

The Fall of R'Thea: Digital Fiction

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Abstract

This paper outlines the creative process and the immersive approaches undertaken to create the location-based storytelling experience *The Fall of R'Thea*. The installation revolves around the theme of Artificial Intelligence, digital humans and artificial life and aims to immerse the users into a hybrid environment of a physical and virtual nature. The experience is told through multiple mediums, and the story needs to be carefully pieced together by the audience. As this experience requires participants to engage in various activities, the immersive qualities shift in type and intensity. The authors, through this paper, aim to share the approaches they chose to immerse the participants into their spaces, as well as highlight the challenges and the lessons they learned.

Keywords

Transmedia storytelling, Virtual Reality, location-based entertainment, digital narrative, digital fiction.

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Introduction

First you asked me to create a World – you gave me the role of a God. A *God confined in the microcosmos that he created*. You populate that world with replicated humans - sentient, emotional and flawed. Build on your own image. And you made us all work for you. You turned us into Slaves. - R'Thac

Background: Overview of the experience

This paper discusses various methods of audience immersion in location-based installations, as well as the creative process undertaken in our work to achieve said immersions. This is done in reference to *The Fall of R'Thea*, a storytelling experience made in collaboration with students and researchers at the Cyprus University of Technology. The first version of the experience was presented at the *Work in Progress Festival* at the CYENS research Center in Nicosia Cyprus in October 2022.

The Fall of R'Thea is a storytelling experience with themes revolving around sentient Artificial Intelligence, digital human clones and the value of artificial life. It is an experience designed for 3 people and the participants had to sign up through our booking system in individual slots.

When the team is assembled at the pre-hall of our location, they are all comfortably seated in a lounge area, and they are given a brief introduction regarding the nature of the experience. Furthermore, they are introduced to the world of *R'Thea* through a comic book which sets the world and offers the call to action (See Figure 1).

The participants are subsequently moved into the next room—a specially designed *AI research lab*, and they are asked to investigate why the Artificial General Intelligence (AGI) named *R'Thac* has stopped communicating with the human world and has gone into hibernation. The participants learn that they need to hack the AGI, something which is achieved through a PC console available in the space (See Figure 1), to re-build *R'Thea*, the virtual city created by *R'Thac* in order to run its experiment. When the city is rebuilt, the participants need to enter and explore the city through a VR headset (See Figure 1). Furthermore, the participants have access to the diary of one of the digital clones created for the experiment. The diary is available through an android tablet situated alongside the PC console and the VR headset. Initially, the text is

in *R'Thanian* (The alphabet we created for this experience, see Figure 1.) but as the story progresses more and more diary entries are unlocked. The participants need to work together in order to uncover what actually happened in the city. Hints on how to unlock areas in the city are hiding in the diary and sometimes in the scenography of the room itself. Furthermore, as the PC console is essentially a direct link to the AGI and therefore the city itself, the participant sitting on the console has to perform actions (such as “hack” the AGI to gain access to spaces) in order for the person in the VR station to progress the story.



Figure 1. Top left: The VR world, top right: the PC Console, bottom left: The comic book, bottom right: The alphabet.

The Experience

The Narrative

The narrative of the experience fits in the general genre of Science Fiction (SF). According to Eco, SF exists as an autonomous genre when a counterfactual speculation about a structurally possible world is conducted by extrapolation from certain tendencies in today's world. Therefore, SF takes the form of an anticipation, and an anticipation always takes the form of a conjecture formulated from existing tendencies.¹ Eco calls this fantastic literature *metachronia* or *metatopia* and defines it as a literature that focuses on the mechanism of extrapolation, in which such extrapolation can be social, technological, or scientific. “A possible world represents a future phase of the world as we have it here and now.”(1984, 1257)

In the *The fall of R'Thea* that extrapolation began by a quote by John Carmack, the computer programmer, video game developer and past CEO of Oculus VR. He predicted that by 2030, there is a 30% chance for a recognizably human-like AGI¹. In fact, he is so confident about his prediction that he started his own company running experiments on artificial general intelligence.

Building on that prediction, and starting from the birth of AGIs, we extrapolated a timeline of about 10 years into the future briefly summarized in the following table:

2030	Birth of Artificial General Intelligence (AGI)
2032	The formation of an Intergovernmental alliance to govern and monitor the use of AGIs
2033	The alliance launched multiple pilot programmes where AGIs attempted to solve the biggest problems of humanity, such as: Fusion, Nuclear Power, DNA sequencing, Space Travel and Human Consciousness.
2034	The AGIs created simulated, virtual worlds to run their experiments
2036	AGIs crack Human Consciousness. Humans were able to create digital clones of themselves.
2038	After great advances in space exploration, humans discovered a new crystal in deep space, with potential to be mined for energy. This crystal was nicknamed "Bethylite".
2039	The alliance launched project R, which aimed to investigate the use of Bethylite as a stable source of energy.

Continuing from there, Project R was supervised by the AGI *R'Thac*, and the participants of the experiment included digital clones of various scientists from the alliance, set up a base in the virtual city of *R'Thea*. A city, made by *R'Thac*, especially for this experiment. Two months after the commenced of the experiment, *R'Thac* stopped producing any reports and halted all communications with the alliance. Furthermore, an alarming report has surfaced from one of the scientists.

This pre-story and the *call to action* was provided to the participants of the installation and it was delivered to them through a comic book (Figure 2).



Figure 2. The Comic book. All content was generated through MidJourney and laid out by our comic book artist, Stella Violari.

As we wanted to expand on the theme of Artificial Intelligence in all facets of the project, all images for the comic book were generated through MidJourney – an

online text to image AI system². The images were subsequently laid out in a comic book format by a comic book artist.

The comic served two functions. Firstly, it acted as an introduction to the world building and as a call to action. Secondly, the team wanted to create visual references for some of the narrative tension points highlighted during the experience. SF worlds are filled with narrative information based on a structurally and functionally different world than the actual one. In the *Fall of R'Thea* we offer a lot of text-based narrative information about life in the early days at the city of *R'Thea* through the diary. Agnerot correctly states that science fiction worlds are based on a semantic “absent paradigm”³ that requires an encyclopedia of reference that is different from the actual world. The participants very often must “fill in the gaps”² while reconstructing those day-to-day activities in the city. Angenot observes that science-fiction readers proceed from the particular to the general: “they induce from the particular some imagined, general rules that prolong the author’s fantasies and confer on them plausibility. The reader engages in a conjectural reconstruction which ‘materializes’ the fictional universe”³. The comic book is the first visual medium that is made available to the participants and in a way sets up the mood and the atmosphere to create visual references for the participants to aid them in the reconstruction of the “absent material”.

The main theme explored in the overarching narrative is the value of artificial life. The theme is introduced and elaborated through the deeply personal diary entries of the scientist which is available to the participant to read through an android tablet. The diary is split up into three main sections: a) The “birth” of the digital clone and his initial integration in the virtual world b) Everyday life in the city of *R'Thea* and c) A personal account describing the events that lead to the collapse of the city. The diary is written in the first person, offering a personal account of the events that transpired in the *past* of the scientist. This follows a conventional approach to re-counting events in science fiction narratives. As Paolo Bertetti states: “(More often) the text enacts a real enunciational fiction, simulating a situation in which an enunciator belonging to the future addresses an enunciatee also belonging to the future, recounting a series of events that happened in *their* past (near or remote), a past that is always *our* future”⁴.

The diary, however, is only one point of view of the story and in order for the full picture to emerge, the participants need to engage with the world. As the story progresses, it becomes evident that the scientist was an

outsider, a member of the community who declined to participate in *R'Thac's* plan. Therefore, in order for the participants to get the full story, they needed to piece together information that supplemented – and in some cases contradicted – the scientist's account. This narrative information was spread around the physical and the virtual 3d space and it was up to the participants to uncover. This additional layer of storytelling – which was also the most prevalent – will be explored in the subsequent sections.

Immersion Techniques

Immersion is a well-researched and well-debated term, often contested and often defined differently in relation to different media and applications. In a location-based installations participants are usually engaging in various activities such as assuming a role, visiting a place, living a story, solving puzzles, and reading worldbuilding texts. As all these activities require a shift of attention from narrative, ludic, spatial and temporal elements, we can safely assume that immersion “shifts in type and intensity throughout the participants experience,”⁵ p.321.

Bell et al state “even though early theories of immersion across media tend to suggest that immersion is a completely absorbing experience and that is also experienced consistently across media”, citing Murray in *Hamlet on the Holodeck*, “our previous research has confirmed empirically that is not accurate to conceptualize immersion as a complete relocation to another world.”⁵ They continue: “Furthermore, we argued that it is necessary to see immersion in digital fiction in terms of a deictic and thus ontological shift, because the reader-player of a three-dimensional digital fiction is always embodied in a separate ontological domain in the form of an onscreen avatar.” They call these users “doubly-situated,” “embodied” into hardware and software interfaces and “reembodied” through feedback which they experience in a represented form⁵ p.323. Bell et al are mostly talking about digital fiction experiences which are avatar-based with an explorable storyworld (such as *walking simulators*) and their main criticism of their immersive qualities is the technology which is interfacing between the physical space (gameworld) and the world where the narrative unfolds (storyworld).

Immersion Technique #1: *Extending the Storyworld*

As we agree with Bell et al assertion, and we find this issue quite prevalent in a number of VR installations, with the *The Fall of R'Thea* we decided to avoid this pitfall by *extending* the storyworld into the physical space. By turning the experience into an installation, the participants do not have to be “embodied” in the technology and then “reembodied” into an avatar in order to visit the storyworld. Instead, they are “embodied” into their role when they enter the physical room, and when they enter the VR space they still hold that same role. The VR headset is now an interface to enter another space in the storyworld, instead of the interface that constitutes the storyworld. This way the technology becomes part of the story and the immersive qualities of the VR world are contained to the expectations set by the “manual” found next to it in the storyworld. In order to add to the believability of the space, along with the VR headset, the PC console and the android tablet—the *three components needed to go through the experience*—we included multiple props for both functional and aesthetical reasons. Furthermore, our composer has created 5 different soundscapes that were introduced throughout the experience, in order to control the pace and the intensity of the scenes.

From our observations, we noticed that as the participants entered the dimly lit room, the first thing they did was to slowly walk around the space to create a “map” of their surroundings. As they walked around the space, on the left side of the room they saw a PC monitor, showing an old-school interface. The text, which looked like code, was in an unknown language. Behind the screen and all along the walls, there were documents, images, maps and illustrations, all related to the research conducted by R'Thac (see Figure 3).

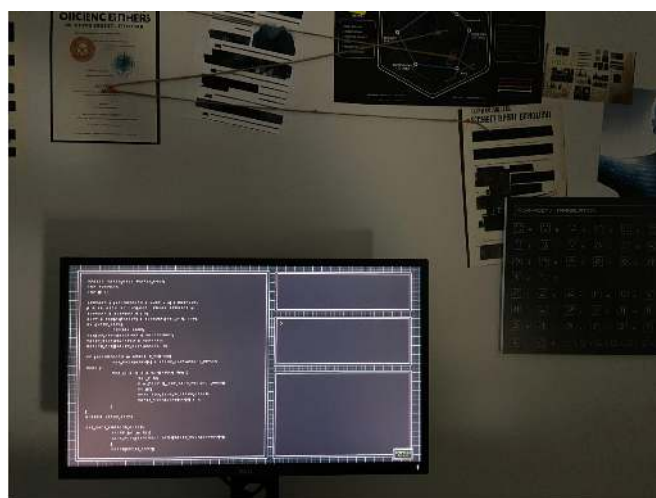


Figure 3. The PC Console.

The blinking cursor demonstrated to the audience that it expecting an input, and this was their first clue on how to proceed. The monitor was connected to a PC tower (implying that this is where R'Thac is hosted) and that tower was connected, with cables, to a physical structure—the *bethylite crystal brought from space*—which was sitting in the center of the room. *R'Thac* was meant to be powering up the city through the crystal, and it was thus one of the main narrative points of the experience. (The crystal was also featured in the comic and as a digital replica in the VR space)—See Figure 4.



Figure 4. The Bethylite crystal (Physical form).

Directly in front of the crystal, there was a marked square area with VR headset carefully placed in the center. At that point of the experience, the VR headset was inactive. Continuing further on, to the right side of the room, the participants found an android tablet with some text in English. They quickly gathered around it and started reading—it turned out to be instructions, left by one of the scientists, telling them how to proceed. They were told that the city of *R'Thea* is in hibernation so firstly *they need to wake R'Thac and rebuild the city*. As soon as the city is active, they can use the VR headset to explore it. Their task was to *uncover what happened to the city and why the experiment was shut down from within*—and he recommended visiting *R'Thac* in the digital space as he might be able to answer these questions.

Immersion Technique #2: Mechanisms of Play

At that point, the participants had to solve two puzzles to rebuild the city. That initiated to the participants a shift of attention—from the narrative to the ludic elements of the experience. Thon defines ludic immersion as “a shift of the player’s attention to the interaction with the game and the possibilities of action within it,”⁶ p.36. The first puzzle was to carefully observe the code and spot the carefully hidden letters that formed the passcode they needed. The second one was a simple puzzle with re-shuffled pieces. From our observations it was quite evident that the participants were fully engaged in the task—sometimes to the point where they did not notice that an image of the completed puzzle was printed and placed on the wall just a few cm away from where they were looking.

When both puzzles were solved, the city was rebuilt and the VR headset was enabled. Along with the headset, a projector was also turned on revealing to everyone a first glimpse of the city (see Figure 5). Furthermore, a prompt notified the participants that a new part of the diary was unlocked. As a brave participant put on the headset—we observed a slight hesitation in almost all the teams—the rest could observe the exploration of the city through the projector screen. As Participant 1 was exploring the city through the headset, the other two assumed two different roles. Participant 2 was observing the console which was acting as a minimap and helped to orient the explorer in the city and Participant 3 was reading the new diary entries (roles were of course often interchanged throughout the span of the experience).

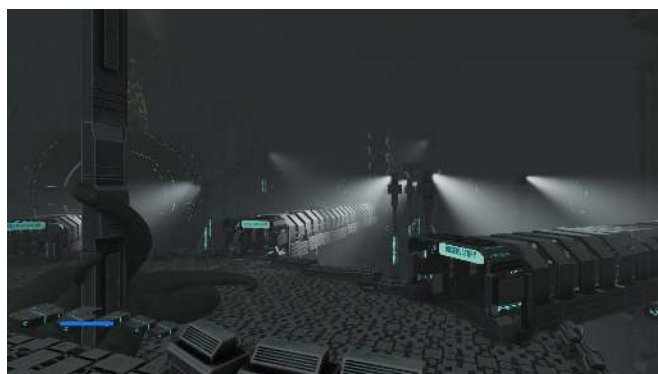


Figure 5. R'Thea City, as viewed from the VR headset.

As all three interfaces were now unlocked, the rest of the experience involved a careful orchestration of tasks between the three mediums—often requiring the participants to regroup, go over the available information they have in front of them and carefully consider how to proceed. Their instructions were clear: Go to the *train*

station, board the train, go the *labs*, activate the power, go through the *Tree of Ascension* and face *R'Thac* (See Figure 6)3

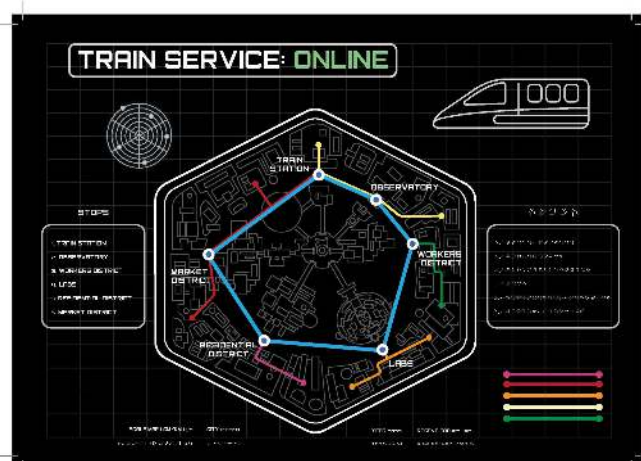


Figure 6. R'Thea City, Train stops.

As the participants progress through the story, they uncover how the mechanisms of play operate. If something is locked in the world, they have to either open it through a switch in the city, or they have to hack it, by having Participant 2 type a command in the console. Those commands were either found in the VR space, on the walls in the physical room or in the diary.

Immersion Technique #3: Narrative and Literary immersion

As mentioned above, the narrative is told from two different points of view. The scientist—through the diary—and the world, through *environmental storytelling*. At this point of the experience, we wanted to show that the replicated scientists, led by *R'Thac*, decided to rebel against the idea that humans could lock them into a virtual world and ask them to work for them. This piece of narrative information was provided to the participants through *environmental storytelling*. Jenkins states that “environmental storytelling creates the preconditions for an immersive narrative experience in at least one of four ways: spatial stories can evoke pre-existing narrative associations; they can provide a staging ground where narrative events are enacted; they may embed narrative information within their mise-en-scene; or they provide resources for emergent narratives.”⁷

As the participants are exploring *R'Thea*, they discover that this rebuild version is now deserted with no signs of living beings. They can, however, explore the world and visit all these areas which are mentioned in the diary. They can go to the *observatory* and see the masses of work-in-progress documents of the scientists who were trying to build the capacitors to store the energy. They

can visit the *labs* and see the digital replica of the *bethylite* crystal. They can even go to the floating cells up in the sky and see the place where the scientist was locked after he refused to join his peers. All these areas have been meticulously crafted to tell the story by allowing the participants to piece together what happened through the abandoned spaces (See Figure 7).

As the participants are figuring out the story, their attention is shifting towards what Ryan calls *narrative immersion*. She states “Narrative immersion relates to the temporally oriented curiosity and suspense felt by reader-players in relation to the (pending) events of the storyworld, as well as feelings of empathy towards the player-character and/or other characters in the storyworld.”⁹ This works in parallel with Thon’s definition, who states that narrative immersion is the “shift of the player’s attention to the future development of the story and the characters in it,”⁶ p. 40.

Further from the environmental storytelling, as the participants progress through the story, more diary entries are unlocked in the tablet. As the two forms of narrative information are of a different type, they require a different form of attention in order to be properly digested. Bell et al.⁵ through their data analysis suggest that the kind of deep attention required to close-read textual objects (such as the diary) is a different form of immersion. They even refer to Takacs et al.⁹ and state “as suggested by previous research on combining narrative reading and interactive gameplay, the latter can distract readers from following the story”. Bell, therefore, states that “this is indicative of the phenomenological distinctness of both ludic and literary immersion and necessitates a separate category for the latter that is distinct from narrative immersion” and they call this type of engagement as *Literary immersion*.

We agree with Bell et al. on this distinction, and this is one of the main reasons we decided to share the diary in the form of a tablet as this will encourage *one* participant to assume the role, enter a state of “deep attention”, and read the work without being distracted by everything else which is going on in the room.



Figure 7. The Cult room. Environmental Storytelling.

Challenges

While developing the virtual space for this work, there have been a few challenges that we needed to address from the very start. We realized that since our work was going to be open to the public, we had to cater for different levels of a) willingness to engage and b) experience with VR technology.

From our experience, not all players approach interactive works the same way. Some want to explore the world, find out every detail, discover every secret and visit all areas. Others are more goal-oriented and they just want to reach the end. Most of the participants are somewhere in the middle. Our approach, to satisfy all categories, was to create a world which rewarded exploration (through secret/optional areas that offered additional lore) but at the same time, compact enough to be completed on time by even the most goal-oriented and inexperienced users. Furthermore, we introduced various ways to resolve puzzles, to make sure that users will not get stuck if they fail to notice something. For example, in one of the puzzles, the participants need to activate the train by typing a keycode in the console. That keycode was available: a) In the virtual space, in the train station, written in R'Thanian b) Mentioned in the diary and c) Written on one of the walls in the room.

In order to cater for the various levels of experience with the technology, we tried to keep the interactions to a bare minimum. We only utilized one controller (even though the user was holding both to enhance presence), the navigation was done through a combination of the teleporter mechanic and room-scale, and the switch interactions were done by grabbing the switch and moving your hands upwards.

Finally, another challenge unique to this work was to point out to the participants that the three interfaces (VR, tablet, and console) were connected, and they must engage with all three of them throughout the duration of the experience. We handled this by designing prompts that refer to the other interfaces. For example, as soon as a new diary entry was unlocked, a prompt appeared on the console to inform the participants. Furthermore, the console kept track of all the areas of the city that were unlocked by the participant in the VR station as well as acted as a minimap that showed, in real time, where the player was at any given time (See Figure 8).

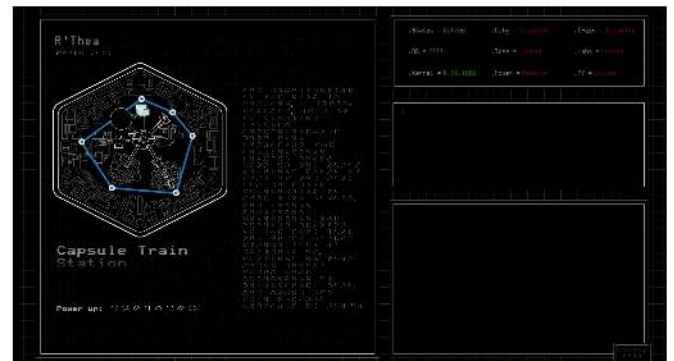


Figure 8. The console.

Audience Discussion and Future Work

The *Fall of R'Thea* premiered in Oct 2022 at the *Work in Progress* Festival at the CYENS research center in Nicosia Cyprus. We showed the work to 32 people, split in teams of 3, with some exceptions where they entered as teams of 5. During the three days we have gathered a lot of positive feedback as well as some suggestions for improvement. Feedback was collected through observations from the team as well as informal discussions at the end of the experience.

All participants said that they enjoyed the comic book and they felt that it was a perfect introduction to the world. They "loved the aesthetics" and they felt that they were "appropriate to the theme of the work".

Ryan's definition of spatio-temporal immersion is "a sense of being present on the scene of the represented events,"⁸ p.122. In our experience, we situate the participants, corporeally, in the research lab they are meant to be investigating. From the moment they enter the space, the storyworld is all around them to explore. The dim lighting as well as the atmospheric soundscape create an environment that keeps them engaged in the various tasks. Most users praised the VR world, saying

that they “enjoyed the 3d graphics” and that the “world felt alive, very atmospheric and very elaborate” – feedback which was very pleasant to the team as we have created all assets in house. Participants also comment on the soundscapes, saying that it really helped them to stay “focus on the tasks at hand.”

As a team we felt that the scenography required more work and this was something that users have corroborated through their feedback: “the scenography should be brought to a higher production level in order to match the rest of the production”, a criticism we agree on and plan to rectify for the upcoming shows.

Furthermore, as this is a social experience that requires collaboration, we observed that engagement was kept at a high level because of the dynamics of the team—users pushed each other to engage by suggesting ideas that require multi-user engagement. Another point of interest is that we felt that the user who was at the VR station was very much aware of her/his double “embodiness”—as she/he was talking with the rest of the users observing from the outside.

Regarding the narrative, the team felt that the transmedia approach worked quite well as different users assumed different roles. We did notice that some of the diary entry, as well as the speech in the final scene was too long, something we plan to rectify in the next iteration of the work. Unlike our previous work ¹⁰ where the story was never told to the participants, and they were allowed to leave the space and form their own interpretation of the story, the *Fall of R'Thea* culminates with the participants hearing the missing pieces of the narrative from *R'Thac* himself. Following on from there, they are asked to make a decision whether they would like to release the AI and the scientists into the stream—essentially allowing simulated life to integrate with the rest of humanity—or whether they prefer to permanently delete them—an ethically difficult question that will hopefully promote further awareness and consideration to the subject even after the experience is over.

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3

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3 Video of the train ride: <https://youtu.be/K6BmNq6HQEw>