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Contents

Designing with Teens at the Center

SUSAN RIVERS

DESIGNING FOR TEENS

The *Journal of Games, Self, & Society* features scholarship on the power of game design and play to support, accompany, and ignite connections, explorations, and transformations in understanding the self, others, and society. We are particularly interested in what this means with regard to adolescents.

Why is the developmental period of adolescence of particular interest?

Because of its magnificence. And because of the design opportunity and challenge it poses.

Adolescence is the last significant period of brain growth. Changes in the adolescent brain power the remarkable transformations that are characteristic of this developmental moment. The teenage years are a rich time for learning, taking risks, pushing boundaries, and exploring identity within and outside of the immediate context of home, school, and neighborhood.

Designing and using games for teen audiences requires that we understand the unique needs and capabilities of the teen brain and that we tailor play experiences to meet this special developmental moment. Nearly two decades of neuroscientific research reveals that childhood is not the only critical period for learning. The teen brain undergoes its last major restructuring starting in puberty, pruning synaptic connections that

are used rarely, strengthening those that are used often, and increasing connectivity across regions via increases in white matter volume (Lenroot & Giedd, 2006; Lenroot et al., 2007). The great plasticity—i.e., remodeling and growth—of the brain in the teen years make it a period when individuals are exceptionally susceptible to external influences (Jensen & Nutt, 2015; Steinberg, 2014). This is a time when teens can "make enormous strides in thinking and socialization" as well as "judgment, getting along with others and long-range planning" (Giedd, 2015, pp. 34 and 35, respectively).

The heightened susceptibility of the teen brain to the environments and experiences it encounters creates a critical window of opportunity in which to offer transformative or "peak" experiences. These are experiences that fully engage teens' thoughts, feelings, and behaviors, and that also challenge how they think about and understand the world, inviting them to reconsider their assumptions and take on new understandings of how the world is and their own place in it. Peak experiences are especially critical for teenage learners, for whom emotion circuits in the brain are particularly sensitive and a key pathway for engaging their attention, motivation, use of learning strategies, self-regulation of learning, and achievement (Pekrun, 2017).

Teens have incredible learning potential and faster learning curves than adults (Jensen & Nutt, 2015). Given this enhanced learning potential, what teens spend their time learning matters. In more technical terms, "Repeated activation of a specific collection of neurons as a result of engaging in a particular behavior will actually result in structural changes that strengthen the connections among those neurons, which in turn will make them function more efficiently" (Steinberg, 2014, p. 72). The bottom line from this research is that habits, experiences, knowledge, and impressions developed in teen years have the potential to influence an individual for a lifetime. The environments and interactions teens encounter—good and bad alike—leave a deeper mark on the brain than they will in later years.

Teens' unique developmental characteristics are a clear call to action to provide transformative experiences that open up their thinking about themselves, each other, and the world. Transformative learning

experiences are instrumental for developing 21st-century skills. As one researcher writes,

> "the skill of the future will not be to remember facts but to critically evaluate a vast expanse of data, to discern signal from noise, to synthesize content and to apply that synthesis to real-world problem solving. Educators should challenge the adolescent brain with these tasks, to train its plasticity on the demands of the digital age" (Giedd, 2015, p. 37).

Game designers can accept Giedd's challenge too. Teens play, learn, and connect with others in virtual spaces as much as in physical ones. Game-based learning refers, broadly, to an approach for using games to teach and learn. Games can be designed to support social and emotional competencies related to problem-solving, interaction, connectedness, cooperation, and collaboration (Hromek & Roffey, 2009). Games reflect—and allow us to reflect upon—real-world sociopolitical systems. At their core and no matter how fantastical, games are systems that reflect and expand on truths about the lives we lead: they have rules, win/lose states, rewards, consequences, and many roles for players and other characters to step into. As players interact with game systems, they can learn and then manipulate and act within them in ways that comply with ("win states") or reject ("lose states") its rules and norms (Gee, 2003). Game-based learning has shown promise for positively impacting learners' engagement, attitudes, self-perception, and self-efficacy, and can support the development of 21st-century skills (Hung, Huang, & Hwang, 2014; Miller & Robertson, 2010; Qian & Clark, 2016; Wrzesien & Raya, 2010).

How can we, in our game designs and in game-based learning experiences, offer teens rigorous and transformational opportunities to see possibilities they never before imagined, build essential skills, and flesh out their understanding of the world and their potential and responsibilities as members of local, national, and global communities? How can we design games that are compelling and playful, and that tap into and recruit emotions to fuel and supercharge learning and connection?

INTRODUCTION TO VOLUME 3

The previous volume of the *Journal of Games, Self, & Society* was published

mere weeks into the COVID-19 global pandemic. I wrote in the Introduction to that volume, "I wonder what novel games and design approaches will emerge both from the scholarship published here and in the coming days of unprecedented social isolation." This volume features some of the scholarship emerging from this time.

The theme of this volume of the *Journal of Games, Self, & Society* is ***games as fuel for connection and transformation for teens*.** Two novel articles address this theme.

In *Building Resilience: Multidisciplinary Research, Iterative Processes, and Serious Game Design,* the design team of Lauben, Roszko, Gallegos, and Perry presents a post mortem on their game, *Resilience*. *Resilience* is a student-led project that paired deep research and game design to foster understanding of the global refugee crisis. What we learn in their article is the depths and limitations of research needed to design a game on a topic that is prevalent and pervasive, while at the same time not the designers' own lived experience. They raise the question: how can designers dig into an understanding of lived experiences that are not one's own? In their post mortem, the design team grapples with the tension of how much and what type of research is sufficient for a serious game? And, how do you balance access to first-person, lived experience accounts with both the design integrity of a piece of work and very real deadlines? Their reflections on the choices they made in creating *Resilience* are poignant, and offer a useful and actionable case study for the serious games they will design over the course of their careers, as well as for other game designers.

The *Resilience* team also offers insight into the design choices they made to support the transformation they envisioned for players. In their words, "Our game intends to build compassion for refugees and their stories, as well as promote a greater awareness of the real-world situations that refugees endure" (Lauben et al., 2022, p. 9). Engendering empathy for the experiences of refugees was primary for them. Their explorations around how to represent those stories and who is telling those stories in what context is both interesting and provocative. How do we support perspective-taking and feeling empathy for others when we may have world views, stereotypes, and other prejudices that can create interference?

Digital Biedermeier: (Self-)care in Animal Crossing: New Horizons by Walsdorff, Clüver, and Kanderske homes in on how gameplay is meeting player needs during the COVID-19 pandemic which required us to be socially distanced from others for extended periods of time. The authors unpack aspects of the digital gameplay that emerged during the pandemic and propose that gameplay might be considered a 'crisis hobby.' They explore how games like *Animal Crossing: New Horizons* offer both distraction and comfort. They focus on three kinds of human activity this game affords: labor, work, and action. They state that the game "heavily features domestic practices like furnishing and decorating" and that such practices "can temporarily increase a person's well-being simply by acting as a distraction from their stress and worries" (Walsdorff et al., 2022, pp. 44 and 45, respectively). More specifically they offer analysis, drawing on data derived from written player narratives and gameplay footage, to support the thesis, that *Animal Crossing: New Horizons* can be understood through "the lens of the historic Biedermeier epoch, a time marked by practices of home-making and domestic decoration carried out in an effort to distract from and compensate for feelings of uncertainty and loss of control" (p. 46). Their article not only provides a fascinating analysis of human needs and behaviors that can be met, in part, through gameplay, but also a possible strategy for meeting our needs when other options (being in the physical presence of others) are not available.

In addition to these two novel articles, Volume 3 of *Journal of Games, Self, & Society* features two book excerpts from some of the most recent scholarship on game-based learning.

Matthew Farber, EdD, Assistant Professor of Technology, Innovation and Pedagogy at the University of Northern Colorado, is the author of *Gaming SEL*. *Gaming SEL* is a very readable cornucopia of topics that span first-person accounts of gameplay and thought-provoking explorations of the neuroscience of games to comparing social and emotional learning models and contending with how games do or don't teach compassion, empathy, and mindfulness. The excerpt we've chosen from his book centers on how games evoke emotion, and the way educators can use the emotion that comes up in service of growth and connection.

Karen Schrier, EdD, Associate Professor, Founding Director of the Games

& Emerging Media program, and the director of the Play Innovation Lab at Marist College, is the author of *We the Gamers*. Written during the pandemic, *We the Gamers* begins by exploring the many ways games were of great support to humanity during the stay-at-home orders and beyond. Schrier takes a balanced approach by questioning when and how best to use games alongside learning, while acknowledging the limitations of games. The excerpt explores how games can encourage and support teens' civic participation and ethical decision-making.

Also included at the end of this volume is an announcement about the return of the Games+Learning+Society (GLS) Conference. This journal grew from inspiration sparked at GLS. Its return in 2022 is very much awaited and most welcome

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REFERENCES

Gee, J. P. (2003). *What video games have to teach us about learning and literacy*. Palgrave Macmillan.

Giedd, J. N. (2015). The amazing teen brain. *Scientific American, 312*(6), 32-37.

Giedd, J. N., Blumenthal, J., Jeffries, N. O., Castellanos, F. X., Liu, H., Zijdenbos, A., . . . Rapoport, J. L. (1999). Brain development during childhood and adolescence: A longitudinal MRI study. *Nature Neuroscience, 2*(10), 861-863.

Hromek, R., & Roffey, S. (2009). Promoting social and emotional learning with games: "It's fun and we learn things". *Simulation & Gaming, 40*(5), 626-644.

Hung, C., Huang, I., & Hwang, G. (2014). Effects of digital game-based learning on students' self-efficacy, motivation, anxiety, and achievements in learning mathematics. *Journal of Computers in Education, 1*(2-3), 151-166.

Jensen, F. E., & Nutt, A. E. (2015). *The teenage brain: A neuroscientist's survival guide to raising adolescents and young adults*. HarperCollins.

Lauben, L., Roszko, J., Gallegos, A., & Perry, Z. (2022). *Building Resilience*: Multidisciplinary research, iterative processes, and serious game design. *Journal of Games, Self, & Society, 3, 9-42.*

Lenroot, R. K., & Giedd, J. N. (2006). Brain development in children and adolescents: Insights from anatomical magnetic resonance imaging. *Neuroscience & Biobehavioral Reviews, 30*(6), 718-729.

Lenroot, R. K., Gogtay, N., Greenstein, D. K., Wells, E. M., Wallace, G. L., Clasen, L. S., . . . Evans, A. C. (2007). Sexual dimorphism of brain developmental trajectories during childhood and adolescence. *NeuroImage, 36*(4), 1065-1073.

Miller, D. J., & Robertson, D. P. (2010). Using a games console in the primary

classroom: Effects of 'Brain Training' programme on computation and self-esteem. *British Journal of Educational Technology, 41*(2), 242-255.

Pekrun, R. (2017). Emotion and achievement during adolescence. *Child Development Perspectives, 11*(3), 215-221.

Qian, M., & Clark, K. R. (2016). Game-based learning and 21st century skills: A review of recent research. *Computers in Human Behavior, 63*, 50-58.

Steinberg, L. (2014). *Age of Opportunity: Lessons from the new science of adolescence*. Houghton Mifflin Harcourt.

Walsdorff, J. Clüver, C., & Kanderske, M. (2022). Digital Biedermeier: (Self-)care in *Animal Crossing: New Horizons. Journal of Games, Self, & Society, 3*, 43-73.

Wrzesien, M., & Raya, M. A. (2010). Learning in serious virtual worlds: Evaluation of learning effectiveness and appeal to students in the E-Junior project. *Computers & Education, 55*(1), 178-187.

Building Resilience

Multidisciplinary Research, Iterative Processes, and Serious Game Design

LILY LAUBEN, JUSTIN ROSZKO, ALEX GALLEGOS, & ZACH PERRY

ABSTRACT

This article is an in-depth retrospective on the development of *Resilience*, a serious game designed by our student team at Drexel University and intended to engage a wide audience in the discussion of the ongoing global refugee crisis. Drawing on methodologies from scholarly research on serious game design, we review the major design decisions we made during the production of *Resilience*, deconstruct the limitations we faced, and discuss how the effectiveness of the final product was impacted as a result. The ultimate purpose of this analysis is to reflect on the development of *Resilience*, as well as to offer advice for future developers to successfully incorporate serious topics into entertainment, create meaningful learning experiences, and forge empathetic connections between the game's subjects and the audience.

INTRODUCTION

Resilience is a sci-fi city-builder game designed by our team of 18 students for our undergraduate capstone project. Through engaging gameplay, the primary goal of Resilience is to foster empathy for people facing displacement due to conflict or disaster. Our game intends to build compassion for refugees and their stories, as well as promote a greater awareness of the real-world situations that refugees endure. Our team

wanted to create a serious game focused on presenting these issues in an accessible and engaging way and we intend to reflect on our design approaches and constraints.

While thinking about how our reflection fit into existing scholarship, it was clear that it would involve the espousal of a large body of academic research about the effectiveness of serious games and the challenges of balancing learning goals of the game with engaging gameplay. Bogost (2008) describes how game mechanics contain their own powerful rhetorics; Belman and Flanagan (2010) propose methodologies for the power of empathy and serious games; and Mitgutsch and Alvarado (2012) standardized the components of successful serious games. Along with many others, these contributors built the body of research that we now stand on the shoulders of. In fact, a great deal of research exists on serious games— specifically addressing displaced people, such as Raessens (2015), Sou (2017), and Gabriel (2018). However, none of these analyses featured first-person reflections by the creators themselves to analyze the intentions of their design, rationales behind decisions, and effectiveness of implementation. Designing and balancing game mechanics presented unique challenges, as our team had to create systems that represented real world dynamics, while holding the player's interest. Since our team initially possessed limited knowledge on the refugee crisis and no firsthand experience as a refugee, we needed to take additional steps in our research and design to ensure our depictions were well informed and respectful. In this reflection, we provide an earnest retrospective into those decisions, how they impacted the final game, and how they compare to other serious games as well as the literature on serious game design practices. We believe that contributing such a work would empower other students and designers to explore serious topics, delve into research, and produce impactful projects.

METHODOLOGY

Resilience is ultimately the product of team decision making, in-depth research, external feedback, interconnected systems, and methodical iteration. To help us analyze *Resilience* as the sum of its parts, we selected a framework that considers individual facets of design and how they connect

to the holistic experience. The Serious Game Design Assessment (SGDA) framework put forward by Mitgutsch and Alvarado (2012) proposes six core components which together form a game system. These core components include purpose, content and information, fiction and narrative, mechanics, aesthetics and graphics, and framing. Mitgutsch and Alvarado (2012) examine each of these core elements on their own, and also analyze how each contributes to the game as a whole.

This article is structured in accordance with the SGDA framework and underscored with analysis of each of those core elements listed above; further research was incorporated to support these examinations. We conclude each section with reflections on the effectiveness of each element and advice for future designers based on the challenges and successes we experienced from our design process.

PURPOSE

What differentiates serious games from the broader field of gaming is the operative intention at the heart of their design and execution. Instead of seeking to solely entertain, serious games utilize play and interactivity to inform, engage, and/or have an impact on their players (such as education, physical fitness, mental wellbeing, or advocacy). As stated by Mitgutsch and Alvarado (2012), "the game's purpose acts as the driving force that shapes the dynamic and the coherence of the game system as a whole" (p. 123).

The primary goal of *Resilience* is to build empathy and awareness for displaced people. 'Empathy' is a complex term with many meanings, but within this article, we will apply the framework developed by Belman and Flanigan (2010) in their essay "Designing Games to Foster Empathy." They employ research from business, therapy, education, and psychology to construct a definition of empathy that includes both cognitive empathy, when one seeks to understand the thoughts and circumstances of another's life, and emotional empathy, when the experiences of another elicit strong emotional responses in oneself (Belman & Flanigan, 2010). Belman and Flanigan argue that the games with the strongest long-term impact on players' actions are ones that evoke both cognitive and emotional empathy. *Resilience* was designed with the intention of

galvanizing players to take more personal action in support of refugees through performing further research on the subject, raising awareness, making donations, and/or taking political action. We were specifically interested in reaching audiences from certain developed nations (such as the USA, the UK, France, Germany, Canada, and Australia) whose governments have significant resources and capabilities to impact refugee lives for the better, but also face waning political support for aid, due to growing anti-immigration public sentiment.

We chose to focus our game specifically on the plight of refugees living in temporary settlements run by governments or intergovernmental organizations like the United Nations. We were inspired by news stories about two refugee camps breaking during the early summer of 2019, which coincided with the initial conceptualization of the game. The first, Camp Moria, on the Greek isle of Lesbos, was an unfolding human rights disaster caused by overcrowding (Barberio, 2018; MSF, 2019). The camp held more than triple its capacity; disease, abuse, hunger, and depression ran rampant (Barberio, 2018). The second camp, Kutpalong Camp in Bangladesh, had become the largest refugee camp in history with a population of roughly 740,000 (larger than Washington D.C.), after the Myanmar military began a systematic campaign of ethnic cleansing against the Rohingya Muslim minority (Skretteberg, 2019).

Based on our research and a commitment to making empathy the center of our game, we devised a list of prioritized key takeaways for players that would motivate them to help refugee populations. First, we wanted players to understand that sufficient, non-earmarked funding is essential to proper management of camps (Bond, 2018; UNHCR, 2019a). Second, we wanted to illustrate the dangerous strain on resources that overcrowding within camps creates (MSF 2019; Skretteberg 2019; Tagaris 2019). Third, we wanted to demonstrate how the only viable solution to camp overcrowding is to provide permanent homes for refugees; this can include enabling refugees to return home, or through the offering of a permanent resettlement—either in the host nation or in a new country (UNHCR, 2019b). These objectives served as guiding pillars for our team as we added new content into the game and refined existing features to better

reflect our mission. It was equally vital for us to reevaluate these takeaways throughout our research and production of the project.

As Mitgutsch and Alvarado (2012) argue, the most impactful serious games are those that allow their goals to permeate through every aspect of their design. For us, this meant taking the time to fully grasp the problem we sought to tackle with our game as well as mapping out the takeaways we wanted players to leave the gameplay experience with. We asked ourselves the following questions about our overarching objectives: What problem, and what specific areas of that problem will this game address? What features of this game tie into the problem, solution, or discourse? What is the most important thing for players to gain from interacting with this game? We prioritized establishing these goals first, before making any decisions about genre, setting, narrative, or aesthetics. This ensured that as we made those subsequent design choices, we were guided by the game's purpose, and all our choices could serve to reinforce these goals as a cohesive whole. We felt we were successful in creating a game that was strongly focused around its purpose, and this is a facet of our approach that we would repeat in subsequent projects.

CONTENT AND INFORMATION

Mitgutsch and Alvarado (2012) argue that any game seeking to teach the player must include information that is "well presented, adequately formulated" and, of course, "correct" (p. 124). Accurate and responsible depictions of displaced people are essential to the success of any serious game trying to assist them. In international news, portrayals of refugees shifted to be distinctly more negative as the number of displaced people continued to increase and the "refugee crisis" became a larger part of the news cycle (Eberl et al., 2018; Willmott, 2017). These negative depictions can influence individual empathy toward refugees and decrease the likelihood of supporting political action to aid refugees (Azevedo et al., 2019). Having an awareness of the biases towards and stereotypes of the refugee population was crucial in the creation of Resilience, a game intended to reverse these negative sentiments.

The process of researching, synthesizing, and implementing information

within our game was a continual effort throughout the development of *Resilience*. Although our team members came from diverse backgrounds, we recognized that no team member had experienced forced displacement; as a result, we needed to draw from research and experience beyond our team.

Incorporating Refugee Voices

In addition to portraying the experiences of marginalized peoples with accuracy and in a positive light, it is also vital to express these depictions with urgency and respect. A large body of academic work exists that examines refugee voices, and how these voices can be suppressed, disregarded, de-politicized, and homogenized for the comfort of a Western audience (Godin & Doná, 2016; Jones, 2019; Sigona, 2014). The rawest condemnations come from Jones (2019, p. 2):

> At worst, such voices can be counterproductive, serving as a simulacrum of genuine voice, which provides a (vanishingly small) audience with the self-satisfaction of having "done something" without really *doing anything*. There is often a self-congratulatory tone to these exercises, as if hearing the voices of refugees is the end of a process, rather than its beginning. Such performative exercises… are profoundly insulting and disheartening to refugees themselves.

In the above quote, Jones is speaking directly about news media and organizations that feature curated refugee testimony, but the same critique can be leveled towards games. Although it can be difficult, it is important to honestly reflect upon a project dealing with such personal narratives and ask if we were sensitive enough with them, and did we *do* enough with them.

When a member of the Drexel community with past experiences as a refugee came forward and was willing to speak to us about our project, we listened carefully to everything they had to say. This person was familiar with serious games and was able to give us many useful resources and pointers, in addition to describing personal experiences. This person's feedback influenced further research as well as the design of our mechanics, dialogue, and visuals, and we are extremely grateful for the insight shared with us.

Beyond these conversations, however, we did not seek any additional interviews with other refugees. Although incorporating diverse voices would have certainly added to our game, Jones (2019) indicated that asking a refugee to relive their experiences is often "an exhausting and traumatic process" and that soliciting such information without the ability to promise direct and material changes for that refugee's conditions as a result is "manipulative and cruel" (p. 2). Jones (2019) and Cabot (2016) also documented the high level of sociological training and institutional structure necessary to perform these interviews in a manner that is both sensitive and inclusive. We knew that our talents as a team reflected those of programmers, 3D artists, musicians, and game designers, and that our skillsets and resources fell significantly short of the required training. We found that when designing a serious game, it is equally important for us to know the strengths of our team as it was to acknowledge our limitations, and work within them. Ideally, we should have acquired more team members with the appropriate skill sets and allocated more time to reaching out to other primary sources. Additionally, we could have sought out refugee voices to include directly within our team and advisory sphere, but we were unfortunately limited in the scope of our project and timeline.

To try to compensate for this shortcoming, we doubled down on our research efforts by seeking out advisors and reading refugee testimonies, academic articles, news stories, and reports from organizations like the United Nations High Commissioner for Refugees (UNHCR).

We knew it was important to be able to consult regularly with someone knowledgeable about refugee issues who could help us with our research and development process. At the start of our project, we brought on as a research advisor to the project, Amelia Hoover Green, a professor in the Political Science department at Drexel University whose research focuses on violence towards civilians in wartime. We held weekly meetings with her throughout the first eight months of the project in which she gave feedback on design ideas, recommended relevant scholarly articles, and reviewed the progress on our game.

The insights provided by Professor Hoover Green were invaluable. She reviewed everything from the clothing designs and appearances of our refugee characters to the game mechanics of accepting aid from foreign

diplomats. The perspective she provided enriched the project's accuracy and sensitivity. For example, when we were developing the appearance of the refugee characters and that of the aid worker (which is the player's avatar), we originally planned for them to look entirely different from each other. We had read research about how often camp managers are educated individuals from developed nations who look little like the refugees they serve, and we sought to emulate that representation. Professor Hoover Green, however, explained that circumstances where camp directors and camp inhabitants are culturally disconnected are far from ideal. She pointed us to UNHCR reports which highlighted the number of local volunteers and staff that work in their camps. She also correctly identified that it was far more important to forge an empathetic link between the player and the refugee characters, so they should have more similar in-game avatars. Discussions like these, along with input from our other advisors, helped us to incorporate thoughtful perspectives into our designs and make more informed decisions about how we wanted to present the game.

Building a Bibliography

The reading list that Professor Hoover Green provided to our team at the start of the project formed the backbone of the project's bibliography. This database of scholarly articles, agency reports, news articles, photographs, and personal stories was curated first by Professor Hoover Green, then by members of our team, throughout the game's development. It was used as direct inspiration for the game's mechanics and ensured concepts like resettlement, donations, and earmarking were factually correct. It also served as a resource for ensuring the accuracy of our building and prop designs as well as the refugees' dialogue lines.

Furthermore, the bibliography was integral in the creation of the in-game journal in *Resilience*. As players progress through the game, their actions (such as constructing a certain number of buildings) unlock journal entries that contain facts about refugees and refugee settlements around the world. These journal entries can be accessed from the main menu at any point during or after the game and are accompanied by citations from our bibliography. Each citation opens up in a new browser window with

the full source for further reading. In this way, we offer our players easy access to scholarly sources on the refugee issues that catch their attention. Together, our design team and Professor Hoover Green worked to ensure our refugee depictions—and all other aspects of our game—were well informed and empathetic.

Additionally, we were fortunate to get in contact with a field worker from Médecins Sans Frontières who worked in the Mediterranean region on rescue ships. He reviewed a demo of the game during our alpha development and gave feedback about the mechanics which then helped to shape later changes.

Reflections

While our research and the input from a field worker were extremely valuable, we recognize that these sources are no substitute for direct and frequent feedback from diverse people with lived experiences. Especially when examining the refugee testimonies curated on aid organization websites, one must remember that those organizations, since they are primarily reliant on donations from the wealthy Westerners, may select specific perspectives and narratives that are most beneficial to them (Cabot, 2016; Jones, 2019). Relying heavily on research from those aid organizations made this project susceptible to being filtered through those Western lenses, which at their worst show refugees as "feminized and infantilized images of 'pure' victimhood and vulnerability" (Sigona, 2014, p. 370). In retrospect, an excellent critique of *Resilience* is that we should have drawn much more from dissenting refugee voices about the mistakes made by aid organizations, which seldom appear in agency reports.

Despite our well-meaning intentions, our team's lack of diverse refugee input during development placed several constraints on *Resilience*. As discussed in the next section, our limited access to diverse first-hand accounts was a driving factor of the narrative and visual direction of the game as we grappled with respectfully advocating on behalf of a group to which we did not belong.

To undertake the difficult task of research, we enlisted the guidance of an

expert on the subjects our game sought to address, and met with them regularly. We would offer the same advice of seeking out experts to other game developers, particularly to help guide a team's direction and efforts in areas of which they are less familiar. Whether these individuals have first-hand experience or published research, the informed perspective of an outside party can offer new insights into the strengths and weaknesses of the game. We also tried our best to draw our research from varied sources—from academia, to personal stories, to visual media. This is something that, given the opportunity to try again, we would certainly seek to improve, to ensure no voices are being muffled, distorted, or silenced. Finally, we had to know our research's limitations, and work to understand the consequences of these limits, and adapt our designs in response.

FICTION AND NARRATIVE

Mitgutsch and Alvarado (2012) characterize the fiction of a game as the "context" in which the content, information, and mechanics come together, providing a space for players to experience a story or create their own stories. These stories are deemed successful by the SGDA framework if they reinforce the game's overall purpose (Mitgutsch & Alvarado, 2012).

The story of *Resilience* takes place on Obios, an isolated moon in the fictional solar system of Archhaven. We follow the flight of a humanoid alien species called Murians as their home planet suddenly is engulfed by a black hole causing an intergalactic refugee crisis.

STORYTELLING THROUGH SCIENCE FICTION

One of the notable characteristics of the game's narrative is the science fiction setting. This sets *Resilience* apart from many other serious games about refugees, such as *Cloud Chasers: Journey of Hope*, *Bury Me My Love*, *Against All Odds,* and *Frontiers: Fortress Europe*, as these games take place in a recognizable Earth or near-Earth universe (Gabriel, 2018; Sou, 2017). The otherworldly setting in *Resilience* was designed to create a decontextualized neutral space through which the concept of humanitarian aid could be explored, without further appropriating or stereotyping real refugee stories.

Feminist and postmodernist literary studies have been published about how the unfamiliar environment of science fiction can be used to the author's advantage when trying to encourage empathy towards others. Wolmark (1994) postulates that in feminist science fiction works "there is a slippage between sameness and difference" (p. 28) caused by unfamiliarity that allows othered groups to be redefined. Gomel (2014) argues that by "defamiliarizing our commonly held beliefs" (p. 6) science fiction can challenge those beliefs and the morality that underpins them. Holland (2017, p. 68) describes this as a core element of science fiction:

> "One of the most alluring qualities of science fiction is its ability to summon readers to actively imagine other realities—alternative futures, pasts, or parallel universes—and challenge normative assumptions through the invitation to suspend one's disbelief... Authors curate their stories to encourage their readers to question their own positionality, subjectivity, and humanity"

Our hope in creating this science fiction setting was to give space for players to leave behind any preconceptions about refugees they may have. In addition, we felt that this alternative scenery allowed us to highlight the broad themes of refugee life and aid organizations—without making exclusive statements about who refugees are, what part of the world they come from, and what their experiences are. Finally, and as previously mentioned, our lack of direct refugee input on the project meant that our team was not equipped to portray a genuine refugee story set in a fully realistic setting. We acknowledge that our position of ignorance introduced the real risk of misrepresenting a nonfiction story; there are invariably important details and emotional truths of an accurate and faithful portrayal only firsthand experience can provide. Our fictionalized abstraction allowed us to play to our strengths by using our research as a baseline, but also provided our writers the flexibility to substantiate the narrative with creative details.

DIALOGUE AND NARRATIVE THEMES

At the start of *Resilience*, the player is presented with a cutscene to introduce them to the Murians and the crisis that causes them to become refugees. At the end of this sequence, they are also introduced to their

role in the game and given a call to action. The player assumes the role of a Murian volunteer who works at one of the many refugee camps established across Archhaven and is tasked with camp construction and managing day-to-day operations. This framing is important, because prompting the player to be empathetic at the start of the game is one of the four principles Belman and Flanagan (2010) outline in *Designing Games to Foster Empathy*; without prompting, the player can play the game "unempathetically."

Beyond the exposition in the opening cutscene, the player gains additional information about the Murians by speaking with them throughout the game. To give the player a small glimpse into refugees' lives, the refugees' dialogue pulls from a pool of over 1000 different lines. These lines can be hopeful or encouraging if the refugee is in good health and the camp is running well; the lines can also convey the refugees' frustration, anxiety, or grief to reflect poor health or when the camp's resources are strained.

Our process for writing dialogue had two primary objectives: first, to faithfully reflect our research on living conditions within refugee settlements; and second, to give each refugee in the game a sense of individual voice, thought, and personality. The writing process began with reading and abstracting stories from secondary sources (including refugee interviews, news articles, and visual media) and later synthesizing them with the sci-fi and creative elements that compose the world of *Resilience*.

To achieve our first goal of faithful representation, we chose to incorporate the overarching themes that were recurrent throughout our research. For example, many refugees have traumatic memories from the violence or destruction that caused them to flee their homes (Skretteberg, 2019; Wells, 2016). The Murians deliver dialogue lines that echo those stories, but they are reframed to reflect the Murian evacuation from the black hole such as: "I've been having a string of nightmares where I never quite make it out of the darkness" and "I still feel close to the people I lost. Even if they're lightyears away." During the harrowing process of fleeing the country, it is common for refugee families to become separated, especially when families can only afford to send half of the family (UNHCR, 2018; UNICEF, 2020). To illustrate this, many of our dialogue lines pertain to topics such as

searching for family members, mourning loved ones, and asking for news about siblings, parents, grandparents, or children.

To fulfill the second dialogue goal of providing each refugee a unique voice that felt humanized, relatable, and real, we designed the dialogue with varied vocabularies, tones, and topics. This creative decision also served to represent refugees' diversity in education, status, and age. For example, some of the dialogue lines provide the player with further insight into the game's galactic setting and lore. The dialogue for children has lines such as "This place is ginormous!" while adults say things like, "I'm intrigued by the strange landscapes here." Refugees are further differentiated through the personality or temperament conveyed by their speech. One refugee can decline to speak to you by saying, "It's been a pretty long day, I could just use some time alone" while another may say, "My my, you're certainly chatty today." The topics of their conversation also reflect the diversity of refugee experiences. They can range from polite greetings and mundane small talk, such as someone saying, "It's so chilly today", to serious reflections about the trauma of their experiences, such as a child saying, "My mother doesn't speak much anymore. It's like she's broken."

However, we recognized that we could not and did not intend to speak for all refugees and their experiences. There were some topics that we avoided deliberately because we did not have the experience to convey them sensitively or because we were concerned that including them would decrease the player's ability to empathize. Some of these themes included the use of smugglers to travel, the impacts of armed conflict and the presence of factions, and the high rates of domestic abuse and sexual assault within refugee settlements (Barberio, 2018; Mansell, 2016; UNHCR, 2018; Wells, 2018). Our aim was not to erase these realities with our narrative—in fact, the entries in our in-game journal addressed many of them—but rather to reconcile the impact of these stories with our primary goal of fostering empathy. For this reason, a majority of refugee stories are focused on concepts that would be familiar to our target audience, such as "I miss the quiet afternoons on our porch" and "Usually, I'd be in class around now." Figure 1 shows more examples of dialogue.

Hope for Resettlement	
"I hope the Resettlement Program got my application. I haven't heard anything back yet…"	"I would like to end up somewhere where it's safe for my siblings."
News and Politics	
"Are you kidding me? I just read that the Celestial Citadel closed its border."	"I remember seeing the refugees from Merridar on the news years ago. Never thought I would be one myself…"
Reminiscence & Restless Thoughts	
"I was just thinking about a family of birds that used to live by my old home…"	"We don't read bedtime stories anymore. All our books were left behind."
"My hometown was pretty large, but everyone knew one another. Here, people barely speak at all.	"The photos on my phone are all I have left of home."
Capturing Voice	
"I'm still struggling to process the amount of Murians that are just… gone."	"Tomorrow can feel so far away sometimes."
"A few of us started a book club. Of course, we don't have many books, but it helps to take our minds off the current situation."	"My biggest concern used to be homework… Now it's getting enough food."
Personal Aspirations	
"I'm hopeful I'll be able to attend university eventually."	"I'm following my parents' footsteps and training to be a teacher one day."

Figure 1. Resilience Dialogue Samples

Reflections

The use of narrative proved to be a powerful tool that enabled us to humanize the Murians through their individual voices, integrate our research into the game world, and create engaging and emotive moments for players to build compassion for refugees. Although our team lacked firsthand experiences, we attempted to address this by pivoting our narrative to a decontextualized science fiction setting that could still reflect the truths from our research. Early on we established the scope of our storytelling—the topics we could and could not speak to, the details we felt were most essential to the objective, and the ways we could supplement stories without appropriation. With our key objectives and design pillars in mind, we continually iterated our writing, dialogue, and lore to present

insight into life within refugee camps without deliberately or inadvertently speaking on behalf of a group to which we did not belong.

During our development process, we organized our narrative and research deadlines to ensure our narrative was established on a solid foundation of research. As we began collecting a diverse catalog of sources, we also derived inspiration for developing the setting and themes of our narrative. That said, successful representation of such research does not necessarily mean constraining the game, narrative, or visual depictions to realism. Where relevant, we took into consideration the advantages and disadvantages our fictionalized narrative provided us. For our purposes, abstraction was a helpful device in converting difficult topics into more approachable themes. We would advise other teams to similarly use abstraction as a tool to avoid reinforcing stereotypes or appropriating sensitive stories. However, designers should take proactive measures to ensure that core ideas are not diluted or distorted to the extent that any original meanings are lost. While details can be altered to adhere to the game's context, it is equally important to preserve the emotional truths and factual accounts of the research that backs them.

AESTHETICS AND GRAPHICS

Mitgutsch and Alvarado (2012) broadly define this pillar of the SGDA to be all of the "audiovisual language" employed in the game's design, including aesthetic characteristics, imagery, style preferences, artistic media, and the computer graphic techniques." In the SGDA, the authors emphasize that because these elements are the first and primary impressions of the game a player will have, these aspects of the design have "a fundamental role in the introduction of the game's purpose and its impact on the player" (p. 126). Our research and the science fiction setting of our narrative were crucial to establishing the visuals of *Resilience*.

Visualizing the Camp

In our research and design discussions with Professor Hoover Green, she identified that one of the biggest struggles with refugee camp management was dealing with settlements built from temporary and cheap materials

like mud bricks or tarps (Khadka, 2019), and equipment that was out of date or broken (Bond, 2018). Given the science fiction overtone of our setting, we opted not to use tarps or mud brick, but instead created materials that still felt like they were cheap, old, modular, mass-produced, and far from that of cutting-edge technology. From the buildings to the rocket ships that refugees arrived on, the equipment was intended to come across as worn and outdated. To further this motif, we chose to adapt a specific type of retrofuturism called cassette futurism (or cassette punk) into the camp's architecture. This style is characterized by taking influence from 70's and 80's product design, with "loud, bright colors and geometric shapes" (Cassette Futurism, n.d.), and silhouettes inspired by devices like microcomputers, film cameras, and of course, cassettes. For example, the design of our 'Hygiene Pods'—modular single-person bathrooms—was inspired by the appearance of disposable film canisters, while the beige paneling of the 'Housing Unit' was drawn from early personal computers. Figure 2 illustrates the Hygiene Pod design.

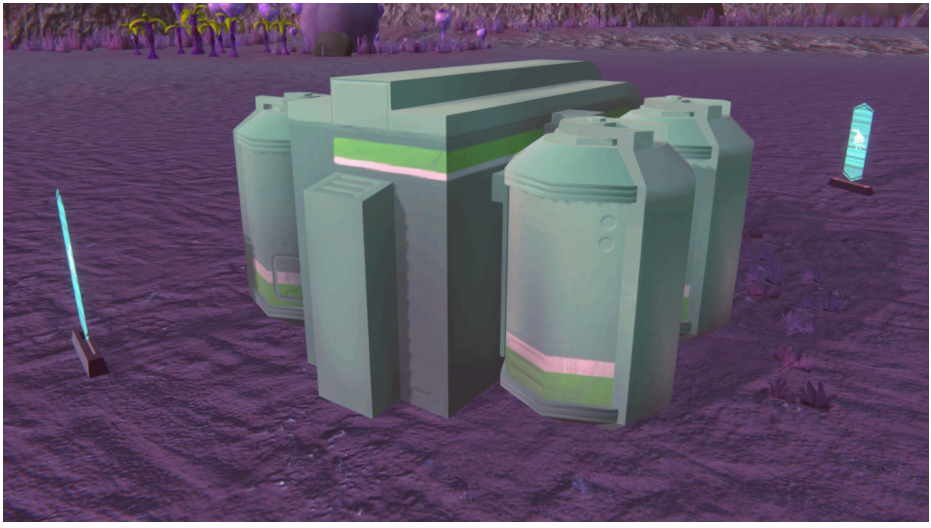

Figure 2: Hygiene Pods

In addition, each building's design incorporated signs of wear and tear: small scuffs, dust, streaks of rust, and scratches. We wanted the player to perceive the camp's technology as futuristic and fitting for a science fiction

universe, but at the same time, recognize that it was also outdated and on the verge of breaking.

Depictions of Refugees

One of the most important artistic choices in *Resilience* was how we chose to portray the refugees themselves. When the game was first pitched to our art team, it was originally going to portray human characters in a fully realistic setting, such as Syria or Myanmar; however, our artists quickly objected. They were uncomfortable with the idea of trying to realistically depict people from cultures that no one on the team was from. Just as with the narrative design, there was genuine concern of misrepresenting important details and being unintentionally offensive—of committing cultural appropriation or perpetuating harmful stereotypes. According to Vasalou et al. (2014), "cultural appropriation occurs when game designers decontextualize cultural history, expressions or artifacts that belong to a culture that is not their own, in turn recontextualizing them into game structures" (p. 267). We considered the three main strategies Vasalou et al. offer to game designers to avoid cultural appropriation in a work: *domesticating*, in which the unfamiliar cultural details are swapped out for more familiar ones; *foreignizing*, in which the unfamiliar cultural details are preserved as best as possible; and *ambiguifying*, in which the cultural details are purposefully obfuscated. We chose to pursue the *ambiguifying* strategy because it best fit our team's skills and our game's goals.

Figure 3: Murian

In *Resilience,* the refugees and camp staff were all part of an extraterrestrial species known as Murians as Figure 3 shows. The humanoid Murians were designed by our art team to appear friendly, emotive, and empathetic, while also having their own distinct identity. The main physical differences that set Murians apart from humans are their elongated digitigrade feet, extra thumbs, thinner and taller frames, extra set of eyes, rounded cat-like ears, and a cat-like nose atop their forehead. The feline inspiration for their features was deliberate as a means to encourage players to empathize with them and care for them. These characteristics were further emphasized in the Murian children, since we wanted their endearing qualities to evoke a strong urge for players to protect them. The Murians also don their own ensemble of ethnic fashion that was collectively synthesized from science fiction works and various garments from around the world. Refugees in *Resilience* wear a combination of fabrics, layers, draperies, patterns, beads, and other ornamentation which hint at their rich culture without directly corresponding to any specific culture on Earth. We believed it was important to depict the Murians with varying articles of clothing to reflect their society (albeit in a culturally ambiguous way) and in reference to the customs, arts, and lifestyles refugees may be forced to leave behind in unfamiliar territories.

Since the Murians are understood to be an ambiguous representation of refugees, we avoid making normative statements about the types of people who are and are not refugees. We did not want to further stereotypes about who refugees are and what they look like, and chose to explore ideas of how anyone, not just the people we typically think of, can become a refugee.

Although it afforded advantages, we must also reflect on the downsides to this portrayal. Dehumanizing refugees is a common tactic for people who are trying to distance themselves from, disparage, or harm refugees and immigrants, such as when they are called “hordes,” “floods,” or “illegal aliens” (Eberl et al., 2018; Motal, 2015; Warnock, 2019). We acknowledge that our depiction of refugees as literal aliens may seem to be reinforcing those ideas, and therefore could be perceived as offensive. We remained aware of this concern during the game’s development, and took steps to try to dissuade a dehumanizing interpretation. First, the player character is also a Murian, a fact that the player is reminded of through dialogue with refugee characters that evokes kinship (e.g., “Hah! For a moment there you looked like someone I know.”). This is further reinforced whenever the player looks down at their own two-thumbed hands. We hoped that having the player be a Murian would break down in-group out-group barriers and help assuage any concerns about “othering” the refugees. In addition, we went to great lengths to make the Murian refugees possess diverse and individualized qualities, so they did not seem like a mass of undifferentiated “others.” During gameplay, refugees are generated with randomized characteristics such as height, build, skin color, clothing styles, clothing colors, and ornamentation were all randomized within presets to ensure every single refugee looked like a unique individual. Finally, as mentioned above, the dialogue also serves to differentiate the refugees and establish them as empathetic figures. However, despite our best efforts to avoid negative interpretations of our alien refugees, in the end it is the player and not the creator who interprets a game’s design. We acknowledge there is still the possibility of misinterpretation or offense due to our design choices.

Reflections

Reflecting on our decision to portray our refugees as ambiguous alien characters brings both the advantages and the downsides into sharp relief. We found the three strategies proposed by Vaslou et al. (2017) for avoiding cultural appropriation—domesticating, foreignizing, or ambiguifying—to be useful as we attempted to portray a culture different from our own. These strategies enabled us to think critically about which solution would best serve the goals of our game and complement our team's talents. We found success leaning on our science fiction setting as an ambiguous, unfamiliar neutral space through which players could refamiliarize themselves with refugee identities; however, we also acknowledge that this portrayal has limitations. As designers, we realized it is always critical to be cognizant of how our choices to abstract identity may not be interpreted in the way we intended by our audiences. Ultimately, whether a project uses realism or abstraction to depict a subject, the highest priority should be to do it in an informed and respectful manner.

MECHANICS

Developing mechanics is one of the most important aspects of serious game design, since it provides an opportunity for commentary that is unique to games. Mitgutsch and Alvarado (2012) define mechanics as the interactive actions afforded to the player, describing them as the "establishment of the rules that define the possibility space for operations in the game world" (p. 124). As denoted by Bogost (2008), these possibility spaces carry their own rhetoric based on what they allow, disallow, reward, or discourage. A designer can offer supporting arguments or sharp criticism of systems present in real life by creating game mechanics that reflect those systems. In doing so, the design can enable the player to manipulate those simplified realities and observe the direct consequences (Bogost, 2008).

Game Genre Selection

One of the key aspects to a serious game's success is ensuring the "verbs of

the game" match closely to the stated goals of the serious game (Mitgutsch & Alvarado, 2012). The goals of *Resilience* were primarily to establish empathy for displaced people, but more specifically, offer commentary about life in refugee settlements and encourage players to take action to improve refugees' lives. We wanted to establish the need for steady non-earmarked funding, provide commentary on overcrowding, and highlight the importance of resettlement as a permanent solution. To accomplish this, we chose to make *Resilience* a city-builder game.

The city-builder genre is characterized by managing a built environment populated by independent non-player characters (NPCs) who demand resources from that environment which the player must manage with limited means (Korppoo, 2015; Plumley, 2018). The player interacts with the game by spending resources to commission the construction of buildings and monitoring the condition of the NPC inhabitants to make sure the built environment is sufficiently meeting their needs. This game loop is described by Korppoo (2015, p. 18):

> The core of the game play is to observe and study the city to find out, via visual clues and/or information overlays and messages, what could use improving, or if there are problems or new opportunities. After observing, the player builds or manages to handle the problem, then again observes if the problem is corrected and what kinds of effects it has on the city.

City-builders inherently encourage trial-and-error gameplay where players are constantly reacting to feedback from the NPCs with the goal of progressively improving their building efforts. These core mechanics were well-suited to the learning objectives we established for *Resilience*. We wanted players to care for refugees and understand the struggles of managing a refugee settlement; therefore, we put them in charge of constructing a camp themselves.

City-builder games have a long history of being used as educational tools within the field of civic engineering (Plumley, 2018). As a result, we knew the genre could foster the type of strategic thought and systems analysis we wanted the players to apply to refugee camp management. Through this lens, the player would feel the burden of an overcrowded camp directly and would also experience relief when they were able to resettle refugees and reduce crowding. The player's main objective is to keep the camp

running for a set amount of time (40 minutes in the main game, or 20 minutes in the demo version), while also providing the camp with sufficient housing, food, water, hygiene facilities, and hospitals. We wanted players to feel the pressure of a tight budget, so the funding the player receives is barely enough to pay for necessities. The player often will have to make decisions between building sufficient housing and having enough water or hygiene facilities. If the refugees' needs for shelter, food, water, and hygiene are not met by the infrastructure, they will fall ill; if they cannot get medicine fast enough, the refugees will die. To keep the focus on the refugees' wellbeing, the player immediately loses the game if more than twelve refugees die. This frames *Resilience* as a struggle for survival, which, unfortunately, reflects the reality of camps with inadequate resources—where treatable diseases like malaria claim the lives of too many (Bond, 2018; Skretteberg, 2019).

Diplomacy and Earmarks

Throughout the game, the player is contacted by characters representing diplomats from other alien nations willing to offer aid. A diplomat can offer the player a choice between a few minor benefits such as small amounts of funds or supplies, and, very rarely, the opportunity to resettle a few refugees. This mechanic reflects the reality faced by aid organizations like the UNHCR in which the funding they are given is not enough to satisfy their budgetary needs and the resettlement opportunities provided meet less than 10% of global refugee need for resettlement (UNHCR, 2019b).

Occasionally, a diplomat also may offer earmarked funds, which is when they put forward some money but only under the condition that the player builds a specific type of building (such as housing) within a specified time frame. If the player fails to meet this condition by the end of the time frame, they must return the money with an added fee. The money provided to the player is almost always insufficient to actually satisfy the requirement; consequently the player is forced to either decline the extra funds, or divert some of their money away from their current building plans and put them toward the diplomat's demands (which may or may not align with their current needs). We introduced this earmarking game mechanic to represent government or private donations that designate

money toward specific people or areas that receive a great deal of news coverage, but neglect lesser known disasters and cause shortages of funds for those "forgotten crises" (UNHCR, 2019a). This is, of course, not an accurate representation of the much more complex accountability and budgetary restrictions that real aid organizations face. Earmarks are usually devoted to specific regions or peoples and failure to meet the earmark is not punished by deducting funds (UNHCR, 2019a). We deliberately chose to abstract our portrayal to evoke the same frustration and helplessness felt by aid organizations unable to freely spend their funding. Our implementation was intended to be more intuitive so players would not get bogged down in the intricacies of international agency budgetary concerns.

Deviations from the Genre

There were some aspects of the city-builder genre that did not fit as well into our desired goals for the game, and we had to go to great lengths to alter our game's design. The largest challenge we grappled with was maintaining a close and empathetic connection between the player and the refugee NPCs. The two most popular city-builder games currently, *SimCity* and *Cities: Skylines*, feature a top-down bird's-eye view of the city that removes the player from being a part of the city; it relegates them to a god-like character in the clouds (Plumley, 2018). From this perspective, the hundreds or even thousands of NPC residents are low-fidelity specs–more like ants that scurry around in the city below. Consequently, the degree to which the player can zoom in and see detailed features is limited, as is their ability to focus on an individual NPC long-term and empathize with them (Plumley, 2018).

To avoid and counteract these depersonalizing effects, we had to alter several mechanics that are hallmarks of the city-builder genre. First, we limited the size of our refugee settlements. The maximum number of refugees in the game is only 500, making *Resilience* small for a city-builder (Plumley, 2018). We wanted the small settlement to still feel overcrowded and unmanageable when the player did not resettle refugees, but at the same time, we did not want so many refugees that the crowd felt like a faceless mass. Second, we changed our camera angle. Instead of making

the default perspective top-down, which would have removed the player from the people they were impacting, *Resilience* was designed to have a default first-person camera mode. We gave the player character a diegetic tablet which uses fictional map software to provide a bird's-eye view for the purposes of building. Whenever the player looks down at their tablet, they see their character's hands gripping the sides of the tablet to remind them of their connection to the rest of the camp, as Figure 4 shows.

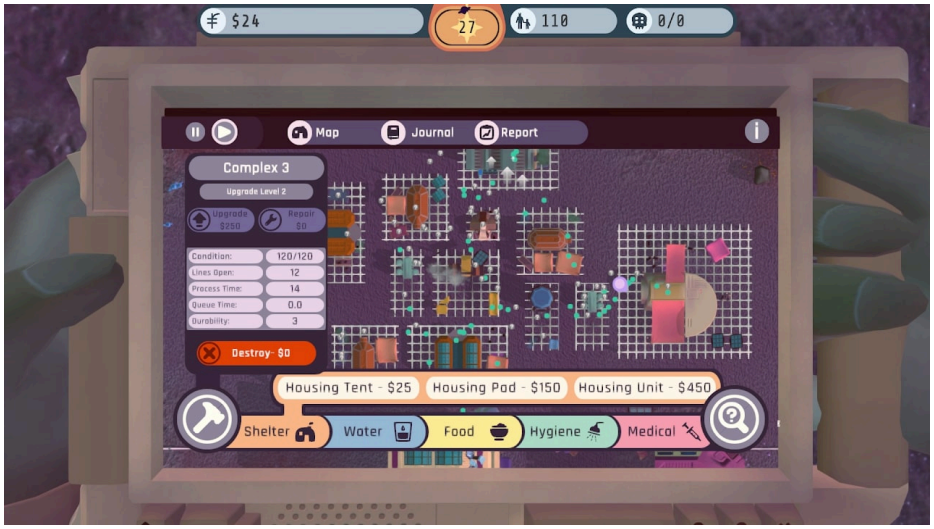

Figure 4. Tablet Map Interface

However, even after making those two changes, we were still concerned that players would spend all of their time in the tablet perspective (depicted above) if we did not actively encourage them to maintain a rapport with the camp's inhabitants. In our final departure from typical city-builder mechanics, we added the information gathering system. By default, in most city-builders, gathering information is a passive process, in which pop-ups, overlays, and heat-maps are always at a player's fingertips and are continuously updated as the city changes (Korppoo, 2015). In *Resilience*, the only information a player immediately receives about the camp is a notification when a refugee dies. Otherwise, the only way the player can obtain updated information is by speaking directly to the refugee NPCs. Upon being spoken to, the refugee will say a short line of dialogue about their own condition and needs; if none of their own needs are pressing,

they will say a line of dialogue reflecting on their thoughts, worries, or aspirations. NPCs will also give an update on the condition of their neighbors. This way, players are encouraged to regularly reach out to refugees but do not need to speak to every individual to gain a complete picture of well-being in the camp. Players also have access to an overview of this information on their tablet, but information disappears if no one in that community has been spoken to in the last few minutes of play. In this way, we ensure players must continue to engage directly with refugees and listen to their opinions and stories to run their camps efficiently and well. This final change, in parallel with the other deviations we made from the typical city-builder genre, was crucial to maintaining empathetic connections between the player and the refugee characters.

Reflections

When designing the mechanics for any serious game, it is vital to ensure that the verbs of the game match the intended goals, per Mitgutsch and Alvarado (2012). Every mechanic and sub-mechanic in the game can be an opportunity to evoke a sentiment or further a learning outcome. By pushing players to engage with systems that are intentionally designed to convey a message, the core ideas of the game are reinforced in an engaging and interactive way. We found it useful to base our game design on an existing genre that best fit our learning goals, thematically and mechanically, however, we also took certain design liberties to avoid solely constraining our game by the conventions of the genre. Breaking these standards deliberately allowed us to push specific ideas further in an effort to create a positive impact. We also made it a priority to ensure that the mechanics were still engaging to the player. Frequent playtesting and iteration were vital to develop engaging and impactful mechanics as well as their optimal presentation.

FRAMING

Framing is the sixth and final core element proposed by Mitgutsch and Alvarado (2012), which they describe as the relationship between the

player and the game, including aspects like the target audience and the game literacy required to play the game.

Game Literacy and Difficulty

Mitgutsch and Alvarado (2012) specifically call attention to framing because they found game literacy, in particular, was "frequently overlooked" (p. 126). In addition, research by Huang and Tettegah (2010) shows that there is a negative relationship between the complexity of a game's systems and the player's ability to form empathetic connections to the game's subject matter. Extrapolating from cognitive load theory, they postulate that the more a player's mental energy is used to analyze and respond to a game's mechanics, the less it can be devoted to empathy (Huang & Tettegah, 2010). Failing to analyze a game through this lens can lead to less effective outcomes if the target audience is too overwhelmed or confused to play the game.

Balancing the player's cognitive load was an area of sharp concern for us throughout the development of *Resilience,* as we wanted our game to target a broad audience; however city-builders are complex games that can be difficult for new players (Plumley, 2018). We wanted *Resilience* to be a challenging game because we did not want to trivialize the difficult job of refugee camp management, but we also wanted the game to be accessible for players of various skill levels. During some of our early playtests, we observed difficulties with game literacy and cognitive load in action. Some players struggled to use the game's controls, while others were so focused on the technical aspects of the game (such as population metrics and building placement) that they failed to connect with the refugees and recognize how the mechanics represented issues in the real world.

Some of the efforts we made to overcome these shortcomings were to simplify, shorten, and thoroughly tutorialize our game experience. As touched upon in the mechanics section, there are many ways *Resilience* is smaller than a typical city-builder. There are fewer NPCs, fewer unique types of buildings to construct, and the game session is shorter overall. Unlike *SimCity* or *Cities: Skylines*, in which game sessions often last hours (Korppoo, 2015), the full game of *Resilience* is limited to 40 minutes. In cases

where complexity was unavoidable, such as the challenge of navigating the game in both a first-person and top-down perspective, we made the game more accessible with our tutorial, which offers inexperienced players a gradual introduction to the game's controls, screens, and mechanics.

CALL TO ACTION

Although the presence or absence of a call to action is not specifically addressed in the SGDA (Mitgutsch & Alvarado, 2012), it is an integral part of the audience experience of a serious game. According to Belman and Flanagan (2010), encouraging a player to feel empathy for the suffering of another without giving them a course of action or an outlet for those emotions is likely to leave them feeling "burned out" and frustrated. That is why the authors' second main principle for creating serious games that evoke empathy is to leave the player with a strong call to action (Belman & Flanagan, 2010).

No matter whether they win or lose *Resilience*, players are greeted with a grounding but encouraging message that reminds them that while real refugee camps all over the world face difficult conditions, they can take actions to try to help. Players are shown a montage of photos of refugees, and given three concrete ways to help: staying informed, donating, and voting. The details on this call-to-action screen came from extensive research and conversations with our project advisor, Professor Hoover Green. We knew our game tackled a heavy subject matter, so we wanted to leave our players with concrete and actionable steps, as well as a feeling of urgency rather than a sense of hopelessness.

Reflections

When designing a serious game, a designer must think long and hard about how the target audience will experience the game. How will they know how to play it? How will they feel as they walk away from it? If a game hopes to succeed at getting across a message, it must be accessible to the target audience, and not so complex that its core message is lost or unclear. Onboarding the player with a tutorial and/or intuitive gameplay systems is also vital to ensure that players are adequately equipped to

engage with the entire experience. It is not necessary to metaphorically hold the player's hand throughout the experience; ideally, the game should take into account the varying skill levels of its players, and be forgiving for those who find the game challenging while rewarding those who excel at the game. In addition, if designers hope to foster empathy for others in difficult situations, it is important to also consider how the player's emotional experience is being framed, and whether the player is left with actionable items, or simply exits the game feeling burnt out or distressed.

CONCLUSION

Developing *Resilience* as our senior project was an immense undertaking and continual learning process from start to finish. Throughout the production, our team was challenged to find creative solutions to technical, ethical, and design problems of all sizes. As we strove to complete the game while preserving our core message and objectives, we aimed to foster thoughtful discussions, recognize our limitations, and play to the strengths of our team and what we learned from our research. This postmortem draws out the lessons we gleaned from building *Resilience*, lessons that emphasize the frameworks and approaches in the field (e.g., Belman & Flanagan, 2010; Mitgutsch & Alvarado, 2012) and expand upon them in this context of designing a game to create empathy for the refugee experience.

Intentional design is of utmost importance and should be considered at every stage of development. To design a serious game intentionally, we recommend the following:

- Early on, ask important questions about the overarching objectives to allow these goals to permeate through the entire game.
- Find experts on the game's topic/s and seek out their feedback throughout development.
- Use a wide variety of sources to ensure diverse perspectives are being considered.
- Recognize the limitations of available research and be prepared

to adapt the game's design in response.

- Make the themes of the game more accessible by using tools such as abstraction. However, take care not to dilute or distort core ideas.
- Pursue steps to avoid cultural appropriation. Especially when abstracting identity, consider possible interpretations of the team's decisions. Tact and respect, especially when dealing with human issues, are the highest priority.
- Match the verbs and core player actions of the game with the team's intended goals. Reinforce these core messages through intentional mechanics. Base the gameplay on an existing genre, but do not be afraid to break the mold to better connect players to content.
- Playtest frequently for game mechanics and learning outcomes.
- Prioritize accessibility for the game's target audience. Do not overcomplicate the core message with complex mechanics. Help players learn the game by building out tutorials.
- Empower players to take real-world action on behalf of the subject of the game by leaving them with a strong call to action.

Lastly, think critically. What worked for *Resilience* may not apply to all other styles of games. By taking care in every aspect of the game design, the team can ensure that the story is being told responsibly and with the greatest impact.

Looking back at what we set out to accomplish with *Resilience* as student designers, and the approaches we took to build and iterate on the game from initial concepts to the final build, our project was not without its share of limits and shortcomings. We would be remiss not to acknowledge that the lack of diverse refugee input and omission of certain themes shaped *Resilience* into a narrower portrayal of the issues we sought to address. There are certainly instances in which our own concerns and reservations permeated into creative decisions and areas where further outreach could have enriched our perspective as designers.

Still, we are proud of the game we were able to create and the individual successes we experienced in our execution. Our team took great efforts to design in response to a sensitive subject matter, interweave an array of research types, and create compelling and empathy-oriented gameplay for players. We hope that our experience developing *Resilience* can be a resource to others interested in approaching the topic of portraying displaced peoples in games (and serious game design as a whole) to craft impactful, respectful, and informed experiences.

REFERENCES

Azevedo, R. T., De Beukelaer, S., Jones, I., Safra, L., & Tsakiris, M. (2019). *When the lens is too wide: The visual dehumanization of refugees and its political consequences.* Humanities and Social Sciences Communications, 8, 1-16. https://doi.org/10.1057/s41599-021-00786-x

Barberio, A. (2018, September 17). *Moria is in a state of emergency | MSF*. Médecins Sans Frontières (MSF) International. https://www.msf.org/moria-state-emergency

Belman, J., & Flanagan, M. (2010). Designing games to foster empathy. *International Journal of Cognitive Technology, 14*(2), 11-21. https://tiltfactor.org/wp-content/uploads2/cog-tech-si-g4g-article-1-belman-and-flanagan-designing-games-to-foster-empathy.pdf

Bogost, I. (2008). The Rhetoric of Video Games. In Katie Salen (Ed.), *The Ecology of Games: Connecting Youth, Games, and Learning, The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning*. The MIT Press, 117-140.

Bond, K. (2018, January 25). Cash-strapped camp hospitals struggle to save lives in Tanzania. *UNHCR*. https://www.unhcr.org/en-us/news/stories/2018/1/5a38dc824/cash-strapped-camp-hospitals-struggle-save-lives-tanzania.html

Cabot, H. (2016). "Refugee voices": Tragedy, ghosts, and the anthropology of not knowing. *Journal of Contemporary Ethnography, 45*(6), 631-644. https://doi.org/10.1177/0891241615625567

Cassette Futurism. (n.d.). TV Tropes. https://tvtropes.org/pmwiki/pmwiki.php/Main/CassetteFuturism.

Jakob-Moritz, E., Meltzer, C.E., Heidenreich, T., Herrero, B., Theorin, N., Lind, F., Berganza, R., Boomgaarden, H.G., Schemer, C., & Strömbäck, J. (2018). The European media discourse on immigration and its effects: A literature review. *Annals of the International Communication Association*, *42*(3), 207-223, https://doi.org/10.1080/23808985.2018.1497452

Farber, M., & Schrier, K. (2017). The Limits and Strengths of Using Digital Games as "Empathy Machines." MGIEP Working Paper Series. https://www.mgiep.unesco.org/article/working-paper-5-the-limits-and-strengths-of-using-digital-games-as-empathy-machines

Gabriel, S.. (2018). How to analyze the potential of digital games for human rights education. *Revista Lusófona de Educação, 41,* 29-43. 10.24140/issn.1645-7250.rle41.02.

Godin, M., & Doná, G. (2016). "Refugee voices," new social media and politics of representation: Young Congolese in the diaspora and beyond. *Refuge: Canada's Journal on Refugees, 32*(1), 60-71. https://doi.org/10.25071/1920-7336.40384

Gomel, E. (2014). *Science fiction, alien encounters, and the ethics of posthumanism: Beyond the golden rule*. Palgrave Macmillan.

Holland, A. (2017). *Grokking gender: Understanding sexual pleasure & empathy in 1960s science fiction* [Thesis, Ohio University]. OhioLINK.

Huang, W. H. D., & Tettegah, S. (2010). Cognitive load and empathy in serious games: A conceptual framework. In R. Van Eck (Ed.), *Gaming and Cognition: Theories and Practice from the Learning Sciences* (pp. 137-150). IGI Global. https://doi.org/10.4018/978-1-61520-717-6.ch006

Jones, W. (2019). Refugee Voices. *World Refugee Council Research Paper Series*, *8*, 1-14. https://www.cigionline.org/publications/refugee-voices.

Kahne, J., Middaugh, E., Evans, C. (2009). The civic potential of video games. *The John D. and Catherine T. MacArthur Foundation Reports on Digital Media*

and Learning. The MIT Press. http://library.oapen.org/handle/20.500.12657/26030

Khadka, N. S. (2019, December 10). Refugees at "increased risk" from extreme weather. *BBC* News. https://www.bbc.com/news/science-environment-50692857

Korppoo, K. (2015). *Designing game analytics for a city-builder game* [Master's thesis, University of Tampere]. Trepo.

Mansell, C.M. (2016 April). *Camp Code*. *Places Journal.* https://doi.org/10.22269/160405

Mitgutsch, K., & Alvarado, N. (2012). Purposeful by design?: A serious game design assessment framework. *Proceedings Of The International Conference On The Foundations Of Digital Games – FDG '12*. 121-128. https://dl.acm.org/doi/10.1145/2282338.2282364

Motal, J. (2015). Dehumanization of refugees in media as a case of moral disengagement. *Ethics & Bioethics (in Central Europe), 5*, 183-196.

MSF. (2019, March 18). *EU-Turkey deal continues cycle of containment and despair* [Press release]. https://www.msf.org/eu-turkey-deal-continues-cycle-containment-and-despair-greece-refugees

Navarro-Remesal V. & Zapata B.P. (2019). First-person refugee games: Ludonarrative strategies for playing the stories of refugees and asylum seekers. In Zagalo N., Veloso A., Costa L., Mealha Ó. (Eds.), *Videogame Sciences and Arts: VJ 2019: Communications in Computer and Information Science* (Vol. 1164). https://doi.org/10.1007/978-3-030-37983-4_1

Plumley, W. (2018). *Playing with people's lives: How city-builder games portray the public and their role in the decision-making process* [Thesis, Ohio State University]. The Ohio State University Knowledge Bank.

Raessens, J. (2015). Playful identity politics: How refugee games affect the player's identity. In Raessens J., Frissen V., Lammes S., De Lange M., & De Mul J. (Eds.), *Playful identities: The ludification of digital media cultures*

(pp. 245-260). Amsterdam University Press. https://doi.org/10.5117/9789089646392

Seyama J. & Nagayama R.S. (2007). The uncanny valley: Effect of realism on the impression of artificial human faces. *Presence: Teleoperators and Virtual Environments, 16*(4), 337-351. https://doi.org/10.1162/pres.16.4.337

Sharritt, M. (2010). Designing game affordances to promote learning and engagement. *International Journal of Cognitive Technology*, *15*(1), 43-57. https://www.situatedresearch.com/download/CogTech14-2-15-1.pdf

Sigona, N. (2014). The politics of refugee voices: representations, narratives, and memories. In E. Fiddian-Qasmiyeh, G. Loescher, K. Long and N. Sigona (Eds.), *The Oxford handbook of refugee and forced migration studies* (pp. 269-82). Oxford. https://doi.org/10.1093/oxfordhb/9780199652433.013.0011.

Skoric, M., & Kwan, G. (2011). Do Facebook and video games promote political participation among youth? *Evidence from Singapore. Jedem – Ejournal Of Edemocracy and Open Government, 3*(1), 70-79. https://doi.org/10.29379/jedem.v3i1.49

Skretteberg, R. (2019, August 25). *Trapped in the world's largest refugee camp.* NRC. https://www.nrc.no/perspectives/2019/trapped-in-the-worlds-largest-refugee-camp/

Sou, G. (2017). Trivial pursuits? Serious (video) games and the media representation of refugees. *Third World Quarterly, 39(3), 510-526*. https://doi.org/10.1080/01436597.2017.1401923

Tagaris, K. (2019, October 1). "Moria is hell": Asylum seekers protest conditions at Greek camp. *Reuters.*https://www.reuters.com/article/us-europe-migrants-greece-lesbos-protest/moria-is-hell-asylum-seekers-protest-conditions-at-greek-camp-idUSKBN1WG3W7

UNHCR. (2018, December). *Desperate journeys*. UNHCR | Desperate journeys. https://www.unhcr.org/desperatejourneys/

UNHCR. (2019a, March 19). *Access to flexible funding is ever more important.*

UNHCR | USA. https://www.unhcr.org/news/stories/2019/3/5c90a57c4/access-flexible-funding-ever-more-important.html

UNHCR. (2019b, June). *UNHCR Global Report 2018*. https://www.unhcr.org/globaltrends2018/

UNICEF, UNHCR, & IOM. (2020, June). *Latest statistics and graphics on refugee and migrant children*. UNICEF. https://www.unicef.org/eca/emergencies/latest-statistics-and-graphics-refugee-and-migrant-children

USA for UNHCR. (2021). *What is a refugee camp? Definition and statistics | USA for UNHCR*. Retrieved April 18, 2021, from https://www.unrefugees.org/refugee-facts/camps/

Vasalou, A., Khaled, R., Gooch, D., & Benton, L. (2014). Problematizing cultural appropriation. *CHI PLAY 2014 – Proceedings of the 2014 Annual Symposium on Computer-Human Interaction in Play,* 267-276. https://doi.org/10.1145/2658537.2658689

Warnock, A. (2019). The dehumanization of immigrants and refugees: A Comparison of dehumanizing rhetoric by all candidates in three U.S. presidential elections. *The Journal of Purdue Undergraduate Research, 9,50-59*. https://doi.org/https://doi.org/10.5703/1288284316932

Wells, R., Steel, Z., Abo-Hilal, M., Hassan, A., & Lawsin, C. (2016). Psychosocial concerns reported by Syrian refugees living in Jordan: Systematic review of unpublished needs assessments. *British Journal of Psychiatry, 209*(2), 99-106. https://doi.org/10.1192/bjp.bp.115.165084

Wilmott, A. C. (2017). The politics of photography: Visual depictions of Syrian refugees in U.K. online media. *Visual Communication Quarterly, 24*(2), 67–82. https://doi.org/10.1080/15551393.2017.1307113

Wolmark, J. (1994). *Aliens and others: Science fiction, feminism and postmodernism*. University of Iowa Press.

Digital Biedermeier

(Self-)care in Animal Crossing: New Horizons

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ABSTRACT

The COVID-19 pandemic and the ensuing periods of social distancing saw the widespread use of digital games as a 'crisis hobby,' providing distraction and comfort during this time of confinement to the home space. Surpassing the notion of the game as an escapist outlet, this article explores how *tend-and-befriend games* like Nintendo's *Animal Crossing* foster well-being and (self-)care among its players, particularly under pandemic conditions. We propose the term *Digital Biedermeier* to theorize the forms of self-care found in and around the interior spaces of these games through the lens of the historic Biedermeier period, a time likewise marked by a new-found focus on domestic spaces and the adherent practices of home-making and decorating. Departing from this notion of a digital retreat, we shed light upon the unique care structure of *Animal Crossing* by mapping the practices carried out within the game to the wider philosophical discourse around care, particularly Arendt's basic human activities of *labor*, *work,* and *action.* In doing so, the article interweaves elements of game analysis with a situated and praxeological approach that takes into account experiences and observations in online player communities.

INTRODUCTION

The COVID-19 pandemic and the associated contact restrictions have

drastically changed our daily lives. As the coronavirus crisis is a time of uncertainty for many people, the recent months saw the development and refinement of various coping strategies designed to alleviate the effects of the 'lockdown triad' of anxiety, loneliness, and boredom. Consequently, digital games have become a popular 'crisis hobby' providing distraction and comfort during this time of social distancing. In the wake of the pandemic, these games are more in demand than ever: a representative study from 2021 shows that half of the German population now uses digital games at least occasionally (Bitkom, 2021). This pandemic has not only affected the proportion of players (from 46% in 2020 to 50% in 2021), but also the duration of play. Since the beginning of the pandemic, playing duration has increased from about five hours per week to 10 hours. Six out of 10 players also state that during the pandemic, games helped them to cope with the situation better. Even the World Health Organization (WHO), which has traditionally viewed computer games and their presumed addictive qualities rather critically, now recommends playing digital games together and promotes social connection with the hashtag *#PlayApartTogether*. Accordingly, video games have been shown to create opportunity for social contact and allow players to at least temporarily push aside COVID-related worries by escaping into mentally stimulating, virtual worlds (Barr & Copeland-Stewart, 2021, p. 14).

The most prominent exponent of this trend is Nintendo's social simulation game *Animal Crossing: New Horizons*, which heavily features domestic practices like furnishing and decorating. *Animal Crossing: New Horizons* garnered considerable media attention as a COVID-related success and "lockdown phenomenon" (Barr & Copeland-Stewart, 2021, p. 7). It has been an integral part of many people's lives since its release in March 2020–eventually becoming both one of the best-selling games of 2020 in the United States and Nintendo's second biggest commercial success on the Switch console (Grubb, 2021).

The collective public and academic discourse on digital games has long revolved around their suspected potential for violence, anti-social behavior, and addiction (Kowert, Festl & Quandt, 2014; Kowert, Griffiths & Oldmeadow, 2012). In recent times, however, a growing body of literature has questioned this deficit-focused view of video games, and there have

been several attempts to position games as tools for self-improvement (e.g., McGonigal, 2015) and self-care (e.g., Halbrook et al., 2019; Kowert, 2020; Taylor et al., 2019). In this research, games increasingly appear as self-help programs that have the "potential to positively impact our psychological well-being" (Kowert, 2020, p. 159). In addition, communication researchers and media psychologists have pointed out for decades that *escapism* is a common motivator for using entertainment media and video games in particular (Reer & Quandt, 2020). The basic notion that games can temporarily increase a person's well-being simply by acting as a distraction from their stress and worries has lately been expanded upon. Instead of merely focusing on the escapist aspect, researchers now increasingly ask *how* and *why* games can support psychological growth and self-care or help in coping with mental health issues (Kowert, 2020; Reer & Quandt, 2020).

In our paper we take an analytical look at the genre of *tend-and-befriend* games; examine how these types of games can foster well-being and (self-) care; and connect them to wider philosophical discourses about care. The games discussed have a strong focus on care, well-being and community, deliver wholesome content, and revolve around low-stress gameplay without a mandatory goal. As opposed to *fight-or-flight* titles, *tend-and-befriend* games usually invite players to take care of both a virtual world and its inhabitants (Code, 2017). We discuss these games based on an analysis of *Animal Crossing: New Horizons* and its teenage player communities. We argue that *tend-and-befriend* games in particular are sought by players in search of salutary effects and comforting messages, i.e., players that tap into video game's potential to "[…] be used for psychological growth, as tools to help cope with depression, anxiety, and stress by fostering persistence, self-care, and resilience" (Kowert, 2020, p. 162).

Uncertainty–and the corollary feeling of living through uncertain times–is not unique to the COVID-19 pandemic. The world seems to be in a state of perpetual crisis since the so-called 'war on terror' and the financial crisis during the 2000s (Rheingold Institute, 2010). From this perspective, the pandemic has only accelerated and exacerbated an ongoing development. The longing for an 'ideal world' that has been taken up in digital games

is not a new phenomenon either. In fact, the various offshoots of the *Harvest Moon/Story of Seasons* series have had players managing their own farms since 1996, and in 2016, the farming role-playing game *Stardew Valley* became a mainstream success. It is therefore long overdue to think of *tend-and-befriend* games as media of (self-)care, whose scenarios and possible courses of action have effects that reach far beyond the escapism usually attributed to the genre.

Acknowledging the interest in digital domestic spaces underpinned by the physical isolation caused by the pandemic, we propose the titular term *Digital Biedermeier* to theorize forms of self-care found within *Animal Crossing* and the wider genre of *tend-and-befriend* games through the lens of the historic Biedermeier epoch, a time marked by practices of home-making and domestic decoration carried out in an effort to distract from and compensate for feelings of uncertainty and loss of control.

While a clear and notable interest for distraction and escape in the face of crises can be observed among players, we will show that it is precisely the move towards the private and domestic which enables them to find ways of help and improvement. After all, their withdrawal from the public is not a lonely endeavor, but one that is shared by large numbers of other players who they are connected with via social media and/or the multiplayer functionality of the game. This means that players can give and receive care and find community in their very escape. The forms of ritual cultural exchange (like practices of mourning) and concerted political activism we found in and around the game point towards real communities emerging from the *Digital Biedermeier*–cultural and political communities which are precarious in the sense that the control over their spaces still lies with the respective companies (e.g., Nintendo).

Figure 1: Collage of Tweets related to the search term pairs "Animal Crossing" & "mental health" and "Animal Crossing" & "care".

We will proceed to build our argument in three steps: First, we specify the relationship between the current pandemic situation and the games we studied by conceptualizing their game worlds as digital interiors akin to the domestic spaces of the Biedermeier epoch and Walter Benjamin's (2002) description of the bourgeois interior. The practices of (self-)care that take place within these interiors are then mapped onto the wider philosophical discourse on care. Here, we focus on Hannah Arendt's (1998) three kinds of human activity in particular: *labor*, *work,* and *action*. After this theoretical discussion, we explore *Animal Crossing: New Horizons* by employing a multimodal research approach that involves both a game analysis component and a netnographic component.

Following the "Playing Research" methodology laid out by Espen Aarseth (2007), our game analysis relies on three main sources of information about *Animal Crossing: New Horizons.* These include textual information provided by players and critics, e.g., in the form of wiki entries and journalistic articles; gameplay footage obtained from streams and pre-recorded *Let's Play* videos; and our own playing experiences. Here, we focus on the aspects of the game–variously theorized as layers (Konzack, 2002, p. 89) or building blocks (Fernández-Vara, 2019, p. 4)–most pertinent to our research interests, i.e., the core gameplay mechanics, the ludic spaces in which the game takes place, and the relationships and communities that develop within and through the game.

To gain insight into the various online communities surrounding *Animal*

Crossing, we relied on the netnographic methodology outlined by Robert V. Kozinets. This participant-observational method is grounded on online fieldwork and "uses computer-mediated communications as a source of data to arrive at the ethnographic understanding and representation of a cultural or communal phenomenon" (Kozinets, 2010, p. 60). We have explored *Animal Crossing* communities on Discord (by participating in the "Animal Crossing: New Horizons"/"acnh" server with over 500.000 members), Reddit (by joining the *subreddit* "r/AnimalCrossing" with 1.6 million members), and Twitter (by observing the #ACNH hashtag). The groups we identified correspond to the netnographic approach as they are relevant, (inter)active, substantial, heterogeneous, and data-rich (Kozinets, 2010, p. 89). From May 2020 to September 2020, we studied social interactions within these communities on a regular basis. In reference to our research topic, we have also specifically searched for keywords like "mental health," "care," "worry," and "anxiety" to find out more about these particular topics in the context of *Animal Crossing*.

Our approach to analyze *Animal Crossing* aims to shed light on the playful practices of labor, work, and political action carried out within and through the game worlds of *tend-and-befriend* games.

ANIMAL CROSSING: NEW HORIZONS

The discussion about "computer games as a balm for the troubled soul" (Moorstedt, 2020) focuses on one title in particular: Nintendo's real-time social simulation game *Animal Crossing: New Horizons,* released in March 2020. The game, which offers a pleasant idyllic counter-design to the uncertain times we are currently living through, went on to sell more than 22 million copies by August of the same year (Nintendo, 2020). In the latest installment of the *Animal Crossing* series, players find themselves on an idyllic deserted island which is cultivated with their help and populated by anthropomorphic animals. Fishing, gardening, woodworking, crafting as well as decorating the virtual home are among the basic activities of the game. By offering attention and gifts, the player can also become friends with their animal neighbors. Threats and disasters do not exist on the virtual island; discord and violence are no means to advance in the game. Instead, *Animal Crossing* encourages caring and aims to achieve

an increase in well-being through meditative gameplay and a generally positive attitude. Values such as gratitude, patience, diligence, care, and solidarity underpin everything that is happening within the diegetic space.

When players first arrive at the island, they are tasked with deweeding the area; this activity is monetarily rewarded, since the weeds can be sold to the local general store. Once the island in *Animal Crossing* has been cleaned up by the player, new weeds to pull out will instantly start to grow. Upon arriving at the island, the player is also forced to take out an in-game loan to pay for their cost of travel and lodging. Since there are several chores and activities that are rewarded with in-game money, paying off a loan in *Animal Crossing* poses no great challenge. Earning money soon becomes a necessity, as resident service representative Tom Nook, a capitalist raccoon, replaces each loan with another (bigger) one in order to pay for continuous upgrades to the player's homestead. The initial tent is soon replaced by a basic house which can subsequently be expanded by adding rooms, basements and upper floors, all of which can be furnished and decorated in a multitude of ways.

Due to this underlying economic structure, *Animal Crossing* has been variously described as a critique of contemporary consumer culture (Bogost, 2007), a "pastoral-capitalist equilibrium of humdrum labor" (Bogost, 2020), and a capitalist dystopia (Rimm, 2020). These accounts point towards a possible tension between the game's capitalist logic and the framework of self-care and well-being outlined above. Consequently, the questions we ask here are: How does the game's promise to provide relief from one's daily life relate to its reproduction of the economic structures which permeate daily life in the first place? How does the game frame its capitalist base structure and how do players engage with it? And how does this impact the way in which practices of care and self-care in *Animal Crossing: New Horizons* play out?

THE DIGITAL INTERIOR

To address these questions that pertain to the separation between work and leisure–or workplace and home, to put it in spatial terms–we turn to the historic example of the Biedermeier period. The term *Biedermeier*

marks a time of relative political stability in central Europe that lasted from the Congress of Vienna at the end of the Napoleonic wars in 1815 until the political upheaval of the German revolutions of 1848-1849. This term is derived from Gottlieb Biedermaier, a fictional character invented by the lawyer and writer Ludwig Eichrodt and the doctor Adolf Kußmaul. This character served to satirize and lampoon the apolitical stance and moral uprightness (German: *Biederkeit*) of a new middle class that the 19th century's rapid urbanization and industrialization had given rise to. This apolitical stance was fueled by the Carlsbad Decrees of 1819, a body of legislation aimed at restricting the (written) freedom of expression, installing censorship of the press, and dissolving political groups like fraternities. Intimidated by these laws, artists looked to benefit from the well-funded clientele of the new urban bourgeoisie who began embellishing their domestic spaces as a means of escape from the bustle of the industrialized world and the increasingly regulated sphere of political and public commitment. Thus, the studies and parlors of the time became home to ornate carpets, drapery, and of course, the eponymous Biedermeier furniture. Typical of the style are clear lines, simplicity, and elegance with a focus on material and texture–features that went on to influence the stylistic developments of the 20th century.

We posit that the ludic activities carried out by players of *tend-and-befriend* games can be seen as refigurations of these practices of home-making introduced during the Biedermeier period, as both are employed in the spirit of compensating for and recuperating from outside stress, i.e., to positively affect one's well-being.

Figure 2: Left: Zimmerbild (chamber painting) of a Biedermeier interior in Berlin (Leopold Zielcke, c. 1825, https://de.wikipedia.org/wiki/Datei:Zimmerbild_83.jpg). Right: Screenshot from Animal Crossing: New Horizons (https://angelbayisland.tumblr.com/post/614415076932370432/acnh-week-2-home-designs)

The miniature worlds cultivated in titles such as *Harvest Moon* or *Animal Crossing* revive the ideals attributed to the historic period of the Biedermeier: an inward focus on the familiar and the tried and tested; the desire to furnish and design that is indispensable for creating a domestic refuge; and, finally, the protection from the outside world guaranteed by the privacy of one's home. This attitude–which can be found in most, if not all, *tend-and-befriend* games–is evidenced in reviews and social media posts (e.g., Geyer, 2020; Kayls, 2021) in which players describe feelings of security and safety that they experience as soon as they enter their virtual sanctuaries. The isolation and narrow spatial boundaries of the digital interiors in question come with the advantage that it takes almost no time for a feeling of familiarity with the environment to set in. By virtue of this quality, they offer a welcome counterpoint to the spatial and medial dissolutions of boundaries that characterize the current pandemic crisis. For neither the events of the pandemic itself nor their portrayals in the media–which seem to gain relevance for one's own affected life via the common reference point of a crisis turned global–manage to penetrate the boundaries of the curated diegetic world.[1]

We can turn to Walter Benjamin's description of the emergence of the

1. In *Animal Crossing*, communication with the other players is reduced to a selection of elementary emotional expressions, gestures, and a limited chat. New content can only be added at the explicit request of the player.

bourgeois interior during the 19th century, to hone in on another pair of once distinct spheres whose diffusion was greatly sped up over the course of the COVID-19 pandemic:

> For the private individual, the place of dwelling is for the first time opposed to the place of work. The former constitutes itself as the interior. Its complement is the office. The private individual, who in the office has to deal with reality, needs the domestic interior to sustain him in his illusions. (Benjamin, 2002, p. 8)

The demarcation between living space and workplace, a boundary that has long been eroded due to the state of perpetual potential availability generated by digital media, is completely dissolved in the wake of the current health crisis. In the form of quarantines, 'home office' and 'home schooling,' the pandemic takes place firstly and foremost within one's own four walls. Consequently, the home becomes the place where "the private individual [...] has to deal with reality" (Benjamin, 1999, p. 8) by carrying out both reproductive labor *and* wage labor.[2] At the same time, the compensatory practices of 'taking control', i.e., of shaping and arranging material objects within one's own physical interior, are visibly shifted to the digital interior–to a place of retreat of the second order, so to speak. Thus, the increasing popularity of *tend-and-befriend* games as digital havens can be explained by the previous, physical spaces of escape being colonized and re-shaped by the recent crises of the capitalist mode of production.[3]

Considering the capitalist logic inscribed into *Animal Crossing*, the dynamic outlined above might seem like an escape 'out of the frying pan into the fire,' so to speak. But the atmospheric consequence of the economic aspects of the game is an impression of *ambivalence* towards capitalism. The fantasy *Animal Crossing* offers in this way is one of 'capitalism with a human face' –or, to be precise, capitalism with the face of a raccoon– which chooses to gloss over the inherent hardships of the system by the

2. Benjamin's original quotation refers to the 'private man' (German: *Privatmann*), eliding the reproductive work that takes place at home. One could argue that the whole dichotomy between domestic space and workplace falls apart when observed from the perspective of (dominantly female) reproductive labor.
3. It should be noted that the retreat cannot succeed completely. As will be shown in the following sections, the game world of *Animal Crossing* is also inherently capitalist to some extent.

omittance of negative consequences, i.e., ludic fail-states. In the world of the game, there are no deadlines, no interest rates attached to paying back one's loans, and no debt collectors to punish the players should they decide not to.

FEAR, ANXIETY, AND CARE

Framing the observed practices as acts of escape and retreat correlates with Martin Heidegger's understanding of care as expressed in the German word *Sorge* that signifies both connotations of care and of worry. In his conception of the term, Heidegger (1962) evokes both dimensions of its meaning while locating *Sorge* as central for the human condition (pp. 235-241). The worry-centered side of the concept is emphasized by preceding trains of thought that start with a discussion of fear (*Furcht*), which Heidegger defines as the perception of being directly threatened by a specific nearby object. He then differentiates anxiety (*Angst*) from fear as a more general sense of unease (Heidegger, 1962, pp. 228-235). This is the basis on which he introduces his concept of care–as primarily motivated by a sense of existential dread and threat. In the second step, care can also be extended to others who are experienced as just as vulnerable. The Heideggerian form of care–the concern about one's own vulnerability, mortality, and finite power–also drives many players of *Animal Crossing* back into their living rooms and in front of their game consoles. This kind of worry is based on a perspective that places a phenomenological subject at its beginning, which then fears for its continued existence as a lonely citizen. Heidegger (1962) famously describes the human condition accordingly as "Being-there as being towards death" (*Dasein als Sein zum Tode*) (pp. 296-299).

The Heideggerian concepts of fear, anxiety, and care have been formerly applied in game studies by Sebastian Möring (2013, pp. 289-294; 2019). Möring posits that many games–from the violent *Battlefield: Bad Company 2* to the cartoonish *Super Mario Brothers,* and even the nonviolent, abstract *Tetris*–exhibit a "fear structure" (Möring, 2019, p. 232) based on the player's basic fear of losing the game and not being able to continue to play (Möring, 2019, pp. 236-242). This fear structure implies a care structure which can be exemplified by games like *SimCity* (Möring, 2019, p. 242). On

one hand, *SimCity* has a fail state: Going bankrupt ends the game, thus providing a threat scenario for the player akin to that of *Tetris* or maybe even *Battlefield*. On the other hand, *SimCity's* central challenge is taking care of a simulated city. Möring even likens this task to tending a garden, offering a direct thematic connection to the subject of our paper (Möring, 2013, p. 223). In contrast, *Animal Crossing* does not have any fail state; it does not even punish the player for the most part. Worst-case scenarios include being the recipient of a bad business deal or being stung by insects and spiders, which can cause the avatar to faint, temporarily disrupting the gameplay flow.

If, following Heidegger, any care is predicated on fear and anxiety, it would be hard to explain how *Animal Crossing* could elicit enough care from players to be played. Looking at the game, players are most often engaged in making the environment nice and pretty, not in protecting it from harm; the future in *Animal Crossing* is not a threat, but a promise. The players care for the virtual environment for improvement, not preservation. It appears we are encountering at least two distinct categories of games here, the first focusing on a more pronounced fear-structure, the second on a more pronounced care-structure. Games have recently been categorized into *fight-or-flight*-oriented gameplay that features more thrilling action, or *tend-and-befriend*-gameplay that is focused on attentive care (Code, 2017)–the latter of which is exemplified by *Animal Crossing*. We do not want to perpetuate the gender-deterministic biologisms and pop-science understanding of hormones that have been invoked in this discourse in order to differentiate between the two[4]–the important differences can be abstracted from the game structures and aesthetics as we have shown above.

THREE KINDS OF HUMAN ACTIVITY: LABOR, WORK, AND ACTION

In trying to re-engage with philosophy on the basis of these observations, one arrives at *The Human Condition*, one of the major works of Hannah Arendt (1998). She posits natality as the central fact of human existence, meaning that every human is born as a newcomer into the world and thus

4. For an elaborate critique, see Stone, 2020, p. 420.

is able to make new beginnings. This concept is explained using Arendt's three kinds of human activity: *labor*, which consists of the reproductive activities concerned with the security of direct survival; *work*, which produces things that stand the test of time; and *action*, which is activity with others in public, meaning free, political action. Arendt describes these activities more specifically and in relation to natality:

> Labor and work, as well as action, are also rooted in natality in so far as they have the task to provide and preserve the world for, to foresee and reckon with, the constant influx of newcomers who are born into the world as strangers. However, of the three, action has the closest connection with the human condition of natality; the new beginning inherent in birth can make itself felt in the world only because the newcomer possesses the capacity of beginning something anew, that is, of acting. In this sense of initiative, an element of action, and therefore of natality, is inherent in all human activities. Moreover, since action is the political activity par excellence, natality, and not mortality, may be the central category of political, as distinguished from metaphysical, thought. (Arendt, 1998, p. 9)

We see here a direct reversal of the centrality of death in Heidegger's thought. Vulnerability thus enters thought primarily as the vulnerability of others–that "constant influx of newcomers who are born into the world as strangers" (Arendt, 1998, p. 9) and have to be welcomed and cared for as such. Here, concern for others is the norm and concern for the self is the abstraction, not the other way around. In these reflections on the conditio humana, the focus shifts from Martin Heidegger's threatened subject to the integration of human beings into communities. From this perspective, a concern for one's own well-being is inseparable from the concern for others.

Similar conceptions of the human condition as a communal one can be found in other contexts as well. In our current situation, it seems fitting that Albert Camus (1997) chooses a city under the influence of a plague epidemic as the setting for his allegorical depiction of solidarity in *The Plague*. In addition, a multitude of poststructuralist theories understand individual subjects as socially produced. In a view like this, the individual subject and their freedom can be seen as a shared achievement, while avoiding sacrificing the importance of subjectivity to the primacy of the group in the process. With this in mind, it is not surprising that players seek

and find comfort in video games that focus on care–be it care for fellow creatures or the virtual environment.

Since they offer comfort in the form of care and have proven to be powerful tools for dealing with negative emotions, *tend-and-befriend* games experienced a boost in popularity in recent years. Multiplayer *tend-and-befriend* games have become digital meeting places where people can not only interact and have fun, but also support (and with that *care for*) each other by mutually fostering their virtual worlds. In *Animal Crossing*, players may visit others to water their flowers or do other chores for them.[5] Likewise, advanced players may invite newcomers to their islands to support them by giving them access to rare items and beneficial opportunities. Examples like these make clear that *tend-and-befriend* games and the comfort they offer are not necessarily an isolationist and escapist venture. Often enough, the digital interior builds the foundation for mutual moments of care and solace. The worry-free and simplistic structure of care we see in these virtual worlds invites us to turn to each other through gameplay–not only to the game's characters and its world, but also to the other players we meet along the way. These fruitful interactions are embedded into peaceful and welcoming environments where players never have to encounter severe obstacles, and where mutual encounters and care are desired and rewarded. As a result, games like *Animal Crossing* emphasize and promote a form of care that the world outside of these game settings and remote virtual islands often lacks.

In the beginning, we indicated that games can be used as 'self-help programs.' After investigating their contents and frameworks, it can be added that the *tend-and-befriend* titles discussed in this paper not only endow personal well-being and encourage self-care, but are also grounded on caring for *others*. In these 'self-help programs,' topics of *labor* and *work* take central thematic roles. In working through these activities and their function, we reference Hannah Arendt's three spheres of human activity as a rough guideline for the structure of the rest of this text. Players of *Animal Crossing* maintain their environment and produce food and shelter, which means they *labor* in accordance with Arendt's terminology. They

5. Interestingly, *Animal Crossing* encourages this mutual care by rewarding task sharing. If a player invites guests to their island to water their flowers, it dramatically increases the chances of unlocking new and rare flower types and colors.

also *work* in that they build their homes, craft furniture, and decorate the surrounding landscape, creating things that endure over time. The game even gives people the possibility to collaboratively fashion messages about how they want to live together, as we will see towards the end of the paper. This completes the three types of activity in Arendt's *Vita Activa* with the ability to *act*, which means to be political. However, since our sources do not always differentiate between *labor* and *work*, we will not use this terminology consistently within the scope of this text.

WORK AND CARE IN DIGITAL GAMES

The games we discuss in this paper give players the opportunity to digitally carry out tasks that most of them do not get to experience in their everyday lives. Allowing players to take a break from our modern and urbanized world, these games emphasize outdoor labor and handicraft: crops are cultivated and harvested in the fields, cows are milked, sheep are sheared, trees are chopped down, and the obtained products are then used for manufacturing and crafting. Consequently, the lumber and stone a player just acquired might be the foundation for their new, virtual home. In this scenario, the players operate as workers that are not alienated from the products of their own labor. Related to modern work, alienation describes two circumstances: the person working is removed from the benefits or goals of their activity under the conditions of wage labor; and the person working is removed from the finished product due to the division of labor. In *Animal Crossing*, this is not the case: all by themselves, players harvest wood from a tree they planted and directly use it to build a cabinet for their own home.

Even when players gift the products of their labor to someone else, they are already in a close personal relationship with them. In addition, they will not only be compensated materially, but will also be rewarded with enthusiastic personal gratitude. Aside from working with and for their virtual environment, *tend-and-befriend* games also encourage players to build and *work on* their relationships with other in-game characters. This is usually achieved through regular conversations, gift offerings (that sometimes have to be crafted beforehand), and errand runs. In doing so, friendship points can be raised until certain friendship goals are met.

In *Animal Crossing*, once the game's characters have reached maximum friendship level, the player's efforts will eventually be rewarded with a rare framed picture of the respective character. While players in *Animal Crossing* have to guess how high their friendship levels are, other titles like *Harvest Moon* visualize them through a 'friendship bar' that is similar to the classical health bar we see in most combat-oriented and survival video games. In *tend-and-befriend* games that possess a focus on dating (e.g., *Harvest Moon, Stardew Valley*), filling the friendship bar through kindness and generosity unlocks cutscenes and can lead to a romantic relationship with the game's marriage candidates. At the same time, ignoring or even mistreating non-player characters is condemned in most *tend-and-befriend* games. In older *Harvest Moon* titles, characters might move away from the virtual world if players do not talk to them. In *Animal Crossing*, villagers disappointedly comment on a player's absence and become upset if players treat them badly.

This shows that work, be it manual labor or working on relationships, is a fundamental ingredient of the player's daily routine in *tend-and-befriend* games. However, this idea which Kim (2014) describes as "game as labor, labor as game" (p. 363) can be found in other genres as well. For example, MMORPGs like *World of Warcraft* have established so-called *grinding*. A player who is *grinding* repeatedly executes certain tasks to level up their character or receive other rewards. Such tasks usually include repetitive battles against the same enemies or recurring quests. While playing video games is often described as an exciting way to escape from everyday life and its associated routines and burdens, dull practices like grinding can affect how players perceive games. For some, a *grindy* gaming session might feel like work, and gaming can become tedious or even boring in the process (Kim, 2014). As Scott Rettberg (2008) writes, "[t]hough playing the game is itself a form of escapism from the demands of life in the real world, it is somewhat paradoxically a kind of escapism into a second professional life, a world of work" (p. 26). In *World of Warcraft*, this "second professional life" is significantly different from the labor players carry out in their everyday lives as it revolves around fantasy settings and heroic (albeit sometimes repetitive) tasks. Games like *Animal Crossing*, on the other hand, take the idea of "game as labor, labor as game" quite literally by asking their players to do mundane, true-to-life chores such as deweeding and

cleaning up their digital environment. However, whether we look at the fantastic task solving in *World of Warcraft* or the true-to-life duties in *Animal Crossing*, the principle in these games is quite similar. Both provide players with feelings of agency and accomplishment that can positively affect their well-being (Barr & Copeland-Stewart, 2021).

When discussing games and their potentially positive effects, researchers often explore which particular mechanics impact players. In this context, the concept of *flow* is often mentioned. The term, coined by psychologist Mihaly Csikszentmihalyi (1990), refers to the experience of "being in the zone" and a "state of optimal experience" (Reer & Quandt, 2020, p. 5). Flow can be achieved through absorbing activities and is not limited to entertainment media or video games (albeit having been extensively researched in this area). The inherent level of difficulty of an activity and the skills of the person who carries it out determine if the state of flow actually unfolds (Reer & Quandt, 2020). To experience flow and to prevent frustration, an optimal match between skill and task should exist so that the latter is neither perceived as too boring nor as too demanding (Klimmt, 2017). As Barr and Copeland-Stewart (2021) argue, games that successfully elicit feelings of flow "are designed to have a positive effect on players' mood, to be enjoyable to play" (p. 10). It is worth asking whether *Animal Crossing* provides a "flow-inducing balance of challenge versus achievement" (Barr & Copeland-Stewart, 2021, p. 10). While flow in gaming is associated with genres like first-person shooters and usually not applied to the more casual *tend-and-befriend* games, tasks like decorating the virtual home or terraforming the island in *Animal Crossing* should not be underestimated. These tasks do require skill and involve a learning curve. Many players even use community guides to learn how certain tasks can be executed and how a perfect outcome can be achieved. Interestingly, flow is often broached by players themselves in regards to *Animal Crossing*'s positive impacts on their well-being and mental health. Here, the term is most likely used colloquially and related to the high levels of absorption and relaxation *Animal Crossing* players experience. However, despite including certain gameplay mechanics and reported effects that could be connected to "flow," it should be noted that Csikszentmihalyi's original theory can be applied to *Animal Crossing* only to a limited extent.

Much like in 'real life,'[6] players are required to complete tasks in *Animal Crossing* repeatedly. As a result, gaming sessions can quickly evolve into a "self-disciplining process" (Kim, 2014, p. 363) that is orchestrated and monitored by the game's bookkeeping systems. *Animal Crossing* does this not only by constantly prompting the players with new chores and cluttering the environment for them to clean up, but also by ranking their virtual world according to its cleanliness. Players with a high work ethic and a tidy island can unlock new content and rewards. This provides them with a sense of achievement and purpose, which, again, can positively affect their well-being. Since *Animal Crossing* runs in real time, the recurring duties turn out to be a quite remarkable Sisyphean task: even when the console is switched-off, gameplay proceeds. In fact, when days or weeks have passed between one *Animal Crossing* session and the next, players are greeted by cockroaches in their virtual house, rampant weeds, and disappointed neighbors. However, what at first glance may seem like a punishment of the player's negligence actually can be construed as the game asking its players for care and attention. While games like *Animal Crossing* demand from their players endless and recurring care work, these games also offer diegetic characters' meaningful appreciation and rewards. Therefore, the players have to be understood as happy laborers in the style of Camus' Sisyphus.

Although taking care of virtual worlds and their inhabitants can be demanding, players take pleasure in tending to the virtual environment, as their efforts are continually praised. Finally, playing games that feel like work may also be considered as a legitimization of play. Despite researchers' efforts to increasingly highlight the positive effects gaming can have, games still have the reputation of being a waste of time (Kowert, 2020; Rettberg, 2008). Through so-called "constructivist gameplay" (Wirman, 2011, p. 223), playing games often goes hand in hand with a feeling of accomplishment which can counter possible remorse. After all,

6. Players often use the term 'real life' to refer to their life outside of a video game and its community. When speaking of 'real life' in this paper, we do not want to imply that players' experiences in the context of video games are less real or meaningful than their non-digital experiences. Following Paul Byron (2021, p. 11) we strongly believe that "we cannot return to a predigital media era, or separate digital from non-digital life" and that "we must adjust our thinking to accommodate how digital media are used by, and are useful to, young people."

if the time spent in the game feels like work, can it be considered wasted time?

Earlier, this paper indicated that most *tend-and-befriend* games, which aim for a cheerful and relaxing experience, avoid heavy topics and lack mandatory goals. While there certainly are long-term tasks like filling the in-game museum in *Animal Crossing* with exhibition pieces or catching all available fish, players always get to choose if they want to pursue a certain objective at all. Unlike other games, *Animal Crossing* does not have a real ending. Even if all base game contents are unlocked, and the secondary plot is finished, an ongoing gameplay loop with recurring tasks and possibilities is available. If players decide to work on a project, there usually is no time limit; *Animal Crossing* lets them experience its contents at their own pace. Furthermore, if something does not go smoothly, there will always be another opportunity to solve it. As Reer and Quandt (2020) state, players enjoy unlocking achievements and going through successful moments in digital games as this lets them experience self-efficacy, which can have a positive effect on their well-being (p. 5). Since there is no 'game over,' and it is basically impossible to fail in most *tend-and-befriend* games, such pleasant moments of success seem to be ever-present. In *Animal Crossing*, there will always be a second chance, and even 'gatekept' in-game content is relatively easy to obtain. For instance, if players did not attend the game's festivals, tournaments, and special event quests, they can catch up on them the next year or simply change the time settings on their Switch console to time-travel to a specific event. While some items are particularly hard to find and strictly time-locked, so that only advanced players might receive them, all eligible *Animal Crossing* content is shared within online communities, too. In this context, in-game content is traded and then exchanged via the game's multiplayer mode. By organizing their own communities and making content available through trading, players get the chance of obtaining even the rarest items and can overcome any kind of in-game barriers together.

Unlike in 'real life,' any kind of problem and challenge in games like *Animal Crossing* can be eventually solved, and even ambitious projects are generally manageable. Building a house, paying off a mortgage or catching the biggest fish might be challenging, but there are no serious obstacles

impeding players from reaching their in-game goals. Once the necessary arrangements have been made, results can immediately be seen in the virtual world. The enjoyment players experience when exerting influence on virtual worlds in video games can be explained through the psychological concept of *effectance* which refers to "the rewarding experience of imposing an effect on the environment" (Klimmt & Hartmann, 2006, p. 137). Interacting with an environment and realizing that our actions make a difference can be a source of positive emotions; and since interacting with and governing the virtual environment is one of the key ingredients of *tend-and-befriend* games, it can be argued that effectance comes into play to a large extent in this genre.

For many players, the control and impact they exert within the virtual world is meaningful as it lets them experience feelings of autonomy, competence, and mastery which can lead to a boost in confidence (Reer & Quandt, 2020, p. 9). While participating in *Animal Crossing* fan communities on Discord, we have seen teenage players discussing that they sometimes feel overwhelmed by their everyday duties and find organizing their 'real life' chores and schoolwork difficult, but at the same time, they can thoughtfully administer their virtual worlds and keep record of their in-game achievements, individual goals and plans.[7] Especially for younger players, playing *tend-and-befriend* games and managing the game's contents can thus serve as both educational as well as entertaining experiences with problem solving, strategic planning, and accounting. Some players even report that they work with elaborate notebooks that often include calculations and sources of revenue, as *tend-and-befriend* games usually have their own currency and a notable focus on earning and spending money. As a result, the player's virtual work and labor is not only rewarded with praise and progress, but also recognized with actual in-game money. With earning money, budgeting, and thinking economically, even more everyday life matters are incorporated into tend-and-befriend games. If

7. Wirman (2011) points out something similar in her research on *The Sims*. Here, a player "wonders why, when baby sleeps and laundry, cleaning etc. is done, she finds it most relaxing to manage virtual Sims households" (p. 198). According to Wirman, "players use *The Sims* for escapism from their stressful everyday lives of being mothers and taking care of the home" – by doing the exact same tasks in a virtual space. However, Wirman states this space offers "both control over the things that are not under their control in real life as well as alternative fantastic and supernatural solutions to issues" (p. 198).

players want to succeed, they will have to follow capitalist logic. An example concerns buying and upgrading the virtual home in *Animal Crossing*. To be able to afford this, a loan has to be taken out. Paying back the loan requires a lot of hard labor–and once the player is finally debt-free, they are encouraged to take out yet another loan to obtain an even bigger house. The cycle thus repeats itself over and over again.

We have shown that *tend-and-befriend* games convey positivity and offer an escape from everyday life. They invite players into idyllic, remote worlds where their well-being is valued and perhaps even boosted. The strong focus on discipline, work, and money does not contradict the peaceful direction of *tend-and-befriend* games as players at all times maintain a feeling of control while managing their virtual worlds; they are usually asked to carry out tasks that are easy to grasp and feasible (Wirman, 2011, p. 198). While the world we live in, especially in times of crisis, can be perceived as confusing and unpredictable, its virtual counterpart is pre-structured by a clear set of rules, routines, and the general game predictability. Players operate within a confined space they can oversee and govern. Challenges and disturbances do emerge in *tend-and-befriend* games, but they are always solvable with ease and thus differ from the serious issues we may face in reality. For instance, if players cannot pay back *Animal Crossing*'s pivotal loan, they will quickly be able to earn the needed in-game money through diligence. If their avatar or other characters get sick, a sip of easily affordable virtual medicine will cure them immediately. In conclusion, *tend-and-befriend* titles can address elements that can trigger anxiety in reality, but transfer them into a simplified "nonaggressive social world" (Grodal, 2003, p. 151). In this virtual safe space, players receive the opportunity to exercise control and are given a sense of accomplishment by overcoming obstacles without ever having to face serious consequences.

The activities outlined above fall into the realm of reproductive labor, the type of activity that characterizes the category of *labor* in the sense that Hannah Arendt uses the term. While being directly related to human mortality and vulnerability outside of games, *tend-and-befriend* games strip *labor* of its existential importance–the game continues with or without the

player's efforts. It is this form of *existential security* that can be called the defining characteristic of labor in these games.

VIRTUAL SALONS AND THE DIGITAL BIEDERMEIER INTERIOR

Practices of care and self-help can be found both in digital games and in the online communities that revolve around them. Players meet on social media and messaging platforms such as Twitter or Discord to interact with others, usually sharing related content like gameplay tips. A common practice of care within these groups is the sharing of knowledge and offering support to others. As "knowledge communities" (Gee & Hayes, 2010, p. 115), they serve as a gathering place both for beginners and experts who participate in a continuous exchange of knowledge. Tools and tutorials are shared among players, and the first steps of interested community newcomers are supported. Besides sharing game-related content and knowledge, players in gaming communities frequently discuss 'off topic' themes that are unrelated to the game itself.

According to Reer and Quandt (2020), clear empirical evidence states that the social environments games offer (whether through mutual gaming experiences in multiplayer mode or through gaming communities) "can have positive social outcomes, which can contribute to players' well-being" (p. 13). Within the *Animal Crossing* community, such positive outcomes are not merely a side effect, but often actively pursued when discussions specifically address players' well-being and the engagement in "digital peer support practices" (Byron, 2021, p. 181). Mutual care and counsel are ever-present, in subtle and indirect ways or straight forward–just like in other online communities as Byron (2021) points out–even though the *Animal Crossing* community was not explicitly established to share forms of peer support. Teenage users might vent about their everyday life, their school or their family, speak about their mental and physical health and ask for advice on topics that matter to them. Other times, care is not received through actively seeking or giving advice, but simply by "feeling seen and heard" (Byron, 2021, p. 174). According to Ryan Kelly (2020), open-minded communities like the *Animal Crossing* one are often perceived as safe spaces where members get to "express their appearance, gender, sexuality, or age that they might be too uncomfortable to do in real life" (p.

91). For teenagers in particular, these communities often are an important source of support that can positively impact other spheres of their lives as well. Interestingly, the reciprocal care that is given and received within communities like the *Animal Crossing* community often is not shared among friends or acquaintances, but among strangers (Byron, 2021, p. 175).

Within gaming communities, advice and care practices are constantly shared, expressed in fan works (e.g., fanart, memes), or transferred into the game. Some players, for instance, introduced death, mourning and remembrance to *Animal Crossing* by adding memories of their beloved ones to their games and even building burial sites for them on their islands (DaRienzo, 2020). Screenshots from the game and further information about the deceased and their relationship to the respective players were then shared within the community; there, the idea was endorsed by other players and more stories were shared. Twitter user Emiface (2020) crafted a seaside memorial for their grandmother in *Animal Crossing*, and writes:

> My grandma passed at the beginning of the month and she didn't have a funeral, grave stone [sic], or memorial [...] She requested there to be nothing big done and just be cremated. But I wanted to make something special for her on my island. She and my grandpa loved going to the beach and had to stop traveling a while ago because they were getting old in age. They would've been married for 65 years this summer. I feel so upset not being able to say goodbye but now I can remember her more everyday.

In the replies, other users mention similar ideas and stories, sharing both grief and coping strategies. To add personal interests and details to their games, many *Animal Crossing* players make use of the game's design tool. With this creative tool, designs can be pixel-painted and then used in a variety of ways, e.g., as patterns for clothing, pathways or pictures to put on the wall of players' virtual houses. The tool also allows them to import images into the game via QR code. As a result, some of the aforementioned players that use *Animal Crossing* to perpetuate memories of their loved ones added pictures of deceased friends or family members to their games. The practices of creating objects that are stable enough to be shared with others and viewed online correspond to Hannah Arendt's (1998) category of *work*. Work creates things that last and give the unstable and mortal lives of humans "stability and solidity" (p. 136) through their creations.

All design tool creations can be uploaded and shared with other players. While most players share decorative designs that do not contain a particular message, others use the design tool to raise awareness for social and political issues. During the global Black Lives Matter protests following the killing of George Floyd in 2020, the Black Lives Matter slogan and activist messages were enthusiastically shared within the *Animal Crossing* community and the game itself. Dressing up their avatars in fitting attire and even preparing protest signs, players then met up in the world of *Animal Crossing* to organize virtual Black Lives Matter marches.

Figure 3: "Black Lives Matter" designs in Animal Crossing (ChocolateQuill, 2020).

While gaming communities primarily revolve around the discussion of video games and the distribution and endorsement of fan work, they can at the same time serve as platforms for political and social discourse. Users presumably join a gaming community to talk about a particular game, but they will likely find contributions about crucial topics such as public policy and social justice while scrolling through the community's posts. In these secluded spaces, teenagers can find like-minded peers, engage in political topics and, as movements like the Black Lives Matter protests in *Animal Crossing* illustrate, perhaps even unite to voice their concerns. Interestingly, the discourses we see in these communities and their repeated collective action affected game developers and publishers as well in the past. As Henry Jenkins (2006) points out, online fan communities can be effective

platforms for consumer activism. Here, "[f]ans can quickly mobilize grassroots efforts to save programs or protest unpopular developments" (pp. 141-142). If enough players come together and combine their forces to protest shortcomings or social injustices in games, it is likely that developers and publishers hear them and take action. We saw this when *Harvest Moon* finally introduced same-sex marriage to the series in 2020 (something players had been demanding for years); when *The Sims* released an update in the same year that added over 100 new skin tones to the game to enable players to create accurate and diverse character models; and when *Animal Crossing* patched new hairstyle options into the game to make the player experience more inclusive.

Beyond calling attention to the characteristics or features a game lacks, players might also critically question the values and ideologies that are expressed through it and add oppositional meanings to the game. *Animal Crossing* players have often scrutinized the game's neoliberal and consumerist bias, appropriating and reinterpreting its contents. This mode of critique epitomizes *Animal Crossing's* conflicting nature: its game world promises refuge from the crises intimately connected to our economic system while simultaneously reproducing said system via its core gameplay. Players lampooning the game's capitalist themes could therefore be understood as exhibiting a desire to keep the private sphere of the game separate from the economic one–a desire which would correspond to the original motivation behind the creation of the bourgeois interior as related by Walter Benjamin. A more optimistic reading would be that it is precisely this mixing of the spheres which allows reflection on the wider economic conditions through the lens of diegetic domestic spaces. Games in this context are not only the settings, but also the tools and objects of criticism. As Bogost (2008) points out: "video games are not just stages that facilitate cultural, social, or political practices; they are also media where cultural values themselves can be represented—for critique, satire, education, or commentary" (p. 119). In this view, all three human activities in accordance with Hannah Arendt are realized in the analyzed game and its communities. Action is the domain where people get together, use language, and recognize each other–the domain where "the political realm rises directly out of acting together, the 'sharing of words and deeds'" (Arendt, 1998, p. 198).

Figure 4: Climate Activism in Animal Crossing (OneZero/NextGen America, 2020).

While the Biedermeier interior was originally associated with reactionist ideas and the petty bourgeoisie's retreat into the private sphere, its digital counterpart employs a similar inward movement to ultimately create wider networks of sociality and care. As the games we have discussed in this paper emphasize bourgeois practices like budgeting, furnishing, and interior decoration, they could be understood as marking a return to the values of the Biedermeier period. But the forms of mutual care we have identified are not regressive or reactionary at all. While players find comfort in the game's wholesome setting and enjoy engaging in tasks that allow them to take a break from the perpetual crises of the 'real world,' they are certainly not longing for a 'better yesterday,' but for a beneficial and considerate way to deal with uncertain present times. The retreat to an interior space, which–due to the networked nature of digital media–now acts as the location and catalyst for communication, critique and political exchange, can be compared with another term dating back to the 17th and 18th centuries: the salon. Made famous by the gatherings of French literates under the auspices of a well-respected hostess, the salon denotes both a certain spatial configuration as well as the social practice connected to it. Framing the social activities described in this text in such a fashion, the Digital Biedermeier interior emerges as a place of exchange, political engagement, and collective knowledge transfer wherein the participants

care about and for their fellow players as well as for their digital and physical surroundings.

REFERENCES

Aarseth, E. (2007). Playing Research: Methodological approaches to game analysis. *Artnodes*, *7*. https://doi.org/10.7238/a.v0i7.763

Arendt, H. (1998). *The human condition*. (M. Canovan, Ed.). University of Chicago Press.

Barr, M. & Copeland-Stewart, A. (2021). Playing video games during the COVID-19 pandemic and effects on players' well-being. *Games and Culture*, 1-18. https://doi.org/10.1177/15554120211017036

Benjamin, W. (2002). *The arcades project*. Harvard University Press.

Bitkom (2021, August 23). *Halb Deutschland spielt Video- oder Computerspiele*. Bitkom, Germany's digital association. https://www.bitkom.org/Presse/Presseinformation/Halb-Deutschland-spielt-Video-oder-Computerspiele

Bogost, I. (2008). The rhetoric of video games. In K. Salen (Ed.), *The Ecology of Games: Connecting Youth, Games, and Learning* (pp. 117-140). The MIT Press.

Bogost, I. (2007). *Persuasive games: The expressive power of videogames*. The MIT Press.

Bogost, I. (2020, April 15). *The quiet revolution of Animal Crossing. The Atlantic* 15 (2020). https://www.theatlantic.com/family/archive/2020/04/animal-crossing-isnt-escapist-its-political/610012/

Byron, P. (2020). *Digital Media, Friendship and Cultures of Care*. Routledge.

Camus, A. (1948). *The plague*. Hamish Hamilton.

ChocolateQuill (2020, May 29). Some images from tonight's

#Blacklivesmatter Animal Crossing pic event [Tweet]. https://twitter.com/ChocolateQuill/status/1266185332686557185

Code, B. (2017, March 8). *Slouching toward relevant video games*. gamesindustry.biz. https://www.gamesindustry.biz/articles/2017-03-08-slouching-toward-relevant-video-games

Csikszentmihályi, M. (1990). *Flow: The psychology of optimal experience*. Harper.

DaRienzo, G. (2020, May 13). *Exploring grief in Animal Crossing: New Horizons*. The Order of the Good Death. http://www.orderofthegooddeath.com/exploring-grief-in-animal-crossing-new-horizons

Emiface (2020, April 27). *My grandma passed at the beginning of the month and she didn't have a funeral, gravestone, or memorial* [Tweet]. https://twitter.com/emiface/status/1254823348372033536

Fernández-Vara, C. (2019). *Introduction to game analysis*. Routledge.

Gee, J. P., & Hayes, E. R. (2010). *Women and Gaming: The Sims and 21st century learning*. Palgrave Macmillan.

Geyer, N. (2020, December 9). *#AnimalCrossing has been a haven of tranquility in this cursed year* [Tweet]. https://twitter.com/nikogeyer/status/1336737538447388673

Grodal, T. (2003). Stories for eye, ear, and muscles: Video games, media, and embodied experiences. In: M. J. P. Wolf & B. Perron (Eds.), *The video game theory reader* (pp. 129-155). Routledge.

Grubb, J. (2021, January 15). *NPD reveals the best-selling games of 2020 in the U.S. VentureBeat.* https://venturebeat.com/2021/01/15/npd-reveals-the-best-selling-games-of-2020-in-the-u-s/

Halbrook, Y. J., O'Donnell, A. T., & Msetfi, R. M. (2019). When and how video games can be good: A review of the positive effects of video games on well-being. *Perspectives on Psychological Science*, *14*(6), 1096-1104. https://doi.org/10.1177/1745691619863807

Heidegger, M. (1962). *Being and time* (J. Macquarrie & E. Robinson, Trans.). Basil Blackwell. (Original work published 1927)

Jenkins, H. (2006). *Convergence culture: Where old and new media collide*. New York University Press.

Kayls (2021, August 1). *Animal crossing is my safe haven <3 #AnimalCrossing #ACNH #NintendoSwitch* [Tweet]. https://twitter.com/kaaayles/status/1421801168942993416

Kelly, R. (2020). Positive psychology and gaming: Strength and resilience 1. In R. Kowert (Ed.), *Video games and well-being* (pp. 77-96). Palgrave Pivot. https://doi.org/10.1007/978-3-030-32770-5_6

Kim, J. (2014). Interactivity, user-generated content and video game: an ethnographic study of Animal Crossing: Wild World. *Continuum*, *28*(3), 357-370.

Klimmt, C. (2017). Self-efficacy: Mediated experiences and expectations of making a difference. In L. Reinecke & M. B. Oliver (Eds.), *The Routledge handbook of media use and well-being* (pp. 157-169). Routledge.

Klimmt, C., & Hartmann, T. (2006). Effectance, self-efficacy, and the motivation to play video games. In P. Vorderer & J. Bryant (Eds.), *Playing video games: Motives, responses, and consequences* (pp. 133-145). Lawrence Erlbaum Associates Publishers.

Konzack, L. (2002). Computer game criticism: A method for computer game analysis. In: F. Mäyrä (Ed.), *Proceedings of computer games and digital cultures conference* (pp. 89-100). Tampere University Press.

Kowert, R. (2020). Concluding comments. In: R. Kowert (Ed.), *Video games and well-being* (pp. 159-164). Palgrave Pivot. https://doi.org/10.1007/978-3-030-32770-5_11

Kowert, R., Festl, R., & Quandt, T. (2014). Unpopular, overweight, and socially inept: Reconsidering the stereotype of online gamers. *Cyberpsychology, Behavior, and Social Networking*, *17*(3), 141-146.

Kowert, R., Griffiths, M., & Oldmeadow, J. A. (2012). Geek or Chic? Emerging

stereotypes of online gamers. *Bulletin of Science, Technology & Society*, *32*(6), 471-479. https://doi.org/10.1177/0270467612469078

Kozinets, R. V. (2010). *Netnography: Doing ethnographic research online*. SAGE Publications.

McGonigal, J. (2015). *SuperBetter: The power of living gamefully*. Penguin.

Möring, S. (2013). *Games and metaphor: A critical analysis of the metaphor discourse in game studies* (ITU-DS No. 103) [Doctoral Dissertation, IT University of Copenhagen]. Retrieved from: http://bit.ly/1Gtcg4k

Möring, S. (2019). Distance and fear: Defining the play space. In E. Aarseth & S. Günzel (Eds.), *Ludotopia. Spaces, places and territories in computer games* (pp. 231-44). Bielefeld: Transcript.

Moorstedt, M. (2020, September 8). *Wo kapitalistische Waschbären das Sagen haben*. Süddeutsche Zeitung. https://www.sueddeutsche.de/digital/animal-crossing-1.5014968

Nintendo (2020, August 6). *Consolidated Financial Highlights*. Nintendo. https://www.nintendo.co.jp/ir/pdf/2020/200806e.pdf

Pearcy, A. (2020, May 28). *'Animal Crossing' Isn't Just a Game. It's a Political Platform*. Medium. https://onezero.medium.com/animal-crossing-isn-t-just-a-game-it-s-a-political-platform-c12a29e7cde

PlayApartTogether (2020, March 29). *Games Industry Unites to Promote World Health Organization Messages Against COVID-19; Launch #PlayApartTogether Campaign*. Medium. https://medium.com/@playaparttogether/games-industry-unites-to-promote-world-health-organization-messages-against-covid-19-launch-bfc6fc611641

Reer, F., & Quandt T. (2020). Digital games and well-being: An overview. In: R. Kowert (Ed.), *Video games and well-being* (pp. 1-21). Palgrave Pivot. https://doi.org/10.1007/978-3-030-32770-5_1

Rettberg, S. (2008). Corporate ideology in World of Warcraft. In H.

Corneliussen & J. Walker Rettberg (Eds.), *Digital culture, play and identity* (pp. 19-38). The MIT Press.

Rimm, H. (2020, May 18). *Animal Crossing May Be A Capitalist Dystopia, But I'm Just Here To Make Friends.* https://www.refinery29.com/en-us/2020/05/9821651/animal-crossing-game-friends-connection

Rheingold, Institut für qualitative Markt- und Medienanalysen (2010). Die Absturz-Panik der Generation Biedermeier. *Rheingold-Jugendstudie 2010*. https://www.phil-fak.uni-duesseldorf.de/fileadmin/Redaktion/Institute/Sozialwissenschaften/BF/Lehre/Materialien/Jugendstudien/Kurzfassung_Rheingoldstudie.pdf

Stone, K. (2020). Designing self-care: Affect and debility in #SELFCARE. In: A. Görgen & S. H. Simond (Eds.), *Krankheit in Digitalen Spielen. Interdisziplinäre Betrachtungen* (pp. 417-432). Bielefeld: transcript.

Taylor, S., Ferguson, C., Peng, F., Schoeneich, M., & Picard, R. W. (2019). Use of in-game rewards to motivate daily self-report compliance: Randomized controlled trial. *Journal of Medical Internet research*, *21*(1). https://www.jmir.org/2019/1/e11683/

Wirman, H. E. (2011). *Playing the Sims 2: Constructing and negotiating woman computer game player identities through the practice of skinning* [Doctoral dissertation, University of the West of England, Bristol]. https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.557152

How Games Give Players "The Feels" (book excerpt)

MATTHEW FARBER

> *The following is an excerpt from Chapter 3 of Gaming SEL: Games as Transformational to Social and Emotional Learning, by Matthew Farber, EdD and appears here courtesy of publisher Peter Lang.*

There is a kind of magic in watching children play *Candy Land*. A classic board game set on a winding path through the Peppermint Forest, the goal is to be the first player to reach King Kandy's Castle. The instructions are straightforward: Flip a card and move your token to the next space that matches that card's color.

During play, children learn the basics of turn-taking, self-regulation, impulsivity control, and goal-setting. The lack of written text and ease of rules means that parental supervision is often unnecessary. Some young players construct stories set in the game's toothsome world.

Although youngsters may revel in the colorful gameboard, *Candy Land* can be tedious for older kids and parents. Moving along a track by matching colors can be maddingly monotonous. Further, *Candy Land* lacks a leveled increase of challenge—it is as easy to play at the Lagoon of Lord Licorice as it is at Princess Frostine's Ice Palace.

Most games challenge players continually. Strategy games like *Chess* become more difficult as players move pieces. *Super Mario Bros.* adds more enemies through game levels. *A Theory of Fun for Game Design* author Raph

Koster was one of the first to identify how level design in games happens to align with the zone of proximal development (Koster, 2005/2014). The zone of proximal development describes where learning is "matched in some manner to the child's developmental level" (Vygotsky, 1978, p. 85). Koster (2005/2014) also wrote that fun ceases for players—and learners—once mastery is attained.

As it happened, *Candy Land* was not designed to bore parents or irritate dentists. Prototyped on butcher block paper in 1949, retired teacher Eleanor Abbott made *Candy Land* while recovering from polio. Back then, polio was an incurable and highly infectious disease that threatened paralysis to anyone who caught it. Abbott saw *Candy Land* as a way to engender freedom to children who were restricted from playing outside (Joy, 2019; Kawash, 2010). Early editions of the game featured an illustration on the box "of a boy with lines on his legs that suggest the leg braces common to victims of the disease" (Kawash, 2010, p. 191).

In the late 1940s, there were few games made expressly for children. Thus, board games became a safe-at-home activity, away from swimming pools and ice cream parlors—public areas where polio was feared to spread (Kawash, 2010). With Abbott's game, children could now play together *without* adults. After she sold the game to Milton Bradley, millions of parents purchased copies for their children. Decades later, the game remains a household staple.

As I write this, history has repeated itself. In early 2020, the COVID-19 pandemic spread. Once again, children and grown-ups were locked indoors. But, while being physically distant, there was no need to be socially distant. To encourage people to play games online or at home while also staying safe, in the spring of 2020, the World Health Organization partnered with more than 40 game publishers to launch the #PlayApartTogether campaign.

We play games together to connect and to feel more human. Before the pandemic, playing games was already a social experience. More than half (55%) of frequent game players reported that games helped them to connect with friends and other people ("Essential Facts," 2018). At the onset of the pandemic, sales skyrocketed: consumers in the United States spent

nearly $11 billion on video games in the first quarter of 2020—a new record ("Record First Quarter," 2020). *The New York Times* quickly dubbed Nintendo's social life simulator *Animal Crossing: New Horizons*, released on March 20, 2020, "the game for the coronavirus moment" (Khan, 2020, para. 1). Sales of jigsaw puzzles and board games—including the perennial classic *Candy Land*—also surged (Miller, 2020).

This chapter moves from King Kandy's Castle to Sleeping Beauty's Castle, where magic is real and imagination is limitless. As it turns out, there are many parallels between emotional experiences in good games and the mental transport afforded when we visit places like Disneyland. But first, let's explore exactly how games evoke "the feels."

AFFORDANCES AND EMOTIONS

Affordances are invitations to interact with physical or digital objects (Norman, 1988, 2013). A handle on a mug affords grasping. Chairs are shaped to invite sitting. Smartphone screens afford tapping, pinching, and swiping.

Our brains form mental models of how we expect objects to behave when we interact with affordances. For instance, as I type on my keyboard, I anticipate that text will appear on my laptop's screen. Expectations are reinforced by feedback: the sound of clicking keys, the appearance of letters and words.

Norman's (1988, 2013) definitions of affordances built on Gibson's (1977, 1979), who more generally considered how objects relate to perception. To Norman, affordances were specific to physical objects embedded with characteristics where users perceive function. For instance, when encountering a light switch, people toggle up or down. Toggling results in feedback that confirms (or denies) the user's mental model (lights go on or off).

Our mental models of affordances can sometimes be false. Norman (2013) shared an example of oven thermometers. Our mental model may assume that temperature in ovens are constant, when, in reality, heating elements

go on and off, restarting when a threshold temperature is met (Norman, 2013).

Some objects do not indicate an interaction's consequence: Does one push or pull a door handle, or toggle a switch up or down? If a lavatory door has a protruding handle that affords pulling, how do we know if it is occupied? Without a clear indication, the only way to find out is through hypothesis and experimenta-tion. Experimenting with affordances of objects in games may be fun, but not with real-world objects like bathroom door handles! Likely, there are no treasure chests of coins to be found in public lavatories. Therefore, *signifiers* may be needed on or near objects to guide use (Norman, 1988, 2013). In bathrooms, signifiers may also be color-coded; when locked by an occupant from the inside, a red "Occupied" sign may appear on the front of the door.

Hartson (2003) described four types of affordances as being dependent on what each accomplishes. First are physical affordances, like door handles and switches that invite pushing or pulling or toggling. Next are cognitive affordances, signs that indicate use, such as push or pull signs. Cognitive affordances are what Norman refers to as signifiers (1988, 2013). Sensory affordances are the third type, affordances that relate to perception. Font is an example, as it can be perceived as readable or legible or too small or poorly contrasted with backgrounds (Hodent, 2017). Finally, are functional affordances, when objects are used differently than how they were designed or intended (Hartson, 2003).

Objects can be designed to afford play. Sicart (2014) wrote, "Masks and disguises, merry-go-rounds, and computer controllers all point to the idea that play is possible in that context" (p. 7). Playgrounds are designed with playful affordances like slides, ropes, and swings. Holding dice affords rolling and throwing. Sometimes we can find play in everyday objects, like cups, rubber bands, and string.

Video games are often designed to provide signals and feedback to players. But sometimes affordances purposefully mislead players (Norman, 2013). This is more of an exception than rule. An example is the video game, *That Dragon, Cancer*, an empathy game about a young child with terminal cancer. In one vignette, the child is in a hospital room crying uncontrollably.

In the room, players see a juice box and a stuffed animal. Interacting with these affordances fails; the child keeps crying. As a result, players feel a sense of hopelessness and despair (Tanz, 2016).

"A false affordance is when people understand a feature in a certain way intuitively, but it is not how it is used," Celia Hodent (2017) explained. Hodent is a cognitive psychology PhD and game user experience (UX) expert. "We want players to understand the affordance correctly because most of the time, we place the challenge elsewhere. But, depending on the game, it can make sense to create false affordances and mislead players by design."

Typically, there is an alignment of the functional affordances of objects in games. However, players can experience things differently than intended (Hartson, 2003; Upton, 2018). "A game may play around with people's perception," Hodent continued. "Or, in horror games, designers may want people to think something is dangerous when it's not so they can later scare them"

Regarding interacting with functional affordances, educational video games have a checkered history. Sometimes derided as chocolate-covered broccoli, in these games, learning is sugar-coated. In a chocolate-covered broccoli math game, players may be required to solve fraction problems before they can cast spells or shoot aliens. Comparatively, in a well-designed fraction game, gameplay may involve slicing blocks into smaller units. In this hypothetical "balanced design" game, player actions are aligned with learning goals—players learn about fractions by making fractions (Groff et al., 2015, p. 5).

"GAME FEEL"

Many video games embed discovery, novelty, and surprise in design to elicit emotions from players (Hodent, 2017). Lootboxes—prize crates that contain secrets—are an example. In video games, opening a lootbox is not like clicking a folder icon to retrieve a Word document file. Playful, these interactions are often pleasant, fun, and satisfying (Hodent, 2017).

Let's look at the lootbox in the massively popular game *Fortnite*. Instead

of crates or treasure chests, players encounter llama piñatas. Yes, llama piñatas. Animated and interactive, their eyes move, gazing at the player's avatar. When the player hits the llama piñatas, there is a colorful reaction, replete with sounds and fanfare.

Celia Hodent helped design *Fortnite* when she worked as director of UX at Epic Games, the game's publisher. "You hit the llama and open it up just like a piñata, which is an interaction," she explained.

> "That emotional interaction is 'game feel.' It is not just the affordance. You see a chest, there is an affordance, and you understand that it opens if you click it. In *Fortnite*, the interaction is more—it's fun and emotional. The llama provides a narrative."

Game feel is the emotion players have when interacting with elements in a game's system, which can deepen the emotional connections players have to the overall experience (Hodent, 2017). There are three core components, or "3 Cs," to *game feel*: control, character, and camera (Hodent, 2017). First, let's discuss control in games. Control is important because it affects how players feel when moving through game environments (Hodent, 2017). In a first-person shooter game-like *Call of Duty*, players become intimately involved with how sensitive thumbsticks are when aiming weapons at enemies. Because of this, players need to sense that they are in control of characters. What happens when players release their finger while an avatar is running? Does that character come to a full stop? When that character jumps, what is the inertia in the animation? Is there leeway for players who make mistakes by consistently jumping too high or running too far? "Some players might overshoot or stop short, which doesn't feel good," Hodent said. "In the AAA industry [big-budget game publishing], there is a lot of work to nail those controls."

The next C is character, which includes avatars that players control, as well as the non-playable, computer-controlled characters (Hodent, 2017). If a character is supposed to be fast, it should look wiry or bouncy, like Sonic the Hedgehog. If a game has a monster, it should look scary, or at least dangerous (Hodent, 2017). *Nightmare: Malaria* is an example of a game with a social message about the need for mosquito netting for malaria prevention. The mosquito in the game is giant and terrifying, signaling

danger to players. *Sea of Solitude* is another game where character design affords attributes to players. Filled with metaphors, a scary sea monster represents the protagonist's overbearing mother.

Design decisions are made when considering how control and character intersect to evoke game feel (Hodent, 2017). The controls in *Sea of Solitude* can feel stiff and constrained, likely symbolizing emotional obstacles the main character can't quite overcome. "A lot of platformers have what we call *coyote time*, where you can run beyond the platform but still be able to press to jump," Hodent said. "You have some space to make mistakes midair after overrunning." ("Coyote time" refers to *Road Runner* cartoon nemesis Wile E. Coyote, who often overran ledges of cliffs and mesas.)

Camera is the third C, describing players' emotions relating to visual perspectives (Hodent, 2017). "In a strategy game, you usually have a top-down camera with a larger view so that you can think about strategy," Hodent explained. "If you want to make a scary game, you might have a first-person camera to restrict field-of-view. All of that is going to have an impact on the way the player feels playing a game."

Chess and *Civilization* have a top-down camera. Many other games utilize a third-person or over-the-shoulder view, where players see their avatars throughout the experience. *Tomb Raider* and *Assassin's Creed* games are examples. By default, the building block game *Minecraft* uses a first-person perspective. *Fortnite* is usually played with a third-person camera. In addition to its shooter gameplay, part of the game's aesthetic appeal is the ability to change avatar costumes, or skins. Skins have a lot to do with player autonomy, which is part of self-determination theory (Ryan & Deci, 2018). "It is meaningful at the player's level to feel autonomy, but also meaningful at the relatedness level because other people see you being cool," Hodent remarked. "It's like fashion. It speaks to what you care about, your ingroup, who you are rooting for in football. Teenagers care a lot about being part of a group, and *Fortnite* offers a space to do that." In *Fortnite*, children "learn to negotiate conflict, become independent, and explore what kind of person they want to be" (Squire & Gaydos, 2018, para. 5).

Dancing is a big part of *Fortnite*'s ecosystem. Hence, dance moves are

in third-person camera, enabling players to see their character floss or breakdance. "If a game has a first-person camera, it would not be as meaningful to have different skins and dance moves," Hodent continued. "All of these elements need to interact with each other."

Games like *Fortnite*, *Overwatch*, and *Minecraft* have "emotes," brief animations—including dance moves, hi-fives, and hand waves—to convey character emotion. In *Super Mario Odyssey*, Mario emotes by spinning and backflipping midair when he jumps (Hodent, 2017). *Animal Crossing: New Horizons* embeds emotes as part of gameplay. As players proceed, they unlock "reactions." Reactions include joy, delight, and surprise, which can be selected when encountering villagers.

Emotes and reactions create bonds between players and games. But when games are in the first-person camera, it can present challenges to game feel. To ameliorate this, some games switch perspective. In *Overwatch*, when an emote plays, "the camera transitions to a third-person view, so you can see yourself being cool," Hodent said. "In *Overwatch*, as well as *Fortnite*, not only can you see yourself being cool, but others see you being cool."

The perspective of the camera is, of course, a primary convention of cinema. In the medium of film, seeing characters on screen creates an invisible line, or "demarcation" (Murray, 2017, p. 147), bordering viewers from the experience. The first video game with a player-controlled camera was *Super Mario 64*. Designer Shigeru Miyamoto proposed that Lakitu, the character who rides a floating cloud, is following Mario, filming him the entire time. In other words, the camera would not be some random point in space; instead, it would mimic an actual camera. "Miyamoto's main point was that the camera was like another character," game designer Scott Rogers told me. Rogers also wrote about the 3 Cs in his book *Level Up: The Guide to Great Video Game Design* (2014). "The conceit was, 'The player won't see Lakitu the entire time, but he is filming you.' To me, that's a wonderful analogy because that is what a cinematic camera does." (I told my son this when he played a re-release of *Super Mario 64*. "When Lakitu appears on screen holding a camera, who is filming him?" he asked.)

Players may be less likely to perspective-take when in the first-person view

as their game and real life identities blur (Darvasi, 2016)—what Gee (2007) calls the *hybrid identity* between player and avatar. To what extent does camera affect our ability to perspective-take? Aïete et al. (2016) designed a task where participants had to decide whether they thought an avatar was holding an object with the right or left hand. "We looked at whether participants could take a third-person perspective and whether they could control their egocentric bias," study co-author Grégoire Borst explained. Borst is a developmental psychology and cognitive neuroscience professor at Paris Descartes University. "We created a specific behavioral paradigm to ask people to go from a front-facing to back-facing avatar. We observed the cognitive costs from going from one to the other."

Findings suggest that player perspective matters. From childhood to adulthood, the ability to perspective-take was, in part, found to be related to the ability to control egocentric biases (Aïete et al., 2016). "We tend to respond from a first-person perspective, but sometimes we need to take a third-person perspective," Borst said. "In other words, you need to control your own biases to understand someone else's emotions."

REFERENCES

Aïte, A., Berthoz, A., Vidal, J., Roell, M., Zaoui, M., Houdé, O., … Borst, G. (2016). Taking a third-person perspective requires inhibitor control: Evidence from a development negative priming study. *Child Development, 87,* 1825-1840.

Darvasi, P. (2016). *Empathy, perspective and complicity: How digital games can support peace education and conflict resolution.* UNESCO MGIEP.

Essential Facts. (2019). Entertainment software association. https://www.theesa.com/resource/2018-essential-facts-about-the-computer-and-video-game-industry/

Gee, J. P. (2007). *What video games have to teach us about learning and literacy.* Palgrave Macmillan.

Gibson, J. J. (1979). *The ecological approach to visual perception.* Houghton Mifflin.

Groff, J., Clarke-Midura, J., Owen, V.E., Rosenheck, L., & Beall, M. (2015). Better learning in games: A balanced design lens for a new generation of learning games [white paper]. *MIT Education Arcade and Learning Games Network. http://education.mit.edu/wp-content/uploads/2018/10/BalancedDesignGuide2015.pdf*

Hartson, H. R. (2003). Cognitive, physical, sensory, and functional affordances in interaction design. *Behaviour & Information Technology, 22*(5), 315-338. Doi: 10.1080/01449290310001592587

Hodent, C. (2017). *The gamer's brain: How Neuroscience and UX can impact video game design.* CRC Press.

Joy, A. B. (2019). Candy Land was invented for polio wards. *The Atlantic.* https://www.theatlantic.com/technology/archive/2019/07/how-polio-inspired-the-creation-of-candy-land/594424/

Kawash, S. (2010) Polio comes home: Pleasure and paralysis in Candy Land. *American Journal of Play, 3*(2), 186-220.

Khan, I. (2020, April 7). Why Animal Crossing is the game for the coronavirus moment. *New York Times.https://www.nytimes.com/2020/04/07/arts/animal-crossing-covid-coronavirus-popularity-millennials.html*

Koster, R. (2014). *A theory of fun for game design (2nd ed*.). O'Reilly Media. (originally published in 2005)

Miller, H. (2020, April 5). Demand for jigsaw puzzles is surging as coronavirus keeps millions of Americans indoors. *CNBC.*https://www.cnbc.com/2020/04/03/coronavirus-sends-demand-for-jigsaw-puzzles-surging.html

Murray, J. H. (2018). *Hamlet on the holodeck: The future of narrative in cyberspace*. MIT Press.

Norman, D. A. (2013). *The design of everyday things* (Rev. and expanded ed.). Basic Books. (Original work published 1988).

Record First Quarter. (2020, May 15). *The NPD Group.* https://www.npd.com/news/press-releases/2020/quarterly-us-consumer-

spend-on-video-game-products-reached-the–highest-total-in-us-history-in-first-quarter-of-2020/

Rogers, S. (2014). *Level up! The guide to great video game design.* Wiley.

Ryan, R. M., & Deci, E. L. (2018). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Press.

Sicart, M. (2014). *Play matters.* MIT Press.

Squire, K., & Gaydos, M. (2018, August 8). No, Fortnite isn't rotting kids' brains. It may even be good for them. *Education Week. https://www.edweek.org/teaching-learning/opinion-no-fortnite-isnt-rotting-kids-brains-it-may-even-be-good-for-them/2018/08*

Tanz, J. (2016, January). A father, a dying son, and the quest to make the most profound videogame ever. *Wired.* https://www.wired.com/2016/01/that-dragon-cancer/

Upton, B. (2018). *Situational game design*. Routledge.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* Harvard University Press.

We the Gamers (book excerpt)

KAREN SCHRIER

> *The following is an excerpt from the Introductory chapter of We the Gamers, by Karen Schrier, PhD, and appears here, courtesy of Oxford University Press. In this excerpt, points of ellipsis (...) indicate omitted text from the original work.*

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GAMES IN THE TIME OF A CORONAVIRUS

The COVID-19 pandemic has upended how we do almost everything—teach, work, play, socialize, connect, give care, and even civically engage. It also upended how the public thinks about games. In 2019, the World Health Organization (WHO) added "gaming disorder" to their list of recognized psychological disorders.3 For years, pundits, parents, and public officials denounced games for a litany of civic problems—such as addiction, gun violence, and more.4

It's surprising what a difference a pandemic can make.

Only one year later, in 2020, media outlets, companies, and social organizations were telling people to stay home and play games, touting playing as if it were an act of good citizenship.5 The #PlayApartTogether movement encouraged players to avoid transmitting the virus (and social isolation) by being together virtually through games. And in March 2020, the WHO reversed their previous anti-games stance and backed the #PlayApartTogether movement. While people have always played games,

and many teachers have been innovatively using games for teaching, the collective stigma around them started to dissipate.6

Moreover, during the pandemic, games were used as virtual civic and social spaces. When people could not be physically together in classrooms, corporate offices, and community centers, teachers and professors held classes through games, colleagues held conferences and meetings through games, friends chatted and interacted through games, and grandparents and grandkids shared time and nonphysical space together through games. People celebrated birthdays and graduations through *Minecraft*, baby showers in *Animal Crossing*: *New Horizons*, and weddings in *World of Warcraft*. Games have always been places where people have connected, engaged, expressed themselves, or healed, but they became *the* place.7

Games also were communities where civic deliberation, public demonstration, and values sharing took place. People did not only go to the streets—they also went to the games. In 2020, members of the US House of Representatives livestreamed their play of the online imposter game *Among Us* on Twitch, with over 400,000 viewers watching. The US President Joe Biden and Vice President Kamala Harris created their own islands in *Animal Crossing: New Horizons* to support their election campaign. Gamers mounted demonstrations, rallies, protests, and debates through *The Sims*, *Grand Theft Auto*, *Fortnite*, and many other games.

Games have always been places where norms and values are negotiated, and they often have their own unique cultures that players need to learn to be able to fully participate.8 But the pandemic helped to ratify this. In the absence of physical civic spaces where ethics and values could be shared, games served as communal spaces where players could navigate the rapidly changing norms of our everyday, public lives. Through games, players were able to think and talk about how we should collectively behave beyond the game, such as whether to wear masks in public. Through games, players could practice these choices before enacting them in the real world. Or, they could enact risky behaviors in the game (like holding social events), which they could not do as safely in the physical world.

There are other ways that people were engaged in gaming during the

pandemic. In-person classes were rapidly transformed to hybrid and virtual configurations. Students participated in more distance learning, online courses, and at-home activities. Simultaneously, educators of all types more frequently assigned and used games to teach. What was once perhaps an in-class bonus or side jaunt became much more central to the curriculum. Games have been used to teach everything from math facts to art history to civic institutions.9 But they have now become more frequently adapted and modified to be used at home, virtually, and from a distance to learn, connect, and share. For instance, iCivics, an organization that creates games to teach about civics and the US government, created a remote learning toolkit to support at-home learning.10

Games themselves also continued to help people to understand and learn about pandemics as well as viruses and their spread.11 *Pandemic* is a board game where players work together playing different roles related to containing a pandemic (e.g., medic, field operative, researcher). The players all play against "the board" to "save humanity" and conquer a viral illness, which rapidly and exponentially jumps from city to city. Leacock, creator of *Pandemic*, wrote that his board game teaches us that the solution to a pandemic is that we all work together "to play to our strengths, balance short-term threats against long-term goals and make sacrifices for the common good. If we can communicate, coordinate and cooperate effectively we might better overcome this uncaring, relentless and frightening opponent."12 Likewise, the games *Plague Inc.* and *Plague Inc.: Evolved* are pathogen simulators, where players intentionally spread a virus or other pathogens such as fungi and bacteria. During the COVID-19 pandemic, the *Plague Inc*. developers created a new version of the game that flips this around. In *Plague Inc.: The Cure*, players instead "try to save the world by controlling the global pandemic response," through mitigating the outbreak, creating a vaccine, and making economic and social policies (see more in chapter 11). Moreover, Lofgren and Feffernan looked at a virtual viral outbreak in the game *World of Warcraft*, which helped them to model epidemiological responses to real-world pandemics. Researchers then used these results to better understand the COVID-19 pandemic.13

Games also served as a form of communication, helping to spread information on the coronavirus, and helping us to understand what we

should do as a society to collectively solve the problem of its proliferation. *The Washington Post* posted simulations of the spread of the virus to help its audience visualize what would happen if we quarantine people or enforce social distancing: Would it flatten the curve?14 Likewise, Ahuja, Huang, Kovach, and Woods created simulations of viral spread, and applied it to college classrooms.15 Salathé and Case created "What Happens Next?," a series of playable simulations about COVID-19 and its possible epidemiological spread.16 Kirby took a narrative approach, and used a Twine game to expose what it would feel like as a college student attending class in person in fall 2020.17 Game players also took collective real-world action, and worked together to try to solve the problem of COVID-19 through games like *Foldit* and *EteRNA*.18

Games have always mattered and do not need to be legitimized, but the pandemic further showed us that games can serve as publics: as places and communities for learning, for connecting, for problem-solving, and for ethical and civic engagement. This book acknowledges and observes all the ways that people are *already* engaging in and learning about civics and ethics through games. It explores *how* educators can make the best use of games for teaching ethics and civics, given their limitations and strengths. It shares strategies and examples of using games in educational settings. It also imagines possibilities for how we might use games to reshape, repair, and remake our world, together.19

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WHAT ARE GAMES?

The world—and humanity—is messy, and that may be why we need games.

First, what is a game? Typically, games are described as having a number of characteristics: goals, and actions that players can take to reach goals, and players, as well as a tacit agreement from players that they are playing a game, where the differential outcomes of that game matter. The definitions and uses of games vary tremendously, however. Games have been labeled as tools, media, experiences, art, and systems. They come in all different genres and styles, shapes, sizes, communities, and platforms. In this book

I discuss augmented reality (AR) games, which are games that integrate virtual gameplay such as virtual objects, clues, or characters, with real-world locations, interactions, and people. I also look at analog (nondigital) games such as card games, board games, and larps (live action role-playing games). I talk about virtual reality (VR) games, in which the whole experience is virtual, the players' entire visual field is virtually generated, and the players are interacting with virtual objects, people, and locations (though some VR games may incorporate players who are not virtually participating). I also investigate digital and online games, which are games that are played using personal computers, mobile devices, game consoles, internet browsers, livestreaming platforms, or other connected devices or platforms.37

These games can come in all different genres, such as adventure, puzzle, first-person shooter, battle royale, or walking simulator. They can involve one person playing by themselves in their home or multiple people playing across many different locations around the world. They may be played only in a specific location, such as Lexington, Massachusetts in the United States or Karachi in Pakistan. Or they might be played anywhere, with any type of object that is available to the players.

Moreover, all different types of games are being played by all different people.38 The latest Entertainment Software Association (ESA) statistics on game-playing explains that 75% of Americans have at least one gamer in their home, and that 57% of parents say they play video games with their kids at least once per week.39 Since the COVID-19 pandemic, game-playing has increased even further. A report from Unity explains that there was a 46% increase in daily active users of PC and consoles and a 17% increase in mobile device use. Mobile game installations increased 84%. Video game spending overall rose 22% from 2019 to 2020.40

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WHAT ARE GAMES FOR CIVICS AND ETHICS?

So what do I mean by games for ethics and civics?

Raphael et al. explain that games for learning civics "help players to

develop knowledge, skills, and dispositions that players then apply to public matters in the world outside the game."52 We could add ethics to this definition and say that these games help to support the knowledge, skills, and dispositions necessary for ethical, public, and societal matters.53

Games that teach ethics and civics can vary tremendously, from acting like the "President of the United States in iCivics' *Executive Command* to understanding what it's like to be the parent of a terminally ill young son in *That Dragon, Cancer*."54 Sometimes a game is the primary part of a classroom lesson, such as deliberating and voting on historic proposals in *VoxPop*, or collaboratively crafting a historical building like the Taj Mahal in *Minecraft*.55 Other times games may be played to support further deliberation, such as using the game *Immigration Nation* to kick off a discussion on immigration, or the digital game *Acceptance* to reflect on gender expression, identity, and belongingness.56 Civics and ethics games could involve playing a simple rhyming game in a preschool or be "as complex as transforming an entire class module into an alternate reality game (ARG), such as Darvasi did to teach *One Flew over the Cuckoo's Nest* for his English literature students."57 These games may aim to make real-world change in one's community, such as *Macon Money* or *Participatory Chinatown*.58 They can also take place in real-world locations, such as *Pokémon Go*, *Time Trek*, or *Jewish Time Jump*.59 They could be raw, unpolished games made in one night by one person (such as Kirby's *September 7, 2020* Twine game), or multimillion dollar games made and updated over the course of many years (such as *Fortnite*, *Overwatch*, or *World of Warcraft*).

There are a number of ways that games can share and express civics and ethics topics and enable the practice of relevant skills:

1. **Real-world knowledge and action.** Games can enhance knowledge of real-world issues and topics; encourage the understanding of real-world concepts, institutions, processes, and policies; and enable real-world action and change. For instance, in Abbott's high school civics course at a public school in North Carolina, she teaches concepts such as the US government's three branches and the Bill of Rights. To provide foundational knowledge she may use the iCivics game *Do I Have a Right?*, in

which players run their own law firm and decide whether to take on a client who may have had a constitutional right violated. Or she may have students learn about real-world concepts like the US Electoral College through games such as *Win the White House*, where players campaign to win a fictional US presidential election ….60

2. **Community and connection.** Games are civic communities. They can help to strengthen social interactions, communication, and a sense of belongingness in a community of learners. They can help people to better understand themselves, their identities, and their roles as members of a society as well as to respect, empathize with, and have compassion for others.61 (Just like all communities, however, they can also do the opposite and foster hate, harassment, bullying, exclusion, and toxicity.) Games like *Animal Crossing: New Horizons* can encourage community among people who are physically distanced from each other. Games may also support an in-class community more deliberately, like in *VoxPop*, where players work together to discuss and negotiate different proposals, views, and values. Moreover, games themselves are forms of human expression and as such can communicate a perspective on humanity, such as *SweetXheart,* which tells of a Black woman's experiences …, or *A Woman Goes to a Private Games Industry Party*, which expresses perspectives on harassment in the game development community.62
3. **Critical thinking and critical inquiry.** Games are ethical systems, and players are moral actors who engage in them. Games can help people practice relevant critical thinking and inquiry skills such as reasoning, decision-making, problem-solving, systems thinking and analysis, interpretation, evaluation, information gathering, and design and creation. They can pose problems and quests or act like morality tales and ethical case studies, where the player can enact part of the story to help them practice making decisions or analyzing outcomes.63 For instance, in *Planet Planners*, a mobile ecology simulation game,64 players practice resource management skills; in *Max*, a board game about helping creatures avoid a hungry kitty, kids learn how to

collaboratively make decisions. The online digital games *Bad News* and *Harmony Square* seek to teach players how to identify disinformation and political manipulation techniques. Games can also serve as arguments about the world by enabling players to interact with systems, such as how we might learn about the oppressiveness of bureaucracy through *Papers, Please* or of systemic bias in *Parable of the Polygons*.65

Games have been and can continue to be used for all different parts of ethics and civics education.66 To further give you a sense of the breadth and variety of the types of games that could be used, here are some brief examples of how games can be included in the classroom, after-school program, home, remote learning environment, or other educational contexts.

- In *Factitious*, a mobile and browser-based game, players decide if an article is "authentic" and based on vetted facts and interviews, or "fake" and based on made-up quotations, misinformation, or satire. Teachers can use the game to foster information literacy skills, such as reading articles, checking sources, and vetting facts.
- The VR game *Along the River of Spacetime* helps to express and communicate Anishinaabeg teachings and cultural practices related to ecology, space, and the environment .... Teachers can use the game to share Indigenous perspectives on land and place.67
- In *Buffalo*, a card game, players need to name characters or people who match combinations of characteristics. There is an orange deck (made up of adjectives) and a blue deck (with nouns). Players flip over one of each and have to come up with any type of figure who matches the two words. The game was designed to help players become more aware of their biases and prejudices.68
- *Quandary*, an online and mobile digital game, invites players to decide the best solutions to problems faced by a new society, Braxos. Players need to solicit input from Braxos citizens, mount arguments, weigh pros and cons, and iterate through choices and

consequences to make the best decisions. Teachers can use this to support ethical decision-making, such as holding an in-class deliberation around the strategies and tactics used in the game. "They can also extend the lessons of *Quandary* to real-life dilemmas suggested by students."

- In *The Migrant Trail*, a browser-based game, players take on the roles of two different sides of an immigration issue. They play as a migrant who is trying to cross the border and escape the border patrol officers. Or they play as a border control agent, who is trying to find the illegal immigrants. Teachers can use this game to show multiple perspectives on an issue, and to help students explore the complexities of representing an issue like immigration through games.69
- Using a series of plastic (about 8 feet by 8 feet) floor games in Indian community workshops, researcher Khanna teaches issues such as electoral literacy or child rights to different audiences.70
- In the VR game *Keep Talking and Nobody Explodes*, players must defuse a virtual bomb. One player has the virtual headset and can see the virtual bomb, along with some tools. The other set of players has a manual but no access to the bomb, and needs to communicate with the VR headset-wearing player to figure out how to defuse the bomb before time runs out. Teachers can use this to support collaboration and dialogue, as well as cooperative problem-solving under pressure.71
- In the short indie digital game *Loneliness*, players move a white square piece toward other squares, and the other squares move away. Though the game is brief, players can discuss how emotion can be evoked by a game, even a game that is abstract and simple.
- In *Mission US*, players take on the role of a fictional adolescent and explore a historic moment, while making decisions for them, going on missions, and completing goals. In the *Mission US: City of Immigrants* module they play as Lena Brodsky, a Jewish immigrant who just arrived in New York City at the turn of the twentieth century.72

- In the online multiplayer game *Among Us*, a group of players needs to figure out who the imposter(s) are and collectively vote to remove them from the game before the imposter(s) eliminate them instead. Students could use this game to practice communication and deliberation, and to reflect on the ethics of deciding which fellow players to eject from the game.
  Time Trek is a series of augmented reality (AR) games played at Harpers Ferry National Historical Park in Harpers Ferry, West Virginia, a US Civil War site .... In these games players explore the physical site while interacting with virtual historic and fictional characters. They learn about personal struggles and stories related to enslavement and emancipation, and meet characters such as Joseph, a free Black person who is helping runaway slaves escape on a ferry he operates.73

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WHAT TO EXPECT

This is a book about games, and it is a book about learning. Yet I am not trying to argue that games *should* be used for educational purposes. Games are not universally bad, nor always good, at teaching ethics and civics. This book is not going to laud games as the panacea, nor is it going to only point out their problems. And just because something is a game does not necessarily make them fun nor functional.

The reality is much more nuanced. Rather, I will question games and consider the circumstances under which they may help us to better engage with, support, and inspire each other. I will cheerlead for games, but I will also problematize them by pointing out their limitations, weaknesses, ethical challenges, and idiosyncrasies.74 I will assert that they are often awkward worlds that embed in them their designers' and players' own biases, prejudices, heuristics, and assumptions. I will help to reveal how games matter.

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NOTES:

(3.) Not totally dissipated, as many people still see the need to limit and confine game-playing rather than seeing it as part and parcel of being human. For more about the WHO decision see, for instance, WHO, *Addictive Behaviours: Gaming Disorder*, *2018,* https://www.who.int/news-room/q-a-detail/addictive-behaviours-gaming-disorder (accessed December 28, 2020) explaining that the classification describes people who make gaming too much of a priority in their lives over other so-called healthier activities—such as real-world socializing and going to school and work.

(4.) See, for instance ADL, July 2019, *Free to Play? Hate, Harassment, and Positive Social Experiences in Online Games*, https://www.adl.org/media/13139/download; ADL, November 2020, *Free to Play? Hate, Harassment, and Positive Social Experiences in Online Games 2020*, https://www.adl.org/free-to-play-2020#results (accessed January 12, 2021). I was a fellow at the ADL but did not work on this particular study. Note, ADL was formerly known as the Anti-Defamation League.

(5.) For instance, Riot CEO Nicolo Laurent said, "Let's stay physically apart—and take other public health steps such as hand hygiene—to help flatten the curve and #PlayApartTogether to help power through this crisis. For Rioters, playing games is more than just a game; it's a meaningful life pursuit. And now, for the billions of players around the world, playing games could help the pursuit of saving lives. Let's beat this COVID-19 boss battle together." See G. Torbet, "The World Health Organization Wants you to Stay Home and Play Video Games," Digital Trends, March 29, 2020, https://www.digitaltrends.com/gaming/who-video-games-playaparttogether/.

(6.) P. Suderman, "The World Health Organization Classified Video Game Addiction as a Disorder. Now It's Telling People to Play Video Games," *Reason Magazine*, March 31, 2020, https://reason.com/2020/03/31/the-world-health-organization-classified-video-game-addiction-as-a-disorder-now-its-telling-people-to-play-video-games/. See also Good Games Podcast, May 18, 2020, https://art19.com/shows/good-game-podcast/

episodes/26c80ab1-ce1a-48be-a3ee-8dbc9f266bea. It's also possible the public will go back to demonizing games once the pandemic is over. Moral panic over screentime during the pandemic has persisted. See, for instance, M. Richtel, "Children's Screen Time Has Soared in the Pandemic, Alarming Parents and Researchers," *New York Times*, January 16, 2021, https://www.nytimes.com/2021/01/16/health/covid-kids-tech-use.html. A moral panic is a feeling of fear spread over the public about a new technology or phenomenon, and its possible corruption or erosion of society, such as widespread fears about how television or games ("screens") may addict and corrupt youth.

(7.) Nintendo, *Animal Crossing: New Horizons*, 2020; Blizzard, *World of Warcraft*, 2004; Mojang Studios/Microsoft, *Minecraft*, 2011.

(8.) Alexandria Ocasio-Cortez and Ilhan Omar participated in this livestreamed event, meaning it was shared and broadcast live for people with internet-enabled computers to watch via a livestreaming platform called Twitch. Joshua Rivera, "AOC Played *Among Us* and Achieved What Most Politicians Fail at: Acting Normal," *The Guardian*, October 22, 2020, https://www.theguardian.com/games/2020/oct/22/alexandria-ocasio-cortez-ilhan-omar-among-us-twitch-stream-aoc; Alaa Elassar, "Joe Biden Has His Own Island on '*Animal Crossing*' Where You Can Learn About His Campaign," CNN, October 18, 2020, https://www.cnn.com/2020/10/18/business/biden-animal-crossing-island-trnd/index.html; Kristina Reymann-Schneider, "How Politicians Use Games for their Own Gains," *DW*, October 19, 2020, https://www.dw.com/en/how-politicians-use-video-games-for-their-own-gains/a-55286753. Gideon Dishon and Yasmin B. Kafai, "Connected Civic Gaming: Rethinking the Role of Video Games in Civic Education," *Interactive Learning Environments* (2019), p. 1–11, DOI: 10.1080/10494820.2019.1704791; M. Sicart, *The Ethics of Computer Games* (Cambridge, MA: MIT Press, 2009); K. Schrier, "Designing and Using Games to Teach Ethics and Ethical Thinking," in *Learning, Education & Games Vol. 1: Curricular and Design Considerations*, ed. K. Schrier (Pittsburgh: ETC Press, 2014), p. 143–160.

(9.) See, for instance, the Learning, Education & Games book series: Schrier, *Learning, Education & Games Vol. 1*; Schrier (ed.), *Learning, Education & Games Vol. 2: Bringing Games into Educational Contexts* (Pittsburgh: ETC

Press, 2016); and Schrier (ed.), *Learning, Education & Games Vol. 3: 100 Games to Use in the Classroom and Beyond* (Pittsburgh: ETC Press, 2019). For instance, the educational game *Quandary* almost doubled in usage in 2020 than over the same period in 2019, according to information shared during a meeting with Shannon Meneses and the *Quandary* team. Specifically, in December 2019 to December 2020, the number of users increased by 77% and gameplays increased by 17%.

(10.) iCivics, Toolkit, Spring 2020, https://www.icivics.org/toolkit?gclid=EAIaIQobChMItby0p-HK6QIVJYFaBR0EzAPFEAAYASADEgKSpPD_BwE.

(11.) Games such as *Plague Inc*. (a virus simulator) and *Pandemic* (a cooperative board game) skyrocketed in downloads and sales. See for instance Leslie Katz, "Coronavirus Leads to Sales Spike of *Plague Inc.*, a Game about Pandemics," CNET, January 25, 2020, https://www.cnet.com/news/coronavirus-leads-to-sales-spike-of-plague-inc-a-game-about-pandemics/.

(12.) M. Leacock, "No Single Player Can Win This Board Game: It's Called *Pandemic*," *New York Times*, March 25, 2020, https://www.nytimes.com/2020/03/25/opinion/pandemic-game-covid.html. As another example, the Tiltfactor Lab created *Pox: Save the People* (https://tiltfactor.org/game/pox/) and *ZombiePox* (https://tiltfactor.org/game/zombiepox/) to help stop the spread of disease. See also K. Andersen and M. May, "Playing Against the Virus," *The World*, March 8, 2013, https://www.pri.org/stories/2013-03-08/playing-against-virus

(13.) Players can change parameters to spur the pathogen on more rapidly. They are in development for a new version of the game where players play as the medical professionals and aim to contain a virus like Sars-CoV-2. See more at Ndemic Creations, *Plague Inc*., https://www.ndemiccreations.com/en/ (accessed June 10, 2020). See also Ndemic Creations, *Plague Inc.: The Cure*, https://www.ndemiccreations.com/en/news/184-plague-inc-the-cure-is-out-now-for-ios-and-android (accessed November 11, 2020); E. Lofgren and N. Feffernan, "The Untapped Potential of Virtual Game Worlds to Shed Light on Real World Epidemics," *The Lancet*, 7(no. 9), 2007: 625–629; J. Elker, "*World of Warcraft* Experienced a Pandemic in 2005, Which May Help

Coronavirus Researchers," *Seattle Times*, April 10, 2020, https://www.seattletimes.com/business/technology/world-of-warcraft-experienced-a-pandemic-in-2005-which-may-help-coronavirus-researchers/—about when *World of Warcraft* accidentally unleashed the Corrupted Blood plague.

(14.) H. Stevens, "Why Outbreaks Like Coronavirus Spread Exponentially and How to 'Flatten the Curve,'" *Washington Post*, March 14, 2020, https://www.washingtonpost.com/graphics/2020/world/corona-simulator/.

(15.) R. Ahuja, C. Huang, S. Kovach, and L. Woods, "Modeling the Spread of COVID-19 in UCLA Classrooms," May 12, 2020, https://stack.dailybruin.com/2020/05/12/covid-model/.

(16.) Marcel Salathe and Nicky Case, "'What Happens Next?' COVID-19 Futures, Explained with Playable Simulations," NCase, https://ncase.me/covid-19/ (accessed November 12, 2020).

(17.) Cait S. Kirby, September 7, 2020, https://caitkirby.com/downloads/Fall2020.html. There is also a version about faculty perspectives, which can be found at Cait S. Kirby, October 1, 2020, https://caitkirby.com/downloads/October1st2020.html. The games were created in the summer of 2020, a few months prior to campuses reopening. When speaking to my students about the first game on September 9, 2020, they said the game was even more intense than what they are experiencing in person at a residential college in the northeast of the United States, but that it shared a perspective on what it was like if you are having underlying health conditions as a student, and in a more regimented residential situation.

(18.) UW Game Center, *Foldit*, https://fold.it/ (accessed June 10, 2020). In *Foldit*, players and computer work together to solve real-world "protein" puzzles. Human beings help manipulate 3-D versions of proteins to try to give a computer the algorithm or steps to being able to understand the structures of real protein. See also Carnegie Mellon University, *EteRNA*, https://eternagame.org/ (accessed June 10, 2020). In *EteRNA*, players develop new possible RNA protein molecules to solve real-world problems. See more about *EteRNA* in chapter 5. See more about both games in K.

Schrier, *Knowledge Games: How Playing Games Can Solve Problems, Create Insight, and Make Change* (Baltimore: Johns Hopkins University Press, 2016).

(19.) This refers all types of analog and digital games, including virtual reality (VR) and augmented reality (AR) games. Games are yet another way to help support the practice of essential skills related to ethics and civics, in addition to (but not replacing) other instructional experiences such as lectures, case studies, books, films, worksheets, expository writing, debate, field trips, or maps. However, games are not simply analogous to a worksheet or a book; and they are more than a standalone tool.

(37.) J. Juul, *Half Real: Video Games between Real Rules and Fictional Worlds* (Cambridge, MA: MIT Press, 2005), pp. 13. Jesper Juul defines games as having a "rule-based formal system; with variable and quantifiable outcomes; where different outcomes are assigned different values; where the player exerts effort in order to influence the outcome; the player feels emotionally attached to the outcome; and the consequences of the activity are optional and negotiable." However, I tell my students that we can read, accept, and even embody a definition of a game, but as soon as we define games we should be seeking ways to push on the boundaries of that definition, such as by finding examples that defy the definition, and inventing new forms that subvert it. See more about the contours of what counts as a game in M. Consalvo and C. Paul, *Real Games* (Cambridge, MA: MIT Press, 2019).

(38.) What is deemed a real game and who is deemed a real gamer is also needing clarification and affects our identity as a game player or the identification as something as a game. See more about this in Consalvo and Paul, *Real Games*. Real-world interactive games are ones where participants interact with each other in shared physical environments, though they could be adapted for a remote learning environment. In digital games, most of the game play happens in a digital or virtual environment, where the goals, obstacles, and rewards are embedded in that environment. Online games enable some type of connectivity, such as among devices and players. A battle royale game is a multiplayer game where players compete to be the "last person standing," after surviving various obstacles—and each other.

(39.) Entertainment Software Association (ESA), *Essential Facts About the Games Industry*, May 2019, https://www.theesa.com/wp-content/uploads/2019/05/ESA_Essential_facts_2019_final.pdf. Also, only 21% of all gamers are under 18 years old.

(40.) See for instance B. Francis, "Unity Report Shows Massive Spike in Video Game Business Due to COVID-19," *Gamasutra*, June 10, 2020, https://www.gamasutra.com/view/news/364543/Unity_report_shows_massive_spike_in_video_game_business_due_to_COVID19.php?elq_mid=97698&elq_cid=12458567. See also, M. Hume, M. Klimentov, E. Favis, G. Park, and T. Amenabar, "The Biggest Questions Facing the Gaming World in 2021," *The Washington Post*, December 30, 2020, https://www.washingtonpost.com/video-games/2020/12/30/2021-video-game-outlook/.

(52.) C. Raphael, C. Bachen, K. M. Lynn, J. Baldwin-Philippi, and K. A. McKee, "Games for Civic Learning: A Conceptual Framework and Agenda for Research and Design," *Games and Culture* 5, no. 2 (2010): 199–235. Cited in Dishon and Kafai, "Connected Civic Gaming."

(53.) Likewise, S. S. Adams and J. Holden call this "civic engagement gameplay as play that is based upon civic content such as politics, economics, and society; play that encourages democratically oriented skills such as communication, negotiation, and problem-solving; play that fosters responsibility to cocreate the game; and play that provides advocacy opportunities." Sharman Siebenthal Adams and Jeremiah Holden, "Games Ethics and Engagement: Potential Consequences of Civic-Minded Game Design and Gameplay," in *Designing Games for Ethics: Models, Techniques and Frameworks*, ed. K. Schrier and D. Gibson (Hershey, PA: IGI Global, 2011).

(54.) Schrier, "Guiding Questions for Game-Based Learning," p. 3.

(55.) C. Weitze, "*Minecraft* with Second Graders," in Schrier, *Learning, Education, & Games Vol. 2*; "Gigantic Mechanic," *VoxPop*, https://www.voxpop.io/ (accessed November 11, 2020).

(56.) K. Schrier, "Introduction," in *Learning, Education, & Games Vol*. 2. See more at, Laura Kate Dale, *Acceptance*, 2015, https://laurakindie.itch.io/

acceptance-jam-for-leelah-entry. This game may not be appropriate for younger students due to content about sexual assault and other forms of violence. See more at, M. Evans, "A Video Game Showed Me Who I Really Am," Polygon, April, 12, 2019, https://www.polygon.com/2019/4/12/18306040/acceptance-game-identity-gender

(57.) Schrier, "Guiding Questions for Game-Based Learning," p. 3, citing P. Darvasi, "Gone Home as an English Text," in Schrier, *Learning, Education, & Games Vol.* 1.

(58.) See work by B. Stokes, *Locally Played* (Cambridge, MA: MIT Press, 2020) and S. Schirra, "Playing for Impact: The Design of Civic Games for Community Engagement and Social Action," S.M. thesis, Massachusetts Institute of Technology, 2013.

(59.) See more about each of these in Schrier, *Learning, Education & Games Vol*. *3*.

(60.) Schrier, "Guiding Questions for Game-Based Learning"; Valencia Abbott, personal interview, Spring 2019.

(61.) Dishon and Kafai, "Connected Civic Gaming"; M. Ito, K. Gutiérrez, S. Livingstone, B. Penuel, J. Rhodes, K. Salen, J. Schor, J. Sefton-Green, and S. Craig Watkins, *Connected Learning: An Agenda for Research and Design* (Irvine, CA: Digital Media and Learning Research Hub, 2019); M. Ito, E. Soep, N. Kliger-Vilenchik, S. Shresthova, L. Gamber-Thompson, and A. Zimmerman, "Learning Connected Civics: Narratives, Practices, and Infrastructures," *Curriculum Inquiry* 45 (2015): 10–29.

(62.) R. Carbo-Mascarell, *A Woman Goes to a Private Games Industry Party*, https://moreelen.itch.io/a-woman-goes-to-a-private-games-industry-party; C. Small, *SweetXHeart*, http://www.gamesforchange.org/game/sweetxheart/; see also games by P. Pedericini and J. Stiles, Mollendustria, such as, P. Pedericini, *Everyday the Same Dream*, https://www.molleindustria.org/everydaythesamedream/everydaythesamedream.html, or Porpentine, such as *Howling Dogs*, http://slimedaughter.com/games/twine/howlingdogs/.

(63.) K. Schrier, "EPIC: A Framework for Using Video Games for Ethics

Education," *Journal of Moral Education* 44, no. 4 (2015): 393–424; Schrier, "Guiding Questions for Game-Based Learning"; and *Learning, Education, & Games Vol. 1*.

(64.) *Planet Planners*, http://www.lauravila.com/planet-planners. See more about ethical decision-making in games from: M. Sicart, *The Ethics of Computer Games* (Cambridge, MA: MIT Press, 2009); K. Schrier, "Designing and Using Games to Teach Ethics and Ethical Thinking," in *Learning, Education & Games Vol. 1: Curricular and Design Considerations*, ed. K. Schrier (Pittsburgh, PA: ETC Press, 2014). M. Sicart, *Beyond Choices: The Design of Ethical Gameplay* (Cambridge, MA: MIT Press, 2013); K. Schrier and D. Gibson, eds., *Designing Games for Ethics: Models, Techniques, Frameworks* (Hershey, PA: IGI Global, 2010); K. Schrier and D. Gibson, eds., *Ethics and Game Design: Teaching Values through Play* (Hershey, PA: IGI Global, 2010); M. Flanagan and H. Nissenbaum, *Values at Play* (Cambridge, MA: MIT Press, 2014).

(65.) *Max*, https://www.amazon.com/Family-Pastimes-Max-Co-operative-Game/dp/B00000IUFD; *Bad News*, https://www.getbadnews.com/#intro; *Harmony Square*, https://www.harmonysquare.game/en/play; *Papers, Please*, https://papersplea.se/; *Parable of the Polygons*, https://ncase.me/polygons/.

(66.) This includes commercial, popular, and mainstream digital games, as well as short, in-person analog games. It includes below-the-radar indie games, student-designed games, and card games, as well as mobile, virtual reality, and augmented reality games. See more about the breadth of gaming and labeling games in M. Consalvo and C. Paul, *Real Games*. Also, as Dishon and Kafai explain, these categories are not dichotomous, but are useful for understanding the different ways games and play can contribute to our understanding of civics: "First, in light of the emphasis on the development of civic practices through youth's interest-driven pursuits, we distinguish between (i) games that enable players to learn about the civic sphere, focusing on civic knowledge, and (ii) games that aspire to facilitate opportunities for interactions simulative of civic participation. Second, we identify the relationship between the game context and civic ones, distinguishing between (i) games that focus on the development of players' reflection concerning civic issues, and (ii) those that strive to offer more

concrete connections to the civic sphere. Importantly, rather than strict dichotomies, these distinctions are laid out in order to offer useful categories that tease out the diverse contributions video games can offer to civic education." Dishon and Kafai, "Connected Civic Gaming." See also Schrier, *Knowledge Games* and Schirra, "Playing for Impact."

(67.) An Indigenous people in what is now Canada and the United States. For more about the games listed: Elizabeth LaPensée (Design and Art), Exquisite Ghost (Music and Sound), in *Along the River of Spacetime*, https://www.spacetimeriver.com/ (accessed on November 12, 2020); American University Game Lab, *Factitious*, http://factitious.augamestudio.com/#/.

(68.) S. Biswas and P. Gestwicki, "*Buffalo*," in Schrier, *Learning, Education & Games Vol. 3*; see also Tiltfactor Lab, *Buffalo: The Name Dropping Game*, https://tiltfactor.org/game/buffalo/ G. Kaufman and M. Flanagan, "A psychologically "embedded" approach to designing games for prosocial causes." *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 9, no. 3, (2015): Article 1. doi: 10.5817/CP2015-3-5

(69.) Learning Games Network, *Quandary*, https://www.quandarygame.org/ ; Gigantic Mechanic, *The Migrant Trail*, https://theundocumented.com/. An open question around *The Migrant Trail* game is whether the two sides (migrants and border patrol officers) should be equated, or whether it is problematic to play a role such as that of oppressors in this game, so teachers should reflect on this game and its use further. See more about this in chapter 8. Information on *Quandary* and its usage was supported by the *Quandary* team and correspondence with them in winter, 2021. Quotation by the *Quandary* team, Winter 2021.

(70.) Aparna Khanna, researcher in India, personal interview, Spring 2019.

(71.) O. Jimenez, "*Keep Talking and Nobody Explodes*," in Schrier, *Learning, Education & Games Vol. 3*. There are also non-VR versions of this game. See more at Steel Crate Games, *Keep Talking and Nobody Explodes*, https://keeptalkinggame.com/, 2018.

(72.) Another module in *Mission US* is "A Cheyenne Odyssey," where players

play as Little Fox, a Cheyenne boy in post–Civil War America, and there is a module around slavery as well. Some educators have boycotted these games because they feel these modules further stereotypes. Educators should reflect further on this game and the context of its use, and how to best represent different types of histories and identities through games. See more at WNET/Thirteen and Electric Funstuff, *Mission US*, https://www.mission-us.org/. See more in chapter 8.

(73.) L. Gillepsie, A. Chenoweth, and D. Frye, "*Time Trek*," in Schrier, *Learning, Education & Games Vol. 3*.

(74.) For instance, research suggests that games are not the bastions of aggressive behavior and violence that media reports may purport. A 2019 study from the Oxford Internet Institute, led by Andrew Przybylski, investigated information from parents and caretakers to help in evaluating the aggressiveness of the children in the study. The researchers also used specific ratings criteria to judge the violence in a particular game, rather than the subjective views of the players. They found no correlation between playing the games and aggressive behavior in teenagers, and even if they had found a correlation, it would not have meant that the games specifically caused the behavior to occur. A. K. Przybylski and N. Weinstein, "Violent Video Game Engagement Is Not Associated with Adolescents' Aggressive Behavior: Evidence from a Registered Report," Royal Society Open Science, February 3, 2019, https://royalsocietypublishing.org/doi/10.1098/rsos.171474. However, the connection between violence and games is not the focus of this book. All types of antisocial or potentially harmful behaviors may be happening online and through social media, such as the spread of disinformation, trolling, name calling, sexist and racist remarks, or trash talking, and sometimes these activities are happening in and through games and gaming communities just as they are on other platforms, offline communities, and societal interactions. Harmful and destructive behaviors are not limited to games but may be designed and algorithmically allowed, invited, and even propagated to foment, as on other online social media platforms and communities (e.g., Facebook, Twitter, Twitch, Discord). That said, we should avoid moral panics and consider instead the complexities of how these platforms enable community and care, as well as hate and

cruelty. This is an opportunity for us to rethink about how we govern publics, whether in-person or through virtual worlds. Finally, the panacea comment is inspired by an interview with Kelli Dunlap and Susan Rivers, Spring 2019.

Games+Learning+Society Conference 2022

http://glsconference.net

The Games+Learning+Society Center is excited to announce the relaunch of the Games+Learning+Society (GLS) Conference at the **University of California, Irvine** on **June 15-17, 2022**. For nearly two decades, the GLS Conference has been a premier venue for those who create and research digital learning media inspired by games. In 2022, as we emerged from a global pandemic and a national reckoning of systemic racism and inequity in the US, the GLS event will continue as a forum for media and learning but with a renewed commitment to tackling the most pressing questions and challenges of our time: How can games be a force for environmental, educational, and economic health and equity? How can we as interactive media creators and researchers contribute to the national conversations on digital democracy, racial justice, and rebuilding trust in systems and each other? How do we make games part of our solution instead of part of our problem?

Relocated to Southern California, the entertainment media capital of the world, GLS will again feature the high-quality program, top-notch attendees list, and playful atmosphere for which it is known. Expect an intimate event with in-depth conversation across diverse disciplines including game design and game studies, learning sciences and educational research, the social sciences, and social policy. This year, we seek to engage the broader community of game developers and scholars in thoughtful consideration of games and their impact including but not limited to cognitive and

behavioral change, social movements, sustainable futures, democracy, racial justice, and (lest we forget) joy.

The GLS conference features a variety of innovative session types including interactive workshops on game design and game research; individual academic and symposia presentations; our beloved Hall of Failure sessions, interactive well-played sessions, and intimate conversations of substance over working papers at the poster event. This year, we celebrate each other and our community through our Game Showcase Event (Wednesday evening), live music (Distractor) and food trucks out under the stars on Aldrich Park at the heart of campus (Thursday evening), and a Sunset Beach BBQ on Doheny Beach (Friday evening) featuring Polynesian music and an optional side dish of surf lessons. Kick-off your summer next year with us in sunny SoCal for community, connection, and cutting-edge content!

- Submissions and Registration open 1 December 2021.
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iThrive Games Foundation is a 501(c)(3) organization.

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