# SOMN

Zurich University of the Arts
Game Design
BA Thesis

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# 1 INTRODUCTION

## 1.1 ABSTRACT

EN
SOMN is the nocturnal journey that speed and rhythm scatter thoughts. Detached from any one character, the experience encompasses all those strangers whose paths cross for one instant, connected in a brief moment of synchronicity.

DE
Die Bachelorarbeit SOMN widmet sich einer nächtlichen Autofahrt, auf der sich Gedanken durch Tempo und Musik verstreuen. Losgelöst vom Einzelnen umfasst die Erfahrung all jene Fremden, deren Wege sich für einen Augenblick kreuzen, verbunden in der nüchternen Schönheit des kleinen Zufalls.

## 1.2 INSPIRATION

The project SOMN exists as a tribute to and as an attempt to communicate a lived personal experience, to bring it to the digital interactive medium and thereby explore both the medium's inherent capabilities and shortcomings in translating an obscure and ambiguous experience.

Nightly car rides consist of rare, profound and deeply reflective moments, at once boundless and earthly, and constantly moving. The low, comforting rumble, the sharp cold emanating from the window and the warmth from the heater, a contrast which is somehow not at all unpleasant. Also, one cannot but observe the other cars passing by, each on their own journey. One can only wonder where they are going and why. The experience is visceral yet delicate, so that an interactive facsimile seems like the only thing that could do it any kind of justice.

I soon realized that this seemed to be a universal experience, as all people I spoke to related deepy.. A particularly memorable encounter that I had with the subject of my thesis was in Rainer Maria Rilke's only novel Die Aufzeichnungen des Malte Laurids Brigge when the protagonist lists the life experiences one must have gone through in order to write poetry. One of those experieces is a nightly journey, described in a way, that is similar to what I aspired to capture.[1] This confirmed to me that my project is a worthwhile undertaking.


*fig. 1 - Rainer Maria Rilke's novel*





The very first concept of the project was based on my conviction that there is an inherent synergy between nightly driving and music. The repetitive, ruminant pace of the journey formed through the soft movements, the low humming of the car and the pulsating trance of flashing streetlights  similar to a musical composition. It therefore seemed a good idea to combine an atmospheric night drive with rhythmic game elements. The player should be able to experience this connection through both a mechanical and visual level. One important audiovisual inspiration was the music video *Star Guitar*[2] by the Chemical Brothers were an importantinspiration. Said video creates a visual rhythm as we look through a train window and viusal elements of the passing landscape are subtly manipulated and repeated.

Marc Augé coined the term "non-lieu" or "non-place" in his 1992 book Non-lieux, introduction à une anthropologie de la surmodernité1. Marc Augé describes the non-place as follows:

> "If a place can be defined as relational, historical and concerned with identity, then a space which cannot be defined as relational, or historical, or concerned with identity will be a non-place."[3]

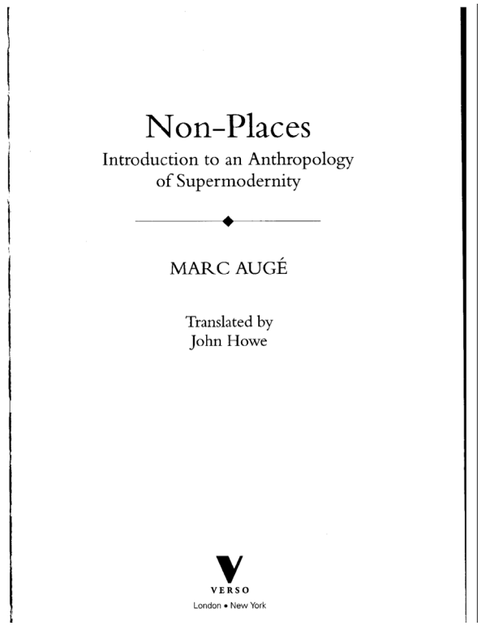


*fig. 2 - Non-Places Introduction to an Anthopology of Supermodernity*

The non-place is a place without history and social context. It is a place of anonymity, but also some strange kind of togetherness. There is, however, charm in those places, too:

> “These days, surely, it was in these crowded places where thousands of individual itineraries converged for a moment, unaware of one another, that there survived something of the uncertain charm of the waste lands, the yards and building sites, the station platforms and waiting rooms where travellers break step, of all the chance meeting places where fugitive feelings occur of the possibility of continuing adventure, the feeling that all there is to do is to ‘see what happens’.” [4]

The non-place, by lacking in history and identity, also provides the great relief of infinite potential. Though it is not the embarking on an unknowable path which excites the visitors of a non-place, but rather the brief suspension in mid-air, where one is pathless, rootless and pastless. The experience has a soothing effect.

*fig. 3 - Places, non-places and supermodernity: on the issues of rooting and uprooting, Brown University, Archaeologies of Place*





The “convergence of inidivdual itineraries” is also described by a different neologism:

> sonder
> n. the realization that each random passerby is living a life as vivid and complex as your own—populated with their own ambitions, friends, routines, worries and inherited craziness—an epic story that continues invisibly around you like an anthill sprawling deep underground, with elaborate passageways to thousands of other lives that you’ll never know existed, in which you might appear only once, as an extra sipping coffee in the background, as a blur of traffic passing on the highway, as a lighted window at dusk. [5]

On his website The Dictionary of Obscure Sorrows John Koenig started publishing neologisms which gained notoriety in the 2010s. Sonder was among the original 23 words and has since found widespread use.

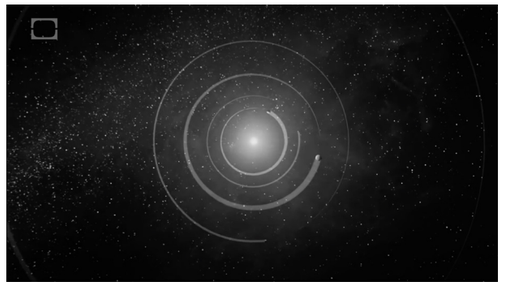

*fig. 4 - Frame from the YouTube channel The Dictionary of Obscure Sorrows by John Koenig, in a video describing the feeling of sonder*

Sonder does not describe one's attention to any one stranger, but rather an awareness of a vast amount of complex human experiences happening all at once, in parallel. Video games, the medium of inhabiting avatars, possess an inherent potential for conveying manifold perspectives and thereby the detachment from one's singular personhood in a moment of sonder. David O'Reilly's *Everything*[6] explores this fascinating characteristic of the medium and was a great inspiration.

Sonder is not only the mourning of a missed human connection but also the bittersweet longing for endless possibilities and futures that will never be. Its power lies, therefore, in the room for interpretation, the cloudiness, and the active, tentative forming of possible pasts, presents and futures of the sonder subject.


*fig. 5 - Everything, David O'Reilly, 2017*





*fig. 6 - I Am Thinking of Ending Thing, Charlie Kaufman, 2020*

To me, it is within those gaps that the most fulfilling storytelling happens. This room for interpretation is distinct from the reader's interpretation, which is specific, adheres to a certain logic and answers questions. The room for interpretation however is a limbo, a non-place of possibilities, more of an impressionistic rendition of a reader's interpretation, which says nothing really but is nonetheless true.This vague sense of knowing is abundant in many of my inspirations, such as the surreal *Twin Peaks*[7] and *I Am Thinking of Ending Things*[8], or in the dark of the night ride itself with its barely distinguishable mountain silhouettes.

*fig. 7 - Famous atomic bomb scene from Twin Peaks The Return, 2017*

Some of my biggest inspirations within the medium of video games that I have found scouring the platform Itch.io, looking for moody, cryptic pieces. *ISLANDS - NON-PLACES*[9] is one of those games, though it is not quite as obscure as others. It consists of non-place vignettes without context or any spoken word and lives through its surreal imagery and small interactions. Another game of this sort is *Exit 19*[10], a truly beautiful, cryptic and understated experience. Its effect on me was far-reaching as it has not left my mind ever since playing it.
In Wim Wender's 1987 movie *Der Himmel über Berlin (Wings of Desire)*[11] there is a particu-





*fig. 8 - ISLANDS - NON-PLACES, Carl Burton*

*fig. 9 - Exit 19, Jack Squires*

lar scene that I was constantly reminded of during the development process. Bruno Ganz's character is an angel in modern times, who watches over the people of Berlin and can hear their thoughts. In said scene, the angel enters a subway car, where he is subjected to the passengers' heavy burdens as they all ponder their fates on their subway ride. The building of empathy through snippets of thought as well as the setting of the Berlin U-Bahn (undoubtedly a non-place) is an inspiring approach to capturing sonder on film.


*fig. 10 - Der Himmel über Berlin, subway scene, Wim Wenders*

## 1.3 RESEARCH QUESTIONS

I am approaching this project motivated by my inspirations but also as an exploration of the video game medium and its potential or lack thereof with regard to the following questions:

How can the experience of a nightly car ride be captured?

How can the player be made to experience an empathetic moment of sonder?

How can ambiguity and suggestion be used to create a profound and personal experience?

Can sonder and music create a synergy?

## 1.4 GOAL

My goal with this project is to explore the research questions, as well as to create a pleasant, flowy experience. I want to contribute to my favorite video game genre, the contextless, cryptic and beautiful little "itch game".



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# 2 DESIGN

## 2.1 FUNDAMENTAL THEMES

### 2.1.1 NIGHT RIDES AND MUSIC

The project combines a nightly car drive with “soft” rythm game elements and its layers of music and driving are interdependent on a mechanical, visual and semantic level.

The world contains audiovisual elements, such as dancing trees, a dancing church, rising mountains, animated neon signs and marching power lines. Their purpose is to bring to life one’s typical daydreams when listening to music in the car at night, when the malleable mass of darkness is reshaped by the imagination.



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### 2.1.2 SONDER

To evoke the feeling of sonder, SOMN detaches the player from playing with a single avatar. No one character is more bound to the player than any other and none of them seek to reflect the player as a person or serve as an insert character.

The player experiences the car drive from many different perspectives, from different cars with different passengers.

People in the game are incorporeal. When the player inhabits someone’s perspective, they catch a few glimpses of their lives through car interiors and conversations amongst passengers.

The content of the voiceovers is guided by four principles which together aim to evoke sonder.

### 2.1.2.1 EMPATHY

People discuss their everyday problems. The struggles must be relatable and sympathetic to the player. Everyday struggles should be expressed in the familiar, clumsy and natural way. Thereby the beauty of everyday struggles is revealed, as oftentimes, what we are saying is not really what we are speaking about.

### 2.1.2.2 DIVERSITY

In order to feel sonder, the player must be aware of the limits of their usual perception. Thus, the player should be presented with people in different moods and with different attitudes and goals.
To further expand the reach of the experience, people speak to each other in different languages. A foreign language shows the multitude of perspectives that the player might not have considered in that moment. It implies some personal characteristics of the speaker, such as their country of origin or family relations.
The spoken language sometimes being unintelligible to the player gives them a moment to speculate vaguely on its content, based solely on speakers' inclination.





### 2.1.2.3 CONNECTIVITY

To make people appear realistic, the voice overs tend to mention the speakers' relations. Sometimes a workplace, a family member or a friend appears in the conversation or a past event is dicussed. This shows that these people are deeply connected to their environment, in uncountable diverse ways and that they lead lives as complex as the player's.

### 2.1.2.4 SELF

Alongside the specificity needed to create a sense of connectedness between the speakers and the world they inhabit, there should be room for interpretation. Sonder is not the same as being told a riveting life story, but a moment of wondering. Thus a lot of context must be left for the player to speculate about.
The blank spots also give the player space for projection. This enables a player to see that which is emotionally relevant for them.
While one might argue that sonder is about the beauty of differences, as mentioned in 2.1.2.2 Diversity, it is also to a large part about one's own longing.

## 2.2 MECHANICS

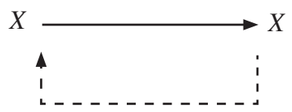
### 2.2.1 MACRO

#### 2.2.1.1 MAIN GOAL

The main goal in the game is based on spatial progression. The player moves from A to B to win. The gameplay is individualistic. It is up to the player whether they want to progress quickly or listen in to the conversations in the cars.

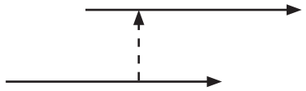

#### 2.2.1.1 LOOPING

The player always drives on a road. It is impossible to leave these roads. At the start and end of each road is a tunnel. When entered, the end tunnel resets the player to the start tunnel. Thus they are caught in a loop and cannot progress.



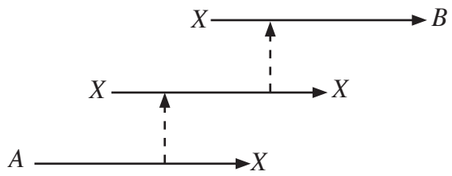

#### 2.2.1.2 SWITCHING

If the player comes by another car, they can switch to it, now controlling the new car. If they switch to a car on a different road, it allows them to leave the loop and eventually progress.



#### 2.2.1.2 PROGRESSION

Each level consists of roads, where one road's tunnel does not loop, but lead you to the next level. It is the goal within each level to reach said tunnel.








### 2.2.2 MICRO

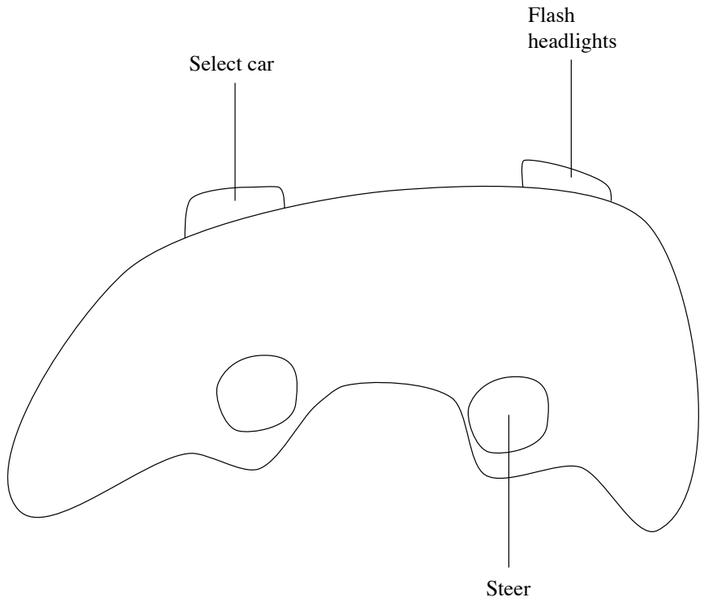
#### 2.2.2.1 MORSING

The player can select nearby cars in order to switch, but to do that they have to successfully morse the right pattern.
Each car has a morse pattern consisting of three either short or long characters. This pattern is displayed through sound and visuals when the car is selected by the player.
To switch into a passing car, the player must match the morse pattern.
The morsing sound is displayed rhythmically by the other car, but the player does not have to match the beat. The morsing is lenient, going more for the feeling of rhythm rather than actual adherence to the beat. However, when the player has successfully morsed the pattern, the transition is timed in such a way that the player arrives in the new car on the beat.

#### 2.2.2.2 DRIVING

The driving mechanic serves the purpose of giving the player something to do. In order to achieve a state of flow, the mind must be occupied with a repetitive, slightly challenging action. By essentially filling the player's mind with noise, this mechanic aims to help reach a certain trance.
The player does not regulate the speed of the car, but they can steer left and right, aided by a driving assistant, making the control of the car a relaxed task.
In terms of game progression, the driving is meaningless. The car cannot fall off the road or crash.

### 2.2.3 CONTROLS




### 2.2.4 COMMUNICATION

The end of each level is marked by a vertical, shining line through the screen. This way, the player knows where to navigate towards.
The morse signal is communicated on three separate layers.
It displayed in big red morse characters in the sky, the car's headlights, which flash the signal to the player and through a sound that is played within the short or long flashes.
In order to make the interaction understandable to the player, the morse signal UI gives feedback by strongly highlighting the current character and frantically animating it. When a character's length has been hit, it disappears, showing a clear micro progression and making it clear that all three characters must be hit. Whenever the player has been successful or unsuccessful, a clearly interpretable sound is played.





## 2.3 LEVEL DESIGN

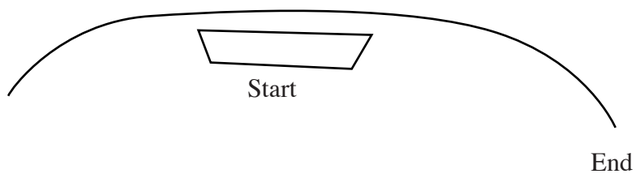
### 2.3.1 TUTORIAL

In order to teach the unusual pattern of interaction to the player, the morse flashing is first presented in an isolated form. The player starts in a parking lot in a stationary car. They are looking towards another parked car. The morse signal is thus constantly displayed in the beginning, so that the player has plenty of time to experiment with a single input and can figure out how the flashing works. Once they have been successful and switched to the other car, they can see a road. A single car approaches. As soon as it leaves the screen, it reappears again, passing by over and over. The player has time to learn how to switch into driving cars and understands how they can use car switching to progress.

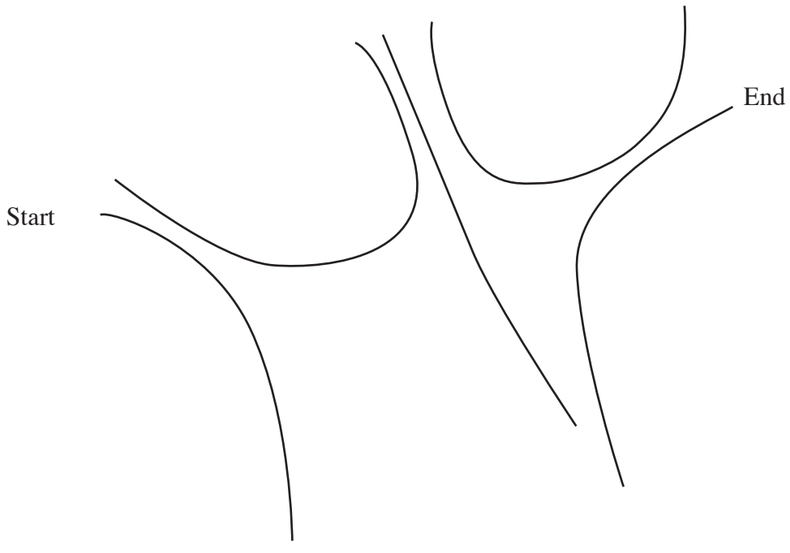
### 2.3.2 LEVELS

The game is made of seven levels. As the player progresses, the levels become more surreal and otherworldly, each presenting a slightly new context for the mechanic. The levels differ in appearance and atmosphere, as well as each containing a new audiovisual element.This keeps the gameplay interesting and serves as a reward for the player's success.

AIRE DU HIBOU
The intro level contains the tutorial and a single road. When the player switched into the car on the road, they are presented with the first voice over.



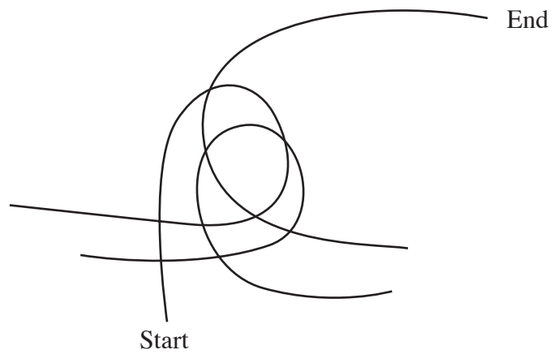

PRÄAMBEL
The second level is a space made of several long roads and containing a single dancing tree. The wideness of this level aims to present an understandable space, where the looping mechanic can be figured out. The goal is clearly visible from the start and the player can learn that one road leads to the goal, where others loop.



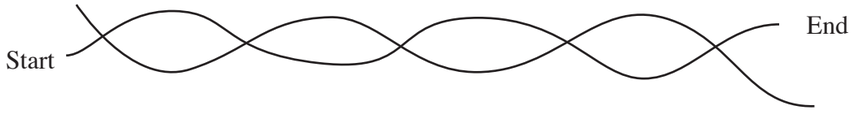




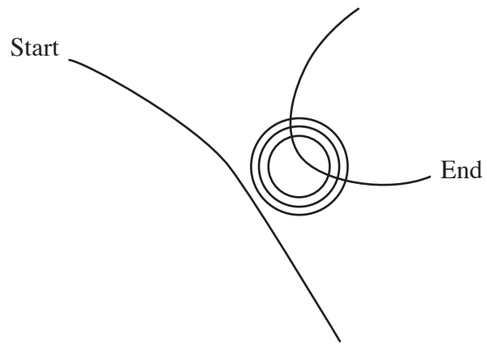

INTERSECTION
The third level is a smaller space where roads intersect widly. It is the start of the journey into the surreal. Here the player is presented with a more chaotic navigation. Within the intersection, there is an old church, twitching to the beat.



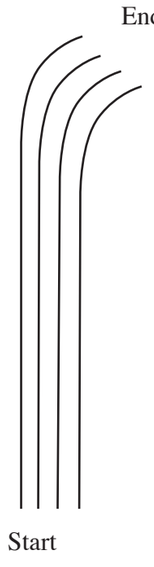

TANGLE
The fourth level consists of two twisted roads. It is supposed to be a fun, surreal level that is fast to traverse. The mountains on the horizon are rising and falling.



HOLOCENE
The fifth level presents the player with three circular and concentric roads, forming a perpetual roundabout. One road leads towards the roundabout and another leads away from it. The roundabout is more disorienting than the other levels. They are presented with a more hectic scenario, caught in the roundabout and being subjected to a flood of animated neon signs.




INTERFERENZ
The sixth level is a traffic jam. The player gets to rapidly switch through the cars, catching various conversations, while power lines are marching by to the beat. When the player has reached the end of the jam, the cars accelerate, but the road suddenly ends.





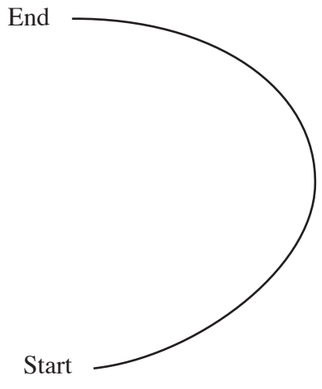



ASCENT
The sixth and half level is the end of the road. The player falls off the map with all the other cars driving alongside. Within the fall, the player can switch into other cars to work their way up. When they have travelled up through the falling cars, they can see the start of the road with a single car waiting.

End

Start

RUNNING OUT
The outro is a single road in the sky. It leads up to a lonely gas station with a large neon sign, displaying the letters SOMN.



## 2.4 SETTING

### 2.4.1 NON-PLACES

Non-Places are central are an intrinsic part of the highway and of travel. They describe the enticing atmosphere of places where many passe through and no one stays. Intrestingly though it is the stationary places, suspended in the non-belonging of a non-place, that are most saturated with this atmosphere. Therefore in this game, the true non-place moments are in the beginning and end. They both provide a moment to reflect in their own way.






### 2.4.2 SWITZERLAND

#### 2.4.2.1 GEOGRAPHY

Switzerland’s ubiquity of tunnels is a fundamental part of the gameplay.
While driving through Switzerland, the tunnel provides a moment of disorientation, making the journey spatially discontinuous. They present a momentary visual relief and lend a sense of theatricality to the revelation of the next scene, giving the journey a dramaturgy, a rhythm and a point of reference. This was translated into the game in a very literal sense. While the Swiss mountains are usually subject of romantic, peaceful depictions, the colossal shapes in the sky at night bear a very different effect. In spite of the oppressive appearance, it is a beautiful, formidable sight, and a deeply ambiguous experience that lets the traveller’s imagination run wild.

#### 2.4.2.2 LANGUAGE

Switzerland is a small, multilingual country, so that one can never be far from a language that is foreign to them. Though most aren’t aware, this makes many Swiss people unusually sensitive to languages. This special cultural circumstance served as the base for the multilingual aspect of sonder in the game.

## 2.5 MUSIC

The track was composed by ZHdK composer Pablo Jòkay. It features prominent percussive elements as well as more ethereal, unearthly layers, giving the night ride its duplicitous atmosphere.
The music is also used as feedback, to provide the player with a sense of progression and reward.

## 2.7 VISUALS

### 2.7.1 PERSPECTIVE

SOMN is a first person game. Players join strangers on their journey, granting them access to a small intimate moment. The game uses a low camera angle to center the passing road. This repetitive, uniform motive aims to reproduce the night drive, which consists mainly of visual and auditory noise. The constant, ever unchanged visual input attempts to produce the trance-like state which is central to the experience of a nightly car ride.





### 2.7.2 REALISM

Realism is the “invisible art style”, meaning that even though realism is its own interpretative, visual language, it is not seen as such. Realism thus remains neutral while stylized worlds are inherently connotated, e.g. they communicate how the player is supposed to feel. Realism grants the player the freedom to see the game through their own eyes.
Since one does not have to undergo the first step of suspension of disbelief to engage with a stylized world, the break of realistic rules through surrealist imagery is all the more powerful. The player has an innate understanding of the game world if it is presented through a realistic language, which also makes the rules easily breakable.

An example of a compelling usage of realism in a similar manner is the music video for *Star Guitar*[2] by the Chemical Brothers, mentioned in the inspiration chapter. The visual style of the video appears rather unremarkable, much like it was taken on an early 2000’ digital camera, at an amateurish angle and featuring the typical, dull color palette, produced by consumer cameras during that era.
This enables it to surprise its viewer with irregularities and musical patterns, after they have maybe gone unnoticed for a moment.

### 2.7.3 GRAPHIC DESIGN

The realistic style is juxtaposed with a bold visual graphic design language. Embedded within the realistic environment, it distorts the rules of the world, blurring the edges of diegesis. The style is inspired by album cover design as well as technical interfaces, such as those of older radios.

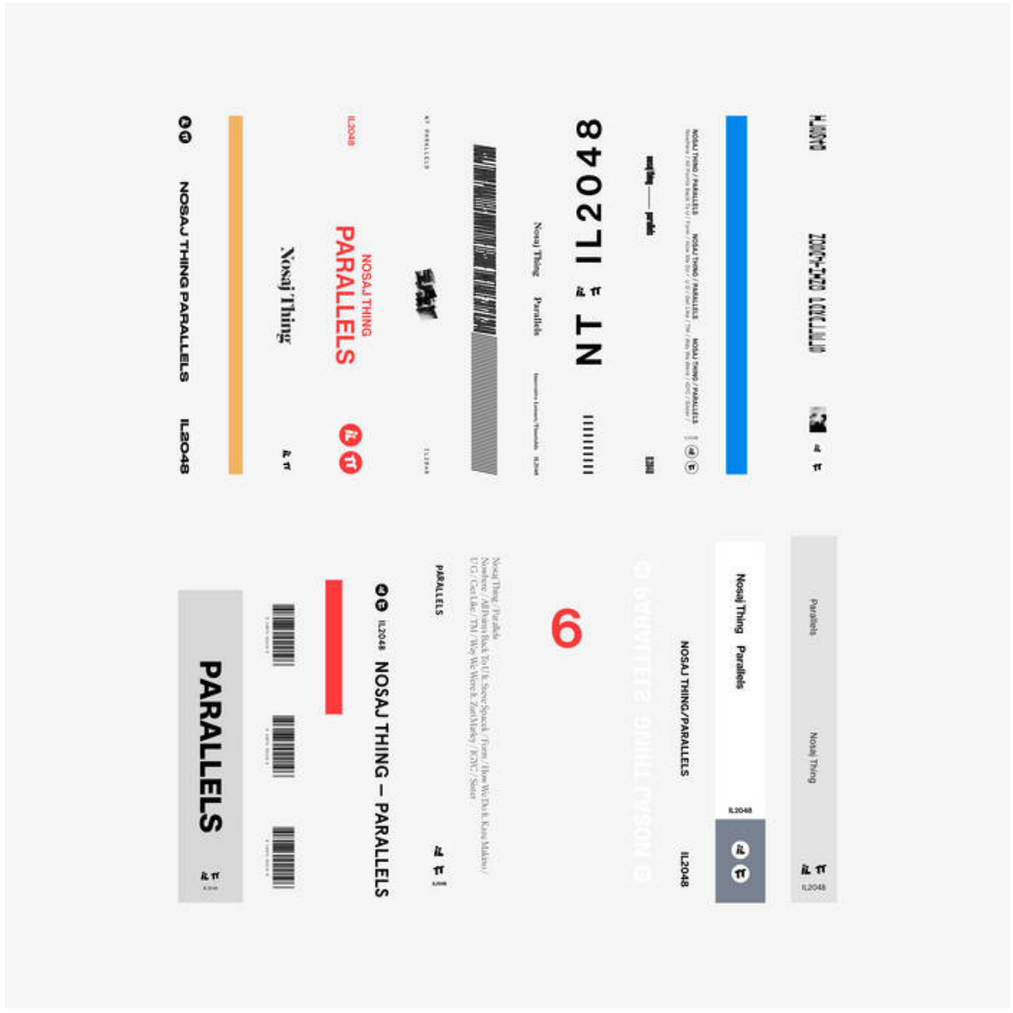



*fig. 11 - Parallels, Nosaj Thing, 2017, Album Cover*






## 2.7.4 FONTS

Ribes Bold

Helvetica Neue Regular, stretched verically 150%





## 2.7 SOUND DESIGN

The sound design elevates the atmosphere by providing a realistic soundscape and adding the constant, calming hum of a car ride.
Even more importantly, the sound design gives the player feedback. The game which contains a mechanic unknown to players, relies heavily on feedback. Especially in context of the morse signaling, “wrong” and “right” sounds, which are instinctively understandable, are used. Besides feedback, the sound also helps communicate what is happening, for example by using a swoosh sound to the camera transferring cars. This added materiality makes the abstract moment more easily interpretable.
To help communcate the core theme of the game, different cars have distinct humming sounds, serving as subconcious feedback and telling the player that they are now in a slightly different world, someone else’s.

| **Kategorie** | | **Sound** |
|---|---|---|
| **Name** | **Bescheibung** | **Name** |
| Musik | | focus-track |
| | | |
| Menu | Sounds for Menu etc | clicks[000,011] |
| | | ambience |
| | | press |
| | | title |
| | | |
| Motor | | car-outside |
| | | car0-inside |
| | | car1-inside |
| | | car2-inside |
| | | |
| CarSwitching | | switch-done |
| | | switch-transfer |
| | | light-on |
| | | light-off |
| | | light-hum |
| | | flashing-kurz |
| | | flashing-lang |
| | | failure |
| | | success |
| | | |
| Radio | | crackle |
| | | static |

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# 3 PROCESS

## 3.1 MECHANICS

### 3.1.1 SWITCHING

The process of developing a suitable switching mechanic was very complicated. It was not part of the initial pitch of the game and was added in the first few weeks of development. The very first version was an instantaneous switch that the player could undergo if another car was visible and they pressed a button. This experiment was not challenging enough and didn't present a suitable game mechanic within the test level layout that I had at the moment. After taking in some feedback, I decided to implement some sort of challenge to overcome for theswitch.

The first somewhat satisfying version of this was the "gear switch". Each car was set in a specific gear, which had no influence on it's driving and speed. If the player wanted to switch to a different car, they had to first match the gear using the arrow keys in a similar pattern as one switches gears in real life. I had first implemented this so that one could only switch gears on the beat in order to weave the music into the gameplay. However, it turned out to be very hard and unsatisfying. It was also impairing the enjoyment of the atmosphere, since the player had to remain extremely focused. Thus, I removed the beat restriction. It turned out to be much more pleasurable to use an unrestricted gear switch, which already had a sort of rhythmic nature to it, without forcing it.

While I was reasonably happy with the gear switch mechanic, I disliked it on a semantic level. The gear switch did not make sense to me as a moment of contact between strangers. I much preferred a mechanic, where the player had to use some channel of communication to establish a connection to another driver. When thinking about a way of communication between cars, I was reminded of the flashing of headlights. It has always represented a special moment to me, when an inanimate pair of headlights is suddenly rendered into a person. Due to my affection for those little moments, I decided to use it as a way to establish a connection.

I implemented it so that other cars would flash a pattern of three short and long flashes. If the player matches this pattern with their own headlights, a switch occurs. This version underwent many changes, from a relative logic, where the length of the player's flahes is measured relatively to the other flashes, to an absolute logic. Due to the absolute version being easier to communicate clearly through UI, I settled on the latter. While experimenting with rhythmic logics, where the flash can only occur on the beat, I came to a similar conclusion as with the gear switch version. The mechanic had a natural rhythm to it and forcing an actual accordance to rhythm made the game too hard and the player would be unable to enjoy the atmosphere and the conversations within the cars.

The driving mechanic also presented a lot of issues to be resolved. It would present a repetitive, but fun interaction to lead the player into a state of flow. On the other hand, the player would have to remain restricted to their current road.

After implementing a car controller, it turned out that when the player had to drive the car themselves, it was too challenging and distracting.

Thus I implemented a version, where cars would automatically regulate speed, while the player had control over the steering. To balance this out further, a steering assistant was implemented, which would loosely follow the road.

## 3.2 AUDIOVISUALS

All audiovisuals were achieved either through blend shapes or through custom shaders. Blender offers a way to animate models that does not require a rig, but rather interpolates the position of single vertices, named “shape keys”. These shape keys can be easily used in unity using blend shapes. I animated the church, the neon signs and the walking power-lines using them.

The trees and the mountains are animated through shaders. Both use 3D simplex noise to displace vertices. In the case of the mountains, the noise is layered in order to achieve a realistic terrain generation. The noise texture is scrolled a bit on each beat to create a pleasing rising-and-lowering effect.
To my suprise, the blend shapes turned out to be much more performative on a computational level than the shaders. Thus I was regrettably unable to create a forest of dancing trees.





## 3.3 PROGRAMMING

### 3.3.1 LEVEL EDITOR

Early on in the developing process, I realized that I would need an efficient way to create streets. Luckily, I soon found Sebastian Lague’s bezier curve tool for the unity editor, which even included a road mesh generator. However, I still needed to modify the tool quite a bit to suit my needs.
Firstly, I added a way to place starting points for cars along the roads. It includes a custom inspector to add points as well as handles within the scene view to drag them along the road. When the user marks a starting point blue, this car will be the initial car, meaning the player will start the game within this car. Implementing the handles was quite challenging, as they were barely documented.

Secondly, I added automatic tunnel placement. On the press of a button, the bezier curve generates additional points that match the curve of the tunnels.
To create a border around the roads so that cars cannot fall, I modified the road mesh generation so that it would generate the geometry needed to form a barrier.
To generate the holes in the terrain, I found a way to automatically write to the bitmap texture of the terrain that stores the location of holes.
This enabled me to quickly modify levels, which was vital to make my mechanic work within the game.

### 3.3.2 CAR CONTROLLER

I used a car controller that was developped by Goran Saric.

## 3.4 VOICE OVERS

For the recordings, I recruited multilingual friends. I was pleasantly surprised at people's readiness to participate. Some recordings were made at people's homes in foreign countries while others were made in my small walk-in closet, which has suitable acoustics.
During the first recording session I realized I had misjudged my priorities when I wrote out scripts for the conversations. The voice actors had trouble sounding natural when acting out a script. Thus I changed my strategy and asked people to speak freely to each other. I would then record these conversations and use snippets that contained something emotional, poetic, funny or just fitting. While I was quite happy with this approach and had a lot of fun recording the voice overs, evaluating the voice overs that were recorded in a language foreign to me, was quite impossible, especially when I had not been present during the conversation.

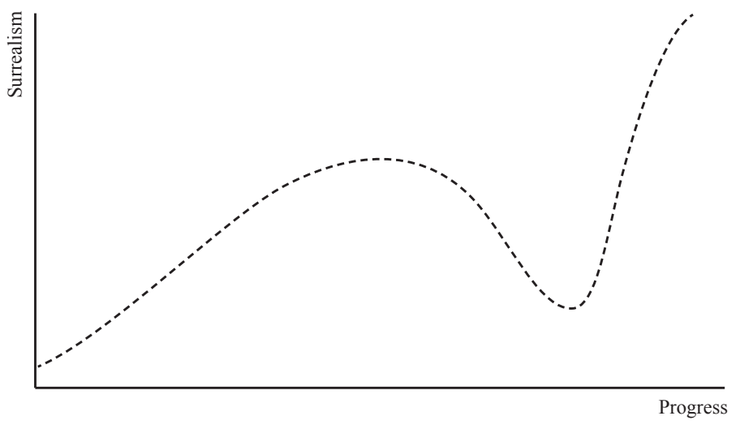
## 3.6 LEVEL DESIGN

### 3.6.1 GAMEPLAY

The level design is quite central to this project as it features a mechanic that is inherently tied to space. Coming up with usable level layouts was challenging. I tried to improve my skills by watching videos and reading articles on the subject, but grew frustrated with their unhelpful specificity, always assuming that I was designing a game including enemy combat. In the end, I went with a trial-and-error approach, trying to make interesting situations to explore the mechanics in

### 3.6.2 DRAMATURGY

The level design in this project also includes the dramaturgical development of the journey. Contrary to the level design in relation to gameplay, this came much easier to me. I focused on presenting the player with a surprise with each level, using both the road layouts as well as the lighting and the audiovisual elements. I focused on increasing the level of surrealism in a satisfying arc of intensity over the duration of the game.




Progress





## 3.7 VISUALS

### 3.7.1 ASSETS

As this project is quite labor-intensive, I decided to use third party visual assets, as I did not see the development of assets of central importance to the project in regards to my intent, my interests, and my research questions. See appendix for a list of third party assets used or read on for information on the ones I developed myself.

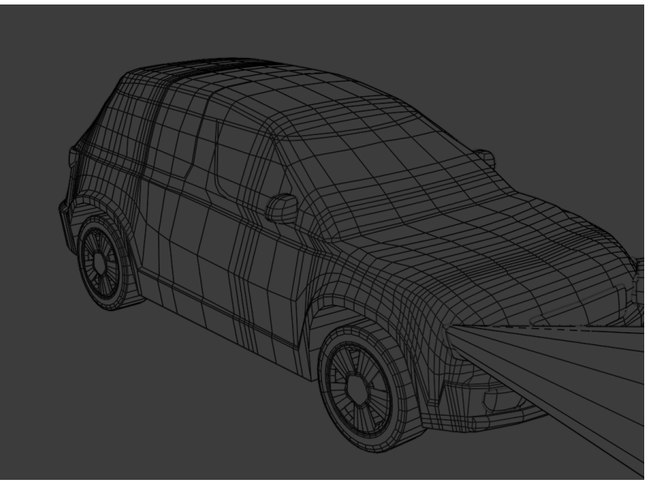
### 3.7.2 MODELLING

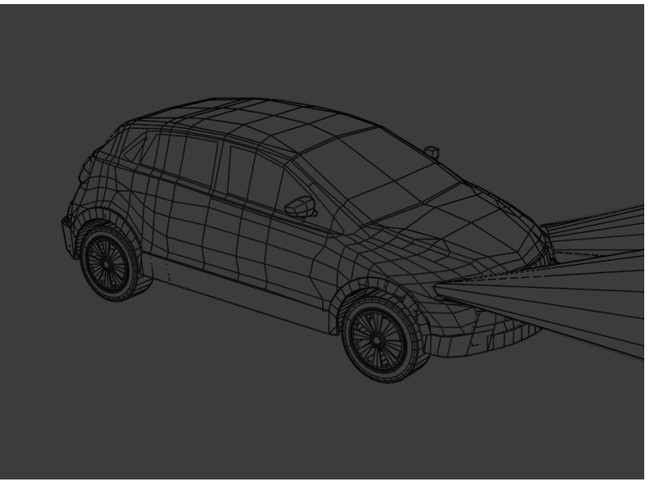
#### 3.7.2.1 ENVIRONMENT

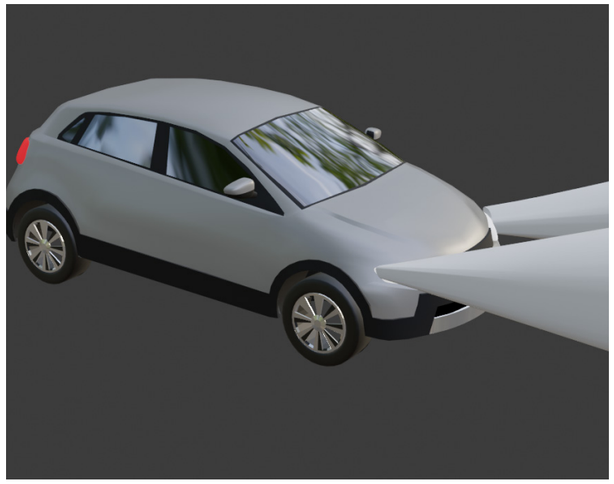
I modelled environmental assets referencing places I was inspired by. The church for example it modelled after a tiny chapel somewhere in the Canton of Zug. It is visible from the train when travelling from Zurich to Ticino, which is why I am aware of it. As I was unable to frequently travel to those places in real life, I used Google Maps.

### 3.7.2.2 CARS

I modelled environmental assets referencing places I was inspired by. The church for example it modelled after a tiny chapel somewhere in the Canton of Zug. It is visible from the train when travelling from Zurich to Ticino, which is why I am aware of it. As I was unable to frequently travel to those places in real life, I used Google Maps.

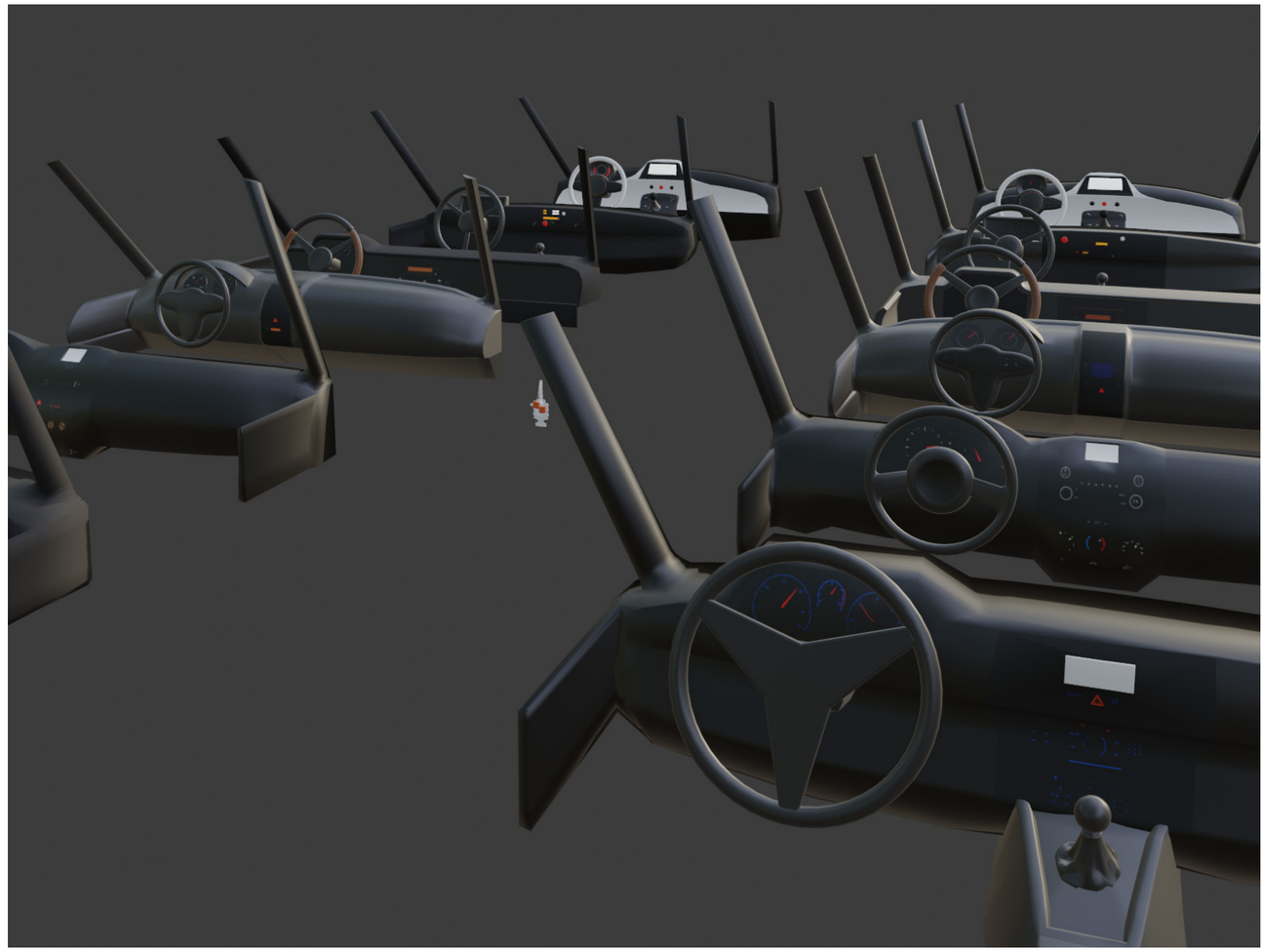






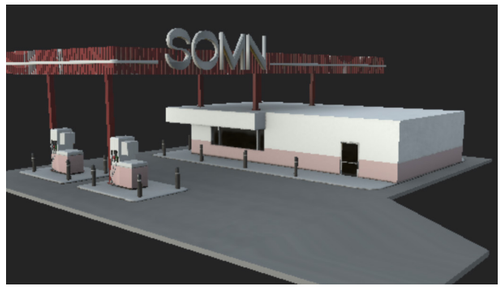






### 2.7.3 TEXTURING

I used a substance painter to texture some of the environment models. It offers an easy way to add ambient occlusion as well as dirt and wear to model, greatly enhancing its realism.








### 3.7.4 SHADING

Several custom shaders were built for this project. Notable ones include the morse shader, the volumetric headlight shader and the mountain morph shader.

The morse shader is animated by a diagonally scaled noise texture, the scaling thereby controlling the level of distortion. The alpha level is controlled by the same variable, making it distort and dissolve when a car's focus is lost and assembling is when a car becomes visible.

I developed the volumetric headlight shader to fake volumetric lights. This was vital to the gameplay, as the flashing of headlights is the base for the main mechanic. The volumetric headlight shader uses a cone-like model as a base. It uses the fresnel effect to fade its color out towards the edges and multiplies it with layered noise to make it more realistic.

The mountain range is generated with layered noise. The offset of the noise is animated on each beat, making it appear as though the mountains are rising and falling. The normals had to be recalculated, since I was vertically displacing the vertices of a plane, they were all pointing upwards. In order to do this, I calculated three points for each vertex, where the two additional points are slightly offset from the original vertex. By running the same displacement logic on all of them, one can use the cross product to find out the normal vector of the original vertex.
To create the appearance of snowy and rocky mountains, the normal vector and thereby the surface's inclination was used to determine whether to use the snowy or rocky basemap.

## 3.8 SOUND DESIGN

The sound effects were created with Reaper and implemented with FMOD.
In addition to the production of sounds, balancing the clarity of the feedback and making the voice overs audible while the music remains center stage, turned out quite challenging. Some of the sounds in this project are something between sound effect and music. Therefore some of them were created by the project's composer, namely the sound when the camera transitions between cars, the one when the camera arrives in a car, and the sounds through which a car shows its switching pattern.

## 3.9 MUSIC

### 3.9.1 DEVELOPMENT

The music was created by Pablo Jòkay. He is a ZHdK composer who had previously worked with other game design students of my year, which is why I was familiar with his work. Since I had really enjoyed his music for another project, I contacted him and provided a playlist of music that I found inspiring and fitting. Pablo has, in my opinion, created a beautiful and fitting soundtrack which makes up for a large part of the game's identity.

### 3.9.2 IMPLEMENTATION

In order to trigger audiovisual events in the game world, I had to implement FMOD callback events. This was unnecessarily challenging due to the fact that the example script that FMOD provides does not work and in fact does not even compile. It was not easy to fix, since it involves a low level of programming that I am not familiar with, such as manually pinning memory. Without completely understanding how it works, I did get the script to compile.
To make conversations in the car audible without having to turn the volume all the way down, I added a dynamic equalizer to the soundtrack in FMOD, filtering out high- and mid-level frequencies during conversations.
The track that Pablo wrote for the project includes an array of layers that are added to the track over time. The sections in between are looped. When the player switches into a car, either a voice over starts playing or the music transitions to its next state.

DDE VGD Zürcher Hochschule der Künste SOMN, Linn Spitz

# 4 CONCLUSION

## 4.1 REFLECTION

The project succeeded in creating the atmospheric experience of a nightly car drive.
In my opinion, it is also fun to play. Sadly I wasn't able to give the rhythm elements, both mechanically and visually, enough attention.
While I enjoy the morse mechanic, it is a missed opportunity for a more tightly interwoven rhythm-based mechanic.
Also, I now think that, in direct coexistence, the voice overs and the fast switching mechanic are hard to combine. The player is rarely granted the time to enjoy the voice overs. Thus the rhythm elements and the sonder elements do not create a synergy, but take away from each other's effect.
The game would benefit from having exlusively action-based sequences as well as voice over sequences, on long, lonely roads. As it is now, the two sides are in competition, but one can still hope that something of interest lies in the tension between the two.
This is part of what comprises, in my opinion, the main problem. It is, as always, scope.
I realize now that the games that I named as inspirations all focus on a single priority. I, on the other hand, tried to develop both a new rhythm based mechanic as well as ludo-narrative sonder.

## 4.2 OUTLOOK

I currently plan to set the project aside for a while, in order to view it with fresh eyes again.
After that I would like to release the game on Itch.io as a hopefully worthy contribution to my favorite video game genre, the cryptic itch game.

# 5 APPENDICES

## 5.1 CREDITS

VOICE ACTORS

Irina Bodistean
Severine Brunner
Loïna Eder
Jonas Egli
Virginia Grama
Carlos Hartmann
Charlotte Jacquet
Hannah Koch
Adrianna Konkol
Stefan Kraft
Ona Pierce
Vitalie Prituleac
Shyhrete Sejdaj
Marina Shala
Linn Spitz
Elina Leknes Stueland
Gisle Stueland





## 5.2 RESSOURCES

### 5.2.1 SOFTWARE

Unity 3D
Blender
Adobe Photoshop
Adobe Illustrator
Adobe InDesign
Adobe PremierePro
FMOD
Reaper
Substance Painter

### 5.2.2 ASSETS

Car Controller by Goran Saric

Rocks, Trees and Grass from Book of the Dead Environment Assets, Unity Technologies,
https://assetstore.unity.com/packages/essentials/tutorial-projects/book-of-the-dead-environment-121175

Streetlight Base Model from Blendswap,
https://blendswap.com/blend/15415

Gas Startion Base Model from Blendswap,
https://blendswap.com/blend/18287

Sky Boxes from Skybox Series Free, Unity Asset Store, by Avionx
https://assetstore.unity.com/packages/2d/textures-materials/sky/sky-box-series-free-103633

## 5.3 SOURCES

### 5.3.1 PROGRAMMING

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22.02.2021

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Kurt-Dekker, Jan 23, 2015
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17.05.2021

https://github.com/gamedevbill/Tutorials/tree/master/NormalCalc_URP
17.05.2021

Sebastian Lague
Curve Editor
https://github.com/SebLague/Curve-Editor
https://www.youtube.com/watch?v=RF04Fi9OCPc

https://github.com/JimmyCushnie/Noisy-Nodes
17.05.2021

https://github.com/gamedevbill/Tutorials/tree/master/NormalCalc_URP
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## 5.3.2 THESIS

1 *Die Aufzeichnungen des Malte Laurids Brigge*, Rainer Maria Rilke, 1910

2 *The Chemical Brothers - Star Guitar (Official Music Video)*, Youtube, uploaded by The Chemical Bothers, 11.03.2009

3 Marc Augé, *Non-Places, Introduction to an Anthropology of Supermodernity*, 1992, Verso, 1995, p. 77

4 Marc Augé, *Non-Places, Introduction to an Anthropology of Supermodernity,* 1992, Verso, 1995, p. 3

5 John Koenig, *The Dictionary of Obscure Sorrows*, https://www.dictionaryofobscure-sorrows.com/post/23536922667/sonder, abgerufen 26.05.2021

6 David O'Reilly, *Everything,* Double Fine Productions, 2017

7 Mark Frost and David Lynch, *Twin Peaks*, Lynch/Frost Productions, 1990

8 Charlie Kaufman, *I Am Thinking of Ending Things,* Likely Story, 2020

9 Carl Burton, *ISLANDS - NON-PLACES,* Release Date Unknown

10 Jack Squires, *Exit 19,* Release Date Unknown

11 Wim Wenders, *Der Himmel über Berlin,* Road Movies Filmproduktion, Argos Films, Westdeutscher Rundfunk, 1987

## 5.3.3 PICTURES

https://pictures.abebooks.com/inventory/md/md30652571431.jpg
https://www.youtube.com/watch?v=AkoML0_FiV4
https://www.brown.edu/Departments/Joukowsky_Institute/courses/archaeologiesofplace/7994.html
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## 5.4 SPECIAL THANKS

With special thanks to Annette Rahm, Stefan Kraft, Kevin Egli, Mathis Ebner, Ona Pierce, Marina Shala und Carlos Hartmann





## 5.5 DECLARATION OF OWNERSHIP

I, Linn Spitz, hereby certify that I have created this thesis independently without outside assistance. All passages that I have taken verbatim or in spirit from public or non-public writings have been marked as such.

Zurich, June 10th, 2021