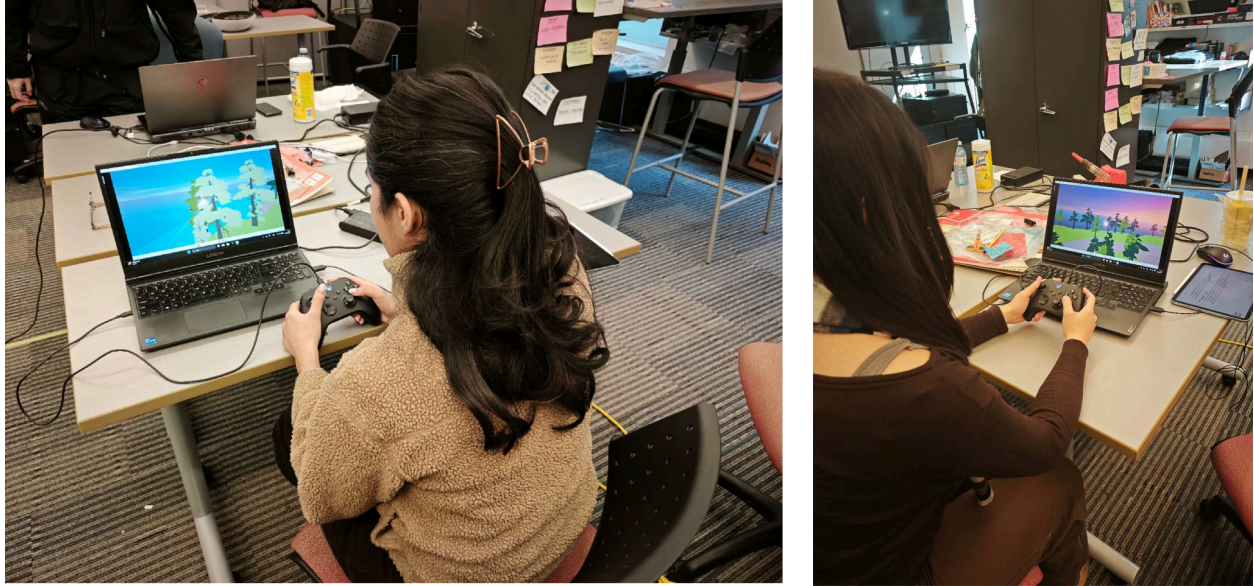


Figure 18. Photographs from the playtesting session.

Although the environmental day cycle remained in place, many players did not clearly perceive the transition between the different stages of the day. In particular, the sunrise stage was not very noticeable. As a result, most players did not immediately recognize that the changing sky represented the passage of time.

Similarly, the limited lifespan of the mayfly was not clearly understood during the first playthrough. When the experience ended, several players expressed confusion about why the game suddenly stopped. However, some players suggested that this ambiguity could make the experience more interesting during a second playthrough, as they gradually discovered the game system.

The environmental growth mechanic also revealed several visual issues. Some players commented that the trees appeared more like a rendered transition than an organic growth process. In addition, because the player had very limited interaction with the water surface, giving the impression that they were floating above the water.

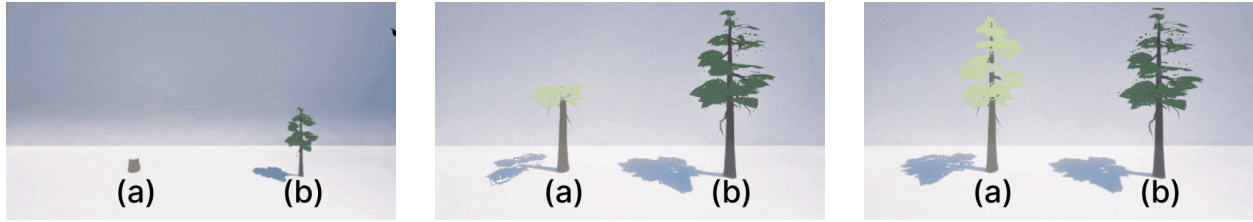


Figure 19: Two approaches to tree growth: (a) mask-based upward reveal, (b) growth through scaling.

Finally, the asynchronous traces of previous players were rarely noticed. Most players did not recognize the floating particles as traces left by other players and instead interpreted them as ambient environmental particles.

Analysis: These observations suggest that several mechanics in the prototype lacked perceptual clarity. The day–night transition conceptually represented the passage of time, but its visual cues were not strong enough for players to immediately interpret it as a life cycle.

The environmental growth system also revealed a mismatch between the intended concept and the perceived result. Instead of appearing as organic growth, the transformation sometimes resembled a rendering effect.

The asynchronous trace system faced a similar issue. Although the particles existed in the environment, their meaning was not immediately apparent to players. Without clearer contextual cues, most players interpreted them as decorative environmental effects rather than traces of previous players.

Solution and Next Steps: Future iterations will focus on improving the clarity and expressiveness of these mechanics. The day cycle will be adjusted to make the visual differences between sunrise, daytime, and sunset more noticeable. Environmental growth will also be refined to appear more organic. In addition, interactions between the player and the water surface will be strengthened, for example through subtle ripple effects, so that environmental responses feel more grounded within the landscape.

Rather than redesigning the visual form of asynchronous traces, the next iteration will introduce subtle hints within the opening or ending moments of the experience to help players interpret these particles as traces left by previous players.

Design Goal:

To translate existential concerns into perceivable gameplay systems.

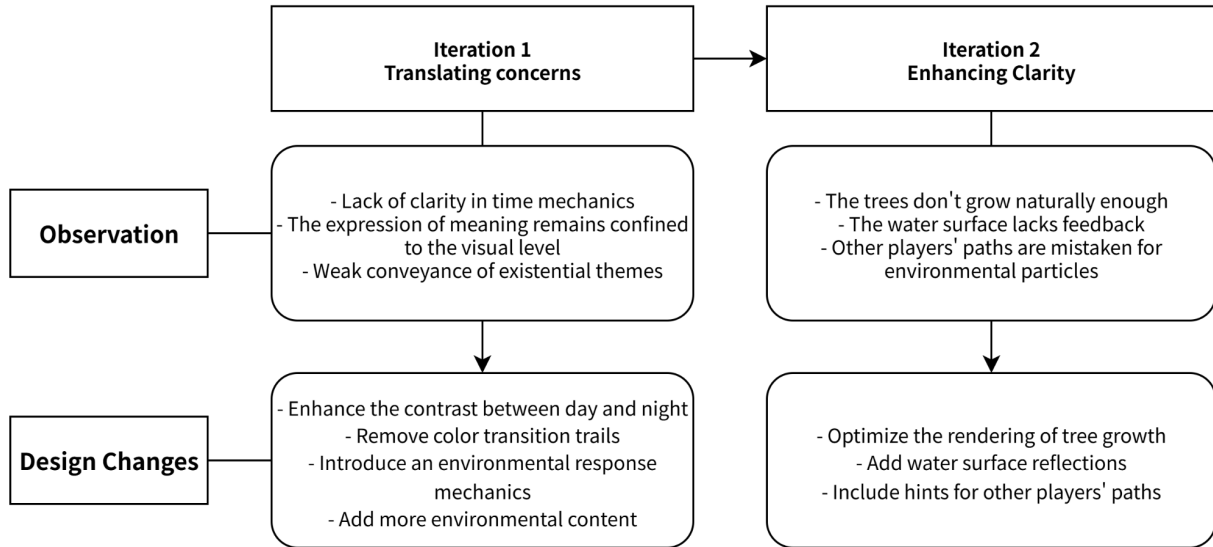


Figure 20: Iterative development process of Prototype 2.

Play Space for Existential Themes

Designing the play space required an environment that could support the game's existential themes without relying on explicit text. A river valley was chosen as the primary spatial structure, accompanied by a minimalist aesthetic that reduces visual noise and directs the player's attention toward movement, atmosphere, and presence within the world.

The journey begins in the confinement of a deep well, symbolizing birth and the initial isolation of existence. This initial confinement establishes a condition of isolation, from which the player gradually moves toward openness and freedom. From this starting point, the environment gradually unfolds into a sequence of organic landmarks: a winding, calm river that guides the early flight, a massive tree standing on a central island, and expansive lakes and waterfalls that introduce verticality and scale. Additional

elements—such as narrow canyons and the final estuary leading to the sea—function as quiet spatial milestones within the player’s three-minute life cycle. This spatial progression loosely mirrors a biological trajectory, where the gradual opening of space reflects a transition from a sheltered beginning toward the vastness of the open ocean.

Crucially, the world is oriented along an east–west axis. By aligning the landscape with the path of the sun, the environment allows light to function as an intuitive, non-verbal clock. As the player moves through these minimalist landmarks, shifting shadows and changes in the warmth of the sky subtly signal the passage of time. In this way, the landscape itself becomes a temporal framework, transforming time from an abstract countdown into a spatial journey through a sequence of evocative environments.

Prototype 3: Environment

Goal: The goal of Prototype 3 was to translate the project’s existential themes into a spatial and environmental experience. While earlier prototypes focused on the mayfly’s movement and gameplay mechanics, this prototype aimed to construct a world capable of supporting these mechanics through spatial scale, environmental layout, pacing, and atmosphere. From the perspective of a tiny creature, the environment needed to feel vast while still guiding the player through the whole journey. This contrast in scale reinforces the existential tension between the individual and the vastness of the world. The design therefore focused on establishing a clear spatial flow along a river corridor while shaping the emotional progression of the player’s brief life.

Iteration 1: Procedural Terrain Test (Gaea Build)

Build: The initial version of the environment was generated using Gaea to create a large procedural terrain consisting of rivers, valleys, and slopes. This build was primarily intended to test large-scale flight movement and the experience of navigating through a natural landscape. Given that the total playtime is limited to three minutes, the scale of the terrain directly influences player pacing. During personal testing, it was observed that if a player ignored exploration and flew directly toward the sunset, the

entire map could be traversed in approximately one minute and thirty seconds. This spatial configuration was intentional, leaving additional time for environmental interaction and exploration within the short life cycle of the mayfly.

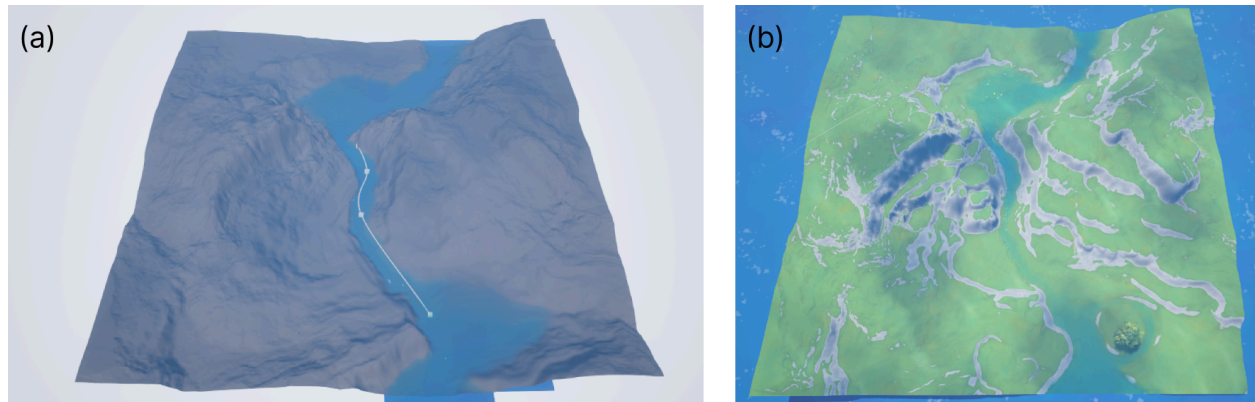


Figure 21: Comparison of the terrain before and after material application.

Player Feedback: Feedback from peers and advisors indicated that the terrain appeared relatively raw and homogeneous. While the procedural landscape provided a large natural environment, its overall form lacked variation in shape, scale, and spatial rhythm. Advisors also noted the absence of clear environmental landmarks. Without recognizable spatial features or visual anchors, players often struggled to orient themselves within the landscape or understand where to move next. This lack of guidance sometimes resulted in players wandering through the terrain without a clear sense of direction.

Analysis: The analysis revealed that while the procedural terrain provided a naturalistic backdrop, it lacked a deliberate critical path and strategically placed nodes to control player velocity. The environment offered no visual hierarchy, meaning players could not distinguish between transitional spaces and key interaction areas. Because the world lacked high-contrast Points of Interest (POIs), there was no environmental pull to slow the player down or encourage them to deviate from a straight-line path. This absence of structural guidance meant that the 3-minute time limit was not being fully utilized for engagement, as players had no clear reason to linger or explore the nuances of the terrain.

Solution: To resolve these issues, the layout has been rebuilt from a whitebox stage to establish a main river corridor as the primary flight path, complemented by branching routes for exploration. The core strategy involves the placement of high-contrast POIs, such as unique geological formations, to act as visual magnets that naturally slow the player's pace. Visual guidance will be significantly enhanced through the use of breadcrumb to indicate the forward path. By creating a rhythmic sequence of open vistas and dense, detailed hubs, the design will use environmental storytelling to signal where players should linger, ensuring the 3-minute experience is rich with intentional pauses and discovery.

Iteration 2: River-Based Level Structure

Build: In the second iteration, the environment was rebuilt as a rectangular river valley, serving as a continuous spatial corridor that acts as the main spine of the level. Departing from the previous expansive procedural terrain, this version focuses on a more controlled linear structure where the river provides both directional guidance and pacing. To prioritize the player's immersion within the physical space, the complexity of terrain materials was significantly reduced. By simplifying textures and focusing on clean geometry, the build emphasizes the rhythmic shifts in the river's width, its bends, and the surrounding canyon walls. This structural approach aims to create a spatial tunnel that keeps the player focused on the journey without the distraction of visual noise.

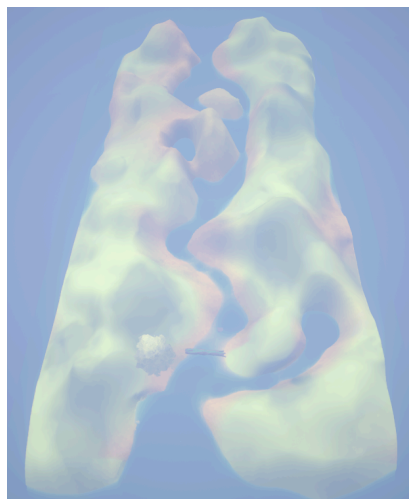


Figure 22: River-based terrain structure forming a central spatial corridor.

Player feedback: Players reported a much stronger sense of purpose and a clearer understanding of the critical path due to the enclosed nature of the rectangular valley. The simplified materials were great, as testers noted they could focus more on the flow of the water and the silhouette of the terrain rather than getting lost in details. However, feedback suggested that while the direction was clear, some sections of the long corridor felt too uniform, leading to moments where the sense of progression stalled. Some players mentioned that without distinct landmarks or breaks in the landscape, the 3-minute flight occasionally felt like a single, unchanging mechanical task.

Analysis: The analysis confirmed that the rectangular corridor successfully solved the navigation issues of the first iteration by creating a natural funnel for movement. The reduction in material complexity effectively heightened the player's spatial awareness, allowing the core geometry of the valley to dictate the experience. However, the uniformity of the corridor revealed a need for better spatial compression and release. Without strategically placed Points of Interest (POIs) or variations in the valley's silhouette, the player struggled to register movement through different zones. The simplicity of the environment provides a perfect canvas, but it requires intentional visual anchors to prevent the experience from becoming monotonous.

Solution: To resolve these issues, the layout will be further refined by integrating high-contrast POIs within the simplified rectangular corridor to act as spatial anchors. The core strategy is to use these focal points to naturally slow the player's pace and encourage engagement with the environment. To improve the sense of progression, the valley's width and the height of its walls will be varied to create a rhythm of tension and release. By creating a sequence of open vistas and dense, detailed hubs, the design will use the geometry itself to signal where players should linger, ensuring the 3-minute experience is rich with intentional pauses.

Iteration 3: POI-Driven River Journey

Build: In the third iteration, the environment evolved into a refined landmark-driven layout, transitioning from a generic corridor to a specific narrative path. The level now begins at a Deep Well located at the highest elevation, acting as a natural starting point to launch the player into the world. From there, the terrain flows into a winding river that guides the player through a series of curves toward a central 'Lake Island.' Beyond the island, multiple branching tributaries allow for further exploration, leading players through narrow canyons where they must fly against the wind before finally reaching a coastal delta. The entire world has been converted to a minimalist aesthetic, utilizing unlit materials combined with height fog to shift the focus from details to pure spatial atmosphere.

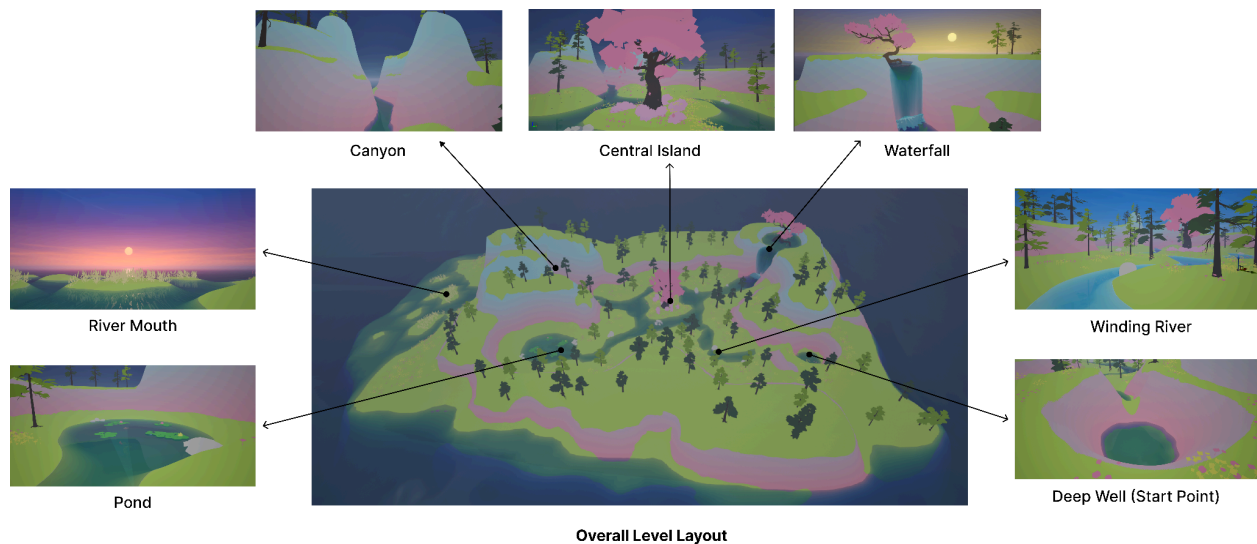


Figure 23: Overall level layout showing key points of interest (POIs) distributed along the river path.

Player feedback: Playtest feedback indicated that the environment still lacked sufficient visual density and environmental cues. Some players described the landscape as feeling relatively empty, which reduced spatial layering and weakened navigational guidance. Participants suggested that introducing additional environmental elements—such as vegetation clusters, rocks, or subtle terrain variations—could enhance both visual richness and spatial orientation. Another issue concerned the overall color palette. The scene appeared overly bright, which reduced tonal contrast between the

environment and the player character. As a result, the mayfly and its movement trails did not stand out clearly against the background.

Next Steps: Future iterations will focus on improving environmental readability while maintaining the minimalist visual style. Additional environmental elements will be introduced to increase spatial density and support navigation. These elements are intended not only to enrich the environment visually but also to function as subtle guidance mechanisms within the landscape. The overall color palette will also be refined to establish a stronger tonal hierarchy. By reducing background brightness and increasing contrast between the mayfly, its trail, and the environment, the design aims to improve visual clarity and strengthen the player’s perception of movement within the world.

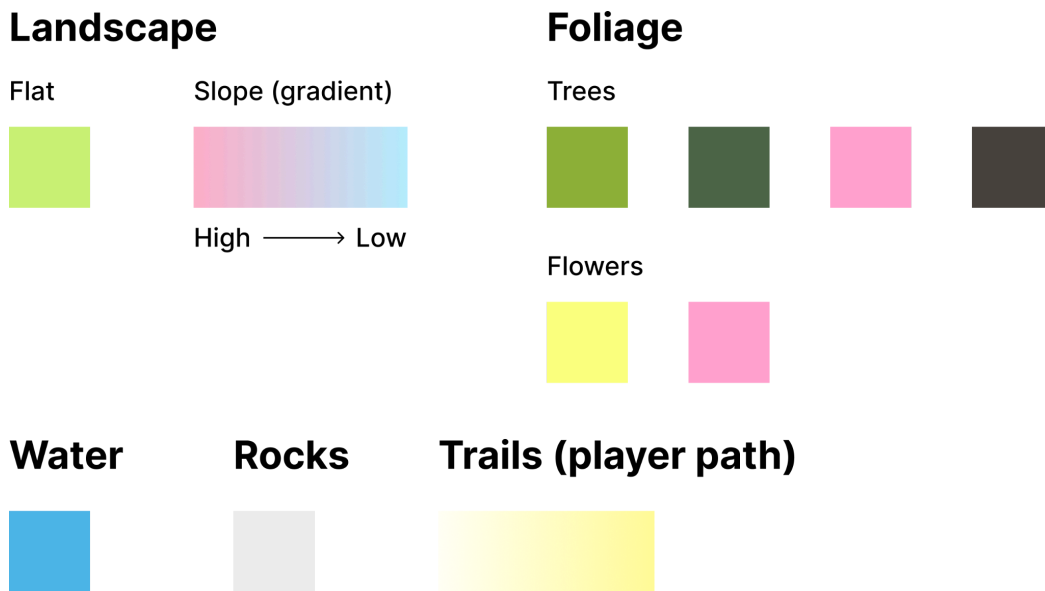


Figure 24: Colour palette used in the environment design.

Design Goal:
Translate existential themes into spatial experience through environment and level design

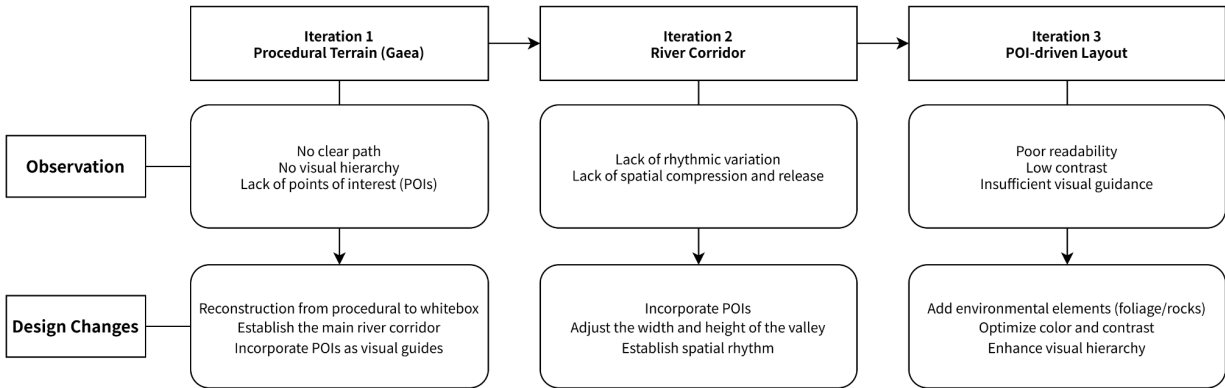


Figure 25: Iterative development process of Prototype 3.

Chapter 5: Results & Reflection

This chapter analyzes the results of the playtesting sessions and reflects on how the design strategies explored in this project address the central research question: how procedural rhetoric and environmental design in videogames can evoke affective experiences related to existential reflection.

The project followed a research-creation methodology illustrated in Figure 2 on page 29 in order to explore philosophical ideas through iterative prototyping and testing. Each prototype experimented with different ways of translating existential concepts into interactive systems. For example, a limited lifespan and a day–night cycle were used to represent finitude and being-towards-death. The flight trace system expressed the accumulation of meaning through lived action, while the connection mechanic explored relationality and isolation. Through playtesting, it became possible to observe how players interpreted these systems and whether the intended affective responses emerged during gameplay.

The findings presented in this chapter therefore examine how specific design choices—including the mayfly’s fragile movement, the day–night cycle, the trace system, and the spatial structure of the landscape—functioned as procedural and environmental mechanisms that shaped players’ emotional and reflective experiences.

5.1 Player Feedback

“This game made me slow down and think about time and death in a way I didn’t expect.” (Participant X)

The playtest results indicate that the prototype successfully created a calm and contemplative atmosphere. Many participants described the experience as peaceful, relaxing, or meditative. The slow flight movement, open landscape, and minimal interface allowed players to move through the environment without pressure, creating a space for quiet exploration. The fragile movement of the mayfly also contributed to this atmosphere, as its lightweight flight and rhythmic effort to remain

airborne encouraged players to move slowly through the space rather than rushing through the environment.

Several participants reported that the experience encouraged them to slow down and observe the environment more attentively. Instead of focusing on completing tasks or achieving objectives, players often described their experience in terms of atmosphere and feeling. Some players compared the experience to wandering in nature or engaging in a meditative activity. The river corridor and the gradual unfolding of the landscape helped structure this journey, guiding players through different spatial moments while maintaining a sense of openness and freedom.



Figure 26: Players reported a calm, meditative experience similar to wandering in nature.

Many players were also able to perceive themes related to time, existence, and mortality during the experience. As the environment gradually transitioned from sunrise to sunset, participants became increasingly aware of the passage of time. The changing light conditions and the approaching sunset created a sense of urgency toward the end of the experience. Importantly, this perception of time emerged without the use of a visible countdown timer. Instead, players relied on environmental cues such as lighting changes to understand that the experience was approaching its conclusion. The spatial progression of the landscape—from the deep well at the beginning of the journey toward the wider river

and open horizon—also contributed to this perception of a brief life unfolding within a larger world.

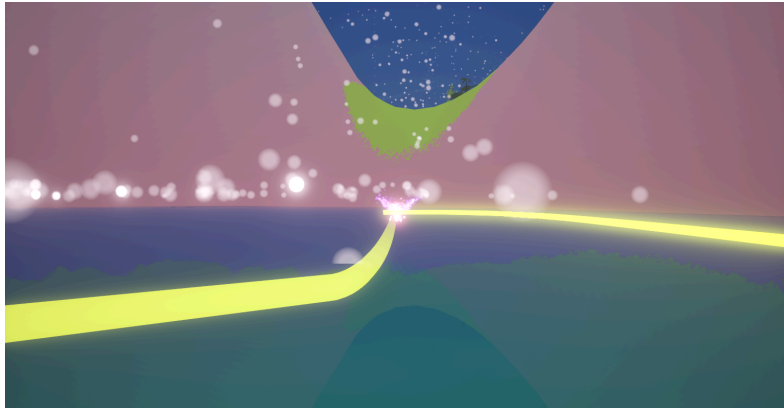


Figure 27: The deep well as the starting point of the player's journey.

The open-ended structure of the game encouraged diverse forms of player behavior. Without predefined objectives, players developed their own interaction styles during play. Some players explored the boundaries of the map, while others flew to higher altitudes to observe the landscape from above. Several participants experimented with the trail mechanics by drawing shapes in the sky or revisiting their own paths. These behaviors suggest that players engage with the environment in exploratory and expressive ways rather than focusing on task completion.

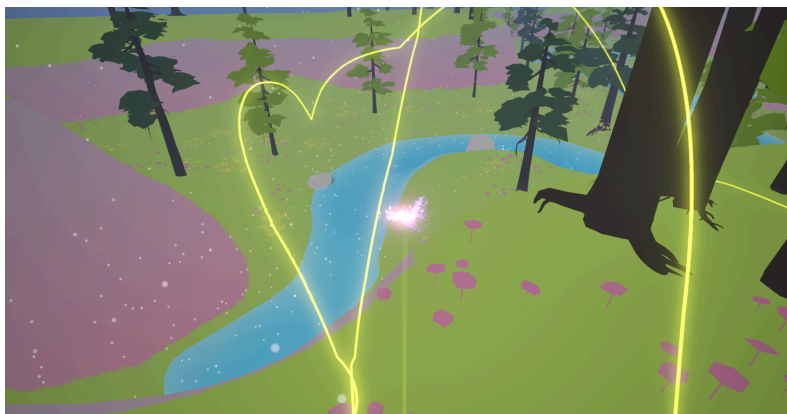


Figure 28: Player-created patterns using movement trails.

At the same time, the playtests revealed several challenges in communicating abstract ideas through environmental and gameplay systems. Some mechanics were not immediately understood by

players. For example, the day–night cycle was not always interpreted as representing the limited lifespan of the mayfly during the first playthrough. Similarly, the asynchronous traces of previous players were sometimes perceived simply as visual particles rather than as remnants of earlier journeys. Interestingly, several participants reported that they only began to understand these systems during a second playthrough. After experiencing the sudden ending once, they started to pay more attention to the changing light in the sky and gradually realized that the sunset marked the end of the mayfly’s life. In this sense, the gradual discovery of the system’s meaning became part of the experience itself.

Overall, the playtest results suggest that the prototype was able to create an affective experience characterized by calmness, contemplation, and an increased awareness of time. Players engaged with the environment through exploration, observation, and experimentation, and many participants reported reflecting on the passage of time as the experience progressed. At the same time, the results also indicate that certain symbolic elements were not immediately recognized during the first playthrough, highlighting the challenges involved in communicating abstract ideas through interactive systems.

5.2 Design Reflection

This project adopted a research-creation methodology in which knowledge emerged through the iterative process of making, testing, and refining prototypes. This process unfolded through multiple interconnected approaches over time. Research-for-creation informed the initial stages, where philosophical concepts and theoretical frameworks were investigated to shape the design direction. Creation-as-research was used during the prototyping phase, where ideas were explored through the act of making and iteratively developing game mechanics and environmental design. Finally, research-from-creation emerged through playtesting and reflection, where insights were generated by analyzing how players experienced and interpreted the prototypes. One of the most important things learned through this process is that, when designing for philosophical reflection, meaning cannot simply

be inserted into a game through narrative explanation alone. Instead, abstract ideas must be translated into systems and spaces that players can experience through interaction. In this sense, research-creation was valuable not only as a method of research development, but as a way of discovering how philosophical concepts function when they are made playable.

This process helped answer the central research question of this project: how procedural rhetoric and environmental design in videogames might be designed to evoke affective experiences related to existential reflection. The findings suggest that such experiences emerge most effectively when philosophical ideas are embedded in both the rule-based structure of play and the perceptual conditions of the environment.

At the early stage of the project development, this work was informed by a poetic game design approach, drawing on Magnuson's concept of game poems (Magnuson, 2023). Inspired by characteristics of lyric poetry—such as brevity, subjectivity, metaphor, and a focus on ritual rather than narrative—the project adopts a deliberately small scope and a minimalist aesthetic. This made it possible to concentrate on moment-to-moment experience, where meaning emerges through movement, perception, and atmosphere rather than through explicit storytelling or objectives. The use of non-verbal interaction further supports this approach, allowing players to interpret the experience subjectively. In this sense, the poetic game design approach informed the overall design approach of the project, enabling a condensed form of design in which limited scale does not reduce expressive capacity, but instead intensifies it.

From the perspective of procedural rhetoric, the project showed that existential themes become affectively meaningful when they are translated into mechanics that organize the player's embodied actions. This translation operates through different forms of mapping. Some systems employ isomorphic mapping, where concepts are directly translated into structural conditions of play. For example, the mayfly's limited lifespan and the day–night cycle establish a time mechanics, allowing players to

experience time as a constrained condition. In contrast, other systems rely on metaphorical mapping, where meaning emerges through interpretation rather than direct representation. The trace system, for instance, visualizes accumulated movement as persistent marks in the environment, suggesting that meaning is constructed through lived action rather than predefined goals. The mayfly's fragile flight system further reinforces this experiential condition by requiring continuous effort to remain airborne, transforming movement into more than navigation. Similarly, the day–night cycle communicates finitude not through a visible timer or verbal instruction, but through environmental transformation. As the light gradually shifts from sunrise to sunset, players begin to sense that time is passing and that the experience is moving toward an inevitable end. The trace procedural mechanic and tree growth environmental response further extend this logic by showing that player actions can leave visible marks in the world. Importantly, the trace persists across play sessions, allowing actions from previous playthroughs to remain visible and accumulate over time, reinforcing the sense that existence is shaped through repeated acts rather than a single, isolated experience. Through these mechanics, procedural rhetoric works by structuring action so that players experience existential ideas as lived conditions rather than abstract themes.

From the perspective of environmental design, the project demonstrated that affective experiences related to existential reflection can be supported through spatial layout and environmental atmosphere. The level begins in a deep well, where the player must struggle upward to reach open space. This opening moment creates a bodily sense of effort. As the experience continues, the environment gradually unfolds into a wider river landscape and eventually toward a distant horizon. This spatial transition gives form to a brief life journey, moving from enclosure toward openness, and from struggle toward reflection. The minimalist visual style also proved important. By reducing visual clutter and limiting interface elements, the environment encouraged players to attend more closely to

movement, light, scale, and atmosphere. In this way, environmental design did not simply provide a backdrop for mechanics, but shaped the emotional conditions in which reflection could occur.

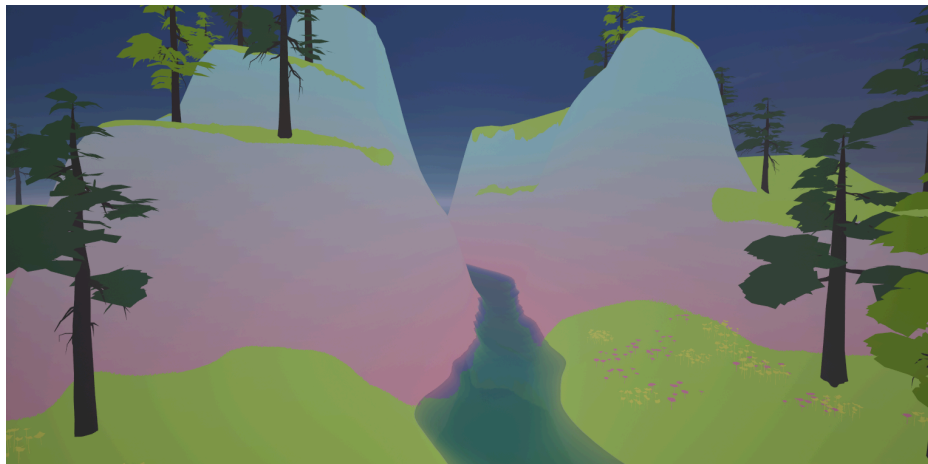


Figure 29: Minimalist visual style reducing detail to emphasize form and spatial clarity.

The research-creation process also made clear that existential meaning in games is often gradual rather than immediate. Playtesting showed that players did not always fully understand the symbolic or procedural meaning of certain systems during their first playthrough. However, after experiencing the sudden ending once, many began to reinterpret the changing light, the traces, and the overall structure of the level in more reflective ways. This suggests that designing for existential reflection does not necessarily require immediate legibility. Instead, it may be more effective to create systems that invite reinterpretation, allowing meaning to emerge through repetition and memory. Unlike life, games can be re-played, and it is in the re-playing that the opportunity for reflection lies. This was an important methodological insight gained through research-creation: player interpretation is not separate from design, but part of how the work produces knowledge.

Based on these findings, this project proposes a design framework that summarizes how philosophical concepts can be translated into player experience through poetic framing, procedural rhetoric, and environmental design. This framework is a set of guiding principles for future makers interested in designing games for philosophical reflection.

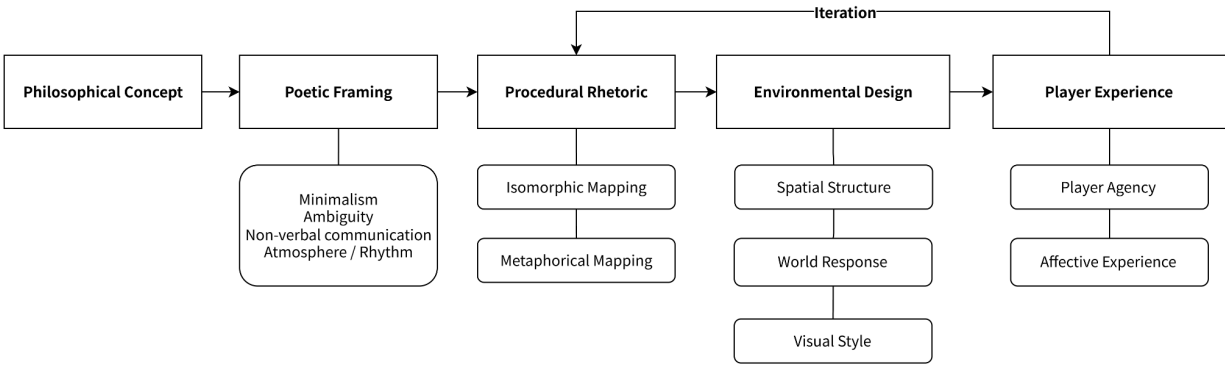


Figure 30: Concept-to-experience design framework.

Taken together, the findings of this project suggest that procedural rhetoric and environmental design can evoke affective experiences related to existential reflection when they are designed to make players feel existential concepts through embodied interaction and atmospheric progression. Procedural rhetoric is most effective when mechanics transform abstract ideas into lived and played patterns of action. Environmental design is most effective when spatial structure, visual style, and environmental cues create a reflective emotional context for those actions. Together, these elements allow videogames to function as experiential spaces for philosophical reflection.

Chapter 6: Future Work & Conclusion

6.1 Future Work

Although the prototype successfully explores existential ideas through interaction, it represents only an initial step in the development of this design approach. Several directions could be explored in future iterations.

First, the environmental design could be expanded to include more diverse landscapes. A larger and more varied world would allow players to experience different spatial atmospheres during their short life cycle and discover new ways of interacting with the environment. Such variation could deepen the experiential dimension of the game while maintaining the core concept of a brief existence.

Second, the interaction systems could be further refined so that the environment responds more dynamically to the player's presence. In the current prototype, the primary environmental response is the growth of trees when the mayfly flies close to certain areas along the riverbank. While this mechanic already suggests that the player's brief presence can influence the environment, future versions could expand the range of environmental responses. For example, different plants could react to the player's movement in varied ways, or additional particle effects could appear when the mayfly passes through certain spaces, such as floating pollen, drifting spores, or small glowing particles that briefly follow the player's movement. Introducing a wider variety of environmental reactions could make the world feel more alive and strengthen the sense that the player's movement reshapes the surrounding space.

Another important direction involves improving the clarity of certain mechanics. During playtesting, some players interpreted elements such as environmental traces or particles primarily as decorative effects. Future iterations could explore ways of helping players recognize the significance of these systems while still preserving the openness of interpretation that is central to the experience.

Finally, future work could investigate how the poetic design approach explored in this project might be applied to larger or more complex games. While this prototype focuses on a short experimental experience, similar principles—such as environmental storytelling, procedural metaphors, and open exploration—may also support longer gameplay experiences or different game genres.

6.2 Conclusion

This project explored some ways that existential ideas can be translated into interactive mechanics through a research-creation process. Instead of explaining philosophical concepts through narrative or text, the design expresses themes of time, meaning, and existence through the brief life of a mayfly.

Through iterative prototyping, existential concerns such as death, freedom, isolation, and meaninglessness were translated into concrete gameplay systems. The limited lifespan of the mayfly, the open and goal-free environment, and the traces left by player movement together create an experiential structure in which players encounter these themes.

The development process also demonstrates the value of research-creation as a method for exploring philosophical ideas in game design. By building and testing different prototypes, the project shows how simple mechanics and environmental design can evoke reflection and personal interpretation.

More broadly, this work contributes to the discussion of games as reflective and expressive media. It suggests that poetic game design—through minimal interaction, procedural rhetoric, and atmospheric environments—can create spaces where players engage with fundamental questions of life and existence through experience.

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Appendices

Appendix A: Data collection instruments

Data Collection Overview

Data collection includes gameplay observation (screen and audio recordings), post-play interviews, and researcher field notes documenting player behavior.

Gameplay Observation

Participants play *Ephemeral*, a short prototype where the player takes the role of a mayfly that lives for one day. During gameplay, participants may be asked to think aloud, describing what they see, feel, or do in the moment.

- What are you noticing right now?
- How does this scene make you feel?
- What are you trying to do next?
- Is there anything that confuses you or feels natural to control?

Post-Play Interview Questions

After gameplay, participants will take part in a short conversation (15 minutes)

Interview questions are open-ended to encourage participants to reflect on their experience, interpretation, and emotional responses. Participants may skip any question they do not wish to answer.

- How did you feel while playing the game?
- Was there a moment that stood out to you? What happened?
- What do you feel the game is about?
- Did the game remind you of anything in your own life or experiences?
- How did the time limit (day-night cycle) affect your play?
- How did you interpret the metaphorical world of the game?

- What was it like to see the traces you left behind while flying?
- Was anything confusing or difficult to control?
- Did you ever feel stuck or unsure what to do next?
- Do you have any suggestions to make the game better?

Researcher Notes

- General movement patterns (e.g. flight height, hesitation, exploration)
- Visible signs of engagement (pauses, moments of stillness)
- Instances of interaction with specific elements (flowers, light, trails)
- These notes will not include names or identifiable details.

Appendix B: Gameplay Video

A gameplay recording of *Ephemeral* can be accessed via the following link:

<https://vimeo.com/1176365448>