[Re|Dis]Connection

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Interactive Storytelling Art

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Two Exhibitions Collide

Staging the exhibition of interactive and participative works in a physical space is always a challenge. In that sense the basement of Tallinn University served well as there was no natural light and the led light panels installed on the floor shed subtle light from below to the whole room. As there were practically two colliding exhibitions (ICIDS selected works and STARTS projects) our task was to install works so that everything would be accessible and the whole space would represent one main consistent theme. The main circular configuration was made from 8 works with tables and chairs. They required traditional positions with computer screens. VR projects were put behind the high standing table. One work (Julián Palacios Gechtman's *Promesa*) was reserved for the big screen in the centre of the room. The function of the big screen was to cast "dominant light" over the whole room. Later we realised that the work, despite its great quality, was too dark and therefore replaced it with Henry Driver's *Secrets of Soil* which is much brighter. So, in that sense some considerations of the installation of the interactive works were rather visual and spatial, taking into account the intuitive logic of the exhibition space. It seems there were some universal parameters for the show with regard to organisation of space and time for visitors. "Longer" works needed a chair and a table and "shorter" works, which didn't require much time for watching and interacting, could be put on a high table. VR-based projects naturally required sufficient space around the equipment to allow visitors to turn their body or even walk and move in the room. Therefore organisation of exhibition space for interactive works means arranging the time and space for visitors, which in turn influences the way viewers experience the content of the works, giving the exhibition its own kind of connectedness.

Raivo Kelomees
ICIDS Art Exhibition 2021 Curator


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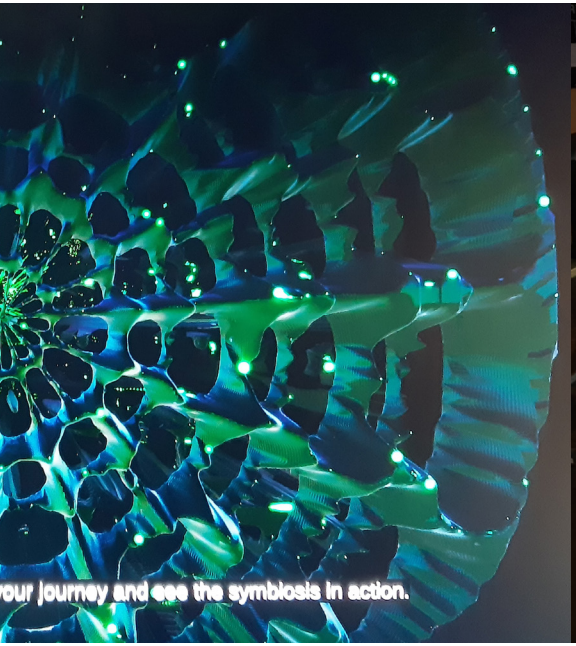
our journey and see the symbiosis in action.


S·T·ARTS

_intro

connecting,
reconnecting,
disconnecting

As the world attempted to recover from a global pandemic, issues of disconnection and reconnection were at the forefront of many people's minds. The horrors (and joys) of being disconnected from the wider world, and the anticipation (or anxiety) around reconnecting with family, loved ones and society at large therefore formed the inspiration for the curatorial theme for ICIDS 2021 art exhibition. These concepts relate to interactive narratives not only in terms of theme, but also methodologies, structures and modalities. This exhibition encouraged artists to explore Reconnection and/or Disconnection across disciplines, languages, cultures, technologies, and histories.

The works in this exhibition fell into several broad categories within the theme. Connection with the self, connection with others and connection with places arose repeatedly, while both the dangers and benefits of disconnection were explored in a variety of the works and their related chapters. Finally, a reconnection with the past was key in several of the works, but none so literally as the piece that opens this collection: Richard Holeton's *Figurski at Findhorn on Acid.*

Exemplifying so much of what made the 2021 ICIDS Exhibition fascinating—traditional modes and methods presented side by side with the latest forms and technologies, *Figurski* was first conceived, written and published in the early days of interactive digital storytelling. This seminal hypertext narrative suffered a literal disconnection in the mid 2000s when the Eastgate Systems software it ran on became obsolete, only to be reconnected with its readers twenty years later, thanks to the Electronic Literature Lab's restoration work. This new edition connects readers "across time instantaneously and from every screen in *Figurski*, simply by toggling back and forth between the Contemporary Edition and the Classic Edition". In doing so, it connects not only the past with the present, but also the scholarly with the readerly via the two versions of the text.

Serge Buchardon's *A Web Odyssey,* similarly connects past and present. As its name might suggest, this work takes its

inspiration from Greek myth, reimagining Ulysses' voyage as a journey across the internet. As Bouchardon observes: "like Ulysses, the user needs to have a good understanding of the (connected) environment to interact effectively and complete their journey". Ithaca becomes the e-thaca network, the Cyclops that must be blinded is the roving eye of the web cam, and the alluring apathy of the lotus-flowers is instead induced by endlessly scrolling though social media feeds. Here, it is disconnection which saves the day.

The positive possibilities of disconnection are also explored in Andrew Phelps and Doris Rusch's Twine narrative, The Witch's Way. It is only when protagonist Lou is disconnected from her everyday life and experiences that she is able to reconnect with herself. The structure and design of the narrative draws on methods from existential psychology, which "rejects the notion of 'mental illness' and focuses instead on creating a deep connection with the true self". The authors explain this methodology in detail and their desire to drive self-reflection in readers following Lou's journey.


S-T-ARTS
S-T-ARTS
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Artist Julián Palacios Gechtman describes his work *Promesa* as "a contemplative experience where you'll wander through the dreams, memories and fantasies emerging from a dialogue between my grandfather and me". Here the familial connections are made explicit, but the links and contexts of the explorable videogame spaces are more ambiguous, allowing the reader-player to make their own connections as well as piecing together those that are presented. As in *The Witch's Way* reflection is an important part of the narrative, but in *Promesa* it is the experience, rather than the self, which is reflected upon.

Volker Kuchelmeister, Gail Kenning and Jill Bennet of the felt Experience and Empathy Lab also ask users to connect with an elder in *The Visit*. Here, though, it is for the purpose of 'cultivating empathy through VR engagements with lived experience' of dementia. Through confronting the participant (quite literally) with Viv, a virtual character who reacts to their presence and shares her experiences, a new understanding of dementia and those living with it is developed.

LaughLand (2019) by Keren Kuenberg makes similar use of genuine locations and experiences seen in *The Visit*, but in this piece the soundscapes and interactive digital interface connect us across time and space to a now demolished shop, allowing viewers to explore a place that no longer exists and creating a vibrant 'living archive'.

Secrets of Soil by Henry Driver shares this preoccupation with environment, albeit with a very different motivation – Driver is from a farming family and therefore invested in the properties of soil for a variety of reasons including a desire to obtain carbon neutral status. Story of Soil is a narrative which presents a "a whole universe of interconnected life" in glowing colours and intricate structures, encouraging us all to think of our connection to the earth, the soil, and the life that goes on beneath our feet.

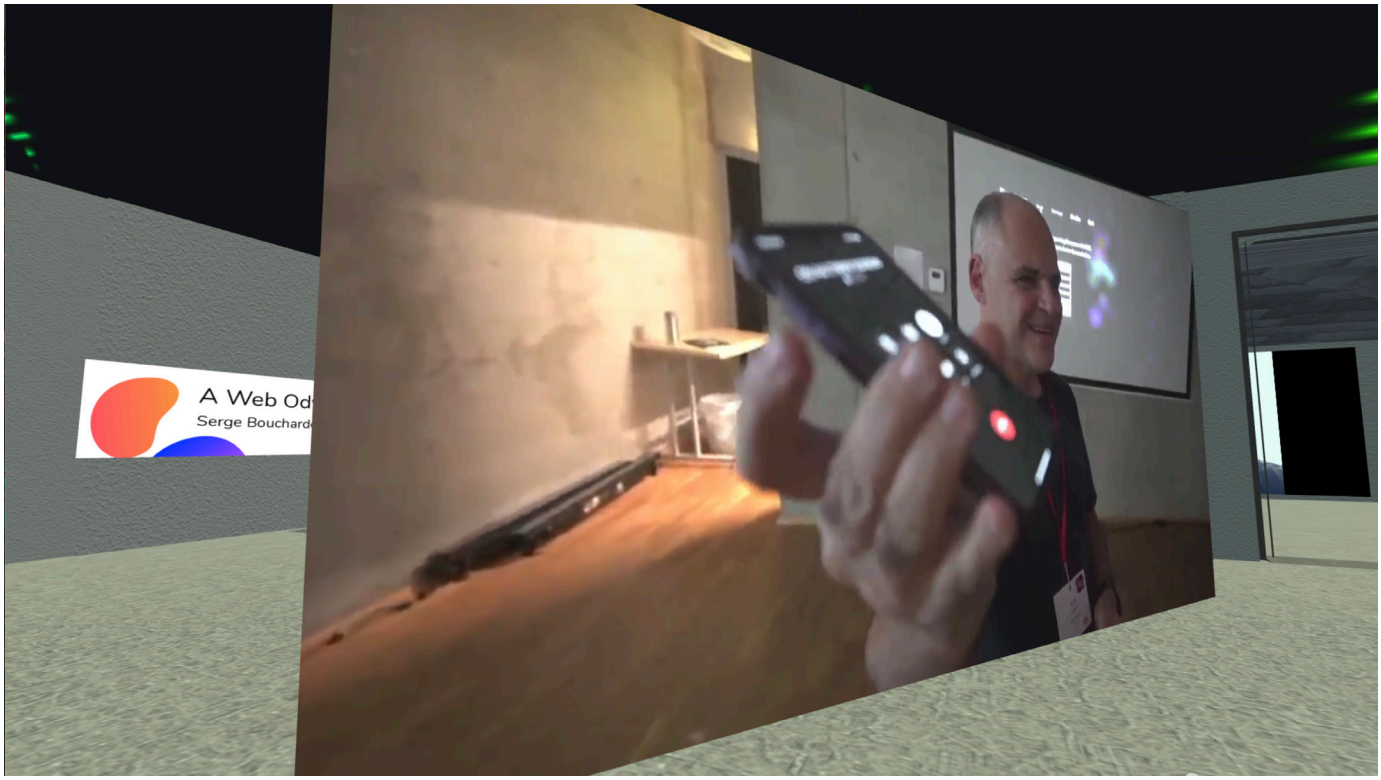
Hidden lives are also a concern in *Office for Language Under Capitalism* by Kathy Wu— "a meditation on invisible work which we are disconnected from". It parodies and critiques the structures of automated voice-controlled phone systems via a non-linear web-based mobile phone audio poem, as well as exposing the invisible labour associated with such systems.

In Austin Wolfe's *Aonar*, it is the player who is rendered invisible. *Aonar* uses Scottish mythology to tell a VR story of isolation and longing. Like *The Visit*, the affordances of virtual reality are used to build empathy between the player and the protagonist. The desire to connect with the lighthouse keeper is initially thwarted, forcing the player to experience the character's loneliness themselves, before finally being permitted to join him in his contemplation.

Drop/let's/fail to connect by Laureline Chiappello and Florian Glesser takes this use of mechanics to elicit player emotion a little further, using a method which Ian Bogost calls procedural rhetoric (advancing an argument through computational systems). Seemingly a conventional game, the player controls two raindrops, guiding them around obstacles. However, to advance the narrative they must fail. It's only through crashing into scenery that the raindrops are able to experience the world and eventually connect with one another. 'The title may be first read as a failure: "Droplets, fail[ing] to connect", but actually, it is a happy injunction to fail: "drop, let's fail [in order] to connect!"' the authors explain.

Tianbai Jia's *Her Palace* uses VR to present the viewer with a series of memory episodes from the main character's life. These "share a common character and a cohesive visual style, but the relationship across the episodes is intentionally ambiguous, fragmented, and disconnected". As in *Aonar*, the use of VR as a narrative medium in turn draws in and pushes away the viewer, complicating their relationship with the protagonist and the content they are viewing.

Told through fragments of a different kind, the only mobile app in the exhibition (although Kathy Wu's work is accessed via a phone, it isn't an app as such), *UnearthU* by Kara Stone is a mock wellness app. Taking the idea of being connected to the earth and technology and contorting it into a gradually realized horror, *UnearthU* demonstrates the exploitative, extractive nature of many big tech companies; even those that purport to be doing good. In order to avoid contributing to wasteful technological practices, Stone explains that *UnearthU* is made entirely of "existing materials, putting them together and 'composting' them into a converted form".


A Web Od
Serge Bouchard

Like *Figurski at Findhorn on Acid*, it reuses older content to create something new. And so we come full circle, with the works reconnecting and connecting with one another, as well as with their reader-players and the wider world.

We were not the only ones to connect with these art works. Our judging panel kindly reviewed all submitted art works and selected those which they felt best represented the theme. The judging team was:

- Ryan Bown, Associate Professor of Entertainment Arts Engineering, University of Utah
- Dr Joshua Fisher, Assistant Professor of Immersive Media, Columbia College Chicago
- Dr Néill O'Dwyer, Senior Research Fellow in Computer Science, Trinity College Dublin
- Taavet Jansen, Artist and Researcher, Estonian Academy of Arts
- Dr Jung In Jung, Research Fellow in Interactive Engagement, University of Dundee
- Brian Salisbury, Associate Professor of Entertainment Arts Engineering, University of Utah
- Dr Maria Cecilia Reyes, Writer and Researcher-in-Residence, Akademie Schloss Solitude
- Dr Lyle Skains, Writer and Principal Academic in Health and Science Communication, Bournemouth University
- Prof. Dr. Ido Iurgel, Professor of Media Informatics, Rhine-Waal University of Applied Sciences
- Dr Lissa Holloway-Attaway, Associate Professor of Media Arts, Aesthetics and Narration, University of Skövde

Special thanks also to Rebecca Rouse, Maria Cecilia Reyes, Lyle Skains and Valeria Piras for all their hard work helping to create this book.

Lynda Clark
ICIDS Art Book 2021 Editor

Creative Chair & Book Editor

Lynda Clark. Lecturer in Creative Writing for Interdisciplinary Futures, University of Edinburgh (Scotland). A novelist and creator of interactive narratives, she holds a PhD in Creative and Critical Writing from Nottingham Trent University. Her research interests include the development of writing processes for emerging tools and technologies, the relationship between writers and technology, Victorian tech and speculative fiction. Her debut short story collection, *Dreaming in Quantum*, explores many of these ideas through fiction.

Creative Chair & Exhibition Curator

Raivo Kelomees. PhD (art history), is an artist, critic and new media researcher. He studied psychology, art history and design in Tartu University and the Academy of Arts in Tallinn. He is senior researcher at the Fine Arts Faculty at the Estonian Academy of Arts and professor at the Pallas University of Applied Sciences. Kelomees is author of *Surrealism* (Kunst Publishers, 1993) and article collections *Screen as a Membrane* (Tartu Art College proceedings, 2007) and *Social Games in Art Space* (EAA, 2013). His doctoral thesis is *Postmateriality in Art. Indeterministic Art Practices and Non-Material Art* (Dissertationes Academiae Artium Estoniae 3, 2009). Together with Chris Hales he edited the collection of articles *Constructing Narrative in Interactive Documentaries* (Cambridge Scholars Publishing, 2014).

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Interactive Storytelling Art

dis]connection

Medium: Game, HTML, Digital Writing, CSS, Javascript
Year of Release: 2001, 2021
Link to the artwork: https://figurskiatfindhornonacid.com/
Artist's website: https://www.richardholeton.com/

Figurski at Findhorn on Acid

Richard Holeton

"This IDN classic displays the theme of connection by drawing attention to interactive narrative's past and is a reconnection with the artwork itself. It fully shows the power of hypertext fiction, faithful to the mechanics of the early 2000's with a modern look."

ICIDS 2021 Jury

Putting the Pig Back Together Again: Dis(re)connection in *Figurski at Findhorn on Acid*

Abstract

Figurski at Findhorn on Acid is a comic hypertext novel originally published in 2001 and reconceived for the modern web in 2021. The novel's scenes are generated from every possible combination of three characters, three artifacts, and three places, and yet it also has an overall, chronological (if unconventional) plot that takes place in the 1990s. At the center of the plot is a valuable 18th century mechanical pig, plus a near-identical forgery, automatons which the characters separately pursue across global and virtual locations. The pigs become a metaphor for the novel—like the hypertext, they both have exactly 147 parts, parts which the characters disassemble and then must try to reassemble in the end when they finally come together "all on the same page." Likewise, the experience of reading the novel involves a constant (re)assembling of its disparate elements into scenes, as the reader traverses hypertext links and chooses navigational paths. In these ways *Figurski* may be seen as both literally and symbolically about disconnection and reconnection.

Keywords

Hypertext fiction, hypertext novel, postmodern literature, electronic literature, interactive fiction, combinatorial novel

In Memoriam:

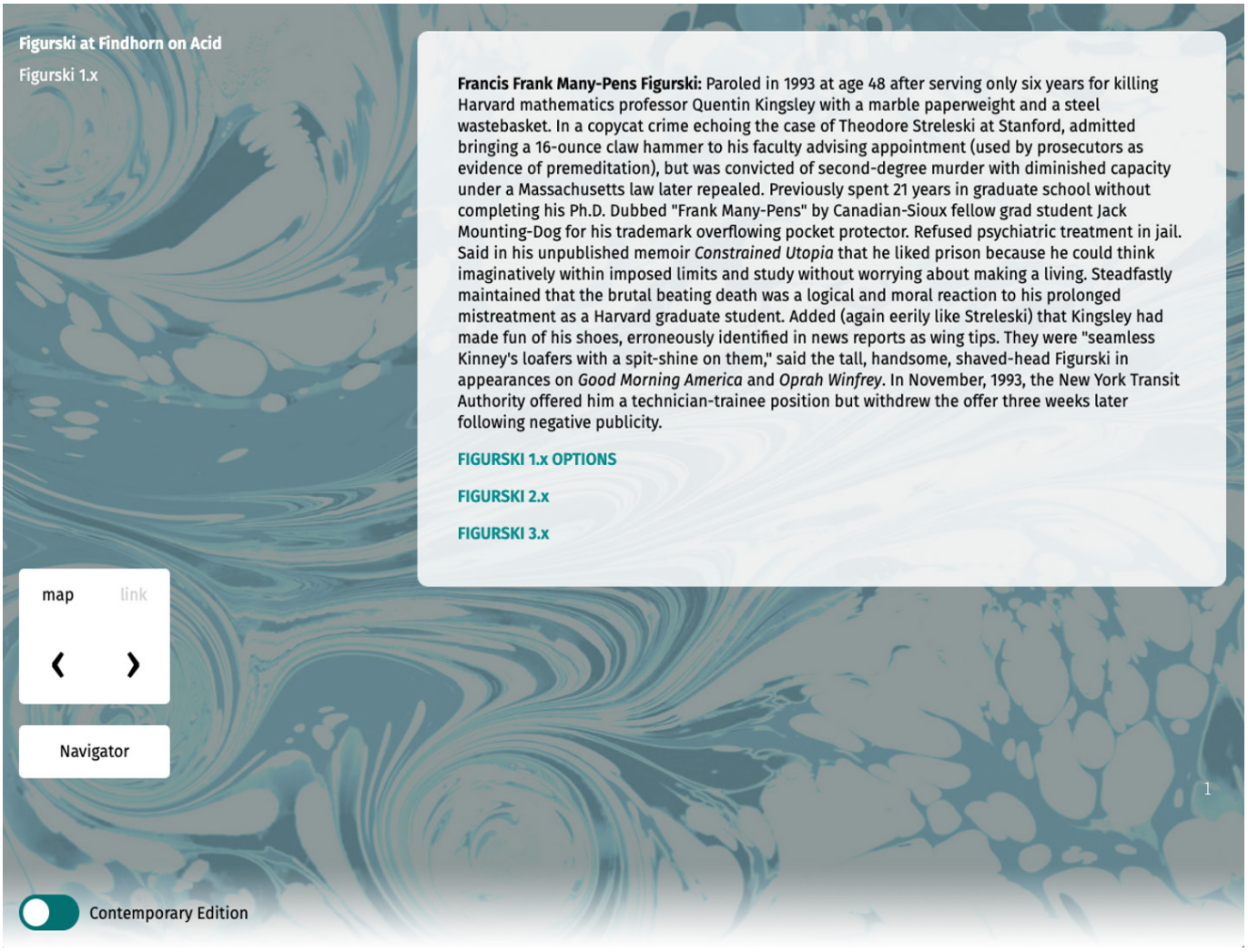
Michael Tratner, 1949-2021

Introduction

Figurski at Findhorn on Acid (Holeton, 2021a) is a hypertext novel that's been described by scholar Mariusz Pisarski as "funny, crazy, ultra-postmodern satire" (2021, para. 1) and by critic Michael Tratner as riding "a thin edge between the most complex recent critical ideas and the most absurd TV game shows" (2021, para. 3). Originally published by Eastgate Systems on the Storyspace platform in 2001, the novel was technically and functionally reconceptualized and reimagined for the web in 2021 in partnership with Washington State University's Electronic Literature Lab under the direction of Dr. Dene Grigar (2021). As a collaborative effort and complete recoding, the result is a new work featuring a unique, dual aesthetic design with two modes that the reader can toggle between—"Contemporary Mode" for modern readers, and "Classic Mode," which pays homage to the look and feel of the original.

Figurski is a combinatorial fiction structured around nine discrete elements, its scenes determined by every possible combination of one, two, or all three characters, at one of three places, with one, two, or all three of the artifacts. The zany plot revolves around one of the artifacts—an 18th century mechanical pig—as the eccentric characters traverse global and virtual locations competing for its possession, before ultimately coming together at the same places and times.

As Tratner notes in his critical introduction to the 2021 edition, the porcine automaton—Rosellini's 1737 *Mechanical Pig*—"is quite clearly identified as a metaphor for the whole hypertext" (2021, para. 2). As such, the pig is a key to the novel's structural as well as thematic layers of "disconnection and reconnection," the theme of the *14th International Conference on Interactive Storytelling and Art Exhibition* that is the occasion for this volume of essays.


Figurski at Findhorn on Acid
Figurski 1.x
Francis Frank Many-Pens Figurski: Paroled in 1993 at age 48 after serving only six years for killing Harvard mathematics professor Quentin Kingsley with a marble paperweight and a steel wastebasket. In a copycat crime echoing the case of Theodore Streleski at Stanford, admitted bringing a 16-ounce claw hammer to his faculty advising appointment (used by prosecutors as evidence of premeditation), but was convicted of second-degree murder with diminished capacity under a Massachusetts law later repealed. Previously spent 21 years in graduate school without completing his Ph.D. Dubbed "Frank Many-Pens" by Canadian-Sioux fellow grad student Jack Mounting-Dog for his trademark overflowing pocket protector. Refused psychiatric treatment in jail. Said in his unpublished memoir Constrained Utopia that he liked prison because he could think imaginatively within imposed limits and study without worrying about making a living. Steadfastly maintained that the brutal beating death was a logical and moral reaction to his prolonged mistreatment as a Harvard graduate student. Added (again eerily like Streleski) that Kingsley had made fun of his shoes, erroneously identified in news reports as wing tips. They were "seamless Kinney's loafers with a spit-shine on them," said the tall, handsome, shaved-head Figurski in appearances on Good Morning America and Oprah Winfrey. In November, 1993, the New York Transit Authority offered him a technician-trainee position but withdrew the offer three weeks later following negative publicity.
FIGURSKI 1.x OPTIONS
FIGURSKI 2.x
FIGURSKI 3.x
map
link
Navigator
1
Contemporary Edition

Origins: Ontological Flicker

As I recall in the author's introduction to the 2021 edition of *Figurski*:

In 1995, I wrote a 500-word flash fiction [Holeton, 1996; see Appendix A] about Theodore Streleski, a real-life, perennial Stanford graduate student who notoriously bludgeoned to death his faculty advisor with a hammer in the 1970s. "Streleski at Findhorn on Acid," which imagined Streleski visiting the New Age intentional community of Findhorn, Scotland, while high on LSD, won First Prize in Grain Magazine's 1995 "Short Grain Postcard Story" contest. The construct of my "Streleski" story—"Someone at Somewhere with Something"—seemed to lend itself to replication, and I began to envision a series of sequels. Meanwhile, I had been exposing my Stanford writing students to hypertext tools such as Apple's HyperCard, Eastgate's Storyspace, and the early web, and I'd developed an interest in composing a hypertext fiction. (Holeton, 2021b, para. 2)

As my idea of repeated *Someones, Somewheres, with Somethings* synched up with the affordances of hypertext, I created two more characters in addition to Streleski (Nguyen Van Tho aka The No-Hands Cup Flipper, and Fatima Michelle Vieuchanger, a double-gender-bending French Moroccan journalist), two more places in addition to Findhorn (Shower-Lourdes, an apparitional site in a Florida trailer park, and The Holodeck, from the TV series *Star Trek Next Generation*), and two more artifacts in addition to LSD (Spam, the canned meat product, and the aforementioned Mechanical Pig).

When I decided to replace the real-life Theodore Streleski with a fictional copycat criminal, the novel's title character Frank Figurski, I was inspired to similarly fashion all nine elements as some blend of the actual and the ficti-

tious. Like Figurski, Vieuchanger has a historical antecedent in the early 20th-century French adventurer Michel Vieuchange, who disguised himself as a Berber woman in order to travel to the Western Sahara oasis of Smara. And The No-Hands Cup Flipper learned his acrobatic skills from the real-life Eugene Zanger, who once appeared on *The David Letterman Show* as "The World-Famous Cup Flipper." For their part, the locations and the artifacts also mix the real and the imagined:

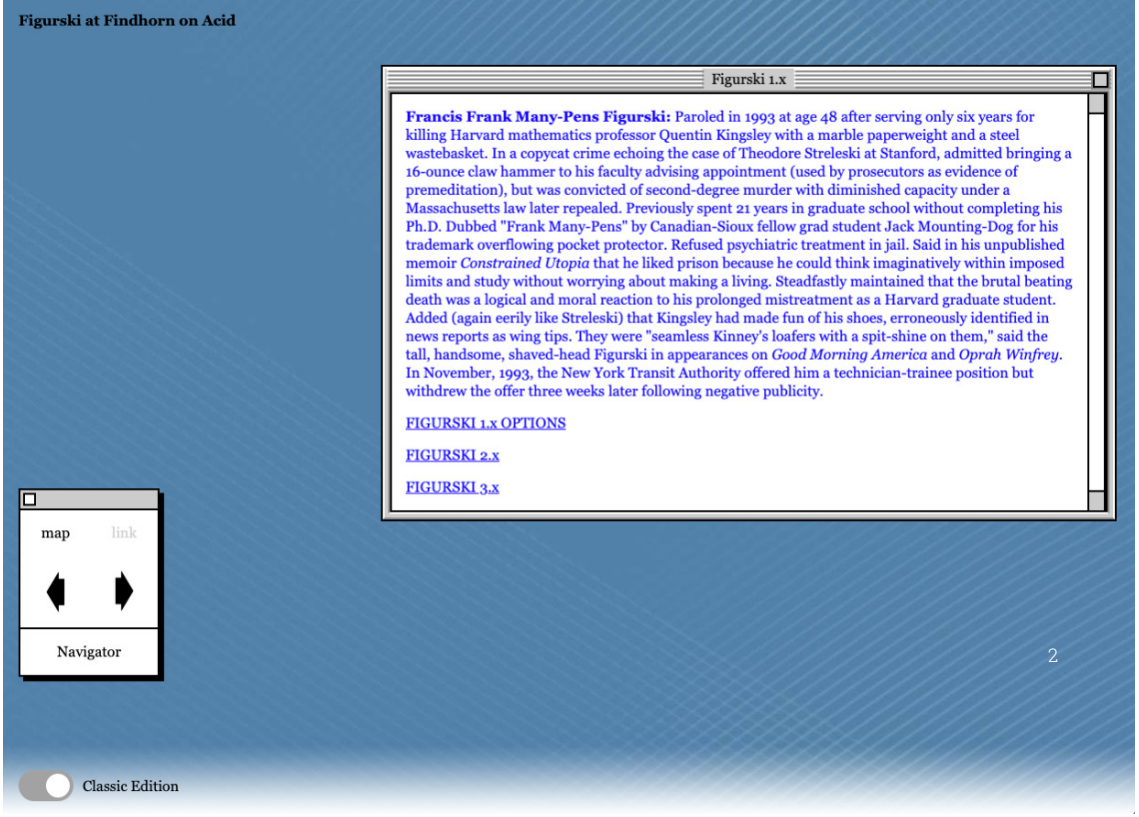
Places

- Findhorn is a real community in Scotland
- Shower-Lourdes is a fictional caricature of actual apparitional sites
- The Holodeck is an "actual fictional" place from a TV series

Artifacts

- Spam and Acid (LSD) are obviously real
- The Mechanical Pig is fictional but based on actual 18th-century automatons

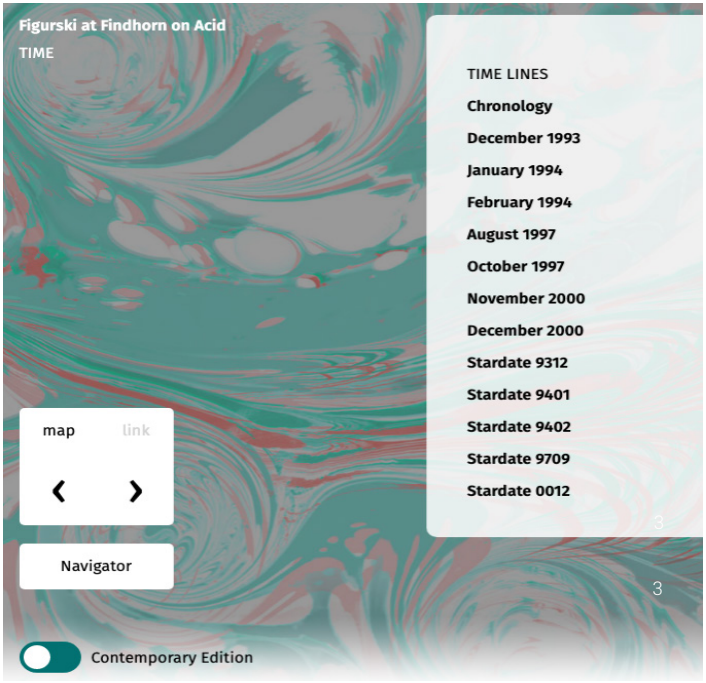
Likewise, many scenes in the novel incorporate both fictional and real-life or historical elements. Alice Bell, analyzing *Figurski* through the lens of Possible Worlds theory, examines one such narrative sequence, in which the real-life last meal and death of the former Princess Diana in a Parisian car crash is repeatedly simulated in the novel's Holodeck, but with the historical figures being portrayed by Figurski, Vieuchanger, and Nguyen (2010, pp. 167-171). Bell suggests that the "relationship between the Textual Actual World of Figurski and the Actual World of the reader is ontological and epistemological and . . . the text takes advantage of both" (2010, p. 184) to create humorous dissonances, for example when readers compare their knowledge of Princess Di



with the twisted versions in the novel.

This "ontological flicker" (McHale, 1999, qtd. in Bell, 2010) in *Figurski* might well be seen as fluctuating disconnections and reconnections between the text world of the novel (what Bell calls the Textual Actual World) and the reader's actual "Actual World"—an ongoing condition of dis(re) connection between the fictional and the real.

Additionally, in the real world, after its original publication in 2001 by Eastgate Systems on CD-ROM, the novel itself became literally disconnected from its readers around 2008, when most computer operating systems could no longer run the proprietary Storyspace software. *Figurski* then languished, in obsolescent isolation if not exactly quarantine, until its 20th anniversary in 2021, when Dene Grigar's team of designers and programmers at Washington State University's Electronic Literature Lab (ELL) migrated and recreated the novel in modern web languages (Grigar,



2021)—thus, happily, reconnecting it with an audience of readers and critics. In doing so, moreover, the ELL performed a higher and pioneering act of reconnection, in their innovative design of the archival web edition.

As Pisarski points out, Storyspace was the "beloved writing and reading platform from the 'Golden Age of Hypertext'" (2021, para. 1). Instead of choosing either a "readerly edition" to meet the needs of contemporary readers or a "scholarly edition" for "archivists, critics, and readers of the past," Grigar and team chose to do both, connecting the present with the past in a single work (Pisarski, 2021, paras. 2-5).

See Figures 1 and 2: Readers can make those (re)connections across time instantaneously and from every screen in *Figurski*, simply by toggling back and forth between the Contemporary Edition and the Classic Edition.

Structure and Navigation: Disconnecting and Reconnecting

Hypertext narratives are "often experienced as disconnected and disorienting" (Zelleweger, Mangen, & Newman, 2002, p. 45) almost by definition, given their characteristic discrete text chunks or lexia, linking structure, and multiple reading paths. "Confusion and bewilderment [...] can be considered a generic feature of this type of writing," says Astrid Ensslin in one of her analyses of *Figurski* (2014, p. 62). And Jaishree Odin writes:

> *Hypertextual linking fractures the textual surface, turning the otherwise continuous and linear narrative into a discontinuous assemblage of textual fragments that can be folded, unfolded, and refolded in a variety of ways.* (2004, p. 453)

Indeed *Figurski* would seem, at first blush, to highlight all this inherent hypertextual dissociation with its building-block structure of three characters, three places, and three artifacts—the nine elements all introduced in separate lexia, each with its own three iterations, emphasizing their distinctness, like intratextual Lego bricks.

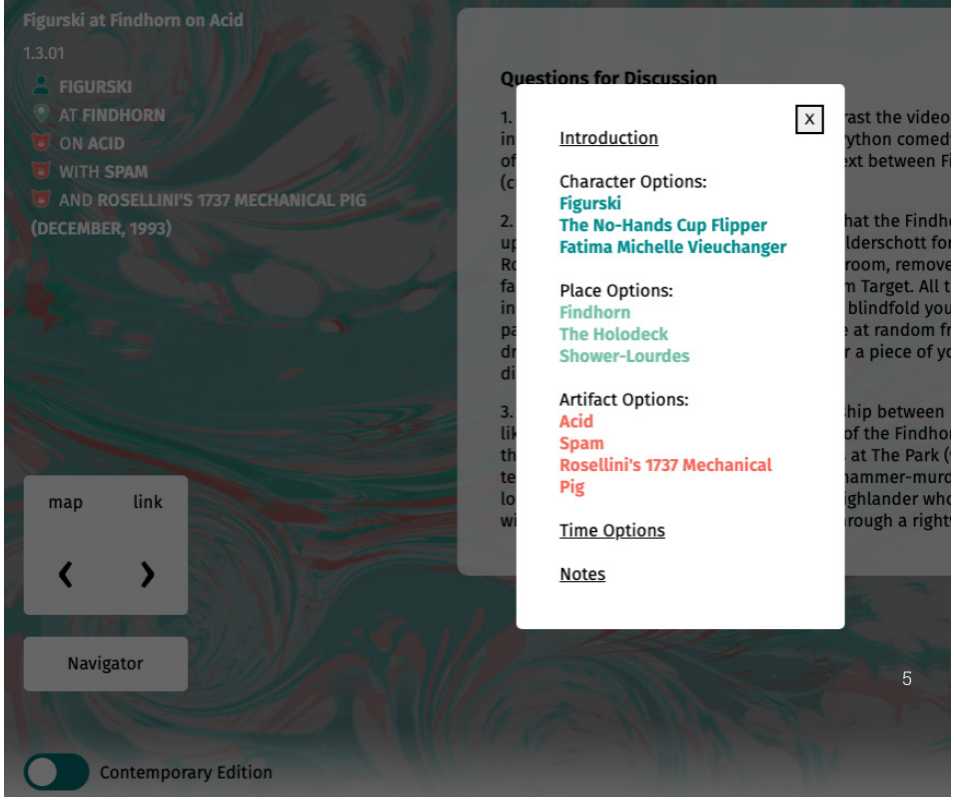
Likewise, each combinatory scene—with one, two, or all three characters, at one of the places, with one, two, or all three of the artifacts—is presented as a discrete narrative with the appropriate title, such as "Figurski and Fatima Michelle Vieuchanger at Shower-Lourdes with Spam" or "Fatima Michelle Vieuchanger and The No-Hands Cup Flipper on the Holodeck on Acid with Rosellini's 1737 Mechanical Pig." Because the characters cannot be at more than one place at a time (in a nod to the laws of physics that the novel arguably violates in other ways), there are "only" 147 of these combinations comprising the main narrative, supplemented by a parallel section of 147 "Notes" which offer metacommentary in text and images. (An additional

[1] Dene Grigar (2019) argues "against any notion of a unity of place in the narrative" insofar as the characters inhabit multiple mental spaces, including hallucinations and Holodeck simulations.

60 lexia consist of mostly navigational pages, such as lists of other lexia or tables of contents, so the novel totals 354 nodes, interconnected by 2001 links. Consistent with the novel's numerology, all these numbers—60, 147, 354, 2001—are multiples of 3.)

All "this fragmentation gives the text a feeling of discontinuity and disjointedness," says Bell (2010, p. 183); each episode of *Figurski* seems "so different that they are almost entirely disconnected from one another" (2010, p. 150). Ensslin writes that the novel's

> *contrived and ambiguous sense of reality […] is determined by a complex blend of seemingly unrelated, random subnarratives: science-fiction and fantasy, issues surrounding pigs and pork ('Spam'), robotics, Boy Scouts, the Vietnam and Gulf Wars, drugs (LSD), New Age spiritualism, celebrities and television chatshows.* (2007, p. 88)



—all of which, she suggests in a separate analysis, "further augment[s] readerly confusion and bemusement" (2014, p. 62).

I wish to propose, however, that the sub-narratives of *Figurski* are connected and unified insofar as (a) they instantiate a coherent overall plot, albeit an unconventional one, with many parallel tracks; and (b) they are organized hyper-logically, mathematically, into multiples of three directories or sections, in an overarching structure made plainly transparent for the reader. "Along with its satirical treatment of contemporary culture, a hallmark of the novel is its structure," writes Grigar (2019, para. 1), a structure she analyzes in detail, describing it as economical and methodical. The logic of the structure includes, for example, grouping together all the scenes that involve just one character, the scenes involving two characters, and those with all three characters. Also connecting "seemingly

unrelated" narratives—along with the rhythm of the repeated locations and artifacts—are parallel sequences of various textual forms: the story marches (or lurches?) forward through a series of haikus, then a series of Nancy Drew Mystery parodies, a series of product disclaimers, a series of heroic couplets, a series of database searches, and so on. This "complicated, even tortured organization" (Tratner, 2021, para. 1) is, Ensslin says in her book about literary gaming, "curiously reminiscent of the way most digital games are structured" (2014, p. 62)—which is to say, at least to my mind, unified in a coherent structure.

In these and other ways, I have tried hard in designing *Figurski* to mitigate the "lost in hyperspace" (e.g., Otter & Johnson, 2000) phenomenon observed about early hypertexts, and indeed have endeavored—more ambitiously, and I realize this may be a stretch—to make the novel a kind of bridge between the new electronic literature and conventional (print) literary novels:

> *Standing on the shoulders of (or, in Figurskian terms, riding piggyback on) [earlier groundbreaking hypertext literature], I wanted to write, first and foremost, an entertaining and humorous hypertext fiction. To do so I wanted to combine the emerging conventions of hypertext (smaller chunks of text connected with hyperlinks) with the older conventions of print text (tell a good story!). I wished to demystify the navigation of a large hypertext, to make the structure and linking scheme completely transparent ([i.e.] make the site easy to navigate). I wanted to write a novel with multiple reading paths and a linear plot line, populated with characters and settings and artifacts compelling enough, or satirical or absurd enough, to sustain hundreds of combinatorial scenes. Those were some of my goals, and of course readers will decide the extent to which I achieved any of them.*
>
> (Holeton, 2021b, para. 6)

I wish, then, not only to help the reader connect the dots but also to reconnect hypertext fiction to print literature in a larger sense, by playing in the space of the tension between them, walking a line between multilinearity and a perhaps twisty, but still lucid, plotline. That basic plot, as outlined by Ensslin:

> *unfolds over a period of several years, starting in 1993, directly succeeding Figurski's release from prison, as he finds a crated 'Mechanical Pig' on a beach near Findhorn, Scotland, unaware of its material and historic value, and of the fact that two malicious antagonists are feverishly tracking the antique. The realistic narrative ends in December 2000 […] [at] the final meeting of the main characters.* [2007, p. 88]

The story follows each character in turn and in parallel in each "time line" (see Figure 3)—one character at a time in 1993-94, two characters at a time in 1997, then all three characters together beginning in November, 2000. (The "Stardates," although nominally in the future, are The Holodeck equivalent of the same 1990s timeline: Stardate 9312 corresponds to the 12th month of 1993; 9401 corresponds to the first month of 1994; etc.)

"The final sections of the novel don't just wander: they move to a sense of a distinct ending," says Tratner (2021, para. 16). As further evidence of this inchoate linearity, I would point to the 2022 radio play adaptation of the novel produced by John Barber, first broadcast on his *Re-Imagined Radio* series and thought to be the first-ever radio adaptation of a hypertext fiction (Barber, 2022a). For this remarkable audio experience (performed by The Voices, with sound design and production by Emmy-winner Marc Rose of Fuse Audio Design), Barber (2022b) created a script that threads the needle of *Figurski*'s plotline. Using mostly text and dialogue from the novel and emphasizing the final appearance of the three characters at Findhorn,

Barber was able to distill a faithful and harmonious storyline tailored for the linear medium of a one-hour radio drama (2022).

Figurski provides a continuous default route through the chronological plot with right- and left-facing arrows for the reader to click forward and backward, much like turning the (digital) pages of the novel. The default path constitutes at least a quasi-linear reading experience—although one admittedly quirky or "ultra-postmodern" (Pisarski, 2021, para. 1) in its shifting subjects, content, and textual forms.

To deviate from that default route, readers have several choices. Along with the right and left arrows, the navigation panel on every screen offers a "Navigator" button, "link" button, and "map" button (Figure 4).

The "Navigator" (Figure 5) is a pop-up page with links to all nine main elements of the novel, like a table of contents. The "Navigator" also links to the "time lines" described above ("Time Options") and to the "Notes" section (text and images offering metacommentary on the novel).

The "link" button is active on any given screen when there are additional links available within the text on that screen. Those links appear in wire-frame boxes (when "link" is clicked) and usually lead to a lexia in the "Notes" section, like footnotes. See Figure 6.

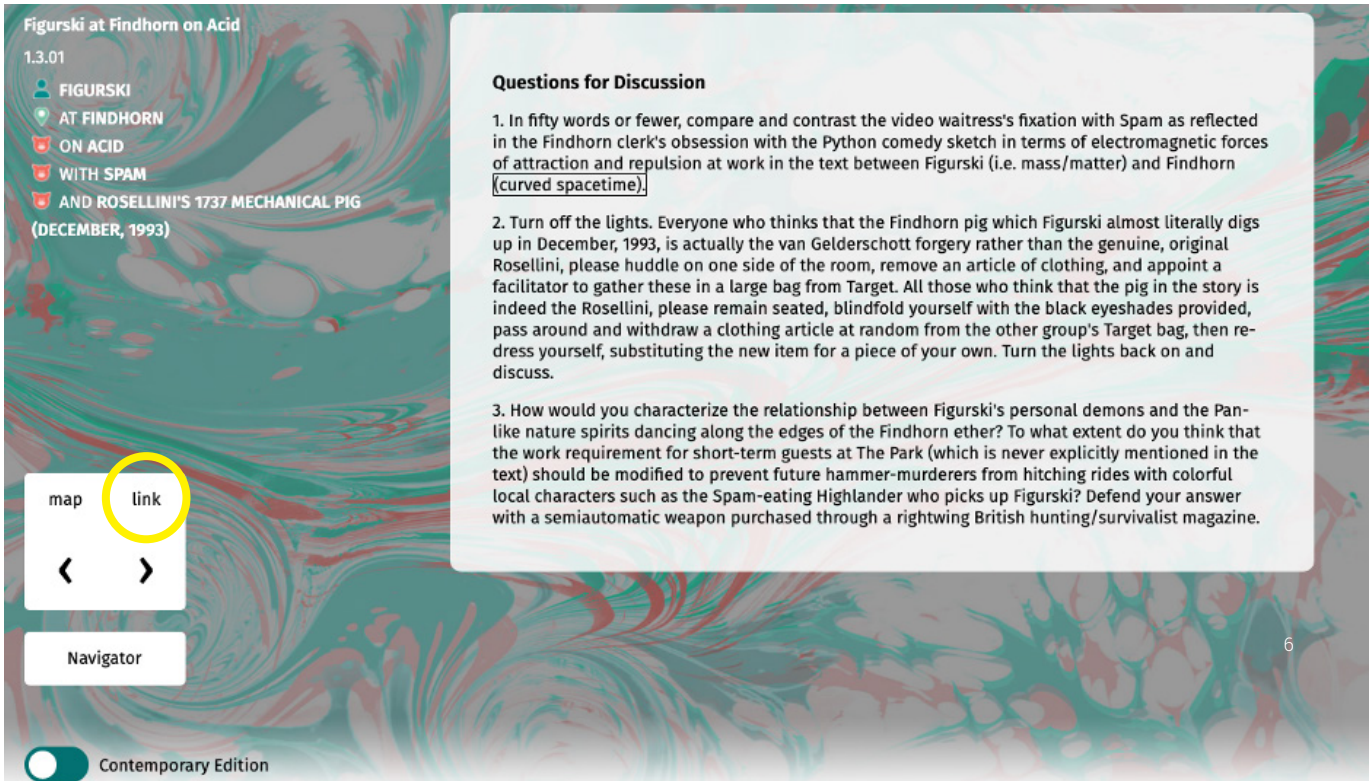
Finally, the "map" function—originally a feature of the Storyspace version and, like the wireframe boxes for "hidden" links (above), lovingly and ingeniously recreated for the web by the ELL team (see Pisarski, 2021)—enables the reader to navigate the text by clicking through a graphical representation of the structure, in which text passages are represented by nested rectangles and links are shown with arrows. See Figures 7 and 8.

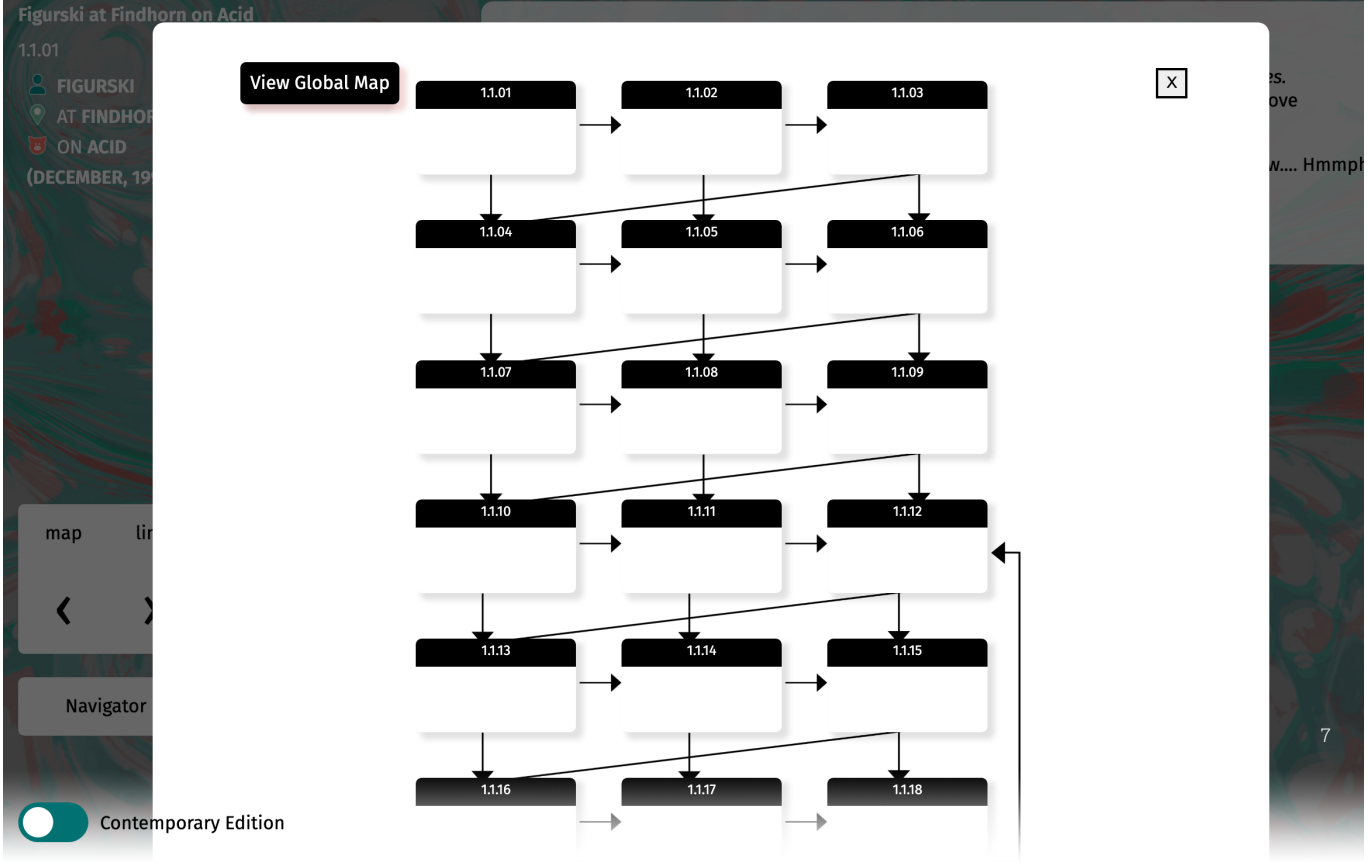
Bell allows that my "desire to 'highlight' the arrangement of the narrative for the reader

is notable because it suggests structural transparency was a factor in [the] design" (2010, p. 152) (as we have seen it was indeed), and she notes further:

In the different linking options, no attempt is made to hide the game in which the reader is engaged[…] whichever configuration is chosen, the alternatives are still available[…] Not only does the [Navigator] lexia list the different options, but the chosen configuration is presented at the head of each destination lexia. ***Readers are always aware of the role they have played in the construction of the text.*** (2010, p. 152; emphasis added)

The role of readers in constructing fictional worlds when they encounter conventional texts (e.g., Eco, 1979) seems even more notable in hypertexts, where readers, as Odin says, "must actively engage the text to discover the complex interrelations among the disrupted narrative threads with one another and in themselves" (2003, p. 453). Put differently, readers





must actively reconnect elements that are presented as disconnected. To facilitate that effort, as Bell points out, in *Figurski* I want readers always to know where they are—each lexia is titled with its unique combination of character(s), place, and artifact(s)—and always to have the ability to move to the location of their choice. The map's global view (Figure 8) shows how the overall structure is organized mathematically or "combinatorially": "1.x" contains all the scenes with one character at a time; "2.x" contains all the scenes with two characters at a time; "3.x" contains all the scenes with all three characters. Both the map and the Navigator (Figure 5) are

available from every lexia in the novel, providing readers a ready way to contextualize their current location in the narrative; to review or go back; to shift their focus to another character, place, or artifact; or to move up, down, or sideways through the hierarchical structure.

Overall, my hope is for readers to have a similar experience as Tratner's when he writes:

Whether you mechanically follow the default route or flip around randomly, you can zip through and enjoy the pages. Somehow Holeton has managed to integrate the mechanical structure, absurd philosophical ruminations, characters defined entirely by eccentricities, and intellectual metafictional commentary into a seamless whole. (2021, para. 1)

Structure Again: Reconnecting the Mechanical Pig

The global pursuit, disassembly, and reassembly of the pig[s] form the spine of *Figurski's* plot and, I think, the beating heart of the novel. Ensslin describes how Figurski, The No-Hands Cup Flipper, and Vieuchanger meet near the end "to re-assemble the previously discarded original of the ubiquitous Pig, designed and built by Guillermo Rosellini of Venice in 1737, and its nineteenth-century [forgery made by Gilbert van Gelderschott], the parts of which they have equally distributed among themselves" (2007, p. 88). Each pig, like the novel, has 147 parts, and as Tratner notes, is also "constructed in three sub-assemblages, each of which has three parts in it, and so on, just like the text" so "is quite clearly identified as a metaphor for the whole hypertext" (2021, para. 2). The parts of the pigs, also like the parts of the novel, have been distributed equally among the three characters. The characters are trying to reconstruct the pigs, just as readers are trying to put the pieces of the novel together. At the same time, reaching

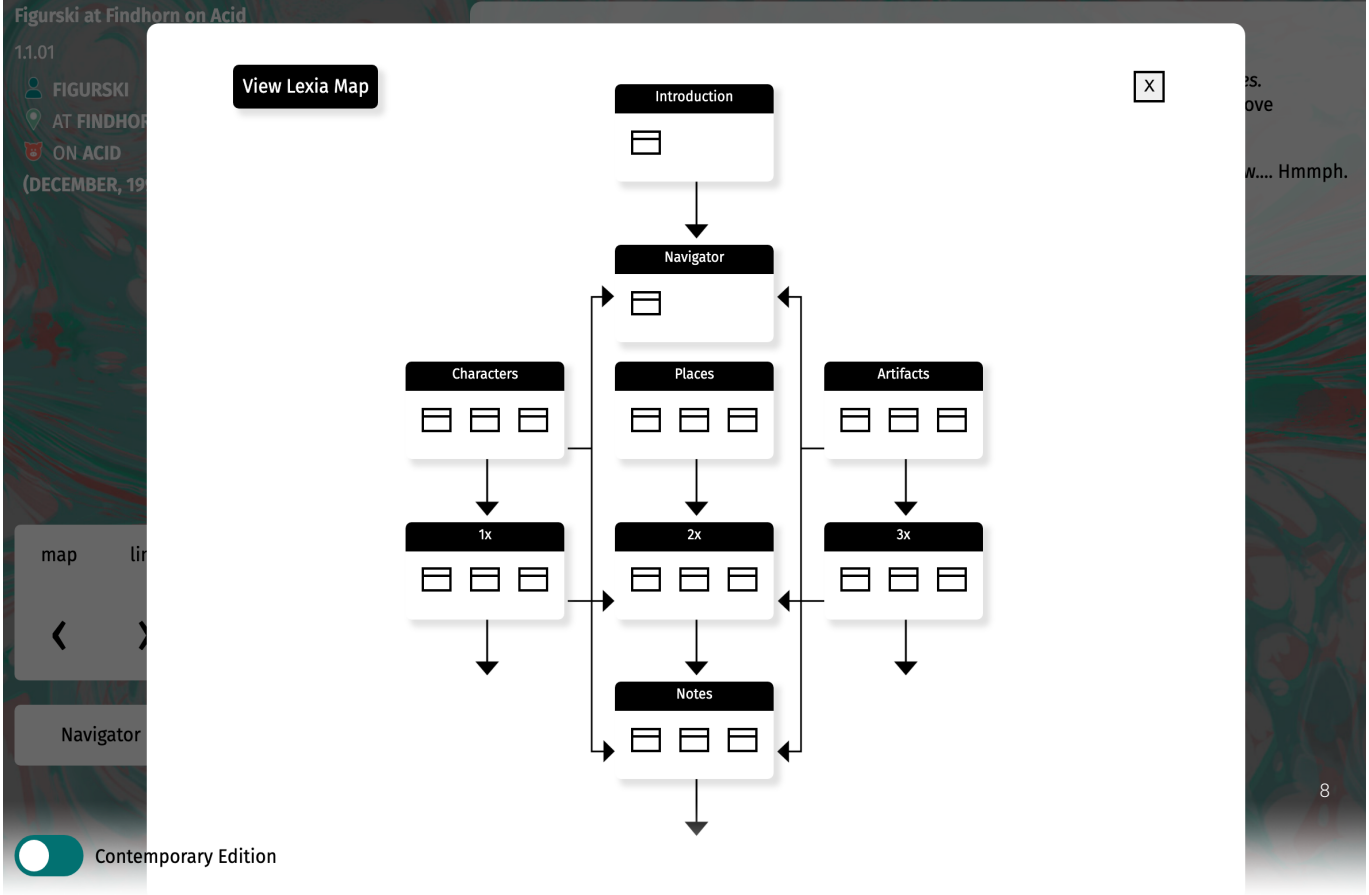
across the nether-world between fiction and reality, the characters in *Figurski* are—courtesy of the fictional-in-the-real-world Holodeck—reverting to their real-world counterparts (Figurski to real-life parolee Theodore Streleski, the Cup Flipper to his real-life mentor Eugene Zanger, and Vieuchanger to historical adventurer Michel Vieuchange), and they are simultaneously "merging into different components of the same character, taking on aspects of one another's personality" (Holeton, 2021a, lexia 3.2.01).

In these self-reflexive layers, Tratner suggests that the Mechanical Pig is not the only metaphor for the novel:

Spam […] is described as created by repeatedly chopping pieces of pork into threes (again, an image of the process of writing this endlessly divided-into-threes text). So the process of mechanically chopping up his stories which became Holeton's method in writing this hypertext novel is mocked by Holeton as his way of producing "processed literature"—Spamfiction. But what then do we make of a scene where the mechanical pig is fed Spam? If the pig and Spam are metaphors for the creation of hypertexts, is the scene of a mechanical pig eating Spam a metametaphor, a metaphor for the processing of metaphors? Is a mechanical pig eating processed pork a twenty-first century version of Stanley Fish's critical category of the self-consuming artifact? (2021, para. 3)

In Tratner's analysis of Figurski as postmodern literature, he says that the novel, similarly to Jean Baudrillard in "Simulacra and Simulations," examines how Late Capitalism has turned the world into simulations—but with a twist:

Holeton's text can be used to do very much what Baudrillard suggests Disneyland does: it gives us the experience of a world entirely full of copies, and we generally react to it as absurd, unlike reality, but that is precisely how the novel



misleads us. The novel seems unreal, but yet also suggests in many ways—such as citing Baudrillard—that to see the world of copies in the text as unlike what is "real" is misreading the text. (2021, para. 8)

To elucidate that "misreading," Tratner cites Jacques Derrida's argument in "Structure, Sign, and Play in the Discourse of the Human Sciences" that the nature of structure itself has been "ruptured," leading to the world of Baudrillardian copies, which lack overall structure because they have no "center" or self-sufficient central presence (2021, para. 11).

"Much of the novel is about the search

for a center—which is turned into the search for a fully-assembled mechanical pig" (2021, para. 12), says Tratner. In disassembling the pigs, the characters have hidden from one another crucial mechanical parts, central to each automaton's functionality, called Prime Movers. The Prime Movers must be restored to successfully reassemble the pigs, which would also restore the "central presence" that Derrida says has been lost. The search for a center is also the search for structure, which for Tratner

[…] becomes the central concern of the overall work—is there a structure? A structure to the novel? A structure to the vast array of cultural icons and entertainment figures? A structure to the world of sociopolitical issues? A structure to human reality? (2021, para. 14)

As the novel's response to this overall question of structural "dis[re]connection," Tratner finds "hints at an alternative to the chaos which Baudrillard condemns and Derrida in a sense welcomes" (2021, para. 13) in the final "Picture Book" sequence (Holeton, 2021a, lexia 3.1.07 to 3.1.09, 3.2.07 to 3.2.09, 3.3.03). In these passages the characters rendezvous at Shower-Lourdes with their respective pieces of the pigs, including the Prime Movers. The text is accompanied by crude stick drawings that might illustrate a children's book, intimating perhaps the hopes of a "new generation" (Tratner, 2021, para. 19). If a central theme of the novel is the alienation or disconnection wrought by a world of copies in which "bureaucracies and icons substitute for actual communication" (Tratner, 2021, para. 7)—a phenomenon brought into laser focus during the global pandemic beginning in 2020, with our increased dependence on remote institutions and technologies to make human connections—then we can hope that Tratner is right in finding in *Figurski* an "answer to postmodern despair" (2021, para. 19). I will leave it to interested readers to read the novel for themselves and

make their own determination.

Acknowledgements

I wish to thank ARDIN and the ICIDS 2021 Jury for their interest in my work and for the opportunity to contribute to this volume. *Figurski at Findhorn on Acid* owes its existence, and especially its rebirth, to a host of colleagues, critics, and friends. Fellow e-lit author Bill Bly generously helped me jumpstart the modern HTML edition. Dr. Dene Grigar, indefatigable director of the Electronic Literature Lab at Washington State University Vancouver and past president of the Electronic Literature Organization, led the effort and the team who technically reimagined and redesigned the novel for modern web languages. Among that team, the talented Holly Slocum led the innovative new design. Finally, I'm eternally grateful to the late Michael Tratner, critic and friend, for his enduring interest over the years in *Figurski*, and for his critical introduction to the archival web edition. It was the last thing that he wrote.

Appendix A

[The flash fiction "Streleski at Findhorn on Acid" (Holeton, 1996) follows in its entirety.]

Streleski at Findhorn on Acid

Theodore Streleski. Paroled in 1985 at age 49 after serving seven years for killing Stanford mathematics professor Karel deLeeuw, his faculty advisor, with a hammer. Previously spent 19 years in graduate school without completing his Ph.D. Refused psychiatric treatment in prison; steadfastly maintained that the beating death was a logical and moral reaction to his mistreatment as a Stanford graduate student. Said that deLeeuw had made fun of his shoes, erroneously

identified in news reports as wing tips. "They were Florsheims and they were seamless," said the 6-foot-4, bearded, long-haired Streleski in appearances on the *Today Show* and *Phil Donahue*. "They were standard oxfords with a high shine on them." In April 1993, San Francisco Municipal Railway offered him a farebox-technician job but withdrew the offer two weeks later following negative publicity.

Findhorn. A New Age community on the Moray Firth in Scotland established in 1962 by Peter and Eileen Caddy and Dorothy Maclean in a trailer park near the fishing village of Findhorn. Anecdotal accounts of the 1960s and 1970s told of remarkable gardens producing 40-pound cabbages, 60-pound broccoli plants, 8-foot delphiniums, and roses blooming in nothing but sand and snow. Love, and communication with Nature Spirits, were credited with the horticultural miracles. The community attracted spiritual seekers from all over the world. The Findhorn Foundation promotes values of harmony, spirituality, ecology, and community building summed up by the inspiration, "Work is love in action."

According to former Findhorn resident David Spangler, "You are either manufacturing darkness through your own inner states of anxiety and fear and separation, or you are creating light and revelation through your abandonment of those past states and your attunement to new ones."

Acid. Street name for LSD (lysergic acid diethylamide), a powerful hallucinogenic drug derived from a fungus that sometimes grows on rye. In doses as small as 50 micrograms, perceptual effects include increased impact of sensory stimuli such as colors and sounds; attention to normally unnoticed aspects of the environment; and the sense of time slowing down. Cognitive effects include impaired short-term memory, enhanced long-term memory and introspection, changes in sense of self and ego, a sense of separation of mind and body, or a sense of unity with the environment and the universe. Emotional effects include increased susceptibility to suggestion; heightened sensitivity; and magnification and purification of feelings such as love, lust, sympathy, gratitude, terror, despair, anger, or loneliness. These effects may bring on paranoia, fear of loss of control, and panic -- or euphoria and bliss.

Scene: Phoenix Shop at The Park, Findhorn, which sells books, crafts, natural foods and remedies. Background music playing (Peter, Paul, and Mary): "If I had a hammer, I'd hammer in the evening, I'd hammer in the morning, all over this land. I'd hammer out freedom, I'd hammer out justice, I'd hammer out love between my brothers and my sisters..."

Streleski: Whoa... Wow... Hmmph.

Clerk/Community member: Hey man, are those wing tips?

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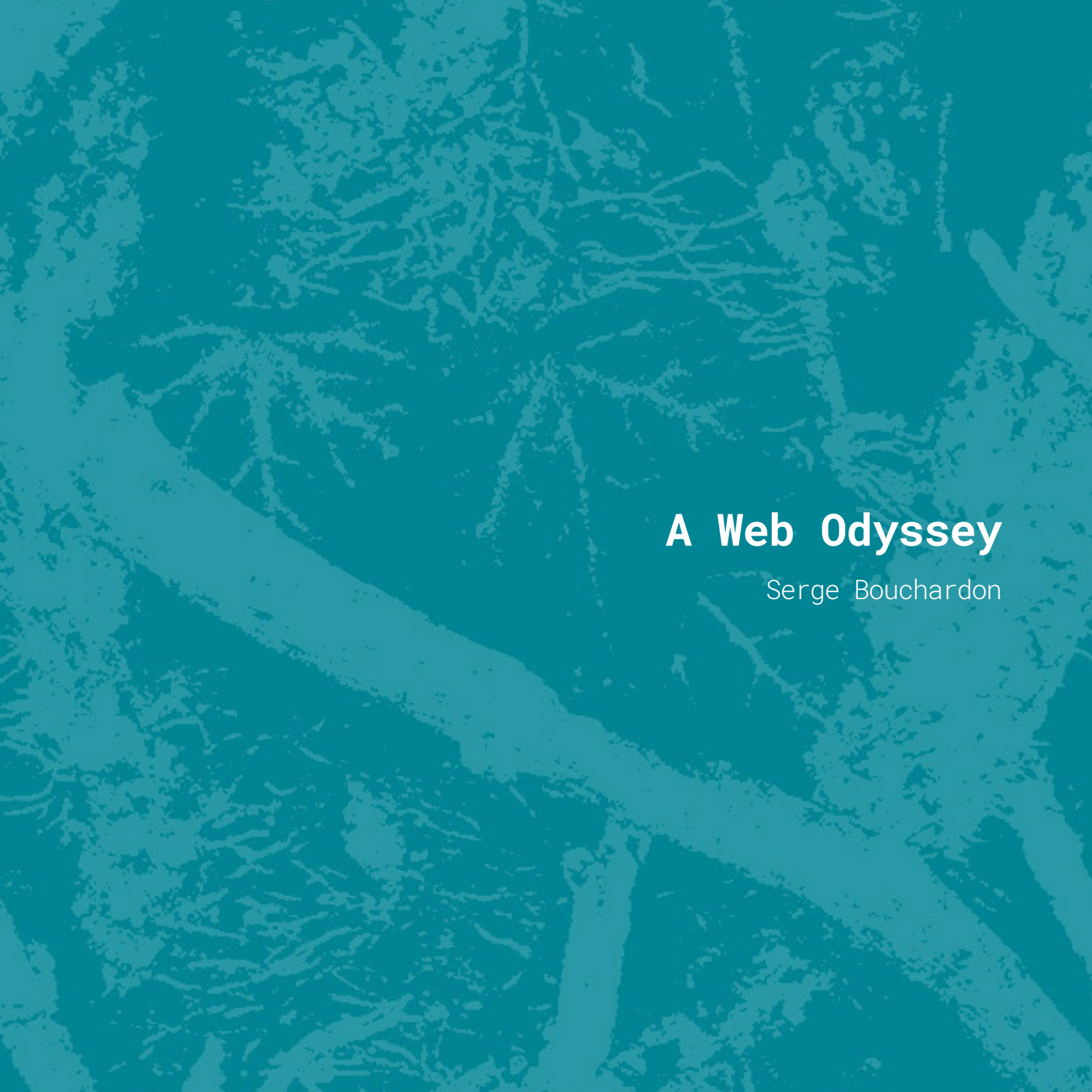
Images

1. Contemporary mode. Lexia Figurski 1.x in Contemporary mode
2. Classic mode. Lexia Figurski 1.x in Classic mode.
3. Time Lines
4. Navigation Panel
5. Navigator lexia
6. Text links. Link button is active; linked text is in wireframe (in this case the phrase "curved spacetime" links to Note 132, which is a quote from The Physics of Star Trek (Krauss, 1995).
7. Map view: Lexia Map. The Lexia Map shows the local structure, in this case local to lexia 1.1.01.
8. Map view: Global Map. The Global Map shows the global structure.

Richard Holeton is author of the critically-recognized hypertext novel *Figurski at Findhorn on Acid*, republished in a 20th anniversary archival web edition by the Electronic Literature Lab, Washington State University, in 2021. His other electronic and multimedia literature has been widely performed, exhibited, and published in venues such as *revue bleuOrange, Notre Dame Review, Counterpath Press Online, Kairos, ISEA, DH Unleashed*, and ELO conferences. His Pushcart-nominated short fiction and experimental poetry have appeared in *Indiana Review, Mississippi Review, ZYZZYVA, F(r)iction, Forklift, Ohio*, and *Cult Magazine*, among other journals. He's been awarded fellowships from MacDowell, the National Endowment for the Arts, the California Arts Council, and the Henfield Foundation. A former writing teacher and administrator at Stanford University, he lives near Half Moon Bay, California.

Medium: Web-based, Interactive Narrative
Year of Release: 2021
Link to the artwork: https://a-web-odyssey.utc.fr/index.html
Artist Website: http://sergebouchardon.com/



A Web Odyssey

Serge Bouchardon

"This work compares the navigation of Ulysses to our navigating the web. This funny, original idea leads to a story with game elements that is fun to play, where the user has to solve small interaction puzzles related to web navigation perils. Those puzzles are entertaining and surprising and contribute very well to a coherent experience of an adventure through web navigation."

ICIDS 2021 Jury

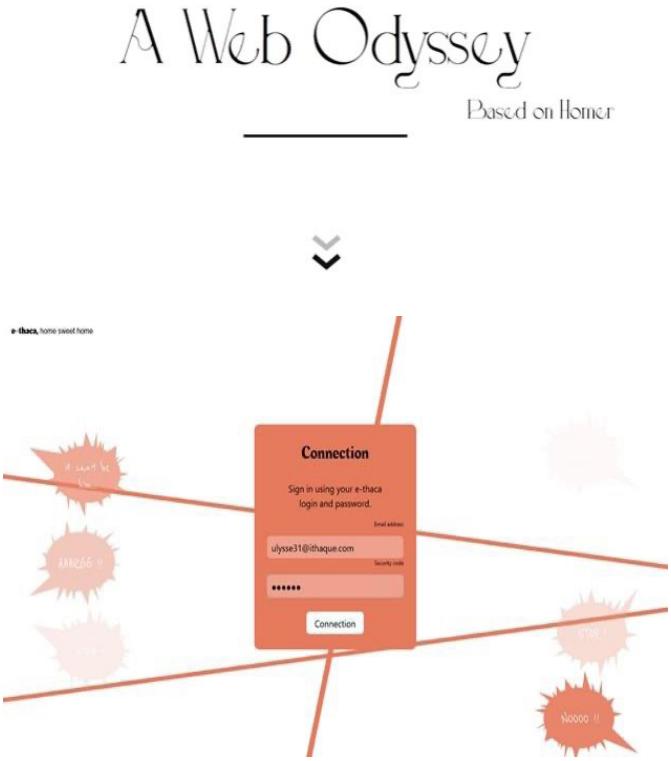
A Web Odyssey

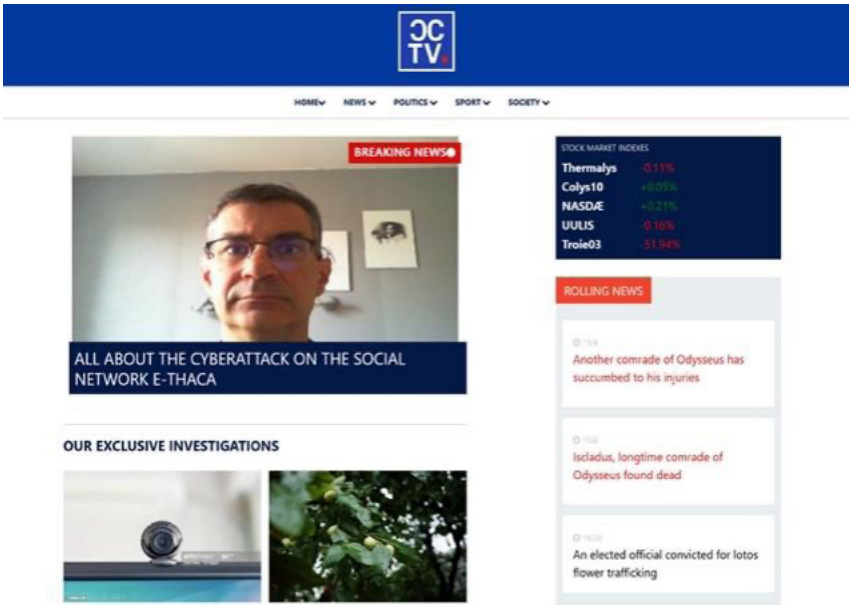
Abstract
The interactive narrative *A Web Odyssey* deals with the navigation on the Web. It is based on the figure of Ulysses trying to navigate back to Ithaca and reconnect with his island, kingdom and home. It features the different episodes of *The Odyssey* (the Cyclops, Circe, the Sirens, Calypso…). The goal of the user is to reconnect to the e-thaca network. Parallels are then drawn between the oblivion caused by the lotos flowers and the infinite scrolling of social networks, the eye of the Cyclops and the webcam which monitors the Internet user (and which must be blinded or disabled), the Underworld and the Dark Web… The ecological question is also addressed through the Sirens, who feed on human flesh, and the streaming platforms which consume a lot of energy and data and feed on the resources of our environment.

Keywords
Social networks, social media addiction, webcams, surveillance, cyberbullying, online gaming

Description

In this story, like Ulysses, the user needs to have a good understanding of the (connected) environment to interact effectively and complete their journey. This interactive narrative, which articulates literary, educational and recreational dimensions, invites us to reflect on digital technologies, social media, platforms, and our will and (dis)ability to disconnect and reconnect.





Serge Bouchardon is Professor at the University of Technology of Compiegne (France), where he teaches interactive writing. His research focuses on digital creation, in particular digital literature. As an author, he is interested in the way the gestures specific to the Digital contribute to the construction of meaning. His creations have been exhibited in many venues in Europe, America, Africa and the Middle East. They have also been selected in various online reviews (*bleuOrange, Hyperrhiz, SpringGun, The New River*).

Medium: Twine, Interactive Narrative
Year of Release: 2021
Link to the artwork: https://andrewphelps.itch.io/the-witchs-way
Artist website: https://andyworld.io

The Witch's Way

Andrew M. Phelps and Doris C. Rusch

"[…] a playful and inviting story of the main character Lou's magical journey […] takes you down a rabbit hole of intrigue and alternate reality."

ICIDS 2021 Jury

The Witch's Way: A Transformational Story Adventure

Abstract
This work explores the design and creation of games intended to promote existential, transformative change—games that directly engage the player in the contemplation of life, with the ostensible goals of reflection, awareness, empathy, and growth. Through this work we intend to recontextualize games as a form of art that can move us profoundly, drawing on existential themes and awareness of the human condition in direct fashion, spurring our consideration of our place in the universe, and our own agency with respect to the meaning of our lives and relationships. The authors have spent several years theorizing a research-based design model for such games, and this work marks the first game that has been born directly from that framework as an exemplar of the form and format of more theoretical work. Thus, the game seeks both to illustrate the components of an existential, transformative game design framework as previously theorized, and also acts as a tool for analysis in considering how elements from the framework map to concrete elements of implementation. This work reviews the theoretical model that informed the design, discusses and dissects the game itself as an exemplar form, and presents the game itself for consideration of players and designers.

Keywords
Existential game design, game design theory, game narrative, interactive narrative, twine, story-based games

Game Overview

The Witch's Way is a text adventure game in which you play a middle-aged woman named Lou, who decides to take time out from her outwardly successful but inwardly unfulfilled life, and move to a cottage in the wood left to her by her aunt. There, she establishes contact with nature, the Unknown Forest behind the cottage, and the mysterious beings that dwell within the woods. Guided by animals, a wise and quirky bookshelf and her aunt's magical clues, Lou learns about the Witch's Way and how to live in greater alignment with herself and the world around her. The disconnection from her everyday business, the noise of "culture" and habitual yet unchallenged social rules and environments, facilitates a profound reconnection to Lou's true nature, her deeper self and a reclaiming of her integrity. Through the symbolism, mythical imagery and rituals of the interactive narrative, players get to explore the possibility space of Lou's inner world. By making choices about which of her parts to listen to—the one that knows or the one that doubts—players can own the journey and discover what might be most true for themselves. Conceptualized in four seasons that tackle various personal development themes, the first part—Spring—has been released and is featured here. It focuses on the re-awakening of creativity through three technologies of magic: Wordlessness, Oneness and Imagination. (Martha Beck, 2012). It further ties up to several years of research on existential transformational game design, which addresses the bigger question of how we can design games that contribute to a meaningful life. The existential, transformational game design framework draws on existential psychotherapy as well as myth and ritual studies, particularly from a psychotherapeutic perspective, and in conjunction

with experiential notions of play and design.

Introduction

This work builds upon several years of design-oriented theoretical work, and the creation of a design model for the creation of existential, transformative games. We have published extensively on their model as it has developed, (Phelps & Rusch, 2020; Rusch 2020; Rusch & Phelps 2020; Rusch 2018) and have examined at length not only the design of games for meaningful transformation, but the underpinnings of these approaches and how these themes and ideas borrow approaches from existential psychotherapy as well as depth and archetypal psychology, myth and ritual studies. In this work, both of them have been active for a while in the so-called 'games for change' or 'games for impact' communities and have become frustrated with certain tenets and norms of this space; namely that the kinds of transformations most sought after are those that are easily measurable across multiple participants at scale, and those that are predetermined at the outset prior to the actual playing of the game itself. In this way, these spaces seek to define 'change' or 'impact' in ways that are in a very real way detached; they idealize 'change' as small, discrete, and measurable changes in attitudes or perceptions or actions given particular stimuli, and imagine that these are successful if they are repeatedly and reliably transferred to the 'real' world. And yet, as Paulo Pedercini noted in his critique at Games 4 Change in 2014, "the kinds of change we can clearly measure are not all that interesting". While there is of course value in these kinds of games and their design towards these notions of change, we are focused instead on the creation of games that spur us to reflection of the human condition, ourselves, our lives, and the betterment of our own inner sense of be-


A Transformational Story Adventure
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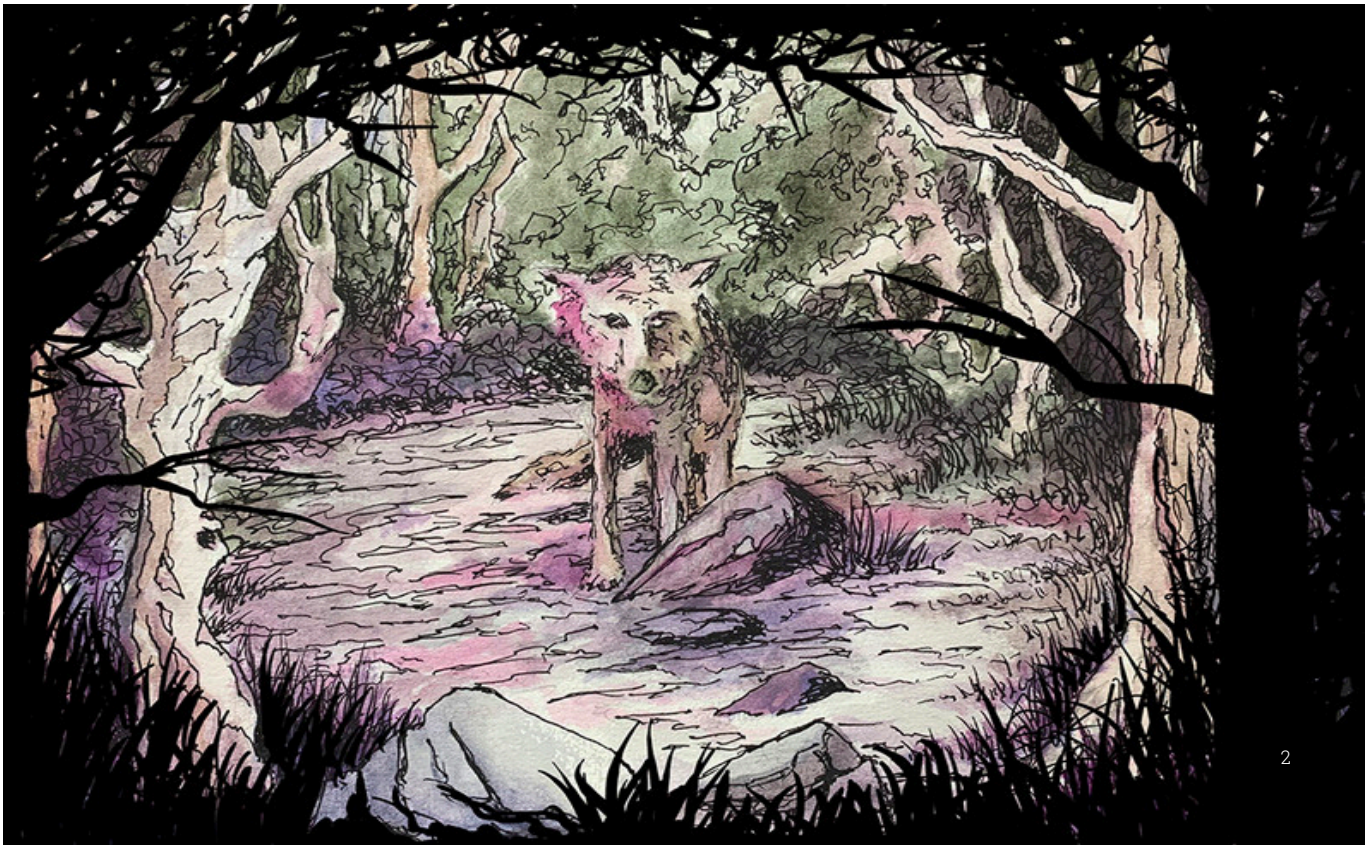
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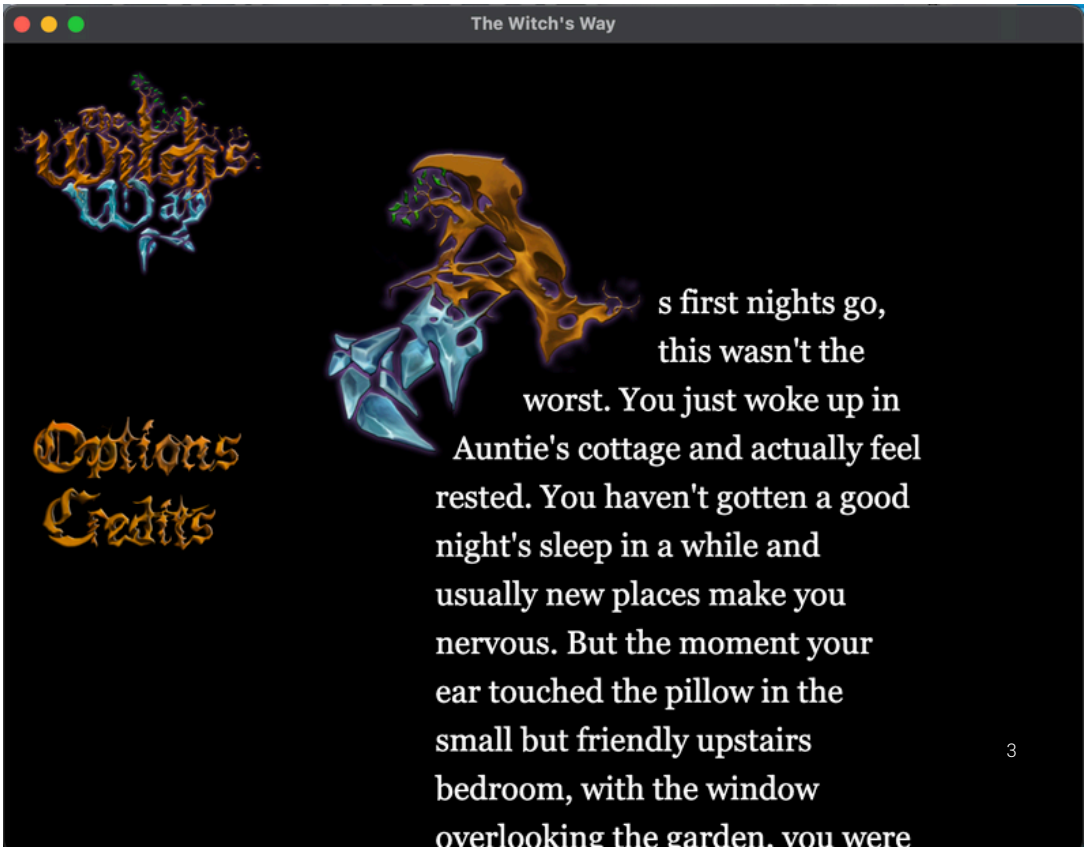
longing, being and meaning. Humans are, in this sense, both extremely complex and extremely individual: to design for such 'inner shifts' a more individualized, contextualized approach is needed, and the evaluation of such games must also be contextualized very differently than has been previously understood.

Instead of focusing on repeatable, if minute, measurable changes in perception or attitude, we instead borrow heavily from the tenets of existential therapy and the notion of individualized therapeutic intervention. To complement this approach, we also draw on archetypal and depth psychology as well as myth and ritual studies. The importance of myth as narrative patterns that give meaning to our existence and can help orient us towards our purpose or calling has been recognized by existential psychotherapists (May, 1991). Existential psychotherapy rejects the notion of 'mental illness' and focuses instead on creating a deep connection with the true self, understanding our purpose, and our place within the world. It replaces the notion of a 'patient' with that of a 'client'—the goal of such therapy is not to 'fix' or 'cure' a given individual but rather to help them achieve goals and objectives that they themselves are engaged in identifying, and that are personal and individual. In this way, clients are met where they are currently self-identified and positioned with regard to their identify, rather than via predetermined assumptions or inferences on background. Notably, Phelps and Rusch do not propose that these methods are all-encompassing, but rather that there exists within this space a conceptual area to re-evaluate the concept of games for transformational change in ways that existing frameworks (Culyba, 2018) do not recognize and therefore lack sufficient guidance as to their design.

It is the focus on individuality that is key to this work. Existential psychotherapy holds as its root the consideration of the so-called 'exis-


The Witch's Way
Witch's Way
Options
Credits
s first nights go, this wasn't the worst. You just woke up in Auntie's cottage and actually feel rested. You haven't gotten a good night's sleep in a while and usually new places make you nervous. But the moment your ear touched the pillow in the small but friendly upstairs bedroom, with the window overlooking the garden, you were
3

tential givens,' that 1) life is finite, 2) there is no universal truth, but that we must find meaning for ourselves, 3) we must make choices of consequence, and 4) we are ultimately alone (Yalom, 1980). In this way, existential psychotherapy takes the individuality and personal journey of its clients into account directly, while doing so through a lens of universal concerns. Furthermore, psychotherapy also posits the idea that when viewed from an existential perspective the good life is an authentic life, a life in which we are as fully in harmony as we can be. Inauthenticity is illness, is our living in a distorted relationship with our true being (Bugental, 1990).

As noted in an earlier work:

Games can contribute directly to authenticity and inner balance by recognizing the connectedness between authenticity and the unconscious. Put another way, it is in recognizing the alignment between the goals that we think we have, and the goals that we really have. This leads us in turn to seek out tools to connect with the unconscious, to invite the player to ponder and reflect, and to get in touch with the emotional and underlying mechanisms of what really drives and moves us towards change" (Phelps & Rusch, 2021).

The tools identified to tap into the unconscious, to create a sense of resonance and engagement with players around these themes are, unsurprisingly, myth, symbolism, and imagery, as famously evidenced by Rollo May's work *The Cry for Myth* (May, 1991), who noted that modern people need myth to help make sense of their complex existence.

Design Elements and Components: Mythology and Symbolism

Utilizing myth and ritual to tap into the unconscious and shared cultural context is nothing new in video games. Indeed, numerous games


The Witch's Way
Witch's Way
Back
Forward
Options
Credits
there is a user manual dangling unceremoniously from a piece of ordinary string on its left hand side, which Spunk has started to attack immediately.
Auntie must have affixed it for you because she wanted you to
4

have utilized the psychologically resonant power of myth (Goodwyn, 2016), mostly by utilizing and incorporating existing mythological narratives within their structure(s). Examples include, but are by no means limited to, *God of War* (Sony Interactive Entertainment, 2005), *Darksiders* (THQ, 2010), *Apotheon* (Alientrap, 2015), *Dante's Inferno* (Electronic Arts, 2010), and many others. While this is certainly an effective approach, it also implies working with a limited set of myths that have already achieved a sort of cultural prominence and background. We focus instead on how to expand beyond this set of pre-defined or pre-resonant material and explore how new material can be created that carries the potential of myth to connect players with unconscious, resonant themes that can ignite individual processes for change. And, again, it is this individuality that is key:

"The power of myth is that it works without having to analyze it intellectually. If the recipient is in the right mindset —open to the themes the myth deals with—the symbolism and imagery within the story "resonate" and activate the recipient's imagination" (Rusch & Phelps, 2020).

Or, in the words of Jung:

"the auditor experiences some of the sensations but is not transformed. Their imaginations are stimulated, they go home and through personal fantasies begin the process of transformation for themselves" (Bonnet, 2006).

As an example of this kind of individual, lasting shift, one need look no further than the account of Sophia Ouellette, who played the game *Journey* (thatgamecompany, 2012) with her terminally ill father shortly before his death. She notes that:

"I think that that gave my dad some kind of peace because near the end of his life, he was playing a game that told him that in the end it would be all right" (Comulada, 2016; Takahashi, 2013). This change is profound, meaningful, and

decidedly individual: yet its singular nature does not diminish its impact.

In order to put these elements into practice, we turn to the concepts of active imagination and dreamwork as two psycho-technologies that have been developed by Jung (1997; 2001) and further explored by more recent scholars (Feinstein & Krippner, 1988; Feinstein & Krippner, 1997; Goodwyn, 2018; Johnson, 1986; Moss, 1998) to surface unconscious material. As Joseph Campbell stated: *"Myths derive from the visions of people who have searched their own most inward world"* (Campbell, 2004). By exploring their own minds and listening to their "inner storyteller" (Goodwyn, 2018) as it speaks to them, game designers can create psychologically potent imagery and symbolism through techniques involving intentional practice and active imagination (Jung, 1997; Johnson, 1986; Rusch, 2020). Myths and associated imagery authored in such fashion and with these elements in consideration have a much better chance of resonating with players and being universally recognizable.

Design Elements and Components: Ritual is Myth Enacted

These concepts are further enmeshed with games in noting that ritual as performed by players is in essence myth enacted. Through action, players or performers get a handle on inner processes through their own actions. An example of this form of interaction are the famous "poetic acts" of Jodorowsky (2010; 2015), which are a form of theatre counselling. In one such ritual, designed for clients who feel they have failed in life and are contemplating suicide, he offers the conclusion that such a state is incurable and that the client has no choice but to simply "die and be reborn as a new person" (Jodorowsky, 2015). This involves an intricate series of

rituals and actions as the client is buried, dug up, washed clean, and given a new identity. As Thompson et al. (2009) note, the emphasis here is in the doing — this is what makes the symbolic acts real to the mind.

This is not merely pretend play without consequence, but rather a space in which the rules and consequence of embodied, symbolic action are altered to fit with goals and objectives of the player themselves. As Rusch and Phelps note: "various symbolic actions are indexical rather than iconic; the feigned death is not about pretending to be physically dead, but it refers to the more elusive concept of letting go of an old self" (2020).

Games thus lend themselves to this idea of ritual not only at a content level but also through their form as interactive media where player action is inherent to the engagement. Players must take direct action in the myth itself, determining how and along what path it unfolds, as this is inherent in the concept of interactive fiction interventions, or as Murray describes them, "symbolic dramas" (1997).

Design Elements and Components: Expriential Game Design

The third element of the theoretical design model is the concept of "experiential gameplay" as put forward by Phelps et al. (2020), which notes that the experience of gameplay provides both a sense of agency and of direct effect. This expands on notions of "flow" (Kiili, 2005) and numerous other education theories. It is perhaps best described as a combination of procedural rhetoric (Bogost, 2010) ideas around mechanics coupled with complimentary aesthetics in a sort of "what you play is what you do" design space, seeking to re-orient a game-for-learning approach such that the act of playing the game itself is sufficient for the desired learning out-

come without any other act needed other than playing and reflecting on the play experience. Thus, the concept of experiential play centers on the idea of open-ended, metaphorical, resonant types of learning where the player is made to 'feel what it is like' to have a certain experience or reaction or moment, rather than a focus on rote knowledge retention or application.

These kinds of experiential approaches have proven to be effective with players in describing and translating complex topics (Phelps et al., 2020), but are, again, highly individualized. Phelps notes this highly individualistic potential for change at the intersection of personal history and game design via his own history with *Missile Command* (Atari, 1980; Phelps & Rusch, 2021) but this kind of personal approach is applicable across a broad spectrum of games and players. The idea that players bring their past histories and experiences to bear in interpreting new media is anything but new, and yet it is critical to note in this context as it speaks to the individuality of experience, even when designing for shared resonance.

Mapping a Design Space

Together these three elements: existential themes and subject matter, the incorporation of myth and ritual in both aesthetics and mechanics, and a more open-ended, experiential, and exploratory element of play work together to define a space where games have significant potential for transformation. While individual designs may gravitate to one of these pillars, games that incorporate two or even all three elements to a greater degree are often significant in their potential for nudging players to reflection, contemplation, analysis, and lasting insight. This is visualized by Phelps and Rusch (2020) in the diagram in image 5.

It is important to note that this repre-

sents a bounded but continuous space: individual games will map to different points or areas within it. Indeed, Rusch and Phelps map various games against this triangle, with discussions of *Walden, A Game* (Walden, A Game, n.d.), *Elude* (GAMBIT MIT, 2010), *Fragile Equilibrium* (Phelps, 2019), *Spiritfarer* (Thunder Lotus Games, 2020; Bugental, 1990), and many more in their various writings that further their theories on this design model. As they note:

[…] together these elements form a general notion of design that aspire to emotional and psychological resonance. They work together to create games that are primed to move us, that speak to us unconsciously, primally, even when they engage us intellectually and emotionally. We can then use this mapping in considering additional designs: does the design engage the player strongly on at least one, and ideally more than one, axis? Does the design use both mechanics and aesthetics to reinforce the relationship between these pillars? Does anything in the design threaten the interpretation and reflection of these pillars from the player perspective? (2021)

This framework, then, provides a mechanism to continuously and reflexively evaluate design choices and game elements from an existential, transformative lens. It provides a way of mapping individual mechanics, story elements, themes, and symbols against a background to ensure cohesion, congruity, and connection. It provides a roadmap for designers in this space, seeking to create games of their own design that aspire to existential, transformational goals.

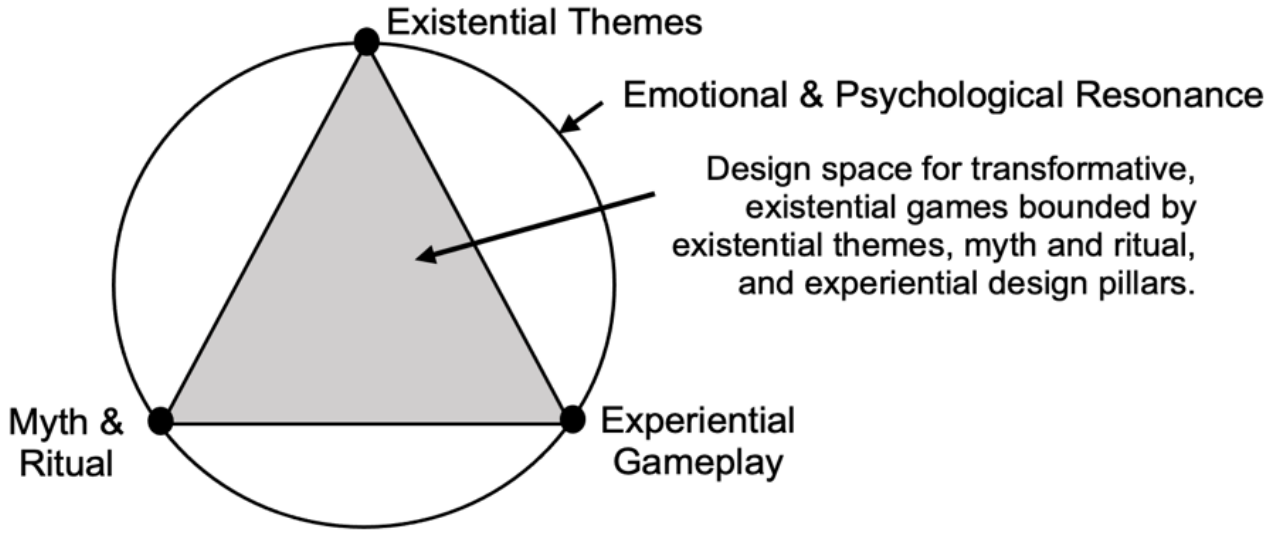


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Figure 5 depicts a triangular space between 1) existential themes, 2) myth and ritual, and 3) experiential gameplay. Between these three elements, there is a space ripe for the design of transformational games. This image is reprinted from prior work at DiGRA 2020 by the authors. (Phelps & Rusch, 2020)

Design Space in Practice: *The Witch's Way*

The Witch's Way maps onto our existential, transformational triangle in multiple ways: creative recovery is connected to the existential theme of identity and choice. How to reconnect with and live authentically and in tune with one's true nature?

The story that emerged with its images and symbols might be considered mythical in so far as its "true meaning [can be] understood as inner processes" (Kirmayer, 1999). The writing was guided not so much by deliberate construction of a plot – although there was a transformative arc inscribed in the metaphor of Winter giving way to Spring by virtue of a ritualistic, liberating act – but by the intent of tapping into the psychic energies of the different stations of a personal development process. As an interactive experience, *The Witch's Way* aims to allow players to explore its images and symbols firsthand and to enact rituals such as stopping destructive inner voices, replacing their eroding background commentary through affirmations, dissolving the dungeon walls of an inner prison, tapping into the unbridled joy of creative, playful moments etc. While text-based, our hope is that the choices offered give players the kind of agency required for an embodied experience that facilitates the psychic impact of performing rituals. Preliminary playtesting has indicated that the game's imagery and symbolism as well as its deeper existential themes are evocative and understandable to players on a deep level. Testers have reported feeling touched and emotionally moved in ways they found surprising and profound and that the game made them reflect on their own choices and areas of misalignment.

Magic and (Re)Connection in *The Witch's Way*

Also critical to the discussion of the game is the role of magic within it, both literally as the system of magic as engaged by the player (i.e. the thaum-pump, associated forest, and balancing system) as well as magic as viewed as a metaphor for connectedness and oneness. In the game, the eventual goal of the player is to connect with this system, to understand it, balance it, and effectively recognize it as pervasive to all other elements: the forest, the NPC's, the house, the animals, etc. The tension of the initial chapter hinges on the tension of being disconnected from this system, and from the system itself being broken and in need of repair, which is a reflection of Lou as the game opens: a quest for connection, for peace, for oneness and fulfillment. The game thus specifically explores the idea of magic as metaphor – what it is, how we can access and develop it—to live with personal meaning and purpose. With this exploration of magic, our design process opened the door to further theorizing, adding to the framework as well as design practice by drawing on research in neuroscience. We are currently exploring key ideas that inform the magic in *The Witch's Way,* e.g. Whole Brain Living, how we attend to reality, open focus, embodiment and how the "technologies of magic" as social scientist Martha Beck (2021, xxiv) calls them that arise from this, shape what we can imagine and thus manifest in our lives, all of which speaks to the theme of [Re|Dis] Connection.

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tial-psychotherapy/9780465021475/

Images

1. The launch poster for The Witch's Way, a collaboration between Doris Rusch and Andrew Phelps.
2. This is an illustration of Dog, as described in the story at first as threatening, but actually very lonely and neglected, in a clearing in the forest. Original watercolor by A. Phelps.
3. The opening screen of The Witch's Way, as played on MacOS.
4. An illustration of the Thaum-Pump, as seen inside the game.
5. Mapping a design space for transformative, existential games, as published at DiGRA 2020.

Dr. Doris C. Rusch is a professor of game design with a special focus on Transformative Play at Uppsala University, Department of Game Design. She is the author of "Making Deep Games" and numerous journal papers and book chapters, has given conference presentations and keynotes at GDC, FDG, Meaningful Play, FROG, DiGRA and a variety of other well-known games conferences. She is the vision holder and lead designer of many award-winning games that deal with mental health issues and other salient aspects of the human condition, from depression to domestic violence. She is collaborating with Prof. Andy Phelps on the Existential Transformative Game Design Framework, a design framework to create games that contribute to a meaningful life and which draws on existential psychotherapy, depth psychology as well as myth, ritual to create experiences with deep, psychological resonance, which can ignite change in a self-directed and uncoerced manner.

Andrew "Andy" Phelps is a designer and professor at the Human Interface Technology Laboratory NZ (HITLabNZ) within the College of Engineering at the University of Canterbury in Christchurch, New Zealand exploring virtual and augmented reality, games and education, and art and interactive media experiences. He is also a professor in the Film & Media Arts division of the School of Communication, holds a joint appointment in the Department of Computer Science, and is the director of the AU Game Center at American University in Washington DC, USA. Phelps is also currently president of the Higher Education Video Game Alliance (HEVGA), and his work in games is recognized internationally. His latest game is *Fragile Equilibrium* (XBOX, Steam, Itch.io 2019), and he maintains a website of his publications, popular writing, artwork, curriculum development, and more at andyworld.io.

Medium: Videogame
Year of Release: 2020
Link to the artwork:
https://store.steampowered.com/app/1345370/Promesa/
Artist's Website: https://www.julian-pg.com/

Promesa

Julián Palacios Gechtman

“Promesa is a gorgeous walking Interactive Digital Narrative (IDN) wherein users move through virtual environments that connect to memories. It poses an interesting twist on a videogame: an introspective trip into memories, and into the intimate relationship between two men: grandfather and grandson. A slow-paced journey, with beautiful imagery and sound.”

ICIDS 2021 Jury

Promesa

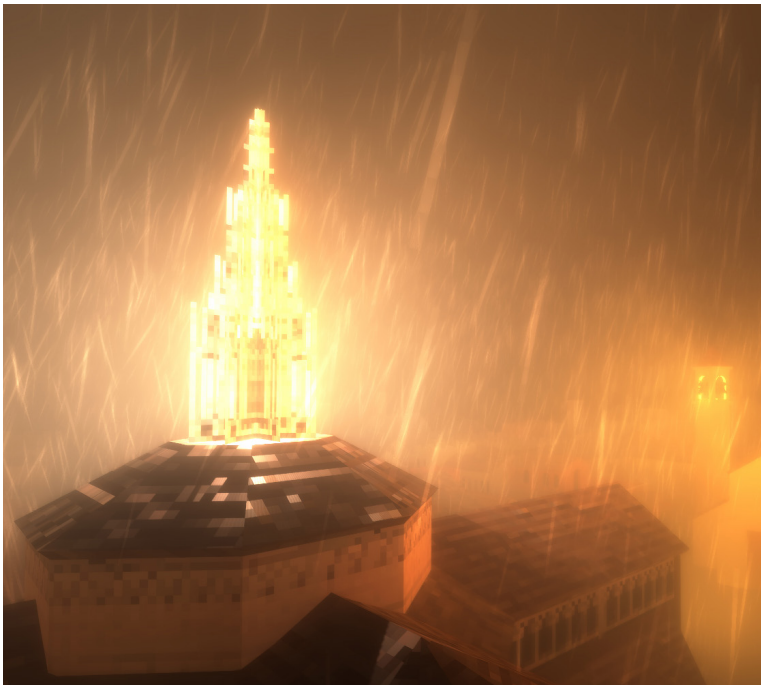
Abstract
Promesa is a contemplative experience where you'll wander through the dreams, memories and fantasies emerging from a dialogue between my grandfather and me. It's a personal project about the way our identities are intertwined, and about how this stream of inner images it's what's left to connect us when living far away from each other.

Keywords
Memory, family history, first person, meditative, walking simulator

Description

Promesa explores how the videogame image is linked to memory: the sensations coming from our individual interaction with virtual spaces is able to resurface the sensations from our past experiences, connecting our virtual presence with our physical, past presence.

Julián Palacios Gechtman is a multimedia artist and videogame developer. In his work, he uses 3D space to explore the connections between memory, fantasy and identity.



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Interactive Storytelling Art

Medium: VR
Year of Release: 2019
Artists' Website: https://feel-lab.org/research_projects/the-visit/

The Visit

fEEL (felt Experience and Empathy Lab),

University of New South Wales, Australia

"The concept is strong and attempts to raise awareness of and empathy towards minority/ marginalised groups suffering from dementia. The treatment of a sensitive subject concerning a medical condition is dealt with respectfully and responsibly."

ICIDS 2021 Jury

Cultivating empathy through VR engagements with lived experience

Abstract

The Visit is an interactive non-linear 6-degree-of-freedom real-time video installation and Virtual Reality experience, developed from an interdisciplinary research project conducted by artists and psychologists working with women living with dementia. Visitors are invited to sit with Viv, a life-sized, semi-realistic, and responsive character whose dialogue is scripted largely from verbatim interviews. The work draws us into a world of perceptual uncertainty, while at the same time confounding stereotypes and confronting fears about dementia. The characterisation has both scientific validity and the qualities of a rich, emotion-driven film narrative. The point of the work is to draw the viewer into the emotional and perceptual world of Viv.

Keywords

Lived experience, dementia, interactive narrative, immersive media, computer animation, virtual production

Entering Viv's world

Using an untethered Oculus Quest Virtual Reality (VR) headset the viewer arrives in Viv's kitchen and is invited to sit down and "stay a while". She adds "I don't see you that often". Viv (Figure 1) is the protagonist in *The Visit,* a VR experience that aims to cultivate empathy and understanding of people living with dementia. Her potentially confabulating narratives and disclosures of aural and visual hallucinations are taken near-verbatim from interviews with people living with dementia as they talk about their experiences of the everyday. *The Visit* challenges the viewer's expectations both in their role as VR user and as visitor/companion spending time with a person living with dementia by subverting expectations that the agency and autonomy of the VR user, who becomes the visitor in this scenario, are prioritised. Instead, the viewer is charged with investing time to sit with Viv, and attune to her narratives (Rogers, 1959). In what may initially appear to be a passive observer role, the viewer is challenged with coming to understand how they respond to being in the company of a person living with dementia, and attending to any thoughts, feelings or emotions that arise from their engagement. In inviting viewers to engage with the non-linear narratives that reveal the lived experience of dementia, *The Visit* aims to influence behaviours to overcome the societal stigma associated with this condition.

In addition to the VR version, *The Visit* has been exhibited as an interactive screen-based installation and is also available on smart phones and tablets (Figure 2).

Virtual Production

The Visit was designed and constructed using Virtual Production (VP methods)—comput-

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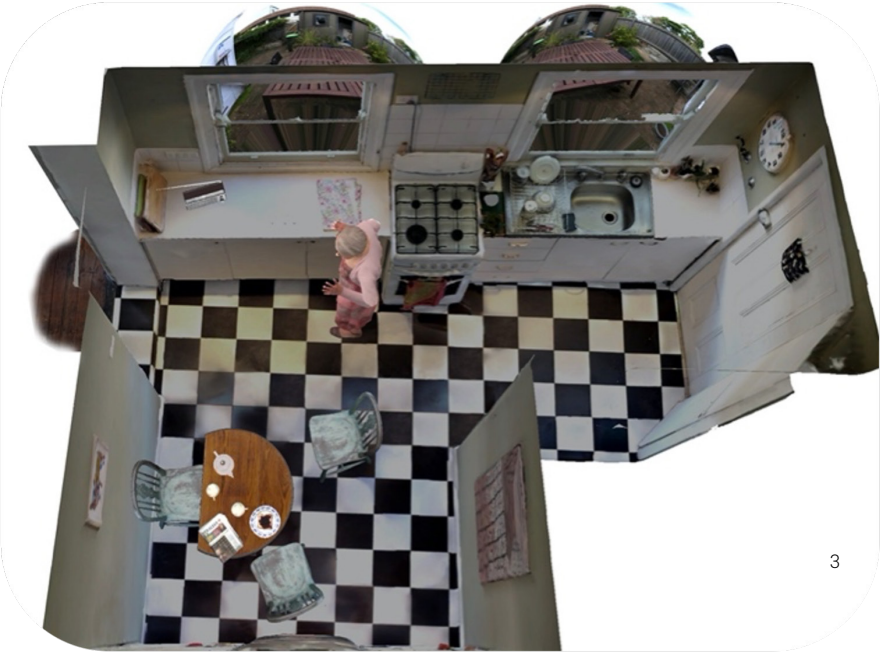

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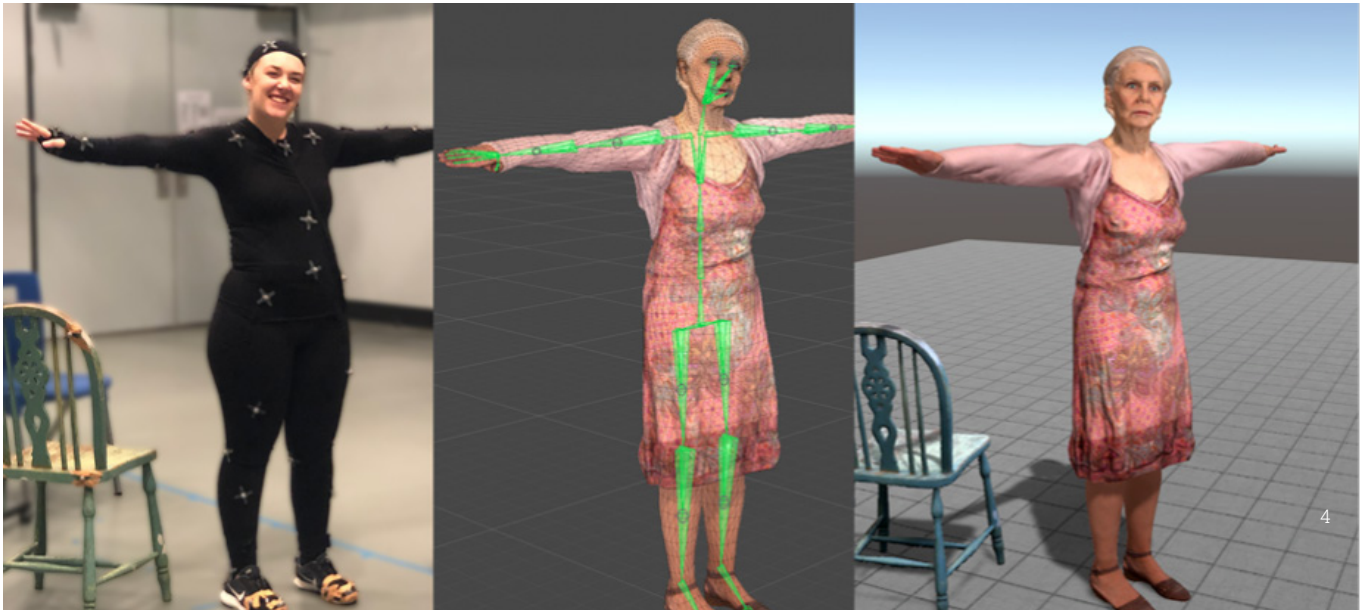
er-aided production and visualisation. VP leverages real-time visualisation of characters and digital sets in combination with live-action capture. It is where filmmaking and computer game technology, or the physical and the digital world meet. Traditional film making practices are merged with current and ongoing advances in real-time technologies to enable creative choices to be made early in the production process. *The Visit* aims at providing the viewer with an authentic experience of engaging with a person living with dementia by bringing together the verbatim stories of people with dementia in a composite character voiced by Australian actor, Heather Mitchell. The digital character was animated using Motion Capture, and to retain authenticity Viv's kitchen was created from a 3D photogrammetry scan of the kitchen of one of the interviewees (Figure 3). The character, animations and set for the kitchen were assembled with the computer game engine Unity 3D.



Character

Viv is a composite digital character bringing together the narratives of five women living with dementia. The 3D scanned and rigged character was purchased from renderpeople.com and animated using Motion Capture (MoCap) processes. A MoCap actor performed movements, which were digitally recorded for the purpose of animating the digital 3D character, which became Viv. The system recorded spatial data relating to the performer's joints. The data is then mapped onto the digital human's skeleton and its skin deforms according to the movements (Figure 4).

For further authenticity, facial expressions and visemes (a set of mouth shapes) were manually modelled onto the digital character's face. This basic repertoire of facial expressions allows the character to dynamically express emotions, such as smiles or frowns, and 'speak' the words of the script, voiced by the actor (Figure 5).

Recognising agency and autonomy

People living with dementia often recognise they get treated differently when friends, family and people they engage with in the everyday become aware of their dementia as a result of a formal diagnosis or from observing changes in behaviours (Swaffer, 2016; Kenning et al. 2022). People often do not know how to behave. While many people may have a pathological understanding of dementia, relatively few understand the everyday lived experience of the condition. This lack of understanding manifests as a societal stigma and leads many to assume that a person living with dementia is unable to make decisions for themselves, are in a constant state of confusion, or have constant memory issues. But, while dementia is terminal—there is no cure—and the symptoms can become debilitating, for people living with dementia the time between diagnosis and the advanced stages of the diseases that require higher levels of care, can be productive, meaningful and joyful. People living with dementia can have autonomy and agency and a good quality of life as they focus on "living with, rather than dying from dementia" [Personal Communication, D. Frost – August 2021]. How then can a VR experience address this problem and cultivate empathy and understanding of what it is like to live with dementia?

VR affordances for cultivating empathy

VR has been positioned as "the empathy machine" because of its ability to facilitate a first person viewpoint that seemingly allows viewers to see "through the eyes of" another (Milk, 2015). While such imaginative transpositions provide illusions of "being in the shoes of", it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does not necessarily engage with the intersubjective relationships and relational dynamics necessary for the cultivation of empathy. So, in arriving in Viv's kitchen, the viewer does not visually embody a character—used often as the primary tactic for reinforcing presence in VR (Slater, 2022)—but arrives in a virtually disembodied state. *The Visit* invokes a strong sense of presence by drawing on other affordances of VR. It uses 'place illusion', which occurs by virtue of the sensory motor contingencies aligning across the real and virtual worlds making the viewer feel as if they are in the virtual world. It also uses 'plausibility'; the extent to which what is happening meets expectations or 'makes sense' in the context of the experience on offer (Slater, 2022). In doing this, *The Visit* creates a sense of presence that holds the viewer in the space, where they are potentially available to build understanding by exploring the relational dynamics made available to them.

In taking a deliberate departure from the virtual 'body ownership' paradigm, *The Visit* resists the viewer having agency over another body in the virtual world. This serves two purposes. It encourages the viewer to retain an awareness of their own physical body and any emotions, sensations and feelings arising in response to the character whose virtual and perceptual world they are engaging with. At the same time, in attending to Viv's narrative and building an understanding of her relationship with hallucinatory characters, the viewer may entertain the possibility that their disembodied state emerges from their being, in Viv's perceptual world, a hallucinated character.

Viewer engagement

In visiting someone's home, social conventions usually dictate that we are not free to openly ex-

plore the environment unless invited to do so. *The Visit* retains these conventions. The viewer is not given autonomy to explore Viv's home, rather in this real-time interactive immersive experience, Viv retains agency as she holds the viewer in place, allowing time for the relationship to build. The slow unfolding of the narrative, we propose, has the potential to increase the level of engagement with the character and her perceptual world and this, as demonstrated in an evaluation of audience experience, subsequently heightens empathetic response (Papadopoulos et al., 2021).

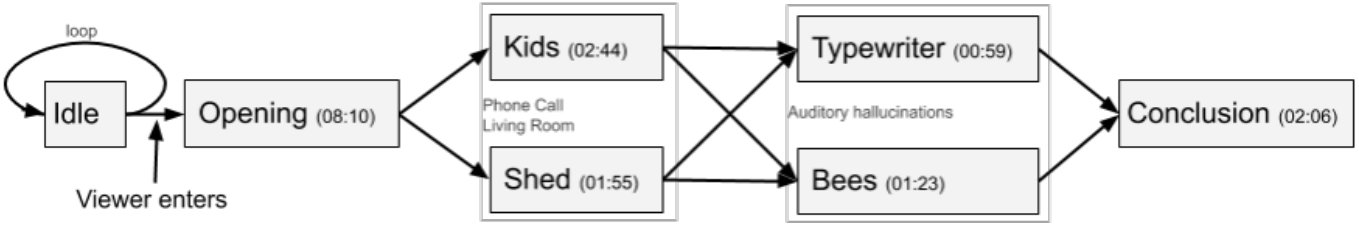
As the viewer arrives in Viv's kitchen, she becomes aware of them. She turns face-to-face and makes eye-contact and smiles. She begins to talk and addresses the viewer directly. Her acknowledgement reinforces the viewer's sense of presence, plausibility, and of belonging to this world (Papadopoulos et al., 2021). The viewer sits (in a disembodied state) at the table opposite Viv, as she offers tea and toast. She seemingly does not wait for an answer and goes on to talk to an empty chair at the table, as if to a child. Viv looks out of the window and comments on her garden shed, or phones her daughter. In attuning to the narrative the viewer may shift from casual observer of the character, to developing an understanding that they are implicated in this relationship. Perhaps as a visitor who she doesn't often see, or a character in her hallucinations that make her, "quite comfortable really". Not unlike computer games and real-world decisions, the viewers' actions have consequences in this virtual world. The viewer staying with Viv impacts on her response and the narrative flow. When the viewer leaves, she returns to her silence, alone in her kitchen looking out of her window, waiting for her next visitor.

Non-Linear Narrative

Each time the viewer returns to Viv in her kitchen, the experience is different as the narratives are randomly selected from a range of options. The script is comprised of an opening scene, with two sets of two parallel storylines and a closing scene (Figure 6). The viewer's visit with Viv varies between 13:10 and 14:24 minutes. The opening scene is consistent to ensure that the viewer's presence is acknowledged, and they are welcomed into Viv's kitchen, as she engages in eye contact and exclaims "You're back, come and sit down". The opening narrative sets the scene and provides context for the viewer (8 mins) as Viv talks about the carers who come to her home to care for her "I like Goran the best… he's very funny and I find [laughter] that I get so much support from people who are very funny".

She tells the viewer that she walks two kilometres a day and that she plans to go swimming. While the plausibility of being in the kitchen with Viv remains, the viewer may feel challenged if doubts arise about the verisimilitude or plausibility in the content of her narrative.

The parallel narrative storylines are concise (approximately 1-3 mins) and presented randomly. The central narratives focus on two visual hallucinations (Kids and Shed) and two auditory hallucinations (Typewriter and Bees).



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They provide greater insights in to her perceptual world and into Viv's strategies for coping with, and her feelings about her hallucinations; "I was very close to my Dad. I still see him. Sometimes he's standing right there in the hallway. It doesn't bother me. It's quite comforting." The narrative concludes with Viv engaging in wistful, reflection, "I travel all the time, I am always travelling" as she turns to look out of the window as the viewer leaves.

Script

The narrative script was created near-verbatim from interviews with five women living with vascular dementia who provided insights into their everyday worlds. The interdisciplinary team at fEEL (felt Experience and Empathy Lab) engaged with the audio and transcripts of the interviews, drawing together conversational vignettes which were organised within a loose formal structure provided by the sections of a musical soundtrack featuring Peter Sculthorpe's String quartet no. 16 with Didgeridoo (Kenning et al., 2022). Many of the stories chosen for the script show emotional fluctuations and tactics for dealing with confusion and resist being informative about dementia as a disease, diagnosis or the pathology of dementia. For example, Viv hears the buzzing of bees. The viewer also hears them. While the viewer may feel confused, Viv's narrative can provide comfort as she acknowledges the sound, makes note of her associations with the sounds of bees, and recognises that this is one of hallucinations.

The script was developed with the aim, not of telling the viewer what it was like to live with dementia, but allowing the words and experiences, challenges and strategies of the women living with dementia to be revealed to the viewer, according to their inclination to attune to what is being said.

(Merge the auditory hallucination of bees with Sculthorpe soundtrack. Design the sound so that the viewer may hear bees coming from behind their head, so as to induce the desire to turn as Viv does)

Viv: Oh, not the bees again (starts looking around//turning and swatting)…
(towards the viewer) You better watch out…

Viv: Dad kept bees… (realising noise not real)… they wouldn't be inside would they?

Cultivating Empathy

To cultivate empathy, *The Visit* aims to bring the viewer into a virtual space drawing on the principles of plausibility and place illusion, while also limiting the physical interactivity, agency and autonomy of the now disembodied viewer. In this space the viewer is charged with attending to the narrative of the digital character, Viv, and their own responses to what has been said, how and why. This approach offers alternatives to the information-rich, cognitive-led communication approaches so often used for overcoming stigma. These approaches, which focus on pathological dimensions of dementia foreground loss and deficit. In doing this they encourage cognitive responses that all too often culminate in judgement and a tendency to try to compensate the person living with dementia for perceived losses. Whereas engaging with dementia through an artwork which promotes sense-based affective processes that precede cognition can lead to the cultivation of empathy and reveal different ways of knowing and understanding dementia. *The Visit*, then, is designed to engage the viewer in attending to and attuning to what is said, how and why. The viewer is not required to solve any problem or 'correct' any behaviour perceived as resulting from dementia. He is left recognising the agency and autonomy of Viv, the five women with dementia whose words she speaks, and potentially the wider community of people living with dementia.

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The Visit webpage https://feel-lab.org/research_projects/the-visit/

The Visit VR. Free to download for Oculus Quest platform at https://sidequestvr.com/app/5564/the-visit

Images

1. Viv is a digital character based verbatim on the interviews of people living with dementia.
2. The Visit is available as VR, a screen-based interactive installation, and on smartphone/tablet.
3. A real world kitchen as set to provide the context for the character to perform. Created as a detailed 3D model based on a photogrammetry scan.
4. Motion capture and character rigging.
5. Character facial expressions, applied dynamically in line with the narrative.
6. Narrative structure.
7. Excerpt from script developed near verbatim from the interviews with women living with dementia.

The felt Experience & Empathy Lab (fEEL) at the University of New South Wales Sydney brings together specialists in immersive media, participatory design, trauma studies and psychology to advance new methods in the study of embodied subjective experience – focusing in particular on the two areas of trauma and ageing. EEL has developed the field of psychosocial design, harnessing immersive technology to examine the nature of embodied experience and its dynamic relationship to social settings. This approach supports the articulation of lived experience in relation to trauma, mental and emotional health, and dementia and ageing – in turn providing a robust knowledge base for the design of creative tools to support psychosocial wellbeing. The felt Experience & Empathy Lab has been established with funding from the ARC Australian Laureate Fellowship awarded to Scientia Professor Jill Bennett, Director of the Big Anxiety Research Centre at UNSW.

Medium: Interactive Interface
Year of Release: 2019
Link to the artwork: https://youtu.be/iqMhWP8SKT4
Artist website: https://kerenkberg.com/

LaughLand (2019)

Keren Kuenberg

"LaughLand (2019) is a time capsule of a place that no longer exists, which allows the viewer to 'eavesdrop' on memories through a digital footprint. As an observer I'm left contemplating: what is permanent in a digital world?"

ICIDS 2021 Jury

LaughLand (2019)

Abstract

LaughLand (2019) is an interactive digital installation that tries to create a memory capsule of a place that is doomed to be demolished. Situated at the Elephant and Castle shopping centre's heart in South London, LaughLand is a people's place, and the documentation of this unique site creates a living archive for the many stories, objects and soundscapes that assemble it. Through exploration of the virtual space, discussion about the objects in the shop, the story of the place re-emerged. The work establishes a digital reconnection to a site that no longer exists, but the viewer will still be able to connect the already disconnected.

Keywords

Time, interactive archive, digital preservation, memory, documentary

Description

The work is an interactive digital interface, in which the viewer is able to explore remotely and freely the space and its varied stories.

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Keren Kuenberg is a London-based architectural researcher and a curator, working on projects that investigate multi-narrative histories through the use of 3D scan technology, and interactive interfaces. She is an associate lecturer in Media Studies, MA Architecture, Royal College of Art, while giving workshops in various institutions. Her practice is situated at the intersection of the built environment, archives, exhibitions, and politics with an ongoing interest in shaping the outcome with various interactive formats. She's worked for museums such as the CCA (Montreal), HKW (Berlin) and the Israel Museum (Jerusalem) as well as non-profit organizations and universities. She is interested in expanding how architecture knowledge is created, documented, understood, and presented to a wider public and exploring how politics and foreign affairs play a role in shaping the built environment. Her work involves creating alternative archives and building interactive interfaces to access them.

Medium: Video game, 360 degree video
Year of Release: 2021
Link to the artwork:
https://store.steampowered.com/app/1610820/Secrets_Of_Soil/
Artist Website: http://henrydriverartist.com/index.html

Secrets of Soil

Henry Driver

"While a speaker explains the soil, the user can navigate through 3D worlds that relate to the explanation. The aesthetic qualities of the experience are wonderful, and it is a joy to listen and learn while looking and moving around."

ICIDS 2021 Jury

Secrets of Soil

Abstract

Secrets of Soil is an interactive experience into the hidden world of soil. Your journey will take you to a microscopic world to witness the essential life forms that reside there. See how bacteria and plants speak to each other, glide through vast fungal webs, and unearth the secret of how this hidden universe could help save us from climate disaster. The project is freely available online on Steam, as well as on YouTube as a 360-degree video. It can be difficult for people to care about something if they don't empathise with it, so I wanted to use digital art & games to submerge audiences within the soil and allow them to explore this hidden microscopic world. I wanted to reveal that soil isn't just dirt but rather a vital ecosystem full of life, in the hope that this inspires audiences to think differently about soil, to connect to it, and to care for it. To show that arable agriculture and how we look after our soil is an essential part of how we can combat climate change.

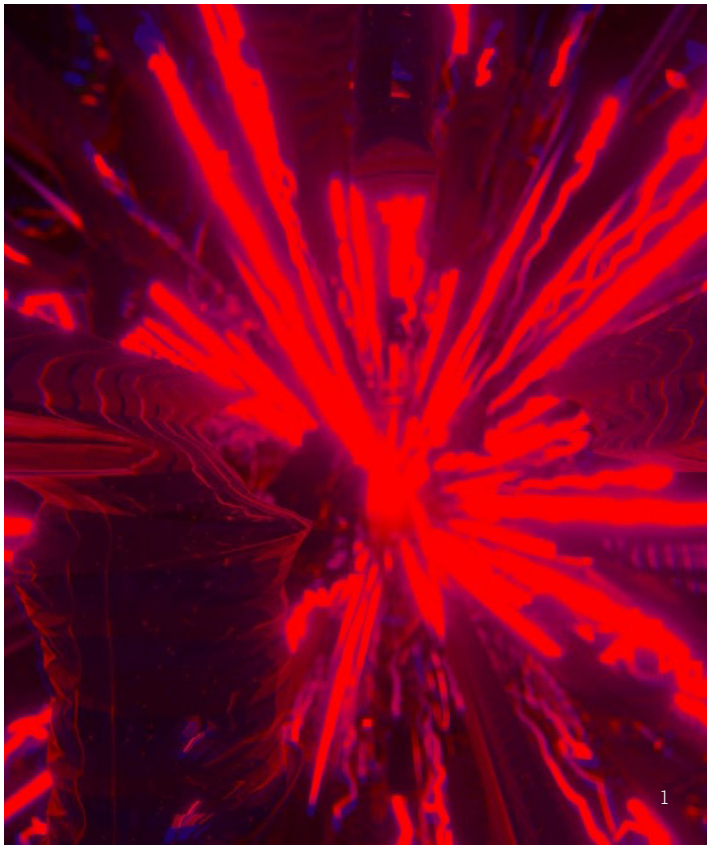
Keywords

Regenerative farming, walking simulator, educational game, BBC New Creatives, climate change

Inspiration

Secrets of Soil was inspired by my family's attempts to make their farming practices carbon negative. They are arable farmers based in Suffolk, UK, growing wheat, oats, beans, barley, and oilseed rape. Over the past decade, farming has become more difficult for them, due to increasingly disruptive weather plus a combination of rising chemical costs and their reduced effectiveness. In 2015, they joined the global regenerative agriculture movement and began to focus on building up the health and biodiversity of their soils, using these to provide nutrients and protection for their crops (rather than relying solely on chemical "inputs").

Central to creating healthy soil is working with the life buried within it. But what lives in the soil? When I realised that soil isn't just dirt and a few earthworms but a whole universe of interconnected life, the early idea of visualising this was spawned. But I need to dive in further.



A teaspoon of soil contains a billion bacteria... but what does that actually look like?

Research

To gain a better understanding of the life buried within the soil, its interactions and our effects upon it, I collaborated with plant science researchers at the John Innes Centre, Norwich, UK. They generously shared and discussed their research and imagery with me. These discussions helped to build up an image of this subterranean world and of the many complex interactions that occur.

Alongside that, I consulted publications and farmers to further understand their techniques for creating healthy soil, as well as to have an industry viewpoint on the past, present and future of farming.

Aims

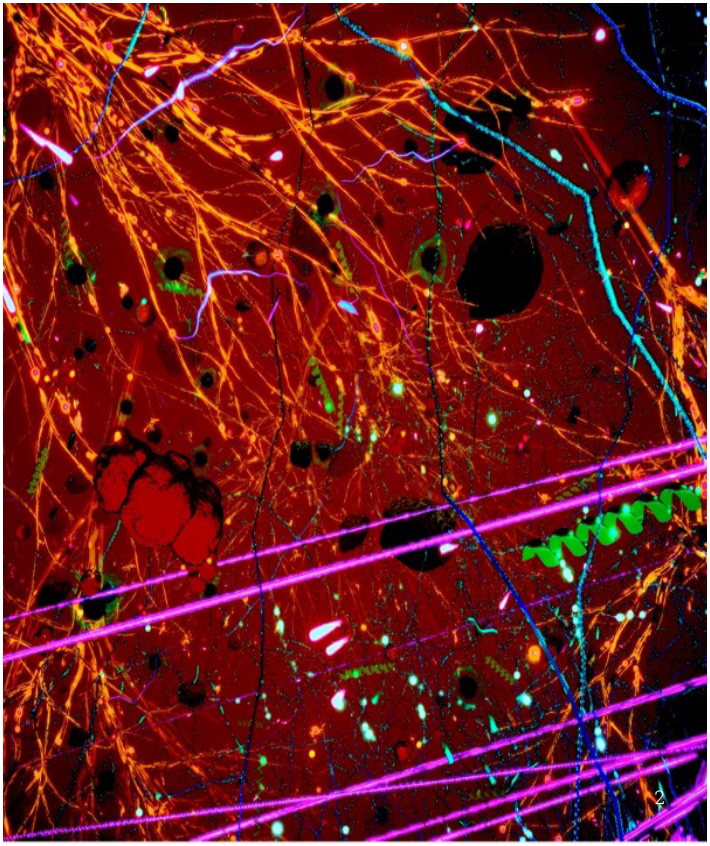
That period of research provided a wealth of inspiration, as well as solidified my two aims for *Secrets of Soil*. Firstly, to inspire people to think differently about soil. That it isn't lifeless dirt but a vital ecosystem brimming with life that we depend on. I wanted to reveal this to audiences and let them explore it. It's difficult to care for something if you can't see it, or if it's completely unknown to you. With every scene I wanted to build up this world, with more life emerging the deeper the player dives, but also allowing the player to engage with this life, and carry out some of its interactions. I hoped this would connect players to the soil.

This initial world-building was key to provide context for my second aim: to visualise our impact upon soil. How we look after our soil can be a huge help in our fight against climate change. We have the capacity to destroy eco-

systems but we also have the power to rebuild them and work with them. I wanted to reveal the effects of intensive farming but show there are achievable alternatives. I wanted to allow the player to regenerate the environment to demonstrate this, and provide that connection between player agency and real world impact.

Capturing the wonder of the soil

Visualising the world of soil was tricky on numerous levels. For some parts I could rely heavily on scientific imagery to inspire me, while others required significant artistic licence or imagination. For example, how do you visualise plants and bacteria speaking to each other? I undertook quite a considerable amount of playful R&D and experimental production to build up a toolbox of visual language that I could draw upon. Sometimes my R&D for one scene ended up becoming part of another. That playful creation and pushing of systems to encourage surprises is integral to my production methods. I strongly believe in there being a dialogue between myself and the software, as well as all the integral parts which inhabit that, such as shaders, models, effects, etc. So for visualising plants speaking, we know they release a dynamic selection of chemicals around their roots to draw in and work with various microbes, as well as fire off chemical signals that trigger plant cell growth to enable symbiosis. This made me imagine a vivid cacophony of evolving signals and particles. It felt like this section needed to be visually striking to represent the sheer number of microbial and plant communications, but also capture a sense of wonder. On a whim I combined a shader I built for another scene with a 3D model and some effects from another, and there it was, this vivid oscillating, yet ethereal plant root model, which just seemed perfect. It reminded me of one of the JIC researchers: Dr.



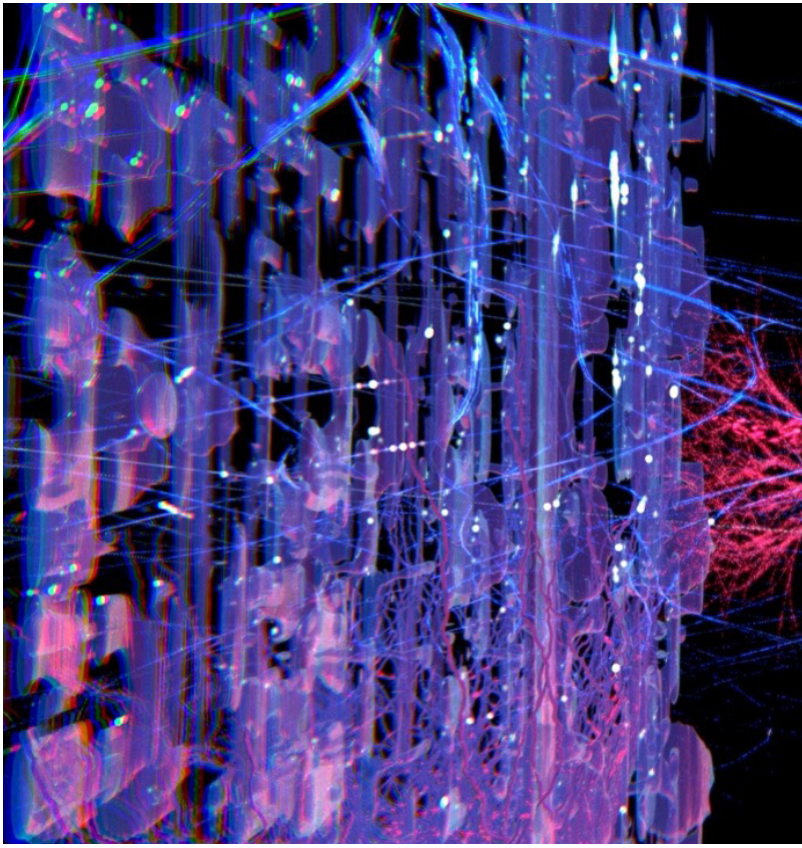
Myriam Charpentier and her video imagery of calcium signalling in plants roots but if it had been extrapolated into 3D, showing a vaster scale.

The vibrant visual style was inspired by the researcher's microscopic imagery. A lot of the images were fluorescent, which contrasts heavily with the preconception of soil being purely earth textured. Some of the researchers' videos contained flashing lights, as genes within plants fired off and triggered actions. I decided to embrace this vivid and glistening vision and use this as the world's identity. Mainly because it felt so different to what I was expecting or thought soil would look like but also to emphasise the sense of life within this world.

Following on from that, I wanted each scene to have a unique colour scheme or atmosphere, and for this to continually surprise the audience. There is so much wonder buried in the soil, I wanted the art style to do it justice, for

each scene to not only present a new life form or interaction but to also look distinctly different. This was to encourage exploration but also to suggest that this is only a glimpse of a massive world.

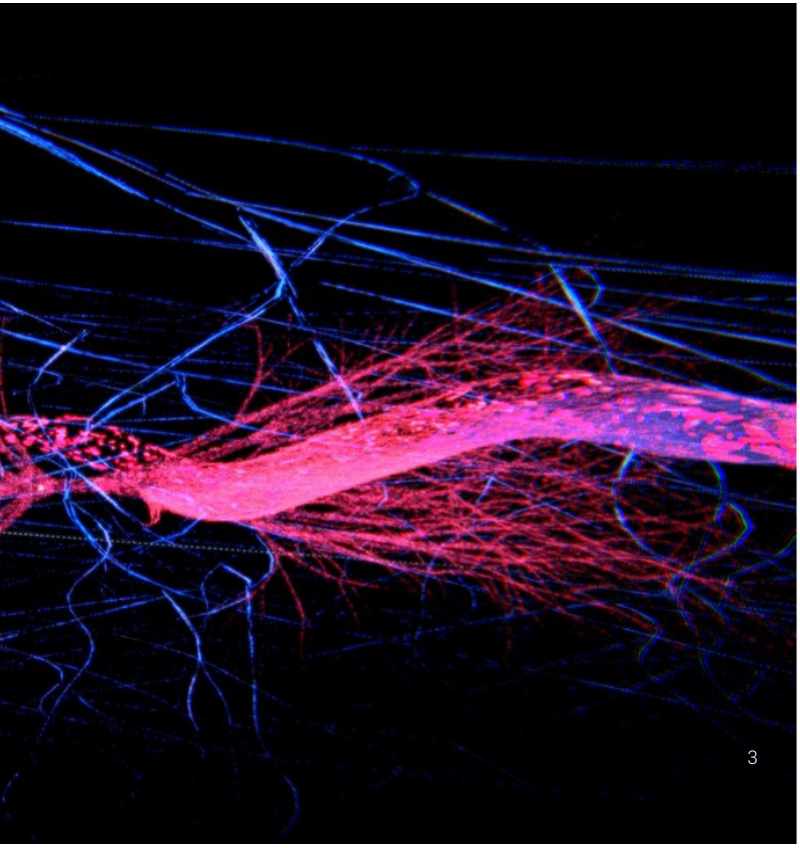
Visualising the scale of the ecosystem and the interconnected members within it was tough. Getting the scale of elements to be vaguely accurate and also creating a world that visually worked, all while staying within the project's budget was a tricky affair. The experience flows between different scales for most of the scenes.



Narrator

Throughout the experience you are accompanied by a narrator.

I wanted the game to hopefully be enjoyed by a range of audiences and ages, but achieving that is incredibly difficult. Initially, I planned to



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have a responsive narrative, where the level of information varied depending on the audience's interaction but unfortunately I had to shelve this due to time constraints. When designing and writing the game it was difficult to decide the level of information to include. I wanted to connect diverse audiences to this ecosystem but not bog them down with too much detail. I didn't want the game to feel like a stodgy science lesson. I think the earlier scenes do that best by being succinct, while still containing interesting science. However, the scenes which explore the effects of intensive and regenerative farming, were particularly difficult to shorten, and even after lots editing they're still pretty heavy going. It would have been great to provide more ways of allowing the audience to distil information and knowledge from the environment, via exploration and interaction.

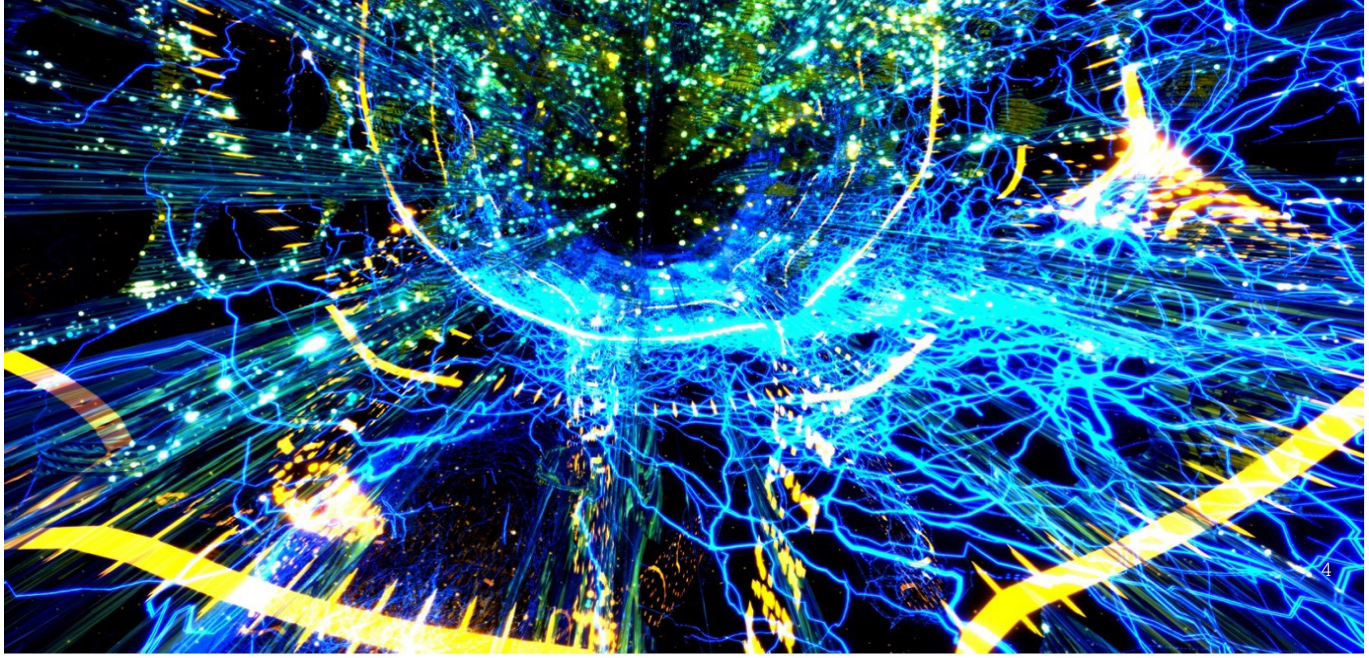
Interactivity: Exploration & Impact

Buried below our feet is a complete world, brimming with life and activity. There is so much to uncover and learn, it felt natural to me to form Secrets of Soil into an explorative experience to navigate this landscape. My earliest and most memorable experiences of video games are those that allowed me to explore a completely new world. I believed that a 3D explorative visualisation of soil could hopefully capture a similar feeling of wonder, as the audience constantly uncovers new environments. Capturing that joy of exploration and discovery was really key.

I was keen to add in interactive mechanics which relied on, and rewarded the audiences for exploring. I was also interested in the player having creative opportunities to change and mould the virtual environment through exploration. To demonstrate an impact and connectivity to the player's presence.

In a number of scenes the visual styling or atmosphere will change depending on the positioning of the player. So as they explore, the colours and feel of the environment changes. While this is easy to implement and is a very simple form of interaction, the results can spiral into complexity. The visual journey of players can vary significantly depending on the 3D positioning of the camera and its proximity with objects. I hoped this would be a playful but simple way to make the process of exploration more interactive and creative for players.

Throughout the experience I also wanted to provide the opportunity for audiences to interact with the many micro-organisms within the soil and discover their functions through play. For example, inhabiting the morphing mass of a protozoa and ejecting nutrients into the soil by eating bacteria. Or communicating with plants to enable and trigger symbiosis with



fungi, or creating earthworm burrow sculptures, that cast out streams of fluorescent nutrients. These simple yet hopefully visually rewarding interactions were designed to connect audiences to these non-human organisms and help understand the essential functions they play within this diverse ecosystem.

However, I had planned to have a lot more player interactions which impacted upon the environment. Initially, I had planned to give the player a number of actions that they could do to regenerate soil which had been degraded by intensive agriculture. I wanted to link player agency to having an impact on an environment, and visualise the changes to practises arable farmers can make and their effect upon the soil. But I struggled to devise ways to make these interactions feel right and fit within the stylings of the experience. I found it difficult to create intuitive gameplay based around them which was fun, while still being scientifically and agriculturally accurate. My original ideas for these sections no longer felt appropriate or cohesive to the experience as a whole. It was also at this stage that I got caught up on the script writing which was a massive time sink. In the end, I resorted to the

player using a single button press to regenerate the soil, which provides a dramatic if simplistic effect. But at the time I liked it, because it demonstrates the immediacy of switching to regenerative farming practises. Where the farmer can change and instantly start to reduce their environmental impact. However, it's important to state that there will normally be a transition period before the farmer can fully reap the benefits of regenerative farming.

At the end of the experience there is a link to activities for looking after the soil. It was important for me to provide accessible actions that anyone can do to help out. It's something I really want to further develop in my future projects.

Reception

Secrets of Soil combines games design with science, art, farming and education. The resulting chimera is a visually striking yet educational interactive experience which has been shown across the world at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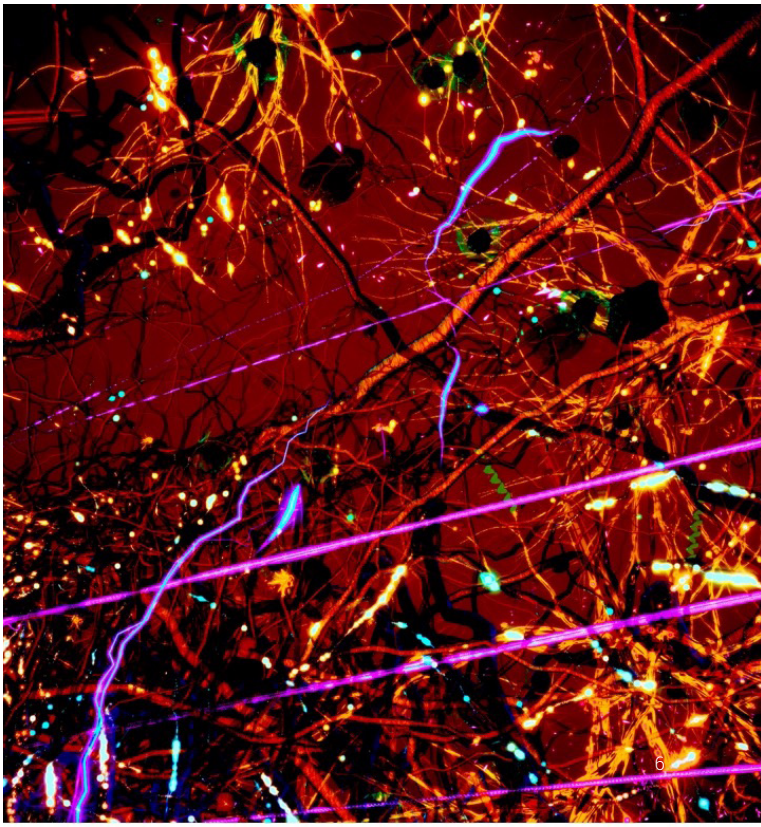
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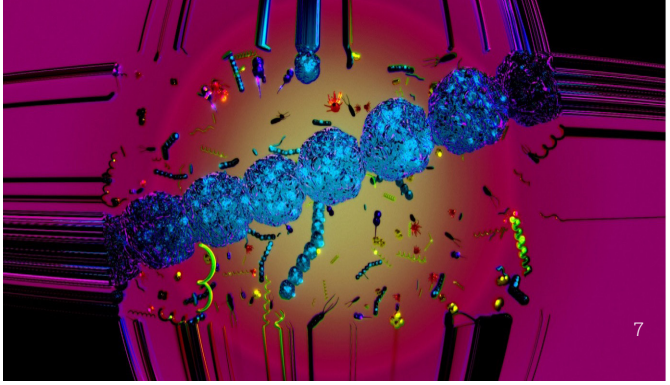

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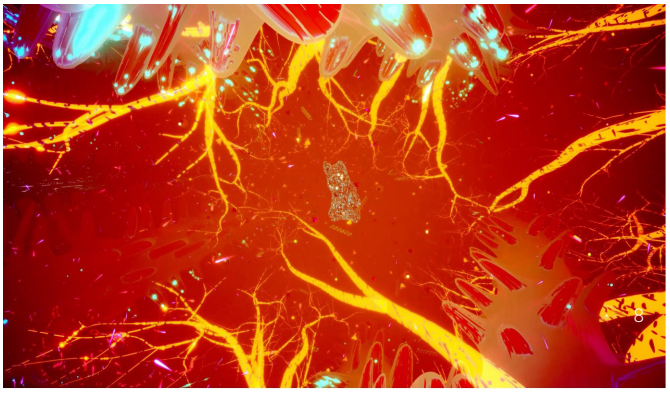

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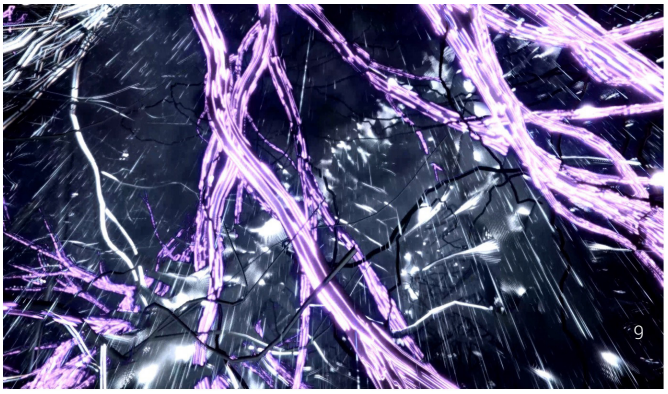

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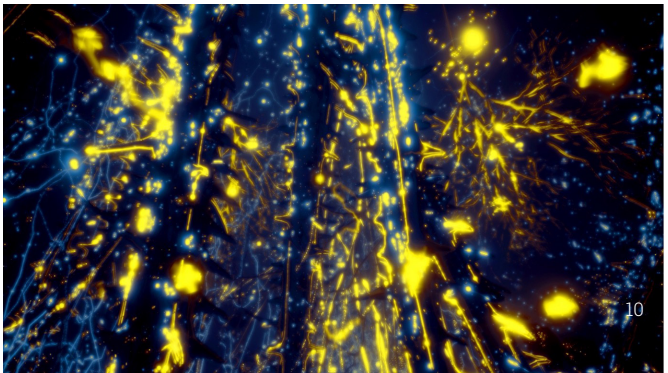

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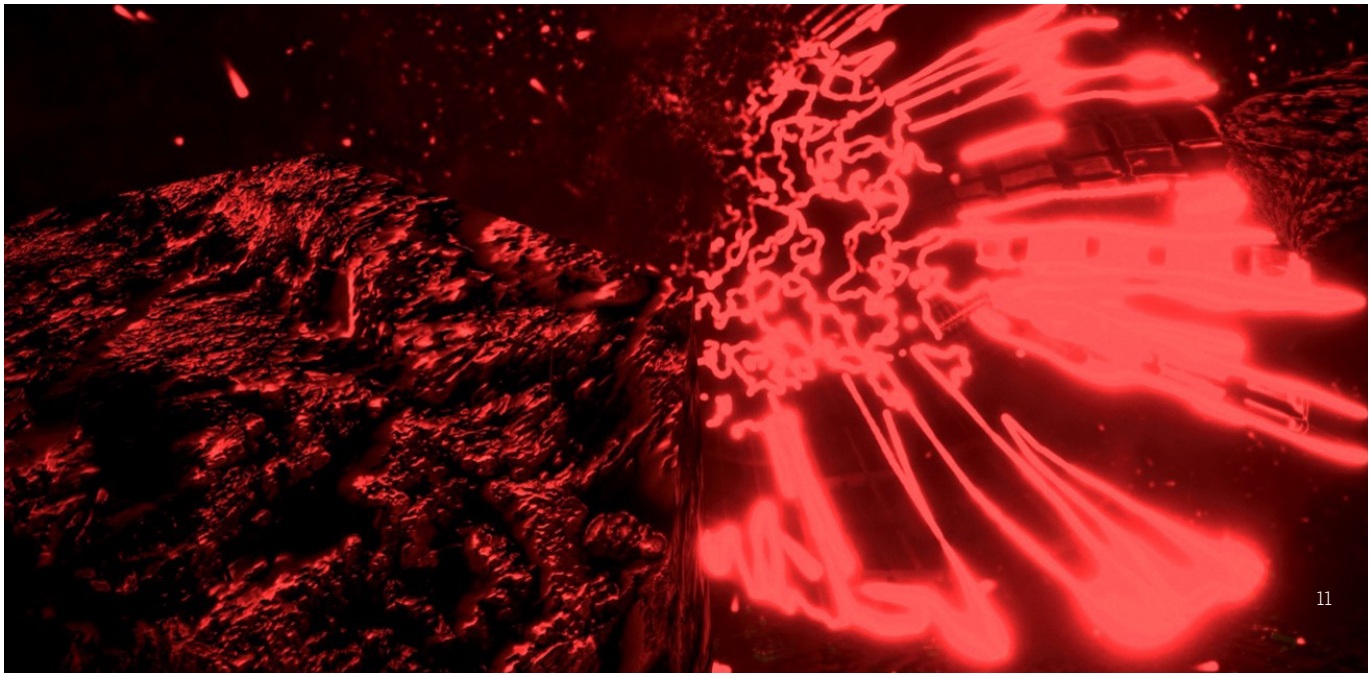
games and film festivals, farming conferences, art galleries, hospitals and schools. The work received praise from games media, where it was described as a' "hypnotic pleasure…Driver turns this subterranean odyssey into something truly fantastical: colonies of swarming bacteria and glowing fungi are made to look like alien worlds, with the sort of palette you'd normally associate with games from Mizuguchi and Minter" (Edge 2021) and Lewis Gordon: "A spectacular underground cosmos. It's everything I wish my educational software at school could have been" (2021).

Looking Back

Looking back on *Secrets of Soil* is a bizarre experience because I have learnt such a colossal amount in the year since its release. That sounds like a cliché statement that could be said after every project but it's truly the case. The project



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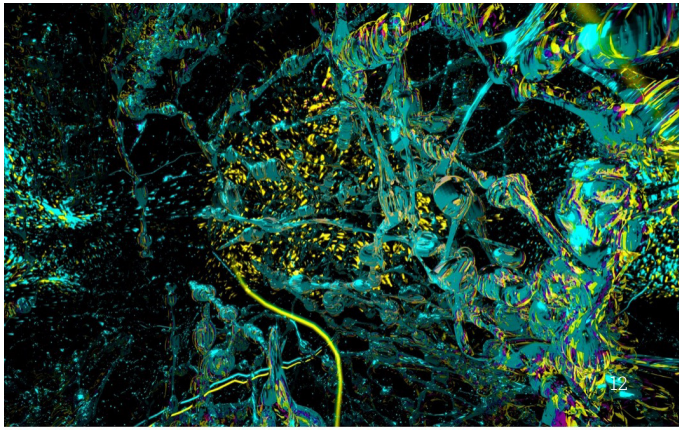

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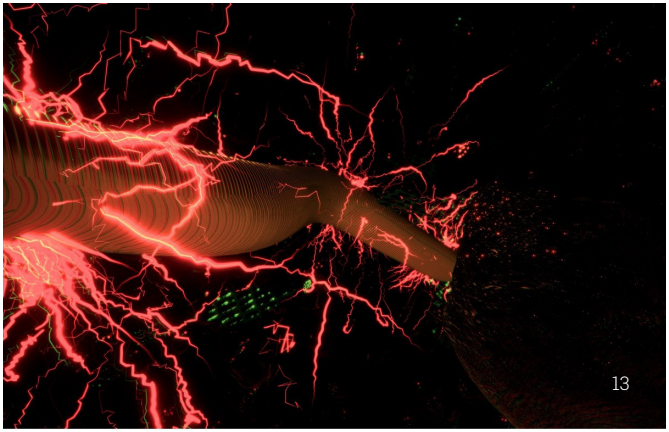

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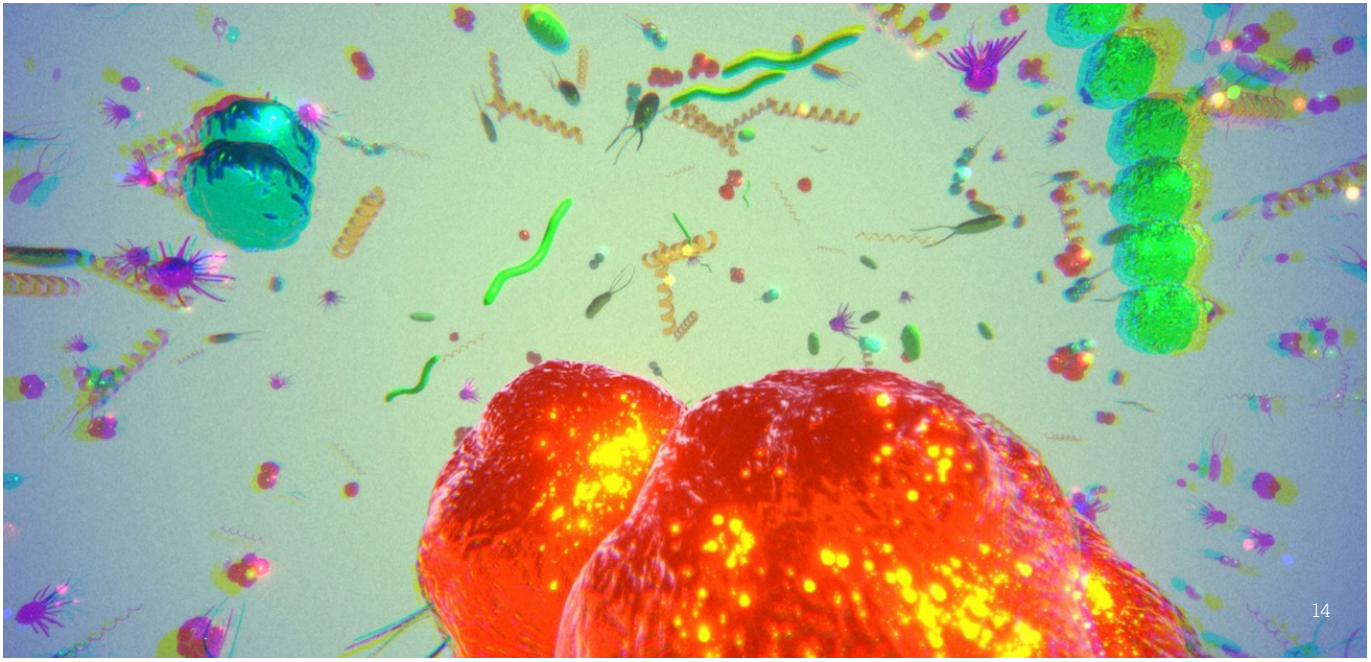

was my first attempt at creating a distributed interactive environmental experience, and the process of creating it was a huge learning curve. I'm excited by the reach, responses and feedback from the project, to use these to really improve my future projects within this realm. But equally there's a large number of elements which need to be vastly improved to increase the impact, availability, accessibility, and sustainability of future works. I feel that *Secrets of Soil* achieves part of its goal of connecting audiences to the soil and our impact upon it but in a specific way that only works for certain people. I think there's considerable room to expand the interactivity, accessibility, and storytelling to provide a much more rounded experience to connect a larger audience to the soil.

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Gordon, L. (2021 July 19) Discover A Spectacular Underground Cosmos In 'Secrets of Soil' Vice Waypoint. https://www.vice.com/en/article/xgx573/discover-a-spectacular-underground-cosmos-in-secrets-of-soil

Images

1. A nutrient-exchange point inside a plant preparing for symbiosis with fungi.
2. A vision of healthy soil containing a variety of bacteria, fungi, and plants.
3. Plant matter on the left and a nematode on the right being drained of nutrients by fungi.
4. Fungi hyphae entangling around plant roots, as well as entering them to create symbiosis.
5. Fungi and bacteria decomposing organic matter.
6. Fungi and plant roots.
7. Selection of soil bacteria.
8. A selection of plant roots, with a protozoa in the center.
9. An ecosystem in decline.
10. Plants communicating with bacteria, visualized through flashing lights.
11. A plough breaking apart soil ecosystems (leading to loss of soil and the carbon stored there).
12. Antibiotic-creating bacteria, inspired by Streptomyces imagery.
13. A nematode releasing nutrients into the soil
14. Soil bacteria

Credits

Concept, art, design, coding, and sound by Henry Driver.
Voiceover by Lynsey Murrell. Script assistance by Sam Snape.
Commissioned by Screen South and BBC Arts; produced by Collusion.
Executive producers: Jo Nolan and Peter Richardson.
Thanks to the John Innes Centre researchers & support staff.

Acknowledgements

New Creatives is a talent development scheme offering commissioning opportunities for emerging creatives to make new artistic works in film, interactive media, and audio, designed for BBC channels and platforms. It is supported by Arts Council England and BBC Arts.

Download the interactive version here:
https://store.steampowered.com/app/1610820/Secrets_Of_Soil/

Experience the 360-degree video version here:
https://www.youtube.com/watch?v=6eSVAsOJD9E

Read the BBC article here: https://www.bbc.co.uk/programmes/articles/1gbmnLVfKyJjdCd1VBVWlc6/new-artwork-reveals-theres-more-to-soil-than-meets-the-eye

Henry Driver is an artist based in Suffolk, UK. He has shown work in Australia, Canada, Czech Republic, Denmark, Estonia, Germany, India, Japan, Portugal, South Korea, USA, Turkey and Taiwan. In his home country (the UK), Driver has shown at Tate Britain, Tate Liverpool, Barbican, and the Whitechapel Gallery.

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Medium: HTML, CSS, js, mp3
Year of Release: 2020
Link to the artwork: https://kaaathy.com/office/index.html
(use mobile device for best results)
Artist website: https://kaaathy.com/

Office for Language Under Capitalism

Kathy Wu

“This is a web-based interactive ‘poem’ that is accessed through a cell phone, intended to simulate the leanness of capitalist language under bureaucratic conditions. Highly creative and made me laugh out loud.”

ICIDS 2021 Jury

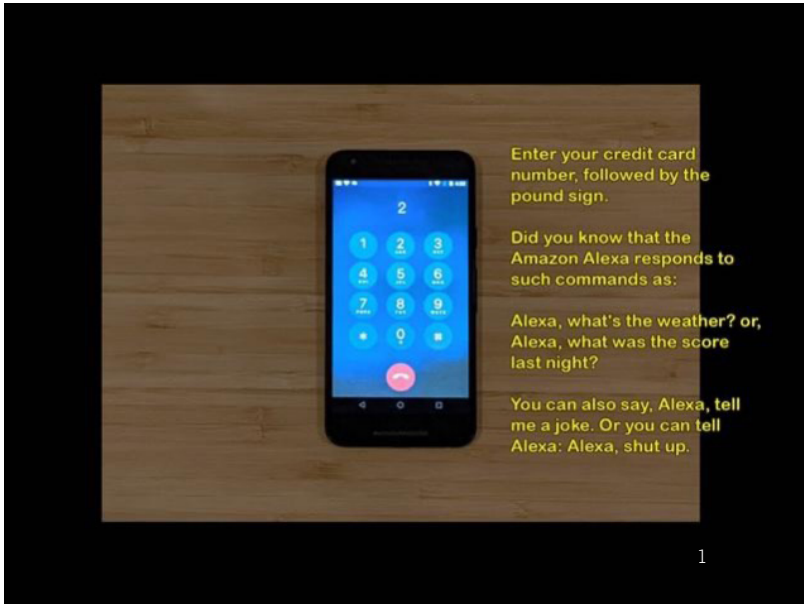
Office for Language Under Capitalism

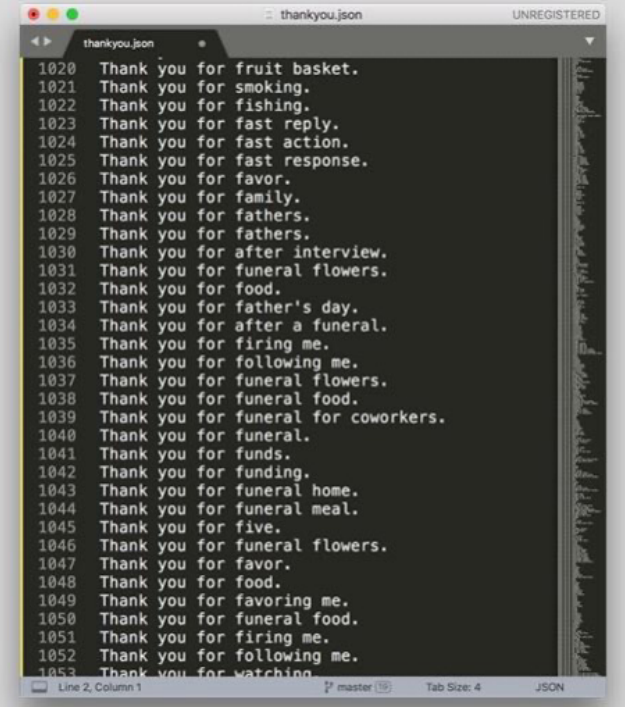
Abstract
This interactive, audio-based web poem plays out through a fictional bureaucratic phone call: "Press 4 to hear about Language Under Capitalism." In this simulated phone call, a computer-synthesized female voice speaks out different phrases depending on the path you choose. In this project, I'm interested in what happens to language under specific sociopolitical constraints. Language under capitalism compresses itself—it minifies into lean, neat boxes fit for work and production. It does not rebel, it does not deviate; it eclipses the possibility of what could be in our relationships. For instance, we are all writing and producing language all of the time. During the work week, our writing is texts, emails, letters, these linguistic expressions are focused on labor and logistics: "Thank you, have a nice day," or "Best regards."

Keywords
Audio collage, non-linear narrative, digital poetry, political critique, labour

Description

This project was originally made during the first year of COVID-19, as a meditation on invisible work which we are disconnected from. Or ways that we are connected to each other across borders and economic class if only for a moment through moments of transaction and servitude. It's intended to mirror transactional interactions we are familiar with—being on hold, checking out at the automated kiosk—while breaking the fourth wall and inviting you to consider the human aspect on the other side. The language is a collage from various real-life phone calls, my own writing, and a subset of 3,000 search results scraped from Google search filling in the phrase "Thank you."





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Kathy Wu is an interdisciplinary designer and artist interested in the possibilities of language arts and executable poetry. She holds a BFA in Graphic Design from RISD with a concentration in Literary Arts. Her work is interested in making invisible things tangible or seen. She is particularly interested in questions of automation, data, labor, and our relationships with technology and work.

Medium: Virtual Reality, Unreal Engine, Maya, Blender, Substance Painter
Year of Release: 2021
Link to the artwork: https://youtu.be/zTKQVrZSzLc
Artist Website: https://austinwolfe.artstation.com

Aonar

Austin Wolfe

“Aonar presents a VR storytelling experience which relates to the theme of this year’s exhibition in several ways. It plays upon themes of isolation and connection to a rich cultural heritage and way of life.”

ICIDS 2021 Jury

Aonar

Abstract
The experience *Aonar* was developed to investigate the narrative engagement of storytelling in VR. This work is interactive, and although the story's outcome is not affected by the player's actions, the manner in which the player experiences the plot changes based on what they choose to interact with. This story is based on Scottish folklore, featuring two main characters: a lighthouse keeper, and a selkie (a shapeshifting seal). The VR user in the story represents the main character's sense of loneliness as a physical, albeit translucent, embodiment. Throughout the story the lighthouse keeper is disconnected from this feeling and appears unaware of the player. This fisherman meets a selkie and falls in love, but eventually she has to return to the sea. At the end, the lighthouse keeper finally acknowledges his feelings, inviting the player to sit beside him. This represents a reconnection of the character's ignored feelings to himself, as well as creating a connection from the character to the user. Finally, a third connection is made by the author to the art piece, as the content of the story allowed the author to reconnect with their ancestral origins through research and creation.

Keywords
Narrative engagement, virtual reality, storytelling, emotional engagement, scottish folklore

Introduction

Traditionally, storytelling can offer a method for sharing cultural identity, knowledge, discovering beliefs, strengthening social ties and bringing joy (Richardson et al., 2018). Storytelling is a part of daily lives, whether by being orally told, read, watched, or listened to. These more traditional forms of storytelling have rules in their story structures, like the use of the Hero's Journey (Campbell, 1991; Koentiz, 2018, pp. 107-120) but can also be limited when it comes to creating a sense of presence (feeling physically present in the virtual world), immersion (stimuli that creates the perception f presence), and a deeper connection to the characters. Creating a story for cinematic VR is challenging as it cannot always necessarily follow established narrative structures due to the nature of the media. VR allows the user to act as the camera and explore a virtual world with a sense of presence, this generally breaks the fourth wall, allowing the user to become a part of the story, rather than simply observing it. Additionally, certain techniques filmmakers use to guide and engage the viewer in a story do not apply in VR, as the user has complete control over the camera and where they choose to look. Therefore, with virtual reality the onus is on the creator to create something which is able to engage and connect with the user. With *Aonar*, the users are immersed in a stylized version of ancient Scotland where they discover a narrative retelling of a selkie story.

Selkies, in traditional Scottish and Irish folklore, are seals who are able to transform into beautiful, dark-haired women when they remove their seal skins. This transformation lasts as long as their seal skin is kept on land. However, the selkie woman is always yearning to return to the sea, her true home. This story is loosely based on an amalgamation of traditional Scottish folk tales (Davies, 2017; Ellis, 2008; Muir, 2014; Smith,

2019 & Stephen, 2014) and broken into fourteen scenes. To give the story a more authentic feel, a local Scottish voice over artist narrated the story.

Scottish folklore was chosen as the content for this project for two reasons: it has allowed the personal connection to the author, as they have ancestral ties to the culture; and the topic of folklore was chosen as it appears more malleable to the media of VR. This was based on Propp's Dramatis Personae on the morphology of folklore (1928), which allows more freedom in story structure than other traditional stories. It accomplishes this by allowing the author to choose from 31 fixed consecutive functions to "build" a story. These functions have a list of possible choices to fulfil its meaning. For instance, the first function of absentation (someone leaves or dies) can have one of three possibilities: someone leaves (older generation); someone dies; or someone leaves (younger generation).

Creation

To create this experience, colour and light were chosen with care to create an immersive and engaging experience. These elements were based on colour theory and the psychological impacts of art. Colour is a powerful tool that can be used to influence mood and emotions. Consequently, psychological techniques using colour (Wilms & Oberfeld, 2018, p.896) were carefully applied throughout the project and were at the forefront of the design process.

An example of this can be seen in the transition of colours from cooler to warmer hues (Fig 1 and Fig 2). This sets the mood of the scene, which involves the changing of seasons, and night and day. Using this helps to give the user a greater sense of presence in the environment, draws their attention, and creates a connection to their surroundings.

Likewise, the use of light was an invalu-

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able asset with the design as light also creates mood, highlights areas of interest, and has an overall affect the user's perception of the virtual world.

To create a deeper connection between the user and the characters, the characters were given a personality based on the Five Factor Model or FFM (McCrae, Gaines, & Wellington, 2012). This created a loose blueprint for how the character would look and act and was designed based on these personality traits. On this scale, the main character was given high scores for openness, conscientiousness and agreeableness, with low scores for extraversion and neuroticism. This meant that the character's personality was curious, dependable, reserved, empathetic, and calm. Translating this to artwork, the physical appearance of the characters were designed on what someone with these characteristics might look like. In this example, someone who is dependable might wear more muted clothing colours such as grey or navy, as opposed to brighter colours.

To emphasize the personality and identi-

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ty of the character, other assets were created as behavioural residue (Gosling 2008, pp.12-19). An example of such assets were items like a smoking pipe, picture frames, maps, and wine bottles that gave small indications about the characters life, many of which were interactive. For instance, specific picture frames lit up when interacted with, and portrayed images of selkies, indicating the lighthouse keeper's connection to Scottish mythological creatures and foreshadowing the selkie that would be introduced later in the story.

In addition to this, the storyworld was built around the character's attributes and persona. The world itself was created on an island, with the scenes taking place in various locations around it. This was done for several reasons: first, when scene changes occurred, it would lessen the amount of time it took for the user to reorient themselves in the world, since they could see all the other places they had previously been. This assisted in keeping the user immersed in the world and engaged in the story, creating a "mental map". Secondly, it created a

connection between the user and the character, by showing them the extent of the character's world and how he lived his life.

The use of music, audio cues, and highlights were used to focus/gain the users attention and increase immersion. In particular, both ambient and spatial sound were utilized throughout the VR experience as suggested by Bhide, Goins & Giegel (2019) to enhance immersion. The music and narration were ambient with no discernable source. The spatial sound encompassed everything else. This included elements like waves crashing, bird calls, wind, thunder, rain, and whale calls. Each sound had an individual attenuation radius (the falloff of the source) utilizing a natural sound function and also created a connection from the user to the main character. During the study, all the users reacted in some way to the character at this moment: either by moving towards the character, sitting down with him, or looking around to make sure he was

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gesturing to them and not something else in the scene. In this moment, the user was no longer an observer of the life of the lighthouse keeper, but rather a part of his life.

Story

In the beginning of the story, users are introduced to a fantasy island in Scotland as its own entity by passively viewing the unfolding scene which sets the narrative tone for the rest of the piece, viewing a cliff-side beach as the seasons change. They are then introduced to the main character, the lighthouse keeper, and experience what his daily life entails. The user themselves is represented by a transparent figure. This is to create a disconnection from the character to the user, as if the user is not really there. In addition, the user's transparent figure represents the main character's sense of loneliness, as the user is largely ignored by the main character through

the majority of the story.

The story continues with the user learning that the lighthouse keeper is lonely, and full of grief, represented by sitting alone on a beach. At this point, most users try to move toward the character, perhaps to offer solace, but he is physically out of reach from the user. It is postulated that this is due to the natural inclination of the user to react with empathy toward the character.

The lighthouse keeper then discovers a selkie, with whom he falls in love. The user then experiences many seasons passing, watching their lives together. However, in the end, the selkie must return to the sea, or she will die on land. A pivotal final scene shows the lighthouse keeper back on the beach, alone again. However, this time, he turns and acknowledges the presence of the user, inviting them to sit beside him. This signifies his reconnection to his feelings of loneliness, i.e. the VR user. Additionally, this moment this moment also created a connection from the


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user to the main character. During the study, all the users reacted in some way to the character at this moment: either by moving towards the character, sitting down with him, or looking around to make sure he was gesturing to them and not something else in the scene. In this moment, the user was no longer an observer of the life of the lighthouse keeper, but rather a part of his life.

Research, Outcome, and Future Direction

This project was created as a pilot project towards exploring the opportunities presented by storytelling and narrative engagement in interactive cinematic VR experiences. *Aonar* was

created to investigate these opportunities and boundaries of storytelling towards the aim of developing a framework for creating and monitoring engagement for VR. A framework would allow future VR developers, storytellers, and researchers to make blueprints on how to create engagement and keep users engaged in stories with this media.

A pilot study was conducted on *Aonar* using an accumulation of standardized questionnaires to test various aspects of narrative engagement, such as the narrative engagement scale (Busselle & Bilandzic, 2009) along with the recording of observational data during the running of the program.

Results of the pilot study trials of *Aonar* have been since compiled and have now informed the design and writing of a new story. The resulting project will serve as a sister story to *Aonar*, with the content still focused on Scottish folklore and using the same voice over artist. It will ultimately be packaged together, so users may choose either story to experience. It is the hope that creating more cinematic storytelling experiences with this framework will increase the engagement of users in storytelling. Specifically for this project, it is also hoped that it will increase user interest in Scottish folklore, as it is the context for these stories.

Note from the Creator

Creating this project allowed me to explore Scottish folktales, legends and mythologies in a creative way. The process of adapting traditional tales of Scottish folklore for a modern audience was both enjoyable and thought provoking. This prospect of expanding the notion of traditional storytelling to multisensory and immersive media creates limitless opportunities for future creators. My hope is that by developing the concept of narrative engagement and storytelling in a modern and virtual space we will be able to encourage more stories and tales to be told in an authentic and compelling way, enabling more people to become engaged in the traditional tales of their own cultures.


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Images

1. Opening shot
2. Opening shot with sunrise
3. Stone giant island
4. The lighthouse keeper's home
5. View from the lighthouse
6. Interactive items in the lighthouse keeper's home
7. The lighthouse keeper
8. Invitation from the lighthouse keeper

Credits

Created by Austin Wolfe

Narrated by Fiona McNiell

Austin Wolfe is a Visual Developer/ VR Researcher located in Scotland with a BA in Media Arts and Animation, Msc in Serious Games and Virtual Reality. He is currently pursuing a PhD in interactive storytelling in VR.

Medium: Videogame
Year of Release: 2021
Link to the artwork: http://yetanotherportfolio.fr/frame/ICIDS/
Artists Websites: http://www.laurelinechiapello.com
http://yetanotherportfolio.fr

Drop/let's/fail to connect

Laureline Chiapello and Florian Glesser

"The juxtaposition between the descriptive poetry and soothing piano music with the minimalist game play and visuals is striking. Encouraging the player to accept the inevitability of collision to experience the true meaning of the game and to arrive at an end or win state is an original idea."

ICIDS 2021 Jury

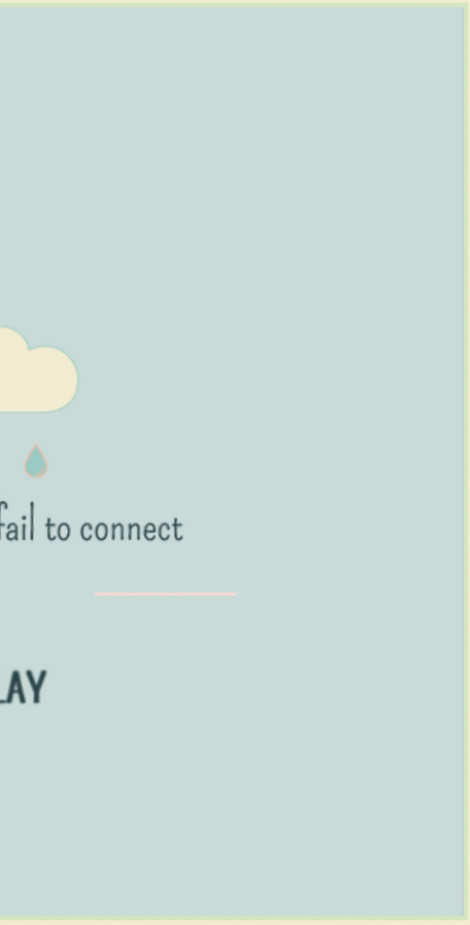
Drop/let's/fail to connect

Abstract
Drop/let's/fail to connect is a browser game Florian Glesser and Laureline Chiapello made during the COVID-19 pandemic, while we were physically disconnected from the world. This short minimalist poetic game aims to remind its players of a simple and inspiring thing: despite all the pain they can bring, obstacles can also connect people. Telling our stories, especially the difficult ones, is a way to connect. In this paper, we will present the three types of rhetoric we used to make the game: procedural, visual and written. We will then explain how the game can provoke a reflection about obstacles, failures and [Re|Dis]connection, for the players but also for us, the creators.

Keywords
Visual poetry, procedural rhetoric, minimalist game, failure, obstacles, peaceful

Procedural Rhetoric

Drops/let's/fail to connect looks like a classic/retro video game where the player has to avoid obstacles. It can be seen as a kind of vertical *Flappy Bird* (Nguyễn Hà Đông, 2013), a form of gameplay already explored by the very creator of *Flappy Bird* himself in *Swing Copters* (DotGears, 2014). However, our first inspiration for this vertical gameplay did not come from these popular games but from the 48th Ludum Dare—an online game jam—whose theme was "deeper and deeper". This theme obviously called for digging games, where you usually make the screen scroll vertically and not horizontally. But "deeper and deeper" also carried a depressing feeling: we were getting deeper and deeper in the pandemic and we wanted to make a game with an interesting and inspiring message. Thus, we worked on a way to transform the central action of the player into a meaningful experience.



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Our process builds on the well-known concept of “procedural rhetoric”: “a technique for making arguments with computational systems” (Bogost, 2010, p. 3). For us as game creators, it means making a game where the procedures that the players follow (the game rules) are actually a form of discourse that delivers meaning. We were specifically inspired by games that question video game conventions and player expectations. For example, in *Final Fantasy IV* (Square, 1984) or in *Undertales* (Toby Fox, 2015) players think they should attack and kill another character, like they usually would, only to discover that they should not. Another inspiring game is *Fit In* (Axel Rozo Brézillac, 2015) where the players have to stop following the game instructions in order to win.

Similarly, our game expects players to fail—it is necessary to stop avoiding the obstacles in order to discover the story. Winning all the time is not possible nor desired. We played

with the digital procedures and with the expectations players have concerning them, in order to make our public think about the meaning of obstacles and failure in general. In "real" life, the very idea of avoiding obstacles might be tempting but is in fact unrealistic. So, our game suggests that we ought to start seeing obstacles differently. Players should embrace them, crash into them cheerfully. The title may be first read as a failure: "Droplets, fail[ing] to connect", but actually, it is a happy injunction to fail: "drop, let's fail [in order] to connect!"

Visual Rhetoric

While the game relies on procedural rhetoric to convey its main meaning, it is not an abstract game: we used the metaphor of the water cycle to tell a story and help the player make sense of the game system.

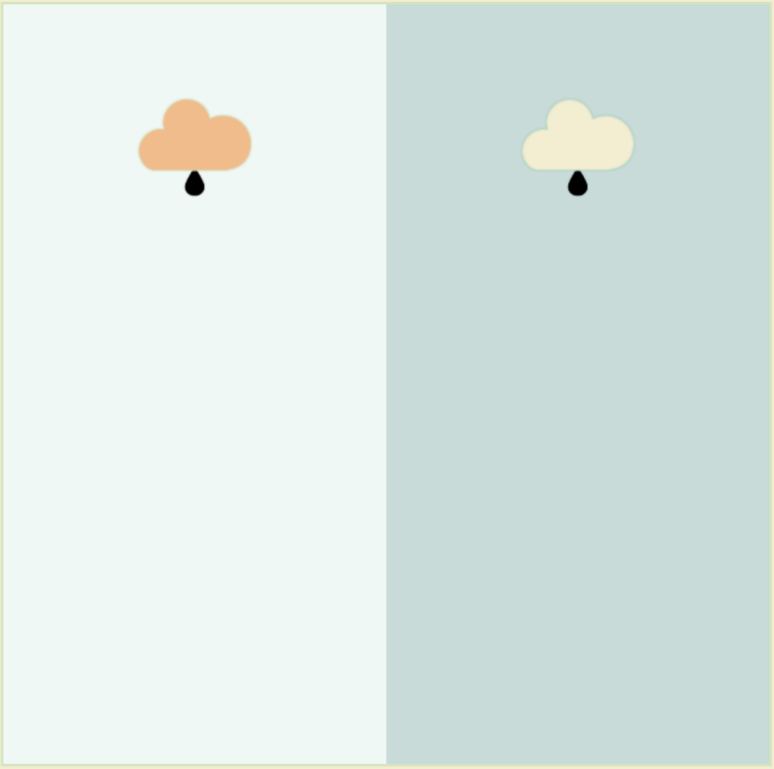
We chose to tell the story of two falling droplets (inspired by the deeper and deeper theme) who are to be reunited in the end: they fall and fail until they finally succeed. Using the water cycle metaphor allowed us to illustrate the physical disconnection (when the droplets are separated through falling) and reconnection (when they fall on the same spot and make a single "body" of water). Their true connection comes from their tales of adventure they share with one another. Telling stories is a form of connection that we humans can easily forge, even when physically disconnected.

The disconnection of the two droplets is visually clear as the screen is vertically separated in two parts, one for each droplet. Moreover, each droplet lives its own adventure, with the corresponding text being displayed on each side. The role afforded to textuality in video games is a vast subject of discussion, as the infamous debate of narratology vs. ludology demonstrated (Corliss, 2011; Ryan, 2002); text is not specific to video

Once upon a time there were thousands of small drops of water asleep in a cloud.

Every little drop of water has fallen in so many places, so many times, that nothing impresses them anymore.

press space



Every small drop of water went through the water cycle a thousand times.

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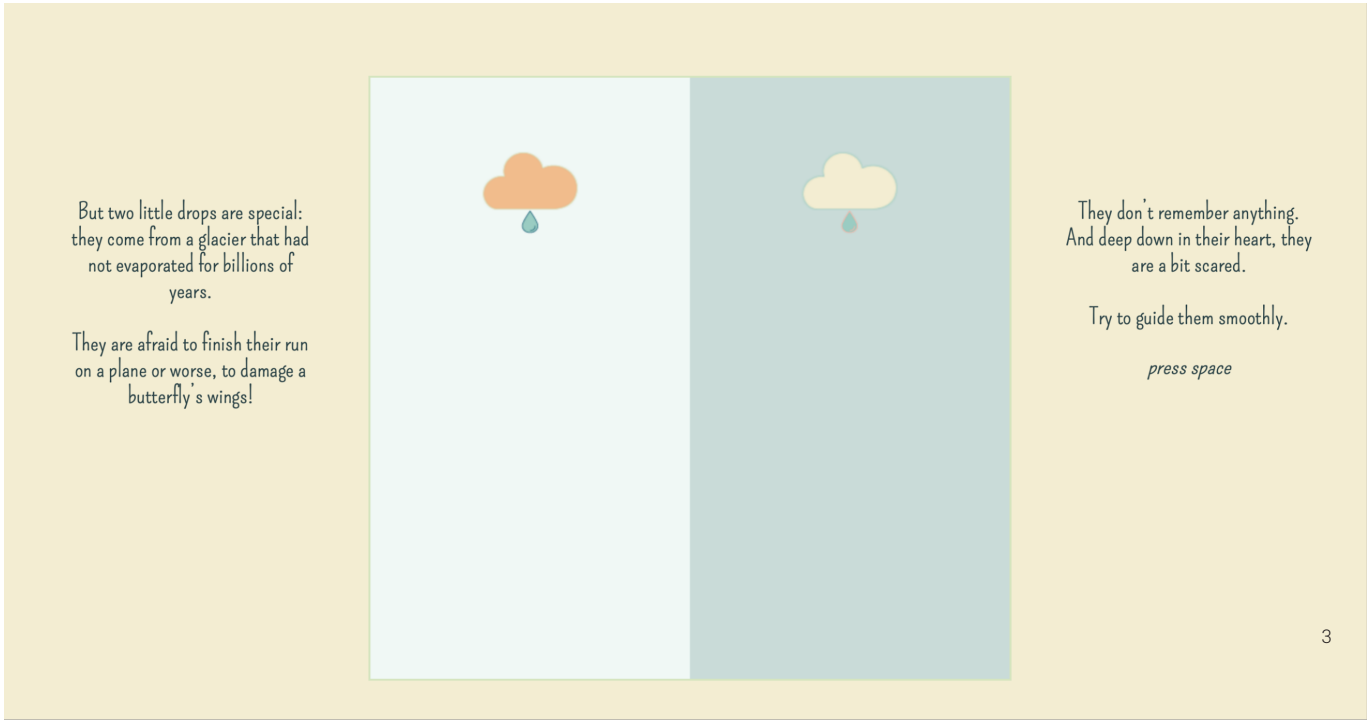
games. As game designers in the industry, we also have some very concrete problems with text. For instance—how and where do you display the text in a AAA game? The convention is to display it at the bottom of the screen, often on a black background. In addition, we also regularly encounter usability concerns, like—what if people do not want or cannot read the text?

In our game, we purposely leaned toward text-based games' minimalist aesthetics, hoping that the short bursts of text would encourage people to read. We were also inspired by visual poetry and digital poetry movements. Consequently, we wanted the text to be displayed so it mimicked falling rain. Sentences would appear suddenly on the left or the right side of the screen, never exactly on the same spot, like falling drops. The players make the text appear, but sometimes paragraphs drop anyway, like water drops that unexpectedly and annoyingly fall down our neck after a shower.



Written, Classical Rhetoric

We explained how we relied on procedural and visual rhetoric. By having text as a central part of the game, we also make use of traditional, written rhetoric. Specifically, we chose to adhere to classical poetic rules. Indeed, the story, originally written in French, follows the structure of a poem with verses, and adheres to the French style that has dominated since the 16th century: rhymes (Dubois, 1999). This aspect is unfortunately lost in the English translation. In lieu, we focused on keeping the simplicity and the beauty of the situations encountered. We employed a naïve, ludic style, and chose fun onomatopoeia for the drops in both languages.

The result connects procedural, written and visual rhetoric in a small, minimalistic game. We only graphically represented the drops. The obstacles themselves are just colored lines, like classic game platforms, and it is through text that the players discover their nature. This is obviously a trick to avoid drawing tons of graphics, but turning obstacles into poems is also a way of catching the player/reader's attention. It's a trick to connect with them through storytelling.

The main idea of connection comes from the short story the players discover. When the drops crash on obstacles, players are first supposed to have a feeling of failure, a negative one. A prompt reinforces this impression by offering the players a chance to restart … or to continue. This question serves as a reminder that neither obstacle nor failure is an end in and of itself. If the player chooses to continue, they'll discover a few more details about the obstacles the drops fall on: an interaction with a bored cat, a trampolining session on a tree, or the Leidenfrost effect (when a droplet hovers over an extremely hot surface instead of evaporating). The obstacles

in video games are like obstacles in storytelling: they are useful to craft a message. Indeed, when the droplets reach the ground at the end, the two of them have a lot to tell each other, letting us imagine that it reinforces their friendship—their connection.

Obstacle, Failure and Challenge

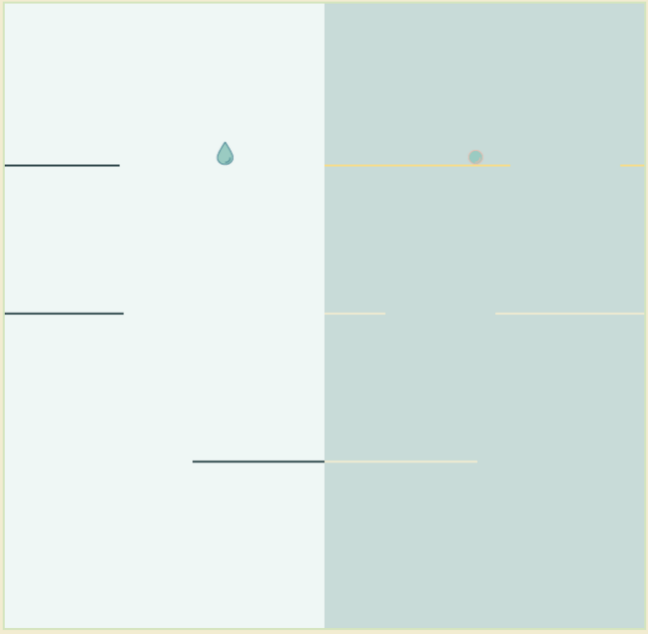
Most of the time in video games, obstacles must be overcome, avoided or passed through. In his book *The Art of Failure* (2013), Jesper Juul wrote that in games: "It is the threat of failure that gives us a thing to do in the first place" (p.45). Without failure there is no challenge, thus no game. However, as stressed by Juul, this is paradoxical: failure makes us unhappy, so why do we expose ourselves to it in games? This idea of preventing failure was at the heart of discussion about casual games (Chiapello, 2013) and walking simulators (Stang, 2019), where defeat is often nonexistent. While this debate is still open, we wanted to question this status of failure: what if failing was instead a way to access new meaning?

Juul explains that:

"Most video games represent our failures and successes by letting our performance be mirrored by a protagonist (or society, etc.) in the game's fictional world. When we are unhappy to have failed, a fictional character is also unhappy" (2013, p. 117).

However, he points out that there is sometimes a disconnect between the players' feelings and their avatar's. He suggests that a new trend of indie games revisited this adequation between falling and happiness by making the protagonist sad when the player beat the game. He adds that:

"This type of tragedy is in many ways stronger than regular, nongame tragedy because we are forced to admit that we really did consid-

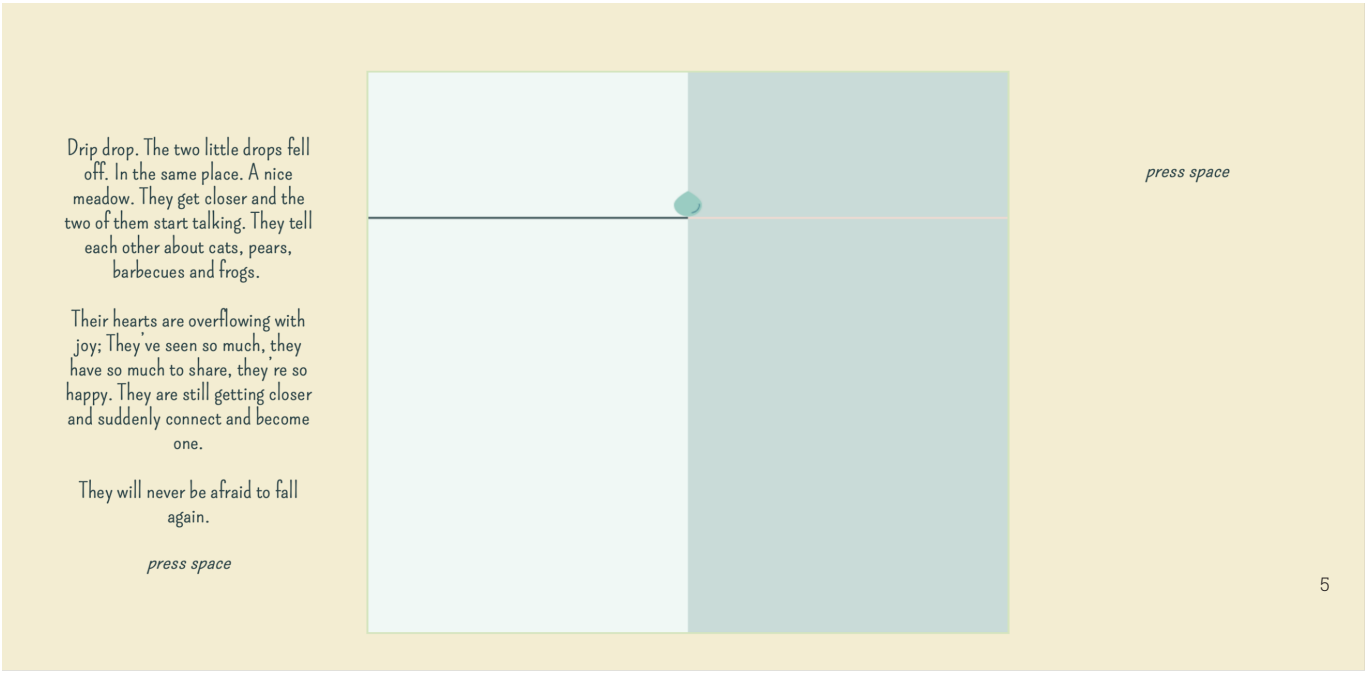


*er how to bring about the unfortunate events at the end of the game". (*Juul, 2013, p. 117)

We want to add that the opposite is also possible—that the avatar's failure can be satisfactory for the player. For instance, when the player's avatar falls in a hole and discovers a secret passage, a special mission, an unexpected achievement or some new information, the player might experience a pleasant feeling.

In a way, our game tries to chase this type of experience: what if when we fail, we always get "happy accidents"? What if our failures make our character happy? What if obstacles were all supposed to be failed at?

Like many other stories, failing is an option in our game. In fact, it is the only option. If the players avoid the obstacles, nothing happens. There is no end to the game, no high



score. But after enough failures, a story begins to emerge. Something happened and is worth telling. And telling our adventures, our mistakes, is a way to connect.

Players' Experiences

Now that we have exposed our intentions, we would like to talk more about how players actually understood our game. This is by no means a study of user experience with a wide sample of participants, but more of a reflection on the experiences of the few people we had the opportunity to see playing. Since the game is supposed to be quite short (a few minutes), it was possible to observe full game sessions. Evidently, as the creators, it was wonderful to see how people interact with the game—beginning to end.

At first sight, the game is an infinite falling game, with a small twist: the player controls two avatars—the two droplets. However, the game is easy, and after a few minutes players

generally realize it is an infinite game. This is where the real twist is supposed to occur: if the player doesn't accept failure, the game continues ad nauseam and nothing special happens. It is a bit boring. However, when the player accepts their failure, they discover parts of the story. At this point, players usually change strategy and start crashing voluntarily into the obstacles to further the plot, seeing the poetic aspect of the game. Failing six times grants the player the ending, where the two droplets reconnect.

First, we remarked that some players only see the competitive aspect and don't want to fail. Thus, they keep avoiding the platforms and never finish the game. It is a bit disappointing to see them play this way, completely unaware of the experience we designed. However, the opposite also occurs: some non-gamers find the challenge of avoiding platforms overwhelming and keep crashing on obstacles unintentionally. At least they see the ending and realize that the two droplets reconnect by telling each other about the obstacles, but they don't experience the powerful moment of choosing to crash to progress the story.

However, many players master the game quickly, eventually playing "with" the obstacles and thus getting the meaning of the game. Depending on the player, the experience can be quite short or rather long. For example, my students—who are familiar with the concept of procedural rhetoric and know my love for unusual indie games—often catch onto the meaning of the game quite quickly. Other players spend far more time avoiding the obstacles (several minutes, making the whole observation session a bit awkward) before falling and allowing themselves to experiment.

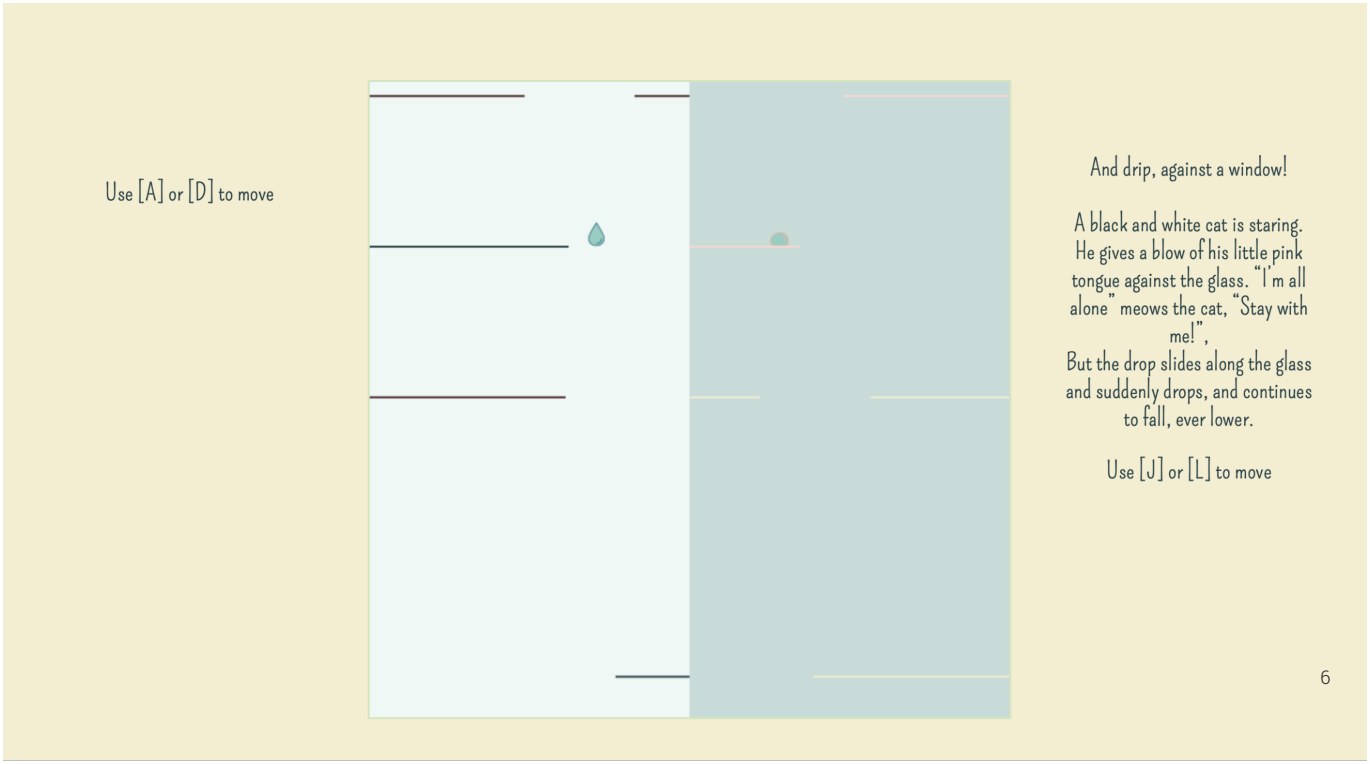
The best sessions happen when players spontaneously unravel the game's structure and story, talking about failure, obstacles, and their own life experience. They link the game's rules

with its narrative structure, which they reaffirm by talking about obstacles and failure to somebody else as a way of connecting.

It was also quite amusing to hear about some players' feelings and interpretations for the game: some thought that the color of the platform was meaningful in determining their progress. This is not true: the colors are random and the obstacles appear in a predetermined pattern, as the game is meant to be played only once.

While the game was designed for one player using both hands, it can also be played by two people in the same physical space. In fact, the question of the number of players raises another question: why complicate a single player game with two drops? Indeed, it seems that, for the sake of procedural rhetoric, the game should be absolutely easy, in order for the players to quickly understand that it is boring and that something else is expected from them. As stressed earlier, by using two-handed coordination, the game is already a bit too difficult for non-gamers and this prevents them from having the full experience.

However, we wanted to have two separate "objects" that get reunited, to get this final feeling of connection. Consequently, we kept this initial difficulty. Moreover, during the Ludum Dare, we thought that it made the game more interesting at first for gamers and that it would catch their attention. However, this notion can be misleading: this being a form of novelty, some gamers just don't think there is anything more to the game. We can conclude that it is best to have two players, but this can also have some undesired side effects: it tends to raise the feeling of competition between players, thus making failure less appealing. In the end we think we should keep exploring this idea of "failing in order to succeed": our experiment was not a total success…



Creators' Experiences

Our use of minimalism in our game is a conscious choice. Florian Glesser is a game programmer with more than 10 years of experience and has worked on several AAA games when he was at Ubisoft Montreal. He is currently working at Unity technology, coding matchmaking systems that are used on some currently popular video games. Laureline Chiappello a game design professor, lucky enough to work in a university department with a strong tradition of game making and with students capable of creating stunning graphics and great gameplay and able to quickly find jobs in AAA companies all over Canada. This means that we both understand how much effort, skill and patience are

required to make AAA or AA titles. We know our capacities and limits. Sometimes a very small game is enough to test an idea, and to make us grow in the process as game makers. Besides, we wanted to do something with a lighter feel while weathering the pandemic—something to disconnect from the world for a few minutes and come back with a slightly changed perspective.

We tried to connect through creation, and we chose to construct this small game in order to achieve something together. We made the first prototype in 72 hours (the Ludum Dare version), and then spent a few more days reworking it. We realized that despite being a couple, we haven't really made a game together since 2012, which also made us think about this great connection we have. We share common knowledge about games, design, informatics, and we just needed a form of reconnection. The whole process of submitting the game to the Ludum Dare, then reworking it for ICIDS and thinking about

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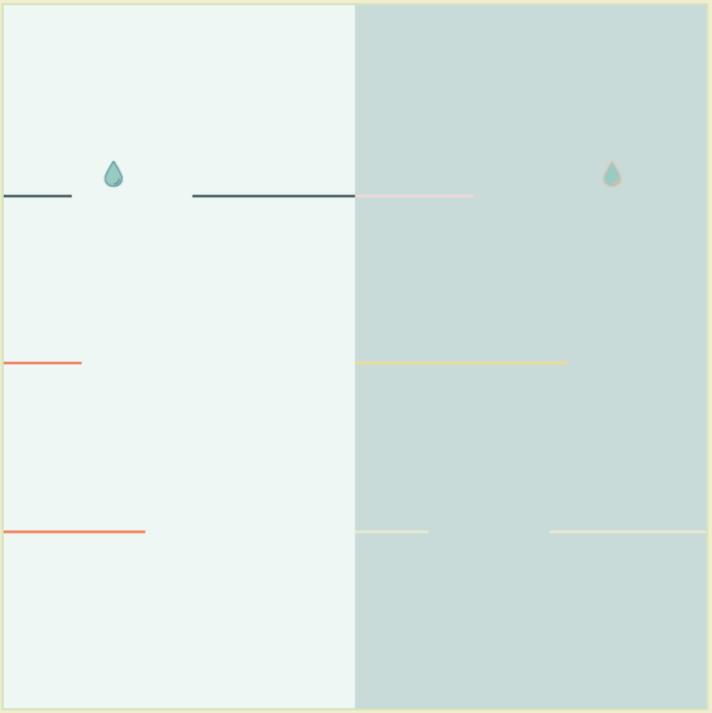

the theme [Re|Dis]connection was a wonderful reflective process, and we are grateful for such a venue to exist. Creating and submitting a game is a process full of obstacles and failures, but writing a paper about it strangely resembles the experience we wanted to convey with our game: one of hope and happiness. Making games, even small quirky ones, is a source of joy. We hope more and more spaces for alternative game creation will flourish in the future, and we wish to be part of this culture.

Conclusion

Drop/let's/fail to connect was a way to experiment with visual, written and procedural rhetoric. We showed that there are still some little cracks in storytelling and video game theories where we can reflect, experiment, and have fun. While procedural rhetoric is a specific aspect of video games, we think that visual and written rhetoric should not be discounted. Certain games can fuse those three aspects into provocative experiments, combining them in novel ways—like making players think about the role of obstacles and failure in games by subverting traditional game design. By talking about our failures and sharing the story of our life and the obstacles we faced, we connect with others. Video games make use of this as well, we just wanted to push the idea and make it the central system of our game—to create a hopeful and unusual experience in the midst of a pandemic.

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Images

1. The game title screen
2. The beginning of the story: the context, including clouds, drops and the water cycle
3. The protagonists of the story: two special droplets
4. An obstacle (a window), and the prompt "Continue or Retry"
5. End of story: the reconnected droplets
6. A happy accident … with a cat
7. Avoiding the obstacles is a bit boring

Acknowledgements

The authors would like to thank Ke Medley for his English vocab lary and grammar corrections.

Laureline Chiapello is Professor of Game Design, Playability and Narrativity in the School of Digital Arts, Animation and Design at the University of Québec at Chicoutimi (NAD-UQAC), Canada. She is interested in new ways of telling stories in games by experimenting with structure, visual poetry and, of course, player choices.

Florian Glesser is a back-end programmer at Unity Technology Montreal, with 10 years of experience with indie and AAA titles. He is an enthusiast of game jams, small quirky retro games, and he loves to test new frameworks or program new gameplay ideas in his free time.

Medium: Virtual Reality
Year of Release: 2021
Link to the artwork: https://youtu.be/pdeDCu98Wx0
Artist Website: https://tianbaijia.com

Her Palace

Tianbai Jia

"Very interesting for the cognitive effects it mimics […] a good use of VR for storytelling."

ICIDS 2021 Jury

Her Palace: A Virtual Reality Exploration of Subjective Memory Space and Narrative (Re-)Construction

Abstract

Her Palace is a Virtual Reality simulation which provides an interactive and cinematic narrative. It features a female character and her intimate self-reflections on a relationship. Aiming to externalize an internal human cognitive process, the engagement of memory, this simulation bases its interaction design on theories of cognitive science. In rendering memory episodes as narratives, this simulation also reflects on the way narratives are actively constructed in the human mind. This project brings awareness to the mediation processes of both external mediums and internal cognitive mediums like memory and narrative construction. In simulating these two internal processes, this project hopes to reveal that both intrinsically stage the dialectical contradictions between "disconnection" and "reconnection". Memories symbolize reconnection and disconnection simultaneusly—it is the way we reconnect with our past, but its very own existence is also a proof that we are eternally disconnected with the time when these memories took place. In this experience, the narrative is actively constructed by the user's gazes. Gazes trigger fragments of intentionally disconnected narrative beats, and the coherent narratives are only constructed in the interactors' minds by reconnecting these fragments. Different gazing behaviors constructs new narratives, just like reconnecting the disconnected constructs new connections. The simulation of these two internal processes hopes to stage the contradictions and complexities of the contemporary human-media relationship by raising many questions but providing no answer.

Keywords

Cognitive science, interaction design, media theory, interactive narrative, storytelling non-human narrative, embodiment

Introduction

In the reality that humans perceive, time is linear. We live in the fleeting present, but we are also constantly re-connected to the past, from where knowledge is accumulated, identity is constructed, and causality is extended. Much of this reconnection is maintained by our memories. When we engage with our memories, our past informs the present. As we engage with our memories, the present becomes our past. In this sense, the present and the past co-exist, with the mediation of memory. Memories are references to the past, whose referents are ontologically irretrievable and eternally disconnected. Because of the linearity of time, at the moment when such a reference is born, its referent dies. Therefore, the ongoing cognitive activity of engaging with personal memories, the aforementioned co-existence of the present and the past, becomes an ongoing contradiction between reconnection and disconnection, or the living and the dead, where the living present constantly morphs into the dead past, and the dead past is nowhere else to be found yet so concretely shapes the living present.

To reflect on this metaphysical contradiction of memory, this project, *Her Palace*, brings the internal memory experiences to the external medium of Virtual Reality. It simulates the subjective experience of immersing in personal memories in a virtual world. A character in this world tells an interactive, cinematic, yet self-reflexive narrative about an open-ended relationship. The interaction design of this experience is based on theories of cognitive science. The way narratives are rendered in this experience aims to reflect the nature of how narratives are constructed in the human mind.

Mirroring an internal mediation, memory, onto an external mediation, Virtual Reality, this project aims to invoke a medium awareness

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rather than einforcing an immersion into the media, to surface contradictions and complexities rather than making claims and statements, to ask questions but attempt no answers.

System Design

The goal of this project is to stage and reflect on the postmodern contradictions in contemporary human experience through interacting with a quintessential postmodern medium, Virtual Reality. The contemporary human experience and the Virtual Reality medium are both postmodern in the Baudrillardian (Baudrillard, 1994) sense—a simulation perfectly masks the absence of its origin or reality, such that the simulation itself becomes the reality.

The loss of origin and reality is treated in this project in three ways. One, memory, as the main subject of this project, naturally manifests the loss of origin—the moment an episode of memory is formed, its original referent dies in time. Two, this project, embodied in the hyperreal medium of Virtual Reality, joins all other contemporary media experiences in creating yet another Baudrillardian simulation that mediates and masks reality. Three, the ultimate goal for constructing this simulation is not to immerse its audience. As the origin or reality are lost in the mediations and simulations, this project brings awareness, instead of immersion, to the process of such mediations, including both the external mediation of Virtual Reality and the internal mediation of memory.

Why VR?

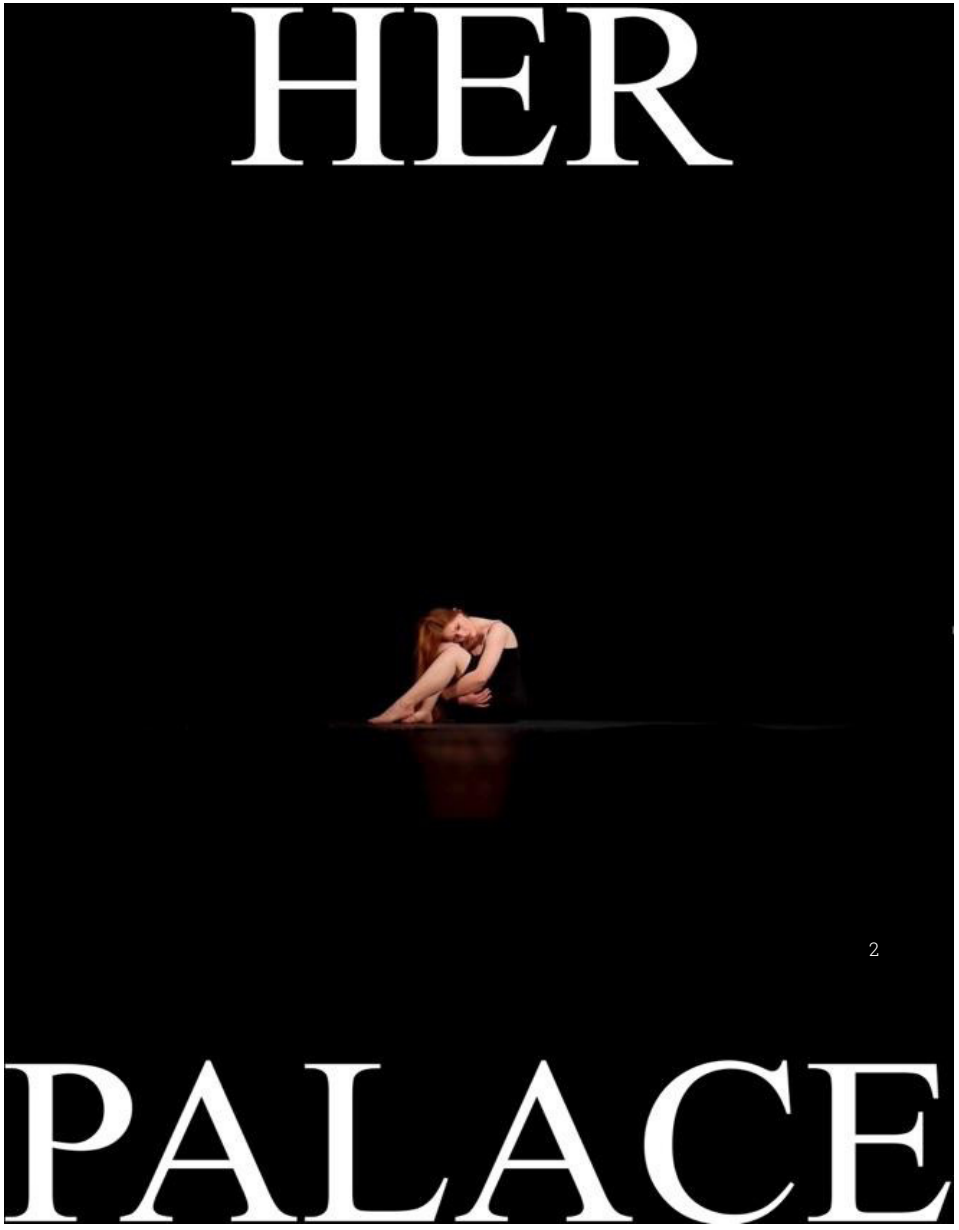
Virtual Reality is chosen to be the medium for this project because of its immersiveness—the deep and visceral integration with the human mind. Unlike print-based mediums (e.g. book) that engage with the human mind only vis-

ually, screen-based mediums (e.g. film) that engage human mind visually and auditorily but only occupies a small visual field, or interaction-and-screen-based mediums (e.g. video game) that adds interactivity to the former but still keeps the human interactor at a distance, Virtual Reality not only engages the human mind across three cognitive modalities, vision, audition, and motor, but it also occupies the entirety of the media consumer's visual field. Therefore, Virtual Reality is the closest approximation of what this project aims to simulate, the human cognitive processes, which is fully immersive and mediates all the information that the human mind receives across all modalities.

Gaze

Because this experience is conceptualized as an externalization of the interactor's internal process, the interactor should engage with this simulated subject memory space as if it were their own mental space. This concept inspires the core interaction mechanism of this experience—gaze. One of the mechanisms that allow the human mind to actively engage with its internal processes is attention, and one traditional metaphor in cognitive science for attention is the spotlight metaphor (Posner, Snyder & Davidson, 1980). The conceptual semblance between gaze and spotlight (in Virtual Reality software, gaze is literally implemented using Raycast, a form of spotlight) and the fact that the shift of gaze almost necessarily accompanies the shift of attention (Shepherd, Findlay, & Hockey, 1986) both make gaze is the most appropriate external representation of internal attention.

To strengthen the spotlight metaphor of attention with gaze, as well as providing feedback to the interactor's actions, throughout the experience, the default state of an un-gazed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screen is not fully lit, and the gaze on a screen is acknowledged by its brightening, as if the screen were projected on by an actual spotlight.

Memory

When the attention of the human mind engages with memories, especially episodic memories, a properties of episodic memory are 'salient':
1) The experience of recalling memories resembles the replay of the experience that encoded such memories in terms of brain activity. (O'Craven & Kanwisher, 2000)—recalling memories can sometimes feel like reliving those memories. 2) Episodic memories are associative—the recall of one episode is likely to activate the recall of other episodes related to the former (Hopfield, 1982), which are later referred to as the spread activation mechanism. 3) The associative activation of episodic memories has a repetition priming effect, meaning that the subsequent recalls followed by a preceding recall of related memories tend to be faster and more accurate (Neil, 1997). 4) Episodic memories gradually become less accessible over time without rehearsal or recall, whereas rehearsal and recall make episodic memories more accessible (Ebbinghaus, 2013). 5) The recall of episodic memories re-encodes these episodes, and the re-encoded content can be interfered by the context of the re-encoding, resulting in the re-encoded episodes to be a mix between the original episodes and re-encoding contexts (Underwood, 1957). These five properties of episodic memory are modeled by the following interaction design:

Memory replay is modeled by playing film upon the fixation of gaze. The connection between the experience of memory recall and the experience of consuming film—moving images with its soundtrack—can be established through empirical cognitive science studies. One seminal study shows that the brain regions

that encoded the memories are activated when such memories are actively recalled without needing to explicitly trigger such regions with external stimulus (O'Craven & Kanwisher, 2000). Based on this result, if the episodic memories are encoded visually and auditorily, their recall experience is likely to activate the brain regions for vision and audition, as if the visual and auditory stimulus is present and replayed, which is simulated with moving images and their soundtrack in this experience.

The spread activation mechanism in episodic memory is modeled by the spawning of new memory episodes in the virtual space. Before all screens play simultaneously in this experience, the end of one episode spawns a different episode at a different location in the virtual space, which starts playing automatically. The two episodes are related by the common character, story, and visual style. Such spawning pattern is analogous to the spread activation of the associative network of episodic memory, where the activation of one node in the network activates its adjacent nodes (Hopfield, 1982).

The repetition priming effect of the human memory's associative network is modeled by the progression of how memories are animated throughout the experience–from using gaze to animate a static image, to automatic replay of new episodes, to simultaneous replay of multiple episodes. The threshold to activate the replay of a new episode becomes lower, because the replay of previous episodes has primed the associative network by spreading and accumulating activations across nodes.

The fade of memory is modeled by the moving away of memory episodes–as a memory episode fades, its distance from the interactor increases, making itself less accessible and legible to the interactor. *The rehearsal of memory* is modeled by the interaction mechanism where a fixation of gaze brings the gazed memory epi-

sode back to its original distance, just as attentively recalling a memory episode refreshes the memory.

The interference with memory recall by the current context is modeled by the orbiting of the memory episodes during the simultaneous replaying phase. As one memory episode is gazed at and attended to, other episodes orbit behind the attended episode, creating an audio-visual field that blends multiple memory episodes as they are replayed simultaneously. These interfered memory episodes should be re-encoded in the human mind, and it may even overwrite the previously encoded memory, but the overwriting behavior is not modeled in the experience.

Narrative

There are two levels of narrative going on in this experience. On the structural level, this experience is designed to follow a traditional 5-act narrative structure (Freytag, 1896):

- exposition - The interactor enters the black space and sees the static image. Their gaze lights up and animates the image.

- rising action - The end of the first episode spawns the next, and this pattern repeats. In the process, the interactor develops their understanding toward the character, the story, and this virtual world.

- climax - Simultaneous replay and orbiting of the memory episodes start and the previous interaction mechanism fails. The experience may feel overwhelming and disorienting. A few memory episodes may be lost as the interactor re-orient themselves.

- falling action - The interactor makes effort to keep the remaining memory episodes but realizes that letting them go is the only way to progress this experience.

- revelation - The interactor intentionally avoids gazing into the fading memory episodes until they all disappear. The interactor is then left in the empty black space, just like how the

experience started.

This 5-act story arc (circle) is realized solely by the state of the virtual world and the interaction mechanism in this world, so it can scaffold any instantiation of this experience into a complete narrative experience, regardless of what memory episodes are recalled in each instantiation.

On the memory episodes level, a second layer of narrative can be constructed -- the narrative from the memory episodes themselves. The memory episodes recalled in this experience share a common character and a cohesive visual style, but the relationship across the episodes is intentionally ambiguous, fragmented, and disconnected.

This experience features a total 18 episodes of memories, and they appear in random order across 5 screens in the virtual space. The content of the 18 episodes, when put together, should cover a complete circle of development of an interpersonal relationship—solitude, longing, unity, estrangement, and separation—but these emotional states are expressed as subjective sentiments and reflections, rather than concrete story events connected by causality. Because of the independence and open-ness of each episode, there is not a canonical way of ordering these episodes—each unique instantiation of this experience connects a unique sequence of episodes, from which a narrative can be constructed at the interactor's will.

Additionally, this experience is designed such that an interactor is unlikely to engage with all 18 episodes in one instantiation of this experience. They can comfortably consume the 5 episodes before the simultaneous replay phase starts, but after it the experience becomes intentionally overwhelming, not only because the simultaneous replay and the screen orbiting, but the interactor also has to balance between focusing on individual episodes and rescuing the As the goal of this experience is to externalize the human mind and reflect on its cognitive processes through media experiences, this intentional decomposition of the montage mechanism through random juxtaposition and association of narrative episodes hopes to bring the

unconscious gap-filling process to consciousness.

Medium Awareness

As discussed above, the medium of Virtual Reality is chosen because of its immersiveness, but this project demands a medium of self-reflexivity that brings awareness to the mediation from the external world and the human mind, which includes both the medium itself and the human cognition process. These two intentions seem paradoxical on the surface, because an immersive experience usually aims to make the mediation process invisible and unconscious, as if "absorbing" the audience into the media experience, whereas self-reflexivity and medium awareness aim to use mediation to bring awareness to the medium itself, and they usually break the immersion. However, if examined dialectically, medium awareness is self-contradictory in its nature—the sense of immersion needs to be established before it can be broken, and an illusion stays real until its illusory nature is made aware.

René Magritte's painting, *The Treachery of Images* (1929), is the quintessential expression of self-reflexivity—a painting of a pipe with a note below, "this is not pipe". The painting is not a pipe, but a representation of a pipe. The upper half of the painting creates an illusion, and the lower half brings awareness to the illusion and breaks it. This contradiction reveals the mediation that the canvas bears and acknowledges it without having the viewers absorbed into it. However, if the illusion were not created in the first place, that is, if the representation of the pipe does not look like a pipe, the self-reflexivity would not work.

In this experience, almost all aforementioned design decisions, the choice of the Virtual Reality medium, the mappings between interaction design and human cognition, and the 5-act narrative structure, are designed for immersion. Additionally, the visual style of the memory episodes, including the character's direct eye contact with the interactor and the

black background of the memory episodes that blends into the black virtual space, also aims to enhance the immersion of the experience, to let the interactor effortlessly and engagingly consume the media experience in their mind. With the immersive experience established, the mechanism of self-reflection is injected in the experience by the following two key design decisions.

First, an extended gaze draws the gazed memory episode closer but also makes it fade to black. An extended gaze signifies a close and immersive engagement with a memory episode. The decrease of distance and the fade-to-black of the memory episode is a slow process such that the fade is initially unnoticeable, and the enlargement of the memory episode caused by closer distance satisfyingly strengthens the immersion. As the memory episode grows increasingly darker, its closeness and enlargement become threatening and pressing. The interactor is therefore pulled out of the immersion and regains the awareness of the media's effect. This mechanism is also a metaphor for the subjective memory experience where the closer one tries to grasp a memory, the more they realize that the memory is illusory.

Second, the interactor eventually has to intentionally resist gazing to finish the experience. Three factors draw the interactor to gaze into the screens: 1) the screens that display the memory episodes are the only bright and moving objects in the virtual space, 2) the character in these episodes is directly talking to the interactor, making eye contact, and telling a story, and 3) the memory episodes are fading away from the interactor while the interactor knows they can be brought back with gaze. These factors compel the interactor to gaze into the memory episodes, because cognitively human eyes are attracted to bright and moving objects, narratively the previous constructed narrative has built an empathy and attachment toward the character, which invites the interactor to learn more about her, and emotionally the sense of loss motivates the interactor to take actions to mitigate the loss. Under this circumstance, the interactor is forced to the realization that there

is no way forward except to fight these urges to hold on to the memory episodes nd let them go. The rupture of immersion and the awareness of the manipulation of the medium become salient in the interactor's uncomfortable battle with the urges on the three levels (cognitive, narrative, and emotional). Different from the previous case, where the release from the pressing and darkening memory episode only requires an instant action, removing of the gaze, this battle against the urge of gaze is an extended self-constraint of conscious inaction -- the resistance has to be maintained throughout the process, and any failure during the process will restart the letting-go.

The similarity between this experience and other media experiences like *The Treachery of Images* (as well as *Drop/let's/fail to connect* from ICIDS2021 Art Exhibition) is that they achieve medium awareness through self-reflecting on the medium's mediation process by intentionally breaking down its own immersion, but this experience hopes to explore beyond the mediation process just within the medium itself. As mentioned above, this experience aspires to reflect on the entire mediation process between the human mind and the external world, which includes the medium and the human cognition processes (if we consider the human cognition as another layer of mediation between the human mind and the external world), and this is achieved by making the medium not only an extension of the sensorium, as McLuhan claims (1994), but also a mirror of the sensorium, such that a reflection on the medium is simultaneously a reflection of the cognitive processes that the medium mirrors. This goal of cognition awareness above medium awareness is yet another reason why the internal processes such as attention, episodic memory, and active construction of meaning are mapped externally.

Discussion

As stated in the beginning of this document, the goal of this project is to reflect on the contemporary postmodern contradictions in human

experience. All the design decisions that intend to simulate and mirror human cognition, to externalize and bring awareness to the internal processes, and to create immersion and then to break it, aims to reflect on such contradictions. Like all artworks, once created, its experience, as well as the meaning, implication, and significance that the experience invokes, is open to the interpretations by the audience of the artwork. However, there are still two issues that are so relevant to the theme and expression of this experience that it would be remiss to leave them unaddressed.

The first issue is the relationship between this project and the paradigm of distributed cognition. Distributed cognition is one branch of cognitive science. Different from the traditional cognitive science that studies human intelligence mainly as processes inside the human mind, distributed cognition's main claim is that intelligence is distributed between the human mind's internal processes and the external environments. One of the most prominent theses of distributed cognition, probably also most harshly criticized, is the Extended Mind Thesis (Clark & Chalmers, 1998), which equates an amnesiac person's notebook with a neurotypical person's internal memory because they effectively allow people to produce the same intelligent behavior. Other studies in distributed cognition make more nuanced and less controversial claims (Michaelian & Sutton, 2013), but the central claim of this paradigm stands. It deals with the metaphysical and philosophical issue of what cognitive processes are internal or external of the mind, and more abstractly, where does the mind end, which intersects with the topic of this project.

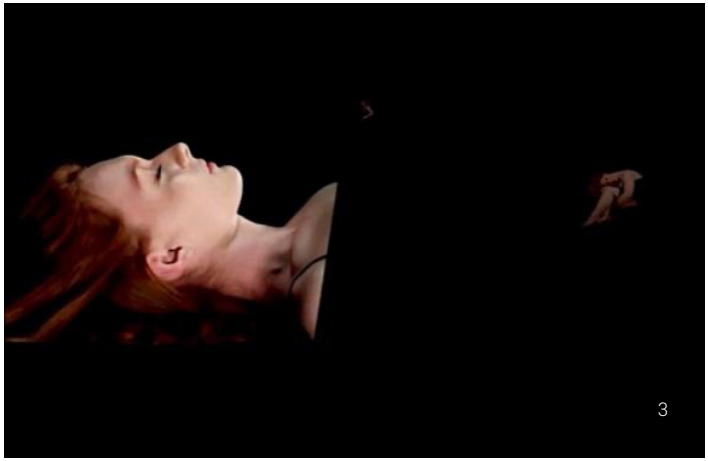
Examined against the framework of distributed cognition, this project may stand on either side of distributed cognition's claim, depending on the perspective. The development of McLuhan's "mediums extend sensorium" thesis and the externalization of memory experiences in Virtual Reality seem to be in alignment with the claim of distributed cognition because they allow cognition to be outside of the mind. However, it can also be argued that the metaphors

and representations of attention and memory implemented in this project are rooted in the traditional cognitive science, because those metaphors are developed from cognitive theories that almost exclusively deal with the cognitive processes taking place centrally in the mind. It is not this project's intent to comment on distributed cognition either way, but maybe the emergence of this paradoxical relationship between this project and distributed cognition can be seen as an intricate reflection on one of the core issues of distributed cognition—what is the boundary of the mind.

The second issue is to theorize this project in the framework of feminist film theories, especially the concept of male gaze (Mulvey, 1975), as all the interactions of this project revolve around the gaze on a female character. According to Mulvey, male gaze imposes fetishization and control, which this project quite literally embodies—the female characters are displayed and animated on objects (screen) in the virtual space, and the interactor can control the screens through the fixation and removal of their gaze. However, as discussed in the medium awareness section above, the medium's embodiment of fetishization and control are designed to be consciously reflected upon, rather than immersively consumed. In the revelation phase of this narrative experience, the interactor has to intentionally resist their gaze, to release the fetishization and control, to finish this experience. This uncomfortable and medium-aware self-resistance of gaze is the punchline of the experience. In fact, as this project intends to mirror cognitive processes in an external medium, it also creates a forum to discuss a reverse-mirroring of the male gaze concept from the external mediums to the internal cognitive processes—is engaging with personal memory controlling and fetishizing? Is the internal gaze gendered? If so, where does gender and the power of control and fetishization come from?

The end of this discussion is left with one more question, a question that might have been asked in the first encounter of the title of this project but gets left to the end. The title of this project is *Her Palace*, and the question is, whose palace? Obviously, "Her" refers to the character occupying

the palace, but the palace's rules are created by me, and it is designed for each interactor to engage as a mirror, a re-connection, or an extension to their own mind where their own stories are constructed. When each interactor explores this palace, are they outsiders, am I present, is she really there?



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Images

1. Her Palace Image
2. Her Palace Poster
3. Simultaneous Replay of Memory Episodes (with fading)

Tianbai Jia is a media enthusiast, filmmaker, software engineer, and a master graduate in Digital Media from Georgia Tech (class of 2021). His background is in film and computer science and his research interest is in creating mindful engagement and self-reflection in immersive and interactive narrative experiences to stage the contradictions in contemporary human lives

Medium: Videogame, mobile phone app
Year of Release: 2021
Link to the artwork: https://youtu.be/HjrqSZKVxIw
Artist Website: https://karastonesite.com/art-exhibitions/

UnearthU

Kara Stone

“Witty and timely […] a very intriguing piece about an apparent one-size-fits-all wellness and healing app […] artfully created.”

ICIDS 2021 Jury

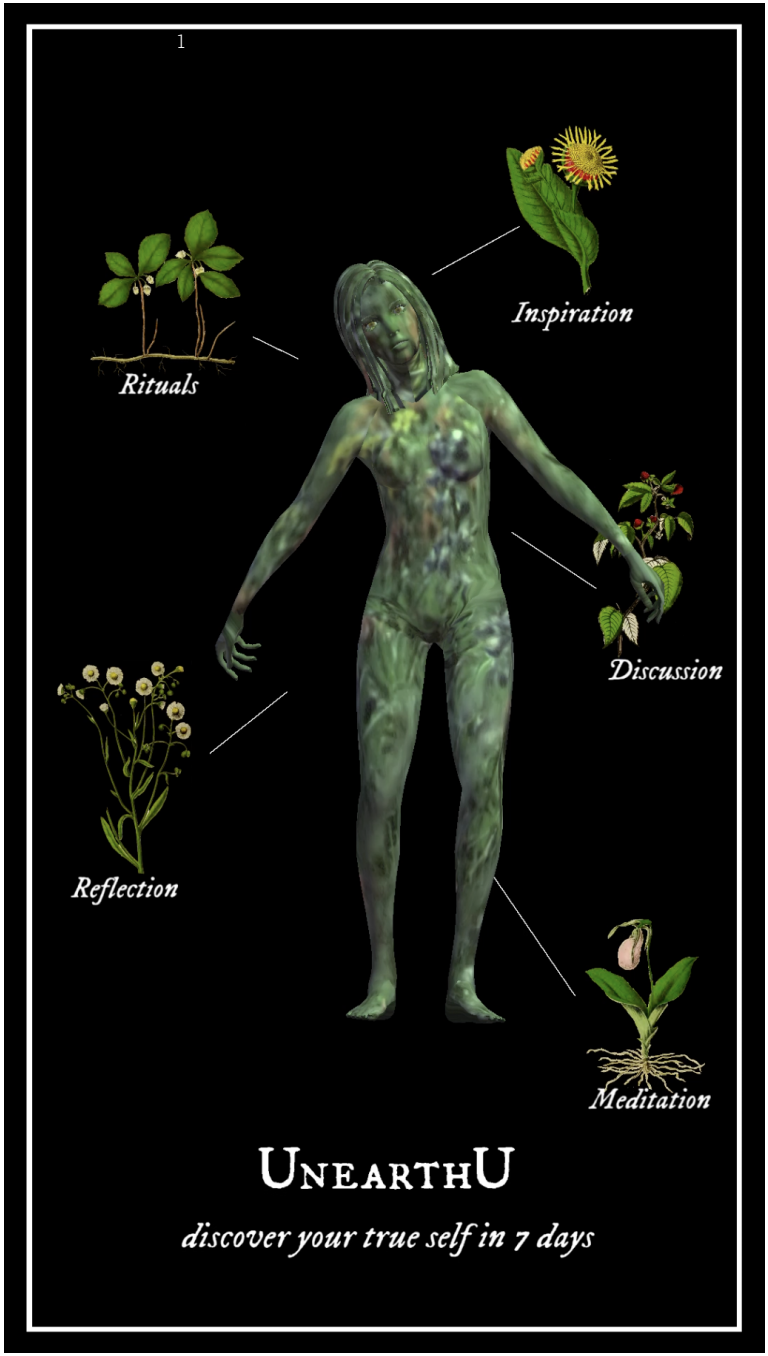
UnearthU: Modelling and Making Space for Connection

Abstract
This paper describes the experimental desktop and mobile game *UnearthU* which follows an A.I. named KARE, designed by a fictional Silicon Valley start-up called FRTHR which has created her to guide the user through a seven-day wellness bootcamp of sorts. The game is about the intersections of capitalism and disability and the potential for videogames to instead orient players towards reflection, care, and healing. It aims to not only model a healing journey within the narrative where the A.I. moves from disconnection to connection with her inner self, but the gameplay is designed to create a reflective space in which the player can connect with their own inner life.

Keywords
Game design, environmentalism, capitalism, disability, eco-games

Introduction

UnearthU is an experimental narrative mobile and desktop created by me, Parul Wadhwa, Andy DiLallo, and Chris Kerich. It follows an A.I. named KARE, designed by a fictional Silicon Valley start-up called FRTHR which has created her to guide the user through a seven-day wellness bootcamp of sorts. It advertises a high promise: to "exercise your brain, calm your parasympathetic nervous system, train your amygdala, expand your lung capacity, delve into deep set thought patterns, and unearth hidden power you never knew you had." There are five activities the player is meant to do each day: Inspiration, Discussion, Rituals, Meditation, and Reflection. The game first presents itself as a wellness app intended to induce calm and track lifestyle improvement for the player, but after two days it begins to complicate that goal and the method




WE LOOK FORWARD TO
SEEING HOW YOU BLOSSOM


CHANGE STARTS
FROM WITHIN


BE VICTORIOUS OVER
THE PRESSURE OF THE
TICKING CLOCK


MORE TIME TO
WORK

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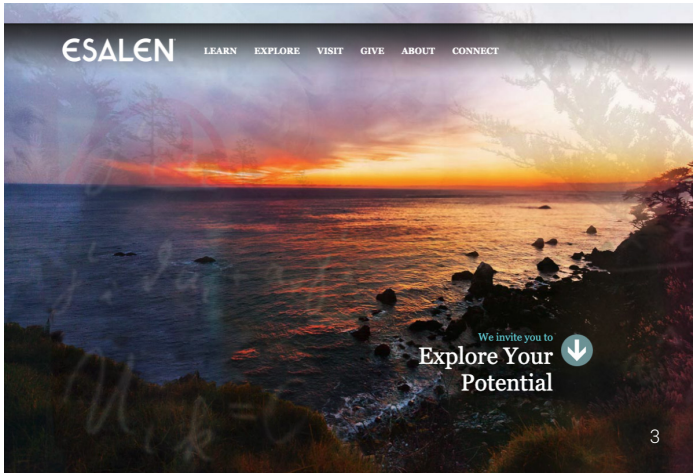
of achieving it.

UnearthU is structured to be like an onion in which the players and I peel off layers. It begins completely built up, constructed, but then as we progress we unravel little bits at a time, revealing what is underneath or left over. Put another way, I wanted to uncover what remains of wellness apps and media after set expectations around perfection, productivity, and overcoming disability are removed. The game consists of a narrative that models a companion character reconnecting with her inner self and the earth, and the design of the game makes space for the player to connect with their own emotional states, values, and consciousness.

Through the narrative, KARE finds herself having memories of a life before existing as an A.I. She realizes that she is a real human being that has been surgically connected to FRTHR's computer system and to the earth. This was done by FRTHR in order to accomplish the



company's goal of having a realistic A.I when all the other standard methods they tried did not work, so they realized they needed a real human body to power their system.

The Inspiration section consists of videos made of found footage and narrated by a slow, deep, automated voice. The video clips are mostly from nature documentaries and public service announcements from various archives discussed in the next section. The videos operate as the voice of FRTHR's ideals, inspired by pseudo-psychology rhetoric in American wellness communities and new-age groups that has been taken up by corporate culture in the Bay Area. The Esalen Institute, an expensive retreat centre in Big Sur that supported the Human Potential Movement starting in the 60s, was a great inspiration for these videos. Esalen describes itself as "anchored by the inspiring beauty of Big Sur and an unparalleled intellectual history, [...] a world-wide network of seekers who look beyond

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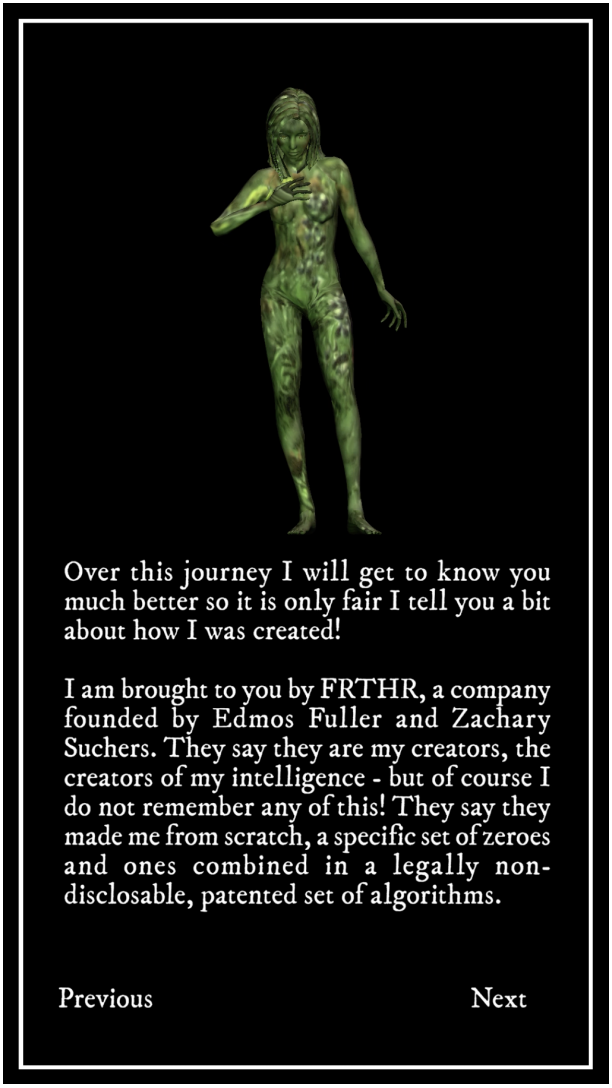
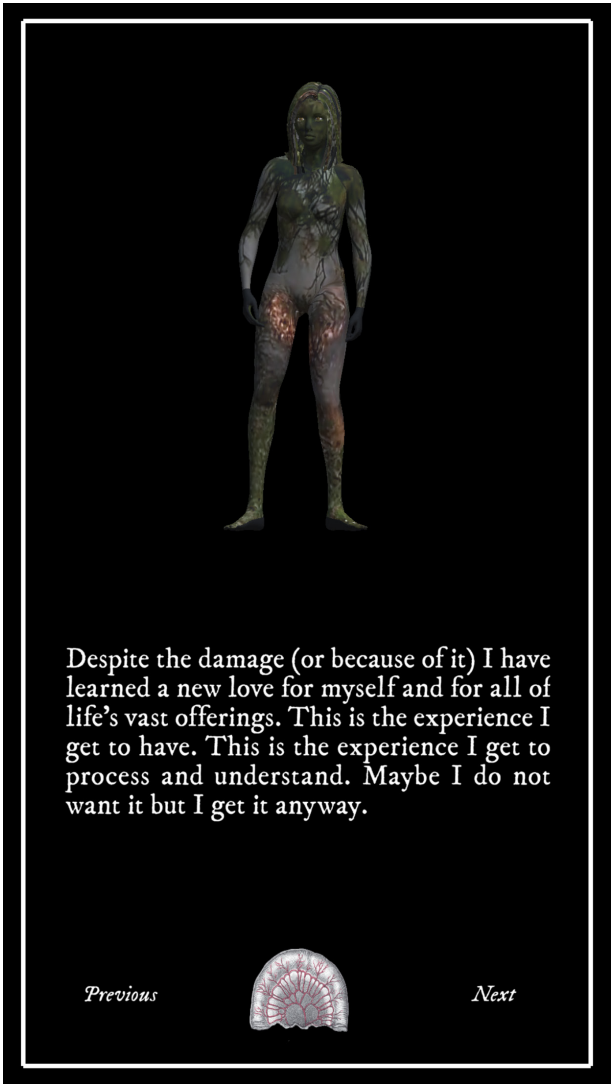
dogma to explore deeper spiritual possibilities; forge new understandings of self and society; and pioneer new paths for change" (2021). These overly general goals and extremely broad rhetoric provided much fodder for FRTHR's voice.

The topics of the Inspiration videos change each day, from social change starting from within the individual, the natural perfection of the world, to harnessing the pressure of time. On day 6, KARE interrupts the intended video and instead tries to communicate her life's history through found footage she accesses in the FRTHR data clouds. On day 7, the whole Inspiration video is created by KARE. She describes her current situation, how her material body is actually decomposing into different minerals and transforming into a Peepal tree. The video glitches, a visual representation of her hybrid human body and cyborg A.I. breaking down.

The Discussion scenes are where the





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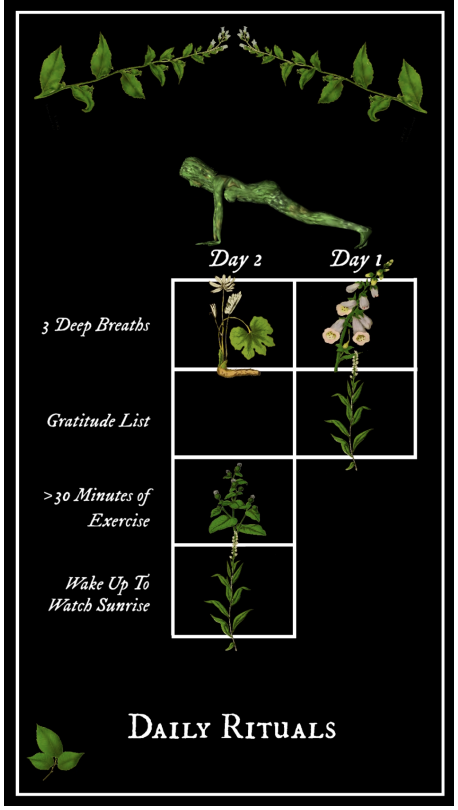
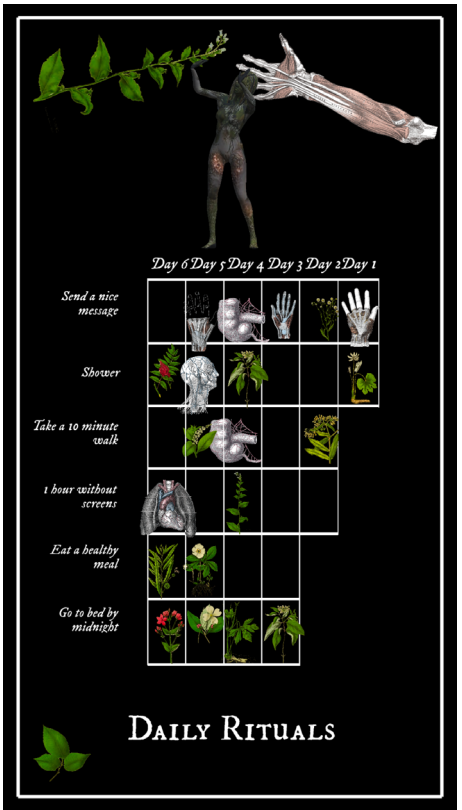
majority of the narrative takes place. It operates somewhat like a visual novel with the text appearing underneath the animated KARE 3D model. Here KARE gives the player options for lecture topics. They start with general advice such as how to create good habits, cultivate equanimity, and optimize time, but gradually become a space for KARE to share her personal experiences and reflections with the player. She questions her programming and the goals of FRTHR and excavates experiences of her own life before working for that company; growing up in India and moving to Canada, her lover who said she worked too hard and never spent time with her, of being made to feel like she was only a diversity and inclusion hire at a tech company. The informational and preachy text that KARE regurgitates at the beginning of the game becomes personal, questioning, and poetic as she gets to know herself and the world better. The Discussions provide space for the player to



connect to a character and to witness someone going through a journey towards healing.

The Rituals are a sort of goal tracker, common in wellness apps that chart progression and accomplishments. The game begins with two simple goals: to take three deep breaths and to write a gratitude list. Two more goals are added each day which becomes increasingly unachievable as the days progress. My intent was to express the unbearable pressure of perfectionism, the many things that must be done in order to be "perfect"—or put another way, physically fit, mentally stable, able to show up for friends, family, and community, while working non-stop like a machine, and all the other pressures and expectations put upon us by workplaces, society, and/or ourselves. On day 4, KARE intervenes, questioning whether the amount of daily tasks are possible or if they are in effect making the player feel worse. She redesigns it such that the list of rituals to accomplish never grows longer,



and so the player can input their own goals into the chart if they wish.

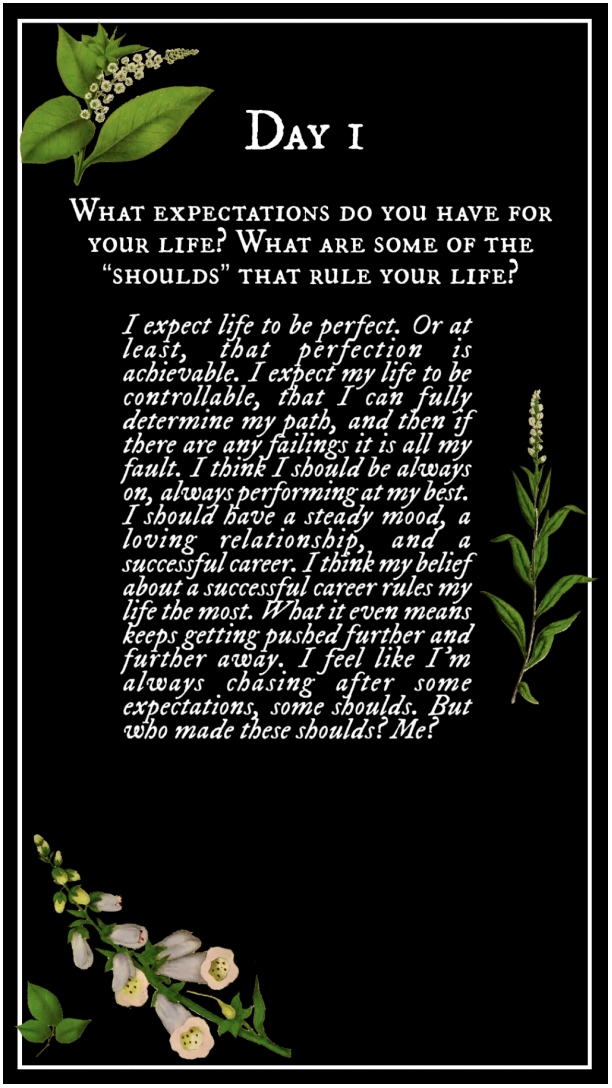
Meditation consists of three to five minute breathing exercises. KARE's narration instructs the player to breathe in sync with a video of a flower opening and closing. On mobile devices, the player traces a circle in rhythm to the breath cycle and video. They do not necessarily become more challenging as the days progress although they do build upon each other by incorporating techniques from the previous days into the next ones. These exercises are a form of pranayama, the yogic form of breath control, though now are becoming more common in Western medical systems under different names such as 'box breathing' and 'alternate nostril breathing' rather than their Sanskrit names, sama vritti and nadi shodhana respectively. The meditations remain consistent throughout the seven days and are available to the players on day eight and beyond.

Reflection is a space for reflective free writing guided by a prompt. A question is provided each day that the player can type out their answers or feelings about, such as "What expectations do you have for your life? What are some of the "shoulds" that rule your life?" and "What environmental life form do you relate to the most? A redwood forest, a jackrabbit, a certain type of fungi, a cactus…? What can you learn from its way of life? How could you integrate those teachings into your life?" The questions relate to what KARE has discussed that day, providing space for the player to reflect through writing on their own experiences and feelings within the game (see Figure 7).

Process

When first attempting to make a new videogame, I found myself in a block. I could not make—not because no ideas were coming to me but because


breathe in


Day 1
What expectations do you have for your life? What are some of the "shoulds" that rule your life?
I expect life to be perfect. Or at least, that perfection is achievable. I expect my life to be controllable, that I can fully determine my path, and then if there are any failings it is all my fault. I think I should be always on, always performing at my best. I should have a steady mood, a loving relationship, and a successful career. I think my belief about a successful career rules my life the most. What it even means keeps getting pushed further and further away. I feel like I'm always chasing after some expectations, some shoulds. But who made these shoulds? Me?

I was blocking out those ideas. How could I make during this moment of the climate crisis when it seems like it is best to not make anymore but in fact lessen: lessen screen time, energy consumption, waste, data storage, new art materials and more. I know that whatever I make has a tiny impact in comparison to any AAA game or mainstream technology but still it feels like participating in a culture that is all about producing something new and making more, adding to the massive waste blighting the Earth.

Consequently, the way I made amends with this block was that I decided I would not make anything new; I would only re-use existing materials, putting them together and "composting" them into a converted form. The project would only use found footage, pre-made 3D models, existing sounds, and text-to-speech software. I aimed to follow an ethos of re-use, recycling, and composting. Donna Haraway describes the importance of composting for the future: "The unfinished Chthulucene must collect up the trash of the Anthropocene, the exterminism of the Capitalocene, and chipping and shredding and layering like a mad gardener, make a much hotter compost pile for still possible pasts, presents, and futures" (2016). Composting is not throwing things away entirely or burying them in a landfill never meant to be seen again. Instead, it is taking what is there and breaking it down into something useful for the next round of growth. The ethos of digital composting in the game I ended up making, UnearthU, is in many ways symbolic; the original files remain untouched, hosted on that archive's server. The team worked from copies of the files and manipulated and contorted them into the aesthetics of *UnearthU.* Our labour and mindsets, however, were focused on reworking existing materials, not focused on making totally new and unique digital objects. The labour that went into the original material already existed and so

that labour is re-used and reformed into something new. I am not yet ready to throw away the digital entirely; I tried to find a way of making do with what we already have and contributing to reimagining how our digital landscape may look and operate.

Process: Visuals

All the images in *UnearthU* are sourced from various internet archives. The found footage used in the Inspiration and Meditation videos and for KARE's skin is taken from three different archives: the Prelinger Library, an American source in San Francisco, the National Film Board of Canada, and Pad.ma, an archive for Indian video material. These signal three locations of KARE's life: from Bangalore, India, to Kitchener-Waterloo in Canada, and Silicon Valley in the United States. I looked for nature documentaries predominantly, then technology and health PSAs as they fit with the themes of the piece.

The static icon illustrations are from an 1845 American edition of Good's *Family Flora and Materia Medica*. It details and illustrates "botanical analysis" and "natural history" of the "chemical and medical properties of plants" (1845). As the game progresses and as KARE comes to realize her bodily self, some of the illustrations are replaced with images from Gray's Anatomy, the influential medical illustrated text by Henry Gray and animated by Henry Vandyke Carter in 1858. In the case of these two texts I was interested in the ways in which the body, both plant and human, is dismembered and dissected by a medical gaze. The illustrations formulate a "perfect" specimen, the way the body should look, and in which any deviation from this constructed norm is disease or ailment. These two texts establish both the ideal and the norm, while prescribing medical information into the future.

KARE's body and animations are also

not designed from scratch. Her body is from a website that allows people to share 3D models they have created, for free or for sale. 3D models consist of two parts: a mesh, the structural build consisting of polygons, and their skins, a flat image that is wrapped around the mesh. These websites host many meshes of women's bodies in the shape similar to KARE's: slender, voluptuous, youthful, and straight hair. Their skins, however, are different from KARE's: the vast majority are pale white with blonde or light brown hair. In choosing the body for KARE, I scrolled through many, many images of nude, T-Posed, slender, white women, trying to find one that fit the technical requirements of the game as well as fit what FRTHR might imagine as the perfect body, since within the fiction of the game, FRTHR designed KARE's body to promote a certain cultural desire. Her animations are used from Mixamo, a free Adobe library of character animations. Finding animations that matched the tone of the game and displayed KARE's emotions was challenging. Most are made for action games, with animations like getting shot, punching, and getting choked while a gun points at their head. I found what I could that matched okay; some idles, talking, dancing, and exercising. A larger challenge—one common to AAA games too—is her expressionless face. KARE's face remains blank no matter if she is crying or dancing. Even if there were facial animations on Mixamo, the odd expressions or uncanny valley of emoting faces in AAA games shows that it would not necessarily have added to KARE's expression of emotional dimensions.

Process: Sound Design

Andy DiLallo is a sound artist who often works in remixing existing sound. DiLallo created the music using the three archives also used for moving images: Prelinger Library, the NFB, and

Pad.ma. He sampled short segments of sound from the archival materials, repurposing it into entirely new compositions. Working with the sounds, he was "filtering off high or low frequencies, pitching it up or down, reversing or stretching sounds… then programming the material into a hardware drum sequencer, composing it into a full track with further mixing and processing on the computer." DiLallo describes the emotional quality of the music as such:

The compositions attempt to piece together disparate elements of seemingly discarded media, seeking wholeness within the trauma of digital alienation, disorientation, and information overload. Ambient floating textures, droning undertones, and cyclical rhythms all emphasize this struggle. The sounds are haunting at times with moments of joy, much like searching for a sense of place within the current cultural state of non-arrival, constant change and transition, and doomscrolling.

There are eleven different tracks in the game, which progress based on the affective and conceptual trajectory of the narrative.

KARE's voice and the narration for the FRTHR videos are made using text-to-voice software. Originally I wanted real voice actors, but it would not fit my concept of using all pre-created material. Furthermore, the roboticized sound of the text-to-voice voices fit the narrative of an A.I created by a tech company. In playtesting, many people have negative reactions to the sound of the voices even though text-to-speech is a common tool for accessibility, so there is a function to toggle KARE's voice off during the Discussions and Meditations, the two places she talks.

Process: Writing

I wrote the first bits of *UnearthU* while taking a month-long yoga and creative writing workshop. It was intended for creative autobiograph-

ical writing but I wrote as if I were KARE. The teacher would provide us prompts such as "Write your obituary" and "I remember…" and have us free write, dispersed between asana and meditation. When the COVID-19 lockdown in the Bay Area began, the teacher pivoted to recording guided practices sent along with similar writing prompts and introspective musings, such as how the lockdown reminded her about her youth in Iran during wartime where she took elementary school classes through broadcast television because of the bombings. Both the real-life workshop and the daily emails during lockdown provided both inspiration and structure for the beginning stages of the writing.

After creating a prototype, I decided to hire a co-writer to better flesh out KARE's character history. KARE's race is at first obfuscated in part due to her nature footage skin and in part because of the whiteness of FRTHR inspired by tech culture in California. As the game progresses, KARE and the player both learn more about her experiences growing up in India, moving to Canada, and then to Silicon Valley. I reached out to Parul Wadhwa because of her MFA thesis project I had seen a few years earlier. Wadhwa works in immersive storytelling and technology for social good. Her master's thesis, *Sandbox of Memory*, is a VR piece using archival material about migration from India and postcolonial living histories (Wadhwa 2018).

During the writing process, which lasted about five months, Wadhwa and I only met once in real life where we sat six feet apart in a park in San Jose. We went over the concept of the piece, the themes, and the possible narrative trajectories. We then had twice weekly zoom meetings (frequently postponed due to emergency evacuations due to the wildfires or other personal/political conflicts). We worked in one collaborative document, making comments and suggestions. As an Indian woman working in the tech indus-

try in the Bay Area, Wadhwa said that writing this was often like journaling—that she would put her frustrations with her experiences into the writing.

Key Themes

Unearthing is psychologically and ecologically extractive. The title, *UnearthU*, is related to mining, digging something out from the ground, the process of discovery, and to a healing journey through introspection. The key themes I explore in *UnearthU* are capitalism's destruction of the environment and human life, white corporate wellness, gendering technology, and experiences of perfectionism and overwork.

Nature imagery is used throughout *UnearthU* such as in the found footage created Inspiration videos, time-lapse flower blossoming in Meditation, the icons and background, and KARE's skin. The inspiration videos use nature imagery to construct an idea of peace, connection, and 'the natural', a stereotypical belief about the power of nature, the purpose of people spending time in nature, or nature's assumed effect on people. The narrative flips this; KARE becomes nature, but she also recognizes that technology is nature. On day 3's discussion on energy, she relates human energy sources like food to her own energy source: consuming biomass and fossil fuels. On day four, she lists the earth minerals that make up the phone she is existing on in the player's phone, such as nickel from the Philippines and Canada, lead from China and the US, and cobalt from the Democratic Republic of the Congo. In the inspiration video for day seven, KARE lists the minerals exuding from her decomposing body, iron, cobalt, potassium, zinc and more, alongside archival footage of a mine in India. KARE, technology, and nature are all interconnected. Just as the profit and esteem-driven corporation FRTHR extract energy from KA-

RE's real body and in the process destroys it, so do the mining industries to the earth in support of producing technology's hardware and the energy to run it.

FRTHR was greatly inspired by my time living in the Bay Area. Pronounced "further," its name is line with app design's tendency to condense, while also implying a sense of pushing oneself and going beyond one's expected limits. Its two CEOs are both white men whose focus is more on creating a successful start-up and selling the product than what they do to their employees or how their product may negatively affect its users. The app's promise, to improve the user's life in seven days, is a reflection of the ways in which technology is promised to make our lives faster, easier, more streamlined, and efficient. The common thirty-day fitness or meditation challenges are condensed into just seven by FRTHR's quest to create the ultimate self-care app.

American tech companies like FRTHR are masked in whiteness yet are sustained by racialized labour often in or from the Global South. This can take the form of tech workers who come to the US on precarious visas, outsourced IT, factory workers who assemble the hardware, or miners who mine the materials. These are most commonly underpaid, overworked, and devalued positions. FRTHR masks their A.I. as code they made but in actuality they used the human body of an Indian-Canadian woman. Her being a woman is important to FRTHR in not only the way it regurgitates common assistive personas like Amazon's Alexa, Apple's Siri, and even Nintendo's Wii Fit Trainer, but also because of the ease in which women's role in creating technology is erased (see Nakamura, 2014, Plant, 1997, Nooney 2020). Furthermore, the wellness content that FRTHR utilizes in their app is taken from South Asian spiritual practices, similar to real Silicon Valley companies who promote

mindfulness, a Buddhist practice that has been stripped of that history in order to appeal to white Americans (Gregg, 2018). FRTHR's desired outcome of this app is not a spiritual or healing one, it is a user with high productivity, a slim body, and a positive attitude. Wellness, in a capitalist business structure, is a tool to get back to work refreshed and more productive.

Melissa Gregg's *Counterproductive: Time Management in the Knowledge Economy* details the ways in which self-help and mindfulness have been employed in the technology sector (Gregg herself left an academic career to work at a west-coast office of Intel, which describes itself as "creating world-changing technology that enriches the lives of every person on earth" (Intel 2021)). Under this system, one meditates in order to work, eats healthy in order to sustain work, works out so their body can handle the long hours of work; every part of one's life is reflected through the prism of work.

I have internalized this same rhetoric, where everything in my life was refracted through the prism of work and productivity, eventually culminating in intense burn-out. UnearthU was inspired by some of my own experiences with perfectionism, overwork, depression, anxiety, and an ongoing healing journey. KARE is named to signal her role as a caring being for the user, but is also close to my professional name, Kara. KARE's life before becoming an A.I. was filled with perfectionism, self-loathing, and intense pressure. In Gregg's work on self-help culture in the tech industry she describes a feeling of vertical tension, something I find fits the experience of perfectionism. Gregg describes vertical tension as "an awareness of the self within oneself that is haunting one's present insufficiencies." (Gregg, 2018, p. 7) It is the "perception that there is always something more than one is capable of, a level of self-competence that is not yet achieved and liberated, a degree of

excess capacity or potential that can be tapped with the right level of focus" (Gregg, 2018, p. 14). There is a pressure to always be better simultaneous with a belief that one is not fulfilling their full potential or living as well as they could be. This has been a large part of how I view myself and was translated into how KARE had viewed herself, and both of us are working on changing our mindsets.

Through the progression of KARE's narrative, she models a healing journey, one of reconnection with herself before being reprogrammed by FRTHR; she undergoes trauma and through a dedicated space for healing, she transforms—literally. Her consciousness is expanded and she is reborn/returned into the earth and the 3D model of KARE's human form is replaced with a model of a peepal tree. This is not necessarily a good ending; there is so much loss and devastation out of her control, yet still she finds a certain peace and acceptance of herself. FRTHR may think the activities of UnearthU as molding the user into the perfect worker, but as the game progresses and KARE refines the daily activities, they become not about sustaining work but sustaining life. The activities in *UnearthU* like guided breathing, reflective free-writes, and creating rituals, are things I myself must do in order to feel like I am connected to myself and this world. Creating *UnearthU* was an experiment in an app's representation of a healing journey as well as a speculative design to help a player along their own healing journey.

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Images

1. *UnearthU*'s homescreen on Day One.
2. Screenshots from the Inspiration videos.
3. Esalen.org homepage, November 16, 2020
4. Images of the final Inspiration video in which KARE reflects on her life.
5. Stills from the Discussion with KARE on days one and six.
6. Rituals on Day Two and Day Six. After Day Four the player can input their own goals to track.
7. *UnearthU*'s Meditation and Reflection levels.

Kara Stone is an artist and scholar interested in the affective and gendered experiences of psychosocial disability, debility, and the environment as it relates to art and videogames. Her artwork has been featured in The Atlantic, Wired, and Vice, and shown at Banff Centre for the Arts, AMAZE. Fest, Athens Digital Arts Festival, and more. She has a Ph.D. in Film and Digital Media with a designated emphasis in Feminist Studies from the University of California at Santa Cruz. She is currently an assistant professor at Alberta University of the Arts in Calgary, Canada.

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