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Running on empty

A simulated experience of the five profiles of burnout through immersive technology to deepen the understanding of the different stages of burnout.

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Abstract

Burnout haunts our modern world, its shadow lengthening as work bleeds into every corner of our lives. We juggle endless digital demands and society's relentless expectations. Though researchers have mapped its terrain extensively, we still struggle to recognize our own descent into its depths.

Running on Empty brings burnout to life through an immersive first-person experience. The installation translates Leiter & Maslach's five burnout profiles into tangible, walkable journeys using augmented reality and physical spaces.

This project combines Research through Design (RTD) with Critical Design approaches, weaving narrative-driven interactions with Augmented Reality overlays that simulate digital stressors in real environments. The concept of storytelling aiding people with recognizing their own burnout symptoms has been validated through multiple prototypes and a comprehensive evaluation method. The approach teaches through embodied experience, showing how burnout evolves from eager engagement to hollow exhaustion.

The project demonstrates how augmented reality, narrative, and spatial design can combine as powerful tools for experiential learning about mental health and well-being.

Key Words: Burnout, Augmented Reality, Experiential Learning, Immersive Technology, Cognitive Overload, Narrative-driven Design, Research through Design, Psychological Wellbeing.

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1. Introduction

"Running on Empty" is an immersive Augmented Reality installation that explores the different stages of burnout, emphasizing that it does not occur suddenly but rather creeps in gradually, like a slow-acting poison with numerous warning signs. The core of the thesis is to externalize this progression, helping people draw parallels with their own lives or those of others they know. It is designed to be an educational experience.

1.1 Personal Motivation

The genesis of this project emerged from an unexpected intersection of research interests. Initially, my work focused on deconstructing complex skills into their fundamental components to optimize adult learning processes. The underlying premise was that by identifying and leveraging pre-existing knowledge structures, individuals could accelerate their acquisition of new competencies through more intuitive learning pathways.



Figure 1-1 Initial research enquiry of mapping new and existing skillsets

The figure above represents diagrammatically the overlap between the broken-down components of the skills that we wish to learn and the skills that we already have possess.

A pivotal moment occurred during my exploration of innovative learning interfaces, specifically through an encounter with FormSoft Word's experimental game. In this experience, any typographical error triggered the immediate deletion of the user's document - a stark metaphor for the unforgiving nature of performance expectations in contemporary work culture.



Figure 1-2 FormSoft Word, "You made a Typo" Game ending notification

The figure above shows the dark screen that appears at the end of the game once you have made a typo and lose the entire document.

This interaction catalysed deeper reflections on the broader implications of our society's relentless drive for skill acquisition and the commodification of personal capabilities.

1.2 Present Need for Burnout Research

Recent research reveals the escalating prevalence of burnout across various demographic groups and professional sectors. A comprehensive 2023 global survey conducted by Future Forum, encompassing over 10,000 participants across six countries, unveiled particularly concerning statistics: 48% of workers under 30 and 46% of women report experiencing burnout symptoms. These figures suggest a generational and gender-specific dimension to the burnout crisis that warrants deeper investigation.

The post-Covid-19 landscape has intensified these challenges through multiple mechanisms. Increased social isolation and the erosion of traditional support networks, while simultaneously experiencing an unprecedented blurring of boundaries between professional and personal spaces. This transformation has been accompanied by heightened existential pressures and economic uncertainty. This is further complicated by accelerated digitalization of work and social interactions. The intensification of performance monitoring and productivity metrics has created an environment where escape from evaluation and measurement seems increasingly difficult. Despite growing awareness of burnout as a phenomenon, individuals often struggle to recognize their position within the burnout cycle. This difficulty in self-diagnosis frequently leads to delayed intervention and complicated recovery processes. According to HelpGuide.org, while excessive stress is often recognized, burnout can be more insidious, with individuals not always noticing when it occurs, leading to delays in seeking necessary support and extending recovery time.

1.3 Research Summary and Hypothesis

Running on Empty is an immersive, first-person simulation that translates the experiential reality of burnout through the five latent burnout profiles identified by Leiter & Maslach (2016). The

project employs augmented reality (AR) and physical installation to externalize burnout's psychological progression, enabling users to witness its cognitive and emotional toll firsthand. Unlike traditional burnout research or passive media portrayals, this approach leverages embodied learning to reinforce how burnout manifests across different profiles—ranging from early signs of overextension to full burnout.

The project operates on the hypothesis that visualizing burnout externally, rather than experiencing it introspectively, fosters deeper recognition and understanding. burnout often develops gradually, akin to the boiling frog effect, where individuals fail to perceive their declining mental state until it becomes severe. By creating an interactive and experiential representation, the simulation enables users to identify parallels between the burnout profiles and their own experiences, aiding in self-recognition and intervention.

Despite extensive academic research on burnout, much of this knowledge remains complex and difficult to internalize. The project aims to bridge the gap between research and lived experience by transforming Maslach & Leiter's burnout model into an interactive, digestible format. Research suggests that embodied learning improves retention and cognitive processing (Kolb, 1984), making Augmented Reality a powerful tool for illustrating how burnout evolves across different profiles over time.

The five burnout profiles serve as the structural foundation of the simulation, with each stage of the experience aligning with a specific burnout trajectory.

Through Augmented Reality overlays, staged environmental cues, and interactive storytelling, the project compresses burnout's timeline into a visually and physically immersive progression, ensuring that users experience its impact in a tangible, meaningful way.

1.3.1 Augmented Reality and Physical Installation

This project employs augmented reality (AR) to create an immersive and persistent experience that bridges physical and digital realities. Unlike fully virtual experiences, which separate users from their surroundings, AR integrates digital stressors into real-world environments, reinforcing the idea that burnout is not an isolated event—it permeates everyday life.

The installation consists of three interconnected components.

1.3.1.1 Narrative & Design

The burnout cycle is structured into a compressed yet psychologically accurate timeline, allowing users to experience how burnout unfolds over time. Each phase aligns with one of the five burnout profiles, ensuring that the experience reflects real-world burnout trajectories.

1.3.1.2 Physical Space

The installation reinforces the psychological states associated with burnout through lighting, spatial constraints, and interactive elements that mirror the loss of agency and mounting exhaustion seen in different profiles.

1.3.1.3 Augmented Reality Interface

The AR layer blends digital stressors into the user's real environment, using notifications, alerts, and unfulfilled tasks to simulate cognitive overload and emotional depletion. Unlike traditional simulations, AR ensures burnout's symptoms appear contextually relevant, allowing users to experience its creeping effects in real time.

1.3.2 Research Questions

1.3.2.1 Primary Question

How can an augmented reality experience that immerses users in a fictional character's journey through burnout help them develop greater self-awareness and better recognize their own stage in the burnout cycle?

1.3.2.2 Secondary Question

What role does narrative engagement play in facilitating understanding of burnout progression?

1.3.3 Research Contribution

This research integrates cognitive science, embodied knowledge, and storytelling into an interactive augmented reality installation, exploring burnout through a series of iterative prototypes. The key contribution lies in bridging psychological burnout theories with interactive design, offering an experiential translation of research into a tangible, immersive format. By evaluating how burnout is received and portrayed across different mediums, this research identifies gaps in existing representations and proposes a novel, embodied approach to burnout visualization. The project particularly focuses on the five latent burnout profiles (Leiter & Maslach, 2016), ensuring that each stage of burnout is accurately represented in an interactive, narrative-driven space.

1.3.4 Research methodology

This thesis employs Research through Design (RTD), and Critical Design as its primary methodologies. Through multiple iterations of prototypes and integration of academic literature, the five burnout profiles were translated into an interactive augmented reality experience. This methodological framework ensured that each stage of burnout was refined through iterative

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prototyping, maintaining psychological accuracy while enhancing user engagement and emotional impact.

1.3.5 Scope and limitations

Running on Empty focuses on visualizing and experiencing the five burnout profiles through a narrative-driven, immersive environment. The project is designed to represent burnout as a lived experience, providing a sensorial and cognitive understanding of its gradual progression. While comprehensive in its representation of burnout progression, this project does not explore coping strategies, therapeutic interventions, or long-term recovery frameworks. The focus remains on recognition and awareness rather than prevention or treatment.

Additionally, personalized user experiences based on gender, occupation, or psychological profiles were not integrated into this version but could be explored in future research. Expanding the project's scope to include adaptive elements or interactive self-assessment tools could enhance its relevance for broader audiences.

1.3.6 Chapter Overview

Chapter 1 introduces the research background, scope, and contributions of this thesis. Chapter 2 presents a review of literature on burnout, psychological theories, and augmented reality's role in immersive storytelling, followed by a discussion on gaps in research and emerging inquiries in the field.

Chapter 3 outlines the research methodologies, while Chapter 4 details the development of iterative prototypes and their design refinements based on evaluations. The chapter also explores the exhibition design and physical space, which serve as the culmination of research insights.

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Chapter 5 presents a comparative evaluation, analysing how different mediums depict burnout and how interactive experiences enhance comprehension. Finally, Chapter 6 reflects on personal insights and future research directions.

2. Literature and Contextual Review

This chapter explores the primary focus areas of the research: burnout theory, including its causes, symptoms, and coping strategies. It examines the current prevalence of burnout in society, highlighting the role of the attention economy and discussing ways to break free from this cycle along with technological interventions.

2.1 History of Burnout

Herbert Freudenberger, a German born American psychologist, first brought the concept of "burnout" to the public consciousness. He fled Nazi Germany as a child and faced intense stress and displacement, which influenced his understanding of the psychological strain. In the early 1970s, while working as a psychologist in New York, Freudenberger observed high levels of emotional and physical exhaustion among healthcare and social workers in the free clinics where he volunteered. He noticed a recurring pattern – intense detachment, and a feeling of being worn out. He, to a certain extent, experience these feeling himself and recognized his own struggles with exhaustion and cynicism.

In 1974, he published a seminal paper describing "burnout syndrome" and formally coined the term "burnout". He described it as a state of fatigue and frustration resulting from dedication to a cause, way of life, or relationship that failed to produce the expected rewards. His observations were grounded in his own experiences. (Freudenberger, 1974). His work laid the foundation for later psychological models, including Maslach & Leiter's multidimensional approach.

2.2 Burnout Theories and Diagnosis

Building on Freudenberger's theories, further down the road, in the 1980s, psychologist Christina Maslach and Susan E. Jackson (1981) developed the Maslach burnout Inventory (MBI), which remains one of the most widely used tools for assessing burnout. The MBI identifies burnout as a three-dimensional syndrome composed of emotional exhaustion, depersonalization or cynicism and reduced personal accomplishment.

Burnout, despite being identified in the early 1970s, only got recognition from World Health Organization in 2019. The World Health Organization (WHO) recognized burnout as an "occupational phenomenon" in 2019, categorizing it as a result of "chronic workplace stress that has not been successfully managed." (WHO, 2019)

Another perspective comes from psychological resilience and appraisal theories. burnout, according to Lazarus and Folkman's (1984) stress appraisal theory, arises when work-related stressors are perceived as threats, and coping resources are insufficient. Conversely, some individuals develop work engagement—characterized by vigor, dedication, and absorption—even in high-stress environments (Schaufeli et al., 2002). The distinction between burnout and engagement suggests that burnout is not merely the absence of motivation, but an active psychological strain caused by persistent work stress.

2.3 Profiles, Measurements and Recovery

The research into burnout and the different profiles of burnout have gained traction in the recent years. With studies being conducted outside of occupational burnout and studying people outside the domain of healthcare. Recent research on burnout has developed a more nuanced understanding of its various profiles and contexts, leading to a more targeted intervention strategy. Leiter and Maslach (2016) used latent profile analysis to differentiate burnout experiences, identifying five burnout profiles, including the classic "burnout" profile – where exhaustion, cynicism, and inefficacy are all high – and intermediate profiles where only one dimension, such as exhaustion or cynicism, is elevated. For instance, the "Overextended" profile

is primarily marked by high exhaustion, while the "Disengaged" profile features high cynicism alone. The differentiation reveals that individuals may experience burnout differently based on whether they struggle primarily with excessive workload or feelings of disconnection from work. This understanding underscores the importance of tailored interventions, as those in the overextended profile may benefit most from workload management, whereas those in the Disengaged profile may require support to reconnect with the purpose of their work.



Figure 2-1Representation of the different burnout Profiles – Author contribution

Beyond Maslach's framework, alternative theories have sought to explain burnout's cognitive and behavioural underpinnings. One such model is Lazarus and Folkman's (1984) stress appraisal theory, which suggests that burnout occurs when individuals perceive work-related stressors as threats and lack sufficient coping mechanisms. This cognitive framing contributes to emotional exhaustion and disengagement over time.

A contrasting approach focuses on work engagement—a concept introduced by Schaufeli et al. (2002)—which suggests that burnout is not merely the opposite of engagement but a distinct

psychological state. While burnout is characterized by overload, disillusionment, and withdrawal, work engagement is defined by vigor, dedication, and absorption. This distinction allows for a more nuanced understanding of burnout, emphasizing how individuals respond differently to work stressors.

2.4 Recovery and Coping Mechanisms

Given burnout's intangible nature and its strong correlation to workplace environments, extensive research has explored recovery strategies that address both individual coping mechanisms and systemic organizational changes. Two notable approaches include structured, proactive recovery (Harvard Business Review, 2020) and narrative-based, experiential recovery (Salminen et al., 2017).

The Harvard Business Review's Guide to Beating burnout (2020) conceptualizes recovery as an integrative process, requiring both personal effort and systemic change. The guide advocates for proactive self-care measures, such as setting clear work boundaries, practicing self-compassion, and encouraging mental rest, which help individuals recalibrate their professional expectations. At an organizational level, it emphasizes the critical role of leadership in preventing burnout by fostering psychological safety, allowing employees to discuss their struggles without fear of stigma or professional repercussions. Managers are encouraged to adopt a compassionate approach, recognizing early signs of burnout and actively working to mitigate workplace stressors. Additionally, the guide recommends long-term systemic reforms, ensuring workplace policies balance productivity with well-being to reduce structural conditions contributing to burnout.

The Burnout Recovery Narratives Study (Salminen et al., 2017) offers a qualitative perspective, exploring how individuals navigate burnout recovery over time. Conducted as a two-year

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longitudinal study in Finland, the research follows participants in a rehabilitation program, examining how agency influences recovery outcomes. The study categorizes agency into three forms: personal agency, referring to actions individuals take to alter their circumstances; proxy agency, where individuals rely on external support (supervisors, mentors, healthcare professionals) to facilitate recovery; and collective agency, which emphasizes the role of peer networks and organizational structures in shaping recovery trajectories.

The findings highlight that burnout recovery is nonlinear, involving a gradual transition from external dependency to self-reliance. Unlike the structured HBR approach, which presents clear, action-driven solutions, this study highlights the deeply personal and evolving nature of burnout recovery. It acknowledges that individuals take different recovery paths based on their circumstances, reinforcing that no universal framework can apply to all cases.

While the HBR Guide provides structured, actionable strategies for burnout mitigation, the Burnout Recovery Narratives Study captures the lived experiences of individuals, illustrating how recovery unfolds dynamically over time. Both perspectives emphasize the necessity of integrating personal and organizational approaches to effectively address burnout recovery.

2.5 Beyond the Workplace; Burnout in Society

There has been discourse around the contemporary life and what the society has been facing as whole due to cultural shifts. In The Burnout Society, Byung-Chul Han (2015) presents a provocative analysis of contemporary life, asserting that the 21st century has shifted from a "disciplinary society" to an "achievement society." Drawing from Michel Foucault's theories of power and discipline, Byung-Chul Han argues that traditional external controls—such as prisons, schools, and the military—no longer dominate. Instead, modern societies prioritize internalized imperatives of self-discipline and productivity, producing what he terms "achievement-subjects." These individuals voluntarily subject themselves to intense self-exploitation, driven by the constant, internalized pressure to succeed, achieve, and optimize performance. This societal shift from the "disciplinary subject" to the "achievement-subject" has led to what Han calls the "violence of positivity," characterized not by constraints or limitations but by an overabundance of productivity, stimulation, and self-improvement.

This "violence of positivity" is intrinsic to a society that prizes constant activity and selfenhancement, a mentality captured in the mantra "nothing is impossible." The resulting effects are pervasive psychological and neurological conditions, such as depression, ADHD, and burnout. These conditions do not stem from external constraints or conflicts but arise from excessive self-inflicted demands, turning individuals into "entrepreneurs of themselves." Rather than a response to something external or foreign, this psychological violence is wholly systemic and "immanent," arising from an inner compulsion for endless productivity and self-surveillance. Burnout, therefore, is not a failure of will or resilience but a predictable outcome of an overextended self, continuously performing without respite.

The societal analysis extends to the cognitive and emotional ramifications of this constant drive. In achievement society, deeper states of contemplation and meaningful interpersonal connections are increasingly eroded, replaced by a fragmented, surface-level engagement that he terms "hyperattention." Hyperactivity, multitasking, and the omnipresent pursuit of efficiency have replaced the capacity for restful, focused contemplation, creating a "neuronal violence" that exhausts the individual rather than empowering them. In this framework, burnout becomes symptomatic of a society that overvalues achievement and activity to the detriment of recuperative, contemplative states that sustain mental well-being. As per the "Burnout Society", burnout reflects a broader societal failure to recognize the necessity of balance between activity

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and rest, where individuals are deprived of the reflective space required for personal and communal meaning-making.

2.6 Do Nothing – A Form of Protest in a Culture of Burnout

Jenny Odell, in her book How to Do Nothing: Resisting the Attention Economy discusses the ramifications of our cultural shift. She argues that in a culture dominated by productivity and efficiency, stepping back to do "nothing" becomes a form of resistance. Reclaiming one's attention and creating deeper, localized connections as an antidote to the distraction-driven attention economy. She uses examples from nature, like birdwatching, to illustrate how mindfulness and observation can anchor us in the present, emphasizing that attention to the physical world fosters a sense of responsibility to the environment and community. This "doing nothing" is less about inactivity and more about cultivating awareness and intention. (Odell, 2019)

Several central themes to these writings about diagnoses and coping mechanisms mention realization of the state you are in before any major interventions can happen. Analyzing and finding parallels between yourself and a simulated person going through burnout with the exaggerated narrative experience through design would be tremendous help in making use of the numerous resources available.

2.7 Pandemic and Over-dependence on Technology.

The COVID-19 pandemic accelerated global reliance on digital technology, transforming the way individuals work, learn, and socialize. While digital tools provided essential solutions for remote work and communication, they also exacerbated stress, digital fatigue, and burnout. The shift to remote work, virtual meetings, and increased screen time created a paradox—technology,

meant to facilitate work-life balance, instead blurred boundaries between professional and personal life, leading to an "always-on" culture (Peters et al., 2020).

2.7.1 The Acceleration of Digital Burnout

The pandemic saw a dramatic shift to remote work, with digital communication platforms such as Zoom, Microsoft Teams, and Slack becoming indispensable. However, this shift also introduced a phenomenon known as "Zoom fatigue", a term coined by Bailenson (2021) to describe the exhaustion caused by excessive video conferencing. Unlike in-person interactions, video calls demand prolonged eye contact, excessive self-monitoring due to the presence of one's video feed, and limited non-verbal cues, increasing cognitive load (Bailenson, 2021). Moreover, studies indicate that employees working from home during the pandemic worked longer hours than their in-office counterparts, leading to a decline in psychological well-being (DeFilippis et al., 2020). The absence of clear work-life boundaries resulted in work creep, where employees found it challenging to disengage from work, leading to higher stress and burnout rates (Garton, 2020).

2.7.2 The Psychological Effects of Overexposure to Technology

Excessive digital interaction during the pandemic was not limited to work but extended into social life, education, and leisure. Social media consumption skyrocketed as people sought digital connectivity, but this also contributed to increased anxiety and stress. Research by Wiederhold (2020) highlights how doomscrolling, the compulsive consumption of negative news, increased during the pandemic, exacerbating feelings of helplessness and burnout. Similarly, Keles et al. (2020) found that excessive social media use was positively correlated with depression and anxiety in adolescents during lockdowns.

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The shift to remote learning also took a toll on students. Prolonged screen exposure, lack of faceto-face interaction, and digital exhaustion led to academic burnout, with students reporting reduced motivation, fatigue, and cognitive overload (Besser et al., 2020). The Oldenburg Burnout Inventory (OLBI) was used to assess burnout levels among students, showing a marked increase in disengagement and exhaustion compared to pre-pandemic levels (Reis et al., 2021).

2.7.3 Over-Reliance on Digital Distractions and Productivity Culture

Another major concern was the overuse of digital entertainment and productivity tools as coping mechanisms. Streaming services such as Netflix and gaming platforms experienced recordbreaking user engagement during the pandemic, with reports indicating a 75% increase in gaming hours among adults (King et al., 2021). While these digital activities provided temporary relief, they also reinforced dependency on screens, further contributing to digital exhaustion and disrupted sleep cycles (Chellappa et al., 2020).

Simultaneously, the rise of the hustle culture—a social expectation that one must always be optimizing their time—was amplified during the pandemic. Productivity influencers on social media encouraged individuals to use lockdowns to "level up" skills, leading to an unhealthy emphasis on self-optimization and performance (Odell, 2021). This productivity paradox—where individuals felt pressured to maximize every moment—led to increased self-imposed burnout, as identified in Han's (2015) concept of the "achievement society."

2.7.4 Post-Pandemic Digital Fatigue and the Path to Recovery

As societies transitioned out of lockdowns, digital fatigue and burnout persisted, with employees and students experiencing lingering exhaustion from prolonged technology overuse (Bakker & Costa, 2022). Many organizations have since adopted hybrid work models, but studies show that without clear boundaries, remote work can still contribute to burnout (Davis et al., 2023).

To combat pandemic-induced digital exhaustion, researchers suggest strategies such as scheduled digital detoxes, asynchronous communication to reduce real-time digital demands, and the incorporation of offline activities into daily routines (Newman et al., 2022). Organizational interventions, including mandatory "no-meeting" days and structured work-rest cycles, have also proven effective in mitigating burnout (Harvard Business Review, 2021).

Ultimately, the pandemic revealed both the strengths and vulnerabilities of digital dependence. While technology provided essential tools for connection and productivity, it also accelerated burnout, necessitating a cultural shift toward sustainable digital habits in the post-pandemic era.

2.8 Embodied Knowledge and Experiential Learning

Embodied knowledge and experiential learning are foundational to human cognition, shaping the way individuals interact with, retain, and apply knowledge. Unlike traditional forms of learning that rely on passive information absorption—such as reading or listening—experiential learning emphasizes direct engagement with an environment, the body, and the senses (Kolb, 1984; Merleau-Ponty, 1945). This approach underscores the idea that knowing is not merely intellectual but also physical, emotional, and deeply tied to lived experience.

In a world increasingly dominated by digital interfaces, automation, and abstraction, embodied learning serves as a counterpoint to disembodied knowledge—the kind that is detached from the body's natural ways of understanding. The shift toward immersive technologies like Virtual Reality (VR) reflects a desire to restore the physicality of experience. Yet, paradoxically, while VR enhances embodied learning, it also carries an inherent weight—both literally and metaphorically—that mirrors the intensity of burnout.

2.8.1 The Body as a Site of Knowledge

Embodied knowledge is knowledge that resides in the body—it is felt rather than spoken, performed rather than stated. The process of acquiring this knowledge is often invisible, stored in muscle memory, spatial awareness, and sensory intuition (Dreyfus, 2002). We see this in craftsmanship, movement arts, medical procedures, and technical skills, where mastery is achieved not through memorization but through repeated, immersive practice.

Maurice Merleau-Ponty (1945) famously argued that we do not simply "have" bodies; we "are" our bodies—our perceptions, actions, and understandings of the world are inseparable from our physical being. This perspective challenges the historical privileging of the mind over the body, suggesting instead that cognition itself is an embodied process. When we touch, move, or physically engage with a space, we learn in ways that words alone cannot convey. Experiential learning theory (Kolb, 1984) builds upon this, identifying learning as an iterative cycle in which action, reflection, and conceptualization lead to deeper understanding. The more physically immersive and emotionally engaging an experience, the more likely it is to be retained, internalized, and acted upon.

2.8.2 The Demands of Experiential Learning

While experiential learning enhances engagement, it also demands more from the learner than passive learning methods. True engagement requires physical effort, emotional vulnerability, and cognitive presence, all of which can be mentally and physically taxing (Dirkx, 2001). In settings where individuals are repeatedly exposed to high-stakes, emotionally charged, or physically intense learning experiences, the risk of exhaustion—both cognitive and bodily—becomes a reality.

For example, in medical education, students undergoing simulated surgical training experience increased heart rates, elevated stress levels, and mental fatigue comparable to real-world surgery (Haluck & Krummel, 2000). Similarly, in empathy training programs, individuals who step into the perspectives of marginalized communities often report emotional exhaustion from prolonged exposure to distressing narratives (Herrera et al., 2018).

The sensory and psychological burden of immersive learning is particularly evident in highintensity fields such as trauma training, emergency response, and military simulations, where participants must repeatedly process distressing scenarios as part of their learning process (Slater & Sanchez-Vives, 2016). The power of embodied learning, therefore, lies in its ability to make experiences felt, rather than simply understood—but this same power also introduces the potential for fatigue, overstimulation, and psychological strain.

2.9 Mixed Reality and Immersion

Mixed Reality (MR) has emerged as a powerful medium capable of creating immersive experiences that extend beyond traditional screen-based interactions. Unlike passive forms of media, MR enables users to step inside digital environments, where they can interact with objects, navigate spaces, and engage in sensory-rich experiences that mimic real-world perception. This ability to create a strong sense of presence makes MR a transformative tool in education, therapy, training, and entertainment. However, while MR enhances learning and embodiment, it also introduces cognitive and psychological challenges that can lead to overstimulation, disorientation, and even mental fatigue. The paradox of MR lies in its dual role as both a facilitator of engagement and a potential contributor to burnout.

2.9.1 What is Virtual Reality?

Virtual Reality is defined as a computer-generated environment that enables users to experience and interact with digital content in a way that simulates physical presence within that space. Unlike traditional two-dimensional interfaces, VR engages multiple senses—vision, sound, touch, and even proprioception—creating a perceptual illusion of reality (Sherman & Craig, 2003). VR experiences can vary in their level of immersion. Some are non-immersive, such as desktop-based 3D environments that provide interactivity but do not place the user inside the scene. Others are semi-immersive, where large-scale projections or head-mounted displays create a more encompassing experience. Fully immersive VR, however, offers the highest level of engagement by incorporating real-time motion tracking, haptic feedback, and stereoscopic visuals, allowing users to feel fully present in a digital world (Speicher, Hall, & Nebeling, 2019). While VR can be used to replicate real-world environments, it is not limited to simulation. It also has the capacity to create entirely new experiences, altering human perception and cognition in ways that are not possible outside of a virtual space. By removing physical constraints, VR enables users to inhabit perspectives, situations, and environments that would otherwise be inaccessible, allowing for a deeper engagement with content (Slater, 2009).

2.9.2 The Cognitive and Psychological Effects of VR, AR and MR

The intensity of immersive technologies such as Virtual Reality (VR), Augmented Reality (AR), and Mixed Reality (MR) extends beyond their ability to engage users in dynamic, interactive environments. These technologies influence cognitive load, memory formation, and emotional responses in ways that differ from traditional media (Makransky & Petersen, 2021). While they have been shown to enhance learning and engagement, they also introduce potential psychological stressors, including overstimulation, disorientation, and cognitive fatigue.

2.9.2.1 Virtual Reality (VR) and Cognitive Load

VR creates fully immersive environments, replacing the user's real-world surroundings with a digital space. Because it requires users to process new sensory information while navigating unfamiliar settings, it can increase cognitive load compared to traditional media. Research suggests that VR enhances learning retention due to active involvement, spatial memory encoding, and sensorimotor integration (Schmidt et al., 2019). By fully engaging the body and senses, VR activates different cognitive pathw**ays** than text-based or screen-based learning, leading to deeper processing and recall (Speicher et al., 2019).

However, VR also introduces emotional intensity that can have unintended effects. First-person VR simulations—such as empathy training, trauma exposure, or crisis response exercises evoke strong emotional responses (Herrera et al., 2018). While these experiences can increase understanding and retention, prolonged exposure may lead to emotional exhaustion, as the brain struggles to differentiate between real and simulated stressors.

2.9.2.2 Augmented Reality (AR) and Cognitive Strain

Unlike VR, Augmented Reality (AR) does not replace the user's surroundings but rather superimposes digital elements onto the real world. This continuous blending of digital and physical environments creates unique cognitive challenges.

AR requires constant attention switching, as users must simultaneously process real and virtual stimuli. This increases cognitive load, making tasks mentally demanding. Studies suggest that AR interactions—such as heads-up displays (HUDs) or AR notifications—can cause decision fatigue, as users must constantly filter information while engaging in real-world activities (Dey et al., 2018).

2.9.3 Immersive Technologies as a Tool for Burnout and Learning

Immersive technologies have been explored as both a solution for burnout and a contributing factor. On one hand, VR, AR, and MR have been used in stress management, mindfulness training, and therapy. On the other, their cognitive intensity and emotional immersion can contribute to mental exhaustion.

VR-based mindfulness applications, virtual nature experiences, and guided meditation
simulations have been shown to reduce stress, anxiety, and mental fatigue (Anderson et al.,
2017). By allowing users to escape high-stress environments and enter soothing digital spaces,
VR can facilitate relaxation and recovery.

AR and MR offer alternative approaches to stress reduction by integrating mindfulness prompts into daily routines. For example, AR wellness apps can provide real-time relaxation cues or encourage micro-breaks during work hours. Unlike VR, which requires dedicated immersion sessions, AR allows short, contextualized interactions that fit into everyday life.

2.9.3.1 Shift towards Augmented Reality

AR presents a continuous, unavoidable engagement with digital information. The expectation to remain connected—to simultaneously process real and virtual stimuli—adds to decision fatigue, emotional drain, and the pressure to always be present, both physically and digitally. This perpetual augmentation of reality, while powerful, also represents the intensification of cognitive demands that drive burnout.

2.10 Lateral Representations and Related Projects

Burnout, along with related existential and psychological challenges, has been portrayed in various media and games. A subtle approach to these themes allows for a deeper, more memorable impact than straightforwardly addressing their meaning and symbolism. When

viewers or players are given the space to interpret the underlying message for themselves, it creates a more powerful narrative experience. While some of these projects may not directly discuss burnout, their treatment of these complex topics offers valuable insights and inspiration.

2.10.1 Kiki's Delivery Service

Kiki's Delivery Service (2003), directed by Hayao Miyazaki burnout subtly emerges as Kiki faces the loss of her magical abilities, a struggle that mirrors the exhaustion and self-doubt many feel when passion turns into pressure. Moving to a new town and running a delivery service on her own, Kiki initially thrives on independence but soon feels isolated and overwhelmed by her responsibilities. As a young witch, Kiki's sense of identity is closely tied to her ability to fly and help others. Her self-doubt and insecurities—common aspects of burnout—surface as she questions her abilities and her place in the world. Losing her powers shakes her sense of self, making her feel inadequate.



ACADEMY MUSEUM OF MOTION PICTURES

Figure 2-2 STUDIO GHIBLI KIKI'S DELIVERY SERVICE EXCLUSIVE POSTER, 2003 at Academy Museum Store
2.10.2 Pippin Bar, "It is as if you were doing work"

"The robots are here! No more work! It's great! Is it great?! Wait! You feel apathetic and unproductive! You miss clicking buttons! You miss waiting for progress bars! You miss checkboxes! You miss work! But it's going to be okay! Use this handy application and it is as if you were doing work!" (Pippin Bar, 2017)

It is as if you were doing work is part of Pippin's Speculative Play series, envisioning an alternate reality where robots have taken over all mundane and essential tasks, leaving humans longing for the days of clicking buttons and working to find meaning in their existence. The interface mimics the aesthetics of Windows 95, allowing users to click and type aimlessly, with no real consequences or impact. The existential themes in *It is as if you were doing work*, where humans are forced to question their identity and purpose without work, are presented with a satirised gameplay resulting in an experience that lasts.

Job Title: Intern	Work Units to Promotion: 500	sdfsb
Display Music	Start Work!	
Game	Ready to start work?	
About	Let's go! Not yet	

Figure 2-3 Screen capture from Barr, Pippin. "It is as if you were doing work". Version 1.0, Self-published, 5 July 2017

2.10.3 Depression Quest (2013)

Depression Quest (2013), developed by Zoë Quinn, is an interactive fiction game that simulates the experience of living with depression. Through text-based choices, the game presents everyday scenarios—responding to emails, maintaining relationships, or seeking therapy—while restricting certain options, mirroring the emotional paralysis of depression and burnout. The game's lack of clear progression, minimalist visuals, and melancholic soundtrack reinforce feelings of stagnation and exhaustion, emphasizing that recovery is not about achieving victory but managing an ongoing struggle. By limiting the player's agency, *Depression Quest* effectively portrays the decision fatigue and emotional drain that define both burnout and depression, making it a unique and empathetic exploration of mental health.



Figure 2-4 Depression Quest game cover image from Steam - Online Gaming store

2.10.4 Hellblade – Senua's Sacrifice

Hellblade: Senua's Sacrifice (2017), developed by Ninja Theory, is a psychological actionadventure game that immerses players in the mental and emotional turmoil of its protagonist, Senua, a Celtic warrior battling both external foes and internal psychosis. Unlike traditional representations of mental illness in games, *Hellblade* uses sensory overload—whispering voices, shifting realities, and overwhelming visual distortions—to depict Senua's deteriorating mental state, mirroring the disorientation and exhaustion often associated with burnout and psychological distress.

The game's intense, claustrophobic atmosphere, combined with permadeath mechanics and minimal UI, forces players to experience Senua's cognitive and emotional struggle firsthand. The weight of her journey, where doubt, fatigue, and fear blur the lines between reality and delusion, reflects the disorienting effects of prolonged stress and burnout, where perception and self-trust erode under relentless pressure. By integrating these into its core gameplay, *Hellblade* not only challenges misconceptions about psychosis but also serves as a visceral exploration of the isolating and consuming nature of psychological exhaustion.



Figure 2-5 Hellblade Senua's sacrifice - Game poster from Steam - Online Gaming Store

2.10.5 The Stanley Parable

The Stanley Parable (2013), developed by Galactic Cafe, is an existential narrative-driven game that satirizes corporate monotony, lack of agency, and the illusion of choice. Players control Stanley, an office worker following—or defying—an omnipresent narrator's instructions, navigating a looping corporate environment that offers no real escape. This structure reflects the

repetitive, draining cycles of modern work culture, where autonomy is an illusion, and every decision feels meaningless.

Through its surreal, recursive design, *The Stanley Parable* captures the psychological exhaustion of burnout, where actions become rote, purposeless, and absurd. The game's humor masks an unsettling reality: the more Stanley seeks freedom, the more trapped he becomes, echoing the futility and frustration of overwork. By stripping meaning from progress, *The Stanley Parable* becomes a darkly comedic reflection on how burnout erodes motivation, purpose, and self-direction in an increasingly automated world.



Figure 2-6 Stanley Parable game promotion poster on Steam - Online Gaming store

2.10.6 Night in the Woods

Night in the Woods (2017), developed by Infinite Fall, is a narrative-driven adventure that explores burnout, mental health, and the disillusionment of adulthood through the story of Mae Borowski, a college dropout returning to her fading hometown. As Mae reconnects with old friends and aimlessly wanders through her days, the game portrays the emotional weight of exhaustion, alienation, and stagnation, reflecting the psychological toll of feeling lost in life. The game's melancholic atmosphere, dialogue-heavy interactions, and slow, repetitive daily routines mirror the listlessness that often accompanies burnout—a state where even simple tasks feel overwhelming, and progress seems unattainable. Through themes of economic despair, personal failure, and the fear of an uncertain future, *Night in the Woods* offers a poignant, deeply personal look at the creeping fatigue of burnout and existential dread, making it a rare and empathetic portrayal of the struggle to find meaning in an unrelenting world.



Figure 2-7 Promotion poster for game Night in the Woods on Steam - Online Gaming Store

2.10.7 Exhaust – Marcelline Siu

Exhaust (2024), an interactive installation by Marcelline Siu, explores burnout, overwork, and sensory overload through immersive design. Presented at the DesignTO Festival, the piece surrounds viewers with layered, fragmented visuals and an overwhelming soundscape, mimicking the mental and emotional weight of exhaustion. Rather than depicting burnout through explicit narrative, *Exhaust* conveys its effects viscerally, forcing participants to confront the relentless stimuli that define modern work culture and digital fatigue.

The installation's chaotic yet cyclical patterns mirror the repetitive nature of burnout, where escape feels impossible, and exhaustion becomes routine. Unlike traditional representations of

burnout that emphasize collapse or withdrawal, *Exhaust* captures the feeling of being trapped in an unending loop of productivity and depletion. By using immersive, overstimulating aesthetics, Siu's work not only represents burnout—it induces it, making the experience an unsettlingly accurate reflection of the psychological toll of contemporary labor.



Figure 2-8 Photograph of Exhaust by Marcelline Siu released by Press for promotions at designto.org

2.11 Chapter Overview and Identified Gaps

While existing projects successfully capture burnout's emotional and existential weight, they often lack embodied realization and experiential learning. Many portray burnout as a moment of realization rather than a progressive experience, missing the opportunity to guide users through its stages in an immersive, structured way.

Most representations rely on narrative or symbolic mechanics rather than sensorimotor engagement, leaving a gap in how burnout is felt rather than just understood. Augmented Reality (AR) remains underutilized, despite its ability to overlay digital stressors onto real-life environments, mirroring how burnout infiltrates daily life. Unlike fully immersive VR, which creates a separate space, AR can subtly integrate burnout's symptoms into familiar surroundings, reinforcing the blurred boundaries between work, rest, and exhaustion.

This research proposes an experiential design that uses AR and embodied learning to simulate the progression of burnout, making it a lived experience rather than an abstract concept. By engaging users physically, cognitively, and emotionally, this approach could provide a deeper, more impactful understanding of burnout's causes, symptoms, and potential recovery strategies. In the next chapter, I will discuss the research methodologies employed in the thesis.

3. Methodology

The selection of methodologies for this thesis emerged from careful analysis of several potential approaches. While initial considerations included Speculative Design, Interaction Design, and worldbuilding methodologies - each offering valuable perspectives - the final methodological framework was chosen to more precisely align with the project's unique requirements and objectives.

3.1 Methodological Framework

Through explorations, Speculative Design's ability to explore future scenarios and societal implications initially seemed fitting, while Interaction Design offered valuable frameworks for user engagement. Worldbuilding methodologies presented opportunities for creating comprehensive experiential environments. However, after thorough evaluation, a different combination proved more suitable for addressing the complex nature of burnout representation. The project ultimately employs a hybrid methodological approach combining Research through Design (RTD) and Critical Design. RTD's iterative nature enables continuous refinement of both understanding and implementation, allowing the research process to directly inform design decisions. This combination was selected for its ability to support both the investigative and transformative aspects of the work, while maintaining a critical perspective on the societal implications of burnout.

3.1.1 Research Through Design (RTD)

Research through Design (RTD) is an iterative, practice-based research methodology where knowledge is generated through the design process itself (Zimmerman et al., 2007). Unlike traditional research methods that separate theory from application, RTD integrates making,

testing, and refining prototypes to explore research questions in real-time. This approach is particularly effective for addressing complex, evolving issues, such as burnout, as it allows for continuous reflection and adaptation based on user interaction and feedback. RTD has been widely used in human-computer interaction (HCI) and interaction design. By employing RTD, this research ensures that the design process itself generates meaningful insights into burnout, its representation, and possible interventions.

3.1.2 Critical Design

Critical Design challenges dominant narratives and existing assumptions by using design as a medium for critique rather than purely for problem-solving (Dunne & Raby, 2013). It moves beyond functionality, instead provoking reflection and discussion on social, political, and ethical issues. This methodology has been instrumental in highlighting the hidden consequences of technological advancements and modern work culture, making it particularly relevant for burnout discourse. In this research, Critical Design will be employed to create interactive experiences that challenge perceptions of burnout, making its invisible effects tangible and thought-provoking.



Figure 3-1 Methodology Diagram

3.2 Research Process

The project's development followed a structured yet iterative three-phase approach. The initial phase cantered on comprehensive research to establish a thorough understanding of burnout as both a psychological and societal phenomenon. This involved extensive review of academic literature spanning psychological and sociological studies done and digital culture studies. Research papers and books provided theoretical foundations, while analysis of existing creative works offered insights into various approaches to representing psychological states. This foundation proved crucial for developing an authentic and nuanced representation of burnout progression.

The second phase focused on prototype development, specifically exploring how design concepts translate into augmented reality spaces. This phase proved crucial in understanding the role of narrative and its potential for refinement in future iterations. Multiple approaches such as screen-based interactions, mobile based augmented reality and VR headset based virtual reality were tested, each offering unique insights into user engagement and experiential impact. The iterative nature of Research through Design methodology enabled continuous refinement of both the problem space and research hypotheses, while Critical Design methodology significantly influenced the narrative tone and structural decisions.

Throughout this phase, each iteration was evaluated against both technical feasibility and experiential authenticity. This step-by-step approach helped in refining the experience, helping to identify areas where the simulation either accurately captured or fell short of representing the burnout experience. This feedback loop proved invaluable in developing a more nuanced and effective representation of burnout progression.

3.2.1 Parts of the Prototype

The final design integrates three essential components working in concert to create a cohesive experience: Narrative and Design, Physical Space and the Augmented Reality interface. The narrative and design component compresses the burnout cycle into a digestible yet impactful timeline, crafting language and story elements to convey the progression of burnout. This compression maintains psychological accuracy while making the experience accessible within a reasonable timeframe. The narrative structure incorporates elements from psychological research on burnout progression, ensuring that each stage is authentically represented.

The physical space component provides tangible environmental context that reinforces and supplements the narrative elements. This space is carefully designed to enhance immersion while providing subtle cues that mirror the psychological states associated with different burnout

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stages. Environmental factors such as lighting, spatial arrangement, and interactive elements are designed to support the overall experience.

The augmented reality user interface serves as both a visual guide and an interactive framework, seamlessly connecting the physical and narrative elements into a unified experiential design. This component acts as the medium for delivering the narrative while responding to user interactions in ways that reinforce the psychological progression of burnout being portrayed.

3.3 Burnout Profiles

The synthesis of the literature study led to a deeper analysis and representation of the five stages of burnout as the different profiles.



Figure 3-2 Representation of different burnout Profiles - Author contribution

The five profiles of burnout, as discussed in Chapter 2, range from:

- 1. Engagement Characterized by low scores in exhaustion, cynicism, and inefficacy.
- 2. Overextended Marked by high exhaustion only.

- 3. Disengaged Defined by high cynicism only.
- 4. Ineffective Characterized by high inefficacy only.

I integrated these profiles with narrative elements that represented each stage, ensuring that the experience effectively conveyed the psychological progression of burnout.

	Narrative Elements	
Social Environment	Task Satisfaction	Available resources
	Tasks have been completed	Coping techniques
mplicit Social pressure	Rewards	Vacations &
Support from Peers Eg. Talk to someone -	Eg. Financial gain	learning resources Eg. Upskill
Family and/or friends Eg. Rest of the world is	to inane reasons. Eg. Tasks piling up	Eg. Vacation days and support resources
doing uns.		

Figure 3-3 Narrative elements – Social, task satisfaction and Available resources.

Based on the measurement and deduction of the burnout profiles, I identified three broad categories:

- Social Environment The impact of workplace culture, relationships, and external expectations.
- 2. Task Satisfaction The level of fulfilment and engagement derived from assigned work.
- Available Resources The support systems, tools, and time available to manage workload effectively.

Building on these categories, I developed a **physical and digital task list** by synthesizing insights from discussions on Reddit's **r/productivity** subreddit. This online community serves as a platform where **anonymous users share their personal struggles and experiences with**

burnout, offering **real-world perspectives** on productivity challenges and mental fatigue. The recurring themes and shared experiences within these discussions informed the **design considerations for the experience**, ensuring its alignment with lived experiences of burnout (Reddit, r/productivity, 2024.).

Engagement (Optimism & Motivation)

- Physical tasks
- 1. Arrange books alphabetically or by color on a shelf.
- 2. Water a potted plant using a real watering can.
- Stick motivational quotes or goals on a corkboard with actual sticky notes.
- 4. Organize folders on the desk by color or label.
- 5. Light a candle or turn on a desk lamp for ambience.
- Digital tasks
- 1. Click on glowing icons that represent completed tasks in a virtual to-do list.
- 2. Open a calendar to plan tasks for the week.
- 3. Point to a virtual clock to adjust time for a focus session.
- 4. Tap on a growing tree icon that symbolizes energy levels.
- 5. Open a virtual book that flips pages to reveal inspiring messages.
- 6. Sort virtual papers by dragging and dropping them into labeled digital folders.
- 7. Decorate a virtual vision board with images and text.
- 8. Tap on a rising sun animation to simulate starting the day positively.
- 9. Check off completed tasks on a virtual to-do list.
- 10. Click on a digital watering animation to revive a digital plant on the AR interface.

Figure 3-4 List of Possible tasks for Engagement Profile

Overextended (Stress & Overcommitment)

- Physical Tasks
- Stack real folders or documents, creating a visually overwhelming pile.
- 2. Search for a misplaced item like a pen or USB drive in desk clutter.
- 3. Water the same potted plant, but it appears droopy.
- 4. Try to fix a broken desk lamp or arrange tangled cables.
- 5. Clean the desk repeatedly, only for clutter to "return" digitally.

- Digital tasks
- 1. Sort virtual emails by urgency with a growing number of new notifications.
- Click on a virtual clock to speed it up and simulate running out of time.
- 3. Drag and drop papers into folders, only for more to appear.
- 4. Point and click on virtual phone icons that ring repeatedly.
- 5. Reorganize a digital bookshelf where the books keep jumbling up.
- 6. Point at a progress bar that never quite fills, symbolizing incomplete tasks.
- 7. Click to reply to digital job rejections piling up in the inbox.
- 8. Tap to clean virtual smudges on a digital whiteboard that keep reappearing.
- 9. Sort scattered sticky notes that lose their adhesive and fall virtually.
- 10. Tap on a spinning globe icon representing chaos and spinning too fast.

Figure 3-5 List of Possible tasks for Overextended Profile

Disengaged (Frustration & Cynicism)

• Physical Tasks

- 1. Water the potted plant, but it continues to wilt.
- 2. Open a book to read, but lose focus and close it.
- 3. Try to fix an item on the desk, like a jammed stapler or broken pen.
- 4. Rearrange folders, but they fall over again.
- 5. Dust the desk, only for more dust to "appear" via digital overlay.

- Digital tasks
- 1. Tap on blurred text in a virtual book, but the blur doesn't clear.
- 2. Point to motivational posters that lose color and fade.
- 3. Drag sticky notes back onto the board, but they fall digitally.
- 4. Tap on digital emails with rejection subject lines stacking up.
- 5. Click on a digital plant as it sheds leaves.
- 6. Point and click to reorder files, but they keep getting misfiled.
- 7. Adjust a virtual lamp, but it flickers and goes out.
- 8. Click to write on a digital notebook, but the text erases itself.
- 9. Try to fix a broken digital clock, but the hands stop moving.
- 10. Tap on a phone icon, but the sound of disconnected calls plays.

Figure 3-6 List of Possible tasks for Disengaged Profile

Ineffective (Lack of accomplishment)

- Physical Tasks
- 1. Water the now-dead potted plant, which doesn't respond.
- 2. Tidy the desk, but clutter remains.
- 3. Pick up photo frames, only for the images to look faded.
- 4. Write a resignation letter, but the pen runs out of ink.
- 5. Fix a clock, but it doesn't work.

- Digital tasks
- 1. Point at a crumpled digital resignation letter, but it disintegrates.
- 2. Tap on virtual certificates, only for the text to fade.
- 3. Drag and drop virtual items that keep reverting to their messy state.
- 4. Click to close a drawer, but it pops open again.
- 5. Point at virtual files, but they vanish as they're selected.
- 6. Tap to fix a progress bar, but it starts over each time.
- 7. Click on a digital plant, but it collapses into dust.
- 8. Try to light a virtual lamp, but the light flickers and fades.
- 9. Click on a blurred mirror reflection, but it doesn't clear.
- 10. Point at falling papers, but they keep piling up.

Figure 3-7List of Possible tasks for Ineffective Profile

Burnout (Spiral)

- Physical Tasks
- 1. Water the completely dead plant, which crumbles to dust.
- 2. Try to organize real items, but they feel overwhelming and impossible to handle.
- 3. Sit at the desk, feeling immobilized.
- 4. Write in a journal, but the ink smudges or fades.
- 5. Pick up a clock, but it feels heavy and frozen.

- Digital tasks
- 1. Tap on rejection emails, which all show "Error" messages.
- 2. Click on a distorted mirror reflection, representing a fractured sense of self.
- Try to organize a digital calendar, but events overlap and become unreadable.
- 4. Point at virtual books, which appear blank or torn
- 5. Tap to "start fresh" on a digital planner, but it glitches and resets.
- 6. Click on a virtual notebook, which erases itself repeatedly.
- 7. Drag to fix a virtual item, but it shatters into pieces.
- 8. Point to glowing tasks, which flicker and go out.
- 9. Tap on a "quit" button, but the screen says "You can't."
- 10. Click on a collapsing digital chair, which disappears beneath the user.

Figure 3-8 List of Possible tasks for burnout Profile

3.4 Chapter Overview

This research employs a hybrid methodological approach combining Research through Design (RTD) and Critical Design to iteratively explore and represent burnout. RTD's iterative, practicebased framework enabled continuous prototyping, and refinement, ensuring that insights from each phase directly shaped the next. Critical Design added a reflective and provocative dimension, challenging assumptions about burnout and digital exhaustion.

Throughout the research process, each prototype introduced new considerations, refining the narrative, physical space, and augmented reality interface to enhance experiential authenticity. This layered, evolving approach informed both the five prototypes and the final exhibition designs, which will be explored in the next chapter.

4. Prototypes and Making

Following the methodologies and processes discussed in Chapter 3, I created a set of five prototypes with a different set of focus and contribution for each of them.

4.1 Prototype 1

Focus – Narrative and Overarching themes

Ideation - The initial prototype was conceived as a mixed reality game, beginning with a rudimentary journey informed by preliminary literature reviews. The first journey was designed with the understanding that burnout can be experienced in a somewhat similar way. Before diving into the design process, I wanted to outline what the player would feel and experience.



Figure 4-1 Player Journey diagram for Prototype 1

The setup was always envisioned as a mixed reality environment, incorporating elements of both the physical atmosphere and digital overload. The player starts inside a physical room while wearing a headset. Upon entering, they see reminders and quizzes overlaid on physical objects. The goal of the game is to solve a "crime" or an incident by figuring out what happened. However, the player is continuously interrupted by digital notifications and alerts, ultimately making it impossible to solve the case. The rigged endings were designed to reflect the perceived state of burnout.

Design – I started with a simple click-and-move-forward prototype to understand what the player would see. At this stage, the focus was on realizing the immersive potential of the interface and determining whether players could comprehend the information presented to them.



Figure 4-2 Point and Click design



Figure 4-3 Point and Click design

The experience was designed to consist of several mini games. The point-and-click design was created using the interaction design software Figma to visualize the game. The chosen feature to showcase was a mini game for learning Morse code. This feature was selected based on the assumption that players could tap in a rhythm similar to Morse code and learn from it. The interface screen included associated actions that could be triggered.

Key Takeaways - Prototype 1 was developed to identify key areas of focus and determine what needed further emphasis. Both the narrative and mechanics of the prototype were carefully considered. At this stage, with the support of the literature in Chapter 2 and an evaluation of the immersion level in the screen-based interface, I decided to proceed with prototyping for Mixed Reality.

4.2 Prototype 2

Focus – Working technology, Interactivity and user quantity

Ideation – The second prototype was developed as a proof of concept for the augmented reality feature. This time, I aimed to create an interactive experience that incorporated physical elements. I focused on objects commonly found on a desk and designed learning elements related to reading and comprehension skills, based on actual books present on the table.
Design – The design of the digital screen and its components was again created using Figma. Interactions, navigation, and text were planned within the software, after which I developed a prototype that functions on a mobile device.



Figure 4-4Figma workflow for the UI

The prototype consisted of a reading list with both physical and digital books and a section about literary devices related to the books.

This prototype involved experimental work across multiple platforms, including Unity, Adobe Aero, and Figma. Adobe Aero proved to be the most effective for creating a prototype optimized for mobile devices. The detection trigger for the interface was an image of a book, which I fed into Adobe Aero.



Figure 4-5 Augmented reality prototype on mobile

Key Takeaways – The integration of augmented reality successfully enhanced immersion. The objective of using a mobile phone was to allow multiple players to experience the game simultaneously. However, mobile devices created a barrier and did not provide the level of immersion required for the intended experience. The next stage was to evaluate whether a VR headset would achieve the desired level of immersion.

4.3 Prototype 3

Focus - Narrative-overwhelm, Emotional immersion

Ideation – Prototype 3 was developed with a clear focus on refining the narrative and enhancing the emotional immersion of the user. Through an internal review and feedback session with various faculty members, it became evident that the concept of mini games as aids would be more effective if they were designed with a problem-solving objective in mind.



Figure 4-6 Screenshot from slide presented for internal review in front of faculty panel

Design – The design was centered around the core themes of burnout, overwhelm, and fatigue. I leveraged the concept of visual clutter in immersive reality to create an overwhelming experience, with multiple elements appearing on top of each other, all demanding the user's attention. This stage involved experimenting with both textual and visual language to enhance impact.

For instance, using text such as "Your coworker is earning 45% more because they know skateboarding" added a touch of levity to the experience. There was a conscious effort to maintain a balance between humor and impact, ensuring that the experience remained engaging despite the serious psychological themes of the research.

Once again, Adobe Aero served as the primary tool to simulate multiple task-based UI elements appearing on the screen. Additionally, I used Figma to introduce variety in the UI design while still maintaining the intended sense of overwhelm.



Figure 4-7 Individual UI components being designed in Figma



Figure 4-8 Mobile Augmented reality design showing spiralling stage

The interaction trigger was time-based rather than object detection, aligning with the themes of loss of control and mounting anxiety. This prototype was designed to create a pseudo-game experience where tasks appeared on the screen, but the user was unable to interact with them, reinforcing a sense of helplessness.

Key Takeaways – The narrative elements of overwhelm were effective, and with a flat format, the progression of the experience was clearly visible. However, this approach led to a terminal experience of spiraling, which felt abrupt. To fully capture the sensation of spiraling, the experience needed to be more spaced out, allowing for a gradual buildup of anxiety and loss of control.

4.4 Prototype 4

Focus – Emotional immersion, Evaluating head-mounted VR setup

Ideation – The central idea was to transition to a fully immersive environment while providing clear context for what was happening within the experience.

Design – The experience was initially developed using Unity, but due to compatibility issues with my headset, it was moved to ShapesXR. This platform was chosen because of its direct integration with Figma, allowing designed assets to be imported seamlessly.



Figure 4-9 Wireframing in Figma



Figure 4-10 Prototyping in ShapesXR



Figure 4-11 Welcome screen in Prototype

Key Takeaways - The resulting immersive visual experience, showcased at the **Thesis Studio "Not Quite There Yet"** exhibition, provided valuable feedback on the concept of immersion. Observing general user interactions helped highlight the need for a more spaced-out simulation, allowing users to experience and embody the themes more effectively.





Figure 4-12 Immersive VR headset design of the spiralling stage

4.5 Prototype 5

Focus – Combining the narrative and immersion feedback from previous iterations

Ideation – This stage required a deep understanding of the theory behind burnout. To achieve this, I employed **Maslach's Burnout Profile** to structure a staged narrative that effectively represented the progression of burnout. I distilled the key components and characteristics of the five burnout profiles to create a linear experience, ensuring that the user could engage with and comprehend the different stages of burnout more clearly.

Design – Based on these data points, I developed a persona to shape the user's experience. The persona, Jane Aspen, is a data scientist who progresses through all five stages of burnout. This structured approach ensured that the experience felt relatable and immersive, allowing users to engage with Jane's journey and better understand the impact of burnout.

BURNT-OUT CHARACTER

Hello, my name is Jane Aspen

A 27-year old Data Scientist, living away from family but working remotely. Hate me job and I am planning to change it.

I would like to do a lot more things than I am doing right now.



Figure 4-13 General Profile of Jane Aspen Profile. Image generated by DeepAI.org with prompt – A realistic photo of 27-year-old data scientist named Jane Aspen with glasses



Figure 4-14 Generating profile image of Jane Aspen using DeepAI

The different profiles of Jane Aspen were created in a similar manner, highlighting her characteristics at each stage. These profiles detailed:

- General State Her overall well-being and level of engagement.
- Struggles Key challenges she faces in her work and personal life.
- **Emotional States** How her feelings evolve through each stage of burnout.
- Behavioral Signs Observable changes in her actions and responses to stress.

This structured approach helped in crafting a realistic and immersive progression, allowing users to experience burnout through Jane's perspective.

Engagement Profile

Jane is highly motivated, enjoying problem-solving in her work as a data scientist. She's energized, meets deadlines efficiently, and occasionally interacts with colleagues remotely.

Emotional State: Positive, proactive, and interested in career growth.

Behavioral Signs: Maintains a work-life balance, exercises regularly, and engages in online communities.

Struggles: Occasionally feels isolated working remotely but compensates with social interactions.

Can experience minor frustration with corporate bureaucracy but remains optimistic.



Figure 4-15 Jane's Engagement profile

Jane's Engagement Profile consisted of the following highlights:

- 1. Emotional State: Positive, proactive, and interested in career growth.
- Behavioral Signs: Maintains a work-life balance, exercises regularly, and engages in online communities and social activities.
- 3. **Struggles:** Occasionally feels isolated while working remotely but compensates with social interactions. Experiences minor frustration with productivity but remains optimistic.

For this stage, I crafted a signature dialogue, narrated at the end of each stage to highlight Jane's progression and summarize her state.

"Life feels good. I have goals, I am learning new things, and I feel connected to the people around me. Sure, there are challenges, but I can handle them. I wake up excited for what is ahead." – Jane, Engagement profile

Overextended Profile

Productivity demands have increased. Jane starts skipping breaks, working overtime, and feeling physically and emotionally exhausted.

Emotional State: Stressed but still dedicated.

Behavioral Signs: Declining energy, irregular sleep, and reliance on caffeine.

Struggles: Responding to emails and messages promptly.

Concentrating on complex tasks.

Remembering to take breaks or eat on time.



Figure 4-16 Jane's Overextended profile

Jane's Overextended Profile consisted of the following features:

- 1. Emotional State: Stressed but still dedicated.
- 2. Behavioral Signs: Declining energy, irregular sleep, and increased reliance on caffeine.
- 3. **Struggles:** Difficulty responding to emails and messages promptly, trouble concentrating on complex tasks, and forgetting to take breaks or eat on time.

The transition dialogue for this stage:

"I feel like I'm constantly running from one thing to the next. There's never enough time, and I'm always exhausted. I keep telling myself that things will slow down soon, but they never do."

-Jane, Overextended profile



Figure 4-17 : Jane's Disengaged profile

Jane's Disengaged Profile consisted of the following features:

- 1. Emotional State: Apathetic, sarcastic, and emotionally distant.
- 2. Behavioral Signs: Minimal participation, avoiding people, and procrastination.
- Struggles: Difficulty attending and actively engaging in meetings and discussions, as well as mustering enthusiasm for new challenges.

The transition dialogue for this stage:

"I don't know what I'm even doing anymore. I go through the motions, but everything feels dull. I don't feel excited about anything, and even the things I used to enjoy seem pointless now."

– Jane, Disengaged profile



Figure 4-18 Jane's Ineffective profile

Jane's Ineffective Profile consisted of the following features:

- 1. Emotional State: Hopeless, emotionally drained, and resentful.
- 2. **Behavioral Signs:** Frequently misses deadlines, ignores messages, and isolates from all interactions.
- 3. **Struggles:** Difficulty completing even simple tasks (e.g., eating on time, meeting work deadlines) and engaging in any form of conversation.

The transition dialogue for this stage:

"I feel like I'm failing at everything. Nothing I do seems to matter, and I don't see the point in trying. I don't recognize myself anymore—I used to have dreams, but now I just feel stuck."

– Jane, Ineffective profile

The design followed a structured approach, dividing the experience into five distinct stages, with tasks corresponding to each burnout profile, ensuring a gradual yet immersive depiction of burnout progression.



Figure 4-19 : Tasks in Engagement profile





Figure 4-20: Tasks in Overextended profile

Figure 4-21 : Tasks in Disengaged profile



Figure 4-22Tasks in Ineffective profile-1



Figure 4-23 Tasks in Ineffective profile


Figure 4-24 Design of Tasks in Burnout Spiral

The physical positioning of tasks and experiences was designed with the exhibition space in mind. To illustrate the cyclical nature of burnout, I structured the experience to begin on the left with the Engagement Profile and its corresponding tasks, gradually progressing through the different burnout profiles in sequence. This layout visually and experientially reinforced the idea that burnout is not a linear process but a cycle that individuals may repeatedly go through.



Figure 4-25 Burnout Profiles distribution in the physical space

The physical space is divided into five sections with the starting and ending forming a full loop near the door. A set of tasks for each phase is designed to take place in the physical marker for the burnout profile. Once the phase ends with the tasks being completed, a voice notes plays in the voice of Jane for each phase which marks an aural divide between individual phases alongside colours and the visual language as highlighted above. As the person crosses each stage, the UI changes colour to an alarming red slowly edging towards a more saturated colour to depict the sense of urgency and helplessness. The final User Interface colours of the burnout profiles are a washed out grey as shown below.



Figure 4-26 Faded colour of burnout tasks



Figure 4-27 Hand input in the Augmented Reality prototype

I finally decided on the input of the user for the task completion to be hands for a greater sense of embodied experience.

The prototype incorporated sound and visual feedback, including a progress bar to indicate movement through the experience. The design intentionally utilized visual and physical clutter to heighten the sense of overwhelm and immersion.

The audio for each phase was generated using an AI model by Narakeet, featuring the US English voice of Jade. These voice files were then integrated into the software, set to trigger upon entering a new scene, reinforcing the emotional and psychological progression of burnout.

Text to audio								
Type or paste the can upload pla	narration script below, or click Upload File to load the script from a document. Yo n text (.txt), MS Word (.docx and .doc), MS Excel (.xlsx and .xls), PDF, EPUB, RTF, Open Document (.odt, .ods) and subtitle (.srt, .vtt) files. (Looking for a quick example? Download <u>this file</u> .)	JU						
LANGUAGE:	English - American	•						
VOICE: J	da 🗸 🗸 💽 📢							
SCRIPT:	(estimated duration: less than a minut	e)						
"Life feels good around me. Sur ahead."	I have goals, I'm learning new things, and I feel connected to the people , there are challenges, but I can handle them. I wake up excited for what's							
	E DICTATE CREATE AUDIO >							
Without an a	count, you can upload files up to 10 MB, containing up to 1 KB of narration text.							
	Set up a commercial account to increase your limits!							

Figure 4-28 : Voice generate for Jade using narakeet Jade model, <u>https://www.narakeet.com/</u>

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Figure 4-29 Stills from Prototype 5



Figure 4-30 Initial Screen as a message from Future Jane



Figure 4-31 Prototype still - Over-extended task



Figure 4-32 Still from Prototype - Ineffective stage



Figure 4-33 Still from Prototype - Disengaged stage

4.6 Exhibition

The exhibition is designed to consider physical circulation as well as phasing through different profiles. The exhibition design makes use of the existing space and furniture to recreate a study room for Jane Aspen.



Figure 4-34 Placement of different profiles for exhibition



Figure 4-35 Running on Empty title card at Exhibition



Figure 4-36 Exhibition setup - Starting point



Figure 4-37 Exhibition setup - Table setup



Figure 4-38 Exhibition setup - Physical interactive objects



Figure 4-39 Exhibition setup - Whiteboard with burnout theory



Figure 4-40 Exhibition setup - Sticky notes in physical state



Figure 4-41 Exhibition setup - Resignation letter



Figure 4-42 Exhibition setup - Musical instruments



Figure 4-43 Exhibition walkthrough



Figure 4-44 Exhibition setup - Drawer of objects



Figure 4-45 Exhibition video running on loop in the background



Figure 4-46 Exhibition simulation – Mixed reality popup 1



Figure 4-47 Exhibition simulation - Profile indicator



Figure 4-48 Exhibition setup - Mixed reality popup 2



Figure 4-49 Exhibition simulation – Mixed reality popup 3



Figure 4-50 Exhibition simulation Mixed reality popup 4



Figure 4-51 Exhibition simulation - Mixed reality popup 5



Figure 4-52 Exhibition simulation - Mixed reality popup 6



Figure 4-53 Exhibition simulation - Mixed reality popup 7



Figure 4-54 Exhibition simulation - Mixed reality popup 8



Figure 4-55 Exhibition simulation - Mixed reality popup 9



Figure 4-56 Exhibition simulation - Mixed reality popup 10



Figure 4-57 Exhibition simulation - Mixed reality popup 11



Figure 4-58 Exhibition simulation - Mixed reality pop-up 12



Figure 4-59 Exhibition simulation - Mixed reality pop-ups 13



Figure 4-60 Exhibition simulation - Mixed reality pop-ups 14



Figure 4-61 Exhibition simulation - Mixed reality pop-ups 15



Figure 4-62 Exhibition simulation - Mixed reality pop-ups 16



Figure 4-63 Exhibition simulation - Mixed reality pop-ups 17



Figure 4-64 Exhibition simulation - Mixed reality pop-ups 18



Figure 4-65 Exhibition Simulation - Mixed reality burnout spiral



Figure 4-66 Exhibition simulation - Terminal view in mixed reality

The video for the entire experience can be seen here - https://drive.google.com/file/d/1SRN3hkkjMQr2xY9eTo9VW3IHgIi9W2j/view?usp=sharing

4.7 Chapter Overview

This chapter outlines the iterative prototyping process that shaped the development of the final burnout experience. Through five prototypes, different aspects—narrative, interactivity, immersion, and emotional engagement—were tested, refined, and evaluated. Each prototype contributed unique insights, from screen-based interaction in early versions to full mixed reality and VR immersion in later iterations.

The process highlighted key lessons: digital interruptions effectively simulate cognitive overload, gradual escalation enhances emotional impact, and embodiment through hand-based interaction deepens user engagement. The shift to a structured burnout progression, mapped onto a spatial layout, ensured an immersive and reflective experience.

In the next chapter, I will go over the evaluation of each prototype and the related designs in details.

5. Evaluation and Reflections

This chapter establishes a framework for evaluating burnout representations through Comparative Media Analysis and Design Research, integrating principles from narrative critique, user-centered design, and immersive experience studies. Given the subjective nature of this analysis—without direct user feedback—the evaluation relies on established theoretical and empirical studies to ensure a degree of objectivity.

A formal user experience evaluation is left as a future direction, as the current work primarily analyzes representation through media, interaction, and experiential design lenses.

5.1 Evaluation Criteria

The first category evaluates burnout representations through narrative, interactivity, realism, and cultural context. These elements determine how effectively burnout is depicted and understood.

5.1.1 Narrative Depth & Emotional Engagement

Burnout is both an emotional and psychological experience. The depth of its portrayal in media influences how audiences connect with it. Ryan (2001) discusses how immersive narratives increase emotional engagement, particularly in interactive media, which can make burnout experiences more tangible. Salminen et al. (2017) highlight that burnout narratives influence self-awareness, suggesting that well-structured storytelling can help individuals recognize burnout in themselves.

Evaluation Metrics: Degree of emotional resonance, narrative structure, presence of a protagonist or user surrogate.

5.1.2 Interactivity & User Agency

The level of interactivity influences engagement with the burnout experience. Murray (1997) emphasizes that interactive storytelling provides deeper user involvement compared to passive narratives. Gee (2003) discusses how game mechanics reinforce experiential learning, making simulations an effective way to portray burnout.

Evaluation Metrics: Degree of user interaction, agency in decision-making, feedback from system.

5.1.3 Psychological Realism & Burnout Accuracy

For a representation to be effective, it must align with real-world burnout symptoms as defined by Maslach & Leiter (2016). The Maslach Burnout Inventory (MBI) identifies key burnout dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment. Representations that accurately capture these psychological states are more credible and impactful.

Evaluation Metrics: Alignment with clinical burnout symptoms, depth of psychological portrayal.

5.1.4 Visual & Sensory Representation

Burnout is often described metaphorically—"feeling empty," "drowning in work," or "running on empty" (Lakoff & Johnson, 1980). Metaphors help translate abstract psychological states into visual cues that enhance understanding. Lombard & Ditton (1997) argue that presence and sensory immersion increase emotional response.

Evaluation Metrics: Use of metaphor, visual coherence, alignment with burnout themes.

5.1.5 Effectiveness in Burnout Awareness

Some representations are educational, while others promote passive awareness. We discussed in chapter 2 that Salminen et al. (2017) found that narratives help individuals recognize burnout in themselves, reinforcing that media plays a critical role in self-diagnosis.

Evaluation Metrics: Explicit vs. implicit burnout messaging, ability to trigger self-reflection, clarity of takeaway.

5.2 Scoring Model

Since the current prototypes do not incorporate direct user input, the evaluation relies on a comparative scoring system based on referenced sources.

Scoring System (1-5 Scale)

- 1 = Low Representation (Minimal engagement with burnout themes)
- 2 = Weak Representation (Some burnout elements, but not central)
- 3 = Moderate Representation (Covers burnout, but lacks depth)
- 4 = Strong Representation (Well-integrated burnout themes)
- 5 = Excellent Representation (Highly effective portrayal of burnout)

5.3 Evaluation of the Prototypes

The prototypes were continuously evaluated and developed with an aim of developing the final design. While some features were deliberately given more focus, we can evaluate them on the criteria set above.

Criteria	Prototype 1	Prototype 2	Prototype 3	Prototype 4	Prototype 5
Narrative Depth & Emotional Engagement	2	3	4	4	5
Interactivity & User Agency	1	3	3	4	4
Psychological Realism & Burnout Accuracy	2	3	4	4	5
Visual & Sensory Representation	2	3	4	5	4
Effectiveness in Burnout Awareness	2	3	4	4	5



Figure 5-1 Evaluation table – Prototypes

Figure 5-2 Radar plot of the different prototypes

5.4 Personal Reflections

To begin this section, I would like to address the key research question:

How can an augmented reality experience that immerses users in a fictional character's journey through burnout help them develop greater self-awareness and better recognize their own stage in the burnout cycle?

Through the exploration and prototyping phases, it became evident that narrative plays a crucial role in fostering awareness. Given the extensive literature on burnout, identifying the gaps in existing research required multiple iterations with prototypes as well as expanding the scope of literature review. The initial concept aimed to depict a sustained state of burnout using a faux-interface and a descriptive task list. However, this approach became overly complex, shifting the focus from burnout to games as a coping mechanism—an area that had already been excluded from the project's scope.

A breakthrough occurred with Christina Maslach's burnout profile theories, which provided a more effective framework for translating dense psychological concepts into an accessible and experiential format. The goal was not merely to present information but to help individuals develop greater self-awareness by externalizing the burnout cycle and allowing them to experience it through the perspective of a fictional character. The hypothesis was that even if participants were not actively experiencing burnout, they were likely in some phase of engagement with productivity culture, and the AR experience could serve as a tool for early recognition. By engaging with the installation and interacting with the AR prototype, participants could develop a foundational understanding of burnout stages, helping them identify potential warning signs in the future.

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Through multiple iterations, I realized that spaced experiences—allowing users to remain in a single stage for a prolonged period—provided a more profound understanding of the burnout profiles and their characteristics.

What role does narrative engagement play in facilitating understanding of burnout progression? The secondary research question was explored through the creation of Jane, a fictional persona representing various burnout profiles. Jane is an amalgamation of existing research, open-source information, and personal anecdotes from individuals struggling with burnout.

The use of audio, lighting, and color in the augmented reality interface added an additional layer of depth to Jane's story, enhancing immersion and emotional engagement. By externalizing Jane's journey—tracing her progression through burnout stages—the experience encouraged users to step outside the "this doesn't happen to me" mindset that often prevents individuals from recognizing their own burnout symptoms.

The act of witnessing Jane's struggle created a sense of detachment, allowing participants to engage with the subject without immediate self-identification, which, paradoxically, made selfrecognition easier. Through this process, the project demonstrated that narrative-driven AR experiences can serve as powerful tools for both awareness and intervention, offering users an entry point into understanding their own burnout trajectory.

6. Future Works and Opportunities

The current iteration of *Running on Empty* provides an immersive representation of burnout by guiding users through the structured experiences of Jane Aspen. While this fixed persona has been instrumental in shaping a coherent, research-backed progression through burnout stages, the next step for this project is to move beyond Jane's narrative and explore personalization. Future iterations could integrate dynamic user-driven storytelling, allowing individuals to map their own experiences onto the simulation, making the journey through burnout not just observational but self-reflective.

6.1 Contributions

This research makes significant contributions to the intersection of burnout studies, immersive technology, and narrative-driven design by developing an interactive augmented reality (AR) experience that externalizes the burnout cycle. By synthesizing Maslach's burnout Profiles into an experiential framework, the project transforms abstract psychological concepts into a lived, embodied experience. This structured approach allows users to step into the role of Jane Aspen, a fictional persona whose journey through burnout mirrors the gradual, often imperceptible nature of the condition. Unlike conventional burnout studies that rely on surveys and theoretical analysis, Running on Empty bridges academic research and interactive media, making burnout progression more tangible through environmental design, sensory overload, and narrative-driven decision-making. The use of color, soundscapes, task-based interactions, and voice narration ensures that the experience remains emotionally resonant and immersive, fostering greater self-awareness among participants.

Additionally, this work extends the field of mental health representation in digital media by exploring AR's potential as a self-diagnostic tool. Traditional burnout awareness tools primarily focus on education or passive observation, whereas this research proposes an active, participatory approach that allows users to experience burnout symptoms firsthand. The gradual loss of agency in the AR environment mirrors real-world burnout progression, reinforcing cognitive and emotional recognition of the condition. Furthermore, by developing a staged burnout experience with clear transitions between engagement, overextension, disengagement, ineffectiveness, and collapse, this research presents a novel framework for burnout storytelling that could be applied across workplace training, therapeutic interventions, and digital mental health tools. Future iterations of this research could introduce personalized burnout tracking, adaptive interventions, and AI-driven assessments to refine its function as a burnout awareness and recovery tool. By combining psychological realism, interactive storytelling, and immersive technology, Running on Empty contributes to a growing body of research on how digital experiences can foster mental health awareness and early intervention strategies. Another contribution of this body of work is a visual representation of the different profiles of burnout with Engagement and Burnout treated as two extremities with the intermediate profiles



acting as transitional state as shown in the figure below.

Figure 6-1 Author contribution - Representation of different profiles of burnout

6.2 Limitations and Directions for Future Work

A key limitation of the existing design is that it offers a singular perspective—Jane's story. While she is designed as a composite character based on research and qualitative burnout narratives, real-life burnout manifests in diverse ways, shaped by individual backgrounds, professions, and coping mechanisms. Moving forward, a more flexible narrative structure could be introduced, where users input details about their work environment, personal stressors, and emotional states, influencing the way the burnout cycle unfolds for them.

Currently, Running on Empty primarily serves as an awareness tool, offering an experiential depiction of burnout without direct diagnostic intent. However, one of the most promising directions for future work is the development of a self-diagnostic component that helps users identify their own burnout stage. The implementation of biofeedback mechanisms could further enhance this diagnostic approach. By incorporating tools like heart rate tracking, stress level

assessments, and cognitive load measurements, the system could offer more objective datadriven insights into burnout symptoms. This aligns with research suggesting that physiological stress indicators, combined with self-reported emotional states, offer a more comprehensive burnout diagnosis.

6.2.1 Treatments and Cures

While Running on Empty primarily focuses on recognizing and understanding burnout, an important next step is integrating strategies for recovery and resilience. burnout treatment is multi-faceted, requiring a combination of individual, organizational, and systemic interventions. Future expansions of this project could explore how to facilitate the transition from burnout awareness to recovery.

6.3 Final Takeaways

Running on Empty has demonstrated that immersive storytelling and interactive design can serve as powerful tools for exploring burnout. However, the next phase of research should focus on expanding beyond Jane's experience to embrace personalized, adaptive narratives that empower users to see their own burnout journeys reflected in the experience. By evolving towards a selfdiagnostic, real-time adaptive tool, the project has the potential to serve not just as an artistic representation of burnout but as a meaningful resource for recognition, intervention, and recovery.

The future of *Running on Empty* lies in bridging awareness and action, integrating customized user narratives, burnout self-diagnosis, and potential treatments. By expanding into technological interventions, psychological coping strategies, and organizational policy explorations, the project could become an invaluable tool for burnout education and prevention in digital spaces.

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Appendix

List of Supporting artifacts accompanying the primary thesis submission -

- Video of Prototype 3, file type .mov, Uploaded on May 6, 2025, Link - <u>https://drive.google.com/file/d/1ek9_CWzsJ03FLXybYC78qDpybvxncMG2/view?usp=s</u> <u>haring</u>
- Video of Prototype 4, file type .mp4, Uploaded on May 6, 2025, Link - <u>https://drive.google.com/file/d/1qhJ5UwgUQp1Z05E0aHyqHviqSAI4C4mt/view?usp=sh</u> <u>aring</u>
- 3. Video of Mixed reality simulation, exhibited at OCADU waterfront campus between March 27th – April 2nd 2025, uploaded on May 6, 2025, Link – <u>https://drive.google.com/file/d/1qhJ5UwgUQp1Z05E0aHyqHviqSAI4C4mt/view?usp=sh</u> <u>aring</u>