MEMORIES IN DECAY

360º SPATIO-TEMPORAL EXPLORATIONS OF THE PAST

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Abstract

The present case study focuses on 'Memories in Decay' is a 360º immersive experience which explores what happens when the past meets the present using the cinematic medium of the future: omnidirectional video. This project is a VR documentary which does not only transport the immersant – the 'spectator' of an immersive experience – to the ruins of a long-forgotten place, but also balances between past and present, providing access to a different time through the use of oral histories and archive photos and documents. During the paper, the author not only discusses the potential of VR but how it affects traditional cinema and its processes.

Keywords: virtual reality, 360º, immersion, spectatorship, history, memory

"But so strongly, so resistlessly, to the annihilation of time and space, was he rapt back into the past…"

– Thomas Mann
"The Magic Mountain"

Introduction

History persists in many forms: in the memories of the living, in stories told and retold, in the physical artifacts that remind us of both its presence within our present and its bygone past.

But that which maybe captures our imagination most intensely are the images, both photographic and cinematographic, from former times.

We decipher the future by means of these images from the past and in doing so we connect 'time gone by' to 'time to come'.

'Memories in Decay' is a 360º immersive experience which explores what happens when the past meets the present using the cinematic medium of the future: omnidirectional video. It is a VR documentary which does not only transport the *immersant* – the 'spectator' of an immersive experience – to the ruins of a long-forgotten place, but also balances between past and present, providing access to a different time through the use of oral histories and archive photos and documents.

The concept is developed by the two founders of the Belgian production company Visualantics, Steven Dhoedt and Brecht Debackere.

Steven Dhoedt has been producing and directing documentaries for the international market for over a decade. As well as being an expert audiovisual storyteller, he's also an avid gamer, an interest he's brought into Visualantics through his movies *Inside the Metaverse* and *State of Play* and lately by starting the production of the company's first video game. His interest in new media gives him a keen eye on transposing his expertise to alternative platforms.

Brecht Debackere was part of the European research project 20203D Media, a project investigating, amongst others, omnidirectional video. He directed the 360º showcase *Double Happiness* and worked as a DOP and post-production assistant on the Belgian national broadcaster's first forays into 360º video and recently finished his first feature documentary *Exprmntl*.

He co-wrote several papers on editing and cinematography in omnidirectional video and developed custom software for multi-user immersive video performances and installations.

What follows is the conceptual framework within which this production is being developed.

Project Description

Abandoned buildings exert a strange kind of attraction: they make us wonder what purpose they used to serve, when and why they got deserted and which artefacts of their past remain inside.

Urban exploration, urbex for short, is a world-wide phenomenon where people, sometimes legally, often illegally enter these discarded places to document the decay. Rule of thumb for urban explorers: 'take only pictures, leave only footprints'. Some of these places have since been demolished and now no longer exist except in the photographs.

The pictures they make capture the imagination and offer a glimpse into a bygone time. Unfortunately when one wants to learn about the history of the place this can only be done through an accompanying text.

With 'Memories in Decay' we propose a format for omnidirectional documentaries in which abandoned locations are brought back to life using archive footage, documents and first-hand testimonies.

By combining present-day 360º footage with archive material and post-production effects, 'Memories in Decay' aims to create a seamless experience of both being 'there' and being 'then'. The sense of 'presence' – the notion of being physically present in a virtual place – is enhanced through carefully crafted audio, evoking the ambience of both now and of former times, putting the spectator at one moment in the eerie present and in the lively past in the next.

Our aim is to have the VR experience coincide with autobiographic accounts by former inhabitants, written and recorded in such a way that the spectator feels it is (s)he who remembers having been there before and the voice is his or her own.

Both audio and visuals in their present and past incarnations will serve as elements to bridge the gaps which editing creates. Architectural similarities and match cuts will also contribute to a seamless experience. The camera remains static, rather it is time that moves, between then and now, from beginning to end.

The pilot of 'Memories in Decay' and initial case-study for the principles outlined below will be the 'Sanatorium of Borgoumont' also known as the 'Sanatorium du Basil' in La Gleize, Belgium.

Story & History of Sanatorium of Borgoumont

In the midst of the Belgian Ardennes, on a remote hill overlooking the valley of Amblève, stands an imposing dilapidated structure known to locals as the *Sanatorium du Basil*.
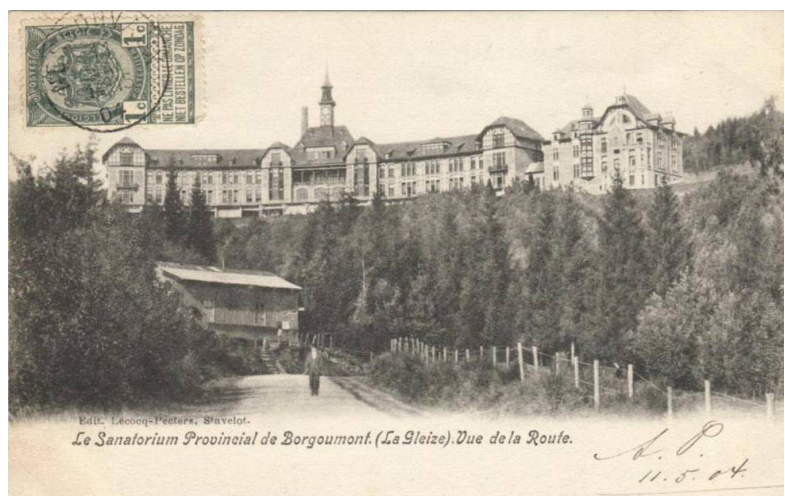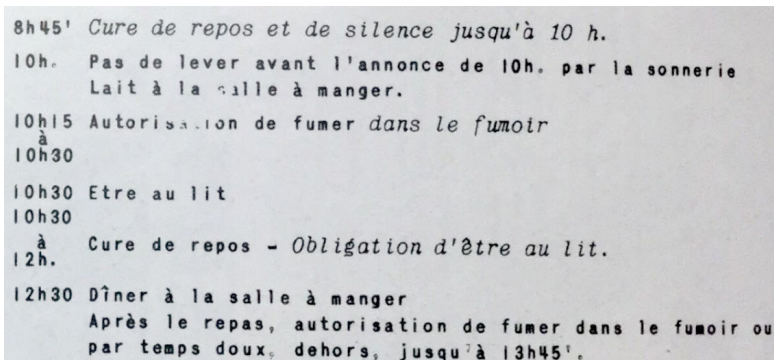

Figure a The sanatorium on the hilltop looking out over the valley

As we ascend the slope leading from the gatehouse up to the main entrance, the 100-meter wide building looms out of the surrounding pinewood forest. A few broken windows aside, the exterior of the building seems relatively unscathed by the test of time.

Inside, the sound of rustling leaves and birds singing dies down as we descend into a maze of long corridors and empty rooms. A large bathing room, its shallow pool drained and its walls decorated with cracked tiles. An isolation cell, its door off the hinges. A bedroom stripped of all furniture. A vast dining hall, metal trays scattered over the floor. The vestibule of the children's ward, Disney figurines covering the central pillars. Every room gradually comes to life, carrying us back to a distant or not so distant past.

Built in 1903, during the golden age of bacteriology, the sanatorium was one of the many health spas that emerged all over Europe to combat the contagious tuberculosis disease. The most famous of which is undoubtably 'Berghof Schatzalp' the Swiss sanatorium in which Thomas Mann's *The Magic Mountain* takes place. For over half a century and out of sight of the general population, this sanatorium harboured thousands of children and adults suffering from advanced TBC. While many of its patients were eventually able to return home healthy, the course of treatment could easily take up to 18 months. It followed an intense and rigid daily routine consisting out of these essential elements: breath fresh air, get plenty of rest, stay warm and eat nutritiously.

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8h45'  Cure de repos et de silence jusqu'à 10 h.
10h.   Pas de lever avant l'annonce de 10h. par la sonnerie
       Lait à la salle à manger.
10h15 Autorisation de fumer dans le fumoir
  à
10h30
10h30 Etre au lit
10h30
  à    Cure de repos - Obligation d'être au lit.
12h.
12h30 Dîner à la salle à manger
       Après le repas, autorisation de fumer dans le fumoir ou
       par temps doux, dehors, jusqu'à 13h45'.
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Figure b While TBC generally affects the lungs, patients did have several smoke breaks a day, as shown in this excerpt of the daily routing

The discovery of new and effective antibiotics like streptomycin in the second half of the 20th century significantly reduced the number of tuberculosis cases in Western-Europe. Consequently many of the sanatoriums saw a drop in the number of patients. One by one they started closing their doors.

Since there was no further need for specialised TBC centres, the Sanatorium du Basil underwent a much needed renovation and was re-designated as a psychiatric institution In 1978. The centre was finally forced to close its doors due to the high maintenance cost, but for a short time, between 2010 and 2013, it served as a refugee centre for the Belgian Federal Government.

For more than a century, the *Sanatorium du Basil* thus offered a temporary shelter for some of society's most vulnerable groups: first the deadly and contagiously sick, then the mentally weak and disturbed, and finally those running from violence in search of a new home.

At the moment of writing it is up for sale. Having served several purposes one can only wonder what the future plans for this building will be.

Memories, History & Archive: Spoken, Written, Imaged

> It was not an ordinary form of remembrance but a combined action of imagination and memory and so vivid as to make the image it presented a virtual reality.
>
> – Thomas G. Upham, "Letters, aesthetic, social and moral written from Europe, Egypt and Palestine", 1857

'Memories in Decay' is a VR documentary in which the immersant is not merely transported to the ruins of this forgotten place, but which also balances between present and past. It is an immersive experience which provides us with a glimpse into another time. While VR is the pre-eminent medium to create the feeling of presence in terms of space, it is through the archive materials that the memories, history and past of the building will be evoked and we aim to stir up a sense of presence in the memories of another time.

These archive materials are threefold and cover three different means by which history and memory has been preserved throughout history.

Oral And Aural History: The Use Of Sound

One of the important components in creating a fully immersive experience is sound. Apart from the VR headset, the immersant is equipped headphones when experiencing the immersion. Using ambisonics, a full-sphere surround sound technique, it is possible to generate the stereo audio relative to the viewing direction in realtime. This allows for localisation of sound in the soundtrack which in turn can act as subtle cues to guide the viewing direction of the immersant.

We identified three main types of sound which we want to explore in 'Memories in Decay'.

First of all there is the use of oral history in the form of testimonials of people who worked at the sanatorium or who were either patient or resident. These type of memories are highly subjective. They are testament of the psychological effect of time on the nature of the memory. By revisiting, restructuring, retelling and forgetting these memories, they don't necessarily reflect objective reality and facts any longer, but rather emotional connections and personal experience, affected by time.

These testimonies will be presented in the form of voice-overs told from a first person perspective. The source of these spoken memories appears to the immersant as existing all-around him or her, close-by and is meant to sound as much as possible as an inner voice – as if it is the spectator's own memories that are being recalled by visiting a place from his or her own past.

Figure c Leisure room in the sanatorium

Aurally we also distinguish two distinct types of diegetic sound: that from the present and that from the past, which we will call 'direct sound' and 'historic sound' respectively.

The direct sound is the sound of the rustling leaves as we approach the sanatorium. It's the birds, the wind, the creaking of floorboards and the ticking of unused water pipes. In short it consists of all the sounds that can be heard at the sanatorium in the present. This audiotrack sounds all around and has no distinct location. It is the ambience soundtrack of the movie which stresses the abandonment, emptiness and placidity of the building and surrounding nature. It is there like the auditory lifeline to the present which gradually slips away and makes place for the sounds of the past.

The historic sound is a reconstruction of what the diegetic sound would be, were we to record it in the days the sanatorium was occupied by countless patients, nurses, doctors and other personnel. It is the sound of the dining room in full swing, the hum of the early x-ray machines, the bustling corridors, the slushing in the laundry room. In contrast to the direct sound, the historical sound *is* localised. The aim is to create an as realistic as possible ambience of the past. By localising the audio the immersant is tempted to look around and discover the full 360º image. These auditive cues guide the gaze of the immersant towards the sources of these sounds, the places where the photographic archive material is embedded within the present-day omnidirectional image.
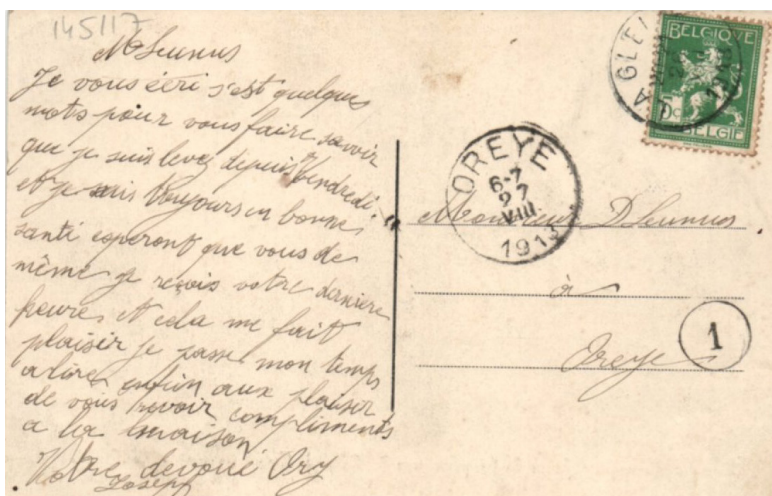

Figure d Postcard written by a patient in 1913

Written history: The Use Of Text

Emotions, thoughts, experiences, measurements and observations,… condensed onto paper in the form of letters, post-cards, patient dossiers, rules and regulations or administration. Fixed in time by the initial author and subject to change only in the mind of the interpreting spectator who sees it through his or her contemporary lens.

These written postcards, letters, reports and patient files,… they all add to the reconstruction of how life must have been during the time it was a sanatorium for tuberculosis patients. There are a number of documents available, ranging from the daily schedule of the patients to health records kept by nurses and doctors from 1904 onward.

Some of these written documents will be used auditorily by means of voice-over while others will be represented visually superimposed on top of the filmed images, e.g. as if they are being written on the graffitied walls of a now empty room. Text being written on top of the image can also act as a guidance to encourage people to look around in the image: text entering the field of view will make the immersant wonder where the sentence started, while text trailing off out of view will tempt the immersant to follow the writing.

Imaged history: The Use Of Photos And Film

Hailed as the ultimate medium to document reality, photography and later film turned out not to be as objective as initially thought.

Bolesław Matuszewski, cinematography and documentary pioneer, employee of the Lumière company and member of the photographic society LUX wrote in 1898:

> "Perhaps the cinematograph does not give history in its entirety, but at least what it does deliver is incontestable and of an absolute truth. [...] One could say that animated photography has a character of authenticity, accuracy and precision that belongs to it alone. It is the ocular evidence that is truthful and infallible par excellence!" (Matuszewski et al., 1898).

But the instant the camera frames something it becomes fiction, a selective memory of a moment and location as chosen by he or she who pushes the shutter release.

"The photograph is a memory: I *remember* what I'm seeing *now*. The film doesn't remember anything. The film always *happens now*.", documentary filmmaker Johan Van Der Keuken states in his 1974 film *Filmmaker's Holiday.*

This is especially true with virtual reality films. The immersant always experiences the immersion as happening here and now. He or she is present in the time and place (re-)presented.

There exist numerous postcards picturing many different views of the outside of the sanatorium as well as of the dining room, bedrooms, kitchen, washrooms, etc. inside. Positioning of the 360º camera will be done in relation to the perspectives represented in the postcards. The images from the postcards will be matched and fitted in the 360º equirectangular[1] image during post-production.

In this way we aim to create windows inside the omnidirectional image which allow the immersant to glance into the past of the building, transporting him or her from the 'here and now' to the 'then and there'. Simultaneously it accentuates the constructed reality on the postcards which give the impression of an objective view of the different spaces in the sanatorium in a clinical way and lacking any human presence. The rooms in these postcards almost look as abandoned as the contemporary 360º images of the sanatorium...

Placing them in these omnidirectional images of the decaying hospital as it is now stresses the reality of what lies beyond the carefully composed frame of the postcard: the sick and dying patients. A reality which was kept from those back home. The frame of the photos is undone, placing them back in their original contextual space 100 years later.

Figure e Dormitory devoid of bedridden patients

Camera & Post-Production Effects

The camera in VR film productions is mostly static. The principle of 'presence' which we briefly touched upon before is strongly linked to the identification of the spectator with the camera. This is exactly the reason the camera height in VR productions is usually around 1.65m/1.70m – the average height of a human.
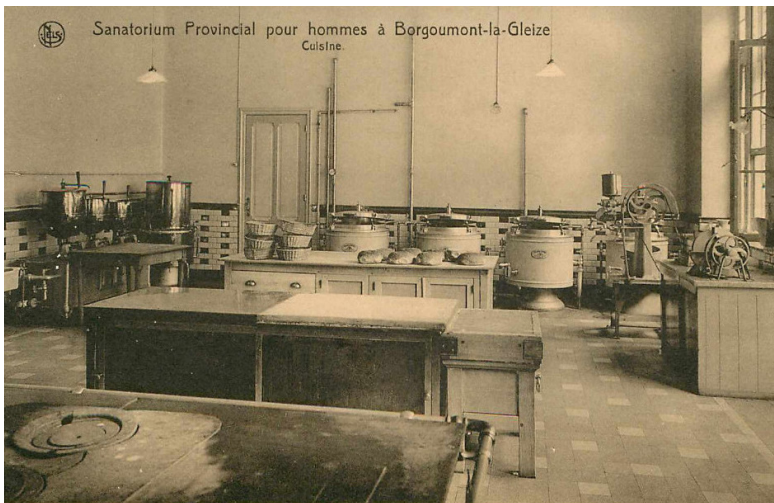

Figure f The kitchens then and now

The mental translocation into the camera position also means that any camera movement which is not accompanied by a similar physical movement of the spectator will have an alienating effect at best, a nauseating one at worst.

In 'Memories in Decay' we want to exploit this alienating effect by using slow travels through the empty corridors of the sanatorium with the camera on higher than average position in order to create the feeling of being a 'ghostly presence', a 'spectre from the past'.

As mentioned before, camera positions will be partly decided by the perspectives of photos on the postcards. Furthermore, architectural similarities and match-cuts will contribute to the creation of discrete transitions between different spaces.

To match the perspective of the postcards with the camera position or to line up structural similarities in different shots, we developed a simple tool which allows us to superimpose the postcards or previously recorded shots onto the live feed of a Ricoh Theta handheld 360° camera.

We plan to shoot both video and HDR[2] time-lapse sequences, the latter to stress one of the core concepts of 'Memories in Decay': the passage of time.

Due to the static nature of the images we plan to add simple atmospheric effects in post-production like dust, subtle lighting effects and noise.

Cinema, Storytelling and Immersive Experience

After witnessing a screening in 1896 of what is probably the Lumière brothers most famous film, *'L'arrivée d'un train à la gare de Ciotat',* Soviet author Maxim Gorky wrote:

 "Last night I was in the kingdom of the shadows. If only you knew how strange it is to be there. Everything vanishes and a train appears on the screen. It speeds straight at you - watch out! It seems as though it will plunge into the darkness in which you sit, turning you into a ripped sack of lacerated flesh and splintered bones... But this, too, is but a train of shadows."

It was the dawn of a new age with a new medium befitting the modern kaleidoscopic and fragmentary experience of time and space: cinema. The newest medium aiming to be the most expressive, most immersive and most true to nature in its representation of reality. While still mute and black and white – a world of shadows – at the time of Gorky's writing, these 'animated photographs' would soon enough add spectacular color, surround sound, captivating cinemascope and even stereoscopy in order to lay claim to the much coveted 'total immersion'.

Now, roughly a century later, a challenger arises: 'virtual reality', a decades old promise which finally can be kept due to advances in computing, cameras and display technology.

360º movies differ from traditional 2D film in a great number of ways. Traditionally editing is used in film to, amongst other things, focus the attention on certain elements. Close-ups of a face strive for a stronger emotional involvement of the spectator with the characters while inserts of objects used to stress their importance in the plot, are two well-known techniques.

But even in traditional cinema this idea has already been questioned by numerous filmmakers.

As Chantal Akerman puts it in Marianne Lambert's (2015) documentary about her work:

> "[That is] something which all great American directors do: they force you to feel what they want you to feel. The don't allow the viewer to be free in front of the film. That's what is considered to be a good director. I do the opposite and I hope that the viewer feels free to feel the film and not just understand it."

The desire to let a scene speak for itself, to let the spectator explore the image is not new and requires different sensibilities of a director in shooting the scene. Akerman continues:

> "I shoot the scene. I won't film [the actress'] hand merely to show she has a ring. If the ring is important I will ask her to put her hand somewhere so we can see it, but I wouldn't go after it"

Perhaps one of the most famous and earliest films dealing with this concept is *Wavelength* by Michael Snow. In this 45 minute long film, consisting of one continuous zoom starting from the far end of a room to a picture of ocean waves on the opposite wall, the spectator is given the opportunity to discover the space at his own pace.

Shirley Clarke saw this film for the first time at the 4th experimental film competition at Knokke Le-Zoute 'Exprmntl 4' where she was part of the jury and later described it as:

> *"In Knokke Le-Zoute, we saw one of the next steps that's being taken, which was the film that got the first prize by Mike Snow [sic] and which is now going to be called the 'contemplative cinema'. Basically meaning you can sit and look at an empty room and 'see'. In other words you don't cut to a*

close-up and study things in the normal way that film has been dealt with, and that it has its own timespan, which is a kind of 'life' timespan" (Clarke in Burch & Labarthe,1970).

VR video, or omnidirectional video, goes even further. Since the image covers the entire 360º, this means the spectator is free to look where he or she wants, free to focus on whatever he or she sees fit, unrestricted by the frame.

This aspect, in combination with the concept of presence creates a unique immersive experience. It is also one of the main reasons why VR films are generally slower than what we can tolerate in traditional films when they cut from one scene to the next.

Fast changes in space, where the spectator does not have the time he deems necessary to discover, experience or feel the space in which he finds himself quickly leads to frustration which in turn has a negative effect on the feeling of presence and subsequently the sense of immersion.

The 360º film no longer *has* a timespan which the spectator witnesses, but rather *becomes* the time the immersant lives it.

The freedom to explore the full 360º surround image also implies that certain actions in the image can be missed by the spectator: it is very well possible that at a crucial moment he is looking in the opposite direction. Because of this, unfolding a plot in the traditional sense is greatly complicated.

It can thus be argued that the techniques for telling a story in the pre-dominantly Hollywoodian sense can and should not be transposed to VR films. Inspiration can nonetheless be found in traditional cinema like, in the films of the aforementioned Akerman and Snow or the works of other directors like Bela Tarr:

> *"Most of the movies are working like: 'Information, cut, information, cut, information, cut' and for them the information is just the story. For me, a lot of things [are] information - I try to involve in the movie, the time, the space, and a lot of other things - which is a part of our life but not connecting directly to the story-telling. And I'm working on the same way - 'information, cut, information, cut,' but for me the information is not only the story"* (Tarr in Pollard, 2011).

or him the function of a scene stretches beyond simply delivering the necessary information to move the plot forward.

The exploratory nature of 360º film shifts the focus from story to experience, from a fixed sequence of predefined shots to a unique chain of pans and tilts and focus points chosen in realtime by the spectator.

In Conclusion

The concept behind 'Memories in Decay' is rooted within the idea of creating an exploratory omnidirectional urban exploration experience with an archive documentary value.

It aims at transporting the immersant to a place where he or she would most likely never go physically and is augmented by the use of textual, auditory and visual archival materials to get a glimpse of a time where he or she could not ever go. While it is impossible to create an immersion which simulated life in the sanatorium in the beginning of the 20th century without extensive use of computer generated images or expensive re-enactments, we believe it is possible to create the experience of going into a memory of this place. The use of original sepia photographs taken then, the combination with a vivid audiotrack, the textual documents from that time and the experience of the current decay creates a multi-layered immersive virtual reality with a strong nostalgic atmosphere. 'Memories in Decay' is meant to take the spectator back to a place he feels he once new, perhaps from a previous life, and of which now only shards of memory exist – fragmentary and kaleidoscopic.

Like the sanatorium of Borgoumont, every place has its history, every building its past. Inevitably, as time goes by, decay sets in and only its stories live on. In the people that passed through, in the memories that remain.

Notes

1 Equirectangular projection is the standard projection used in 360º video. It is most commonly known as the way a world map looks when mapping the spherical shape of Earth onto a flat surface.

2 HDR or High Dynamic Range photography is a way to create images with a higher dynamic range in luminosity than with standard techniques in order to parallel the human visual system.

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