

On discovery in the world of immersive storytelling

The bridge to unreality

Final report



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1. Introduction

1.1 General introduction

Since the beginning of time, people have been obsessed with telling stories. The world has known countless ways of telling them. Ranging from mouth to mouth stories, to stories in books, pictures, movies, performance, dance, artwork, poetry and much more. Some of them have been there as long as mankind itself, others are fairly young. We keep searching for different ways of telling stories because this enables us to tell a story in a way it has not been told before.

In this age where technology has become so important and widespread, it has also enabled us to create and tell stories in a new way. A good example of this are 360° videos in Virtual Reality. It is still a technology which hasn't been widely explored and still has a long way to go, but despite this it is really fast growing. And it will be used more in the future once it becomes more accessible for consumers.

"On discovers in the world of immersive storytelling - the bridge to unreality." We chose this catchphrase, because it states what we have done in the project. We tried to get more understanding about 360° videos in Virtual Reality and how to create stories as immersive as possible. The most interesting thing about the way we worked with this technology is that we tried to stimulate the viewer's sense as much as possible. Our goal was to immerse the viewer in a story so deeply so that the virtual world becomes a real world for a moment. The virtual reality, if the immersion is at its best, will become reality for the viewer once he puts on the glasses and participates in the story.

This means, by developing stories and concepts and by filming them we created a bridge from reality to another reality. One that is only virtual, thus an unreality. This bridge is open for everyone to cross from one border to the other. In our case from reality to unreality. But even an unreality can be real if we believe it's in the world that we are observing. And that is what we tried to achieve: providing brief experience in an unreality, which puts us into a higher place if telling or observing a story.

1.2 Project motive

The wide range of technology and storytelling created the opportunity for the Artesis Plantijn University College to start the collaboration 'Show and Tell' to dive into the new technology of telling stories and start training students early, which then opens up more opportunities for the students themselves. The 'Show and Tell' group has done some projects previously and took the opportunity to set up this project group for further research and projects, so to widen the knowledge and experience in this technology and way of storytelling.

Virtual Reality is a new and very individual way of telling stories of others which forces the viewer to engage in the story. You cut yourself off from the rest of the world by putting on the headset, thus making it possible to fully experience the story. Which is why we think VR is such a powerful tool to tell a story. On which to quote Jessica Lauretti, vice president of RYOT Studio Oath's creative studio: "You can't see anything else. So it does have this ability to transport you to another place, another country, another time."

This brought along a few challenges when it comes to the ability of telling an immersive story. Just creating a story didn't work for VR since the user has a certain freedom. He/she is able to look wherever he/she wants to. The question that first came up, was then how we could grab the user's attention without forcing a story on them. Many other challenges soon emerged:

- Telling a story that happens all around and not just in front of the user
- Distracting the user to look away from something, or towards something
- What to do when the user doesn't look to the proper direction

- How and when to apply changes in the videos without the user seeing them
- Apply proper sounds to the story which improves the immersion of the story
- ...

Many other projects have been conducted by the “Show and Tell” team. We depended on their expertise to gather information for our project. And in turn we hoped to provide useful information to them. The information we provided did not only include our gathered expertise about different experiments and research we worked on. Further, they contain the whole progress to set up the project, develop different concepts and to execute them. These information act as valuable foundation to continue with the project or to start a new one with a similar motive and/or goal.

1.3 Duration

This project takes place in the AP University College Antwerp, in Belgium. AP University College has set up the research collaboration ‘Show and Tell’, which purpose was to carry out research about immersive storytelling. The branch they are focusing now are 360° video’s in Augmented Reality and Virtual Reality.

The ‘Show and Tell’ collaboration later established with the EPS (European Project Semester) program this project group, which is assembled of different international students from different colleges/universities with different disciplines.

During the first weeks of the semester (started from 5th of February), this project group had to draw up a design sprint, created a project management method and wrote a project plan. After this was done, the project group entered the first phase of the actual project making which lasted till the beginning of the Eastern Holidays (31st of march until 15th of April). In this phase the project group carried out research toward immersive storytelling with 360° videos in virtual reality. Further journalistic experiments were done to achieve realism in the filmed footage.

In the second phase of the project, which started after the Eastern Holidays, a definite story for the Royal Conservatoire was created using ideas and information obtained by the research done. This phase was planned to last till the end of the project, but upcoming challenges and difficulties¹ changed the planning. Therefor, the project group had to cancel the plan to film a promotional video for the Royal Conservatoire and started to create a new story for the Academy of Fine Arts. The new concept was developed to achieve a similar goal for the Academy of Fine Arts as it was planned for the Royal Conservatoire. After the changes took place and the new concept was carried out this last phase ended by the 13th of June by presenting the results to the sponsors. This phase was used to designated space for the project making, as well for the changed and the filming at the Academy of Fine Arts.

1.4 Target groups and stakeholder

Since the project group has emerged from a collaboration with experience in 360° storytelling, which itself collaborated with few other parties, there is quite a list of stakeholders in this project.

One of them is the Show & Tell research group, which has the most influence on this project as its sponsor and decider. They have big interest in this project since they established and

¹ Information about the change can be found at 5.4.5 Deviations of the project

assigned us this task to perform, from which we will be able to accomplish more research and project making. They provided us with important information that has been gathered in a research they have conducted.

Users of the project end result (target groups):

- Academy of Fine Arts
- AP University College
- Potential students for the Academy of Fine Arts (first look)
- Current students (participating in the videos)
- International students
- Potential sponsors
- People with an interest in technical inspiration for VR 360° storytelling
- Cultural lovers in general
- Companies involved in VR
- Television studios (e.g. VRT now)
- IT and design companies
- General companies
- Simulation companies/ companies using simulation
- Education sector

Stakeholders that will experience the consequences of the project:

- Royal Academy of Fine Arts
- Show & Tell research group
- Parties interested in research done by Show & Tell
 - o Companies
 - o Television studios
 - o Creative studios
 - o IT companies
 - o Design companies
 - o General companies (possible new way of branding the company through promotion, advertisement, ...)
 - o Simulation companies/companies using simulation
 - o Education sector (training firemen, doctors, pilots, students, ... through simulation)

Carrying out the project

- Project group EPS STORY
- Students that participate in producing the video

Suppliers of people, resources, materials and equipment:

- AP University College
- Show & Tell research group
- Royal Academy of Fine Arts
- Potential future sponsors

Other parties:

- Competing parties in the same research branch, who don't have much influence on this project and on them we don't have much influence
- Other research groups that are interested in the research results. They don't have any influence on the project but may be interested in a collaboration with the Show & Tell research group
- Other universities with a focus on technology. They will be interested in the results of the technological and creative combination and the results on how to attract people in a more immersive way. They won't have any influence on the project, but as competing university they probably will want to catch up to the latest results.
- Other universities involved in the art. Not only on sculpting, painting, printing or costume design, but also music, dance or theatre performance. They will be interested in the promotional aspect of the video as a new opportunity to attract new students, employees and sponsors. They won't have any influence on the project, but as competing university they may want to catch up the latest results to update their advertising strategy.

Roles of stakeholders:

	Decisions	Participate in project
“Show & Tell”-team	Decides and co-decides	work on project, thinks along and supplies information and expertise
Royal Conservatoire	doesn't decide	work on the project, offer information about history and expertise in the different fields of study, such as music, dance or art
Students of the Royal Conservatoire	Don't decide	participate in the project, offer expertise in their studies
Students that are not enrolled at the Royal Conservatoire	Don't decide	work on project, help with user testing
Academy of Fine Arts	doesn't decide	work on the project, offer information about history and expertise in the different fields of study, such as painting, sculpting or printing
Students of the Academy of Fine Arts	don't decide	participate in the project, offer expertise in their studies
Students that are not enrolled at the Academy of Fine Arts	don't decide	work on project, help with user testing
potential sponsors	don't decide	don't work on project
people with an interest in technical inspiration for VR 360° storytelling	don't decide	work on project, help with user testing
culture lovers in general	don't decide	work on project, help with user testing

Interest of each stakeholder:

	Interest in project result	experience (dis)advantages from the project result	influence on the project
“Show & Tell”-team	highest interest	experience advantages, use research for own research and upcoming projects	big influence, decide and offer expertise and material to work with
Royal Conservatoire	huge, use project results for promotional events	experience advantages, more students and sponsors, become more well known worldwide or in Europe	low, able to give suggestions
Students of the Royal Conservatoire	big, represented by project	advantages, performance or artwork for them, promotion for their work	low, able to give suggestions
Students that are not enrolled at the Royal Conservatoire	depends on their interest	depends on their interest	no influence
Academy of Fine Arts	huge, use project results for promotional events	experience advantages, more students and sponsors, become more well known worldwide or in Europe	low, able to give suggestions
Students of the Academy of Fine Arts	big, represented by project	advantages, performance or artwork for them, promotion for their work	low, able to give suggestions
Students that are not enrolled at the Academy of Fine Arts	depends on their interest	depends on their interest	no influence
potential sponsors	depends on their interest	depends on their interest	depends on purpose
people with an interest in technical inspiration for VR 360° storytelling	high interest for improved knowledge and solutions for more immersive storytelling options	depends on their current knowledge and their expectations	no influence, only gives suggestions

culture lovers in general	depends on their interest in VR 360° videos	depends on their cultural interest	no influence, only give suggestions
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1.5 Benefit of the project

How to add value to a 360° video in Virtual Reality? This was the main goal to gather information about in our project. We wanted to explore the foundation and opportunities of how someone can be fully immersed in a story. This was not only to find out how immerse the viewer in the new, virtual surrounding but also to constantly trigger and attract him to stay immersed. Therefore, we had to find out how to develop a story that makes a space become alive and expressive in an original context. Another goal of the project was to create content that is differentiated from other 360° videos in Virtual Reality. Commonly known videos often appear as less interesting by a lack of immersion. This can be caused by poorly conceived ideas and content, missing elements that keep the viewer attracted or many other reasons.

Further, a benefit of the project is that the team created a huge knowledge about producing a promotional video. We focused on developing a video which is no advertising and where the promotion is also more a side effect than the aim that has to be achieved.

1.6 Contribution of the stakeholder

Stakeholder	Decisions and interest	Expected participation	Actual participation
„Show & Tell“-team	Decides and co-decides, highest interest	work on project, thinks along and supplies information and expertise	Workshop about immersive Storytelling, information about VR, 360° videos in general, research material, discussions about the project and the story, constructive criticism, introduction to the buildings by different members of the research group
Royal Conservatoire	Don't decide; huge interest, use project results for promotional events	work on the project, offer information about history and expertise in music, dance and art	offered rooms for filming, helped us to reach the students
Students of the Royal Conservatoire	Don't decide; big interest, represented by project	work on the project, offer expertise in music, dance and art	Students didn't participate in filming or improving the story, didn't offer any information or expertise

Students that are not enrolled at the Royal Conservatoire	Don't decide, interest depends on their curiosity about the project	work on project, help with user testing	No contact to them was possible
Academy of Fine Arts	Don't decide, huge interest , use project results for promotional events	work on the project, offer information about history and expertise in painting, sculpting and printing	Offered rooms for filming and space to store equipment during the day, access to exhibition of the students
Students of the Academy of Fine Arts	Don't decide, big interest, represented by project	work on the project, offer expertise in painting, sculpting and printing	Participated in the project as bit-part players, added ideas and information
Students that are not enrolled at the Academy of Fine Arts	Don't decide, interest depends on their curiosity about the project	work on project, help with user testing	No contact to them was possible
Potential sponsors	Don't decide, interest depends on their curiosity about the project	don't work on project	No contact to them was possible
People with an interest in technical inspiration for VR 360° storytelling	Don't decide, high interest for improved knowledge and solutions for more immersive storytelling options	work on project, help with user testing	No contact to them was possible
Cultural lovers in general	Don't decide, interest depends on their curiosity about VR 360° videos	work on project, help with user testing	No contact to them was possible

1.7 Executors

Members and specialities

The project was carried out by a group of international students from different backgrounds and disciplines. The project was called “On Discovery in the World of Immersive Storytelling”, or short for school purposes: group “STORY.”

Together the group did not only research about the technology of 360° videos, Virtual Reality and immersive storytelling in this context. Further, they developed a concept for a promotional video for the Royal Conservatoire and the Academy of Fine Arts in Antwerp, which will be explained further. After the research and the developing took place, they continued to carry out the project as it was planned in earlier stages.

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Instructors

The sponsor and instructor of this project is a research collaboration called “Show and Tell”, which is assembled of different teachers from different disciplines of the Artesis Plantijn University College (AP) in Antwerp, Belgium. The members of the “Show and Tell” research group guided us, supplied information and approved or declined the projects we proposed. They also gathered the information we obtained from our research, which was our primary goal.

Contacts:

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1.8 Environment

The project took place in different environments. One of them was the Royal Conservatoire where we wanted to shoot the promotional video first. This institution “aims to educate enthusiastic and talented people to become creative, professional musicians and performing artists with great autonomy and personality, able to slot into the contemporary socio-cultural and artistic frame of reference.”²

After the first plan didn’t work out as planned, we had to change. We decided to continue our project at the Academy of Fine Arts. This institution tries to provide a “challenging environment for the soon-to-be designer or artist who wants a very individual and personal artistic education.”³ The Academy offers bachelor and master programs in Visual Art with different courses.

The Campus Ellermanstraat of the AP University College provided a room for the team, where the equipment could be stored. This place was also used for usual working, discussions, meetings, workshops and discussions.

At the Campus Norderplaats of the AP University College additional courses for the team members took place. Next to language courses like English or Basic-Dutch for the non-Dutch students several courses like Cross media communication or project management were taught here.

2. Concepts

2.1 Design process

To complete a project of which the goal is to create a creative product or service in a successful way, it’s important to go through all stages of the project step by step. This process is also known as the design process. This process has different stages, and it’s important to spend time in each phase to make sure your concept is strong enough to deliver the message you want to send across.

The design process has seven steps, identified: define, research, ideate, prototype, select, implement and learn. At first the problem, goal and target group should be defined. The problem that the project or design should solve should be defined clearly, so that the complete team knows which steps and tasks have to be taken to complete the project successfully. Second comes the research stage, in which information is being gathered around the subject. This includes information about the problem, existing similar products, the target group and problems that might occur.

After this stage, there is the ideating stage. In this stage the goal and target group are defined, and ideas are being gathered through brainstorming. At this point of the process the creativity comes in, and concepts are created. A concept is a relative term, that might need some explanation. This is important, to make sure all team members are on the same page when talking about the concept. A concept is the fundamental idea behind a campaign. This theme will be used as a starting point for all the products created that relate to the project.

There are a few characteristics concepts should have. First, it should match the brand identity and add value to it as well. The identity of a brand is where the target audience can relate to and represents their norms and values. Apart from that, it should also represent their way of thinking and lifestyle. Of course, this causes attention value for the target audience, which is the second characteristic. This is very important, because your product has to catch the

² Source: <https://www.ap.be/en/royal-conservatoire-antwerp> (29.05.2018, 17:41)

³ Source: <https://www.ap.be/en/royal-academy-fine-arts-antwerp> (29.05.2018, 17:46)

attention of the audience over all the other companies or brands that ask for their attention. Therefore, the way of getting attention should be original and fitting to the profile of the target audience. By making sure it suits their norms and values and the brand automatically creates attention value, chances are more it will catch the attention of the people you're trying to reach. Another very important characteristic is mediagenic. A suitable, strong concept can easily be transferred to other types of media. It should be used a base to build on for other ways to communicate the brand of product. Creating content for other platforms causes attention value and recognizability for your audience, when used in ways that suit the target group. To make sure everyone is on the same page and understand the concept the same way, it's important to add elements that define and visualize the concept. In our case of a video, this meant a script and a storyboard. With this material, it's easier to communicate our concept to our coaches to receive feedback. During the process of creating the concept we have communicated our ideas and visions in brainstorm sessions, so we could clarify the concept.

After the ideating stage, the prototyping starts. The ideas are presented to target group and evaluated. After potentially adapting the ideas according to the feedback, the ideas are presented to the client.

The fifth stage is selection, in which the final design for the problem/goal will be proposed. In this stage pros and cons are being compared, and the design which suits best to the requirements will be implemented, which is the sixth stage. The design will now be developed and delivered to the client.

After delivering the product or design, there is the last but very important stage called learning. During this stage the process will be evaluated, and all involved will give feedback on both the process and the product. These points of improvements will be taken to the design process in the following projects.

2.2 Concept of the project

Our project has mainly been about making an entertaining 360 video for the Royal Conservatoire, which would show the way students experience their studies at the conservatoire. To make sure we created a video that tells a clear story and reaches our target group, we've written a concept.

A concept is a relative term, that might mean something different to everyone. To make sure we are all on the same page and understand the concept the same way, it's important to add elements that define the concept. In our case of a video, this means a script and a storyboard. With this material, it's easier to communicate our concept to our coaches to receive feedback. During the process of creating the concept we communicated our ideas and visions in brainstorm sessions, so we could clarify the concept.

Information about the storyboard can be found in the Appendix.

During the semester, we've created several concepts. The concepts for the departments of AP were bigger and more detailed concepts than the concept we created for the journalism experiment.

Royal Conservatoire

Our concept for the Royal Conservatoire was based on the emotions students go through during studying to become an artist. The 5 basic emotions we used are happiness, anger, fear, sadness and disgust. According to our findings, these are emotions all artists go through when becoming and growing as an artist.

Based on the start of this concept, we decided to divide the emotions in different chapters in the video, each emotion having its own chapter. We decided to start working on one emotion by creating a script, a storyboard, filming and editing. After finishing the first emotion, we

would repeat the cycle for the next one. In total, there would be five of these cycles to cover all the emotions. By working this way, we can easily divide tasks in filming, scripting and editing. This way we can switch around roles, and work more efficiently.

For our concept, we needed actors, dancers and musicians. Since the video would be about the journey of performers studying their passion, we decided we wanted actual conservatoire students to act, dance and play music in our video. This way, we can show how they're being taught in the Conservatoire. Although creative, we needed these students to act by a script to make sure our story would come across for the viewer. Actors act by script, musicians play music from the sheet and dancers learn to dance by choreography. This is what they learn in school, making it necessary to work with a detailed script, and a director to make sure the acting suits the storyboard. Of course, we were very aware of working with creative artists, so we decided to be open minded to their suggestions during filming. By being open for their input and flexible in our story, we created the opportunity to display the story of the conservatoire students.

For more information the storyboard for the Royal Conservatoire can be found in Appendix D, the script in Appendix E and the technical script in Appendix F.

Academy of Fine Arts

When we switched departments for filming our video, we decided to use the basic idea behind the concept we created for the Royal Conservatoire for the Academy of Fine Arts as well. This meant, we would focus on showing the academy in first person perspective, giving the viewer a chance to experience what it would be like to study at the Academy of Fine Arts. The Academy of Fine Arts guides its students through a journey of growing and exploring themselves as an artist and personal work. We want to show this freedom to the viewer, focusing on the story. The story should be open to be interpreted in the way the viewer feels like, not pushing the viewer in a certain direction of understanding how being an artist 'should be'.

Our concept therefore, is more open than the concept we created earlier for the Royal Conservatoire. We wanted this concept to be more open and natural in a way that the viewer understands being an artist is about expressing and exploring yourself in a way that suits you, and the Academy is there for you to guide you instead of to teach you how to be an artist by a set of guidelines.

We chose to still use emotions in our story, but in a less obvious and structured way. Emotions will be triggered by showing a story in a poetic way, leaving it open to be interpreted in any way the viewer feels to. It's about triggering the creative side of the viewer, not forcing any way of seeing art upon anyone. A written-out story script would not suit this concept, since it could give an idea of having boundaries to the viewer of how to be an artist and studying at the Academy of Fine Arts would be like.

The poetic story will be told in the video, combined with a painting on a canvas that visualizes the art and exploration the school encourages. Scenes in the academy will give strength to the words said in the poem, showing the creativity, exploration and expressions of development of the students.

For more information the plan and script for the Academy of Fine Arts can be found in Appendix G.

Journalism experiment

For our journalism experiment we created a concept defined by the requirements our sponsors gave us. We had to create a concept of an interview related to recent news, filmed from first and third person perspective. We had to film the same interview in different environments, so we had to make sure it was staged exactly the same each time. The duration of the interview was told to be around 1 minute. Our goal was to find out if 360 video would add anything

valuable to a journalism interview, and which way would feel the most comfortable for the viewer. We experimented with different variations of distance between the people and the camera, and the height of the camera.

Our concept was explained as a news interview, and to define the concept more clearly we created a script for the interview, about the local police removing the art from the graffiti area in Antwerp. Our script was worked out in detail, each sentence written down in chronological order. This way, we could be sure the interviews would be the same in both first and third perspective, or in a quiet environment and a noisy outdoor environment.

3. Goal

The goal of the report is to display our project done for European Project Semester at Artesis Plantijn Hogeschool in Antwerp, Belgium. The project carried on is about *Immersive Storytelling under the technology of VR-360°* (explained point 5) and has been developed during the second semester (February - June) 2018 by 7 students from different nationalities.

3.1 Reason for the project

The main reason for the report is the recognition of the work done, including the final result which is a 360° production. The importance of it of the project though, relays on the research and the application of the knowledge acquired. Our report communicates information which has been completed as a result of research and analysis of Virtual Reality in 360° applied to different fields. It is focused on transmitting the information mainly to the research group “Show & Tell!” which has followed-up our project as coach and sponsor.

3.2 Audience

We have mainly done the report for our coaches (“Show & Tell!” research group) and for the European Project Semester organization. Both parties are the ones in charge to evaluate the project and give feedback to the team. Also, we are open to share our report to further students of EPS or future users of VR in 360°. We expect the main audience to judge the quality and the worth of our work through the report.

4. Structure of the report

4.1 What awaits the reader

The reader will find in the report mainly the workflow and organization of the project, including some of the knowledge acquired by the team, also the results of the research will be explained. It is structured in a way that reflects the information finding process and the writing up of the findings: that is, summary of the contents, introduction or background, methods, results, discussion, conclusion and recommendations.

4.2 Delimitation

The report is delimited by the points given which remain in project flow and management. The content produced and additional information about the project is distributed in two main containers

1. A shared *Google Drive* in which meetings, reports, documentation, experiments, user testing, project plans, workshops and presentations can be found. Also, for more information about the topic it is possible to access a bunch of research ready-made at the beginning of the course in our folder ‘Research’.
2. An *HDD* placed in our main office with all the production 360 VR: experiments and shoots at the academy.
3. Information about our sponsors “*Show & Tell!*” can be found on their own [web-page](#).
4. *Github*: An accessible platform which contains the coding-programming part of the project.

5. Core

5.1 Vision

In 360 videos, there’s a complete new way of storytelling and immersion. The vision for our project was that there must be ways to improve storytelling in 360 videos. The current content of existing footage is quite boring, and our aim is to discover ways in which storytelling can immerse the viewer in the story, making 360 videos more interesting in multiple disciplines that use video as a medium to communicate either information or entertainment. A vision that there is a lot more to discover in 360 videos, is what got us exploring on the possibilities in this way of filming. This new technique is believed to have a lot of potential in different fields, but there needs to be a lot more research done to explore its possibilities. With our vision that its full potential is not being used yet, gave us a positive and curious attitude towards exploring filming and editing techniques. Our vision is to create interesting content that improves immersive storytelling in 360 videos.

5.2 Goal

For our project were set multiple flexible goals. One of our goal was to create a 360 video for the Conservatoire. The aim of the video was to give alumni, currents students, potential future students and anyone else interesting in dance, drama and music an idea of what studying at the Conservatoire is like. This meant that it’s not a promotional video to ‘convince’ students to study at the Conservatoire, but a video that can be used in different settings to give everyone the opportunity to see the journey of an artist through his eyes. By improving immersion in 360 videos, we can make the viewer experience what it’s like to be an artist. This video is intended to be inspirational, informative and entertaining and can be used in different contexts. These contexts could include events, such as an open day. Also, the video would be suitable to be posted in parts on social media.

Next to this intended end goal, our main tasks were to experiment and discover how to improve storytelling in 360 videos. The goal of these experiments was to explore the possibilities in 360 videos for multiple disciplines, for instance journalism. This meant that during this exploring way of working, the goal for our project could change as well. We worked on different experiments, trying to find out more about perspectives, and the way the viewer perceives a message differently by using either first or third person perspective. These

experiments influenced the way we created our story for our other goal, creating a video for AP Hogeschool.

So, during the project, the goal eventually did change. The last few weeks there had only been defined a clear end goal, where we focused on from then on. We started off with the goal to create a 360 video for the Royal Conservatoire, but due to some delays, problems with planning and troubles with finding actors for our concept, we had to change our project goal. Our plan B was filming a similar video with more or less the same goal for the Academy of Fine Arts. We kept the storyline we wrote for the Conservatoire, since this storyline partly resulted from our experiments, and the goal of the video was the same. The content and feeling would be different, but the experiments still formed a solid base for our video for the Academy of Fine Arts.

5.3 Intended results

As written in our chapter *1.2 Goal*, our intended result has changed during the project. We created our own storyline for the Conservatoire, and changed this to creating a 360 video for the Academy of Fine Arts. Although the goal changed, our intention to experiment has not changed. Working on creating a story, we tried to focus on experimenting along the way.

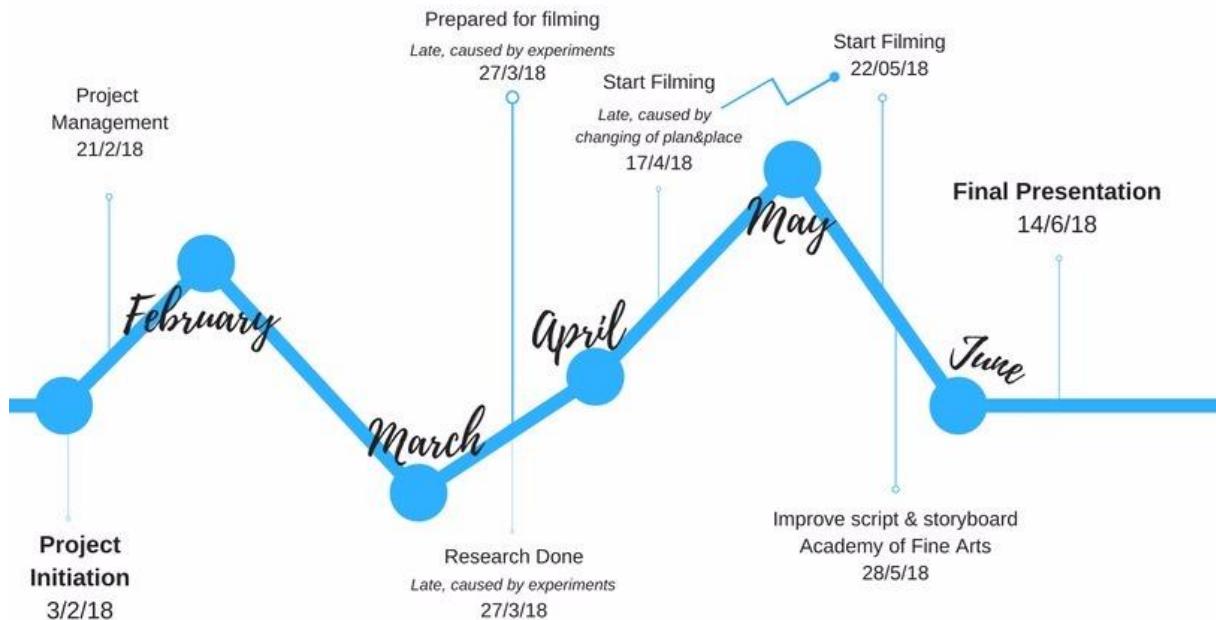
The actual end goal became to create an entertaining and artistic 360 video that gives the viewer an idea what it's like to study at the Academy of Fine Arts, focusing on immersion of the viewer and storytelling.

5.4 Working method

5.4.1 Milestones and intermediate results

During our project, we have worked with a planning to reach our goals. We've written milestones we wanted to achieve, and were requirements to continue working on other milestones, leading to ending our project successfully.

Due to some delays and change of goals for our project, our milestones has been adjusted as well. In the table our milestones are written down, including the changes we made and how we adjusted our planning.



5.4.2 Methods to achieve the results

To make sure we work in the most productive way, we created methods to work with for our project and tasks. This includes meetings, roles, communication and agreements.

Our way of working has been practical. We learned by setting up small experiments, trying and adjusting them while working. This taught us about the pros and cons in 360 videos along the way. This was a good way to explore and experiment, since it's hard to predict how certain styles of filming turn out. For doing experimental research, it's important to be flexible towards the way of working. Along the way, we discovered certain things weren't working and had to work with what the experiments gave us. This asked for a flexible and fast thinking mindset, giving us the possibility to be creative.

The variety between short term planning and practical experimenting worked well for our group, we all learned most by just trying and evaluating and adjusting to what the experiments handed us in the process.

Meetings:

On Mondays, we scheduled our meeting to start up the week. During this meeting, we took a look at our tasks and goals for the upcoming week and plan our days.

On Fridays, we ended our working week with evaluating the past week, and setting up a plan for upcoming week, which we discussed and finalized during our Monday meeting.

During these meetings, we had alternating roles. Each week we had another chairman, who would lead the meeting, and another note taker. Both of these tasks were important to keep the meetings going, and to make sure important details were written down. These meetings have helped us a lot with setting weekly goals for our project. We all had a clear idea of tasks to complete during the week and had an overview of how the project was progressing.

Communication:

We have been using different tools for communication. These had their own goal, for communicating different types of information. WhatsApp has been a major tool, communicating on where to meet, and quick comments that were important to keep in mind. Another tool we have been using is email, mostly to communicate with our coaches and sponsors.

Sharing our documents has been done by Google Drive. Our shared map included all notes of our meetings, documents for documentation, script and storylines, and our reports. We divided tasks for writing assignments and wrote our parts in the Drive document so everyone had a clear overview of completed tasks.

Location:

We had a set location to work on our project. Our room in campus Ellermanstraat had all the equipment we needed, for example 360 cameras, computers and tripods. This was the spot we would do our meetings, work on our documents, programming and editing. Our shooting location was first the Royal Conservatory of Antwerp, but when our project changed to shooting for the Academy of Fine Arts, this also became our new location. Since this school is very open and accessible, we worked from this location a lot more. We have done a lot of experimental shooting in the school, and came up with ideas while we were there. There was enough room for us to discuss our ideas, and since the surroundings and environment of the school were so inspiring, we chose to spend more time there and work from the Academy as much as possible.

5.4.3 Technical development and challenges

Before we even started any practical experiments, it was already evident that the whole process of producing 360° video content will lead to some major challenges. Therefore, we had to think of these possible problems in advance in order to develop tailored solutions.

First-person 360° videos

While shooting traditional videos from a first-person perspective is conceivably simple, doing so in a 360° context adds some challenges to the process. In classic filmmaking, you would just put the camera in front of the actor's face. In 360 however, this would result in having the back half of your video filled by a giant close-up shot of the actor's forehead. Any other camera placement would put the head at some other position close to the camera, which would still be a distraction.

3D spatial sound

Traditional surround sound technologies are already complex. However, shooting in 360° introduces an extra caveat to this situation. The viewer chooses the viewing perspective, which means that the sounds will eventually come from a different angle every time. This means that some of the sounds in the video actually have to be sampled in real-time in 3D space.

The difficulty with cuts

Fade-cuts and jump-cuts are widely used in traditional film. In 360° however, some of these cuts might result in different effects. Sudden changes of environments might cause disorientation and after frequent use even nausea. This is because in 360° there is no fixed reference point to relate to (unlike the space outside of the screen in traditional film). For this we have find a different way of working with cuts, which will be explained in the following chapters.

Nothing can be cropped out

Since the viewer can look in every direction, all unwanted objects, including lights, microphones, operators, and even the director, have to be hidden in the scene or in a different room. This is also why natural light is preferred for 360° videos.

Storyboarding in 360°

With spherical videos, it is hard to accurately draw the spherical scene onto a flat piece of paper. Therefore, we had to find new ways to draw storyboards for 360° videos. These included drawing top-down views, dividing the scene into quadrants and labelling each action with the corresponding quadrant, and even drawing the storyboards in virtual reality, using Google's "TiltBrush".

Special effects and editing in 360°

In order to save a spherical video to a traditional video format, a type of projection (mostly equirectangular) must be applied, which will turn the spherical video into a rectangular, very distorted video. In order to overlay special effects, or to compose other objects into a scene, the same equirectangular projection has to be applied to those. Therefore, we had to research how to achieve this effect for our content.

5.4.4 Information procurement

During the program, mainly during the first three months, we had a bunch of supportive courses that helped us improve the quality of the project.

1. *Team-Building* → Through some group interactivities it was possible for us to get to know each other, put in the table strengths and weaknesses from a multicultural team with different backgrounds and personalities.
2. *Project Management* → Once we got to know each other, both project management and entrepreneurship courses helped us to set short team goals and final goals, as well as an accurate project plan and workflow.
3. *Entrepreneurship* → Concretely, the entrepreneurship course helped us considering all internal and external factors affecting our project and bringing out talent as much as possible to make it profitable and effective.
4. *Cross Media communication* → Was one of the most effective courses in terms of project immediate application. Cross media communication helped us with having an accurate corporate image as a team. It unified our different inspirations and points of view for the project to define our final general image, our logo and our templates for presentations and other documents.
5. *English & Dutch* → Were basic courses to develop our communication skills and language capacity. English has been a parallel support for the project management and Dutch has been a general enrichment for our stay in Antwerp (us the international students)

5.4.5 Monitoring

Organisation

Monday- and Friday meetings:

For a successful project a good organization is needed. Therefor, we decided to have a meeting on Monday and Friday each week. On Monday we evaluated the work of the last week and discussed upcoming tasks. These tasks were divided between the group members to make sure that everyone contributes a part to the project and we gain success.

Taskboard:

The divided tasks were put on the taskboard. There everyone could see his or her task and till when they had to be finished. This structured our work and helped us to keep all the tasks in mind.

Documentation:

The documentation made sure that we keep all of our information and results safe. This made sure that we always could look up what we've been done so far and build on the achievements we already reached.

Brainstorm sessions:

Most of the time the best ideas come up spontaneous. That's why we did regular brainstorm sessions to create our story, find solutions or to improve our work.

Gathering information

Research:

To create a story that fits the Royal Conservatoire or the Academy of Fine Arts we had to do some research to get to know these buildings and their characteristics. Also, we had to get familiar with the technology we used and the opportunities it offers.

Workshops:

Creating a story for a 360° video is different from a usual one. There are many specifics to consider to produce an interesting and immersive video. Some members of the Show & Tell research group introduced us to the wide field of immersive storytelling in 360° videos using virtual reality by a workshop.

Meeting with coaches:

We met with our coaches periodically to discuss the results we already achieved, the tasks we still need to do and the quality of our work. In the meetings we got important input for the video, clarified questions and talked about things that needed to be changed.

Quality

User testing:

We planned to get constantly feedback for our work by user testing. We wanted to gain information about how to improve our video for our target groups and create a higher user satisfaction by being able to create a more immersive story.

Research and experiments:

By research we made sure to stay up to the latest information about 360° videos. To make sure we can carry out the project the way we wanted and solve upcoming problems, we had to do a lot of experiments.

Funding

For the project no budget was needed, because the sponsors provided all the equipment to carry out the project.

5.4.6 Deviations

Due to a lot of unforeseen circumstances, many setbacks have occurred. Listed here are the most important ones:

- We were unknowingly assigned the Journalism project right after finishing the project plan.

- We were given assignments like data cleaning, workshops on pre-selected days and Usertesting for the journalism project.
- The Conservatoire and its important contacts did not know about us and the main project.
- Other people who had access to the equipment borrowed without clear or any communication.
- Small time window for storytesting and shooting video footage.
- Insufficient experience to work on 2 separate projects in one semester.
- Unclear planning and role placements caused confusion and unwanted stress within the team.

5.4.6.1 Occurred problems

Following the list of setbacks we start off with the biggest setback of them all, which is the Journalism project. We started the semester off with writing a detailed project plan with exact dates and deadlines for the tasks we had set up for our main project. Soon after we finished this report we were assigned the journalism project. Because of this our initial deadlines were delayed indefinitely and our focus was no longer towards our main project.

During the time we spent on the journalism project, we had gained a real first time look at virtual reality and 360 degree filming and valuable technical research that was also used in our main project. After the Journalism project we had to create new deadlines and create a new planning for our main project. But this caused many time-related problems. We did not have the time to write a story we wanted to make with the 5 basic feelings. We had smaller time windows to shoot our footage and this had to be done during the exam weeks. On first contact with the Conservatoire, they did not know about us or our main project which caused more delays. Students were unavailable and most rooms and spaces we needed to shoot in were booked and/or unavailable. The equipment that we were provided was also being used by people that had access to these items, but most times we were not informed which caused more delays. These delays caused uncertainties and lots of frustration in the group. During the journalism project the role placement was very difficult, because it contained a lot of technical tasks. Some of us could not really fit into a role with their backgrounds. This would build up to a point where students lost significant interest in the Journalism Project and some bad friction between students happened.

At the time of writing this report we still are not done with our main project.

5.4.6.2 Controlled termination

After our individual reflection report the teachers decided to move us away from the Journalism Project, but still have one of us be a contact person for providing them with our technical research. Because of this we could shift our focus back on our main project.

We had to cut down on our untested story to one feeling, which was Fear. This would've fitted in our schedule if everything else had proceeded without problems.

Without booking the rooms we needed ahead of time, we were limited to 3 days of shooting footage in the Conservatoire.

We could arrange some dance students from the Conservatoire, but this was not nearly enough for our script as we also needed actors and singers.

This unfortunate setback forced us to switch to our backup plan, The Academy of Fine Arts.

5.4.6.3 Backup plan

This backup plan was suggested by our teacher Kristoff where he is active as a teacher.

The Academy of Fine Arts is a great alternative to the Conservatoire as it is filled with different forms of arts like paintings, sculptures, exhibitions, live performances and more. It does not matter how many times you visit this school, there is always something new and interesting to see. For our approach with the story to the Academy we are reusing technical elements from our previous story and we are rewriting the story to one that fits more with the art mind of the Academy.

6. Project results

6.1 Results

The Academy of Fine Arts is a school guiding student artists through their lives as artists. Students on this school are not being trained by experienced people to perform a specific profession in arts. For becoming an artist, it is about digging into yourself, going through certain experiences, becoming conscious in different ways than rational thinking. Making art is all but rational and it is different for each artist. This school can thus only encourage and guide the students through their personal work.

This is also what we want to focus on. Not on the rational way of living and not about putting one experience into one way of telling a story, but to completely let go of any boundaries we might come across for both ourselves and the observers. With this we hope to achieve to create a story which is going to be interpret by everyone differently, directly playing onto the observers personal life experiences. To do this we are made a poetical story fitting for a growing artist.

The project team delivered an immersive video which consists out of eleven different shoots. We named the video “Sparks.”

In the video the viewer can explore the Academy of Fine Arts, its study paths and A detailed explanation for every scene you can find in the Appendix H- Explanation. Furthermore, out of the result for the VR glasses we created a second version for YouTube. The link can be found on GitHub (see Appendix I - Coding).

To bring all scenes together into one story we used audio recordings of the story Ski De Keersmaecker wrote and different places at the Academy of Fine Arts. They combine the scenes to a whole story with some room for personal interpreting. Without the audio recording the video would have consisted only out of different short clips.

6.2 Journalism experiments

From February to April, the team's main focus was, as mentioned, on research for 360 and VR. Part of the research consisted on performing experiments for filming the videos. Experiments were focused on perspective and height, which are two of the main challenges when filming in 360-VR. The coaches (Research Group *Show&Tell*) suggested the experiments in the journalism field so the team set up an interview and a set for filming with different variations for perspective (1st and 3rd person) and height. As expected, some challenges came up during the experiments.

- *Height experiment* put on the table the challenge of achieving a real experience for VR. Depending on the height, the viewer can feel more or less immersed in the story told (interview filmed). To achieve realism, experiments needed user-testing before

being filmed. After some user testing the decision was made: filming at eye height was the most suitable and realistic form.

Perspective experiment had also the challenge of finding the most suitable perspective which didn't differ from reality. 1st and 3rd person where two possibilities of filming the interview. 1st person was a big hurdle and needed different inputs from the group to deal with it: after effects to deal with motion sickness and the production of a filming helmet ('Helmet, next point'). Also, perspective experiment gave us the possibility to explore different ways of storytelling.

6.3 Helmet

We have Designed and constructed a 3D helmet that allows us to attach 2 cameras to it, one in the front of the face and one in the back. This design allows us to shoot 360° videos in first person view. This was originally built for the Journalism Project, but we only finished the helmet after we got withdrawn from the Journalism Project and are now using it for the Academy of Fine Arts.

By using the helmet and recording in first person mode, it really makes you feel like you are the person the helmet is placed on. As the head of the person in between the two cameras is not filmed, it doesn't show the head but only the body and all the limbs.

The helmet is also adjustable for different head sizes and the cameras can be adjusted in height and distance from the head as well.

For more information please take a look at Appendix L – Helmet.

6.4 Royal Conservatoire

This film production was an original goal of our project. It was planned out very thoroughly and therefore resulted in a rather complex story with plenty of details. The storyline and resulting technical development challenges will be explained in the next sections.

6.4.1 Technical part

First person

As mentioned before, the 3D printed helmet is used to achieve a compelling first person experience. This requires the actor to move and turn slowly however, because the high parallax between the two cameras creates a visible stitching mark, which makes stabilisation of the video difficult.

Mirror view

This is considerably the biggest technological challenge in this script, in part because this type of interaction is to our knowledge unprecedented in 360° video productions. Since the viewer's head movement is unpredictable, this shot cannot be done using video files. Instead, we had to take photos of the main character with every possible head position (we decided on only allowing rotation on the x- and y- axes).

The test scene we set up for this contained more than a hundred photos, taken in front of a green screen. We developed a batch action for Photoshop, which automatically removed the green background, adjusted the lighting, and added fake shadows. Then, a script was created in Unity to show the picture corresponding to the current rotation of the head in real-time.

This picture is then overlaid over the original scene, by using a virtual camera, which renders its view to the Unity skybox.

Nightmare switch

The nightmare switches are planned to happen with an adaptive timing. This means that they would not always trigger at the exact same time, but rather when the viewer is looking at specific subjects (eg the dancers). This requires us to shoot the exact same scene twice, but once normally and once in nightmare state. If the movement of the actor is the same in both scenes, we can switch between them at any point. The rest of the nightmare effect is just color correction and other special effects, for instance distortion.

Disorienting cuts

In order to avoid discomforting cuts in the scene, we planned it to look like a one-shot scene. There would only be a few cuts, which would be invisible to the viewer. As an example, we planned a short light flicker happening in the elevator, during which a quick cut could take place.

The only visible cuts would be the nightmare states, but since those show the same room in the same position, just with different colours and characters, they would not be discomforting either. Furthermore, jumping back and forth between nightmare and normal also creates an opportunity to cut scenes in between, making it easier for us to shoot the separate parts.

Music

The music playing in the corridor was planned to be the same piece of music twice, played in two different ways. In the normal state it is a happy and comforting tune, while in nightmare state it is the same melody, but off-tune and with a disturbing touch to it. This music is supposed to be provided by actual students of the Conservatoire, which adds to the value of the whole project.

6.4.2 Creative part

In essence, this story is meant to be a journey through the building of the conservatoire, but at the same time also a journey into the mind of an artist. This journey highlights the different emotions one can encounter on the way to becoming a great artist. We focused our storyline on the basic human emotions, spotlighting one of them per scene. However, we intentionally refrained from creating a whole scene for happiness, for three reasons:

- Any dramatic story starts from a happiness standpoint, before problems appear.
- We wanted a powerful ending instead of the typical happy ending.
- Happiness is often forced in our current society, other emotions are seen as inhuman or bad, we want viewers to embrace these emotions as normal, and accept them to overcome them.

The journey is meant to be shown as some form of daydream in a young artist's mind. The daydream will create a frame for the whole story, and the contained scenes are supposed to be modular. This means that each scene will spotlight one emotion and work as a small story on its own.

We took one of these modules, the story about fear, and worked it out in detail. We wrote a detailed script for the whole fear scene and drew storyboards for the 360° video setup. The other scenes for the different basic emotions are only roughly conceptualised but can still be adapted if needed.

Story-frame

The overarching story, which encompasses the fear scene amongst others, puts the viewer in the perspective of the artist walking through the city streets. The viewer will encounter other people on the street, who will reject him/her, because they are so different from one another. The people on the street are displayed as boring and gray. They are offended and disgusted by the artist's colourful and different style. The artist will keep on walking through the gray and dull city streets, until the Conservatoire appears in bright colours.

This is where the artist starts to daydream about his/her life as a student of the Conservatoire. Therefore, the scene will fade over to the beginning of the actual fear scene. The following section contains excerpts from the storyboard and script of this scene.

Rooftop

The scene starts on the rooftop of the Conservatoire. The artist is smoking a cigarette, seemingly nervous, breathing shakily. (There was an alternate version planned, in which the artist would hold a crumpled-up piece of paper, showing some lines for a rehearsal.) After giving the viewer some time to look over the city from the rooftop, the artist will start walking into the practice hall through big glass doors.

Practice hall

The practice hall is a big, bright room with parquet floor. One side of the hall is a giant mirror. The protagonist walks into the hall and stands in front of the mirror. This starts an interactive scene, where the mirror image will actually follow the head movements of the viewer. This is meant to increase the mental connection between the viewer and the artist character.

After some time, the viewer will hear a noise coming from the entrance door of the hall.

Nightmares

The entrance door opens and a few dancers walk out and pass the artist, while he/she starts walking towards this door. When the viewer looks at the dancers passing them, this will trigger a sudden change of the environment. The whole scene suddenly turns into a dark, twisted version of itself, where the dancers wear creepy makeup and walk weirdly, staring intensely at the viewer. The curtains in front of the mirrors are drawn and the whole scene is tinted in a dull grey-blue tone.

This is the first of multiple switches to the so-called “Nightmare state”. This first time, the switch will only be visible for about one third of a second, before going back to normal. The artist continues to walk out the entrance door.

Waiting room

Behind this door is a small waiting room, with a few people present. These are just sitting around, chatting with each other and minding their own business. One person in a corner is playing an instrument.

At this point, the second nightmare switch happens, this time for about one second. This gives the viewer time to actually see the faces of the people turned towards him, giving a discomforting feeling of unwanted attention.

Elevator

The actor enters the elevator, where three characters are present, representing the three departments of the Conservatoire. A dancer, who is stretching their legs, an actor who is rehearsing a script and even interacting with the viewer, and a drummer, who is slamming his drumsticks against the walls and handles.

Horror corridor

The artist leaves the elevator and walks into a corridor with a red carpet, leading up to the stage area. There are many people sitting and standing in the corridor. A happy tune is playing in the background.

While walking down the corridor, multiple nightmare switches happen, each longer than the last one. When in nightmare state, the music sounds twisted and the harmony is distorted to sound creepy. People are still staring at the main character.

Calming down

When reaching the stage entrance, the artist will stop and take a deep breath. This is really emphasized to show that he/she is trying to cope with the fear. While slowly breathing out, the nightmarish look slowly fades away too, and everything turns back to normal. This signals that the artist has overcome the fear. The scene closes with the artist confidently walking through the stage door. However, the viewer stays in place, which means that the camera perspective shifts to a third person, because the artist walks forward, while the camera stays behind.

Other emotions

At this part, other scenes of different emotions could be attached to follow up. One concept we thought of was a scene of a live performance, where the artist fails on stage, and expresses anger or sadness as a result. After showing scenes for the other emotions, the daydream will end and the view will return to the artist standing outside of the Conservatoire. The final shot will show the artist confidently walking through the doors, to go inside. This suggests that even though the artist imagined some of these quite negative situations, he/she is still willing to take these risks in order to become someone great.

6.5 Royal Academy of Fine Arts

6.5.1 Technical part

For many recordings with the 360° camera we had to find a way to capture the events as best as possible. Some of these techniques are:

- hanging the 360° camera from the ceiling in the middle of the room.
- protecting the camera with a plastic see-through case to take shots in dangerous situations. (like paint, welding, grinding, dust, etc)
- using the first person helmet camera rig to shoot first person footage.
- shooting different angles on different heights on tripods.
- limited to 2 hours of RAW recordings or using the power adapter connected to the camera whilst recording.
- stitching top-down body views (neck, shoulders and arms) into tripod-taken shots, to remove the tripod from the shot and increase immersion by adding a body.
- overlay 360° footage with regular zoomed photos to increase the quality and resolution of specific parts of the scene.
- re-using our mirror scene and stitch in a mannequin in the mirror for the movements of the head that tracks the head.

We were lucky to have some direct connection to the Academy of Fine Arts through our teachers, because this made it easier for us to shoot footage and borrow equipment from the school itself.

6.5.2 Creative part

One of the ways of putting in practice the research results was producing a video in 360°. The idea, since the beginning, was working in the field of art. Art is a form in which 360° can be displayed in a creative way using storytelling, therefore, it was the field chosen since the beginning. After different changes with the final production location, as explained in the report, the team decided to write a script for the Academy of Fine Arts in Antwerp.

The Academy of Fine Arts is a school guiding student through their lives as artists. Students on this school are not being trained by experienced people to perform a specific profession in arts. For becoming an artist, it is about digging into yourself, going through certain experiences, becoming conscious in different ways than rational thinking. Making art is all but rational and it is different for each artist. This school can thus only encourage and guide the students through their personal work.

This is what the script has focused on: not on the rational way of living and not about putting one experience into one way of telling a story, but to completely let go of any boundaries we might come across for both ourselves and the observers. With this we have achieved to create a story which is going to be interpret by everyone differently, directly playing onto the observer's personal life experiences. To do this we have made a poetical story fitting for a growing artist.

The poetical story is about self-recognition related to the journey of an artist in the Academy, a place where the artist experiments ups and downs and all types of feelings. "We were once the fuel that would cause explosions. We once cracked from the heat. Even our skin glowed yellow bright. Now we are grey, vaguely forgotten shapes.". The script presents feelings and reflections in a metaphoric and visual way which accompaings the video through a voice in off.

The video has different sequences that combine with mainly three different parts: painting on canvas, scenes in the academy in between and a poetical story being told. The visuals play with different perspectives, layouts and technical after effects to maximize the experience on VR. It is an immersive experience through the eyes of a young artist.

6.6 Marketing

A portable immersion station as possibility to raise publicity and increase the number of applications for the Academy of Fine Arts.

6.6.1 General goal

Advertising the range of studies:

The Academy of Fine Arts Antwerp offers a wide range of studies for its students. If pupils, school-leavers and students get introduced to it at the earliest time this might raise interest in the studies as prospect after school. Further, they can start to prepare themselves earlier and better because they know what they want to apply for. Besides, introducing potential students the earliest time possible generates interest and curiosity for art and creative work as well as it

influences the selection of special subjects in school. By advertising the range of studies possibly more students with high potential will apply at the Academy of Fine Arts.

Raise publicity:

If more pupils, school-leaver and students know the Academy of Fine Arts the number of applications will rise. With more highly talented students the creative level and talent in each course will increase. This provides an opportunity to train more students which will be well known for their work after they graduated. A raised publicity causes an increased interest among potential new students to apply at the Academy of Fine Arts. The number of applications will step up as well as the interest of established teachers to become a part of the academic staff.

Dissociation from competitors:

If a better dissociation from competing universities and academies is possible it becomes easier to recognize the Academy of Fine Arts for its unique selling propositions (USP) a wide range. Through evolving and specifying the USPs a higher recognition value among other universities and academies with a similar range of studies is given. As result the application process will be influenced. The Academy will be chosen for its USPs and will receive more applications of students that fit in the wanted candidate profile.

6.6.2 Target group and goals

primarily target group

- Pupils
 - o Final year (grammar school)
 - o Year 11 (grammar school)
 - o Year 9 to 10 (grammar school)
 - o Year 7 to 9 (grammar school)
 - o Local, regional, national, international

secondarily target group

- Teacher
- Parents
- General public
- Media
- Research founding
- Companies
- Political institutions
- Foundations
- Sponsors

Different goals for the target groups

Goals year 7 till 8

- Raising the publicity of the Academy of Fine Arts
- Draw interest in terms of art and creative work

Goals year 9 till 10

- Raising the publicity of the Academy of Fine Arts

- Showing professionals fields and prospects after the studies

Goal year 11 till 12

- Raising the publicity of the Academy of Fine Arts
- Choosing to apply for studies at the Academy

(recent graduated) Students

- Raising the publicity of the Academy of Fine Arts
- Choosing to apply for studies at the Academy

Media and general public

- Raising the publicity of the Academy of Fine Arts
- Dissociation from competitors
- Highlight the USPs

6.6.3 Positioning and message

Approach

The Academy of Fine Arts offers a challenging environment that wears many hats for people who want a very individual and personal education. It has many noteworthy alumni. The broad spectrum of courses in applied and fine arts and design attracts also a great number of international students. In the global fashion school rankings 2017 the Academy of Fine Arts achieved the 4th place for graduate fashion students with an amount of 85% international students. For undergraduate students it even achieved the 3rd place with an amount of 83% international students.⁴

Positioning

The Academy of Fine Arts offers a challenging environment for extraordinarily talented national and international students that want to gain a very international and personal education.

Message

The Academy of Fine Arts offers a unique and extraordinary good education for unique and extraordinarily talented students.

6.6.4 Detailed objectives

- Expansion of a positive image
- Boost identification of members of the Academy of Fine Arts with it and its goals
- Clear distinction from other universities or academies offering a similar range of studies
- Potentiation of internationalization
- Expansion of interdisciplinarity
- Upgrading virtuality
- Rise number of applications

⁴ Source: <http://www.businessoffashion.com> (31.05.2018, 12:32)

6.6.5 Achievement of objectives

<i>Who</i>	<i>Pupils and students</i>	<i>Media and general public</i>
<i>What</i>	<ul style="list-style-type: none"> - Raising publicity - International visibility - Visibility on the internet (via Facebook, website, ...) - Attract students with high creative potential to apply - Establish as optimal and best choice possible to apply for 	<ul style="list-style-type: none"> - More dominant visibility in the media - Higher visibility for potential students - Staging Academy of Fine Arts as innovative, unique and extraordinary place for education for enormously talented students - Create a higher memorability
<i>How</i>	<ul style="list-style-type: none"> - Open house or exhibition (at fairs) with immersive video to promote the Academy of Fine Arts 	

How can it look like and how does it work?

The goal of the open house or exhibition event is to enable a combination of receiving information and an immersive experience about the Academy of Fine Arts at the same time. This means to explore the Academy of Fine Arts in a virtual way which can be faced individually. The concept of the immersive video was developed very freely and artistical, to keep and unique, multi-faceted and non-staged impression for every viewer what it means to study at the Academy.

The video can be implemented in the program of the stand and should be announced. This attracts more potential visitors and a higher attention towards it through the media.

The immersive video can be implemented in every kind of exhibition or open house event, where a few factors are observed:

- The used equipment needs to be built up in a non-crowded part of the stand to not distract the trackers of the VR headset
- Constant energy supply is needed for the computer, the VR headset and the trackers
- The video experience has to be maintained the whole time
- After use the equipment has to be kept safe to avoid any theft or damage
- If only one VR headset is available the video can only be experienced by one viewer at a time through the glasses
- If other interested parties want to experience the video they have to leave space around the VR headset to not distract the trackers while waiting
- Interested parties can usually follow the eyes of the viewer with the VR glasses on the monitor of the used PC

The station for the immersive video can be placed on various parts of the stand. For the position the named factors above should be kept in mind. The following image gives some opportunities to place it the best and safest way possible:

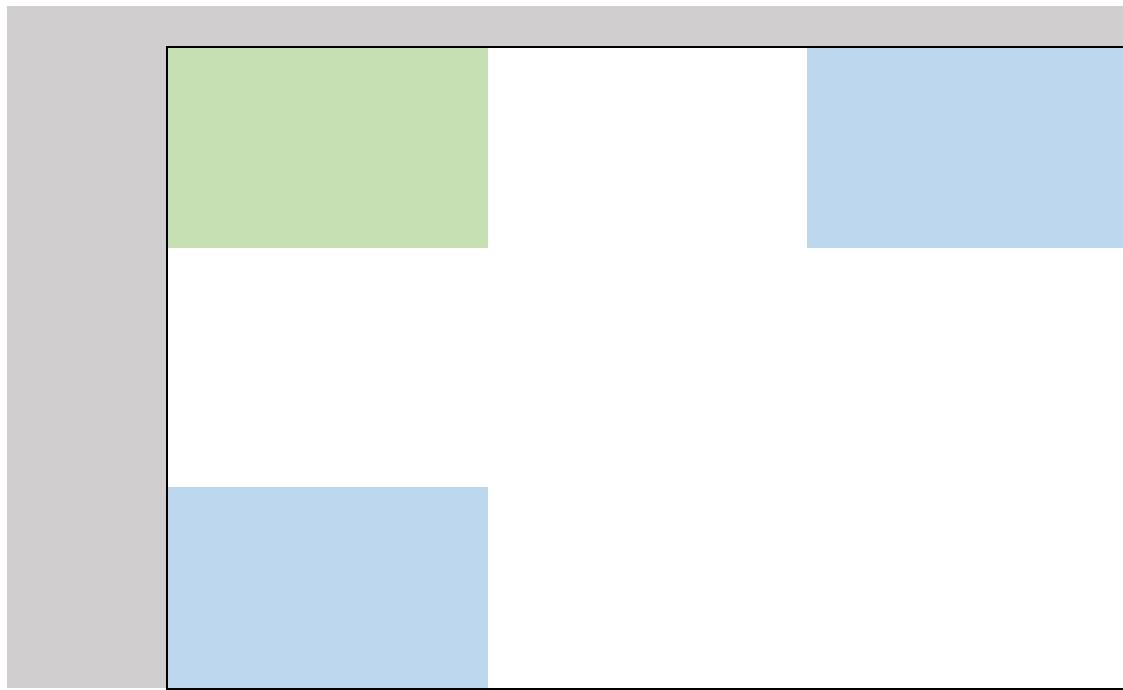
Colour scheme:



AP Hogeschool stand



possible side panels



best position to place the VR equipment

other possible positions to place the VR equipment

6.6.6 Smart goals

Depending on the numbers of the last exhibition and open house events following results can be achieved by including the immersive video in the events:

Students and pupils

- Attending visitors: up to 10% more
- Generated applications: up to 5% more

Media and general public

- Generated attention within the range of 10% more than other events without the VR station
- Attending visitors: up to 15% more

6.6.7 Resources

The resources for the events can be provided by different parts of AP.

European Project Semester team “Story”

- Production of the immersive video
- Instruction how to handle it

Show & Tell research group

- Equipment for the VR headset
- Maintaining the video and the equipment
- Setting up the VR station

6.6.8 Time schedule

When	What	additional information
As soon as possible, at least 4 weeks before the upcoming event	Contact "Show & Tell" research group	Ask for equipment and support for the event (e.g. building and setting up the equipment, looking after the video experience, instructions)
Day before the event	Picking up the equipment and transportation to the event	
Day before the event or morning of the event	Building and setting up the equipment, test video, dispose possible problems	
Day of the event	Use video and VR station during the fair, exhibition, open house, ...	
After the event/ during the night if it is needed more than one day	Cutback of the equipment, safekeeping during the night and while no one is at the stand	
After the event	Transport equipment back to the "Show& Tell" research group	

6.7 Immersion guide

6.7.1 What does disturb immersion?

Many factors can disturb the immersion of a video and impede the feeling of being present. We listed some examples:

- if you feel way to big or way to small
- if there are sudden cuts and it's getting obvious that you're in a video
- if visual effects look unrealistic
- if the video is not stable
- if you're too far away or too close from the centre of action
- if it's too dark or too bright

6.7.2 What makes a video immersive?

Specifics about 360° videos in VR

Field of vision

Shooting videos in 360° is not like shooting regular videos. Because it is 360° everything will be in the view of the camera and therefore, in the shot. Every part of the surrounding and the equipment as well as the filming team can be seen by the camera if they're not hidden while recording. If you don't want to see anything of the equipment, the team or anything else that does not fit into the story make sure it is not placed in the view of the camera. The 360° view limits the shooting in this way, but it makes room to explore the great freedom for creativity that comes along with this style of filming.

Camera location

The placement of the camera is important to the story. Therefor, you need to consider which role the person, that is wearing the VR headset, will take in the story. Is it participating or only observing? Also, there is a difference in perspective from which the viewer sees the movie. In first person perspective the viewer plays the main part in the video, when the surroundings focus and move around the person in this perspective. When the viewer is placed in third person perspective, it's part of the surroundings and not the main character. This leaves more room and freedom to explore the story evolving around, but might be experienced as less immersive since the viewer does not play an active role in the story. Shall it be imparted by any emotion? To achieve different feelings and ways of viewing, the camera can be placed in many ways. For birds view it can be hung up on the ceiling or placed on the ground for worms view. It can also be placed on eye height and many other positions. There is great room to explore the different options that can fit the story please the viewer. The different perspectives regarding to height have a lot of influence on how the viewer experiences the video. Frog's perspective makes the viewer feel smaller, looking up to its surroundings. This might enhance the feeling of a scary and threatening environment.

In every case the camera should be placed in the centre of activity, to make sure to record an attracting environment out of the perspective of the viewer. It is good to know, that things and people, which are closer to the camera seem more important than what is further away and attracts the interest of the viewer more.

Camera movement

The camera movement is limited and any kind of movement needs to be calculated. There is always the possibility to make the viewer motion sick if it is too fast, unstable or if too much movement is used. This also affects the perception and the awareness of the story in the video. In order to place action in the video other elements such as light, spatial audio or movement in the surrounding can be placed to attract the viewers' attention and guide him/her in the video. While developing our concept we developed a helmet which enabled us to film in 1st person. Therefore, it was especially important to reduce the speed of movement, make the video stable and guide the viewer's attention in a more dominant way. Most of the time we filmed out of a 3rd person perspective.

6.7.3 What to focus on?

Audio

Audio is an important part of developing an immersive experience. Spatial audio helps to create a realistic experience 360°. This type of audio changes with the direction the viewer is looking towards. For example, the sound of music from the piano in front of the viewer should change if the viewer decided to look to the right. The sound of the music should now come from the

left, so it improves getting used and familiar with the surroundings. By creating audio that will be perceived as realistic as possible, immersion is improved. Even if the sounds being heard are not realistic, the way it reached the viewer should be as close to the way sounds are being received naturally as possible. This way it helps the viewer to believe it's real. These natural senses should be a starting point when creating audio.

Location

Chose a setting that fits in the story and attracts the viewer. You can play with heights or different views, but if the location does not fit the story the immersion will be less.

Script/screenplay

It is easier to film if it is clear what needs to filmed and where. Therefore, a screenplay and a script should be written before the shooting starts. Improvising does not always go wrong, but a better result can be achieved, if the filming is planned the best way possible. The script contains all needed information about the settings, needed props and actors and noises that need to be recorded. Sticking to the plan is also time-effective and makes sure that no shot will be forgotten to film.

Stabilisation

Stabilisation is one of the most important things to keep in mind to create an immersive video. If the video is not stable most of the views get motion sick very fast. It is much easier to get immersed by a stable video, because the viewer can concentrate much better on the content and the attracting surrounding.

Editing

Mind the time that the editing takes. Even if it seems that there is not much to do, it always takes longer than expected. The stitching and rendering of the videos takes a lot of time. Automatically stitching usually works, but not in all cases. For the helmet we developed, the videos had to be stitched in a different way to achieve good results. Also programming and adding after effects in the video need time to be done well and to create a stunning result.

Distance

Another thing to keep in mind is distance between the camera and objects and people around. The viewer will see the environment from this position, so the camera should be seen as a person when setting up the environment. Placing objects or people in the environment of the video too close to the camera will cause distortion. People standing too close will make the viewer feel uncomfortable. Naturally, the viewer will want to step back, but since the video is filmed from a fixed position, this will not change the perspective of the viewer, and therefore object or people being too close won't move away.

6.7.4 Tips for execution

Take your time

To tell a story in the most immersive way possible some time is needed. The viewer has to find orientation in the video and needs time to understand where he is and what is going on. The story should be told detailed to increase the feeling of being present.

Soft cuts

To tell a story fluent and without interruptions soft cuts are required. They give the viewer some time to face the changing surrounding and stick to the story. Hard cuts should be avoided in most cases. Especially when it comes to enter other rooms, places of environments in general, it's important to keep these cuts as realistic as possible. It's obvious that sudden changes from location are not real, and each hard cut in changing environment will remind the viewer of the video not being real.

Guide the viewer

Sound and movement can guide the viewer's attention. It is important that the viewer gets all important parts of a story and to not miss single parts of it and get confused. Sound, light and movement can guide the viewer's attraction and keep him triggered to the story. When the viewer is looking in a certain direction, sounds from other directions can trigger the viewer to look in that direction. This way you can guide the viewer towards other parts in your video. It's a great way to avoid the viewer from roaming around without a goal, which might cause the viewer to miss the core of the video.

7. Conclusion

7.1 Difficulties and opportunities

We encountered a number of difficulties along the way. Some of them hindered our progress, but some of them also helped us out in the long run.

First, we had to get familiar with the process of filming and editing a 360° video. This was a problem in the beginning, but it was good that we tackled this problem first so we didn't struggle too much when filming the final video. We learned to be organised with our data and SD-cards, how to synchronise multiple cameras and how to edit the footage. Another small problem related to this is that we needed some software to stitch the videos together to create a full 360° view, but we didn't get the license for this software in time, so we had to look for alternatives. Our coaches wanted us to do some user testing on an interview in 360°. We had to experiment with a first person and a third person view. We first had to do a lot of experiments ourselves because some of us were unfamiliar with the technology, then we had to write a script for the video and film it, and then we had to conduct user testing with questionnaires. We thought this was a good introduction to our project, but we later realized that this would take up way too much time, especially in combination with the courses we had during the first couple of weeks. That's why we together with our coaches we decided to quit this research experiment early to focus on the storytelling part. Looking back, it might have been better to make this decision a little earlier.

The other big problem was the co-operation with the Royal Conservatoire of Antwerp. We wanted to film our video in that location at first. However, when we tried contacting some people who are responsible there, almost none of them replied, and the few that did had never heard of our project before. We don't know how the project was created without notifying the Royal Conservatoire of Antwerp, since the final product was supposed to be for them to use. We suspect there was a large miscommunication somewhere that we ourselves couldn't do much about. If we were to continue in the Royal Conservatoire it would take way too much time to reorganize everything, so we decided to move our project to the Academy of Fine Arts.

7.2 Success

The success of our project is that in the end, we were able to create an immersive 360° video despite the many challenges along the way. We were able to pour a lot of creative energy into

this project and are relatively happy with the result. We are curious to see how the public reacts to it.

Another big success is that some of us had no experience with the technology, and now have a nice basic understanding on how to create a stunning 360° video. We all got some insight in the different study fields of all team members, which is what an interdisciplinary project is all about. The way we were able to quickly adapt our schedule and working method to the many problems is also a great preparation for future project work. We definitely found out that working on a large-scale project is not always easy, and more importantly, we learned how to deal with it.

Not only did we deliver a final video, but all of the results from our experiments will be carried on to future students and professionals who want to work with 360° video. One of the main things we discovered is a way to easily make videos in a first person perspective. People in the future don't have to reinvent this technique so it will save them a lot of time. We can also pass on information on ideal camera heights and distances, results of our user testing and so on.

7.3 Project organization

We worked in a very organized way for the majority of the project. We tried to hold a meeting on Monday and on Friday whenever possible. In the meeting on Monday we decide what we are going to do on each day of the upcoming week. We learned that it is very practical to write down the different tasks on Post-It notes and assign them to different members of our team. This way we all have a clear overview of what we have to do and we can make sure that everyone actually executes their tasks. On the Friday meeting we discuss the results from that week and make decisions when necessary.

As the project progressed we also tried to divide the team to do different tasks. Part of the team would work on the story for example, while the other part worked on programming or filming. This was not always easy, as all members of our team wanted to contribute to the story and have a creative influence on the project. However, not all of us have experience in programming.

We also made clear deadlines for each part. It wasn't easy to follow these deadlines because there were some sudden changes in our project. Luckily we could quickly adapt our schedule and we left enough slack time at the end so we could still deliver on time. However, because of these sudden changes we couldn't follow the project plan as we originally designed it.

7.4 Measuring

Our result is all about feeling and emotion. Since this is subjective, it is very hard to test a user's reaction with traditional measuring methods. We did measure some objective data, for example whether or not the user was able to identify if the video was shot in first person or third person. We experimented a lot with different camera heights and distances to make a very educated guess on which perspective was the best one to use in our video. We also played around with the idea of guiding the viewer's attention towards different directions, since you can look all around you in a 360° video.

We have shown our storyboards to a few of our coaches and experts in the field and asked their opinion. This was to make sure that our storyboard reflected a realistic view of the Royal Conservatoire and also to get some suggestions from people that are more familiar with the subject.

8. Suggestions and recommendations

8.1 Project results and/or follow-up project

Here are some suggestion from us for follow-up projects, since these were some points that were a big help or big obstacles for us:

1. Experience: Although we had a few persons in the team that already had some experience working with 360° in VR, we lacked experience regarding the creativity around this technology to increase immersion. Only too late we went to the Academy and started recording every idea that came up at the moment. By improvising here, we created the freedom to try anything and out of which we came up with some ideas for the story that we would not have had if we'd only plan the story. What we suggest is that before starting to think about and work out the story, go out and get experience to create ideas that could then be used to enhance immersion for future stories.
2. Raise Awareness of your project: One of the biggest reasons that we could not continue with the Conservatoire story, is that they were not aware of our project in time which made arrangements only half effective. A lot of the project had to be cut off to such an amount that we decided not to continue anymore. Therefore when a project is being worked out, make sure that every stakeholder and possible participants are well aware of the project in time. This cannot be too early, but it can really be too late. This counts for all the people involved in the project to raise experience (sponsors, coaches, team, ...).
3. Use physical object to keeping everything in sight: What helped us really was that we wrote a lot down on paper (planning of the week, script, drawings, ...) and put it on the wall. This made sure that we would always have a clear sight on the work going on, keeping up awareness of the project planning and progress and this for the whole project team as for the sponsors visiting. In small moments in between, some of us would then randomly look at those papers and come up with sudden ideas. This would be achieved a lot harder when everything was being made on computer. Put your creative project work in clear sight. This really helps with building upon previous ideas.
4. Keep a clean workspace: This goes hand in hand with previous suggestion. Apart from the creative work put up on the walls, there is also a lot of planning and documentation that needs to be put on a computer or online, since this does not has to be in clear sight but has to be accessible whenever necessary. Keeping everything neatly ordered in one place (we used google drive for this), it was really easy to jump back to certain information we needed. If we were not to keep a clean workspace, we would have lost a lot of time searching and recreating data and information.
5. Meetings: According our project, we adopted a way of working so that we could neatly continue with the project, making sure everyone is well aware of the stage and the progress of the project, as well as what has to be done and by who. For achieving this we organized to meetings every week: one on Friday afternoon where we would assess the work of the previous week and write down the task for the following week, and then on Monday morning where we would then look at the Friday meeting notes and plan the week. Doing this every week helped us keeping a clear overview and actually saving time.
6. Stay open minded for changes: In our project a lot of big changes were made, which from time to time was really frustrating, since a lot of work and plans had to be adjusted or even cut down. Always keep in mind that changes will come and even might be necessary. Building a project that cannot rotate and adjust, will create a lot of resistance and could end in a bad or incomplete result.
7. Use knowledge and database: We have gathered and created a lot of valuable knowledges with this project. But also we have had help from other sources of

information. This helps getting a step ahead much faster than started from the bottom all over again. Our google drive, this report and on the github page, there is a lot valuable information regarding filming, scripting, creativity, organizing and coding which could be used for further projects. As part of this project report, all the code that was developed for this project is stored and documented on the next page: https://github.com/ImmersiveStorytelling/EPS_Story/wiki. This page will be used as database for future programmers and technicians for following projects.

8.2 Efficient team work

For future project groups we numbered different suggestions regarding to efficient teamwork.

1. Team-building: EPS requires a big capacity to work in group. This program isn't about a short-term project but a long-term one which requires a high cohesion within the group. Team-building and communication between members must be constant in order to carry out a successful semester.
2. Division of work: When the project plan is set and the workflow arranged, it is better to divide work in the group. Each member has different specialisations and interests which will facilitate the repartition of tasks. Division of work is not as evident as it seems, during project time sometimes it happens that all of the members work on the same task and we forgot to split. It is helpful to set who does what to work efficiently and make the most of the time.
3. Activity and Initiative: The group has to come up with nearly every step to take, therefore, it is necessary that initiative happens all the time. Each member can contribute more than they think, the key is to keep an active mind and active research for the project. Also, it is important to get out of the comfort zone: send emails, talk to the people, go to places...
4. Permanent contact with coaches: Coaches are there for the team, they are not only the ones that guide the project but they are a resource of knowledge which should not be taken for granted. Communication between group and coaches is not linear, communication goes both ways and it is crucial for the success of the project.

9. List of resources

Articles:

- VR Gives Journalism a New Dimension (<https://www.pcmag.com/article/358864/vr-gives-journalism-a-new-dimension>)
- How virtual reality could change the journalism industry (<https://www.pbs.org/newshour/economy/making-sense/how-virtual-reality-could-change-the-journalism-industry>)
- Nightfall (National Ballet, the Netherlands): virtual ballet performance (<https://www.cultuurmarketing.nl/cases/virtual-reality-nationale-ballet-night-fall>)
- Corrine Luthy (2017). 5 ways virtual reality is flipping the script on screenwriting. Geraadpleegd op 2/12/2017 via (<https://www.uncsa.edu/news/20170307-virtual-reality-screenwriting.aspx>)
- Jesse Damiani & Dylan Southard (2017). Writing for VR: The Definitive Guide to VR Storytelling. Geraadpleegd op 2/12/2017 via (<https://vrscout.com/news/writing-vr-definitive-guide-vr-storytelling/#>)
- Sara Breselor (2016). How We Did It: Prototyping in Virtual Reality. Sharing the experience of illiteracy through VR technology. Geraadpleegd op 2/12/2017 via (<https://labs.ideo.com/2016/03/07/how-we-did-it-prototyping-in-virtual-reality>)
- Immersive storytelling is everywhere and there's no going back (<https://www.theguardian.com/media-network/2016/may/31/immersive-storytelling-360-vr-technology-marketing>)
- Immersive storytelling: How 360-degree video storytelling is helping to redefine journalism <https://era.library.ualberta.ca/files/sf2688118/Hodgson.pdf>
- 360-Grad-Storytelling: Zuschauer verführen in allen Facetten <https://medium.com/videomarketing-by-k3/360-grad-storytelling-zuschauer-verführen-in-allen-facetten-f53e2773844>
- Deutsches Institut für Virtual Reality – VR-terms <https://www.divr.de/index.php/vr-terms>
- Effect of Immersive (360°) videos on attitude and behaviour change https://projekter.aau.dk/projekter/files/239463001/Effect_of_Immersive_360_Video_on_Attitude_and_Behavior_Change.pdf
- An introduction to 360° video <https://studio.knightlab.com/results/storytelling-layers-on-360-video/an-introduction-to-360-video/>
- Dane Christensen: What I learned making a 360-degree video every day for a month <https://medium.com/@StanfordJournalism/what-i-learned-making-a-360-degree-video-every-day-for-a-month-82ea3771749>
-

Videos:

- Dreams of O (Cirque du Soleil) (<https://www.youtube.com/watch?v=q4uZ5H0IT4Y>)
- The Future of Music – Gregg Bart (<https://vimeo.com/202515176>)
- Fossil Hunters of the Gobi - Shelf Life (museum of natural history) - 360° COLLAGE (<https://vimeo.com/206627186>)
- Experience our Shows in Full 360 VIRTUAL REALITY | KA, KURIOS, LUZIA, & 'O' 360 VR Video (Cirque du Soleil) (<https://www.youtube.com/watch?v=cDXWqm6D0A>)
- Notes On Blindness (<http://www.notesonblindness.co.uk/vr/>)

- I Am Rohingya (digital animations for better storytelling)
(https://www.youtube.com/watch?time_continue=402&v=qA495K4g9Lk)
- ...

Websites:

- Best VR Story, Filmfestival Venice 2017 (<https://www.eyefilm.nl/bloodless>)
- VR Days Amsterdam 2017 (<http://vrdays.co/blog>)
- Top-15 Virtual reality companies of 2017 (<https://thinkmobiles.com/blog/virtual-reality-companies/>)
-

Companies:

- Yondr (Had involvement with the masterclass from last year) (<https://theyondr.com/>)
- VR/AR Association (<http://www.thevrara.com/>)

Software / Tools:

- Unity (<https://unity3d.com>)
- Visual Studio (<https://www.visualstudio.com>)
- SteamVR (<https://store.steampowered.com/steamvr>)
- VRTK (<https://github.com/thestonefox/VRTK>)
- GoPro VR Player (<http://www.kolor.com/gopro-vr-player/download/>)
- Kolor Autopano Video Pro 2.5 (<http://www.kolor.com/tag/autopano-video-2-5/>)
- Adobe After Effects (<https://www.adobe.com>)
- Adobe Photoshop (<https://www.adobe.com>)
- Adobe Lightroom (<https://www.adobe.com>)
- Adobe Premiere (<https://www.adobe.com>)
- Magic Bullet Suite (<https://www.redgiant.com/products/magic-bullet-suite/>)
- Pro Tools First (<http://www.avid.com/pro-tools-first>)
- Tinkercad (<https://www.tinkercad.com>)
- Google Drive (<https://www.google.com/drive/>)
- Github (Desktop) (<https://github.com>)
- Slack (for communication and workshare, <https://slack.com>)
- Whatsapp (for communication, <https://www.whatsapp.com>)

10. Attachment

Appendix A – Basic terms

Virtual Reality

VR is an abbreviation for *Virtual Reality*. Virtual reality is a computer-generated scenario that simulates a realistic experience. The immersive environment can be similar to the real world in order to create a lifelike experience grounded in reality or science fiction.

The virtual reality we are talking about is one created by computers that allows you to experience and interact with a *3D world* that isn't real by putting on a head-mounted display and some form of input tracking.

The display will typically be split between your eyes, creating a stereoscopic 3D effect with stereo sound, and together with the technology and the input tracking, it will create an *immersive, believable experience*, allowing you to explore the virtual world being generated by the computer.

360° videos

360° videos, also known as *immersive videos* or *spherical videos*, are video recordings where a view in every direction is recorded at the same time, shot using an *omnidirectional camera* or a *collection of cameras*. During playback the viewer has control of the viewing direction like a panorama.

360 video gives the viewer complete control, allowing them to move the view up, down, and even 360 degrees within a video/shot environment, while the action takes place around them. From smartphones to VR Headsets, this medium can be played on a variety of applications making it the most accessible immersive experience. There are four main options to watch 360 videos:

- ***YOUTUBE 360***

Youtube 360 launched in March 2015 and is an extension of its current platform, enabling users to watch 360 videos. It is able to be viewed through the Google Chrome web browser and via the YouTube app on any smartphone.

- ***GOOGLE CARDBOARD***

Google Cardboard refers to the Viewer Kit, as it is simply made of folded cardboard and contains 2 lenses allowing a more immersive experience. Accessed via any smart phone attached to this viewer kit, this is a simple and affordable way of experiencing VR video. In comparison to Youtube 360, Google Cardboard offers better quality video and interaction with purpose-built applications. Users can simply download a viewer app to access a variety of immersive content from games to films.

- ***OCULUS RIFT OR HTC VIVE***

The Oculus Rift and HTC Vive are two types of the top of the range consumer market application for VR experiences. They work connected to a desktop PC and has more driving power allowing the applications created specifically for this platform to have maximum impact. They play the highest resolution video available (4k) and offers stereoscopic vision (depth perception). They also offer fully interactive gaming capabilities, allowing complete worlds to be reacted and then controlled by the user via a keyboard or game controller.

During this project we will be worked with HTC VIVE

- **SAMSUNG GEAR VR**

Referred to as the Portable Oculus, Samsung partnered with Oculus to create the Samsung Gear VR headset. It combines the power of the Oculus including interactivity, gaming, stereoscopic video and more, and compresses it into a smartphone. This allows for a more portable yet less powerful version of your Oculus applications.

Immersive storytelling

The art of storytelling is to tell a story that will create an emotion in order to influence an action. Some argue that virtual reality as a storytelling platform is the ultimate emotion creator. In our project we will research and work on Immersive Virtual Reality (VR)

Immersive VR

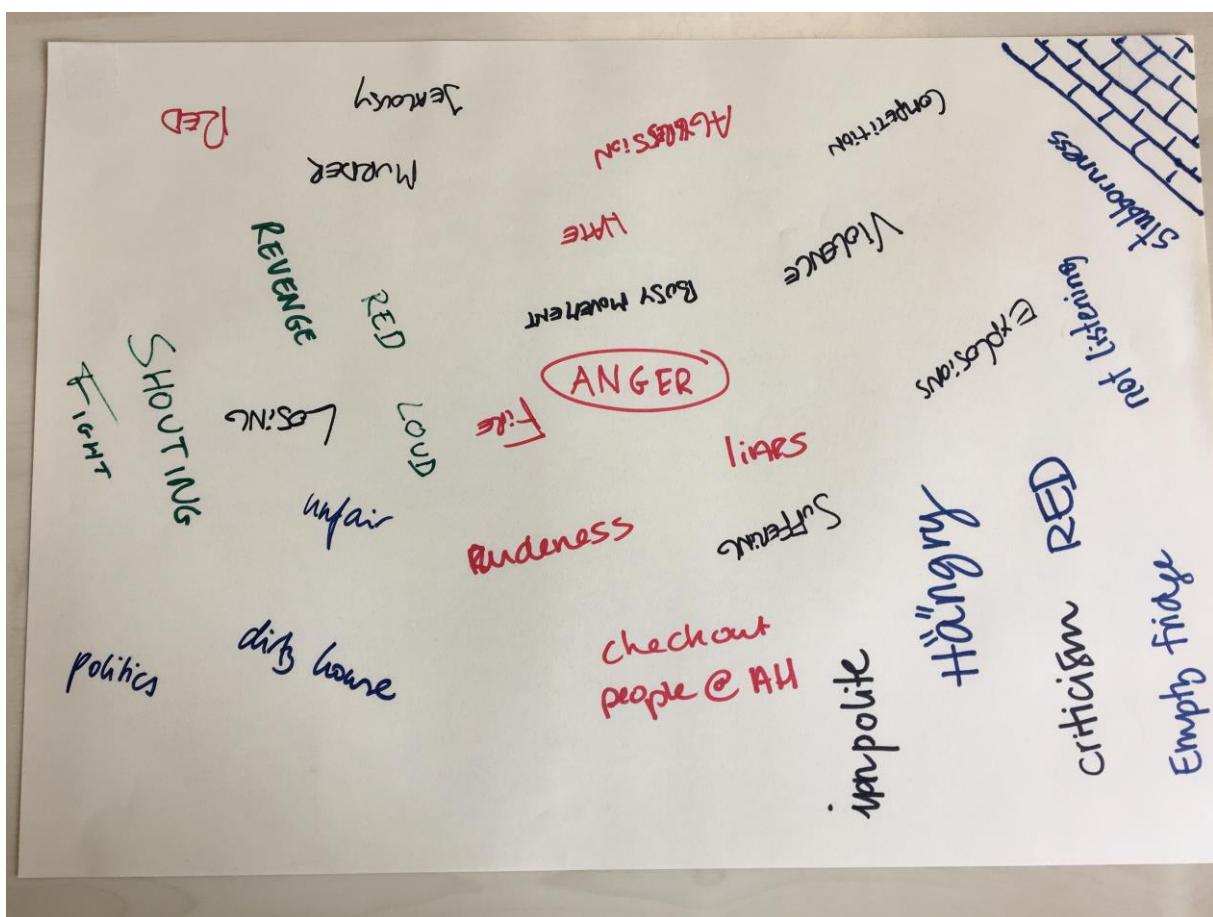
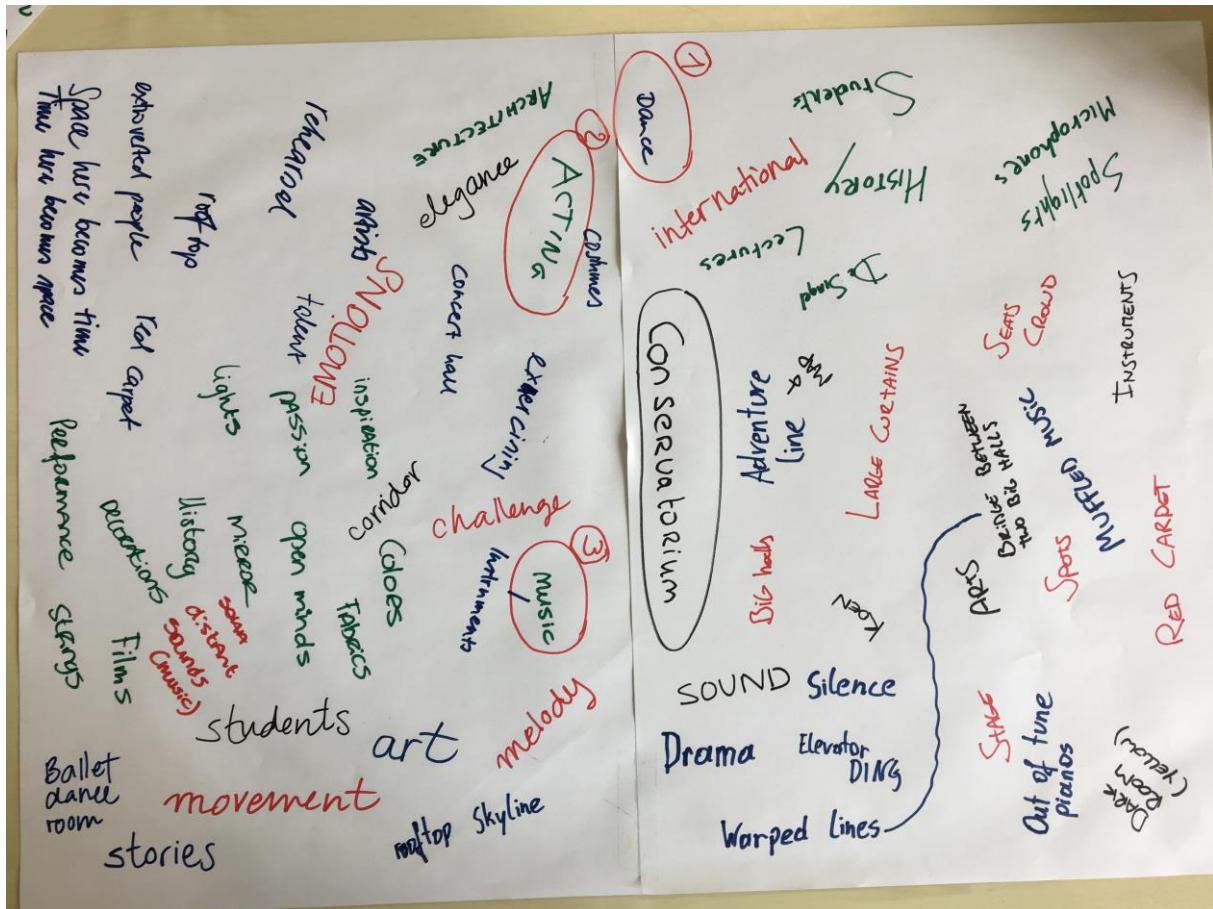
Immersive virtual reality headsets involve user exploration of a modelled environment generated by a rendering engine as the user controls a virtual camera using head movement and/or other inputs. Immersive VR is generally designed to accommodate non-storytelling applications, for example, video games of various types. The user experience provided by immersive VR is that of being immersed in an alternative reality. To provide this experience, the user needs to perceive a freedom of movement that is in some way analogous to human visual perception when interacting with reality.

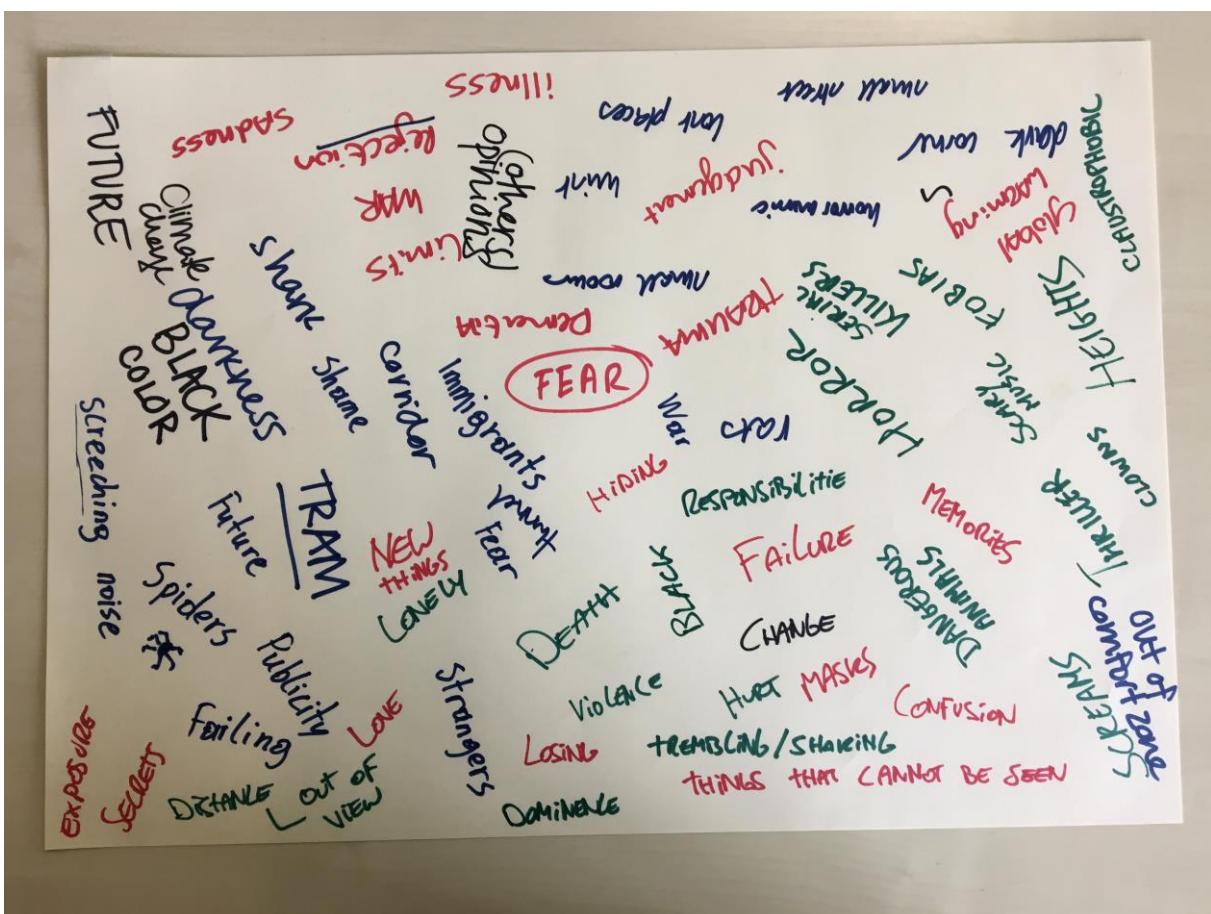
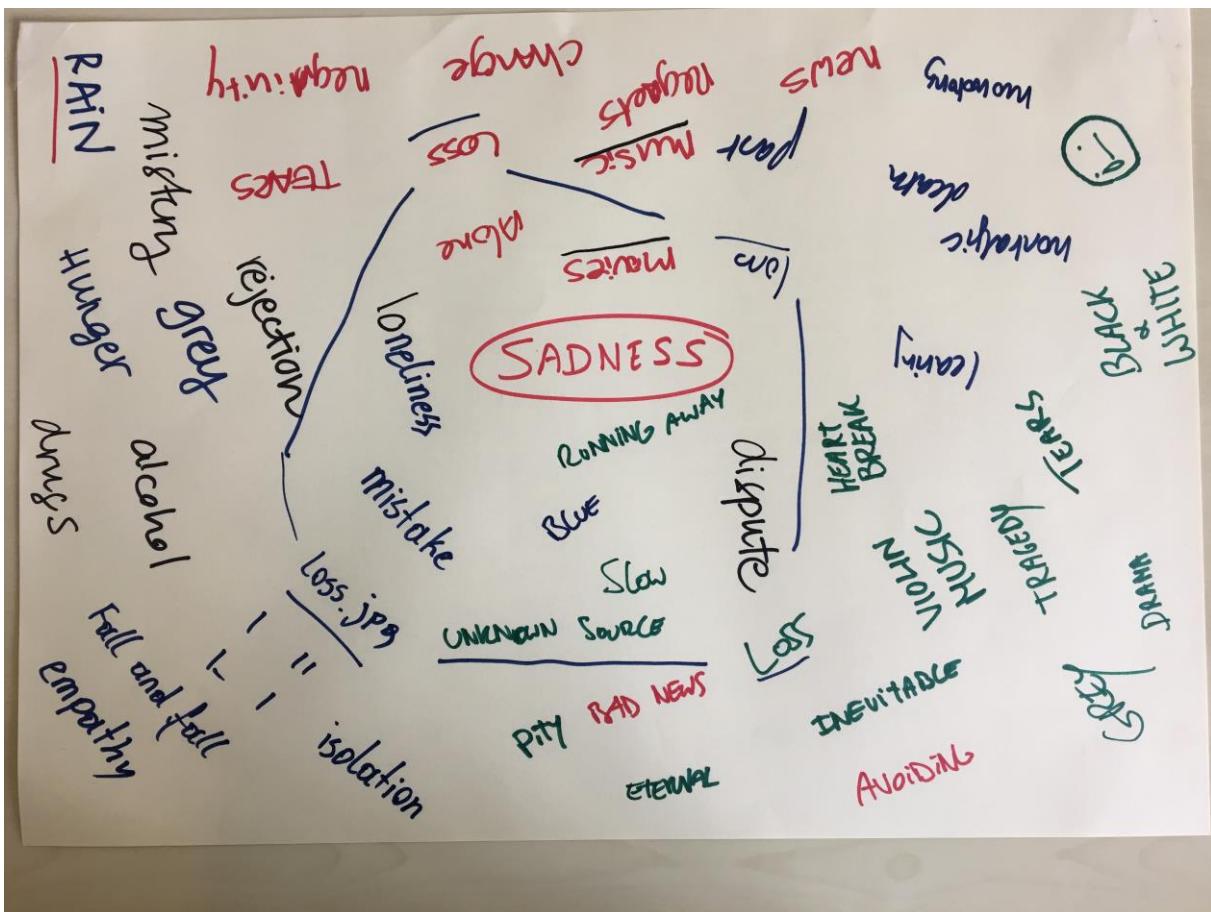
Motion sickness

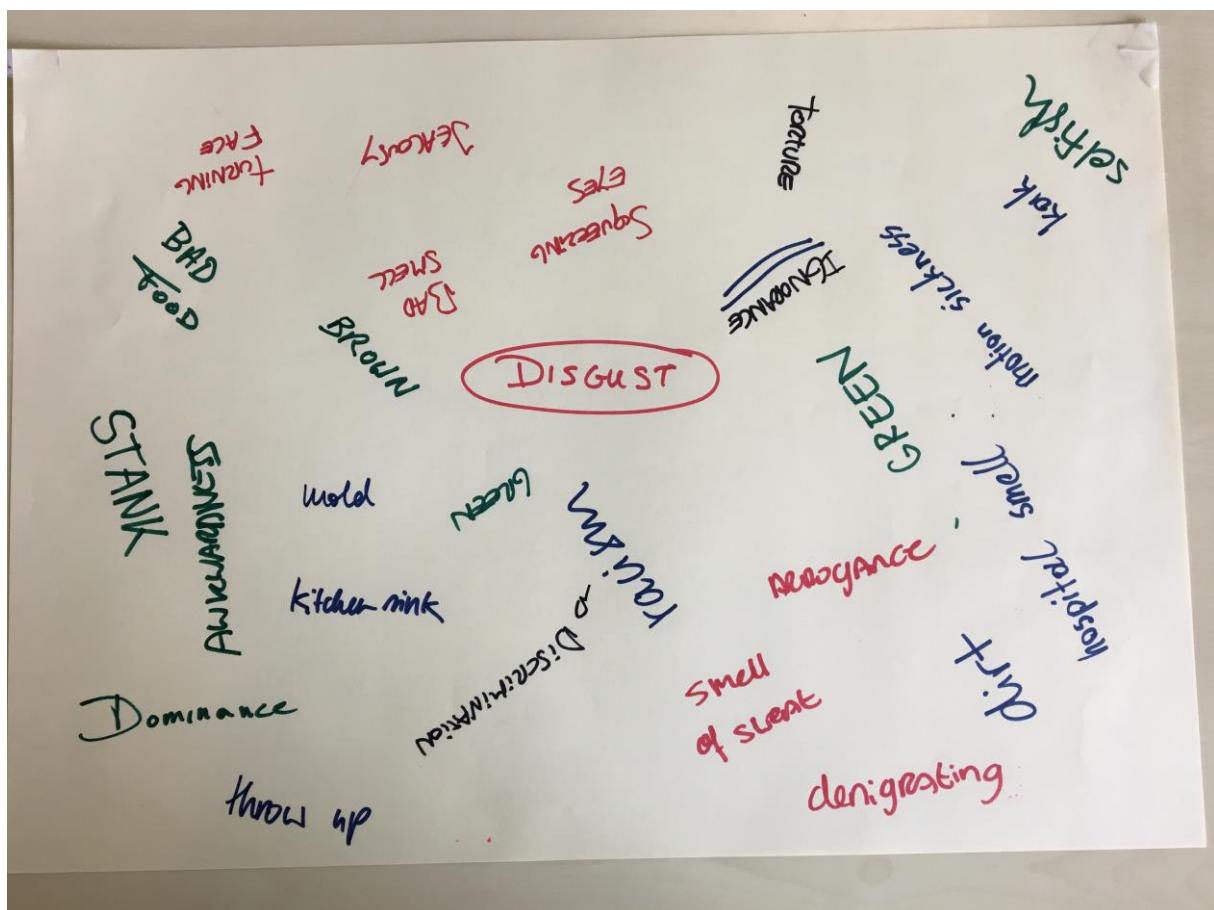
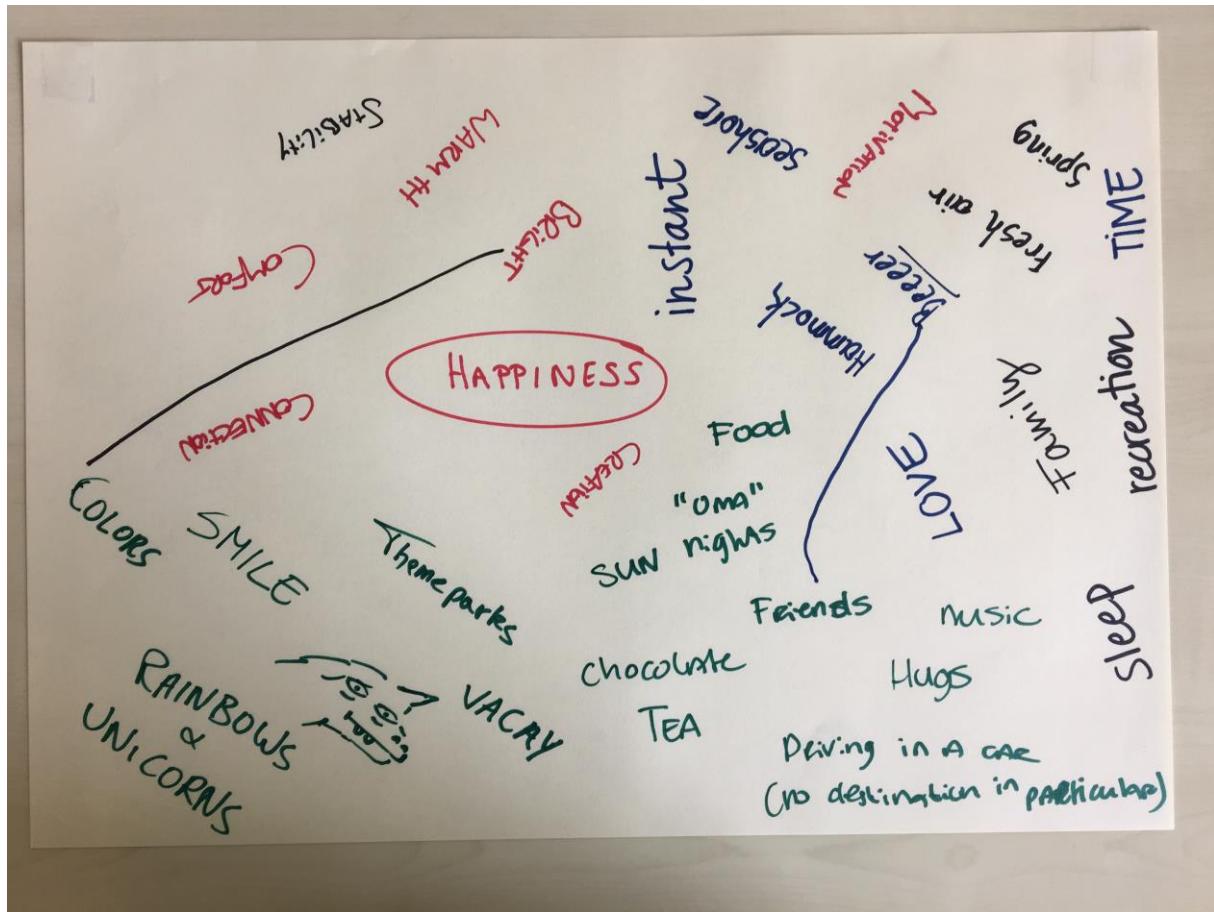
Motion sickness is a condition in which a disagreement exists between visually perceived movement and the vestibular system's *sense of movement*. Depending on the cause, it can also be referred to different spaces or circumstances.

In motion sickness due to *virtual reality* the effect is made more acute as all external reference points are blocked from vision, the simulated images are three-dimensional and, in some cases, stereo sound that may also give a sense of motion.

Appendix B – Workshop Storytelling



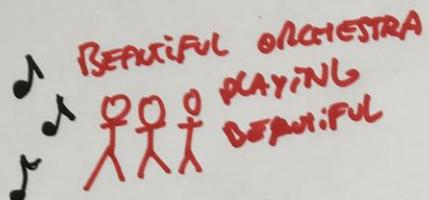




First story ideas based on the emotions

① VIEWER 1st PERSON PART OF CROWD
↳ BIG BLUE HALL

Students:
Young, innocent
insecure,
neatly clothing

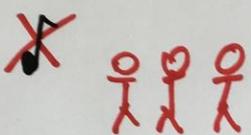


STAGE
CROWD



DISGUSTING
OLD MAN
→ SEVERE FACE
→ DENSE HAIR
→ SMALL + FAT

②



CONDUCTOR STARTS SHOUTING ANGRY
NOT SATISFIED AND BLAMES
MUSICIANS

③



START PLAYING BAD AND OUT OF
TUNE

BEFORE LEAVING CONDUCTOR
STARTS SHOUTING TO CROWD
SAYING DISGUSTING THINGS



CONDUCTOR LEAVES IN
DISGUST

FOR VIEWER: LOSS OF FOCUS → AWKWARDNESS

④



ORCHESTRA DOESN'T KNOW WHAT TO
DO (WEIRD SUDDEN NOTES)
→ LOOK HELPLESS

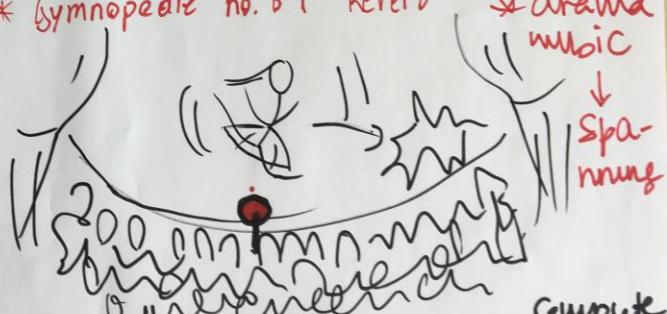
AWKWARDNESS

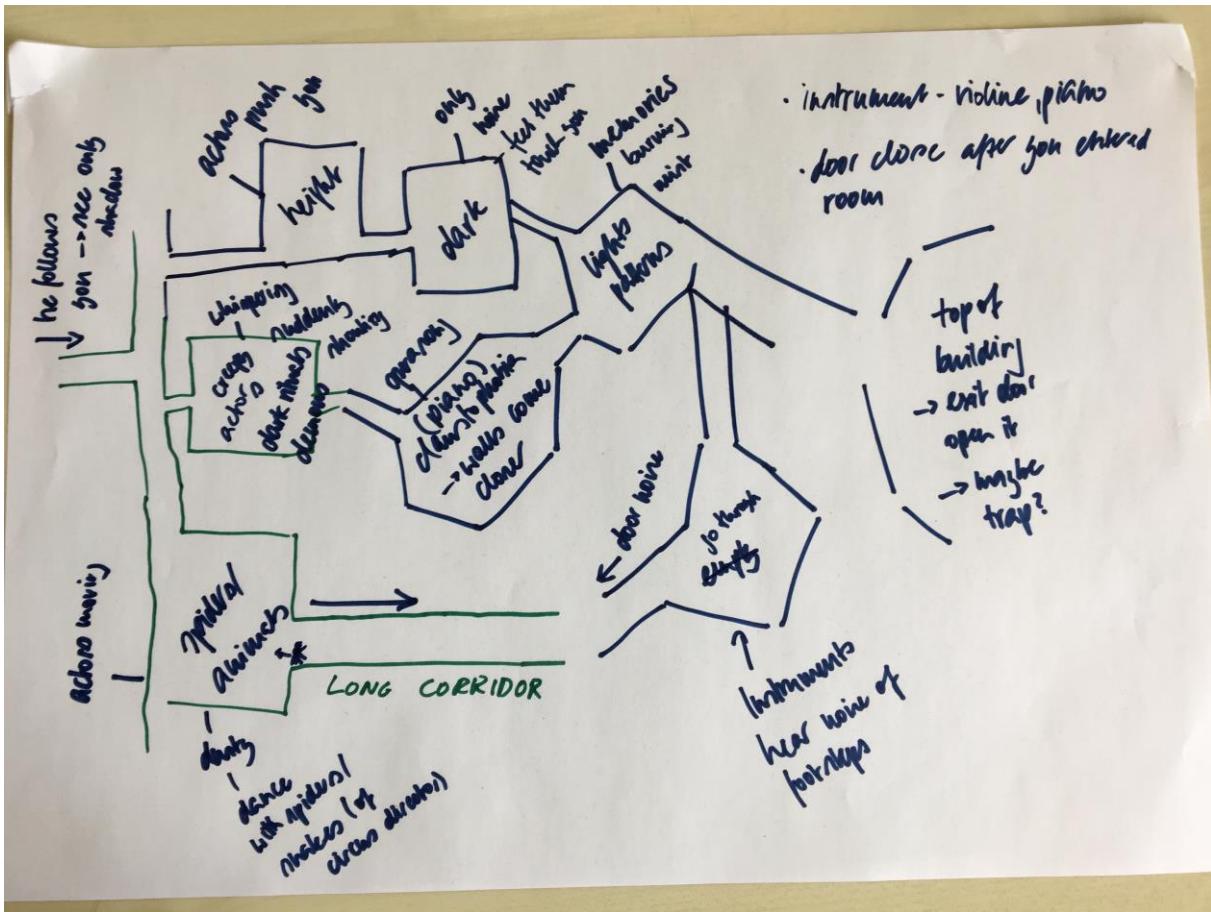
(CROWD AROUND YOU) STARTS LEAVING ONE BY ONE → EXIT

Narrative elements

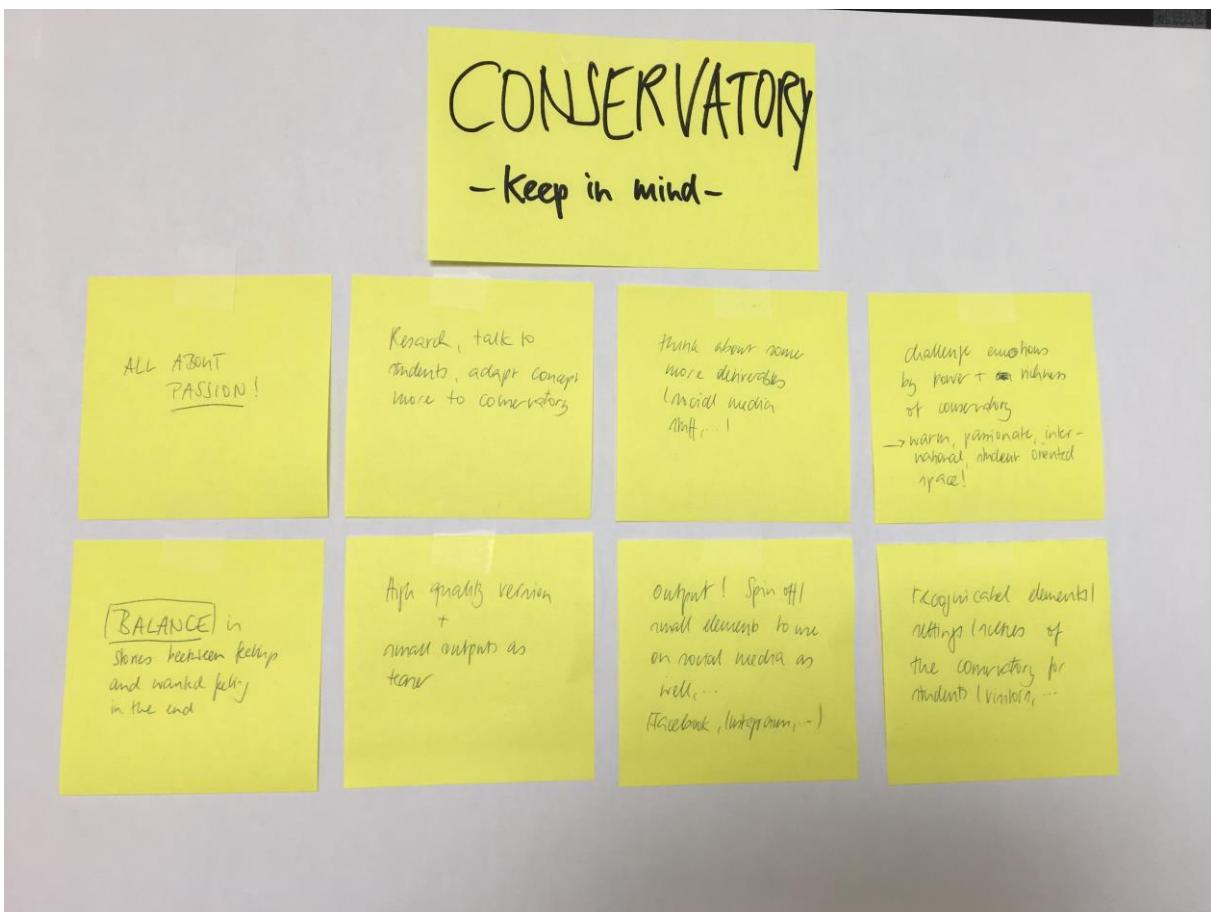
- time & space
- {
 - ① narrator : voice - over ? / ~~etc.~~
 - ③ characters - emotions ?
 - ② focalization : 1st or 3rd person ?
- {
 - IMAGE :
 - Mise-en-scène : acting ? lightning ? colors ?
 - cinematography : camera angle ? movements ? framing ? ^{lenses?}
 - written forms, letters ? posters ? title ? credits ?
 - editing : 3D effects ? 4D effects ?
 - SOUND :
 - music : in the room ?
 - sound : " "
 - spoken forms : dialogues ? internal monologue ?
 - editing : sound effects ? music ?
- counter point arrangement = <> audio & image !
E.g.: David Lynch, Kubrick, Tarantino, ...?

MUSIC	heartbreak
piano	nostalgia
violine	Guitar
Loneliness	Drama
ft. BIG SPACE	Running away
SOUND	Frustration
rain	negativity
wind	tears
slow	
color	B & W
grey	
neutral	
blue	
leaving	
- a room	
Emptiness	
Isolation	

* darkness, fade out → even person disappears
 * Toneliness between movement
 * noise fade out, SILENCE → Black hole
 * frustration + tears + effekt
 * stage → falling / mistake [asthma]
 * wheelchair → person faces incapacity
 * Gymnopédie no. 31 Reverb → drama musical

 Effects: darker → focus → fade out
 * complete cut. vs.



Important for us to keep in mind:

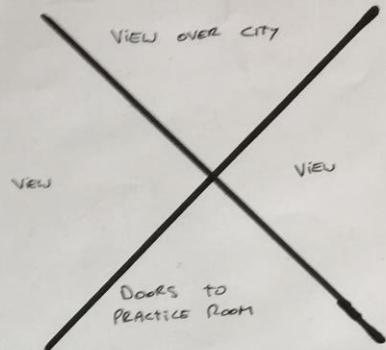


Appendix C – first ideas for the Royal Conservatoire



Starting point with view of the sight of the rooftop
ARREST TAKING ARREST /SMOKING CIGARETTE.

JUST A FEW SECONDS
VIEWER IS IN 1st PERSON PERSPECTIVE OF THE ARTIST



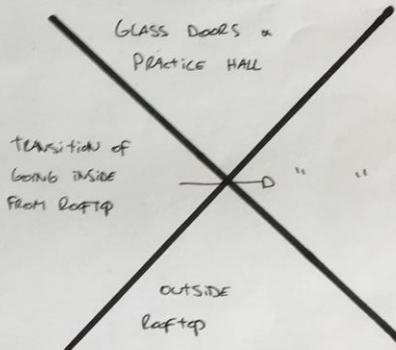
2

Door entering practice dance hall



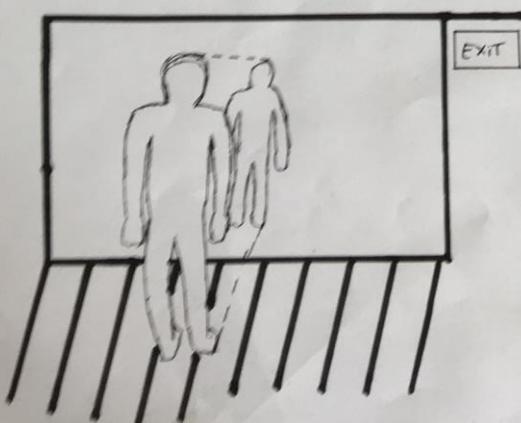
VIEWER TURNS AROUND AND GOES INSIDE THROUGH THE GLASS DOORS OPENING THEM

AFTER TURNING AROUND

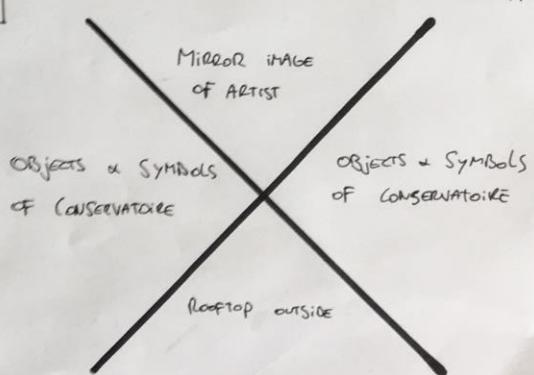


3

Practice Dance Hall in Front of Mirror

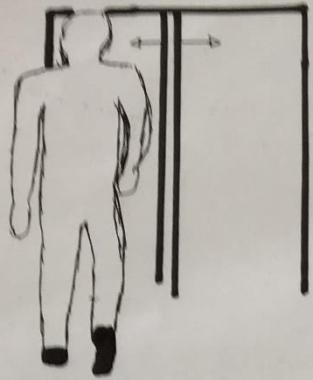


VIEWER STOPS IN FRONT OF MIRROR (IF TECHNOLOGY WORKS, OTHERWISE SKIP THIS STEP) AND SEEKS MIRROR IMAGE OF SELF (ARTIST). THE MIRROR WILL MIMIC THE MOVEMENT OF THE VIEWER'S HEAD (HEADSET COORDINATION PER FRAME)
↳ (AFTER EFFECTS, UNITY, DIGITAL,...)

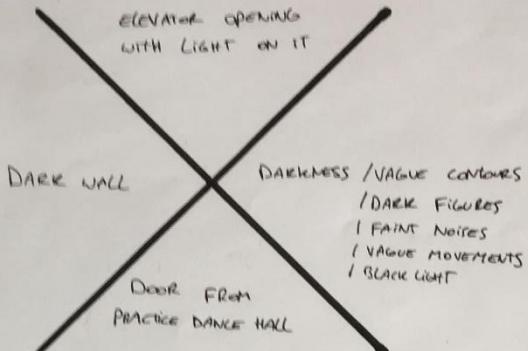


§ IMPORTANT DECOR SETTINGS §

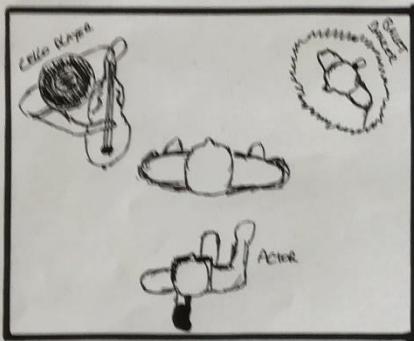
4
From PRACTICE HALL TO ELEVATOR
⇒ Room INBETWEEN



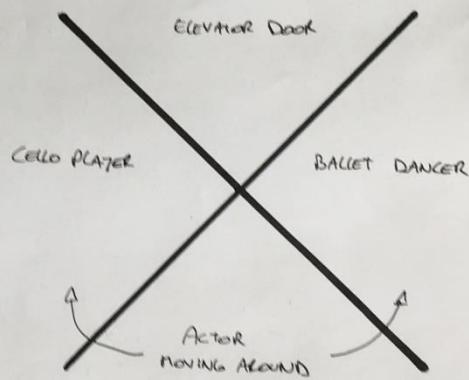
VIEWER WALKS OUTSIDE PRACTICE HALL TOWARDS ELEVATOR, WHICH WILL OPEN ONCE IT CAN BE SEEN. VIEWER WILL STEP INTO THE ELEVATOR.
THIS ROOM IN BETWEEN WILL BE DARK WITH A LIGHT ON THE ELEVATOR THAT WILL OPEN



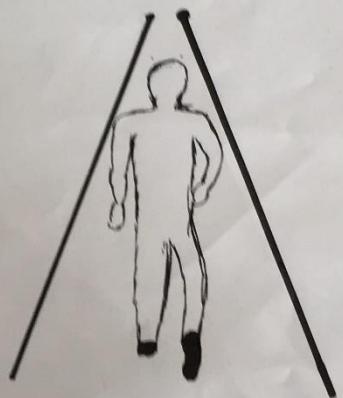
5
IN ELEVATOR



IN THE ELEVATOR THE VIEWER WILL BE ACCOMPANIED BY THREE FIGURES. EACH FOR DISCIPLINE OF THE CONSERVATOIRE (MUSIC, DANCE, DRAMA)
THE CELLO PLAYER NEATLY DRESSED IN BLACK TUXEDO, PLAYING NOTES OF WHICH SOME ARE FALSE AND CAN GET FRUSTRATED BY IT.
BALLET DANCER IN BALLET CLOTHES DOING SOME STRETCHING.
ACTOR ACTS WEIRDLY WITH RANDOM SCREAMS AND STARTS ACTING WEIRD AROUND Cello Player SCARING HIM, WITH INTENSE EYE CONTACT AND TOUCHING.



6
CORRIDOR TOWARDS AREA STAGE



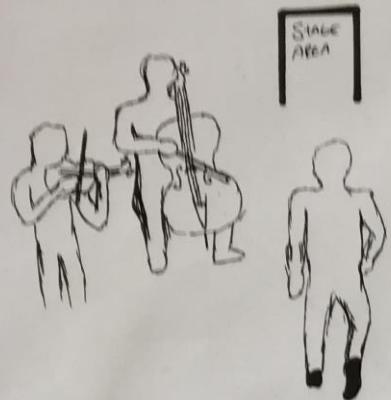
VIEWER STEPS OUT INTO CORRIDOR OUT OF ELEVATOR. CAMERA HEIGHT WILL BE SET LOWER TO INCREASE INTRIDATING EFFECT. CORRIDOR IS REAL WILL GROW BIGGER. IN THIS CORRIDOR YOU'LL HEAR SOME TENSE MUSIC PLAYING, AND THE FURTHER YOU WALK, THE MORE INTENSE (AND SCARY) THE MUSIC WILL GET.

END OF CORRIDOR
⇒ ENTRANCE TO STAGE AREA

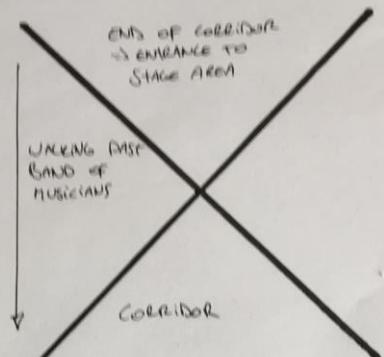
INTRIDATING DARK AND STRIKE PEOPLE PASSIVE BY, MAKING INTENSE ANGRY EYE CONTACT

ELEVATOR CLOSING AND STAY CLOSED

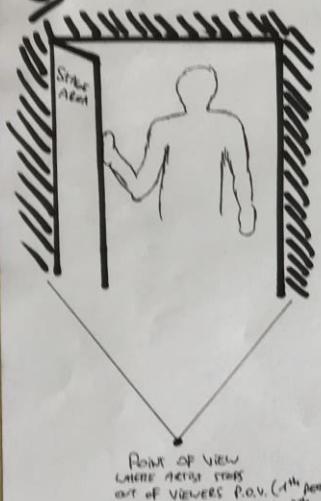
3 MUSICIANS IN CORRIDOR



WHEN VIEWER WALKS FURTHER IN HALLWAY, HE WILL CONCERNST A BAND OF MUSICIANS THAT ARE PLAYING THE TENSE MUSIC.



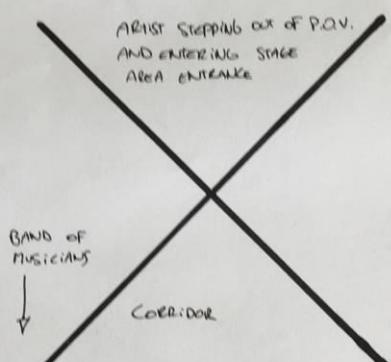
8 ENTERING STAGE AREA



POINT OF VIEW
WHERE ARTIST STEPS
OUT OF VIEWERS P.O.V. (1st person
to 3rd person)

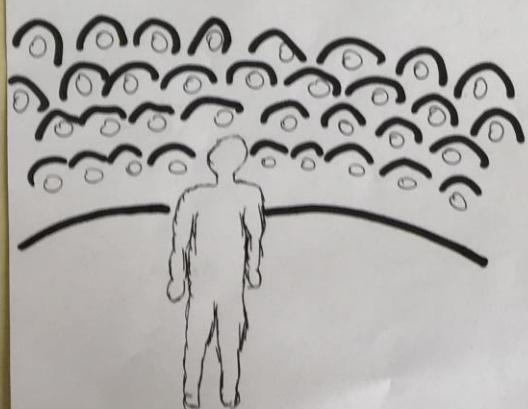
WHEN VIEWER PASSES THE BAND, COMING CLOSER TO ENTRANCE OF STAGE AREA. RIGHT IN FRONT OF DOOR, CAMERA STAYS IN FIXED POSITION, BUT ARTIST KEEPS WALKING TOWARDS DOOR AND OPENS AND ENTERS IT. THIS THEN, AS THE VIEWER, YOU WILL SEE FROM BEHIND IN 3rd PERSON PERSPECTIVE. (TRANSITION FROM 1st TO 3rd PERSON).

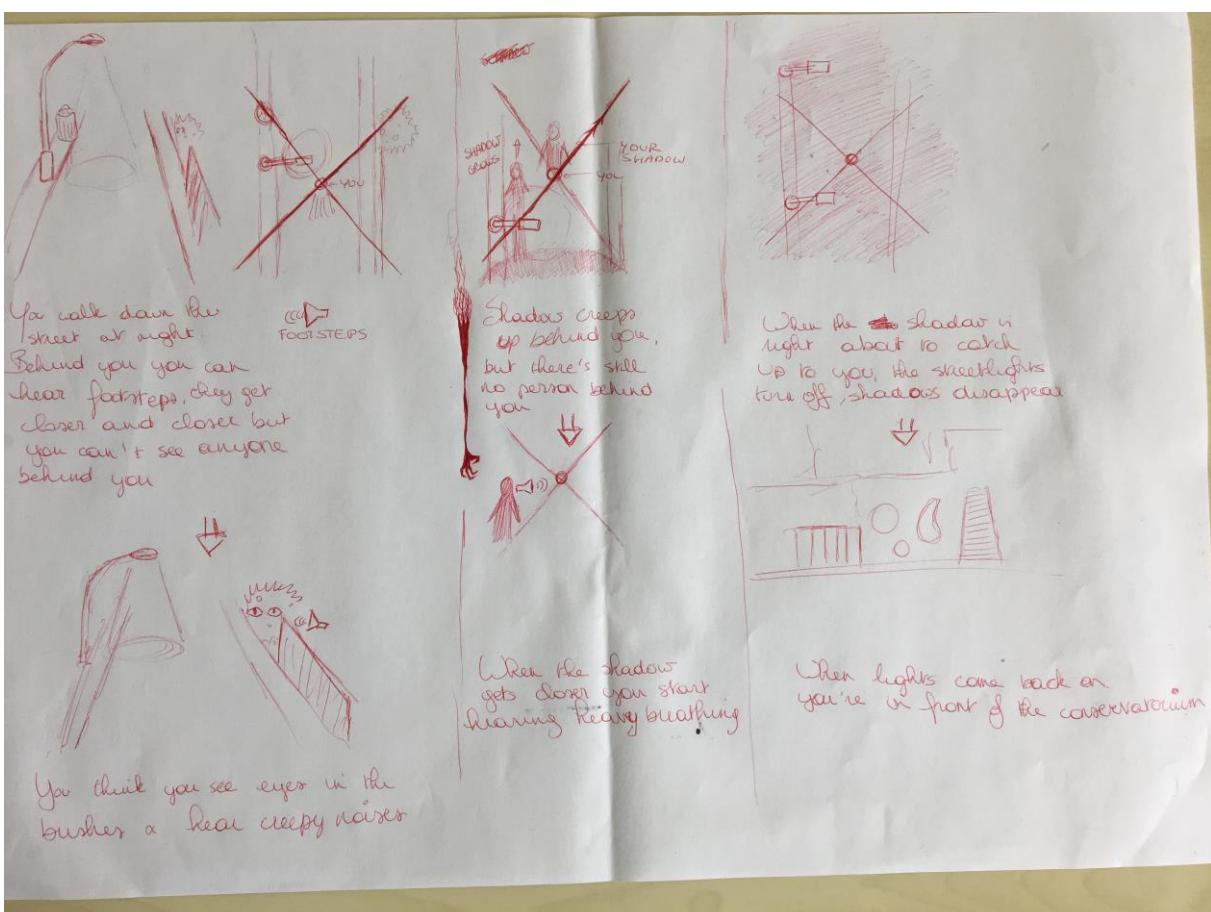
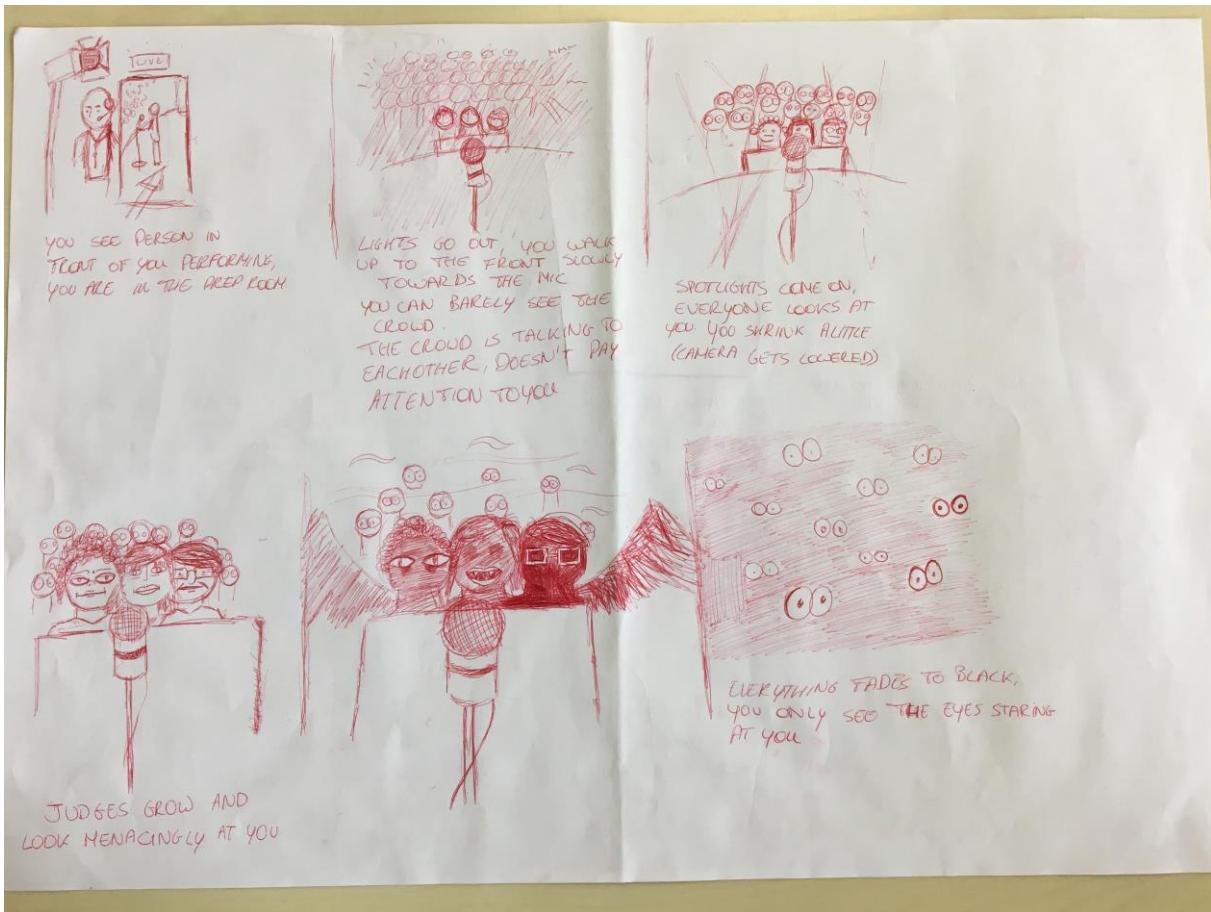
WHEN ARTIST IS INSIDE AND DOOR CLOSES, THE SHOT WILL FADE SLOWLY TO COMPLETELY BLACK.



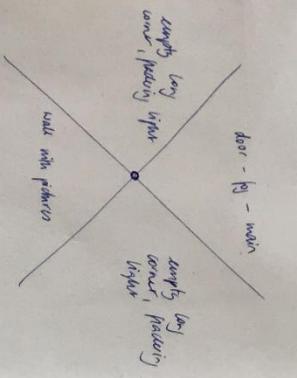
Start of next scene

BACK IN 1st PERSON, THE SHOT WILL UNFADE FROM COMPLETE DARKNESS AND SEE YOURSELF STANDING AT THE ARTIST IN FRONT OF AN AUDIENCE

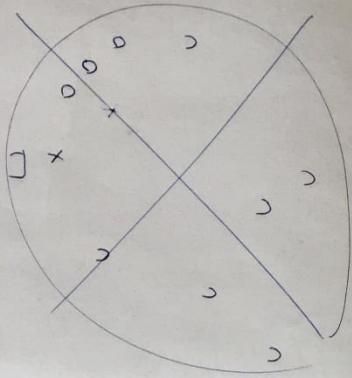




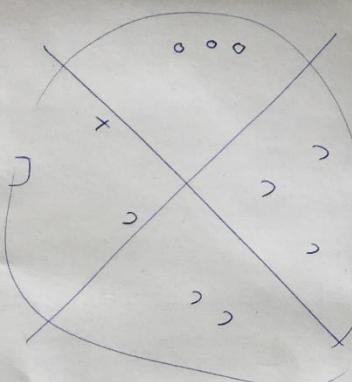
STORYBOARD



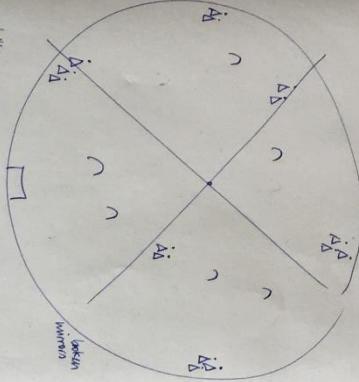
*in Government, comparing Blaauwberg, P.E. with
Johannesburg.*



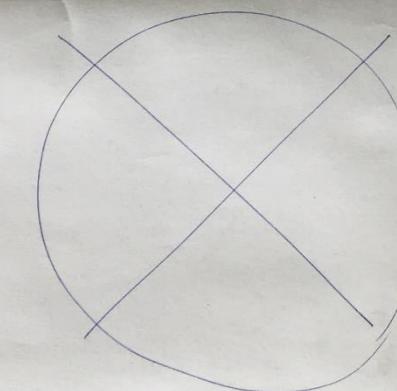
X director
instruments (drawn and disappear) damage become
animatons gain
→ often editor appears with a whip and puns it



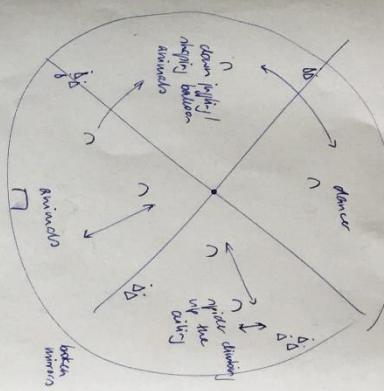
- candle holder
- candle
IT also →
- water in rain, when really clear, water go on every well, fog on the ground and something that look like little dark hills



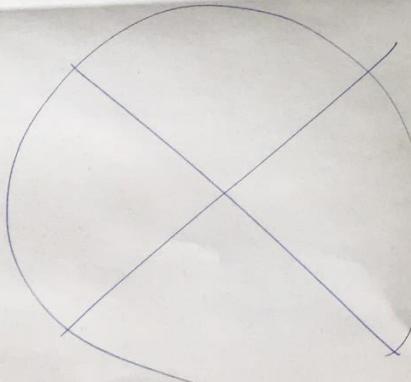
orchestra, drums, melody, and kind of spacy, circular
flow charts



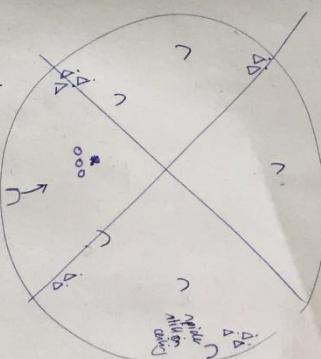
• male birds are darker with very under-
developed wing feathers (longer
and broader) & very hairy tail.
• live in flocks, dare enough to touch them
→ nest anywhere from clothes lines to no human touch
• in deer, sparrow birds, ... also closeness



→ as the movie goes on all the people/animals suddenly seem to appear in 2D

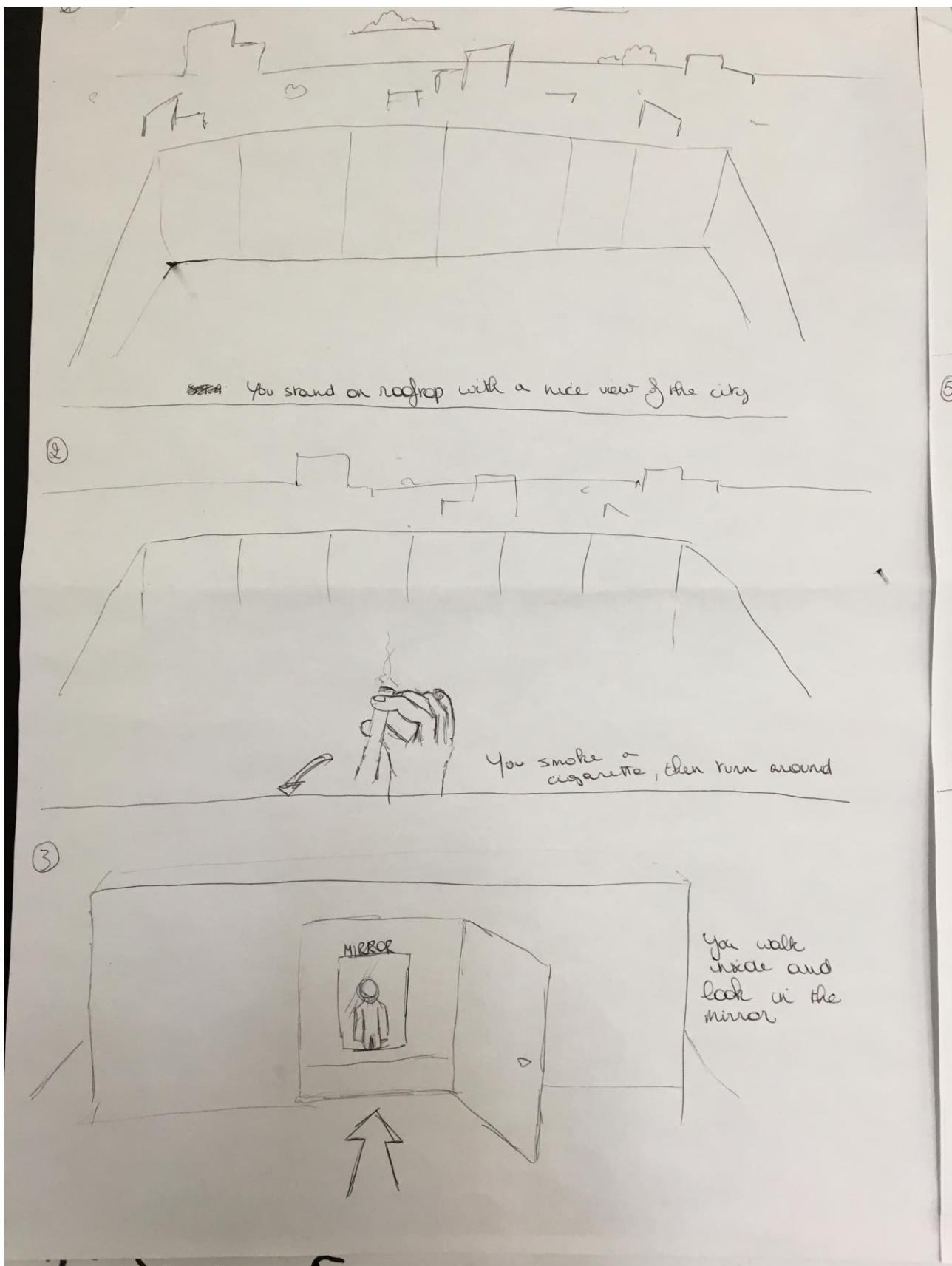


Handwriting appears to change direction



music now, used with a lot of impulsive leading and
& abeyance → everything ~~interference~~ ~~interventions~~ ~~interventions~~ in
comes up while playing → very long silences and
for whom over at abeyance → only some key and little lyrics

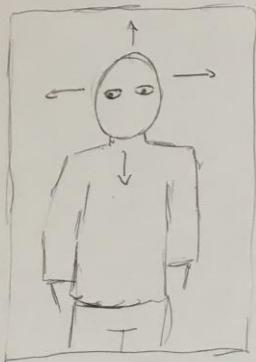
Appendix D – Storyboard Royal Conservatoire



④



You hear
sounds
from
somewhere



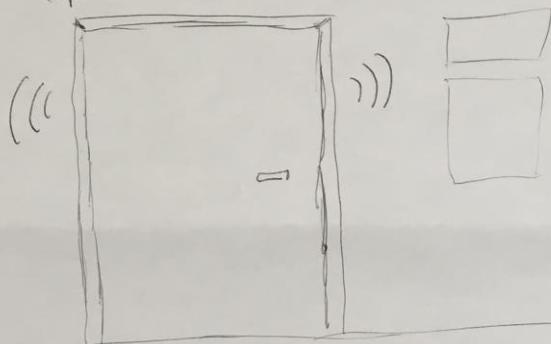
The mirror
follows the viewer's
head movement

⑤

Note?
+ Camera?

⑤

The sounds are coming
from a door



Once you look at the door
you walk towards it

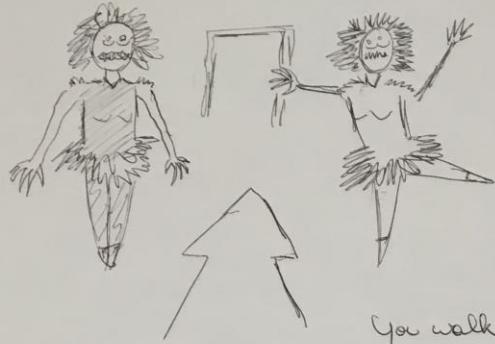
⑥

You pass a few
nice looking ballerinas
when you walk through
the door



⑦

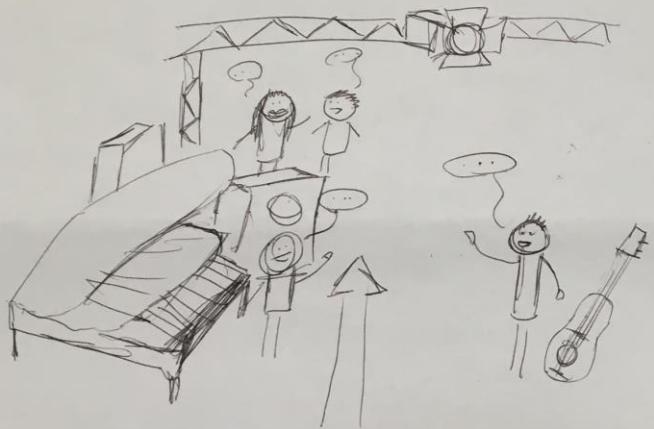
for a very short time , the sellermans start looking creepy & dark



You walk up to the next room

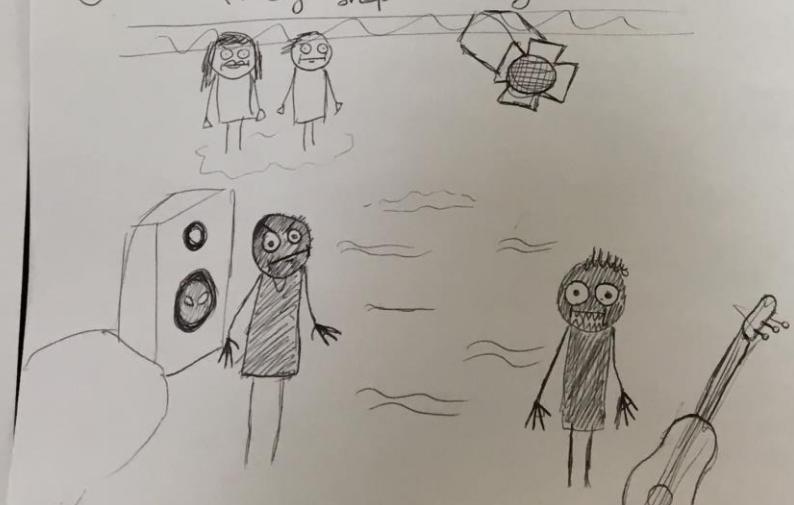
⑧

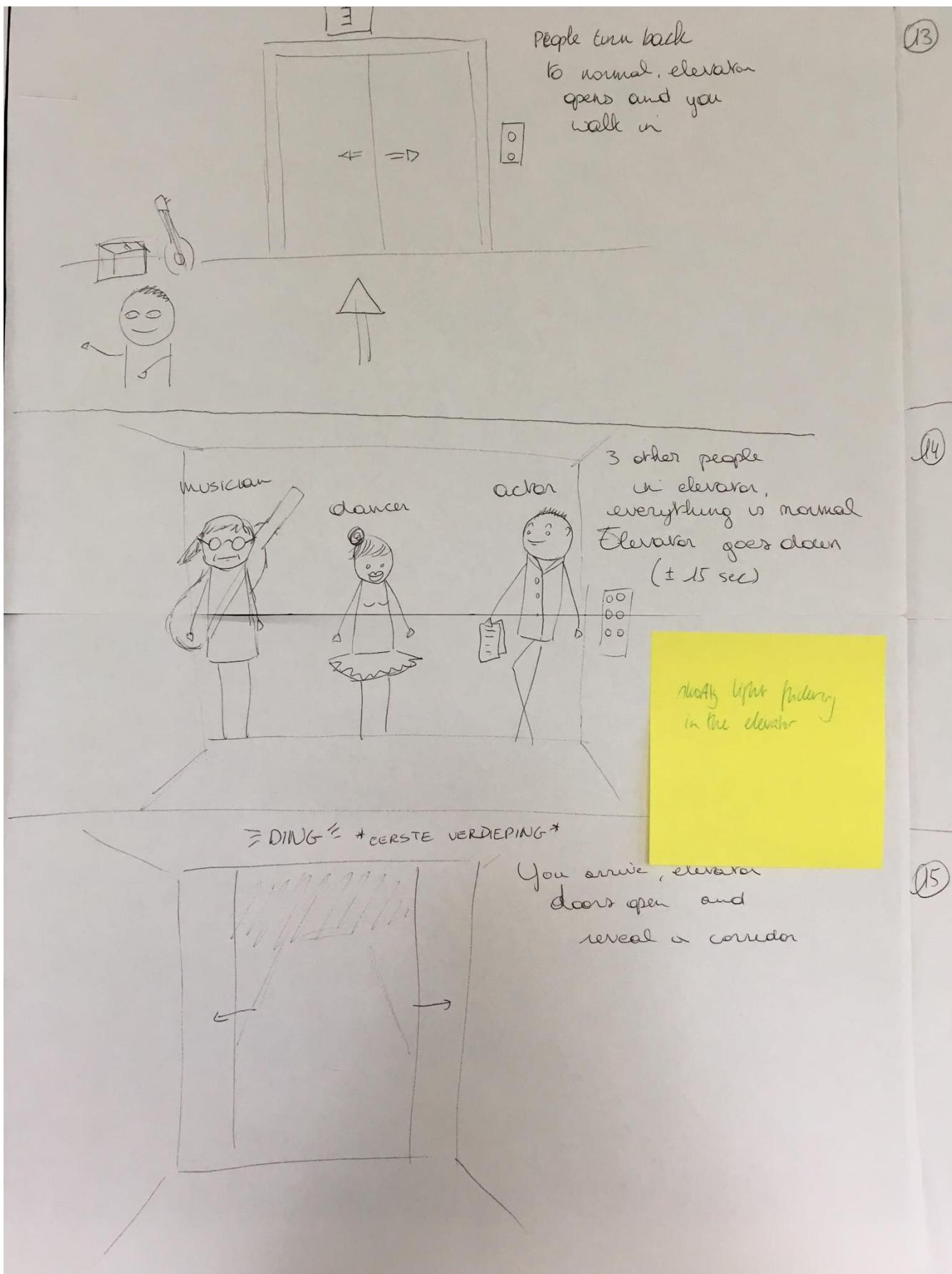
In the next room there are lots of normal instruments & people. The people are talking to eachother



⑨

When you take a closer look at the people, they stop talking and start staring at you.





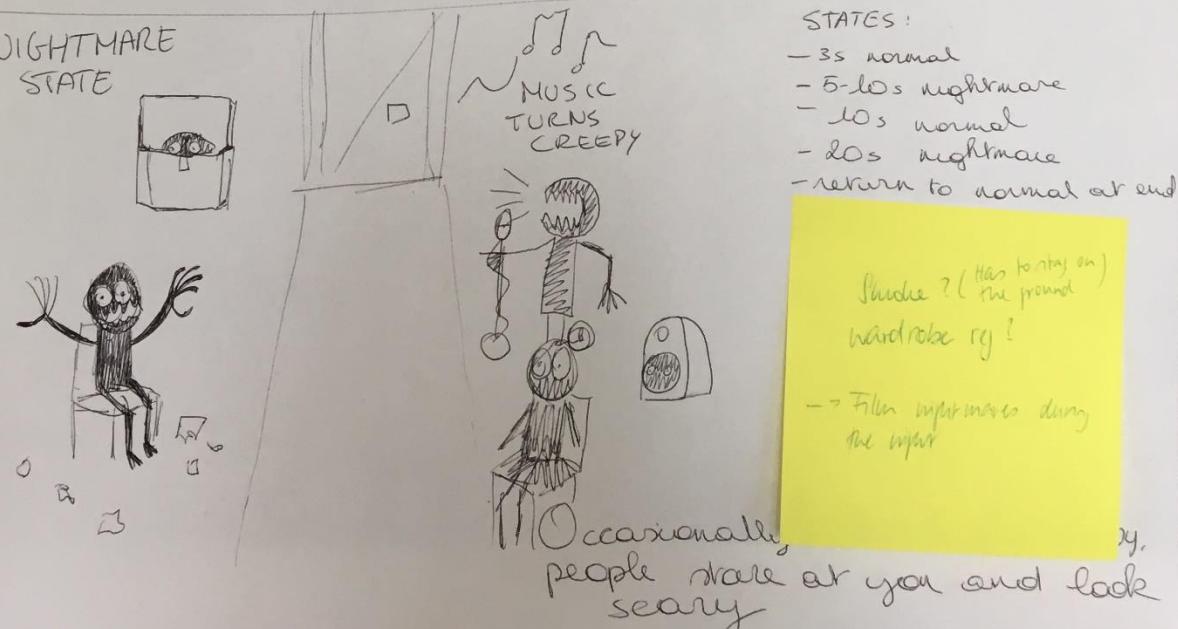
(13)

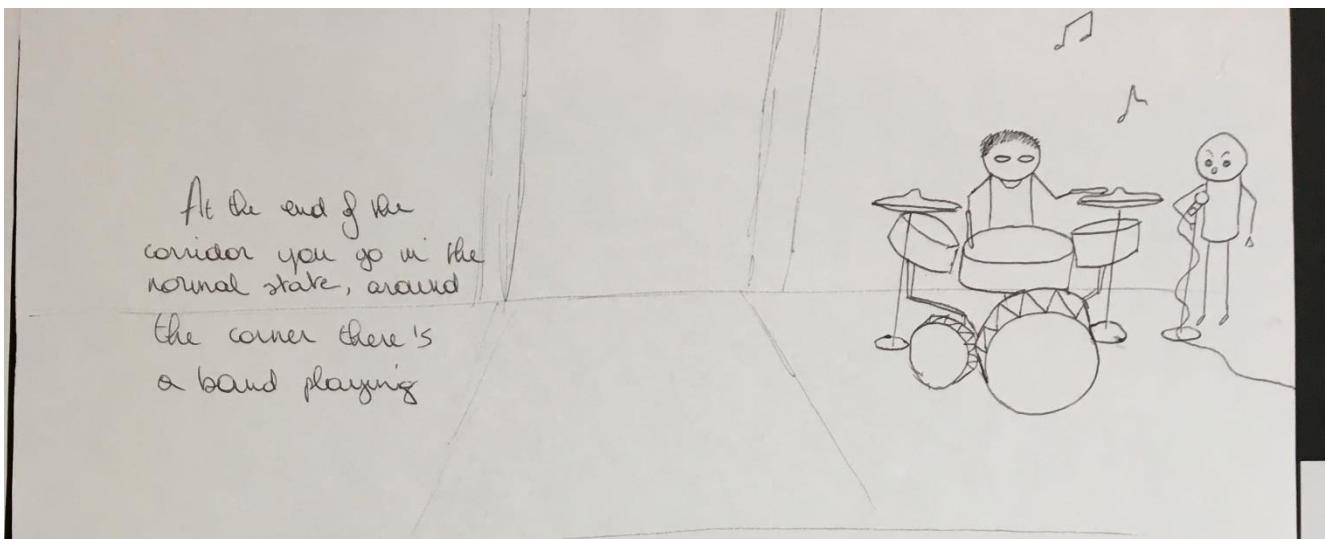


(14) NORMAL

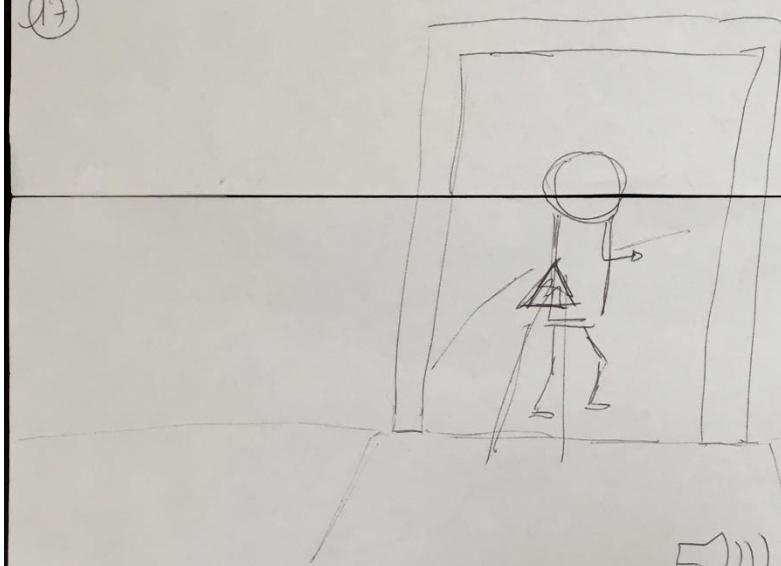


(15) NIGHTMARE STATE





(17)

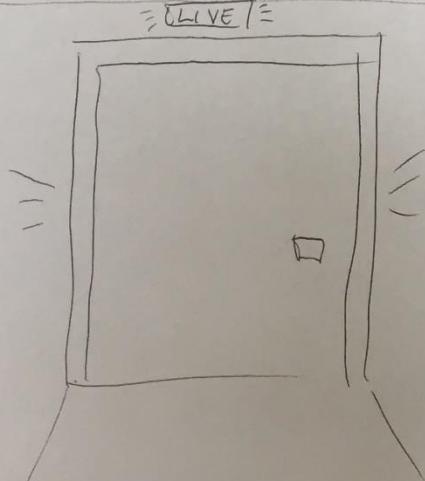


Camera goes
from 1st to 3rd
person.

You see yourself
well on stage

(((You hear yourself
take a deep breath

(18)



Door closes behind
character, scene ends

→ FADE
TO
BLACK

MUSICIANS PLAYING THE MUSIC THE VIEWER IS HEARING.

ENTRANCE DOOR
TO

2nd SCENE: FEAR

1 SCENE ROOFTOP

1

Rooftop

VIEWER STARTS IN 1ST PERSON PERSPECTIVE (P.P.).
THE ARTIST, WHICH IS THE VIEWER IN 1ST P.P., STANDS outside
ON THE ROOFTOP ON THE 5TH FLOOR IN THE ROYAL
CONSERVATOIRE (RC) WATCHING OVER THE CITY VIEW.

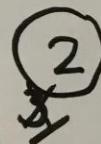
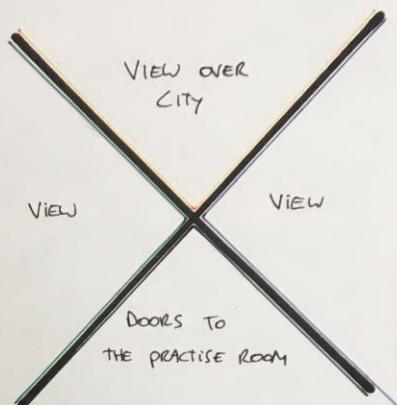
1.2



SMOKING CIGARETTE

THE ARTIST, WHILE WATCHING OVER THE CITY VIEW, LEANS
ON THE BALUSTRADE SMOKING A CIGARETTE. TAKING A
'REST' THE ARTIST SHAKINGLY INHALES AND EXHALES FROM
THE CIGARETTE AND PUTS THE CIGARETTE OUT.

AFTER THIS, ONCE THE VIEWER LOOKS AT THE GLASS DOORS
THAT LEAD TO THE PRACTISE ROOM, THE ARTIST STARTS
WALKING AT THE GLASS DOORS.

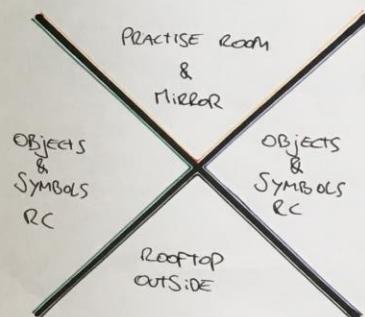
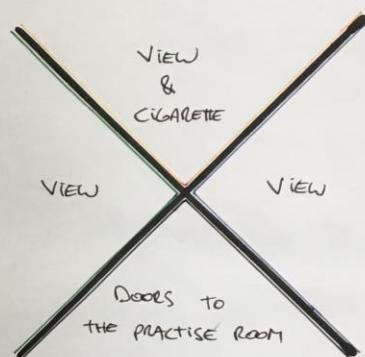


2 SCENE MIRROR

WALKING TO MIRROR

THE ARTIST PROCEEDS TO THE GLASS DOORS, OPENS THEM
AND ENTERS THE PRACTISE ROOM. ONCE INSIDE, THE
ARTIST WALKS TOWARDS THE BIG MIRROR ON THE WALL
UNTIL HE IS STANDING IN FRONT OF IT.

IN THIS ROOM AT THE SIDES WILL BE STANDING ALL KINDS
OF OBJECTS AND SYMBOLS THAT STAND FOR THE RC.
THESE OBJECTS COULD BE INSTRUMENTS AND CLOTHING
OUTFITS. SYMBOLS COULD BE PICTURES OR MUSIC PLAYINGS.



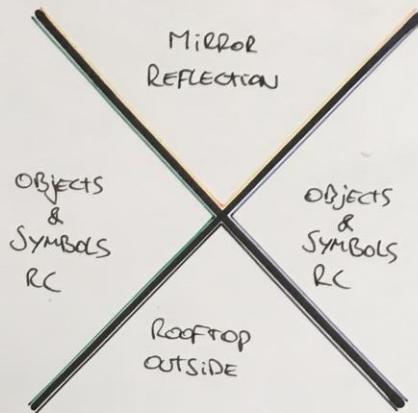
4

MIMICING MIRROR

AS THE VIEWER IN FRONT OF THE MIRROR, THE VIEWER WILL SEE THE REFLECTION OF THE ARTIST.

THIS REFLECTION WILL MIMIC THE VIEWER HEAD MOVEMENT.*

*FOR ACCOMPLISHING THIS, WE WILL DO RESEARCH AND EXPERIMENTING TECHNICALLY. IF HOWEVER PROVES TO BE IMPOSSIBLE OR ENDS UP NOT BEING COMPATIBLE, THIS STEP CAN BE SKIPPED.



5

NOISE FROM DOOR

AFTER LOOKING TO THE MIMICING REFLECTION FOR A COUPLE OF SECONDS, NOISE WILL START COMING FROM THE EXIT DOOR, WHICH IS PLACED ON THE RIGHT OF THE MIRROR.

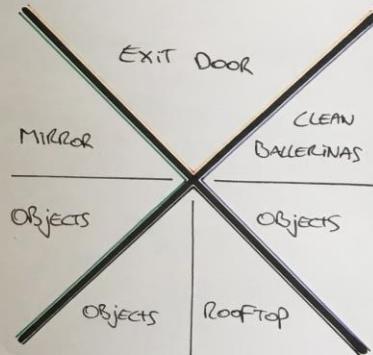
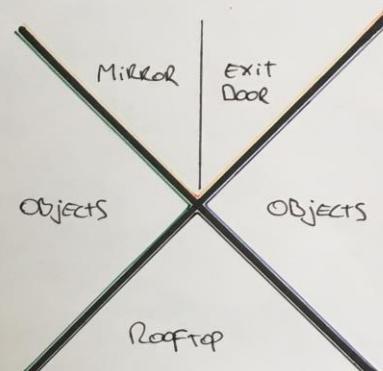
ONCE THE NOISE PULLS THE VIEWER'S ATTENTION AND LOOKS AT THE DOOR, THE DOOR WILL OPEN AND INSIDE COME THREE DANCERS.



6

PASSING BALLERINAS

IN COME THE THREE DANCERS, WHICH ARE BALLERINAS IN WHITE BALLET CLOTHES WITH FRESH AND CLEAN MAKE UP PUT ON. WHEN THEY COME IN, THE ARTIST START WALKING TOWARDS THE EXIT DOOR PASSING THE THREE BALLERINAS.



7 First Flicker Nightmare State

ONCE THE ARTIST IS NEXT TO THE BALLERINAS, THE NIGHTMARE STATE (NS)* WILL TRIGGER FOR THE FIRST TIME.

THE ROOM GROWS DARK AND ALL CURTAINS ARE CLOSED (MIRROR AND FROM OUTSIDE DOORS). THE BALLET DANCERS WEAR BLACK CLOTHES AND MAKE UP IS ALL MESSED UP.

THIS NIGHTMARE STATE ONLY DURS A FRACTION OF A SECOND MAKING IT UNCLEAR TO THE VIEWER WHAT HAPPENED AND LEAVING HIM/HER WONDERED.

* FOR A CLEAR VISION OF THE NS, THERE IS AN EXAMPLE MADE IN VIRTUAL REALITY USING DRAWINGS.

3

SCENE S. ROOM



8 Room Between

AFTER THE NS THE ARTIST WALKS OUT OF THE PRACTISE ROOM TO GO TO THE ELEVATOR. TO GET TO THE ELEVATOR, THE ARTIST HAS TO PASS AN ROOM IN BETWEEN.

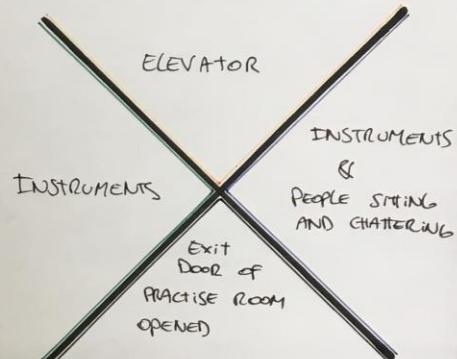
IN THIS ROOM THERE WILL BE INSTRUMENTS AND PEOPLE SITTING ALL AROUND CHATTERING.

WHEN THE VIEWER LOOKS AT THOSE PEOPLE, THE NS WILL TRIGGER AGAIN.*

IN THE NS, THE ROOM WILL GROW DARK AND THE PEOPLE NOW ARE DRESSED BLACK AND SILENTLY STARE INTENSELY TO THE ARTIST.

THIS STATE WILL LAST A FEW SECONDS, THEN GO BACK TO NORMAL.

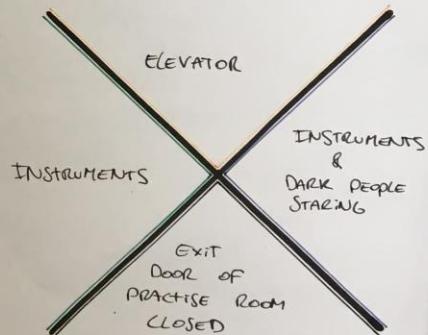
* IF VIEWER DOES NOT LOOK AT PEOPLE, THE NS WILL TRIGGER AFTER A CERTAIN AMOUNT OF TIME.



9 Second Nightmare State

IN THIS NS, THE ROOM WILL GROW DARK AND THE PEOPLE NOW ARE DRESSED BLACK AND SILENTLY STARE INTENSELY TO THE ARTIST.

THIS NS WILL LAST A FEW SECONDS, THEN GO BACK TO NORMAL.



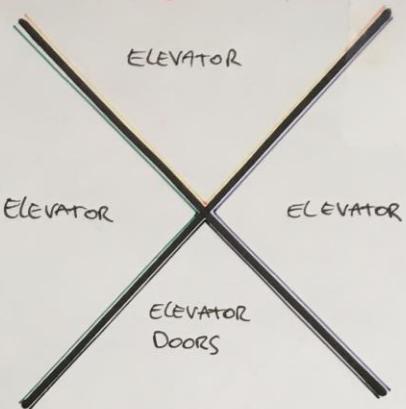
10 ENTERING ELEVATOR

4

SCENE ELEVATOR

ONCE THE NS ENDS AND THE VIEWER IS BACK IN NORMAL STATE, THE ELEVATOR DOORS WILL OPEN AND THE ARTIST WILL CONTINUE TO WALK INSIDE THE ELEVATOR.

WHEN THE ARTIST IS INSIDE, THE ELEVATOR DOORS WILL CLOSE.

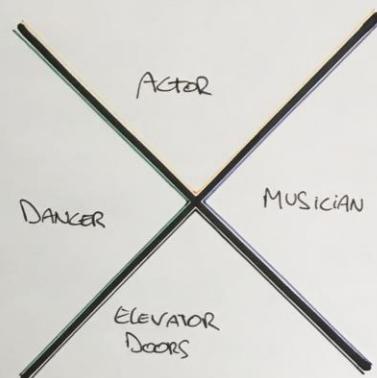


11 3 FIGURES

INSIDE THE ELEVATOR ARE THREE FIGURES:

- ① MUSICIAN: DRUMMER SLAMMING DRUMSTICKS ON EVERYTHING
- ② DANCER: BALLERINA PUTTING UP FEET ON RAIL STRETCHING AND TYING SHOES
- ③ ACTOR: WARMING UP VOICE WITH WEIRD AND AWKWARD NOISES

THE THREE FIGURES WILL BE DRESSED AS THE RC FIGS.

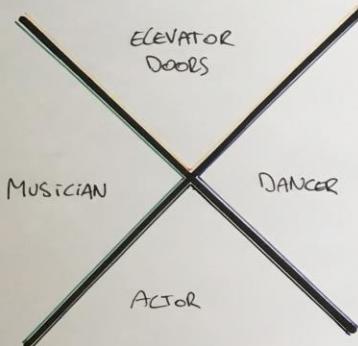


12 OPENING ELEVATOR

THE TOTAL TIME THE VIEWER WILL BE IN THE ELEVATOR IS ONLY THE TIME THE ELEVATOR TAKES TO THE RIGHT FLOOR.

WHEN ELEVATOR ARRIVES ON THE CORRECT FLOOR, THE ELEVATOR DOORS OPEN. ONCE THE VIEWER LOOKS AT THE DOOR, THE ARTIST WILL WALK OUT THE ELEVATOR AND STEPS IN TO A CORRIDOR.

DURING THE WHOLE TIME IN THE ELEVATOR, THERE WILL BE NO NS, KEEPING THE VIEWER IN SENSATION.



13 ENTERING CORRIDOR

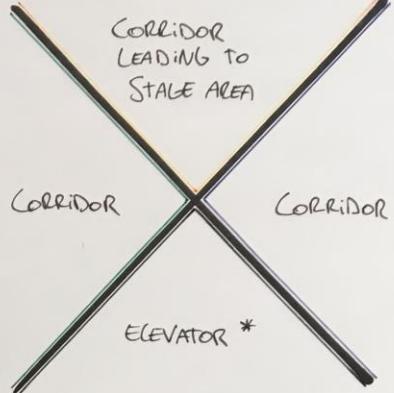
WALKING OUT THE ELEVATOR, THE ARTIST STEPS INTO THE CORRIDOR THAT LEADS TO A STAGE AREA.

ONCE THE VIEWER FINDS HIM / HERSELF IN THE CORRIDOR, SOME COMFORTING MUSIC STARTS TO PLAY.

THE ARTIST THEN PROCEEDS THROUGH THE CORRIDOR AND THE ELEVATOR DOORS CLOSE.

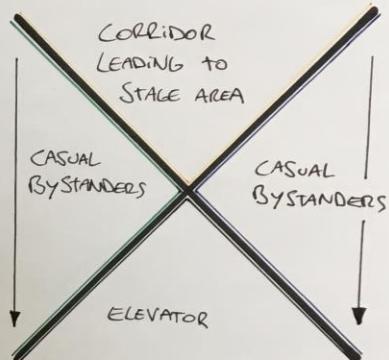
* DEPENDING ON LOCATION ELEVATOR

(5) SCENE CORRIDOR



14 CASUAL BYSTANDERS

WHILE THE ARTIST IS MOVING THROUGH THE CORRIDOR, THERE WILL BE SOME CASUAL PEOPLE PASSING BY, AS WELL PEOPLE SITTING AT THE SIDES OF THE CORRIDOR.



15 SEQUENCE OF NIGHTMARE STATES

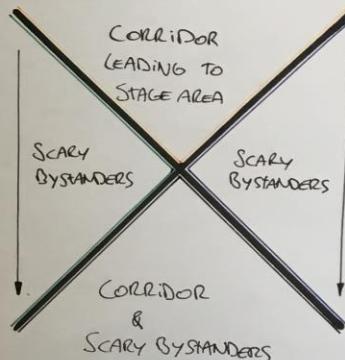
WHEN THE ARTIST MOVES THROUGH THE CORRIDOR, THE NS WILL TRIGGER ACCORDING FOLLOWING SEQUENCE*:

- ① OUT ELEVATOR: NORMAL 3-5s
- ② NS 5-10s
- ③ NORMAL ~10s
- ④ NS 20-30s
- ⑤ AT END OF CORRIDOR: NORMAL

WHEN NS TRIGGERS, ALL BYSTANDERS ARE CLOTHED DARK AND ACTING CREEPY. PASSING PEOPLE STARE FRIGHTENINGLY TO THE VIEWER AND SITTING BYSTANDERS MOVING LIKE INSECTS AND ANIMALS.

THE MUSIC TURNS SCHRILL AND DISCOMFORTING ON WHICH SOME OF THE BYSTANDERS DANCE ON.

* THE TIME CAN DIFFER THAN STATED, HOWEVER WILL RESULT BEST.



16

BAND OF MUSICIANS

AT THE END OF THE CORRIDOR THERE WILL BE A BAND OF MUSICIANS PLAYING THE MUSIC THE VIEWER IS HEARING.

IN THE NS, ALSO THEY WILL TRANSFORM TO CREEPY BAND WITH SCARY CLOTHING AND WEIRD MOVEMENTS. WHEN NS ENDS AND EVERYTHING IS BACK TO NORMAL, THE BAND WILL PLAY AGAIN COMFORTING MUSIC AND LOOK COMFORTING.

6

6

SCENE STAGE



17

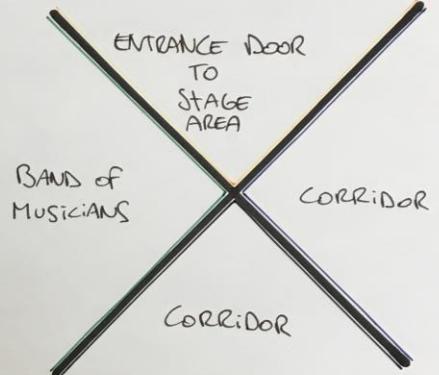
DEEP BREATH

WHEN BACK TO NORMAL STATE, THE VIEWER WILL FIND HIM / HERSELF STANDING IN FRONT OF THE STAGE AREA ENTRANCE.

HERE THE ARTIST WILL GATHER HIS / HER STRENGTH, TAKING A CLEAR DEEP BREATH* AND WALK TO THE ENTRANCE DOOR.

THE VIEWER WILL HEAR THE ARTIST'S DEEP BREATH, AND FROM THE ~~OF~~ VIEWER WILL STAY IN A FIXED POSITION AND SEE THE ARTIST WALKING OUT OF 1st P.P. TO THE DOOR AND ENTERING IT. FROM THIS POINT THE VIEWER WILL OBSERVE FROM 3rd P.P. UNTIL THE NEXT SCENE.

* THE 'DEEP BREATH' WILL BE TRIGGERED ONCE THE VIEWER LOOKS AT THE ENTRANCE DOOR OF THE STAGE AREA.

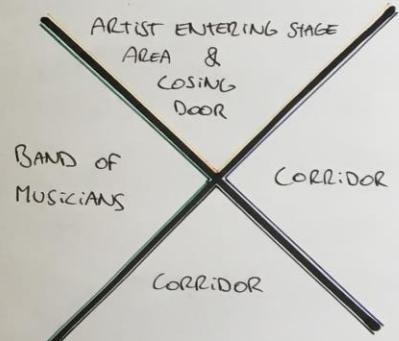


18

CLOSING DOOR

WHEN THE VIEWER SEES THE ARTIST ENTERING THE STAGE AREA THROUGH THE DOOR, THE ARTIST GOES IN AND THE DOOR CLOSES BEHIND HIM / HER.

WHEN THE DOOR CLOSES, THE VIDEO WILL FADE TO BLACK. MUSIC FADES AWAY TOGETHER WITH THE FADING TO BLACK.



END OF SCENE



SCENE 1- ROOFTOP

Locations→ Rooftop Royal Conservatory, practicing room at 5th floor

BLACK SCREEN

EXHALE SMOKE

FADE IN

NORMAL OUTDOOR SOUND

- The Main Character (**MC**) stands outside on the rooftop on the 5th floor of the Royal Conservatory. MC is watching the city, while leaning (resting) on the balustrade.
- MC is feeling nervous, shaking hands, fingers tapping rail, cigarette in left hand. This action will take at least **10”**. (Before the MC actually does the next action)

“SIGH” EXHALE

- When the viewer looks at the glass doors, the MC turns slowly towards the doors.
- If viewer doesn’t look at the glass doors, the MC will turn around after **1’** (1min+ shot)

HEADSET TRACKING

- The MC starts walking towards the doors and throws away the cigarette on the floor.

FOOTSTEPS 1PERS

SCENE 2- MIRROR

Location→ Rooftop transition, Practice room, in front of mirror

FOOTSTEPS 1PERS

- The MC starts walking inside the practice room straight alongside the mirror
- The MC stops in front of the mirror; standing with its body straight towards it 2 meters away. The viewer sees the reflection of the artist, and this reflection mimics the head movement that the viewer makes. 15-20”

HEADSET TRACKING + PROGRAMMING SCRIPT

DOOR NOISE + VOICES & LAUGH DANCERS

- When the viewer looks to the door, the MC turns and starts walking towards the door, at least after 5”

HEADSET TRACKING

DOOR OPENING + FOOTSTEPS DANCERS

- Dancers come in, talking to each other, they look to the MC in a friendly way, some of them don't even look at the MC.

AFTEREFFECT CAMERA INVISIBLE

- The MC starts walking towards the exit door

FOOTSTEPS 1PERSON + FOOTSTEPS DANCERS + VOICES & LAUGH DANCERS

- The MC walks towards the door passing the dancers and NS triggers.
→ case 1: when viewer looks at dancers 1' before passing, NS will trigger immediately
→ case 2: when viewer does not look at dancers passing, NS will trigger when right next to MC

AFTER EFFECT HORROR NOISE

- **Nightmare State (NS)** 1 → 1/3" The room is dark, all curtains are closed and the dancer's wear scary, shredded black clothes and their makeup is smudged and messed up.

FOOTSTEPS 1PERS+ FOOTSTEPS DANCERS

- **Normal state** again. The MC continues to walk towards the door, and walks out of the practice room.
- Dancers continue walking inside the room towards the rooftop

SCENE 3 - SMALL ROOM

LOCATIONS→ Small room in between practise room and elevator

FOOTSTEPS 1PERS + BACKGROUND NOISES + INSTRUMENTS PLAYED

- The MC enters a new room, filled with instruments and people sitting around and chattering. One person playing on a instrument simply practising and tickling some notes. Audio recorder is placed next to instrument recording the audio.
- MC turns half a quarter of a circle to the right and starts walking to the right side of the middle wall to proceed to elevator
- After MC has turned a quarter of a circle to the right, walks for 1'' and second NS triggers

INSTRUMENT MUSIC GOES LOW

- **NS2 1"**→ The room gets dark, the people in the room are dressed in black, shredded clothing. They stare intensely at the MC while he/she is walking.
- Back to **normal state**. MC continues walking alongside wall.
- At the end of the middle wall, MC turns a quarter of a circle to the left.

SCENE 4 - ELEVATOR

Locations→ Elevator

RECORDED ELEVATOR “DING” + ELEVATOR DOOR

- The doors of the elevators open while the MC is looking at it (not standing still)
- 4 people already in the elevator: a dancer, an actor and a musician, and one extra person(EPS) getting off on this floor. This extra 4th person immediately turns right

before the middle wall, goes straight and then turns left and walks into the practice hall. This extra person has the live recording of the camera on its screen, and when walking out, turns the screen of the mobile towards the camera.

- MC waits for person to get out and enters the elevator, immediately turns half a circle around, so the MC faces the elevator doors.
- When standing in the elevator, the dancer goes standing in front of you, waiting to get out of the elevator.

ELEVATOR DOOR CLOSING

The musician is behind on the left, the dancer in front of you, the actor behind the MC on the right. The following happens simultaneously: (the next are suggestions)

- Musician: is clearly a drummer (male), is slamming drumsticks to practice. Is dressed in fairly normal clothes
- Dancer: a female ballerina in her ballerina suit. She's stretching her leg on the bar and tying her shoe when her foot is on the bar.
- Actor: male or female with colorful clothes warming up his voice (maybe interact and talk to MC).
- MC stands waiting to arrive on floor. **The time it takes to reach the first floor is the normal, realistic time.**
- Right before arriving on the floor and elevator doors open, the screen will go shaky and blurry as to go in NS, but then immediately breaks it off with the elevator sound of opening doors. During this blur, we change shots. Before the blur, the three figures stand still towards the elevator doors without moving, and will take the same position and pose in the next shot.

SHORT BLUR

ELEVATOR ANNOUNCE (You arrived to the first floor)

- When elevator doors are opened, dancer in front of you walks out and turns left disappearing from sight. The actor behind, passes the MC, giving MC a little push (viewer will experience the push because of the moving camera) and hurry out of the elevator to the left and disappears out of sight.
- MC start walking out the elevator.

SCENE 5 - HORROR CORRIDOR

Locations→ Corridor- Red Carpet 1st Floor

- The MC walks out of the elevator and turn a quarter of a circle to the right into the corridor that will lead to the stage area. At the end of the corridor there is a band playing.

FOOTSTEPS 1PERS + COMFORTING MUSIC

- The MC continues walking through corridor. On the sides of the corridor there are people sitting and passing by.

PEOPLE CHATTING

- The MC walks for 5'' after turning to the right, then the third NS triggers.

DISTURBING, WARPED MUSIC FROM THE BAND

NS3 10"→ The corridor gets dark, the people that are passing and the band are now dressed in black (shredded) clothing.

- The by passers intensely stare at the viewer, moving unnatural like insects, animals, possessed bodies
- Band plays disturbing warped music, also moving weird. Singing becomes screaming (depends if there is a singer).
- The corridor switches back to normal. **10"** The MC continues walking, the people are back to casually sitting and passing by. Music turns back to comfortable feeling.

PEOPLE CHATTING + BAND COMFORTING MUSIC

- The MC walks by **A PRINTED VERSION OF THIS SCRIPT** hanging on the wall to his right. The script shows this specific page.
- **NS4→ 10-30"** The corridor becomes dark again, the by passers and band are again dressed in black (shredded clothing). This state is more exaggerated than previous NS. (extreme discomforting attention towards the viewer) The MC keeps walking through the corridor.

DISTURBING, WARPED MUSIC FROM THE BAND

- They continue their intense stare at the viewer, moving unnatural like insects, animals, possessed bodies again. This time more intimidating towards the viewer, coming closer etc

- Singing turns into screaming. Bands plays creepy/out of tune.
- The MC continues to the entrance of the stage area.

SCENE 6 - STAGE

Locations→ End Corridor- Red Carpet 1st Floor + Entrance Music Studio

DISTURBING, WARPED MUSIC FROM THE BAND

- The MC is at the end of the corridor (in NS), MC passes band that is set at the end of the corridor. The band still plays the music
- The MC stops in front of the stage area entrance (music studio), and gathers his/hers strength taking a deep breath

DEEP BREATH INHALE + EXHALE

- While exhaling slowly from the deep breath, the NS will slowly fade away (accordingly with the exhale)

FADE OUT NS4

- From the location where the MC stood still, the viewer will now stay in a fixed position.

PROGRESSIVE 1ST PERSON TO 3RD PERSON CHANGE

- The MC will start walking once the viewer looks at the entrance door of the stage area
- The viewer sees the MC walking to the entrance door of the stage area (music studio).

HEADSET TRACKING

- The MC confidently opens the door

FOOTSTEPS 1PERS + OPEN DOOR

- The MC goes in, and the door closes behind him/her.

DOOR CLOSING

- After the door is completely closed, the video starts to fade to black. Music fades away (same pace as the video fades to black)

SCREEN FADE TO BLACK

MUSIC FADES

Appendix F – Technical script Royal Conservatoire

PP→ Person Perspective
MC→ Main character

SCENE 1 Rooftop

VISUAL	Camera Position	1st Person Perspective (1PP) Standing
	Layout	1. Rooftop views 2. Glass door
	Characters	Main Character (MC)
	Props	MC→ Simple Clothing Cigarette/X
	Lights	Daylight, sunset?
SOUND	Background Sound	1. Exhale Smoke 2. Outdoor Sound, during all scene 3. “Sigh” Exhale 4. Footsteps
	Music	None
	Dialogue	None
TEMPO	Duration	10-60”

SCENE 2 Mirror Room

VISUAL	Camera Position	1. 1PP + Eye Height 2. Head tracking mirror
	Layout	Empty rehearsal room
	Characters	1. MC 2. Dancers
	Props	In this room there will be several different objects, that all stand for the Royal Conservatory: music instruments, clothing outfits, dance equipment. Symbols could be pictures or music playing
	Lights	Daylight entering in the room
SOUND	Background Sound	1. Footsteps 2. Silence when looking in the mirror 3. Ballerinas footsteps 4. NS sounds
	Music	None

	Dialogue	1. None when MC is alone 2. Ballerinas chatting when they enter
TEMPO	Duration	40-60"

SCENE 3 Small Room

VISUAL	Camera Position	1PP
	Layout	Small room between rehearsal room & elevator with a wall in the middle. 1. Normal state: Curtains opened 2. Nightmare state: All curtains are closed
	Characters	MC Musicians Dancers
	Props	1 Active instrument 2 Inactive instruments Clothing Symbolic objects
	Lights	Natural daylight
SOUND	Background Sound	1. Normal state: chattering and simple practise instrument play 2. Nightmare state: low pitched tone on instrument
	Music	Instrumental, practicing
	Dialogue	Chattering
TEMPO	Duration	20"-30"

SCENE 4 Elevator

VISUAL	Camera Position	1PP
	Layout	Empty elevator
	Characters	Dancer Musician Actor
	Props	MC: Same Dancer: clothes, dancing shoes Musician: instrument accessoire Actor: acting clothes
	Lights	Elevator lights

		Shaky and blurry NS effect
SOUND	Background Sound	musician making noise, Actor talking and interacting with MC, people exiting elevator
	Music	/
	Dialogue	Actor talking to MC
TEMPO	Duration	Normal time it takes for the elevator to go from 5th to 1st floor

SCENE 5 Corridor

VISUAL	Camera Position	1PP
	Layout	Corridor 1 th floor (= quite long hallway) with a red carpet. Door to the stage at the end.
	Characters	Few people walking around in the corridor Bystanders sitting at the sides in the corridor Musicians for the band
	Props	Instruments for the music band (drums, guitar, ...)
	Lights	Natural light + maybe lights in the hallway Nightmare state: very dark
SOUND	Background Sound	Footsteps Chattering Artists voice (singing/acting) creepy whispers static/noise
	Music	Live music played (normal state & NS)
	Dialogue	Dialogues between bystanders
TIME	Duration	1-2'

SCENE 6 Stage

VISUAL	Camera Position	PP1 <ul style="list-style-type: none"> • 3rd person behind character (also eye height)
	Layout	Behind MC: the corridor In front MC: the doorway to the stage (music studio)
	Characters	Main character Music band People behind you in corridor

	Props	Instruments for the music band (drums, guitar, ...)
	Lights	Nightmare state: very dark Normal state: light in front of you the stage entrance is lit at the end everything fades to black (after effects)
SOUND	Background Sound	Deep breath sound footsteps behind you some crowd sounds from stage in front of you when opening door Band playing music
	Music	Live music played (normal state & NS), fades away at the end
	Dialogue	/
TIME	Duration	15''

Appendix G – Plan and script Academy of Fine Arts

Academy and our focus on it

The Academy of Fine Arts is a school guiding student artists through their lives as artists. Students on this school are not being trained by experienced people to perform a specific profession in arts. For becoming an artist, it is about digging into yourself, going through certain experiences, becoming conscious in different ways than rational thinking. Making art is all but rational and it is different for each artist. This school can thus only encourage and guide the students through their personal work.

This is also what we want to focus on. Not on the rational way of living and not about putting one experience into one way of telling a story, but to completely let go of any boundaries we might come across for both ourselves and the observers. With this we hope to achieve to create a story which is going to be interpret by everyone differently, directly playing onto the observers personal life experiences. To do this we are made a poetical story fitting for a growing artist.

Why do we do this? We did not see the point in giving rational information about the school, the students and the work. It would not display anything about the Academy and its atmosphere which is very lively. We could ask a student what art means to him or her, or we could try and ask to explain their works of art, but that would not be a complete nor a reliable visualization of the arts. To stay as complete and as correct possible, we will have to approach the abstractness of the school with abstraction itself. Only in this we can be the most resembling with the atmosphere of the Academy, in which rational words would never be able to do.

The idea

The story will be rather abstract in that way it is a poetical story. There is not going to be a similar storyline for the one observer as the other observer. The video will be combined with mainly three different parts: painting on canvas, scenes in the academy in between and a poetical story being told.

Script

TIME

SOUND

LOCATIONS & ACTIVITIES

VISUALS

- We first start in a painting classroom where there is a lot of materials and paintings to see. In front of the observer there will be a white empty canvas.
- After looking around for a certain amount of time, we will suddenly change to a particular scene. In the scene something of the Academy will be shown about a certain discipline of the school.
- During this scene the poetical story (that is split up in different parts for different scenes) will be voiced over.
- When the scene ends (after approximately 1min), we will go back to the painting room and the observer will see that something is drawn on the white canvas. Also the voice telling the story stops and does not continue until the next scene.

- After a certain amount of time, the video switches to the next scene of a different activity and location of the Academy. The poetical story will now be continued by the voice until the end of the scene.
- When this scene ends, we go back to the painting room and the canvas, which now has made even more progression. The poetical story does not continue until the beginning of the next scene.
- We keep going like this until the poetical story is completely told. With the ending of the last scene, we go back to the painting room and see that the painting is completely finished.
- Then the video ends.

Sequence of video:

1. Empty canvas
2. Scene 1
3. Painting progression on canvas
4. Scene 2
5. Painting progression on canvas
6. Scene 3
7. Finished painting

More explanation on the three different parts:

- Poetical Story: we have written a poetical story suitable for artists, which will be told during the scenes in the video by a voice. We do this by recording someone reading the story. (Story is at the bottom of the script.)
 - Painting: an artist (who will not be in the video) will read the poetical story and on that he/she will base the painting on. The artist is completely free to interpret and output the story onto the painting. In the process of the story we will take different shots, capturing the progress of the painting.
 - Scenes: scenes will be about locations and activities of the Academy. These scenes will be played in between the video of the painting room. Each scene will tell its personal visual own story with an unique experience. When a scene ends and the experience has been lived through, we will go back to the painting that has made progress. These scenes will be based upon improvisation and shooting many videos of ideas we have. Out of these we will continue until we found a few of the best which we will then use in the video.

Poetic Story

I thought it to be a burning wire. Igniting, tiny sparks jumping off in ecstasy. A travelling bright spark burning a blazing trail glowing yellow, to red, to grey, to ash, to perish.

I see the bright spark gliding away from me, its tiny sparks disappearing into the distance, glowing darker, growing smaller, travelling further.

The yellow light is gone and the red glow has faded. It becomes frighteningly cold. I stand still. The warmth of thriving feels so remote and all I sense now is a cold grey glow. I can roughly see the ash of the burned wire stretching into the distance.

Every bit of ash left behind stands up quietly, abandonedly staring around in wonder. Dreamlike I look at those nearby me. Some of them I see nervously seeking for a speck of light, others are still gazing in blindness, some of them already seem to accept, and then there is me. I feel overwhelmed by the boundless void penetrating me.

Another bit of ash resembling me looks back at me, returning the same blank expression on its grey face. In each other we recognize the emptiness filling the both of us. It completes us. Without hesitating we had to accept that we would never thrive again.

We were once the fuel that would cause explosions. We once cracked from the heat. Even our skin glowed yellow bright. Now we are grey, vaguely forgotten shapes.

So that is how it is. It really was standing still that was waiting for us. Thriving was just ... for a moment. For everyone only a moment. For me in front of me just a moment, for me behind me just a moment.

How wrong I was. The spark does not exist at all. I imagined it a burning train raging through, taking you on board when it passed, but it is not. It was a pursuit for bursting eruptions. Explosions igniting everything in their surroundings, in search of other explosions.

It was me that had burst when the train passed. I in front of me ignited me, and I exploded igniting me behind me. It was just me. There was no travelling spark, merely the continuous bursting of the next me that stood in line of me, following up all of me being me.

Now the deceitful train passed in burning fury, I saw that there was nothing. Nothing but me myself. Nothing than me in front of me and me behind of me. A million times of me. An endless times me. The whole wire of me bursting into one sole fierce eruption.

It was just once that I could burst on fire. And endless times just once. But I stood still. And now I am burned out. There is nothing to do than to disintegrate, than to perish. Here I have to go now. My fuel is used up. If I stay standing here I will have to stand here forever. I cannot keep myself standing here. Gone, I have to go now. Before I stand myself in the way.

If only I had seen sooner it was everyone me together that created the spark thriving. If only I had seen sooner there were an endless waiting explosions of me and that it was the emptiness that could ignite me over and over again. A million times. Endless times.

In exhilarating silence we gazed at each other. The blank faces of myself faded in shining dark blue specks of light. We understand each other. Let us now go away together, and make space for the other infinite times of me eagerly waiting for the raging train. They do not know any better, but they are me. And they will erupt.

Sequence of video in storyline

i. **Painting 1: empty canvas (10s)**

1. shot tv person dying (large exhibition hall => get background audio from material (Frances), Overlay screen with footage from material => Johannes)

I thought it to be a burning wire. Igniting, tiny sparks jumping off in ecstasy. A travelling bright spark burning a blazing trail glowing yellow, to red, to grey, to ash, to perish.

I see the bright spark gliding away from me, its tiny sparks disappearing into the distance, glowing darker, growing smaller, travelling further.

2. Black room window open (after effects Arno)

The yellow light is gone and the red glow has faded. It becomes frighteningly cold. I stand still. The warmth of the thrive feels so remote and all I sense now is a cold grey glow. I can roughly see the ash of the burnt wire stretching into the distance.

ii. **Painting 2: progress on canvas**

Every bit of ash left behind stands up quietly, abandonedly staring around in wonder. Dreamlike I look at those nearby me. Some of them I see nervously seeking for a speck of light, others are still gazing in blindness, some of them already seem to accept, and then there is me.

3. mirror scene fashion department (2 Versions: youtube with static mirror reflection => Johannes, HTC with mirror effect => Ski)

(Switching of different locations in fashion department => 3 locations (located before the mirror location) switching in the duration of this next sentence) I feel overwhelmed by the boundless void penetrating me.

(From here, stop on location mirror. Duration of next sentence + duration of silence behind sentence = 20s) Another bit of ash resembling me looks back at me, returning the same blank expression on its grey face. In each other we recognize the emptiness filling the both of us. It completes us.

(From here, switching of different locations in fashion department again => 3 different locations (located behind the mirror location) switching in the duration of this next sentence) Without hesitating we had to accept that we would never thrive again.

4. welding scene

We were once the fuel that would cause explosions. We once cracked from the heat. Even our skin glowed yellow bright. (At yellow bright, show the piece of video where the lash stitch glows yellow bright so that matches with the previous sentence, and when it fades out it matches the next sentence) Now we are grey, vaguely forgotten shapes.

So that is how it is. It really was standing still that was waiting for us. Thriving along was just ... for a moment. For everyone only a moment. For me in front of me just a moment, for me behind me just a moment.

iii. Painting 3: 1st person painter

How wrong I was. The spark does not exist at all. I imagined it a burning train thriving through, taking you on board when it passed, but it is not. It was a pursue for bursting eruptions. Explosions igniting everything in its surroundings, in search of other explosions.

It was me that had burst when the train passed. I in front of me ignited me, and I exploded igniting me behind me. It was just me. There was no thriving spark, merely the continuous bursting of the next me that stood in line of me, following up all of me being me.

5. timelapse sculpturing (compress the duration of the video in the duration of this sentence)

Now the deceitful train passed in burning fury, I saw that there was nothing. Nothing but me myself. Nothing than me in front of me and me behind of me. A million times of me. An endless times me. The whole wire of me bursting into one sole fierce eruption.

6. timelapse wintergarden exhibition break off and building new (fading frames in each other => Johannes)

It was just once that I could burst on fire. And endless times just once. But I stood still. And now I am burned out. There is nothing to do than to disintegrate, than to perish. Here I have to go now. My fuel is used up. If I stay standing here I will have to stand here forever. I cannot keep myself standing here. Gone, I have to go now. Before I stand myself in the way.

7. Winter Garden performance (stitch front side with mirrored front side of the movie => Johannes)

If only I had seen sooner it was everyone me together that created the spark thriving. If only I had seen sooner there were an endless waiting explosions of me and that it was the emptiness that could ignite me over and over again. A million times. Endless times.

iii. Painting 4: Painting finished, painter interaction with camera (After story complete, wait a few seconds and then fade slowly to black)

In exhilarating silence we gazed at each other. The blank faces of myself faded in shining dark blue specks of light. We understand each other. Let us now go away together, and make space for the other infinite times of me eagerly waiting for the thriving train. They do not know any better, but they are me. And they too will erupt.

Appendix H – Explanation results

As mentioned in the report the scenes will be explained in the following part.

Scene 1 - Empty canvas

Story:

In the story the whole perspective will be of an artist creating, thus searching in him/herself. This is done through the perspective of a painter painting a self-portrait. In the beginning we start with an empty canvas, which stands for the nothingness from which is build a work of art. It has no boundaries (in this case the canvas). The further we go into the story, the further the painting will progress until in the last painting scene it is finished.

These scenes match with the story in that way that you have to destroy boundaries in order to grow in art. It is not only in the beginning, but it is a process of constantly destroying new and deeper boundaries. Doing this the artist will explore in him or herself, find and from that create art.

Academy:

These scenes refer to the painters studying in the Academy of Fine arts.

Technical:

We decided to film these four different scenes in different perspectives. This also shows that as an artist, searching for new perspectives are really important. First, we placed the camera in front of the white canvas on a tripod where you had a clear sight over the room in the background as well. For the next scenes we started to look different angles to film from, which would have a clear view of the art and the room in a way that was interesting to look all around. We used big and smaller tripods for this.

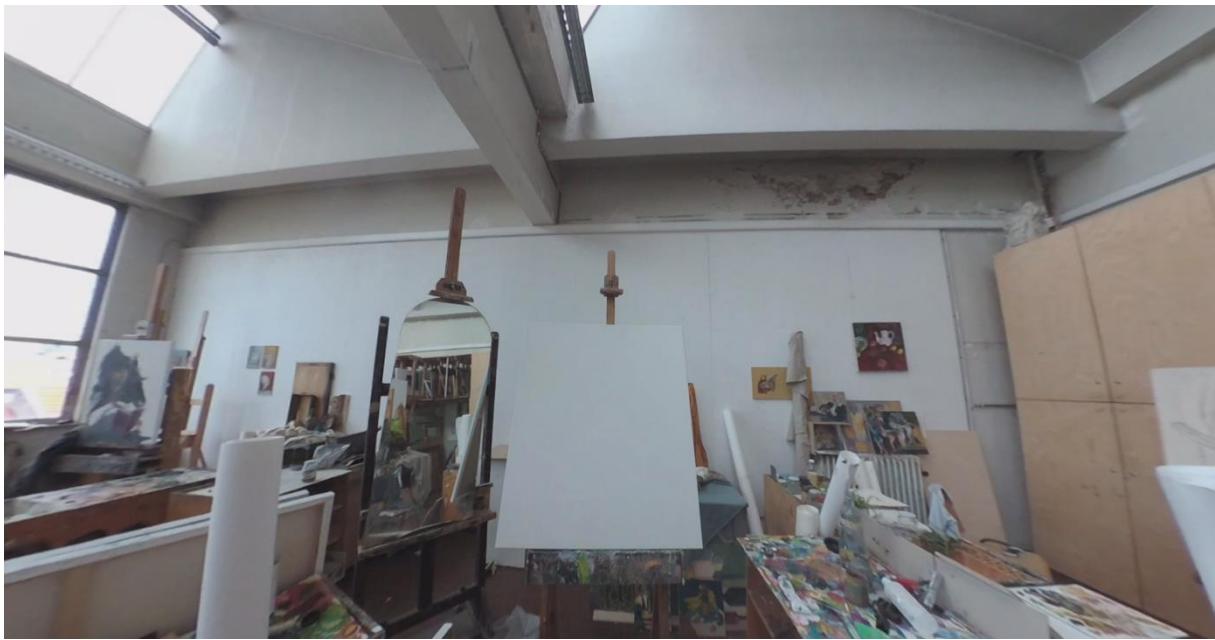
In one of the scenes we used the VR Camera Helmet to put the observer in the perspective of the artist himself. This resulted in a very interesting experience and really draws you in the handling of the artist creating the painting.

duration of the filming	Ca. 2 minutes
equipment	360° camera with SD-card, tripod that can put camera on eye height.

Edit:

Information about the editing will be delivered later on.

Screenshot of the scene:



Scene 2 – Exhibition hall

Story:

This scene stands for the dying or the disappearing of life which connects with the story where the sparks disappears into the distance. In the video you see a person dying and the audio is a beep of the heart's activity of the dying person, which then when the person is death, plays as one long beep.

Academy:

This was filmed in the large exhibition hall expo while it was getting broken down.

Technical:

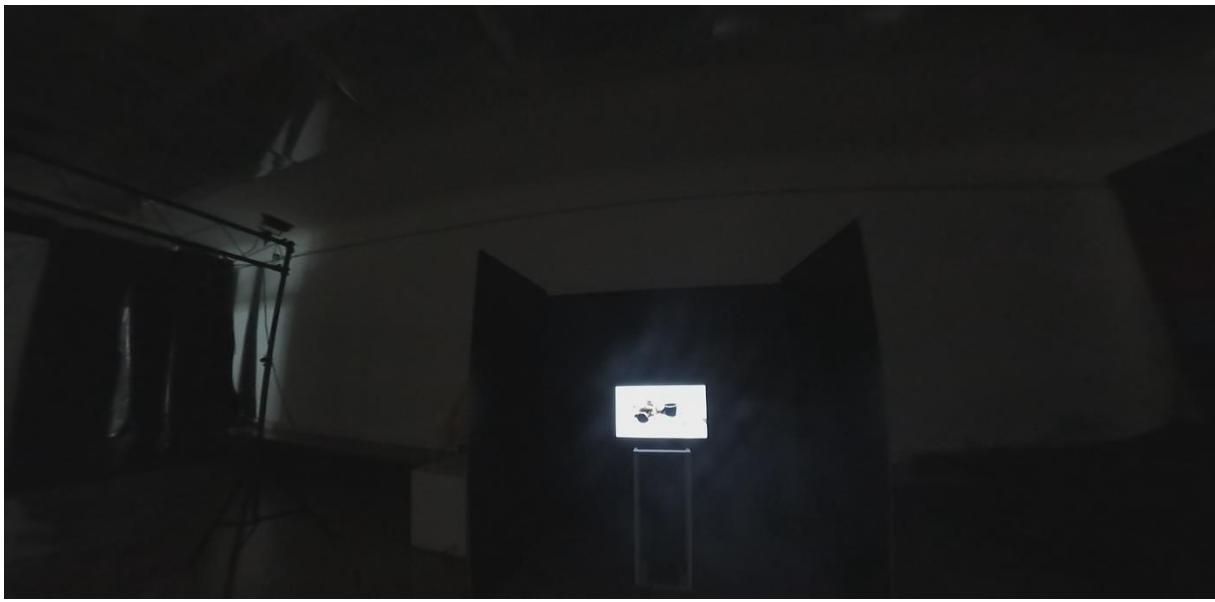
We placed the camera between the two works of art so they would both be clearly visible and so that the screen was not too far away from the camera to see what was being played on the screen. We afterwards asked the artist that made the footage that was being played on the screen so that we then could extract the audio from the file and use it for a clear background sound. Also since the lighting coming from the screen in a dark background was a little too bright, we overlayed the video material on top of the actual screen in the video so that it is more clear to see the footage.

Edit:

Information about the editing will be delivered later on.

duration of the filming	Ca. 10 minutes, the filming can take much longer if the artist is not at the exhibition and you can not ask him or her for permission
equipment	360° camera with SD-card, big tripod that can put camera on eye height, video footage from the artist

Screenshot of the scene:



Scene 3 - Black room with open window

Story:

We chose this video for this scene because of the absence of light, thus the absence of warmth. Everything in the scene grows dark and cold, the same as the black room which could be completely darkened and felt chill when it was completely sealed off.

Academy:

This black room was a room for photographers studying in the school, where they could take pictures so that light from the outside would not influence the pictures being taken.

Technical:

We searched for an interesting location to put the camera and stared filming for a small amount of time. After we had the footage, we have put some effects in the video (with Adobe After Effects) to make the scene more immersive, since there is nothing happening in the video.

Edit:

Information about the editing will be delivered later on.

duration of the filming	Ca. 2 minutes
equipment	360° camera with SD-card, big tripod which can put the camera on eye height

Screenshot of the scene:



Scene 4 – Mirror scene and fashion department

Story:

Here we used different locations in an interesting room with a big amount of little details, where three we would quickly show after each other. This connects with the part of 'feeling overwhelmed'. Then after the jumping through the different locations, we suddenly stop in the middle of the room in front of a mirror. In this mirror is a mannequin standing reflecting you (the observer is shown as a mannequin him/herself). The mannequin in the mirror has a rotating head, and will rotate together with the rotation of the observer. This part connects with the following line: "Another bit of ash resembling me looks back at me, returning the same blank expression on its grey face". The mannequin stands for the standing still in the story as well, meaning that you yourself could be the cause of not moving forward. It is you that has to break through your own wall, your own boundaries. After an amount of time of 'reflection', the story then starts leaping through the room again, showing three location quickly after each other that also connect the next sentence of never 'thriving' again.

Academy:

This room was for the costume designer in the school.

Technical:

The room was a pretty big and long one, so we started from the beginning of the room choosing an interesting position to place the camera. Then we took a shot for an amount of time. From that position we then looked at other places where we could put the next and do the same until the end of the room.

For the mirror that mimics your movement, we have developed a way that we could track the head movement of the headset that the observer is wearing so that we could track the angles of the direction of sight of the observer. Then we also took a shot in front of the mirror, so that the camera frontally reflects itself in the mirror. Afterwards we took the mannequin and took pictures of each head position it could rotate. Then using the coordinates we were tracking, we could then choose which picture would overlay on the video on top of the camera reflection. This way it was possible to get rid of the camera in the mirror as you were really standing in front of it.

For further explanation of the execution of this idea and the code, [click here](#).

Edit:

Information about the editing will be delivered later on.

duration of the filming	1 hour to film the different spots in the room and the mannequin that is getting stitched in as the body of the viewer, 1 hour to take pictures for the head movement of the mannequin, 5 hours for editing and programming
equipment	360° camera with SD-card, tripod that can put the camera on the height of the mannequin, DSLM camera

Screenshot of the scene



Scene 5 - Welding scene

Story:

This scene connects with the text that goes about bright lights, explosions and cracking from the heat. This really fits with the welding that you see observer from the inside of the work of art. When the welding spark stops, there is a moment that the metal glow yellow bright exactly as in the next sentence (which will be said at that exact moment it is happening). When the yellow glow wears off, it will then exactly go in sync with the next sentence: "Now we are grey, vaguely forgotten shapes."

This scene shows mostly visual what is being told in the story, which was really interesting to see how much it actually fits together.

Academy:

This was outside on the basement where was a welding station.

Technical:

We put the camera on a small see-through box and put it inside the work of art the artist was welding on to protect the camera from the heat and dirt.

Edit:

Information about the editing will be delivered later on.

duration of the filming	20 minutes
equipment	360° camera with SD-card, protective cover the camera from flying sparks, for this we used the lower part of a plastic packaging

Screenshot of the scene



Scene 6 - Timelapse sculpturing

Story:

This time-lapse where there is a model in the middle with students of sculpture building his head in clay, stands for the part where there is an endless times of 'me': "Nothing than me in front of me and me behind of me. A million times of me. An endless times me."

The model stands for the 'me' that is active in the story, the sculpture of the model then stand for other infinite times of him from his point of view. This refers that I can only be just myself, but there are many different kinds of 'me'. This refers in the story that in order to grow as an artist, the current you could be the one that holds everything back and that in this case you have to break down the current you to grow the next you. This also is about destroying boundaries and searching deeper in yourself as a constant process.

Academy:

This time-lapse was taken during a model class in the sculpture department.

Technical:

Above the model was a plug hanging from the ceiling on which we tied the camera. In this plug we also plugged the camera so that the batteries would not go dead during the filming, since it took a several hours to film the whole session. Filming this session we decided to make a time-lapse, taking a picture every five seconds. This shortened the length of the video drastically (which was favorable) and gave an interesting effect on the process of the model class.

Edit:

Information about the editing will be delivered later on.

duration of the filming	4 hours, the camera filmed on time lapse and took a picture every 5th second
equipment	360° camera with SD-card, point to fix the camera on the ceiling, piece of rope to fix the camera, power connection and charging cable, sticky tape to stick the SD compartment flap to the camera after it was attached to the charging cable, power cable also needs to be stucked to the ceiling to make sure it can not be seen in the shot, ladder to hang up the camera

Screenshot of the scene



Scene 7 - Running

Story:

This scene connects to the story in that way both the sentences being told and the footage being shown are really energetically. It is both a running process that is happening: running through the corridor and "The whole wire of me bursting into one sole fierce eruption." In this corridor at the sides are many pictures being shown. Running through the corridor passes a new photograph over and over again which connects then with the following sentence of the story: "It was just once that I could burst on fire. An endless times just once."

Academy:

This scene was taking in the corridor of the building where the photography classes were settled and photos were being shown on the walls.

Technical:

For this we used the VR Camera Helmet we developed. Putting this on the head of one of the team members, he started running in the corridor.

Edit:

Information about the editing will be delivered later on.

duration of the filming	20 minutes
equipment	two 360° cameras or two 180° cameras, both with SD-cards, the helmet

Screenshot of the scene



Scene 8 - Timelapse exhibition breakdown

Story:

In this part of the story it is about that you have to get yourself out of the way in order to grow, to become a new you. Not about standing yourself in the way, but set yourself around to make place for more experiences. That is why we shot a scene where an exhibition is being broken down to build a new one that is being set up.

Academy:

This is filmed at the exhibition hall 'Winter Garden' in the Academy.

Technical:

To film this we tied the camera with some rope on the ceiling in which where screwed some hooks. This gave a really clear and interesting sight over the process in the exhibition room. We also filmed this in time-lapse, taking a picture every 2 seconds. This made it possible to really shorten the video to fit into the video.

Edit:

Information about the editing will be delivered later on.

duration of the filming	3 hours, the camera filmed on time lapse and took a picture every 2 seconds
-------------------------	---

equipment	360° camera with SD-card, point to fix the camera on the ceiling, piece of rope to fix the camera, power connection and charging cable, sticky tape to stick the SD compartment flap to the camera after it was attached to the charging cable, power cable also needs to be stucked to the ceiling to make sure it can not be seen in the shot, ladder to hang up the camera
-----------	---

Screenshot of the scene



Scene 9 - Wintergarden performance

Story:

This performances that is happening requires the interaction of the observers. By that interaction, the observers become part of the art performance thus become part of the whole. This connects to piece in the story: "If only I had seen sooner it was everyone me together that created the spark thriving." Looking at all those different observer taking part in the performance, we can see that only all of them together created the performance. And thus not only the artist (current 'me') but everyone together creating the 'thriving spark'.

The room and performance are shown twice, one in front of you and one behind of you. It is connected to each other, though they run on a different timeline. This means that the performance on one side will be much further in progress than the other side. This reflects to the process of growing that always has to continue. There is no time where is an end, since if there would be an end, it would only be another boundary that should be destroyed. Growing has nothing to do with how far you have become and is the same when you were still young as you were old. Growing does not look at the quantity of your delivered work, but it is about the quantity of your experiences.

Academy:

This is filmed at the exhibition hall 'Winter Garden' in the Academy.

Technical:

Putting the camera on the side of the exhibition room we had a clear side of the whole performance from one side. But since we showed the performance on both sides, there would be no close wall or anything to be seen. To achieve this we filmed in 180° and stitched it with

its mirrored self. So then it could perfectly match, since the connections point would be exactly the same.

Edit:

Information about the editing will be delivered later on.

duration of the filming	1,5 hours
equipment	360° camera with SD-card, small tripod with the height of ca. 10cm

Screenshot of the scene



Appendix I – Coding

As part of this project report, all the code that was developed for this project is stored and documented on the page: https://github.com/ImmersiveStorytelling/EPS_Story/wiki. This page will be used as database for future programmers and technicians for following projects.

The complete coding will be handed in as part of the Appendix later on.

Appendix J – Unity script performance

- Consider not using Monobehaviours on everything
We can avoid this by using a Manager Script. For an example of the code, [click here](#).
- Arrays and Lists
Never use foreach to iterate over a List. It is much slower than for(int i = 0;)
For collection with specific size, use Arrays and no lists => arrays are more performant
- Static Objects
Check 'Static' box in top right corner of inspector tab of the object when object does not move
- Never use Unity's SendMessage() system
- Avoid using any sort of "Find()" method to get references to other objects in your scene => use manager for instantiating entities and call manager
- Always cache your transform/rigidbody/renderer/etc components on Awake() or Start() in order to use them later on Update()
- For 360° videos only: delete all gameobjects in the project not related to VR.
(Direction of light, Main Camera, ...)
- Avoid Allocating Memory => Minimise the impact of garbage collection
Every time an object is created, memory is allocated. Very often in code, you are creating objects without even knowing it.
Debug.Log("boo" + "hoo"); creates an object. Use System.String.Empty instead of "" when dealing with lots of strings.
Immediate Mode GUI (UnityGUI) is slow and should not be used at any time when performance is an issue.
- Difference between class and struct: Classes are objects and behave as references. If Foo is a class and

```
Foo foo = new Foo();
MyFunction(foo);
```

then MyFunction will receive a reference to the original Foo object that was allocated on the heap. Any changes to foo inside MyFunction will be visible anywhere foo is referenced.
- Classes are data and behave as such. If Foo is a struct and

```
Foo foo = new Foo();
MyFunction(foo);
```

then MyFunction will receive a copy of foo. foo is never allocated on the heap and never garbage collected. If MyFunction modifies its copy of foo, the other foo is unaffected. - Objects which stick around for a long time should be classes, and objects which are ephemeral should be structs. Vector3 is probably the most famous struct. If it were a class, everything would be a lot slower.
- Only call functions when they are necessary. For example; calling functions for a shot that is not being played, costs extra performance when it doesn't do anything
- Writing efficient code
Move code out of loops when possible. For example: In the following simple example, our code iterates through the loop every time Update() is called, regardless of whether the condition is met.

```

    void Update()
    {
        for (int i = 0; i < myArray.Length; i++)
        {
            if (exampleBool)
            {
                ExampleFunction(myArray[i]);
            }
        }
    }

```

With a simple change, the code iterates through the loop only if the condition is met.

```

    void Update()
    {
        if (exampleBool)
        {
            for (int i = 0; i < myArray.Length; i++)
            {
                ExampleFunction(myArray[i]);
            }
        }
    }

```

Consider whether code must run every frame => Only run code when things change
 Use caching. For example using GetComponent() (even better not to use this function, but the way of working might be useful):

This code works, but it is inefficient due to the repeated GetComponent() call.

```

    void Update()
    {
        Renderer myRenderer = GetComponent<Renderer>();
        ExampleFunction(myRenderer);
    }

```

The following code calls GetComponent() only once, as the result of the function is cached. The cached result can be reused in Update() without any further calls to GetComponent().

```

private Renderer myRenderer;

void Start()
{
    myRenderer = GetComponent<Renderer>();
}

```

```

void Update()
{
    ExampleFunction(myRenderer);
}

```

Use object pooling => It's usually more costly to instantiate and destroy an object than it is to deactivate and reactivate it

- Running code only when it needs to run

Culling: Only show visuals when the viewer is able to see it.

In the following simplified example code, we have an example of a patrolling enemy. Every time Update() is called, the script controlling this enemy calls two example functions: one related to moving the enemy, one related to its visual state.

```
void Update()
{
    UpdateTransformPosition();
    UpdateAnimations();
}
```

In the following code, we now check whether the enemy's renderer is within the frustum of any camera. The code related to the enemy's visual state runs only if the enemy is visible.

```
private Renderer myRenderer;

void Start()
{
    myRenderer = GetComponent<Renderer>();
}

void Update()
{
    UpdateTransformPosition();

    if (myRenderer.isVisible)
    {
        UpdateAnimations();
    }
}
```

Disabling code when things are not seen by the player can be achieved in a few ways.

sources:

<https://forum.unity.com/threads/general-performance-optimization-tips-for-unity.386338/>
<https://docs.unity3d.com/Manual/MobileOptimizationPracticalScriptingOptimizations.html>
<https://unity3d.com/learn/tutorials/topics/performance-optimization/optimizing-scripts-unity-games>

Appendix K – Skybox Vide Player

This is the new and recommended way to play 360 videos in Unity. The main advantage over the HPV node (working method in a [previous project](#)) is not having to convert the videos into the large hpv format. The main disadvantage is the lack of a 'play in reverse' button. So if it's necessary, you will need to reverse the video with a video editor of choice, or use a plugin from the Asset Store.

To add the Video Player in Unity following steps are needed:

1. in the Unity gui GameObject >> Video >> Video Player
2. create a Render Texture Assets >> Create >> Render Texture
3. set the size of this Texture to the size of your video
4. create a new Material Assets >> Create >> Material
5. drag and drop the created Render Texture into the Texture field of the newly created Material
6. last you should assign this Material as the Skybox Material Window >> Lighting >> Settings

The shader of the Video Material should be set to Skybox/panoramic.

Now you can create a script attached to the camera rig. This script should have a public variable of the type Video Player so you can drag the video player into it.

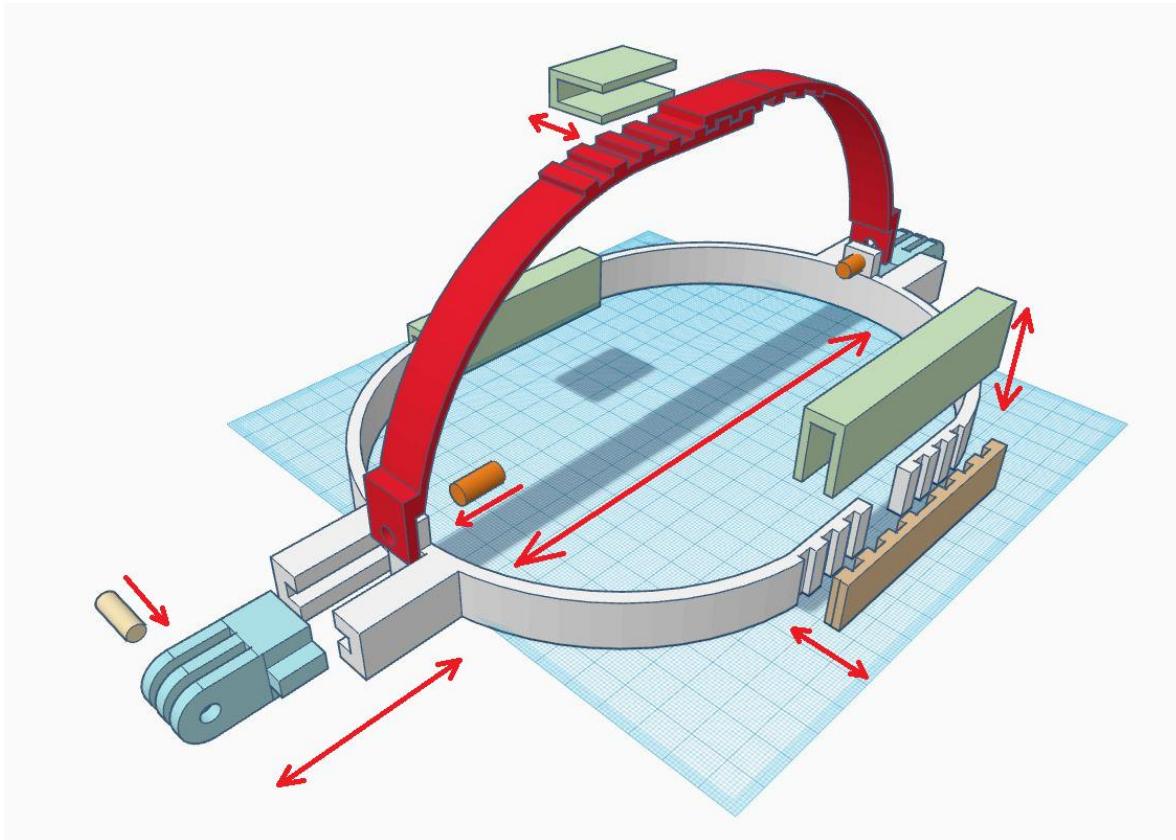
Inside this script you can now control the Video Player with the [Unity Video Player scripting API](#)

example the startVideo function

```
private void startVideo(int num)
{
    vPlayer.url = "Assets/" + num.ToString() + ".MP4";
    vPlayer.Play();
}
```

Appendix L – Helmet

The helmet was a fully 3D printed design made in Tinkercad. The 3D printers at our disposal do not have a heatbed and so ABS plastic couldn't be used as it would warp as it cooled down while printing. The filament used was PLA and requires no heatbed. The pricing of ABS versus PLA plastic is nearly identical. Around €20,- euros for a 1kg roll. The helmet has been designed in such a way that you can adjust the width and height so that it fits everyone's head size. It also features adjustable camera mounts to change the distance between the face and the cameras. The camera mounts are compatible with the Garmin (and GoPro) mounts.



The helmet is also very flexible because of the thinly printed straps that go around and above the head. This way you can stretch and fit the helmet onto your head. For sturdiness of the adjustable parts of the helmet we designed parts that you can put over the connections so that it doesn't disconnect. The top strip is removable, but can also pivot around its connection points a bit. Some improvements that can still be made would be the detachable top head strip. The way it holds onto the mainframe that goes around the head is not 100% reliable. Also, the connections the two strips make above the head can be made different. In the original design it was also possible to adjust the height of the camera relative to the mount of the camera, but this idea caused some fitting issues and was not necessary for our project.

