



**“Tell a Tail”**

The design of an interactive cinematic VR  
for an animal welfare transmedia

MASTER'S DEGREE PROJECT

**Tânia Esteves de Andrade**

INTERNATIONAL MASTER OF INTERACTIVE MEDIA DESIGN

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ORIENTATION

Valentina Nisi

CO-ORIENTATION

Paulo Alexandre Bala

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## Abstract

Tell a Tail 360 is a Virtual Reality (VR) documentary, part of a larger transmedia project about animal welfare in Madeira island, created to educate, raise awareness and spread the love for the animals, targeting teenage audiences. The literature review and the context research surveys suggest that younger audiences are more likely to change their behaviours than adults. Moreover, the majority of people are interested in the topic of animal welfare (AW) although not always aware of its complexity (e.g., lack of responsibility of ownership or lack of education on proper animal treatment). Over several months, 360° footage was recorded showing different perspectives of the problem through contact with different stakeholders. Later, the footage was used in the design of an interactive VR documentary highlighting kennels' conditions, Non-governmental organizations fieldwork, and the importance of providing primary care to pets. The user explores the story through different media sources inside the virtual world, such as social media posts, photography and audio. These interactive features provide users with the opportunity to unfold the story through their choices, promoting exploration and contemplation of the subject and were designed to increase audience engagement and agency in the experience. Through A/B user testing conducted with two groups of adolescents (in which one tested a non-VR version of the documentary and the other group the VR version), findings suggest that the immersive version generated greater interest and involvement in the problem addressed. This thesis project can provide new insights on how interactive and immersive content can engage the teenage audience to a more significant awareness of *good* animal welfare behaviours and other social problems.

**Keywords:** 360° Experience; Virtual Reality; Interactive Storytelling; Transmedia.

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## Resumo

Tell a Tail 360 é um documentário em realidade virtual (RV), parte de um projeto transmedia cujo tema é o bem-estar dos animais na ilha da Madeira. Tem como objetivos educar, consciencializar e espalhar o amor pelos animais em público adolescente. Com base na revisão da literatura e nas pesquisas feitas, concluiu-se que o público mais jovem tem maior probabilidade para mudar os seus comportamentos do que os adultos e de que apesar da maioria das pessoas mostrar interesse pelo assunto abordado, nem sempre tem perceção da sua complexidade (ex.: a falta de responsabilidade dos donos ou a falta de educação sobre o tratamento adequado a dar aos animais). Durante vários meses, foram recolhidos vídeos em 360º através da cooperação com entidades que trabalham em prol da causa animal, mostrando diferentes perspetivas deste problema social. Posteriormente, esses vídeos foram usados para criar um documentário interativo que destaca as condições dos canis, o trabalho de campo das organizações não governamentais e a importância de prover os cuidados básicos aos animais de estimação. A experiência do utilizador foi projetada para que este pudesse explorar a história através de diferentes medias dentro do mundo virtual, tais como publicações retiradas de redes sociais, fotografias e som. Estas características interativas provêm ao utilizador a oportunidade de descobrir a história através das suas escolhas, promovendo a exploração e contemplação do assunto, aumentando o envolvimento e a ação do público na experiência. Através de testes de utilizador A/B conduzidos com dois grupos de adolescentes, em que um grupo testou uma versão não RV do documentário e o outro grupo a versão RV, concluiu-se que a versão imersiva originou um maior interesse e envolvimento no problema abordado. O projeto desta tese contribuiu com novas ideias sobre como usar conteúdo interativo e imersivo pode envolver o público adolescente e consciencializar para o bem-estar animal bem como outros problemas sociais.

**Palavras-Chave:** Experiência 360º; Realidade virtual; Narrativa interativa; Transmedia.

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## List of Acronyms

AAAC – Associação Ajuda a Alimentar Cães

AE - After Effects

AMAW – Association Madeira Animal Welfare

APPA – American Pets Products Association

AR – Augmented Reality

AW – Animal Welfare

CMF – Câmara Municipal do Funchal

CMVG – Canil Municipal Vasco Gil

FOV – Field of View

GUI – Graphic User Interface

NGO – Non-Governmental Organization

T4C – Transmedia for Change

TS – Transmedia Storytelling

UI – User Interface

UX – User Experience

VE – Virtual Environment

VR – Virtual Reality

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# Chapter I. Introduction

## 1. Animal Welfare

Animal Welfare (AW) is an integral part of a society co-living with other beings, sustainably and healthily. Its definition can vary from one country to another; however, the World Organisation for Animal Health defines the general concept of *good* Animal Welfare as “the well-being of animals and how they are coping with the conditions in which they live” [7,74,114:7.1]. An animal is considered “in a good state of welfare if it is healthy, comfortable, well-nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and distress” [7,74,114:7.1].

The animal rights movement has risen since the 19th century [111]. Since then new legislation has been created to protect animals, guarantee healthier conditions for them, supported by several studies looking to understand animal behaviour and find the best practices to raise them [2,8,14,21]. However, Madeira Island, a small and ultra peripheric region, still faces many challenges to ensure AW practices, especially in comparison with other developed countries. Despite some efforts to apply legislation in defence of animals, to increase the number of adoptions and sterilisations [24,27,54,54], there is still many cases of animal cruelty, abandonment and overpopulation in animal shelters [28,39,53,56]. The initial research of this thesis revealed that there is still a long path to walk regarding education about AW in Madeira Island and that there is an opportunity to tackle this among its younger community.



Figure 1. Example of narrative worlds in Transmedia Storytelling

## 2. Design Choices and Objectives

One particular type of media experience that revealed itself to be useful in increasing awareness among young audiences is Transmedia Storytelling (TS), in particular, Transmedia for Change (T4C), that encompasses the change in individuals and the community [85,89].

Transmedia Storytelling is the art of telling a story through multiple communication channels, where different platforms are effectively integrated, like a media puzzle. Each piece of media shows a whole image, but when the parts are combined creates a deeper and more fulfilling understanding of the story [62], increasing the engagement and involvement of the audience [3] (figure 1).

The transmedia storyteller creates an intrinsic motivation to lead the audience to search for more clues about the events or the characters in the other mediums, changing the way they engage with the narrative.

The project was named *Tell a Tail*, whose overall aim is to create awareness and give insights about animal welfare and its best practices.

The Tell a Tail transmedia world is composed of two sub-projects: the “Tell a Tail 360” a documentary using VR, the artefact of this thesis and the comic book “Caminho Incerto”, a branching narrative that makes use of augmented reality (AR) to expand the story context (figure 2).

In order to capture a vast but still young audience, Tell a Tail transmedia targets two different but close age groups: the comic book is focusing on pre-teen audience, and the documentary is targeting a teenage audience. Due to the literacy and cognitive requirements of the audience, each sub-project employs different design strategies and aesthetics; however, maintaining the consistency in the transmedia visuals.

This thesis project envisages leveraging on the power of storytelling (as a communication tool to motivate, persuade, inform and inspire) [96] allied with the capacity of the virtual reality (VR), to give the viewer a more empathic perspective on complex issues [9]. The goal is to use the technology advantage as an educational strategy to start constructing new social behaviours regarding AW, starting from the youngest, and hopefully reaching other generations ideologies.



Figure 2. Tell a Tail transmedia narrative worlds

## 2.1. Tell Tail 360

Tell a Tail 360 consists of an immersive 360 VR experience, focused on documenting the routine of AW organisations based in Madeira. The project targeting teenage audience provides intrinsic awareness value through cinematic, immersive and interactive content with the virtual environment (VE).

Currently, there are two dominant storytelling approaches for VR [6,15,15]. In one approach, the user immerses in the scene, but it is not an active participant, while in the second approach, he becomes the camera and has a participant role [6,15,15]. The Tell a Tail 360 adopts a mixed strategy of these two storytelling approaches in its experience. In some scenes, the viewer is witnessing the action, while in others, he can actively make choices that will uncover further parts of the narrative.

Storytelling in VR is less about telling a story and more about letting the viewer discover it [15,15], and that is why, in this medium, interactivity becomes crucial. Based on this framing, the documentary presents interactive points along the user path that further deepen some parts of the narrative stories. The interactivity gives the user a role inside the documentary and how he discovers it providing a more memorable experience and out of the ordinary.

The Tell a Tail 360 provides the user:

- The experience of being inside a kennel, surrounded by dozens of dogs, witnessing the daily routine and the limitations of the space as a “temporary home” for the fostered animals, as well the effort of the responsible entities to create the best conditions to the animals considering the management of limited budgets;
- Take part in a dog rescue activity, an unplanned and urgent situation, witnessing the conflicts generated during the action. This part of the documentary includes the veterinary interventions on the rescued animals and the happy ending for the rescued animal;
- Show the veterinary facilities and animal care importance.

In summary, the project aims to provide an awareness tool not only for teenagers but also for their families, to motivate positive changes on audience behaviours, taking advantage of humans nature as social individuals, that seek to relate, to form communities, to share experiences and feelings with others, passing on knowledge to future generations [59].

### **3. Thesis Structure**

After introducing the general AW concept and the project objectives, chapter II reviews the literature on transmedia storytelling, regarding its strategies and principles. Furthermore, it presents examples of virtual reality using interactive narratives for social change, finalising with the research opportunities found to conduct this project.

Chapter III presents and discusses the context and field research made and its findings, regarding AW problems and strategies on a developed country such as the United States, then Portugal until narrowing down on the Madeira context. This chapter also reports the results from surveys, field visits and interviews.

Chapter IV describes the development of the transmedia identity and the graphic design of its branding, including the transmedia world.

Chapter V focuses on the development stages of the prototype, describing the target audience and the topics covered. Additionally, in this chapter, the high-level user experience is presented, including the graphic design choices as well as the production process for the documentary content.

Chapter VI contains the project evaluation, firstly describing the different studies made and then reviewing the main findings of user tests results.

The conclusions addressed in the last chapter, recap the research question and the project contributions for the field, as well as future prototype improvements regarding the user tests results.

## Chapter II. Literature Review

This chapter presents a review of related work in Transmedia Storytelling for Change (T4C), interactive narratives and 360° experiences using virtual reality, highlighting their relevance and insight points for this thesis.

### 1. Transmedia Storytelling

Transmedia Storytelling (TS) is the telling of a story through multiple communication channels [82]. The mixed media and styles participate and contribute to the construction of the transmedia narrative world, being self-contained enough to enable autonomous consumption, without compelling the viewer to consume all the components to get into the main story [82,92].

In further research, Henry Jenkins referred to transmedia meaning “across media” which relates to a convergence media culture [43]. According to Jenkins, the flow of content across media should serve a bigger purpose, deepening audience engagement, offering other characters perspective and back story. In support of Jenkins last theory, Kalogeras refers to TS as telling a story through a cross-platform, multiplatform or integrated media [46], while Moloney defines TS as the telling of numerous stories that contribute to a story world, with each story being complete in itself, but making a crucial contribution to the broader subject of concern [62,63].

Moreover, scholars have distinguished transmedia from other related concepts such as multimedia and crossmedia. Moloney defines multimedia as the use of many forms of telling a single story through a single channel and crossmedia as the dissemination of a story through many media channels without changing it [63].

For Jenkins, The Matrix brand can be considered an excellent example of TS (figure 3), considering it as an ‘entertainment for the age of media convergence, integrating multiple texts to create a narrative so large that it cannot be contained within a single medium’ [92]. Key bits of information conveyed through three live-action films, a series of animated shorts, two collections of comic book stories, and several video games [92]. There is no one single source where the viewer can gain all of the information needed to comprehend the Matrix universe [92]. On the other hand, still

relating to The Matrix case, Weaver warns us on how a TS approach can fail when consumers are not interested in seeking for more story information in other platforms (i.e., the portion of the audience of the film The Matrix) [89].

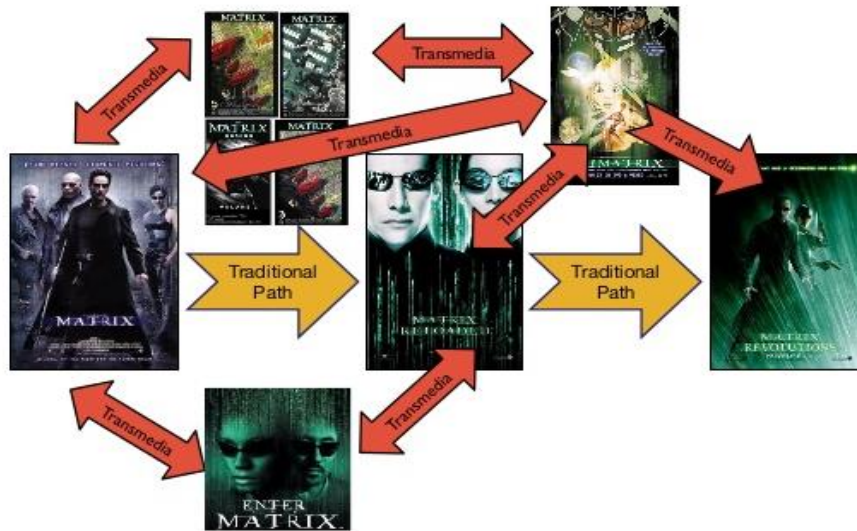


Figure 3. The Matrix transmedia story world [90]

## 1.1. Transmedia Storytelling Strategies and Design

### 1.1.1. Co-creation

Transmedia projects usually encompass a multidisciplinary team of content creators, due to the expansive story world, which could bring inconsistency problems in co-creation. The approach of Dinehart tells us that in a transmedia work, the viewer/user/player (VUP) transforms the story using their own natural cognitive psychological abilities, and enables the artwork to surpass the medium [31]. It is in transmedial play that story agency and decentralised authorship can be realised [31]. Jenkins defends that a transmedia franchise attracts a significant audience typically by pitching the content differently in the different platforms, in which each work offers fresh experiences to the audience [42].

### **1.1.2. Literacy Requirements**

The transmedia storytelling approach of Henry Jenkins has been criticised concerning how it applies to children, arguing that it requires children to have the cognitive maturity needed to make connections between narratives from the different media platforms to provide a fulfilling experience of the story world and in order to comprehend and participate in the transmedia franchise processes [48,83].

### **1.1.3. Short-term Fans**

Transmedia Storytelling requires its audience to engage with or seek more information on the different platforms finding missing pieces or adding elements while unfolding a story. In the ideal form of TS, each medium contributes to the story world [45], as defended by Jenkins, creating a unified and coordinated entertainment experience, in which each medium contributes uniquely to the narrative [45]. The main story can be introduced in a film and then expanded throughout other mediums such as television, novels, and comics, considering that the lack of information seeking cannot penalise the audience. This seeking for more story pieces needs to be an individual choice and not the result of the viewer being unaware of what would penalise short-term fans. The opportunity to understand the entire story cannot be denied to short-term fans who are only casually interested in the story, meaning that only hardcore fans who are motivated to seek more of a story would enjoy the experience of an entire story world [45].

### **1.1.4. Strategies and Principles for Transmedia Storytelling**

Transmedia storytelling is a particular narrative structure that expands through different languages (i.e., verbal, iconic) and media (i.e., cinema, comics, television, video games), in which the different media and languages participate and contribute to the construction of the transmedia narrative world [45,92].

A. Scolari refers to four strategies for expanding the fictional world [92]:

1. Creation of interstitial micro-stories like comics, online clips, video games and mobisodes in which each text have a close relationship with the macro story [92];

2. Creation of parallel stories to create another story that unfolds at the same time as the macro story, where these parallel stories evolve and transform into spin-offs [92];
3. Creation of peripheral stories considered branches of the macro story but with a weak relationship to it, but as parallel stories, peripheral ones may evolve and transform into spin-offs too [92];
4. Allow the creation of user-generated content that enriches the fictional world in platforms like blogs and wikis, considering it as an open-source story-creation machine, a phenomenon known as fan fiction [92].

Moreover, Jenkins also defined seven principles to transmedia storytelling [42–45,88]:

- 1) **Spreadability vs Drillability**, referring to the capacity of the public to engage actively in the media content through social networks and consequently expanding the story's economic value and cultural worth. Additionally, Jenkins mentions “additive comprehension” to describe viewer engagement with narrative complexity. Spreadable and drillable are opposing vectors of cultural engagement, in which fewer people are engaged, but occupy more of their time and energies and spreadable encourages ‘horizontal ripples, accumulating story portions without necessarily encouraging more long-term engagement [43,45];
- 2) **Continuity vs multiplicity**; continuity it is related to the “sense of continuity”, coherence and plausibility that creators follow to make a unified experience systematically spread through multiple texts and platforms, while multiplicity on the possibilities of alternative versions of the characters or parallel universe versions of the stories providing the fans with the possibility of taking pleasure in alternative retellings and seeing the characters or events from other perspective [43,45];
- 3) **Immersion vs extractability**, perceived as the relationship between transmedia fiction and audience everyday experiences. Immersion is the ability of the fan to enter the story world, while in extractability, is when the fan takes aspects of the story away as a resource deployed in the space of everyday life [43,45];
- 4) **Worldbuilding** occurs when the story world can support multiple characters and multiple stories across multiple media, or it has good character that could support

multiple stories. This concept of worldbuilding is linked with the desire of audiences to map and master as much as they can about the story universe, and it is correlated with the previous principles of immersion and extractability since they both are ways for the audience to engage more directly with the narrative world treating intersecting it with their own lived realities [43,45];

5) **Seriality** is the media system from which the meaningful and compelling story pieces dispersed across multiple platforms. To understand how serials work, Jenkins falls back on the classic distinction between story and plot, in which the story refers to audience mental construction of what happened which can be formed only after absorbing all of the available story pieces, while the plot refers to the sequence through which those bits of the story reach us. Seriality provides a new extension on the story timeline of that particular universe [43,45];

6) **Subjectivity** is focused on unexplored dimensions of the fictional world, expand the timeline of the story as happens when the audience relies on other mediums to fill in back story or play out the long term ramifications of the depicted events [43,45];

7) **Performance**, meaning how fans make their contribution to the transmedia narrative and how “producers” perform their relationship to the text and the audience with their presence on sites that allow such collaborative performance. Referring to transmedia activism, Jenkins mentions the case of the HP Alliance, which deploys themes, characters, and situations from the J.K. Rowling narratives “to motivate real-world social change, as a logical extension both of performance and the tension between extractability and immersion” [43,45].

## 1.2. Transmedia Fragmentation

Transmedia projects can have different kinds of structures, however, its result should be the same [82,92]. The difference is in the process between them, which is called fragmentation, referring to the point of similarity between parts, a meaningful underlying commonality [82,92].

The different scale of story fragments can be found in the transmedia fragmentation spectrum: significant bits or tiny pieces. Referring to three examples as the Star Wars, Pandemic and Cathy’s Book, the scale of fragments is differencing and not the resulting story [82,92]. Figure 4 from Andrea Phillips book A Creator’s Guide to

Transmedia Storytelling shows Star Wars is fragmented in big fragments such as a film and a book [82], while Pandemic uses much smaller pieces such as a bottle of water and a series of tweets. On another side, Cathy's Book uses the book as a single-medium narrative piece combining it with different scales of online fragments of evidence to tell a more in-depth story, what justifies to be on the middle of the spectrum [82].



Figure 4. The transmedia fragmentation spectrum example [82]

### 1.3. Transmedia for Change

Transmedia for Change (T4C) is a term correlated with transmedia activism and personal growth, encompassing an approach in a more general context, meaning a change in society or community while personal growth is referred to the individual changes in lifestyle or personal development [35].

The Transmedia for Change concept is related to stories that matter when told to the right audience at the right time [113], and relying on the idea that storytellers can engage audiences with positive messages, inspiring and motivating better choices as well as providing solutions on the field the stories are focused [113].

Transmedia projects such as Lizzy Bennett Diaries [19] and Granny's Dancing on the Table have flourished during the last years [97]. Such projects use recognisable conventions of TS and borrow elements from other types of media such as digital storytelling and documentary filmmaking, being hybrid in form and "focused on raising awareness about particular social issues or telling the stories of marginalised groups, who otherwise do not have a voice in the public sphere" [30].

Another example of T4C is Highrise, a collaborative documentary using a mixed media approach [68] (figure 5), which explores the vertical living around the world. Highrise was an experiment intended to see how the documentary process can drive

and participate in social innovation rather than just document it [69,102]. It used a type of activism that highlights the reliability of the subjects covered and strives to convey the complexities of the issues by taking advantage of the technology to challenge audiences to experience and interact with the stories in new ways [70].



Figure 5. Out My Window – part of Highrise web documentary [68]

## 2. Virtual Reality

Virtual Reality is a field of computer technology in which environments, individuals, and experiences are replicated and presented for user interaction [74]. This term widely used is a concept revolving around artificial yet realistic experiences delivered through digital surfaces such as Head-Mounted Displays (HMDs), Caves, Domes, and VR Tables [50].

The earlier concepts about VR relates to the 1930s [98] but only in 1950, Morton Heilig created Sensorama [71,91], a bulky device that stimulated the viewer senses while watching a movie, becoming the first virtual stimulant patented [18] (figure 6). In 1970, the first HMD was created already with rudimentary motion tracking and Myron Krueger who developed some of the earlier interactive works known, coined the term virtual reality [109].

During the 80s and 90s, VR became the topic of much science fiction (i.e., The Judas Mandala from Damien Broderick's) [15,33], haptics were incorporated to HMDs, making VR more widespread [112] and video games started adding VR experiences, like Sega and Nintendo.

The first story-based media in the VR context was referenced by Alex McDowell in 2007 when he used the term "immersive design" [51,98]



Figure 6. Sensorama from Morton Heilig [91]

The historical overview under virtual reality shows that the medium exists for almost a century, starting with rudimentary and less explored forms, being improved and used in different contexts over time. Nowadays, the exploration of this technology and its improvement made VR more affordable and accessible [86]. The different studies using VR suggests its potential in engaging and proposing new experiences for the audience, not only in the entertainment industry as in many others more social-related, such as medical, environmental and educational [3,9,37,52].

Creators combine traditional storytelling principles that have been adjusted to fit the technology demands in creating immersive experiences; however, different methodologies are being used and explored due to the development of new tools and how to involve the audience in the stories using interactivity [5,6].

## **2.1. Virtual Reality and Interactive Narratives**

Regarding the remediation theory from Bolter & Grusin [10], in which the authors describe how a medium is incorporated in a previous medium, by improving the last one, but not replacing it, VR is considered the remediation process of films [10]. Over 100 years, audiences have looked into rectangular screens, while VR removed the edges of the screen [15], increasing the potential of narratives to play out anywhere the audience can look. Consequently, the storytelling design changes, as well as the way the audience engages with the moving image, and the content. The classical filmmaking concepts are helpful to understand the classic story design. However, due to the differences in technology, some new guidelines are emerging around the viewer presence, its role inside the world and the perspective from which he experiences the narrative (POV), what makes storytelling and design fundamentally interwoven for creating immersive and interactive experiences [15].

## **2.2. Virtual Reality and Social Change**

Virtual reality can help people gain a deeper understanding of environments and complex situations as it provides immersive digital experiences that mimic reality [20].

A study published in 2008 has shown that VR could be a useful tool to encourage empathy, cooperative behaviour, and positive attitudes [9,37,52]. The study involved 500 participants. A control group only read information about homelessness, while the other experienced read the narrative interactively in 2-D on a computer, or through VR. When users were asked to sign a petition to support homeless populations, VR participants were more likely to sign than the other groups of participants. Moreover, other side-surveys indicated longer-lasting positive results effects on empathy for participants of the VR task [37,67]. The results show that taking the perspective of others in VR can produce more empathy and prosocial behaviours immediately after the VR experience and better attitudes over the longer course when compared to a traditional medium.

Virtual reality also finds use in other complex topics such as animal rights and has been used by organisations to get people to realise the conditions on large-scale factory farms, slaughterhouses [79]. Some of these projects are iAnimal (figure 7) [75] and Last Chance for animals [76], which put the viewer inside a factory farm. As an example, iAnimal allows the viewer to switch between the animal view and the observer and using heightened visual closeness to bring more emotional sense to the viewer [75].



Figure 7. iAnimal 360 experience [75]

The urgency of environmental issues is often neglected because it is invisible among us [101]. In this sense, VR is emerging as a tool to help people gain a deeper understanding of issues also about environmental changes, that are difficult to explain and challenging to illustrate, happening in slow-motion or in remote places. As regarded by Jeremy Bailenson, from the Virtual Human Interaction Lab (VHIL) [105], “humans are visual creatures, and visual examples can be very striking”, and VR experiences “can give everyone, regardless of where they live the kind of experience needed to generate urgency required” [61]. The VHIL has created different immersive experiences that cover topics as environmental challenges to generate an empathic insight into related issues. Another example is the lab-created Ocean VR that includes a documentary and a game, which experiences were design considered a decade of social science research showing that people who have a VR experience are more likely to change behaviour [106] (figure 8).

A more recent example is the case of a smaller project called Oceans We Make (OWM) that is an immersive and interactive VR experience that encourages participants to question their use of plastic, and over 1000 people have experienced the impact of the project [1,101]. The OWM narrative is set on a virtual world of sea corals and plants and allow interaction between the participant and the fishes [1,101]. The gamification and multi-sensory experience mediate how the story message is delivered, and user tests result concluded that the ocean pollution issue is more visible than before and the audience felt compelled to take action [1,101].



Figure 8. Stanford Ocean Acidification Experience from VHIL [106]

Currently, there are two different storytelling approaches on VR, retrospective storytelling and real-time storytelling [15]. Retrospective one refers to narratives which action occurred in the past and add up backstory or lead to a conclusion, providing the “why” of present circumstances to the audience. Real-time storytelling refers to narratives that are occurring in the present but need to provide the viewer with meaningful lessons learned at the end of the story. Otherwise, the experience can be disappointing [15].

### 2.3. Virtual Reality as an Educational Tool

Researching other educational methods, in the United States, VR and 360° videos are being used to generate awareness of social and environmental problems

focusing the climate changes, the exploration of wildlife in animals environments and the impact of pollution on the oceans, such as the experience referred above Oceans We Make [101] and others as the Stanford Ocean Acidification Experience [106], or the National Geographic VR experiences [32].

The Virtual Human Interaction Lab (VHIL) [105], has been leading environmental education research, using VR to enhance science, environmental and ocean literacy at schools, addressing social issues such as the climate emergency [107,108] (figure 9).



Figure 9. Photo from the VHIL, doing an environmental education program at school using VR [107]

However, in the animal welfare context, focusing the domestic animals, there is a lack of interactive experiences to cite. The majority of experienced content use 360° videos without interactivity, such as the Virtual Dream [84] 360° movie produced for children at oncology, hospices and child care houses in Poland (figure 10) and other 360° videos used by shelters to promote animals adoption [47,84,99].



Figure 10. Virtual Dream 360° experience for children at the oncology [84]

Advertising has used new media tools to engage people in AW problems as seen in a UK campaign called “Looking For You”, which aimed to bring attention to animals in Battersea shelter [94,110]. The campaign used billboards that are activated by a tag contained in leaflets that are handed directly to passers. As people walk past the outdoor billboards, an RFID tag within the leaflet starts a video of Barley, a former Battersea dog, who begins to interact with the viewer (figure 11).



Figure 11. Looking For You adoption campaign (UK) [94]

### 3. Research Opportunities

Living in times of media convergence, the flow of content across multiple media channels is inevitable. Young consumers have become information hunters and gatherers, taking pleasure in following character backgrounds and plot points, making connections between different texts within the same franchise. Taking advantages of this and considering the demands of designing engaging experiences for young audiences was found that creating a transmedia experience was an inspiring path to follow in this project research, combining its advantages on how addresses the topic.

Creating immersive content is challenging due to the multidisciplinary requirements, such as design, programming and storytelling. However, since the medium is under exploration, it provides the opportunity to create novel and engaging content. Virtual Reality can give anyone regardless of their location or physical condition the

opportunity to live or witness situations out of the ordinary daily life, for this reason, it can provide a deeper understanding of the animal welfare topic. This thesis research question focuses on exploring how immersive documentaries can provide insights on *good* animal welfare behaviours and showcase the consequences of the bad ones.

Animal welfare problems are faced worldwide, and there is a lack of projects combining VR and interactive narratives addressing the topic. This thesis can provide a more in-depth overview of how bringing closeness to the animals in risk environments and temporary shelters using VR, can involve the community and their individuals in a more active approach to the issue, as studies show that VR is a useful tool to encourage empathy, cooperative behaviour, and positive attitudes [9,37,66,67].

Design an interactive and immersive documentary can provide a better understanding on how to explore interactions inside the virtual environment to captivate young audience's attention to the stories being told and perceive the potential of using these immersive experiences in schools, considering the Madeira Island context.

## **Chapter III. Context / Field Research**

This chapter presents the research conducted to understand the challenges animal welfare faces in Madeira Island.

The initial stage of the research process started from a literature review in order to have a general perception of the world wide situation of animal welfare. Then, and to understand the local context, online surveys were deployed, field visits to local shelters and interviews were made. Further details about the context and field research are in Appendix A.

### **1. Context Research**

Even though the state of animal welfare varies between cultures, there are several AW common issues worldwide [7,21]. In order of finding how is the global animal welfare context, the contextual research included a world power such as the United States narrowing down to our local context. This context research focuses on the animal welfare of domestic animals in three different territorial contexts: United States, mainland Portugal and Madeira Island.

#### **1.1. United States**

Statistics from the American Society for the Prevention of Cruelty to Animals (ASPCA) [72], shows that the main problems in the U.S. are shelter overpopulation, caused by abandonment and the control of stray dogs, and euthanasia [73].

Furthermore, the knowledge of owners regarding the pets' behaviour and education methods are mostly acquired by word of mouth [78], which causes a lack of proper information about good AW practices. Often, animal abandonment is justified by the pet misbehaviour, substantial grow, or expensive costs due to health problems [73]. However, several programs created for people and pets are not only transforming the way shelters care for animals and engage their communities [72,115], but also helping increase the percentage of animal adoption [72,73,115] (table 1).

The United States	
PROBLEMS	MEASURES
Shelters Overpopulation	Financial programmes for families and shelters.  Adoption campaigns.  Change/Apliance of animal defence laws.
Euthanize	
Not proper AW knowledge from owners	
Neglect/Mistreatment	

Table 1. Main animal welfare problems and measures in the United States

## 1.2. Portugal

In Portugal, more than half of households have at least one pet [17], and measures have been put in place to promote their rights and welfare. The laws of animal protection have changed since 2014 [4,53,55] but only in 2016, were applied measures to set up a network of official animal collection centres (CRO) and to prohibit the slaughter of stray animals as a means of population control [55]. However, the abandonment rate in Portugal has not decreased showing that among the main problems is the lack of capacity of shelters to receive a higher number of animals, and the lack of ability from pet adopters to support their needs [13,56,100]. Each year several complaints of neglect or mistreatment to pets are reported as they are punishable by law [53].

Table 2 presents a summary of the main problems and measures in Portugal AW context.

Portugal	
PROBLEMS	MEASURES
Abandonment	Change/Apliance of animal defence laws.  Adoption campaigns.  Financial programmes for families and shelters.
Shelters Overpopulation	
Not proper AW knowledge from owners	
Neglect/Mistreatment	

Table 2. Main animal welfare problems and measures in Portugal

### 1.3. Madeira Island

Madeira Island faces similar challenges as the rest of the world. For example, the municipal kennel used to euthanize stray animals to cope with the overcrowding situation until the abolishment of this method [55]. As a consequence, new initiatives such as sterilizations, anti-rabies vaccinations and electronic microchip identifications campaigns were carried out [24,27,64]; the increase of educational programs for younger audiences; and monetary support to families in need to help cover veterinary costs was also given [24,27].

Many problems are still prominent such as high abandonment rate [13,22,25], mistreatment and neglect [23,49] and the lack of ownership proper education on dogs necessary nourishment (figure 12) resulting in aggravated health problems for the animals. Other issues as misconceptions regarding adoption, showcase a cultural tendency to adopt puppies either than adult dogs, mistakenly considering that these last ones do not learn quickly.

On the adoption side, the adaptation process can be challenging due to puppies' behaviour, training the pet and then with the size the dog reaches after adult.



Figure 12. Rescue of dozens of dogs from a house in Funchal without basic conditions (2019)

Currently, NGOs are taking field actions against animal mistreatment and neglect [28,29] (figure 13), dealing with the lack of space to foster the rescued animals, enrol in active campaigns to rehome them and get support to finance their expenses.

Several international NGOs are helping the regional ones, to support veterinary costs and find potential adopters in Germany, mostly for older dogs.



Figure 13. Rescue of neglected dogs by the NGO AAAC (2019)

New local AW infrastructures arose, providing the community with innovative services for pets, such as the Veterinary Hospital [57,95], and the first dog Hotel and training school (*Dogtel* – Resort, and SPA) [16,58].

The AW problems are related to different causes, which makes it a complex social problem. Table 3 shows the main problems and measures applied to Madeira Island.

Madeira Island	
PROBLEMS	MEASURES
Abandonment	Change/Appliance of animals defence laws.
Shelters Overpopulation	Abolishment of euthanasia.
Neglect/Mistreatment	Finantial programms to support NGOs and families.

Table 3. Main animal welfare problems and measures in Madeira Island

## **2. Field Research**

This subsection first presents the main findings from the surveys, and then the main takeaways from the observations and interviews.

### **2.1. Surveys**

The two different questionnaires deployed to the general public and for NGO entities covered three main topics:

- The kennels and veterinary services.
- The animal welfare in general on Madeira island context.
- The actions of the NGOs.

#### ***2.1.1. Main Insights from the Survey to the General Public***

General public survey (Appendix A 3.1) concluded that the community is aware of the actions taken by NGOs, mostly by their presence in social media and recognizing their fieldwork.

Inquired people recognize the importance of local shelters and their lack of conditions and consider the veterinary services costly, using them only when their pets are very sick.

Concerning the general reasons for animal abandonment, the most frequent reasons were:

- animal misbehaviour,
- lack of money,
- the pet was a gift, and the owner got bored

#### ***2.1.2. Main Insights from the Survey to the NGOs***

NGOs revealed that the general population is aware of AW problems but do not take action to solve them. Moreover, NGOs expressed that the general population has little information and knowledge about dogs and cats veterinary care, especially

in terms of how important sterilizations are (Appendix A 3.2).

From the NGOs viewpoint, the main reasons for abandonment emerged as being:

- the lack of awareness mainly on sterilization and consequent overpopulation of stray animals,
- the neglected puppies and,
- the lack of proper knowledge about animal behaviours and training.

## 2.2. Shelters

Visits to two different shelters in Funchal, SPAD and Canil Municipal Vasco Gil (CMVG), were also conducted.

At SPAD (a private institution of public utility, composed of a shelter, a veterinary clinic, a pet shop and a pet spa [77]), cats have a big cage and try to make contact with the visitors, while dogs' cages are over-packed and utterly unclean, with urine and waste that even contaminate their food and water bowls (figure 14).

A video documenting the field visit to SPAD is in the Unleashed Youtube channel<sup>1</sup>.



Figure 14. Photos of the visit to SPAD shelter in Funchal (2018)

The city hall of Funchal (CMF) owns Canil Municipal Vasco Gil (CMVG) that is currently operated by the NGO Associação Madeira Animais (AMAIS). This shelter accommodates about 270 canines and 60 felines, fostering an average of 20 to 30 dogs per month. It was observed that dogs have considerable freedom and enough

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<sup>1</sup> <https://youtu.be/cNW-kCSqrP4>

space to play and move inside and around the shelter space. Each cage accommodates 2 to 3 dogs, leaving the animals with considerable space for their locomotion (figure 15).

During the cleaning, the dogs go to the playground, a limited area where they can freely run and play with each other.

Cats have a separated and proper space where they are pampered and cared.

A video published in the Unleashed Youtube channel<sup>2</sup> resumes this field visit.

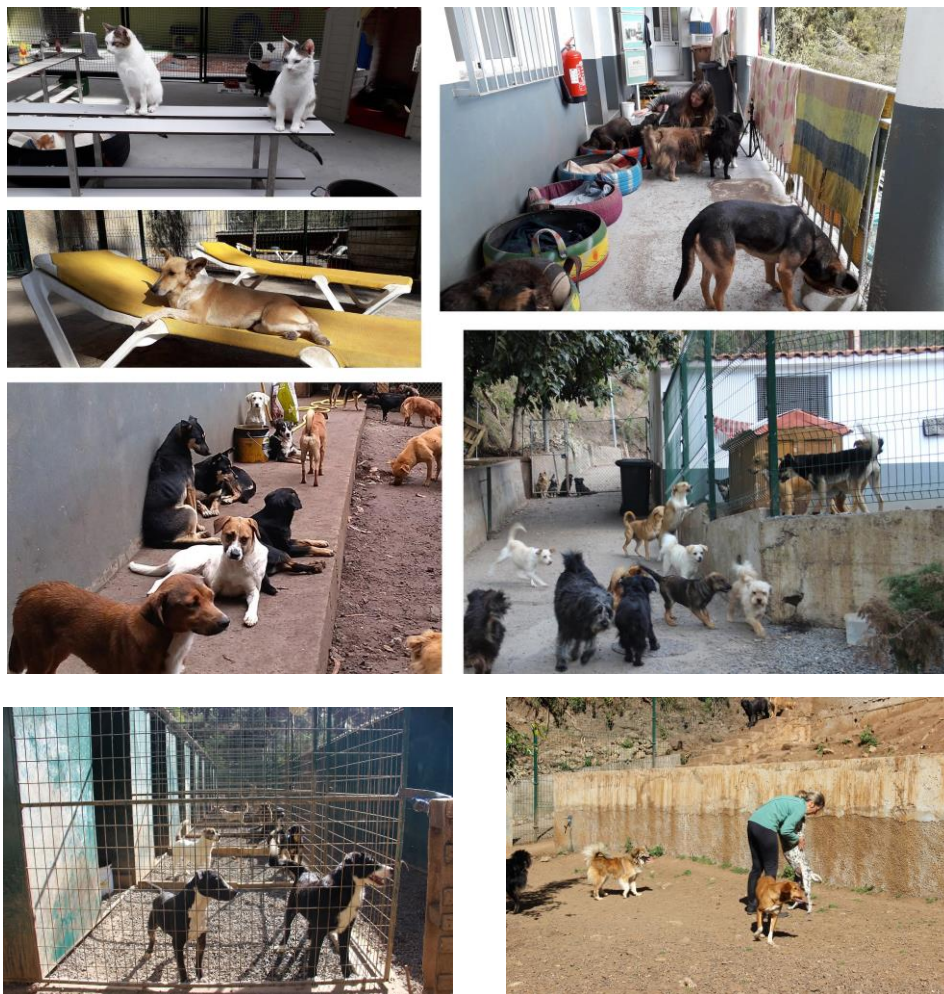


Figure 15. Photos of the visit to the CMVG shelter (2018)

From these field-visits were possible to find contrasting conditions between the two shelters summarized in table 4.

<sup>2</sup> <https://youtu.be/pn5N5867ViQ>

Shelters Visits	
SPAD	CMVG
Overpopulated	Overpopulated
Overcrowded cages	Not overcrowded cages
Unclean conditions	Clean conditions
Animals without playground time/space.	Animals with playground time/space.

Table 4. Main animal welfare problems and measures in Madeira Island

### 2.3. Interviews

Two informal interviews made to the CMVG manager Dr<sup>a</sup>. Sara Machado and Dr. Duarte Correia, veterinarian, and director of the Hospital Veterinário da Madeira (HVM), provided more understanding about shelters management and the veterinarian's perspective on the AW issues.

Dr<sup>a</sup>. Machado reported that animals are often seen as “disposable things”, which leads to their abandonment and consequently shelters overcrowding (summer being the most problematic season, due to the increasing number of abandoned litters).

About people considering veterinary services as expensive highlighted in the survey findings, Dr. Correia confirmed that owners bring their pets to the veterinarian only when they are very sick.

### 2.4. General Knowledge on Animal Welfare

Concerning Madeira island context, the education programs [26] and the technology used by the majority of the AW entities are visual content such as videos and photos through computer projections, that aim to bring attention to students (figure 16). The material used is related to the limitations of public schools budget and the most common way to deliver information in this context.



Figure 16. CMF promoting an animal welfare education program at a local school [26]

### 3. Summary of Field and Context Research

This section summarises the most relevant insights from the overall research process presented previously. Figure 17 summarises the main issues encountered, their leading causes, as well as the relationship between them.

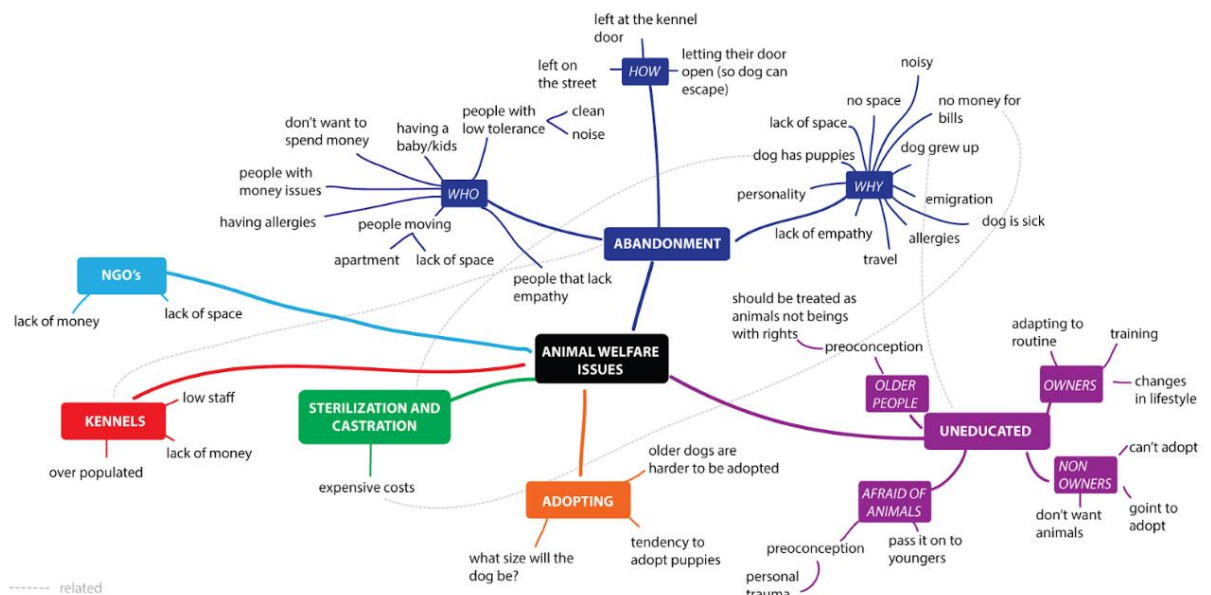


Figure 17. Mindmap of the animal welfare issues in Madeira island

Animal abandonment seems to derive from the fact that adopters are not aware of the required changes in his lifestyle or economic situation that an animal can bring. This is connected with the idea that many people may see domestic animals as a “disposable object”. Research shows that there is still a general lack of proper AW education. Especially in regards to pet behaviour and education, how adopters need to adapt their routines to animal needs, how it is important to sterilize and provide proper veterinary care. Personas and scenarios were created to help understand these typologies of people who face this miseducation are in Appendix B.

Furthermore, there is a cultural tendency to adopt puppies rather than adult dogs, due to the misconceptions that adult dogs cannot be educated. All of this leads to NGOs and shelters are overpopulated and dealing with the lack of space, limited budget and human resources due to the high abandonment rate.

## Chapter IV. Tell a Tail Transmedia

This chapter describes the stages of the transmedia project, including the ideation process and goals.

### 1. The Transmedia Design Studio - “Unleashed”

The Unleashed design studio was created to provide an identity to the creative group responsible for the development of the transmedia project.

The studio name has a multiplicity of meanings: the act of freeing an animal or human from its ties, an animal that is without a leash, the release of creative energy and potential. For project promotion, a website<sup>3</sup>, a YouTube channel and an Instagram account have been created, that share the same design aesthetic.

The logo colour choice (figure 18) is associated with energy, wisdom, friendship, joy, tranquillity, and loyalty [11], attributes often also associated with pets.

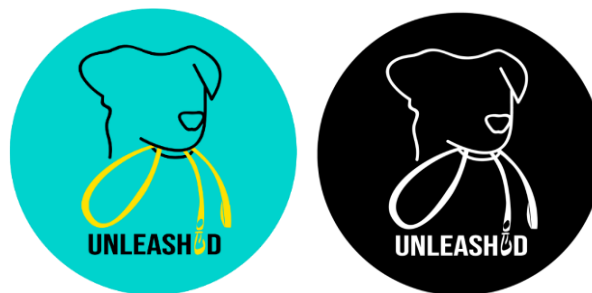


Figure 18. Unleashed logo and its monochromatic version

### 2. Tell a Tail Transmedia

The transmedia project is called *Tell a Tail* to address both the animal welfare context and the storytelling features of the work.

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<sup>3</sup> [unleashed.m-iti.org](http://unleashed.m-iti.org)

The goals of the project are:

- To give insight about good practices in animal welfare behaviours, by pointing out the consequences of the wrong individual/social practices and,
- To create awareness, showing specific local-based content and problems encountered.

## **2.1. Transmedia World**

The Tell a Tail transmedia world is composed of an AR comic book and a VR 360° immersive interactive documentary. In addition to the main projects, merchandising products (section 2.3) and a website (section 2.4) were also designed.

Tell a Tail documentary and the comic book made use of A. Scolari strategies [45,92] by using the two narratives on the project as micro-stories under the same context and maintaining the overall story message. The Tell a Tail 360 narrates about different parallel stories on the story universe, that evolve outside the documentary, through other mediums.

### **2.1.1. Comic Book with AR “Caminho Incerto”**

“Caminho Incerto” is a comic book with a branching narrative where the reader chooses their path during the story, which leads to a different story resolution. The main characters of this story represent the owner’s (Cris) and the dog’s perspective (Penny). The AR features, captured through specific markers on the comic’s pages, enhances the reader’s interaction, giving them a new perspective of the main character.

### **2.1.2. Documentary with VR - “Tell a Tail 360”**

“Tell a Tail 360” is an interactive 360 documentary about animal welfare and social care. The viewers are immersed in different virtual environments, witnessing in first person local AW problems. During the experience, it is possible to explore through different interaction points the narrated stories, such as the daily routine of the local kennel, the rescue of three dogs and the following events on the hospital and NGOs

fieldwork. The design of the experience incorporating different mediums (360° videos and images) and interactivity is meant to increase the audience engagement.

## 2.2. Visual Identity

Considering the project is targeting a young audience, and the project maintains a joyous mood through the story worlds, the logo uses orange and yellow colours, which has a connotation of friendly and optimistic [12].

The abstracted format of the footprint of the most common domestic animals, dogs and cats inspired the logo form. As the two projects target two different age groups, the logo design took into consideration that it should appeal to different audiences without appearing infantile (figure 19).

The name of the VR experience, Tell a Tail 360, is closely related to the experience of encountering the animals and maintains its general title to emphasise the moment in which the dogs wiggle their tail to manifest friendly behaviour in the presence of humans and other species.



Figure 19. Tell a Tail logo

Figure 20 shows the different products designed to promote the transmedia project in public events such as a t-shirt and goody bags containing a Penny keychain and a bookmark as a reward to participants on the user testing.



Figure 20. Tell a Tail transmedia merchandising products

### 2.3. Tell a Tail Website

Initially, was created a blog in Wordpress platform, to publish content related to the project research and development. After the implementation process, the blog was adapted, becoming the project website<sup>4</sup> (figure 21), which allowed to advertise the transmedia projects to user participants, event visitors and connect with the community.

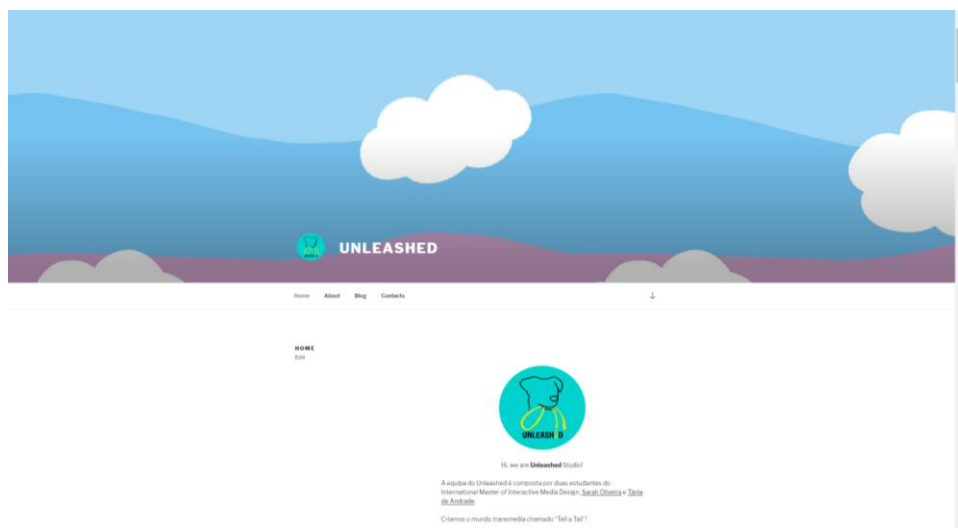


Figure 21. Tell a Tail transmedia website

<sup>4</sup> <https://unleashed.m-iti.org/>

## 2.4. Application of Creative Principles for TS in *Tell a Tail*

### 2.4.1. Transmedia Storytelling Design

The Tell a Tail design considers the guidelines for TS creation [85] presented below (figure 22).



Figure 22. Tell a tail transmedia design approach

#### **Multiple Media**

Tell a Tail makes use of different media: the physical comic book (using AR) and the interactive documentary (using 360 footage and VR to create greater immersion in the world where the story is happening). Additionally, it uses a website for more detailed content about the development stages and social media accounts (Instagram, YouTube) to build awareness and engage the audience on the topic.

#### **A Single Unified Story or Experience**

The stories covered on both projects are related to good animal welfare practices, but they are not a single unified story. The documentary does not report in a non-fictional way, what the comic book fictions. Both stories contain common points designed to complement the different narratives and establish a connection between them.

## Avoidance of Redundancy Between Media

The comic book tells a fictional story that allows the design of characters in the issues it is addressing, which creates a significant emotional connection with the audience [41]; furthermore the non-fictional documentary focuses on facts and circumstances contextual to the region of Madeira. The comic book helps to understand how ownership decisions can influence the pet response to its owners, focusing on the pet perspective, while the documentary shows the perspective of the people working with pets, outside the owner's circle.

Figure 23 resumes the single-platform deliverables of the transmedia project, the generated content and its function.

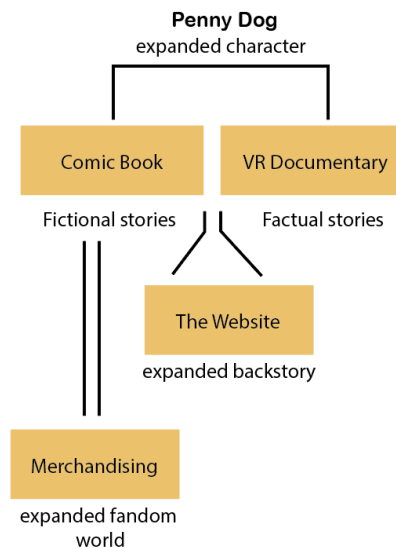


Figure 23. Tell a tail single-platform deliverables of the transmedia project

## Co-creation

To overcome the risk of creators inconsistency found in the Dinehart approach [31], during the development, was maintained a straight communication between the creative designers. Tell a Tail transmedia gives the audience clues on both projects to motivate the seeking for more information on other platforms. However, in both cases, there was no demand for the audience to experience the whole stories from the two projects.

Through an adaptation of Jenkins' approach that a significant transmedia audience is attracted typically by pitching the content differently in the different platform [43], Tell a Tail depicts the same animal welfare problems through different stories and means. It gives the audience two different experiences that are self-contained and together enrich the narrative world.

### **Literacy requirements**

Considering the literacy requirements to fully understand the transmedia experiences [48,83], Tell a Tail targets tween to teens young audiences, avoiding having to cater to the cognitive immaturity of children unable to connect different media to the same story content.

### **Jenkins 7 Principles**

Applying the Jenkins seven principles to Transmedia Storytelling [42–45,88], Tell a Tail uses **spreadability** [42–45,88] on both projects by giving the audience the possibility of engaging actively with the stories content through the transmedia social networks (Instagram, YouTube, Wordpress). Moreover, it expands its cultural value and provides “additive comprehension” by giving the viewer the role to make choices inside the narratives. The stories do not require long-term engagement to get several notions of the overall conveyed message.

The transmedia world (figure 24) presents **continuity** [42–45,88] on the unified experience throughout the consistency used on the graphic design of the multiple projects. For example, Penny, the main character, provides **multiplicity** [42–45,88] by being present in both transmedia sub-projects as a fictional character but also as a ‘real character’ on the documentary, providing the audience with the possibility of seeing the character from another perspective and in other scenarios.

In the project, **immersion** and **extractability** [42–45,88] are conveyed to the audience through the stories told inspired by real-life events from the local context, allowing the audience to make connections with daily life episodes. Tell a Tail world, builds multiple supporting stories from multiple characters, which allows the viewer to search about those characters or elements on other mediums, intersecting the stories with the animal welfare situation of their community in question.

The Tell a tail 360 uses the **seriality** [42–45,88] by dispersing the meaningful story pieces on the different media used inside the documentary (i.e., Instagram posts, images and audio). Furthermore, it uses **subjectivity** [42–45,88] on providing hints for the pieces dispersed across other platforms where the audience can rely upon to fill the back story and figure out the long term results of the depicted events.

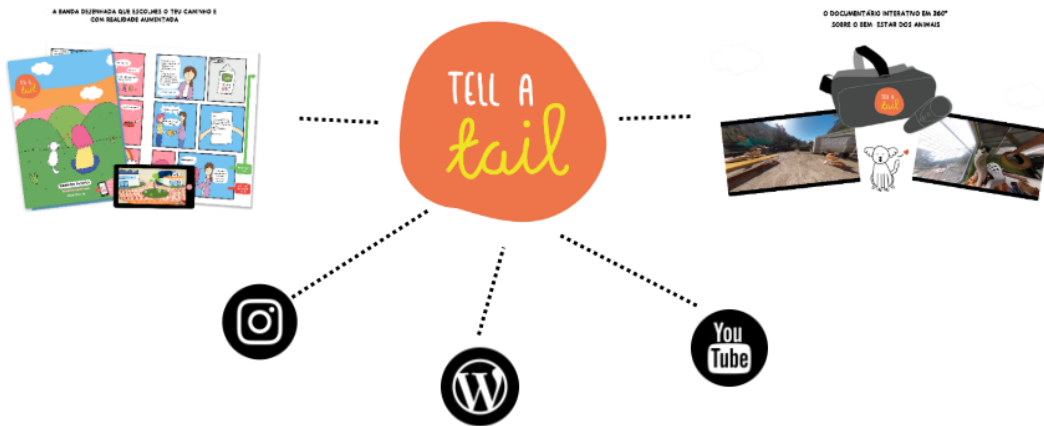


Figure 24. Tell a Tail transmedia branching world

## Fragmentation

The Tell a Tail fragmentation spectrum [82] presented in figure 25 shows the several layers of story pieces. There is a macroscopic one containing the two-story works, the comic book and the interactive 360 documentary and also several tiny bits, such as the website and different social media channels.

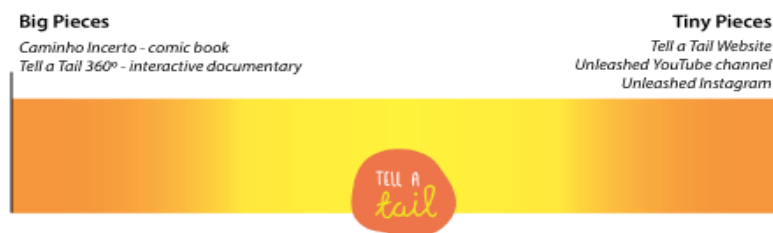


Figure 25. Fragmentation spectrum of Tell a Tail transmedia

### ***2.4.2. Virtual Reality Storytelling Design***

The design of the several micro-stories inside the documentary makes use of the two different storytelling approaches on VR, retrospective storytelling and real-time storytelling [15].

Some of the content in the 360° videos show events that occurred in the past (i.e., a non-interactive 360° video showing the rescue of a dog) providing backstory and explanation to the action in the present time to the user (i.e., when the user arrives at the Veterinary Hospital he sees a dog receiving treatment but have not information about the incident), referring to the retrospective storytelling.

On other hand, the real-time storytelling refers to the content that is occurring at the time the action is happening (i.e., the non-interactive video showing the first veterinary attendance to a dog) that occurs in the present time but provide the viewer with a meaningful lesson (i.e., the bad ownership and neglect consequences in the health of the dog).

## Chapter V. Tell a Tail 360: Prototype Development

This chapter describes and discusses the design stages and the implementation process of the Tell a Tail 360.

Throughout the development of Tell a Tail 360, was considered three general concepts as guiding principles when making design decisions, shown in figure 26.

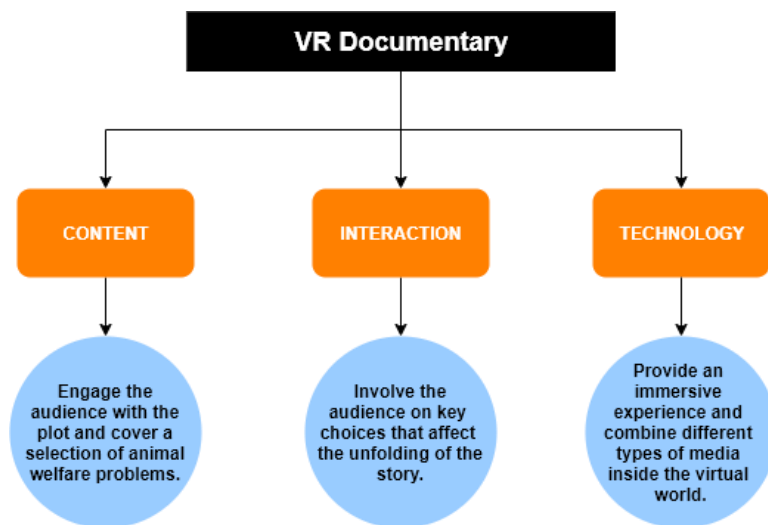


Figure 26. VR Documentary (Tell a Tail 360) general concept

**Content:** Story design is a fundamental key to engage the audience with the plot. Designing a documentary is challenging because all the events at the time of the filming are unpredictable.

**Interaction:** Interactive new media can create a significant connection to the audience as it involves the audience on critical choices that affect the unfolding of the story. All possible choices must be carefully designed to provide a meaningful message, and not to “break” the experience of immersion.

**Technology:** Virtual reality can provide an immersive experience and combine different types of media inside the virtual world.

## 1. Story Topics

Initially, several storyboards were produced, proposing different story scenarios and interaction possibilities that could be explored (Appendix C 1.). These storyboards contributed to explore creative possibilities, but not as strict guides on the final experience design since it depends on the raw footage captured.

From this ideation storyboards, the following topics were chosen: abandonment, adoption, care and health (figure 27), showcasing the fieldwork of kennel (CMVG), the Veterinary (HVM) and an NGO (AAAC).

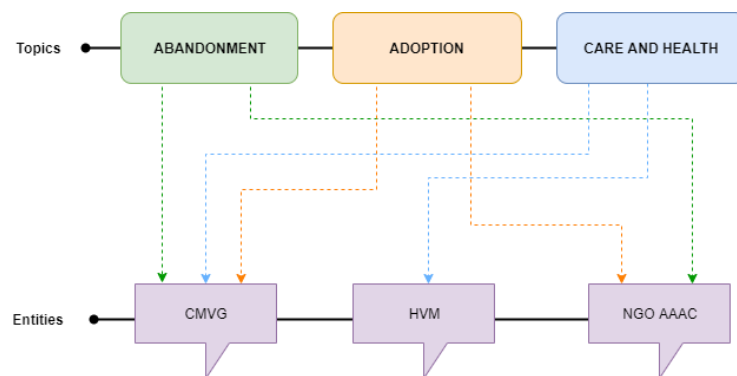


Figure 27. Resume of the Tell a Tail 360 documentary topics and entities

### 1.1. Description and Organization of the Documentary Content

There are two narrative branches to explore during the experience: the kennel (CMVG) and the Hospital (HVM), each one covering some of the topics mentioned above. Further sections describe the two narrative branches and their different media.

The **kennel narrative branch** (figure 28) is composed of:

- **Home 1:** that is the first video when the experience starts introducing the viewer to the kennel conditions and dogs behaviour inside it, showing the abandonment consequences in overpopulating kennels; however, the friendly behaviour of dogs that are playing in the scene provides an overview of the kennel cheerful conditions. Next, Sara Machado, the kennel manager

welcomes and introduces herself, providing the hint that the user can choose the path to follow clicking in the interactive objects.

- **Microchips:** is a small 360 video where the veterinarian provides the puppies with electronic chips, covering the importance of providing proper care and health for the animals on the kennel and showing the close connection between the kennel team and the animals.
- **360 CVR about the kennel and the cats:** These non-interactive videos documents the daily routine on the kennel, highlighting their conditions and activities that provide better-caring needs for the animals, the goals of the space and the expectations of finding responsible adopters.

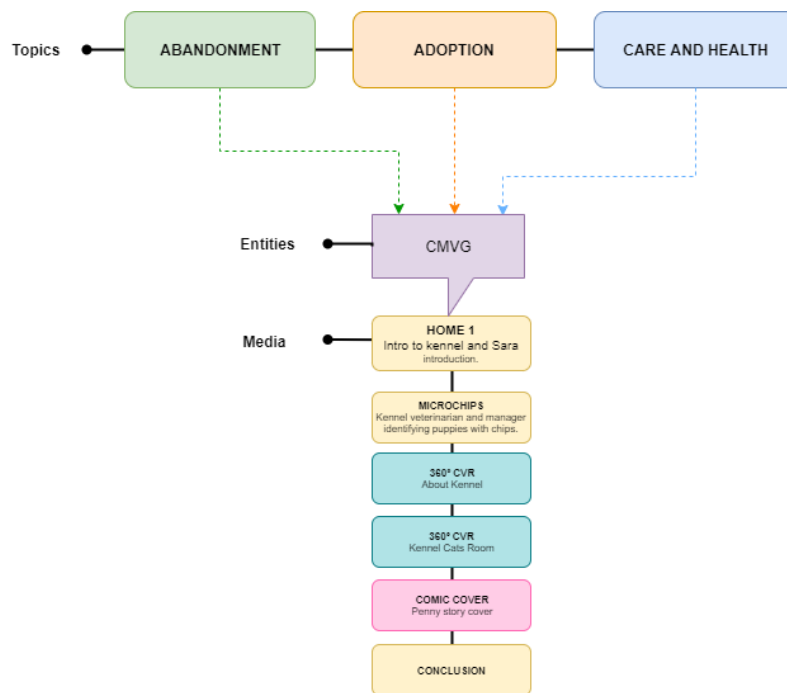


Figure 28. Kennel narrative branch (topics, entities and media)

The **hospital narrative branch** addresses the care and health topic (figure 29) and is composed of:

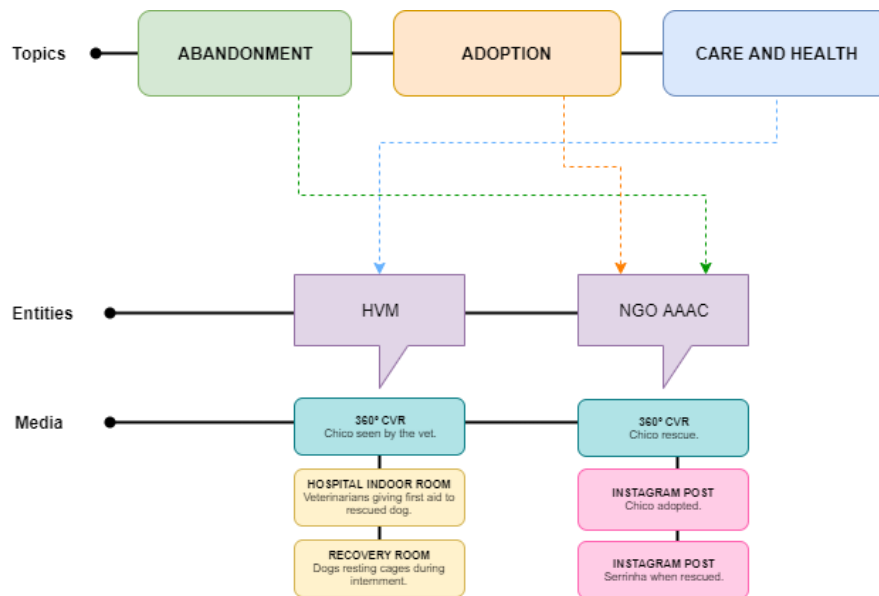


Figure 29. Hospital narrative branch (topics, entities and media)

- **360° CVR of Chico:** that shows the veterinarian attending Chico, the rescued dog, showing the importance of proper medical diagnosis and consequent decisions. These decisions are taken from both sides, the veterinarian and the NGO, and regards the dog treatments, expenses and the dog treatment results.
- **Hospital indoor room:** shows the first veterinary procedures, and the recovery room video shows the hospital facilities.
- **360° CVR of the rescue:** provides a better understanding of abandonment and neglect consequences, showcasing the NGO fieldwork.
- **Instagram posts:** show two opposing perspectives on AW problems relating to abandonment and adoption throughout the impact of the NGOs fieldwork. The Instagram post of Serrinha, reports another abandonment and neglected case while positively reporting the veterinarian treatment and its importance. On the other hand, the Instagram post of Chico adoption, focus on the importance of finding responsible adopters and the role of NGOs on rehoming these injured animals.

- **Comic cover:** provides a clue for the user to explore more about the transmedia world and these AW topics through the comic book.
- **Conclusion:** addresses the primary purpose of the experience, which is showcasing the different perspectives of these AW topics.

Sections 4 and 5 of this chapter further explain the development and creation of the documentary content.

## 2. High-Level User Experience

The virtual experience is designed to allow the viewer to choose inside the documentary his way to explore the different story fragments.

The design process started with some initial drafts of the user experience (Appendix E), which was later adapted and improved based on the final footage.

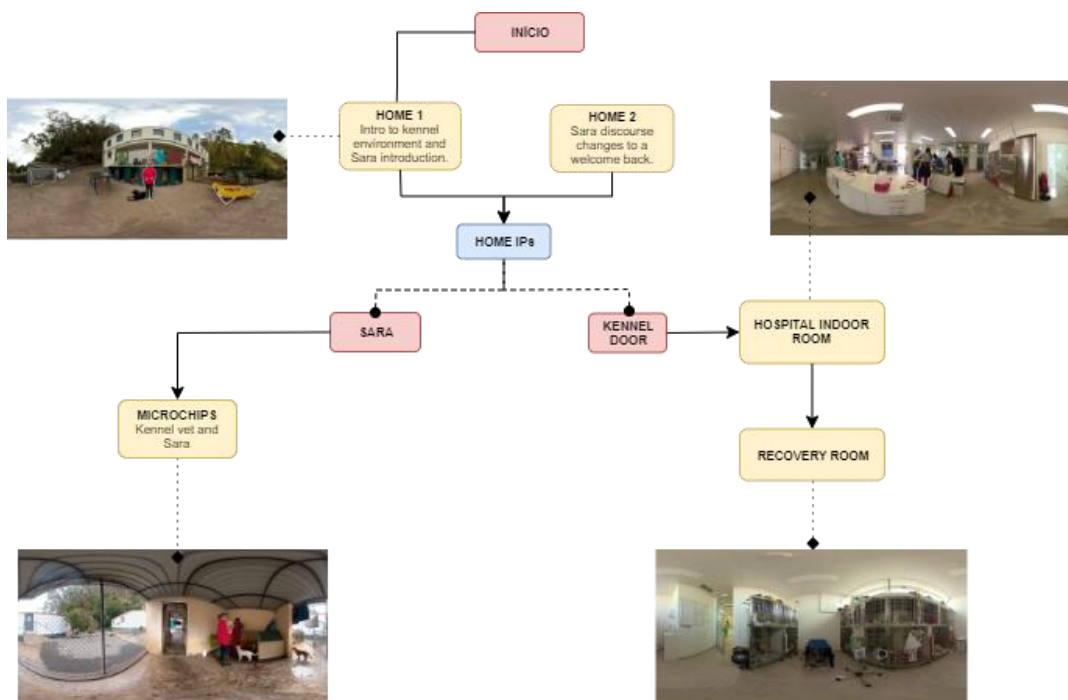


Figure 30. Interactive images inside the Tell a Tail 360

The user experience is composed of :

- **Interactive images** are segments of the story where the user must choose their path between 2 to 3 interaction points. There are four interactive images: Home, Microchips, Hospital Indoor Room and Recovery Room (figure 30).
- **Non-interactive images** refer to the media that complement the unfolding stories such as the Instagram posts and the comic cover.
- **Non-interactive videos** refer to 360 videos where the user is a mere observer to the unfolding action.

Figure 31 (page 44) shows a diagram of the final user experience of the documentary, showcasing the different possibilities the users has to unfold the content, the interaction points as the different media to explore.

### 3. Content Production

Figure 32 illustrates the different stages of the production pipeline.

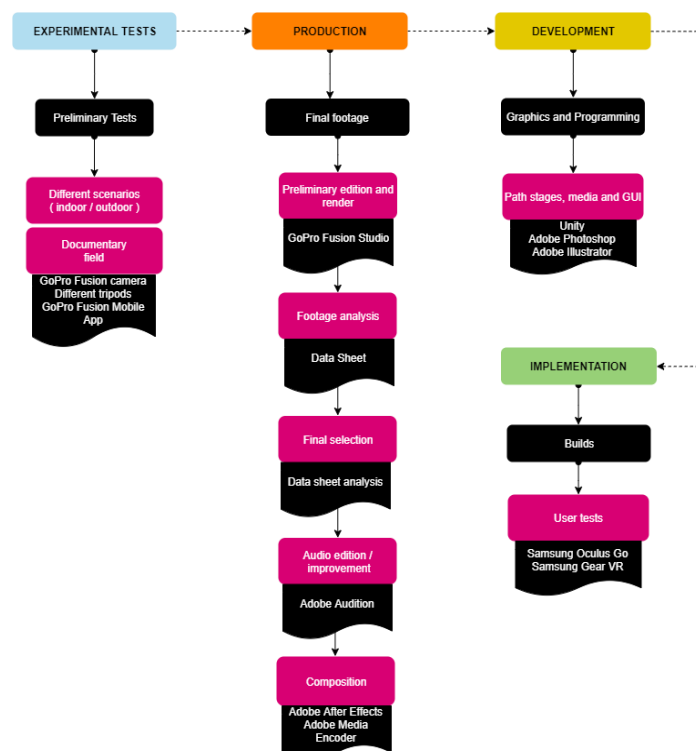


Figure 32. Tell a Tail 360 production pipeline

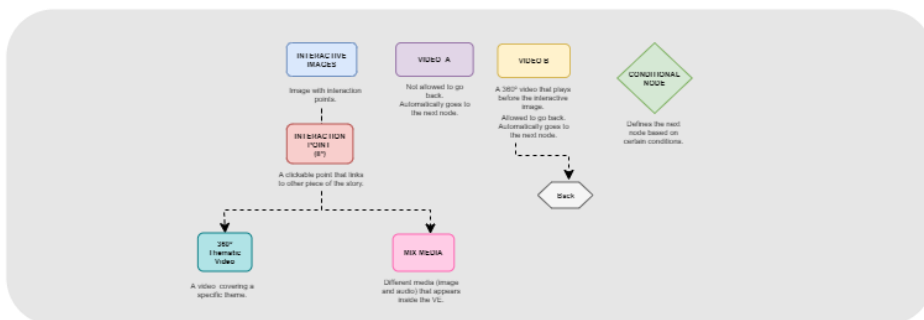
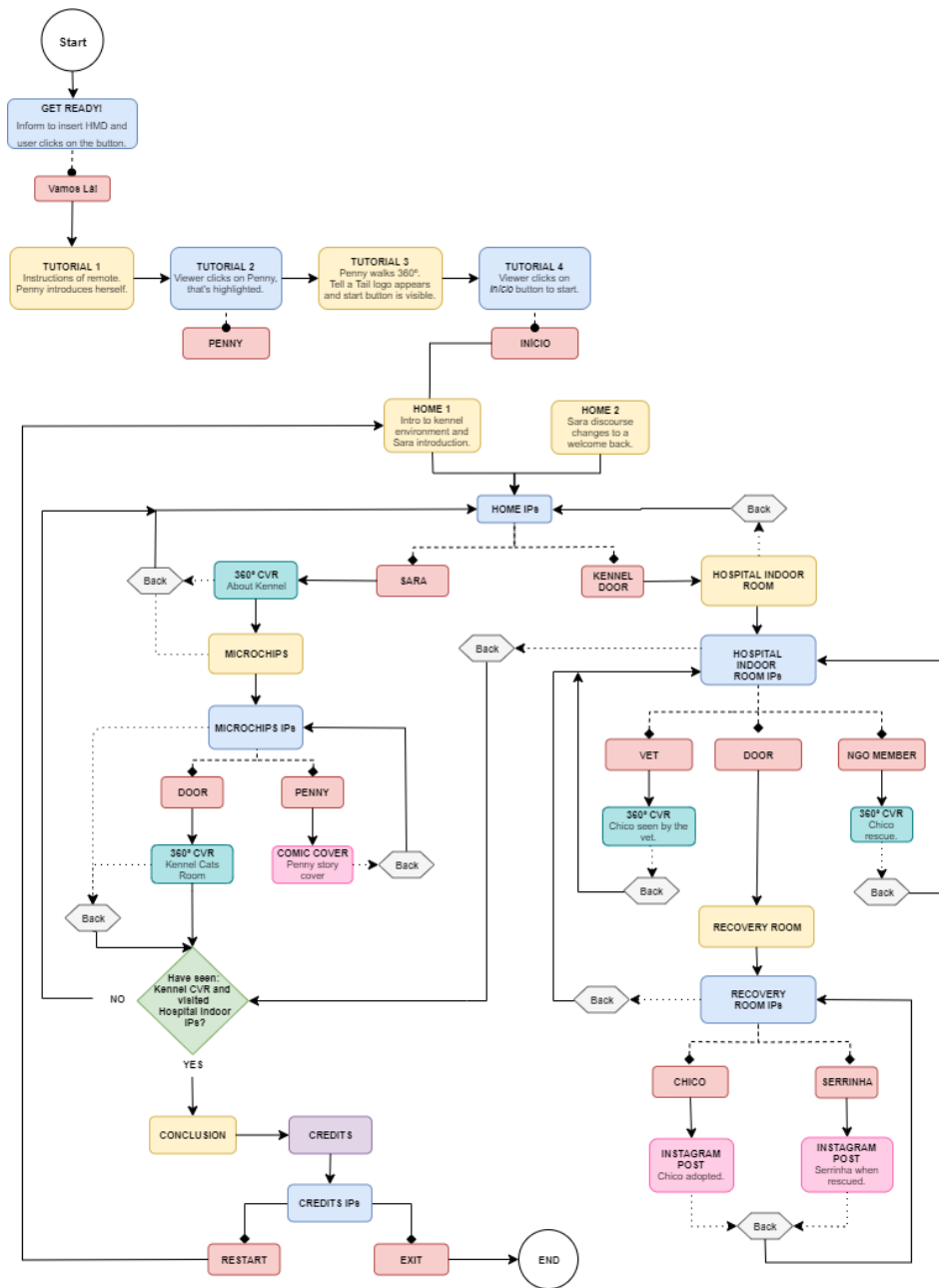


Figure 31. Tell a Tail 360 User Experience



In the experimental tests stage, the footage was recorded using a GoPro Fusion camera. Several short videos were shot inside a home environment, indoors and outdoors with two cats to learn how to work with the camera. This process allowed to test the animals interacting with the camera, the angles, and the impact of using the different tripod heights on the perspective. Pets often would get close to the camera, moved by curiosity and angles with low heights resulted in closeness with the animals and gave the idea of being at the animal level, better for understanding the animal perspective.



Figure 33. Filming tests at the Canil Municipal Vasco Gil shelter

Additionally, preliminary tests were made in the kennel, to study the best camera angles on the field, understanding which daily situations could be relevant to film and acknowledge the terrain constraints (figure 33). Some of the low angles tested by positioning the camera on the ground or inside a dog cage turned out to be an interesting perspective to capture the behaviour of animals. Experimenting with different camera heights showed different perspectives of the kennel, such as from the top of the fence or on top of objects. However, after reviewing this footage, it was decided not to be used because higher camera positions put the human eyes above the animals, which unconsciously could suggest a position of dominance over the animals.

Due to the movement of animals around the lightest-weight tripod (GoPro tripod), fishing leads were added to the tripod to make it more resistant to possible collisions

with the animals. While the lightest-weight tripod was suitable to record the cats, a heavier camera tripod with a GoPro adapter was used for scenes with dogs (figure 34).



Figure 34. Filming at the Canil Municipal Vasco Gil shelter

Another issue encountered in testing the camera was the autonomy of the device. Considering the GoPro Fusion had an autonomy of 80 minutes, needed two SD cards to record the footage (as each SD card record 180<sup>o</sup>) and each SD cards had capacity for 64Gb (corresponding to approximately 1 hour and 57 minutes of footage), it became clear that careful planning was key for the field recordings. Additionally, due to the level of ambient noise of the kennel (i.e., barking, wind), a Samsung A7 phone was used to record the interviews and outdoor scenes.

### 3.1. Editing and Rendering

Project footage was rendered in the GoPro Fusion Studio (version 1.3), simplifying the workflow as it allows for pitching, rolling, stabilising or make colour corrections before rendering it. Videos were rendered in 3K using the codec H.264.

After making rendering, a more in-depth review of the footage was made, using a data sheet with notes about the content, the topics addressed and audio. After analysing these notes, the more exciting video footage was chosen, considering the documentary goals and the narrative message. This process was time-consuming

File names	Folder	Description	Notes	Edition	Dur. aft/ edition	Level of interest (I S B MB)	Res.	Audio	
C0235_saladoentes1 Original: VIDEO_0235	rendered > Canil > Edited	Limpeza da sala dos gatos doentes.	Parte dos gatinhos doentes. <b>Mena a fazer festinhas gatinhos</b>	Start 18" 18 Finish 21" 26	2m 7"	MB - Mena a fazer carinho e falar com os gatinhos enquanto da ração	3K		Best
C0235_saladoentes2 Original: VIDEO_0235	rendered > Canil > Edited > Gatil	Chegada da Anya (voluntária alemã)	- Chegada da Anya	Start Finish	32"	MB - Chegada da Anya	3K		Worst
C0235_saladoentes3 Original: VIDEO_0235	rendered > Canil > Edited > Gatil	Anya (voluntária alemã) a ajudar	- Anya ajudar abrir o tunel etc <b>- Saída da Anya da sala</b>	Start Finish	3m 29"	MB - Anya ajuda e a colocar os presentes que trouxe na sala	3K		
C0235_saladoentes4 Original: VIDEO_0235	rendered > Canil > Edited > Gatil	Mena limpezas e Audio	<b>- Mena fala com a vassoura parece um micro</b> <b>- Mena fala sobre a Anya, quem é o que faz, porque vem ao canil</b> <b>- Mena fala sobre a história de alguns gatinhos</b>	Start Finish	8m 4"	MB Mena nas limpezas e a falar*  *Tenho muito audio da Mena a falar talvez pudesse aproveitar... mas tenho que cortar nas partes que ela está parada de vassoura na mão	3K	- Quem é a Anya (voluntária alemã)	
C0234_saladoentes5 Original: VIDEO_0234	rendered > Canil > Edited > Gatil	Mena a fazer limpezas na sala dos doentinhos.	Álamo e o Negro estão junto à camera. Video curto.	Start 0" Finish 7"	7"	S - Mena a fazer limpezas - 2 gatos estão junto à camera	3K		
C0227_dentrocasinha Original: VIDEO_0227	rendered > Canil > Edited > Gatil	Mostra gatinho dentro da casinha.	Gato depois olha para camera. Filmado dentro da casinha.	Start 0" Finish *	16"	S	3K		
C0228_limpezas Original: VIDEO_0228	rendered > Canil > Edited > Gatil	Mena em limpezas na sala comum.	<b>Possible Sequence:</b> Mostrar este em que o gatinho está sentado na cadeira e depois CUT para o C0229_narizgato, em que o mesmo interage com a camera.	Start 0" Finish 14"	14"	MB - Mostra a Mena de costas a limpar - Gatinho enquanto esta sentado na cadeira	3K		
C0229_narizgato Original: VIDEO_0229	rendered > Canil > Edited > Gatil	Gato na cadeira interage com a camera.		Start Finish	1m 5"	MB - Interação do gato com a camera	3K		
C0225_meditating Original: VIDEO_0225	rendered > Canil > Edited > Gatil	Gatinho "meditando"	Camera na caminha aquecida dos gatos, com um gatinho a dormir em modo caracol enquanto vê-se a mena a limpar ao fundo.	Start Finish	11"	S <b>- Má Qualidade de imagem ao fundo (muita luz) onde a Mena está a limpar</b>	3K		

Figure 35. Table used to analyse the footage

since it demanded to watch the same footage, several times, to understand what was happening on the scene from the overall 360 angles. The process produced an excel table sheet (figure 35) with each row, corresponding to a video render, containing information about:

- **Filename:** The name of the edited and rendered file with the references to the setting and the original footage. The file name was coded containing a reference to the environment and to the original file name which helped to go back to the original footage when necessary.
- **Description:** A summary of the action occurring in the video.
- **Notes:** A longer description of the action and the video content such as audio conditions, place and intervenients, using short and key sentences to decrease the reading time and be easier to find information.
- **Edition:** Time fragment of the original clip.
- **Duration after Rendering:** Time of the edited video.
- **Level of Interest:** Classification scale of the interest of the video for the

documentary purposes from Insufficient (I), Sufficient (S), Good (B) and Very Good (MB).

- **Resolution:** Resolution of the video after render.
- **Audio:** Notes of the sound that contained possible narrator discourse for the documentary.

### 3.2. Final Composition

The final editing of the videos were made using After Effects CC 2019 (30-day trial), using the following features (shown in figure 36):

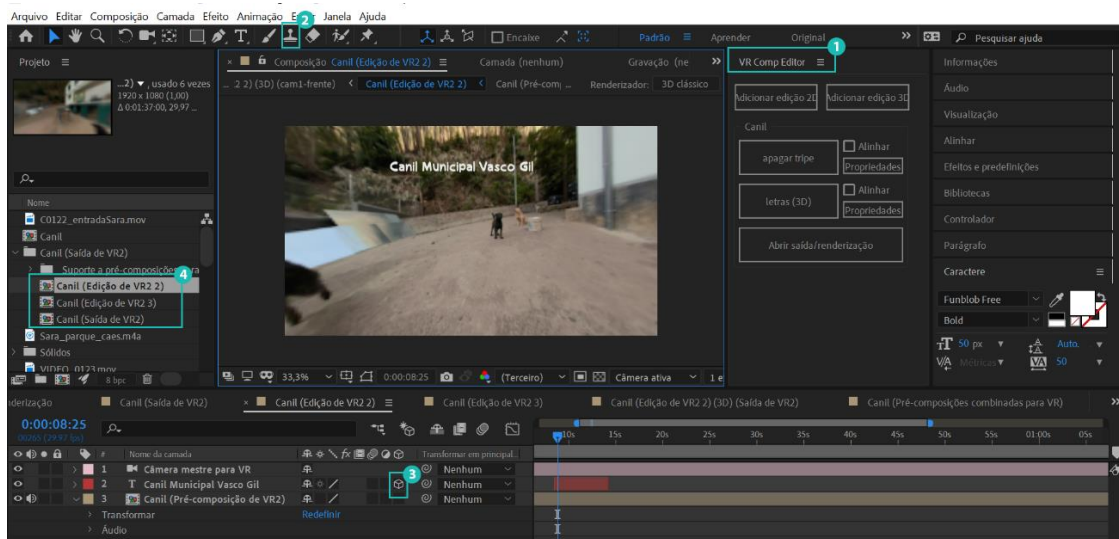


Figure 36. Edition window in After Effects:

- 1) VR Comp Editor, 2) Clone Stamp Tool, 3) Add Text

**VR Comp Editor:** The VR Comp Editor is a tool for editing 360 videos, allowing to add forms, text or erase the tripod from the scene and was the primary tool used to compose the final documentary videos.

**Clone Stamp Tool:** This tool was used to erase the tripod from the scenes, as it copies the nearest textures and stamp on top of the tripod, covering it. It was not possible to use this tool to erase the tripod from the videos that used the heaviest

tripod at the highest height, due to the ground texture, the presence of objects/people and the large size of the tripod's top. In these cases, a black circle was used to cover the tripod.

**Add text:** After adding a 3D edition on the VR Comp Editor, the text tool was used to insert text on the scenes.

**Edit and Output:** After adding a VR Comp Editor, the software creates a new composition containing the changes made to the footage, and the VR output shows a preview of the final VR composition.

For audio, Adobe Audition CC 2019 (30-days trial) was used for noise reduction and improving audio quality (i.e., speech). Finally, for rendering, Adobe Media Encoder CC 2019 (30-day trial) was used to export and render the final media. The default settings used were VR Monoscopic Match Source Stereo Audio, with an adaptive bitrate and with all video settings matching the source, including the audio.

### 3.3. Development of the Prototype in the Unity

The prototype was developed with Unity<sup>5</sup> (2019.3.0a11 (64-bit)), by the co-advisor Paulo Bala while I added the different assets (360 CVRs and images), defined the different stages of the user path inside the VE considering the different nodes and subsequent media (figure 37).

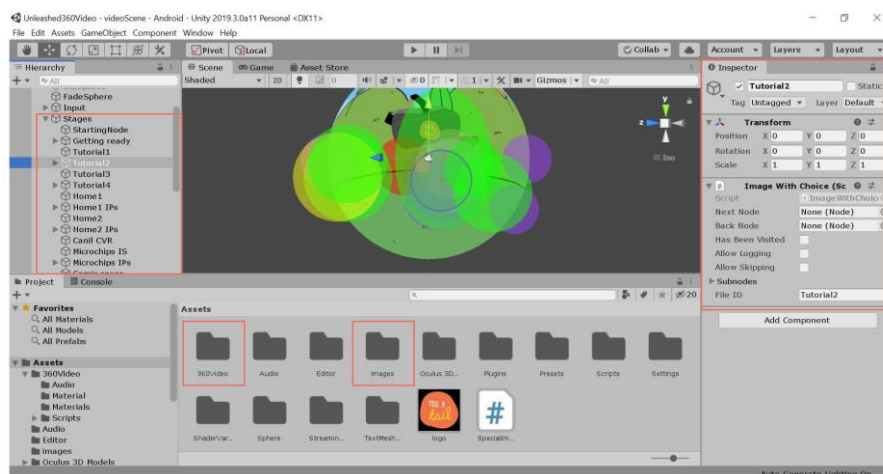


Figure 37. Unity working window showcasing the project development

<sup>5</sup> www.unity.com

## 4. Graphic Design

The graphic design of the prototype followed an iterative process that started with analysing different 360 experiences (Appendix F), then incorporating some of the insights learned into the low-fidelity prototype (Appendix C 3.3). This section presents the final graphic design.

### Main background scene

The main background scene used for the tutorial and final parts as credits was an original illustration from the comic book, adapted to fit the 360-environment. The elements on the edges were aligned and elements on the ground (rocks and herbs) eliminated from the scene (figure 38).

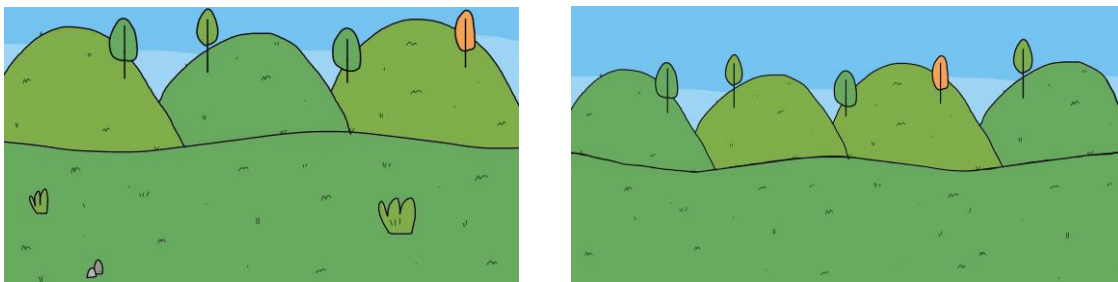


Figure 38. Original background image from the comic (left) and the adapted image for the Tell a Tail 360 (right)

### Get ready screen

This screen is a 360 interactive-image that appears before the tutorial to give the viewer time to adjust the HMD, directing his attention to the tutorial. A vectorial drawing of the HMD and its controller were designed showcasing the command for “start” button (figure 39).

### Interaction Points

The graphic design of the interaction points (IPs) is an outline of the interactive element, providing proper user feedback and distinguishes the interactive points from the non-interactive.

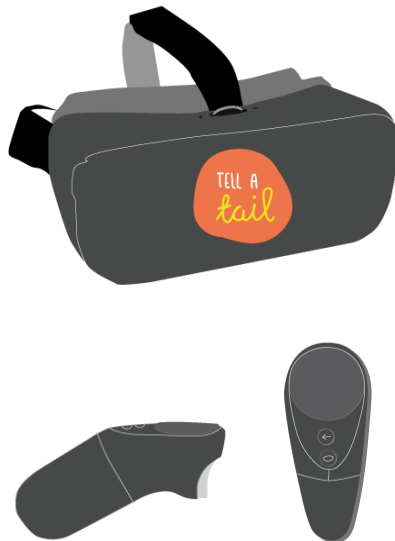


Figure 39. Vectorial drawings for the Tell a Tail 360 tutorial (HMD and controller views)

In the active state, the IPs present a white outline with 50% of opacity, changing to 100% of opacity when hovered.

Once the IPS is a green outline and a check icon on the right side is presented. In this way providing the user, feedback on the paths already visited (figure 40).



Figure 40. Design of the Tell a Tail 360 interaction points state: active (left), hover (middle) and visited (right)

## Buttons

Buttons have a round shape, conferring a playable look (figure 41). The text inside the buttons uses the same font as the Tell a Tail comic book to highlight the graphical consistency between the transmedia projects.

The buttons have active and hover states, using the same graphic design as IPs.



Figure 41. Design of buttons inside the VE of Tell a Tail 360

## Images

The images displayed on top of the 360 scenes have a label informing the user where he can find more information about the content and an image of the controller command "back" highlighted with an orange outline and text to recall the user where to click (figure 42).



Figure 42. Interactive image Microchips, showing the comic cover of “Caminho incerto”

## Text

The text in the documentary was used to identify: places, people, or to provide information about the occurring action. It is used the orange colour to highlight keywords in groups of text (figure 43).



Figure 43. Text design of Tell a Tail 360

## 5. Detailed User Experience

The experience starts with a screen providing time for the user to adjust the head-mounted display (HMD), followed by the tutorial.

### Get ready and Tutorial

The “Get ready” screen (figure 44) is an image showing the HMD and the controller command. It suggests clicking in the Start button when the VR hardware is adjusted correctly.

The tutorial introduces the viewer to the user interface and the interactions. First, it shows the controller instructions; how to make a selection and how to go back or skip. The second part is about how to interact with the GUI. These visual instructions are complemented with audio. Penny, the main character of the transmedia story world, was used on the tutorial to introduce the viewer to the graphic design of the interaction points. After clicking on the character, the Unleashed logo appears providing user feedback.

Penny walks around the 360° motivating the viewer to follow her, with the eyes and perceive that the action will be happening in 360°.

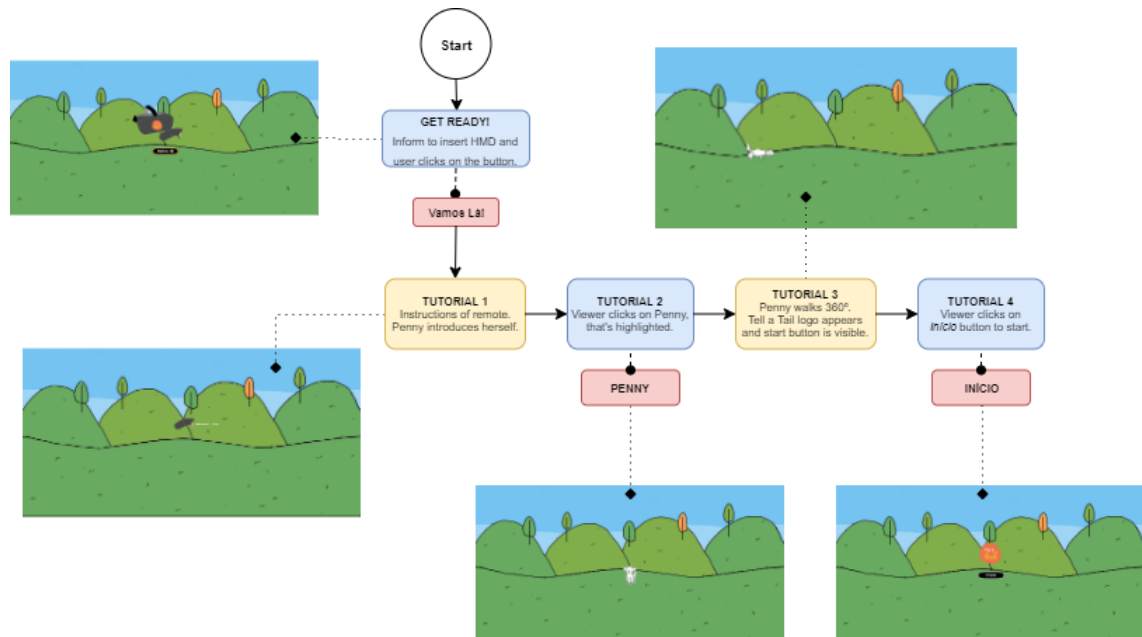


Figure 44. Beginning of the Tell a Tail 360 user experience (Get ready screen and tutorial)

## One Home Screen 2 different options: Home 1 and Home 2

The documentary has two narrative branches, the kennel branch and the veterinary hospital branch. The first, shows the shelter conditions and environment, while in the veterinary branch, the user finds more information about the veterinary services and NGOs fieldwork.

The Home scene is the main departure and arrival scene from and to the narrative branches on the documentary. When it is the first time the viewer starts the experience, Home 1 is presented with a welcome message. If the viewer is coming back from a branch Home 2 is displayed, without the welcome message.

The **Home Scene** has two interaction points (figure 45), **the kennel door**, that leads to the Veterinary Branch and **the kennel manager** (Dr<sup>a</sup>. Sara Machado) that leads to the Kennel Branch.

## Kennel Narrative Branch

This branch unfolds by clicking on the kennel manager IP (figure 46), and it allows

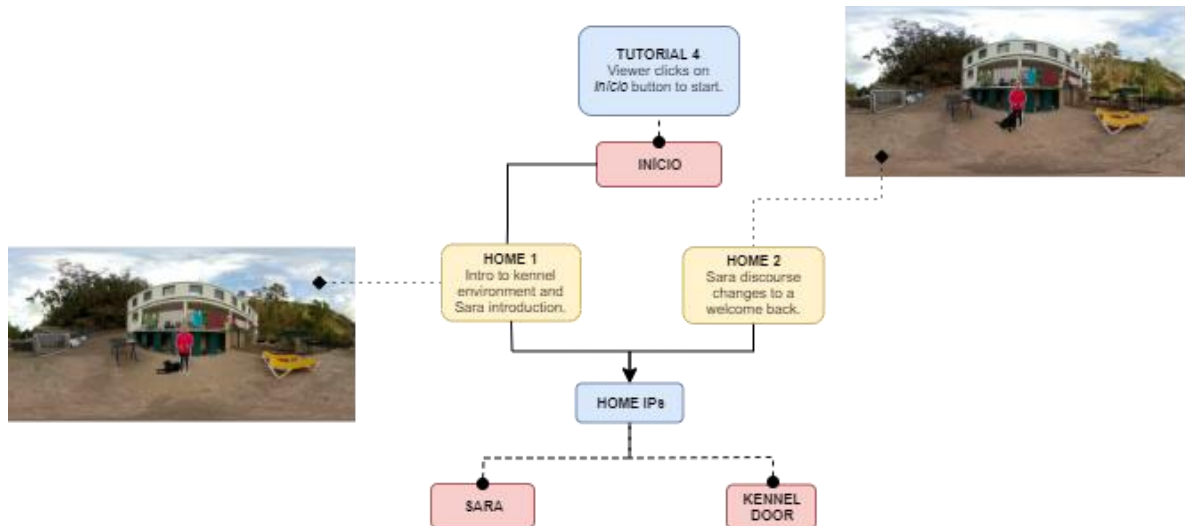


Figure 45. Home scenes of the Tell a Tail 360 user experience

to follow a 360 CVR about the daily kennel routine. This branch allows visualising the non-interactive video about the **Microchips**. It shows the veterinarian and the kennel manager putting the electronic chip on a group of puppies. The interactive image of Microchips scene has two IPs: **the dog** (impersonating the character Penny) on the Kennel’s manager lap and **the door**.

The first displays the cover of the Tell a Tail comic book “Caminho Incerto” playing the audio of Penny advertising it and helping the viewer start creating an emotional link with the main transmedia character [41]. Second, the door (IP) leads the viewer to watch the 360 CVR about the kennel cats, regarding their daily routine, space and its conditions.

### Hospital Narrative Branch

This branch starts inside the main room of the Veterinary Hospital (**Hospital Indoor Room**), where 3 interaction points are unfolding into different parts of the Chico (the dog) rescue (figure 47). The **Vet** (IP) leads the user to watch the 360 CVR showing veterinary taking care of Chico right after being rescued, while the **NGO member** (IP) allows the viewer to watch the 360 CVR of the rescue process.

The **door** (IP) leads to another scene the: Recovery room, where the viewer sees a short 360 CVR of the rescued dogs Chico and the other dogs who were also rescued from deplorable conditions.

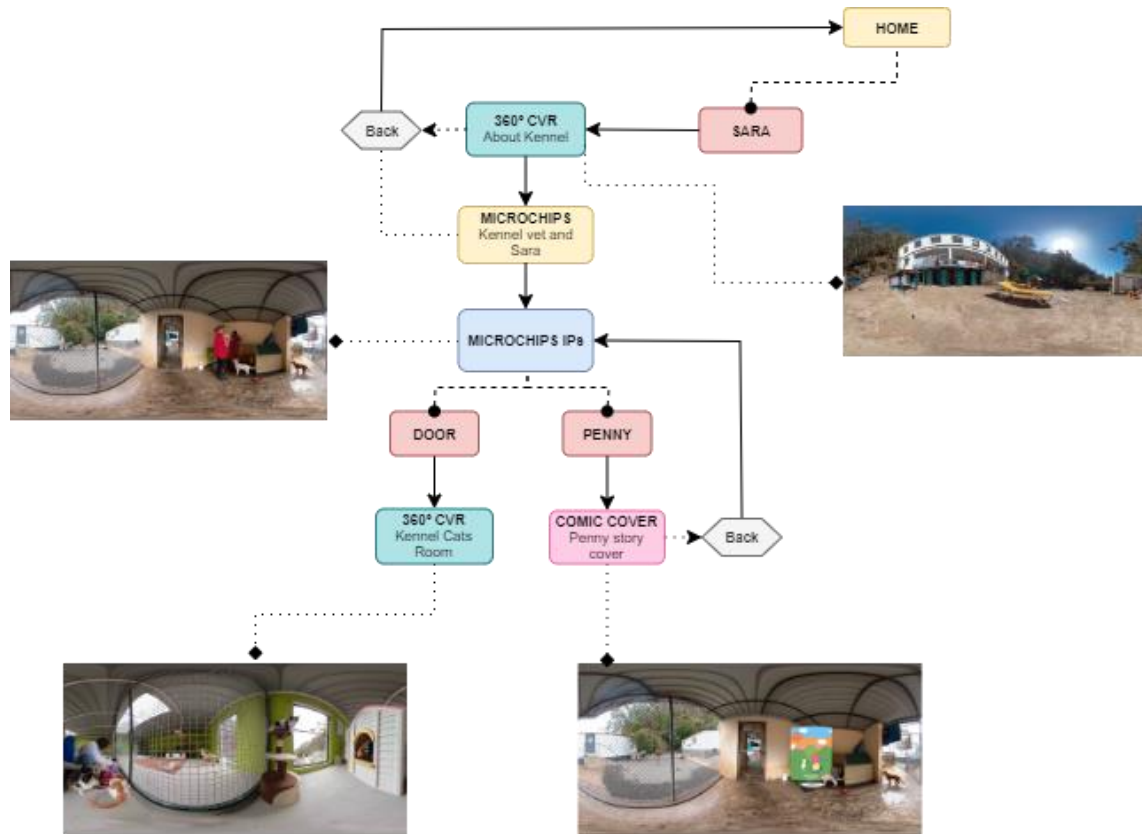


Figure 46. Kennel narrative branch of the Tell a Tail 360

The **Recovery Room** itself has two IPs, the dog Chico and Serrinha. Both link to **Instagram media** from the NGO. **Chico** (IP) displays an Instagram post of the dog being adopted, showing the positive perspective of adoption and the happy ending of the rescue while by clicking on **Serrinha** (IP) viewers can see her receiving treatment in the hospital after being rescued and cared for by an NGO member.

### Conditional node, Conclusion and Credits

The journey experience is influenced by individual choices, changing the way the narrative unfolds; however, in the end, the conclusion needs to be consistent.

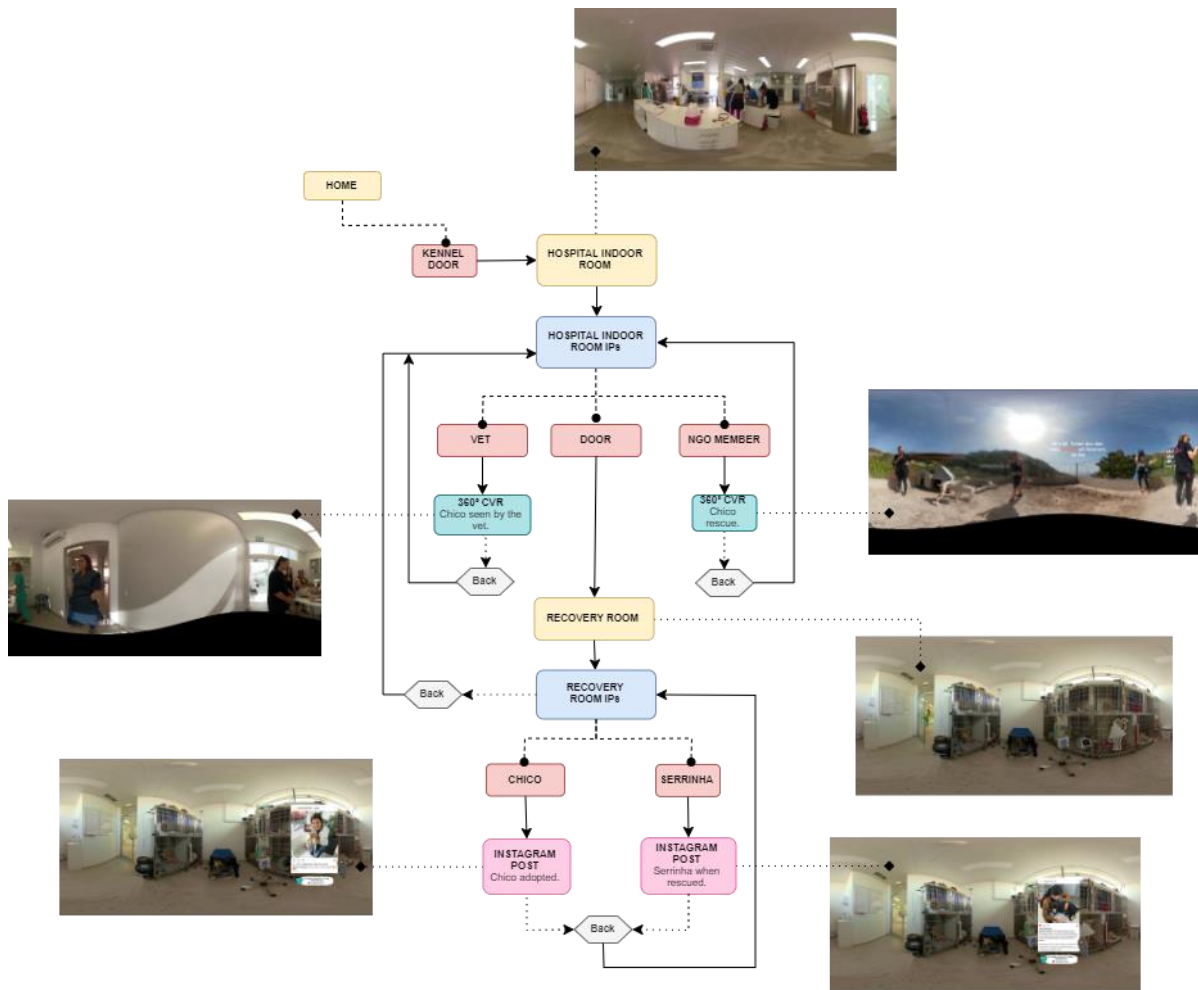


Figure 47. Veterinary narrative branch of the Tell a Tail 360

Without taking away the viewer autonomy inside the VE, a **conditional node** was created, employing two criteria to accomplish and reach the experience end (figure 48), which is (1) watch the 360 CVR about the kennel and (2) visit the veterinary branch.

The **conclusion** is a 360 non-interactive video where the kennel manager thanks to the viewer for doing the experience and conveys the main take-aways from the documentary message.

The **credits** video follows the conclusion, composed by three main parts (1) acknowledgements, (2) advertisement of the Tell a Tail comic book “Caminho Incerto” and (3) the options to ‘end’ or ‘restart’ the experience.

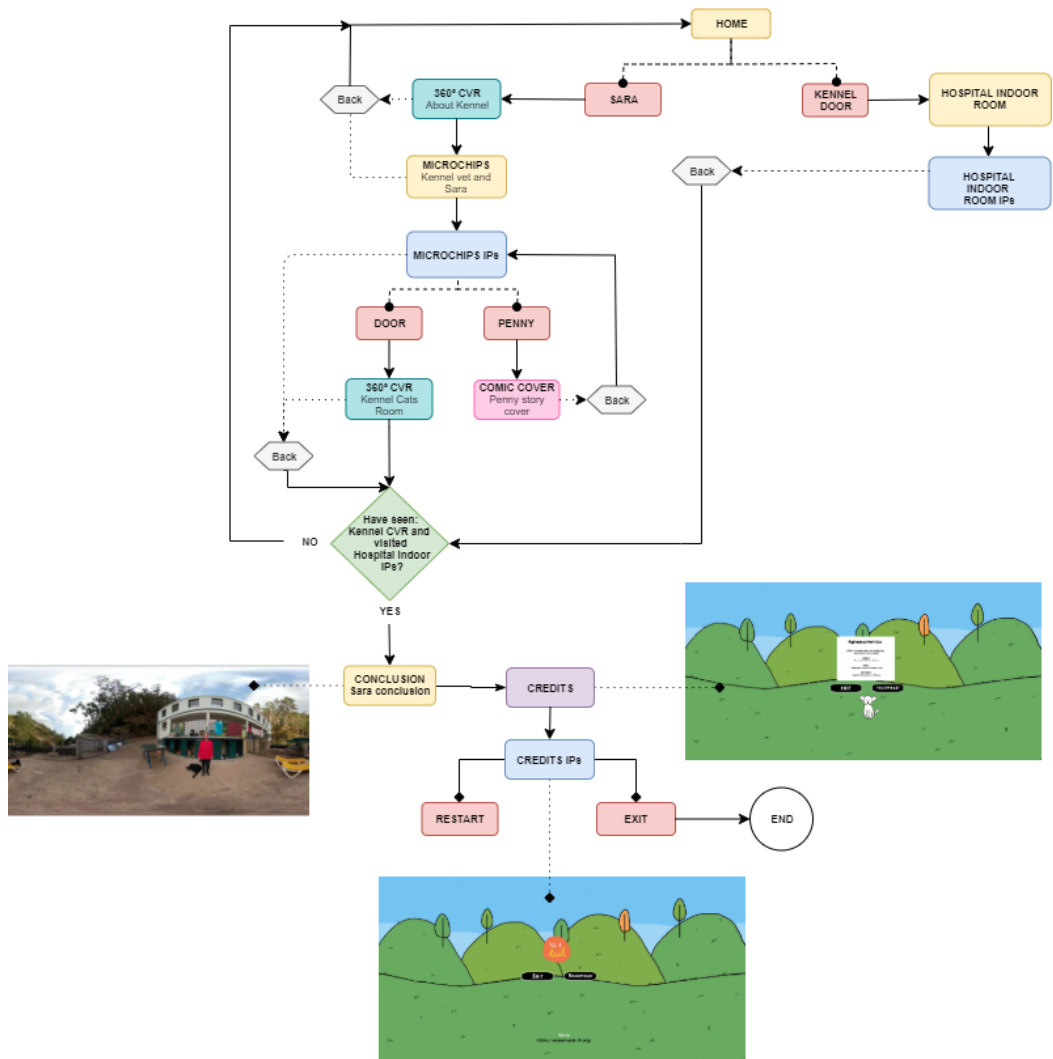


Figure 48. Conditional node, conclusion and credits of the Tell a Tail 360 user experience

## Chapter VI. Evaluation of the Tell a Tail 360

The section below addresses an initial evaluation study of the Tell a Tail 360, describing the design of a pilot study (in a public exhibition) and a user study (in a school setting), summarising results and findings. More information about the project evaluation can be found in Appendix G.

### 1. Pilot Study

The Tell a Tail project was showcased on the Macaronight in the European Night of Researchers 2019, in Funchal (figure 49), a public event connecting the work of scientists with a general audience.



Figure 49. Tell a Tail stand on the “Macaronight” in LaVie Funchal (2019)

During this event, a pilot study was conducted with five students from different schools, using the Samsung Gear VR, Samsung S6 and headphones (due to the noise conditions of the testing environment). The goal of the pilot study is to get an initial understanding of how participants were engaging with the prototype and how the prototype could be tested in a more formal setting.

Due to the public setting, notes were taken on the behaviour of participants. The process of observation helped explain users behaviours as provide feedback on the experience evaluation [34,38,60]. Reactions such as facial and body expressions (figure 50) commonly expressed on gestures, register informal feedback about the

user studies. Additionally, photos were taken providing observational data about the reactions of users during the experience [38,60].

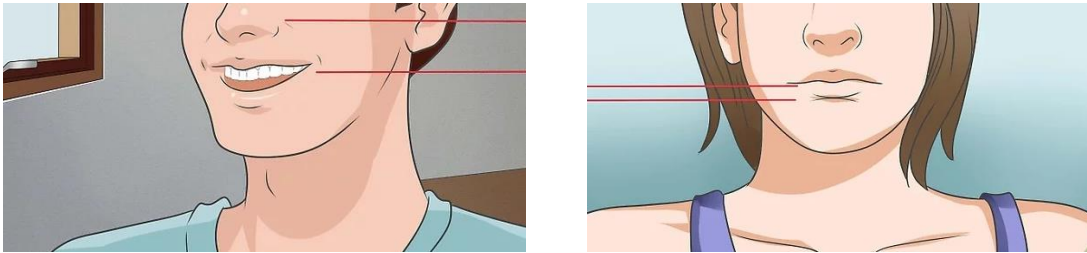


Figure 50. Reading facial expressions considering the HMD use [38]

Informal interviews were conducted with a loose set of questions asking about the usability of the system and the takeaways of the experience in an open-ended manner:

- “What did you find more difficult?”;
- “What is your overall opinion of the experience?”;
- “What did you think about the experience length?”.

### 1.1. Results from the Pilot Study

In general, most of the public showed curiosity about the technology employed. After trying the project, expectations of participants seemed exceeded as they were often smiling, showed satisfaction and engagement for the 360 experience (figure 50).

Several teachers recognised the potential of the transmedia project, framed in school contexts in the areas of moral development and citizenship.

After briefly explaining the project and from the comments received from those who tested the transmedia projects, participants did not have doubts about the story message and the overall goals were well conveyed.

The visual identity of the two projects was coherently perceived by the public that understood that it was one unique project containing two other different sub-projects under the same concept. The connections linking both projects were clear, and that was a very positive outcome as one of the challenges of the transmedia projects is the lack of consistency across the different media projects.



Figure 50. Tell a Tail 360 pilot study on “Macaronight” in LaVie Funchal (2019)

At this stage, there were minor problems with the HMD controller, such as the need to recalibrate it or the losing connection with the HMD, that constituted barriers to the user experience.

One of the things that stood out from the observations was the curiosity of the young audiences to try the VR, which shows promising opportunities for this target audience. All participants referred that if possible, they would repeat the experience. Those who did not have the opportunity to experience it during the event expressed interest by asking for a web version to try it online.

From the pilot study, problems with the study procedure and methodology were identified, especially in noisy environments with a large attendance.

## 2. User Study

For the more formal user study, were used qualitative and quantitative methods (such as observations, record keeping, informal interviews and questionnaires) to understand the user experience of interacting specifically with the 360° prototype.

The user study was done with two groups of 9 students from 15 to 18 years old, each group experiencing different versions of the documentary. The description of the protocol used is in section 3.4. of this chapter.

## 2.1. Study Design

Regarding the research question of this thesis (if and how immersive content can create deeper awareness for *good* animal welfare attitudes), a non-VR version of the documentary was created for A/B testing. The non-VR version intended to run on a computer, maintaining the same design as the VR version with minor changes in the user tutorial, due to the difference of the hardware inputs (figure 51).



Figure 51. Print screen of the tutorial parts of the Tell a Tail 360 non-VR version

## 2.2. Evaluation methodology

There were pre and post questionnaires using only two types of questions, closed ones, with “yes” or “no” answers, and was used a Likert scale with items from 1 to

5 in which the answer refer to the agreement of the user with the statement (figure 52).

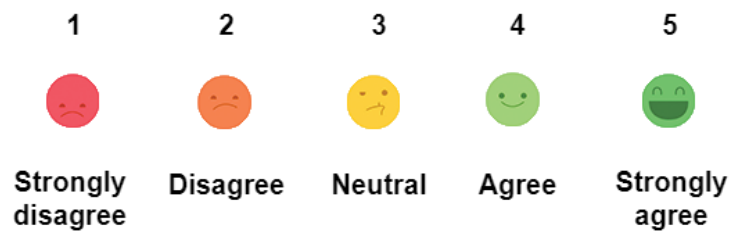


Figure 52. The Likert scale used in Tell a Tail 360 user study questionnaires

In the informal interviews, the use of open questions allows reaching a deeper understanding of the user experience. Due to the study environment and logistics problems related to time available, the questions needed to be short focusing on:

- The general opinion about the technology used;
- Difficulties encountered during the experiment;
- Perceived contribution to promote awareness of the addressed topic;
- Suggestions for future improvements.

### 2.3. Protocol

The experience protocol regarded the time and context of the user studies (Appendix G). It started by welcoming and thanking participants for their participation. Participants were briefed about the project, the anonymity of the collected data and signed the consent forms. Following that, they filled out the pre questionnaires.

After dividing the group of participants in 2, half tested the VR version (Group A), while the other half tested the non-VR version (Group B), what happened in simultaneous. The VR version refers to executing the prototype in an HMD, while the non-VR version refers to executing the prototype in a computer desktop version.

At the beginning of the experience, participants of group A were informed on:

- How to adjust the HMD and the focal length;

- How to select buttons using the controller;
- How to start the experience by selecting a button on the first scene;
- That the remaining commands would appear in the tutorial.

Furthermore, participants in group B were informed on:

- How to select buttons using the mouse;
- That the remaining commands would appear in the tutorial.

The equipment used by participants of group A were the Oculus Go and the Oculus Gear VR with their respective controllers. Earphones were also provided to hide details about the experience to the other participants waiting for their turn. For group B, the participants used a laptop with earphones and 2 user tests were deployed at the same time. However, the laptops were placed opposite each other, not to influence participants during his experience.

After the experience, participants filled out a post-questionnaire and were informally interviewed.

## **2.4. Sample**

The user study was conducted in a local school (Escola Básica e Secundária de Santa Cruz), with 18 male students of a professional course equivalent to the 10 grade. The lack of female participants was not intentional, and it was dependent on the available classes for the study.

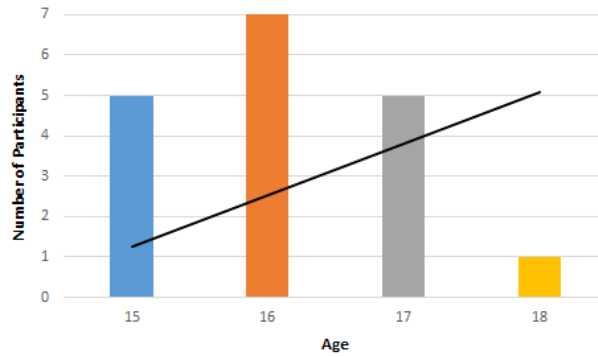


Figure 53. Age histogram of the user study sample

The sample was divided into two groups of 9 participants, and each group tested the different version of the documentary. The histogram below represents the bin width of the sample age in which the average age is 16,5 years old (figure 53).

## 2.4.1. General Knowledge of the participants regarding AW

### 2.4.1.1. Group A (VR)

Six of the participants were pet owners. The participants understand the importance of periodic care and health in animals, but the majority agree (1-Strongly agree 6-Agree) in taking the animals to the veterinarian only when they get sick.

Some of the participants were neutral (4) or disagreed (4) about the regional community being well informed about AW problems.

The results indicate that only 4 respondents knew about the AW NGOs (figure 54).

The majority (7) of the participants have not participated in any AW educational activity at school, and only 3 participants have not visited a kennel.

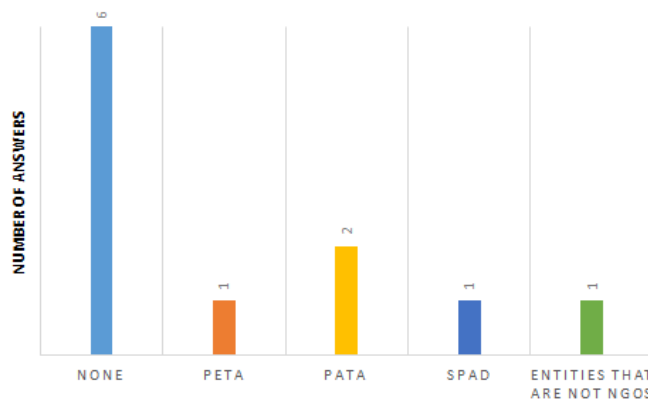


Figure 54. Group A (VR) answer to "What are the AW NGOs that you know?"

### 2.4.1.2. Group B (non-VR)

Eight participants were pet owners. Most participants (5) believe that animals should be taken to vet regularly and that they are more than objects.

The majority of the participants (7) consider that the local community is not well informed about AW topic, which highlights the importance of the transmedia project to deliver information about this social problem.

Results show that only 3 participants did not know any AW NGO. However, in this group, the participants referred to several animal welfare-related entities that are not NGOs (i.e., political parties, local kennels and veterinarians), highlighting the lack of knowledge about these entities (figure 55).

Participants never participated in an AW educational activity at school, and only 4 had visited a kennel.

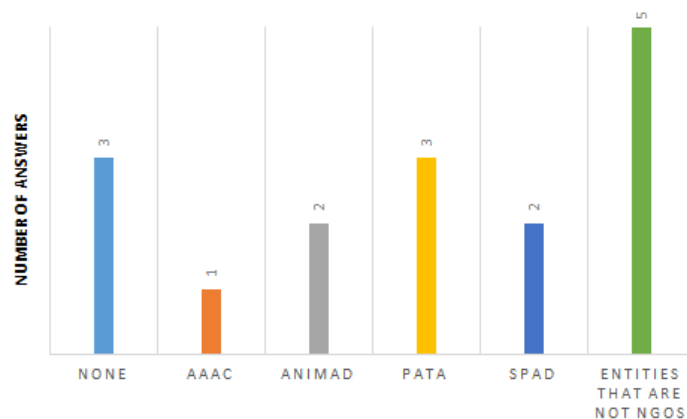


Figure 55. Group B (non-VR) answer to "What are the AW NGOs that you know?"

## 2.5. Results

In the following subsections, we will present the most relevant results from the evaluation methods used, then followed by a discussion of the results.

### 2.5.1. Post Questionnaires for Group A (VR)

Post questionnaires results show that:

- Six participants strongly agree and 3 participants agree that the technology used in the documentary was essential to captivate their attention on the
- topic.
- The majority (7) strongly agreed with the suitability of the chosen themes.
- The most engaging stories referred were the rescue, and then the kennel (figure 56).

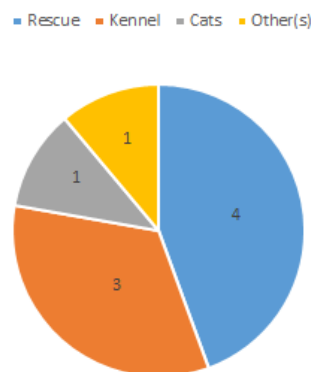


Figure 56. Group A (VR) answers to "For you, the most remarkable in the experience was..."

- The majority of the participants found that the duration of the experience was appropriate (6-Strongly agree and 2-Agree).
- Five participants agreed that after seeing the documentary, their previous opinion on AW has changed, and all the participants would visualize the documentary again (figure 57).

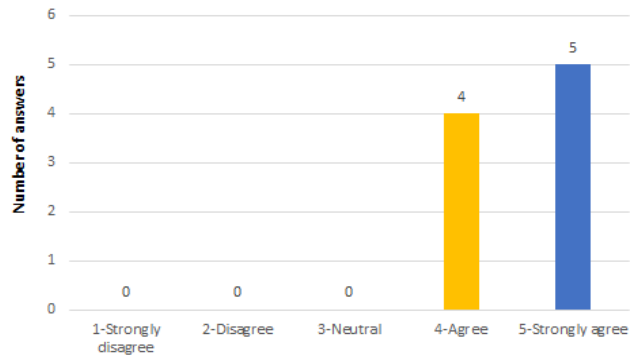


Figure 57. Group A (VR) agreement to: "I would repeat the experience!"

- After the experience, the majority of the participants (2-Strongly agree and 5-Agree) felt motivated to visit a kennel.
- Moreover, the majority of participants (6-Strongly agree and 1-Agree) were interested in the presented issues and the dogs appearing in the documentary.
- Most participants (6-Agree and 2-Strongly Agree) agreed that choosing their path inside the documentary has improved their experience in a meaningful way (figure 58).

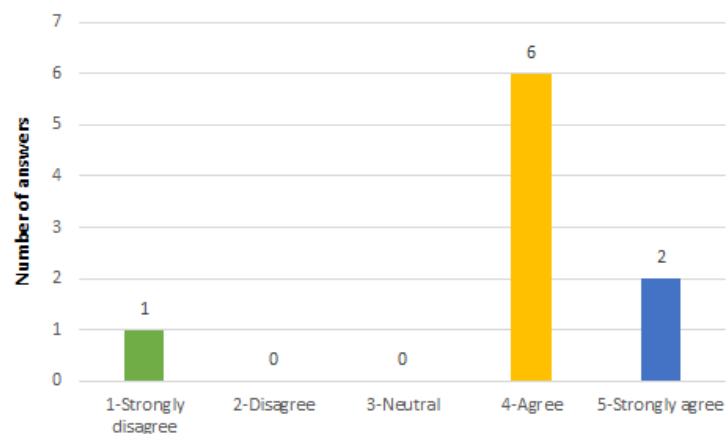


Figure 58. Group A (VR) agreement to the statement: "Being able to choose which way to go within the documentary made my experience more remarkable."

- Usually, one of the disadvantages of VR experiences is the motion sickness; however, none of the participants felt any physical ailments experiencing the Tell a Tail 360 VR version.
- From the difficulties felt during the experience, the most common one were the interaction points and understanding the dialogues (figure 59).
- After the experience, the results show that in Group A (VR), there was an increase of 4 participants feeling motivated to do volunteering (figure 60).

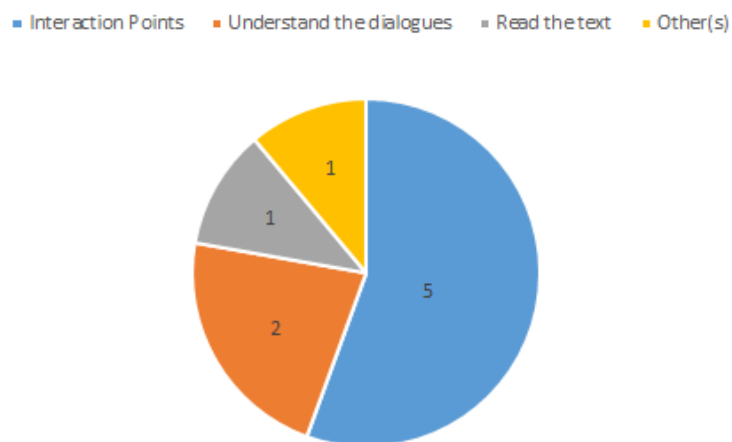


Figure 59. Group A (VR) answers to “What i felt more difficulty was...”

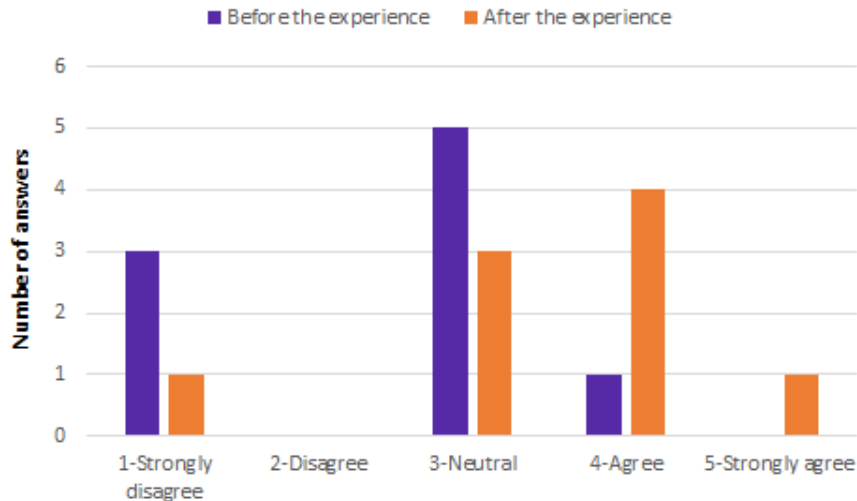


Figure 60. Comparison of motivation to do volunteering before and after the experience in Group A (VR)

### 2.5.2. Observational Notes and Interviews

During the sessions, participants made remarks regarding the events happening inside the VE, conveying emotions such as surprise, curiosity, and amazement for the closeness with the animals.

From the informal interviews and observations, users using the Oculus Gear felt more challenged to work with the controller and to follow the dialogues in comparison with users using the Oculus Go that did not refer to these problems.

### 2.5.3. Post Questionnaires for Group B (non-VR)

Post questionnaires results show that:

- The majority of the participants agree (3-Strongly agree and 5-Agree) that technology was essential to engage them in the topic and with the suitability of the chosen themes (5-Strongly agree and 4-Agree).
- The majority of the participants found that the duration of the experience was appropriate (4-Strongly agree and 5-Agree).
- After the experience, 5 participants agreed that their general AW opinion has changed; however, 3 stayed neutral while 1 disagreed (figure 61).

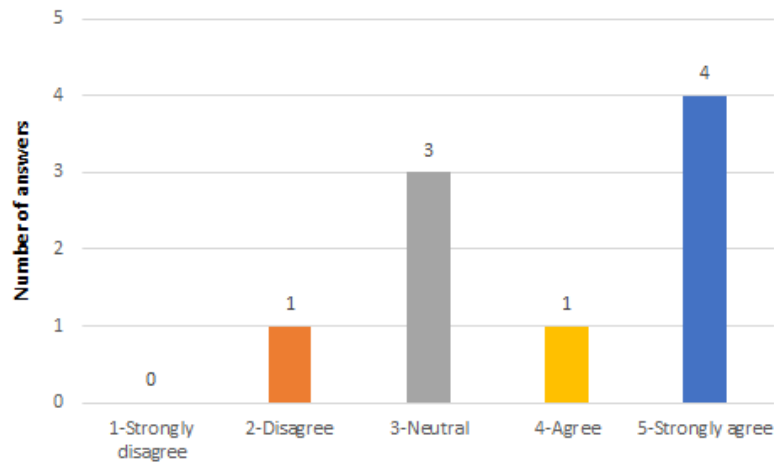


Figure 61. Group B (non-VR) agreement to the statement: "After this experience, my previous opinion on the animal cause has changed."

- After the experience, all of the participants (4-Strongly agree and 5-Agree) felt motivated to visit a kennel; moreover, all participants were interested in the presented issues and the dogs appearing in the documentary (4 -Strongly agree and 5-Agree).
- Relatively to volunteering, while 4 participants maintain a neutral position, other 4 participants reported some motivation (1-Strongly agree and 3-Agree) to volunteer at an NGO after this experience.
- For this group, the most remarkable in the experience was the 360 CVR of the rescue and the 360 CVR about the kennel (figure 62).

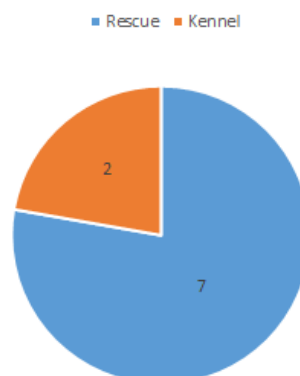


Figure 62. Group B (non-VR) answers to "For you, the most remarkable in the experience was..."

- After the experience, all participants (4-Strongly agree and 5-Agree) reported feeling motivated to find out more about the AW topics and about the dogs that appear in the documentary.
- Most participants reported that choosing their path inside the documentary has improved their experience in a meaningful way (figure 63).

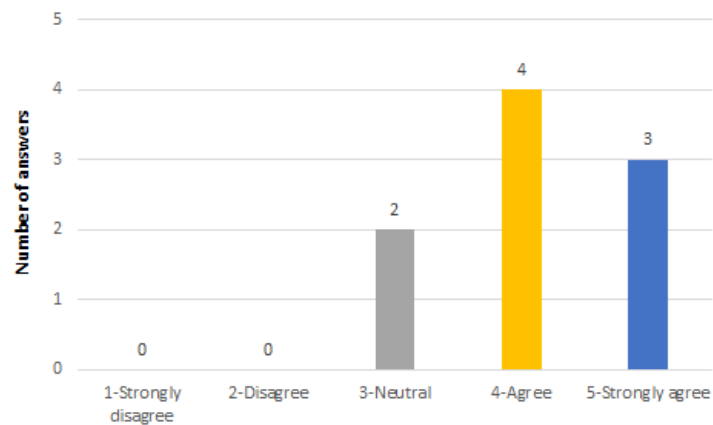


Figure 63. Group B (non-VR) agreement to the statement: "Being able to choose which way to go within the documentary made my experience more remarkable."

- From the difficulties felt during the experience, the most common one were the interaction points (figure 64).

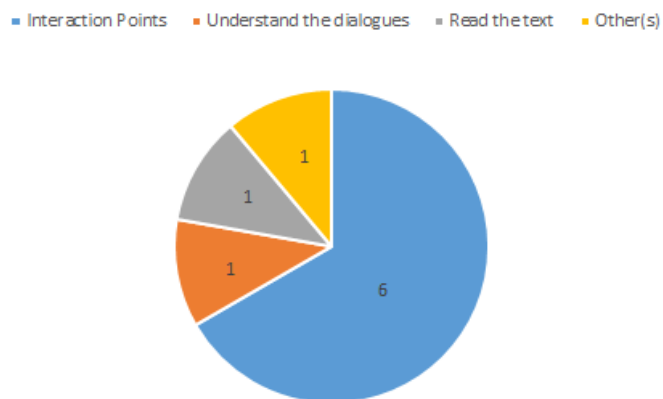


Figure 64. Group B (non-VR) answers to "What I felt more difficulty was..."

- A comparison of pre and post questionnaires show that after the experience, 3 more participants felt motivated to do volunteering (figure 65).

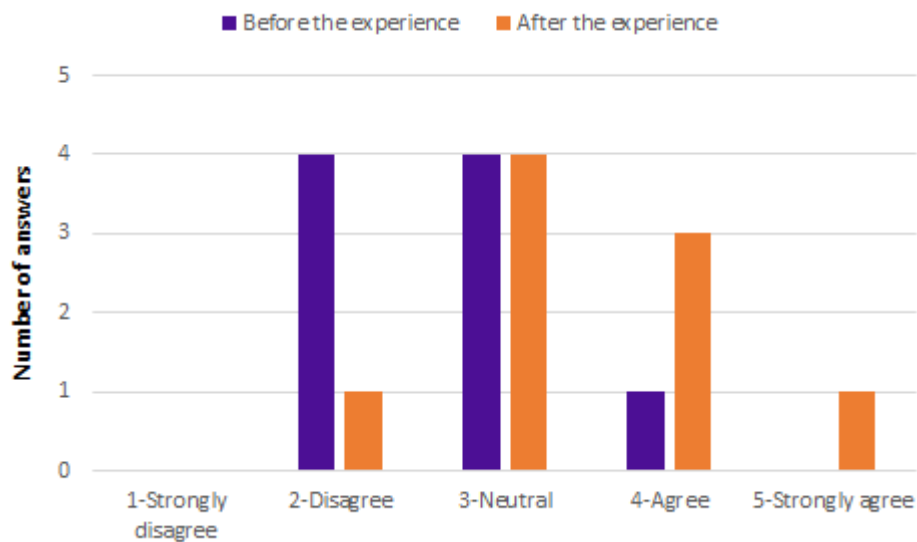


Figure 65. Comparison of motivation to do volunteering before and after the experience in Group B (non-VR)

#### 2.5.4. Observational Notes and Interviews for Group B (non-VR)

Observational notes show that participants have curiosity in searching for interaction points on the different scenes, by clicking in different elements on the non-interactive videos. Also, observations showed that participants click with the mouse on the animal that they like the most.

However, there was a notable lack of enthusiasm expressions (i.e., facial, speech, gestures) from the participants in comparison with Group A (VR), probably to the lack of closeness with the environment and witnessing the action happening is less impactful than in an immersive version. Furthermore, as the technology of the non-VR version and the types of interactions (click and drag) is similar to other experiences that are common to the participants, the experience did not bring any novelty besides the content and how is presented; while in the VR version as mimic unusual situations under an immersive environment provided closeness to the action increasing the enthusiasm felt by the participants.

Another relevant finding was that some of the participants were focused on the

mouse inputs and often forget the keyboard commands (S-skip, B-back, Esc-Escape), sometimes remaining “stuck” in a scene after exploring all the available media, happening more frequently when the comic cover was on the scene, and they needed to click “back”.

Two participants from Group B (non-VR) asked to experience the VR version of the documentary. After experiencing both versions, the participants referred that they preferred the VR version because it was “more engaging” and mentioned that “closeness with the environment increased the feelings for the stories told”. According to these 2 participants, the experience length is adequate in both versions.

## 2.6. Summary of Results comparing Group A (VR) and B (non-VR)

A more in-depth analysis of the results of the questionnaire provided insights concerning the technology used in the transmedia project, and the topic addressed. The following tables summarise the majority of answers about both groups: Table 5 shows a comparison between both groups regarding the pre questionnaire results and the aspects referred above, while Table 6 makes the comparison of post questionnaires.

Pre Questionnaires										
	Group A (VR)					Group B (non-VR)				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5	1	2	3	4	5
Animal Welfare interest					X					X
"Pets are like objects, being home to keep us company."	X		X			X				
"We should take the animals to the vet only when they get sick."		X				X				
Regional community is well informed about AW problems.		X	X			X				
Volunteering perspectives.			X				X	X		
Interest for VR technology.					X			X	X	

(x) majority of answers.

Two (x) on a group row means there was an equal number of answers.

Table 5. Comparison table of pre questionnaires participants answers

### Post Questionnaires

	Group A (VR)					Group B (non-VR)				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5	1	2	3	4	5
The technology used was important to captivate my attention to the addressed topic.					X				X	
The themes chosen were appropriate.					X					X
The length of the documentary is appropriate.					X				X	
After this experience, my previous opinion on the AW has changed.				X						X
After seeing the documentary, I became more interested in visiting a kennel.				X					X	
Would repeat the experience.					X					X
After the experience, I was motivated to research more about the subjects and dogs that appear in the documentary.				X					X	
After this experience I was motivated to volunteer in a NGO.				X				X		
Being able to choose which way to go within the documentary made my experience more remarkable.				X					X	

(x) majority of answers.

Two (x) on a group row means there was an equal number of answers.

**Table 6. Comparison table of post questionnaires participants answers**

## 2.7. Discussion

Regarding the impact of the technology in the project, post questionnaires results show that the majority of the participants that tested the VR version (Group A) strongly agree that the technology used helped to captivate their attention on the topic while participants that tested the non-VR version (Group B) show less agreement on its impact. The slight difference in opinions might be a result of the novelty and immersive factor of the VR version over the more traditional medium of the non-VR version. However, participants reported high levels of agreement for both versions, indicating that technology helps to deliver the content that is captivating by itself.

As understood from the pre questionnaires and the project contextual research, there is a lack of educational activities towards *good* animal welfare behaviours in local schools, a fact that stands out from the results as the majority of the students reported not to have participated in any AW awareness activity at their school. Cross-referencing with results pointing to the appropriateness of the themes, the belief change on AW and the motivation to research further on AW, shows that the experience is appropriate to the issue of animal welfare issues as an educational activity since it would actively engage students with a problem and encourage critical thinking.

In summary, one of the goals of the experience is to make use of technology to create a deeper understanding of the AW social problem. Participants agree that after seeing the documentary, their previous opinion has changed, indicating some more in-depth awareness of the topic.

Although, the overall quantitative data indicate both experiences were quite similar in how the content was delivered. The observational notes contrast this as they point out that VR participants expressed more enthusiasm (through facial expressions) than web users that were contained and quiet. One possible reason for this can be the novelty factor of the VR technology, especially since the majority of participants in group A have not experienced VR before, inducing a higher level of distraction and excitement.

Results show a change in the volunteering willingness before and after the experience, indicating that the footage brought attention to the NGOs fieldwork and

the need to enrol on the animal welfare issues with a more active role.

Overall, about the content, the more appreciated were the rescue and the kennel footage. Considering that the 360 CVR of the rescue (figure 66) is an out of the ordinary situation and it has the adrenaline factor associated to the action, showing a 'behind the scenes' of the NGOs fieldwork, it could justify why it was the most appreciated content for the users.

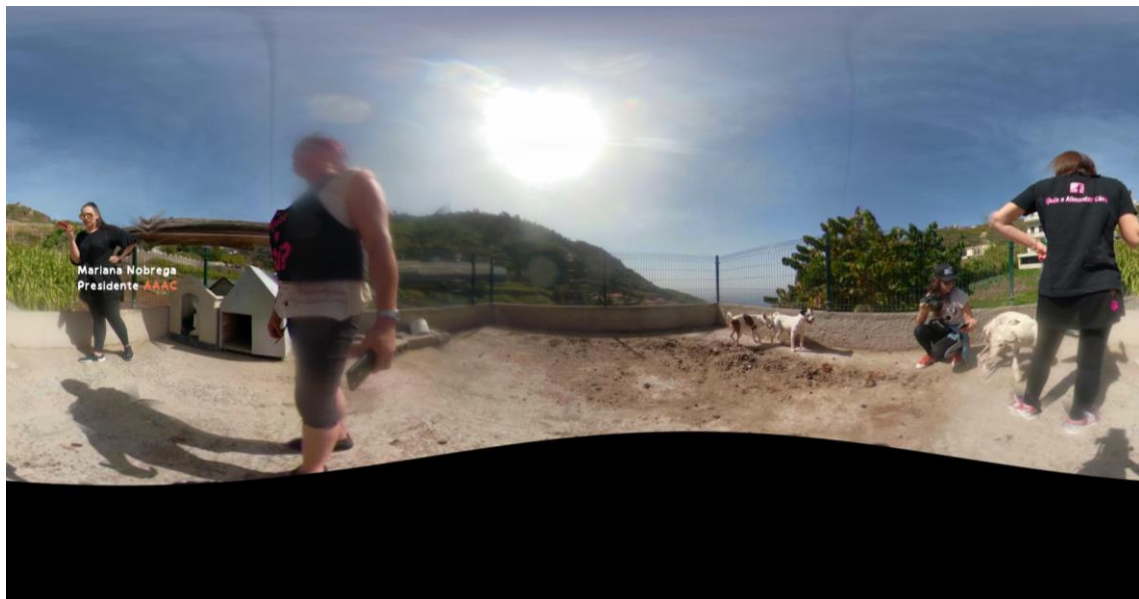


Figure 66. Scene from the 360 CVR of the Rescue

Furthermore, users from Group A (VR) reported having appreciated more stories (rescue, kennel, veterinary and cats room) than participants from Group B (non-VR), suggesting that closeness to animals and the immersion in the environment increased their attention, creating a memorable experience.

Using the controller for the interactions with the UI breaks the immersion, maintaining the user aware of its usage and distracting from the experience. Another disadvantage is the controller reliability as sometimes it loses connection with the HMD, stopping the experience. A proposal to improve the interaction is to integrate head direction in the project and have users look at the objects to trigger the interactions.

User study results pointed out that users found it challenging to find interaction points in the interactive images, suggesting that the design needs improvements.

Furthermore, participants in the non-interactive videos tried to find interaction points when there were none. The future design needs to make a better distinguish between the interactive and non-interactive media inside the VE. For example, changing interactive images to grayscale to make it clear to participants that there are interactive options at that point. A more complex alternative would be to incorporate interactive options during 360° videos.

Even the majority of the participants did not report having difficulties in understanding the dialogues, those who reported some difficulties referred to the lack of audio quality.

## Chapter VII: Future Work and Conclusions

This chapter presents the indications for future improvements and the main insights gained from this project as its contributions to the research field.

### 1. Future Work

From the beginning of the project, several ideas to implement on the prototype had to be adapted and changed considering the time management and resources (such as programming skillset, available footage, software constraints) that can be considered for future improvements.

As one of the documentary approaches is to use different media inside the VE, future considerations can include creating links to different content online (NGOs social media, newspapers, animal welfare-related websites), motivating the users to seek more information and explore more about the issue.

The 360 CVR of the rescue was referred as the most remarkable from the overall experience probably to the excitement of witnessing out of ordinary situations and the NGOs fieldwork from a closer perspective. Film other uncommon situations can increase even more the excitement of the users during the experience and induce a more active role in the topic problems.

Considering the user study observations and results showing that participants felt motivated to research the dogs appearing in the documentary, another



Figure 67. Low-fi of animal information displaying inside the Tell a Tail 360 VE

improvement could include adding more information about the animal (i.e., name, age, gender, personality, special needs, name of hosting shelter) inside the VE (when hovering or clicking), promoting adoption and straightening the connection with the animals through the information about them (figure 67).

Other situations reported on the user studies were the difficulty of understanding the dialogues. A possible improvement could involve adding subtitles to the prototype (figure 68).



Figure 68. Low-fi of subtitles in the Tell a Tail 360

## 2. Conclusions

Recapping the research question, namely if immersive documentaries can contribute in providing insights on *good* AW behaviours and showcase consequences of the bad ones, was found that VR can provide significant motivation for enrolling in animal welfare-related activities such as volunteering and create a deeper awareness of the field problems showcasing real conditions.

Virtual Reality technology, with immersion and interactivity, provides a memorable experience. The closeness with real-life conditions produces an emotional link with the topics presented. However, the non-VR version results highlighted that even without an HMD; interactive content also contributed to increasing the audience awareness, showing the potential of the project.

In conclusion, the Tell a Tail 360 project can provide practical contributions to the VR and the transmedia field by providing new insights on how showing real-life situations can captivate the teenage audience in relating to social problems such as animal welfare. By showcasing the documentary development stages and its constraints, future creators can gain knowledge on how to use immersive content to deliver an awareness message.

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# Appendix A. Research

This appendix presents visual research of advertisements, context and field research made related to animal welfare in some countries from the Western region, Europe, Portugal and Madeira.

## 1. Visual research

Images below (figures 69 - 78) show advertisements using **traditional media** that showcase some of the main problems of AW worldwide: abandonment, responsible adoption, NGOs fieldwork, criminalisation of neglect and mistreatment and awareness of the fact that animals are sentient beings.



Figure 69. SINGAPORE - SPCA non-profit animal welfare organization

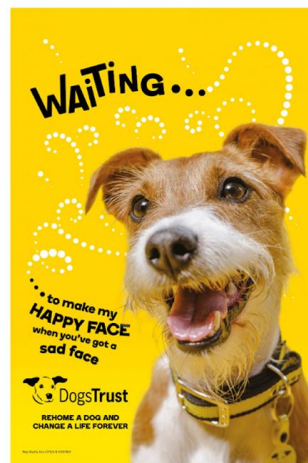


Figure 70. ENGLAND- RSPCA, a charity that promotes animal welfare



Figure 71. ENGLAND - DOG TRUST, an organization that makes much awareness about dog problems



Figure 72. BRASIL- Rede de Defesa e Proteção Animal de Curitiba



Figure 73. BRASIL - Awareness about abandonment in holidays time



Figure 74. "Dog is not a toy", campaign from BRASIL



Figure 75. FRANCE - Stop the abandonment



Figure 76. BRASIL - Coordenadoria do Campus da Capital (Cocesp)



Figure 77 .Campaign from Brasil



Figure 78. PORTUGAL - União Zoófila - campaign against the abandonment

### Advertisements using new media

World Wild Life (WWF) is an NGO that works for the conservation of wildlife in natural environments [80] and figure 79 shows the WWF mobile app created to bring the audience closer to endangered species through new interactive experiences, such as race a jaguar or explore 360° images of species habitats [81].

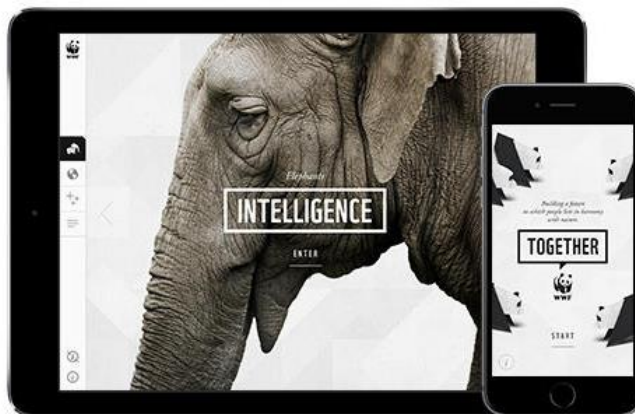


Figure 79. WWF app [81]

Dog trust is an NGO from the UK [103] that created a campaign promoting adoption, using radio-frequency identification tag (RFID) and Intellifi sensors in leaflets distributed throughout the city. Once the person with a leaflet approaching a screen automatically, which trigger a dog out. Every time the person passed by, different videos of the dog were shown, just like a stray dog appearing whatever the route they took and when they get their attention, people directed to the website of the shelter found dozens of lonely dogs waiting for adopters [94,104,110] (figure 80).



Figure 80. Dog Trust campaign Looking for you (UK) [110]

## 2. Context Research

The United States

Statistics below, from American Society for the Prevention of Cruelty to Animals (ASPCA) [72], were part of the context research and contributed to a better understanding of reality in developed countries such as the United States [40,73].

Shelters:

- approximately 6.5 million companion animals enter the U.S. animal shelters every year
- however, the number of animals entering U.S. shelters per year has declined from approximately 7.2 million in 2011
- there has been a more significant effort to control the number of stray dogs, which contributed to the overpopulation in shelters and humane societies

## Euthanise:

- Each year, approximately 1.5 million shelter animals are euthanized
- the number of euthanized animals in U.S. shelters annually has declined from approximately 2.6 million in 2011, due to the increase of animals adopted (figure 81)
- about 710,000 animals who enter shelters as strays return to their owners

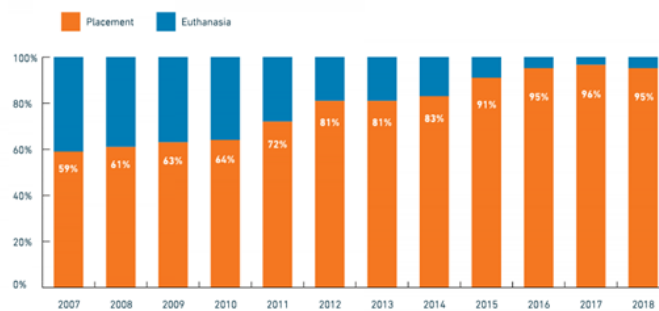


Figure 81. Placement rate over time [40]

## Adoption:

- approximately 3.2 million shelter animals are adopted each year
- the adoption campaigns have increased

## Ownership and AW Education:

- About 78 million dogs (approximately 44% of all households) and 85.8 million cats are owned (meaning 35% of all households) in the U.S.
- Approximately 40% of dog owners and 46% of cat owners learned about their pet through word of mouth.
- The most common reason that owners rehome their pet (47% of dogs and 42% of cats) are: pet behaviours, grew more substantial than expected, or health problems that owners cannot handle.
- every year Animal Humane Society (AHS), cares for more than 23,000 animals in need (figure 82) and helped thousands more through programs for people and pets

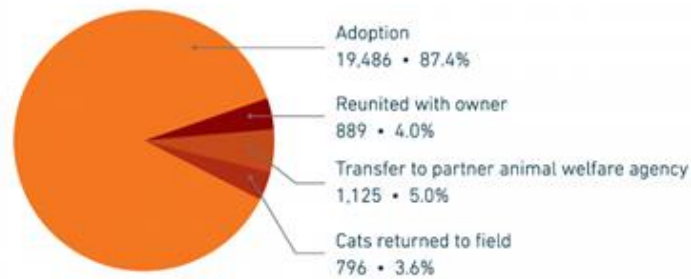


Figure 82. Companion animal placement by type in the U.S. (AHS, 2018) [40]

#### Neglect:

- 21,647 animals were rescued or assisted.
- NYPD assisted 950 animals from cruelty cases and community engagement
- The ASPCA Animal Hospital received 698 victims of cruelty and neglect.
- 5,279 animals treated through the ASPCA fund, whose owners were unable to afford veterinary care.

#### Portugal

##### Abandonment and Mistreatment:

- In the first eight months of 2018, 14,000 animals collected in official collection centres (CRO) victims of abandonment [65].
- Annually 200 complaints are received by the Animal provider reporting neglect or mistreatment of animals [53].
- In 2018, occurred the first case of conviction in Portugal for four crimes of aggravated pet abuse [36,87].

## Madeira Island

- Between 2016 and 2018 were done almost 5,000 sterilisations on dogs and cats [24,27].
- In 2018, the Câmara Municipal do Funchal (CMF) estimated that existed about 18,000 dogs and 8,000 cats in Funchal households [25].
- In April 2014, the municipal kennel killed 1,800 animals, equivalent to 68% of dogs and cats collected from the streets [55].
- The main strategies adopted are: encouraged sterilisations and responsible adoption of animals to reduce the stray population and abandonment, provide more educational programs at schools, provide more support to families in need, through programs of vaccination and sterilisation (figure 83) [54].
- Better conditions were created on the municipal kennels to respect the legislation established.

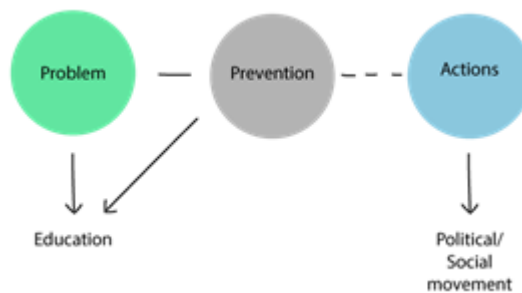


Figure 83. Diagram of Madeira animal welfare strategy

## Abandonment (reasons):

- Animal behaviour problems.
- Economic difficulties of owners or emigration.
- Animals health issues, age or gender.
- The perspective of seeing the animal as a “disposable object”.
- The expensive costs of veterinary services.
- The lack of availability/time of owners, off to vacation or the lack of space at home.

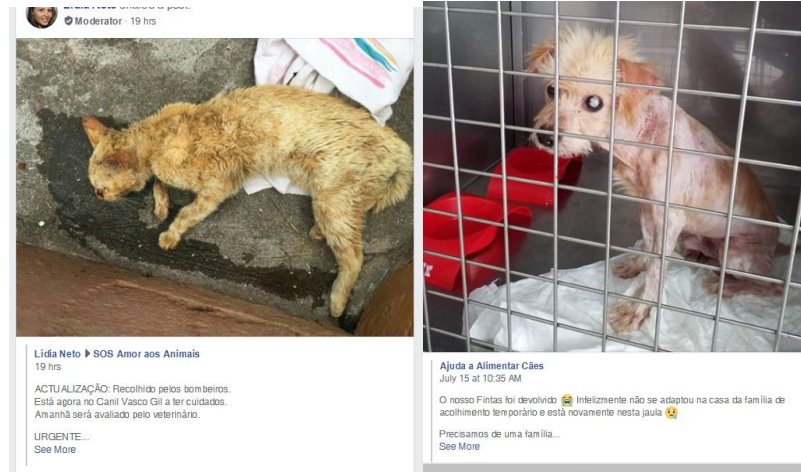


Figure 84. Instagram posts about animal welfare problems in Madeira

#### NGOs:

- The number of NGOs has increased.
- International NGOs such as VamosLá Madeira and Street dogs Madeira are helping the regional NGOs with funds or rehoming animals to Germany.

#### Health, Care and Education

- On 2017, the first Veterinary Hospital was opened in Madeira, providing the community with innovative services that never existed on the island like blood bank and cardiology [57,95].
- The Madeira Animal Welfare (AMAW), a solidary veterinary clinic on Funchal, incorporated since January 2012, receives annual funds from making sterilisations to help control the stray population and assist owners in need, due to their partnership with the local and national entities. Their objective is to sterilise 1,700 animals per year [27].
- On 26 February 2016, it was inaugurated the first dog Hotel (Dogtel – Resort and SPA), on the island that works also have a training school for dogs [16,58].

### 3. Research Surveys

Were done two research surveys, using Google Forms, presented below.

#### 3.1.General Public Surveys

##### Causa Animal - Público Geral

Somos alunos da Universidade da Madeira, do mestrado de Design de Medias Interativos e neste momento estamos a desenvolver um projeto sob a temática da Causa animal. Neste sentido, este questionário tem como objetivo apurar qual é o conhecimento geral das pessoas sobre o bem estar dos animais na Região Autónoma da Madeira.

Para mais informações: <https://unleashed.m-iti.org>

\*Obrigatório

##### 1. Vives na Região Autónoma da Madeira? \*

Marcar apenas uma oval.

- Sim  
 Não

##### Dados pessoais.

Garantimos a confidencialidade de todos os dados recolhidos.

##### 2. Sobre.. \*

Marcar apenas uma oval.

- Feminino  
 Masculino

##### 3. Idade \*

\_\_\_\_\_

##### Causa Animal.

##### 4. Tens algum animal de estimação? \*

Marcar apenas uma oval.

- Sim  
 Não, mas adoraria  
 Não, e não quero  
 Outra: \_\_\_\_\_

##### 5. Quais? \*

Marcar tudo o que for aplicável.

- Cão  
 Gato  
 Pássaro  
 Pato  
 Cabrito  
 Porco  
 Outra: \_\_\_\_\_

6. Para ti, o que é o bem estar animal? \*

\_\_\_\_\_

7. O bem estar dos animais é algo que me preocupa muito. \*

*Marcar apenas uma oval.*

1      2      3      4      5

Discordo completamente                  Concordo plenamente

8. Com que frequência vês animais abandonados? \*

*Marcar apenas uma oval.*

- Nunca
- 1-3 vezes por semana
- Muito frequentemente, quase todos os dias
- Todos os dias
- Outra: \_\_\_\_\_

9. Fazes alguma coisa para ajudar? \*

*Marcar tudo o que for aplicável.*

- sim
- Não, alguém fará algo

10. O quê? \*

\_\_\_\_\_

\_\_\_\_\_

11. Conheces alguém próximo que já abandonou um animal? \*

*Marcar apenas uma oval.*

- Sim
- Não

12. Se sim, quais são as razões

\_\_\_\_\_

\_\_\_\_\_

13. Na tua opinião, quais as principais razões do abandono? \*

Marcar tudo o que for aplicável.

- Falta de espaço
- Falta de dinheiro para os contas do veterinário
- Alimentação é demasiado caro
- Foi uma oferta para a pessoa, e depois de algum tempo fartam se
- Os donos vão de viagem e não têm onde deixar o animal
- O animal tem uma personalidade que não encaixa com a do dono
- O animal faz muito barulho
- Outra: \_\_\_\_\_

14. Tens visto campanhas para a defesa dos direitos dos animais? \*

Marcar apenas uma oval.

	1	2	3	4	5	
Raramente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Muito frequentemente

15. Lembras-te qual era o tema das campanhas que viste?

Marcar tudo o que for aplicável.

- Não me lembro
- Adoção
- Esterelização
- Para amar e cuidar dos animais de estimação
- Sobre comida e acessórios
- Para angariar fundos monetários
- Outra: \_\_\_\_\_

16. Conheces alguma associação na ilha da Madeira? \*

Marcar apenas uma oval.

- Nenhuma
- 1-2
- 3-5
- +5

17. O que pensas sobre o trabalho deles (Associações)? \*

\_\_\_\_\_

\_\_\_\_\_

18. Em que aspecto achas que as Associações podiam melhorar? \*

---

---

---

---

---

19. Onde é que costumavas encontrar informação relacionada com o bem estar animal? \*

Marcar apenas uma oval.

- Facebook
- Outras redes sociais
- Televisão
- Jornal
- Locais públicos (cafés,...)
- Outra: \_\_\_\_\_

### 3.1.1.Results

#### Inquiry

The survey received 219 responses, in which only 10,5% were male, and 95% were pet owners of most dogs and cats.

The histogram below represents the bin width of the sample age in which the interquartile range (IQR) is 23 years old (figure 87).

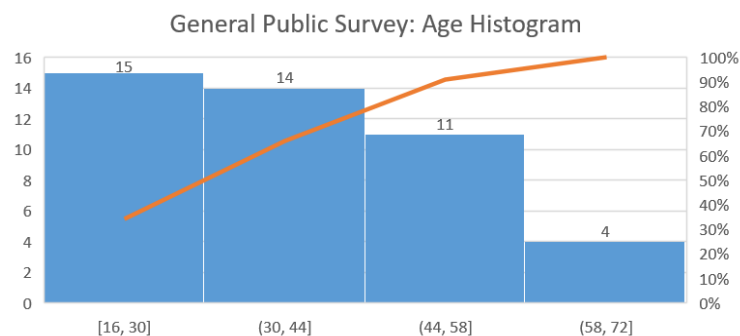


Figure 85. General Public Survey: Age Histogram

#### Animal Welfare Interest

Was used a Likert scale from 1 “not at all” to 5 “very much” to classify the interest of

inquired in animal welfare topic. The results show that the majority (84%) of the inquired are very interested and worried about the animal cause (figure 87).

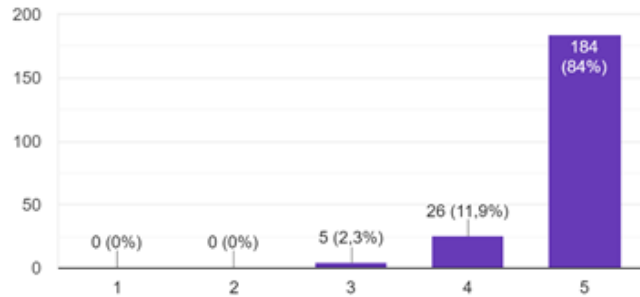


Figure 86. Results to the question “Animal welfare is a topic that worries me a lot.”

### Reasons for Abandonment

Concerning the frequency that the community remembers seeing stray animals, 33,3% of inquired respondents encounter abandoned animals every day, 35,6% almost every day, and 24,2% 1 to 3 times per week (figure 87).



Figure 87. Frequency the general public sees stray dogs

A percentage of 91% say that help those animals by “give food and water”, “make donations” in campaigns and to NGOs and, “use social media to publish photos of the animals” to increase the adoption hypothesis. However, 8,2% answered that “no, someone will do something”.

It was possible also to conclude that 69,4% knew someone close that already abandoned an animal (figure 88).

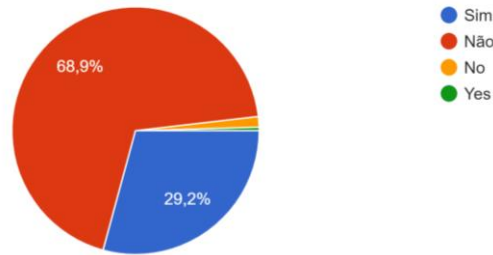


Figure 88. General public knowledge about someone close that already abandoned an animal

Concerning the general reasons to animal abandonment, the most frequent reasons found were: (1) animal behaviour, (2) lack of money (3) was a gift and owner got bored and, (4) other reasons.

The inquired reported the following justification for the abandonment act:

- “the animal was a gift and owners after a period had enough or got bored of the pet” (45,7%)
- lack of financial conditions to pay the veterinary bills or the food cost (61,2%)
- the animal personality that does not adapt to the family or ownership-related (31,5%)
- lack of space to keep the animal at home and owners holidays without the pet (56,6%)

Campaigns about animal welfare topics have been witnessed extensively by the regional public (figure 89). Highlighted themes of the campaigns were: adoption, sterilisation and raise money for the cause.

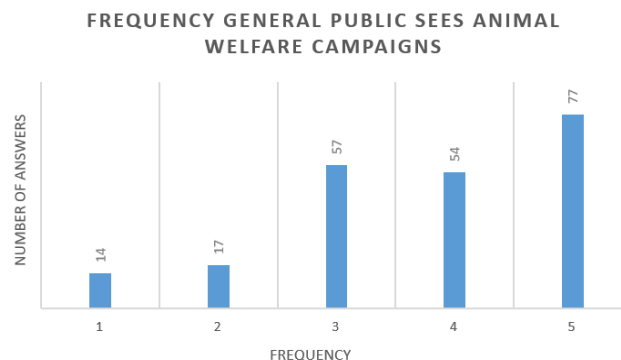


Figure 89. Frequency General Public sees animal welfare campaigns in a scale from 1 (Rarely) to 5 (Very often)

## Opinion About NGOs Fieldwork

A percentage of 47,5% of the inquiry know 3 to 5 NGOs entities (figure 90) that deal with animal welfare and are positive about their actions, referring their importance and dedication to the cause.

Most of the inquired suggested that the NGO should improve their branding to make it more appealing, increase the support between different NGOs and increase the space for the dogs they receive.

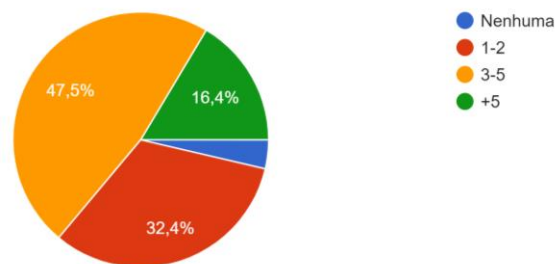


Figure 90. Number of NGOs known

## Communication Media

Results showed that 68% of the inquired find information related to animal welfare on Facebook and, the remaining 32% on other social media and television (figure 91).

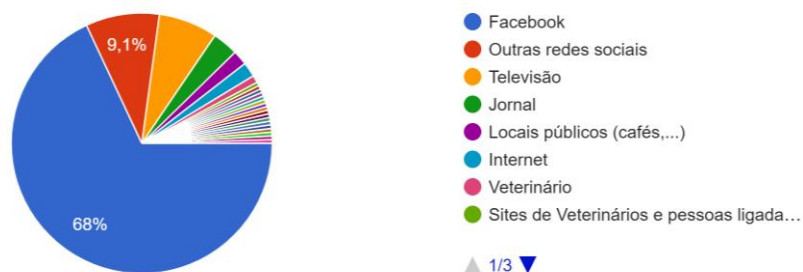


Figure 91. Animal welfare-related information sources

## 3.2. NGOs Surveys

### Causa Animal - Associações

Somos alunos da Universidade da Madeira, do mestrado de Design de Medias Interativos e neste momento estamos a desenvolver um projeto sob a temática da Causa animal. Este questionário tem como objetivo a recolha de informações/opiniões dentro dos elementos de associações diretamente envolvidas na temática da Causa Animal na Região Autónoma da Madeira. Todos os dados são confidenciais.

\*Obrigatório

1. Nome da Associação. \*

---

2. Morada da Associação. \*

---

---

---

---

---

3. Cargo \*

---

4. Quantas pessoas compõem a associação? \*

*Marcar apenas uma oval.*

- Não sei
- 1-10
- 10-20
- Mais de 20

5. Há quanto tempo trabalha na associação? \*

*Marcar apenas uma oval.*

- Menos de 6 meses
- 6 meses a 1 ano
- 1-2 anos
- Mais de 2 anos

6. A Associação tem espaço físico? \*

*Marcar apenas uma oval.*

- Sim
- Não

7. Nesse espaço a Associação tem possibilidade de acolher animais resgatados? \*

Marcar apenas uma oval.

- Sim  
 Não

8. Quais os parceiros que colaboram com o vosso trabalho? \*

Marcar tudo o que for aplicável.

- Municipais, Juntas de freguesia e outras entidades públicas  
 Voluntários  
 Empresas privadas  
 Veterinários, Spa's ou outras instituições relacionadas com animais  
 Outras Associações não governamentais  
 Outra: \_\_\_\_\_

9. A população da RAM reconhece o nosso trabalho. \*

Marcar apenas uma oval.

	1	2	3	4	5	6	7	
Não reconhece.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Reconhece plenamente.

10. O trabalho de terreno da associação abrange que território regional? \*

Marcar tudo o que for aplicável.

- Todos os municípios.  
 Funchal  
 Santa Cruz  
 Machico  
 Santana  
 São Vicente  
 Porto Moniz  
 Calheta  
 Ponta do Sol  
 Câmara de Lobos  
 Porto Santo  
 Ribeira Brava  
 Outra: \_\_\_\_\_

11. Na sua opinião quais são as principais causas para o abandono animal na RAM? \*

\_\_\_\_\_  
\_\_\_\_\_

12. Quais os animais com maior propensão ao abandono? \*

Marcar apenas uma oval.

- Caninos  
 Felinos  
 Outros animais domésticos

13. Indique-nos o porquê da sua opinião. \*

\_\_\_\_\_  
\_\_\_\_\_

14. **Que medidas de prevenção/conscientização a Associação costuma tomar junto da população? \***

*Marcar tudo o que for aplicável.*

- Campanhas
- Educação nas escolas
- Contato frequente com entidades municipais
- Apoio a famílias carenciadas
- Outra: \_\_\_\_\_

15. **Quais são os maiores problemas que a associação encontra diariamente no terreno? \***

*Marcar tudo o que for aplicável.*

- Ninhadas
- Maus tratos
- Abandono
- Falta de condições mínimas
- Outra: \_\_\_\_\_

16. **A associação conta com apoio de voluntários? \***

*Marcar apenas uma oval.*

- Nunca
- Raramente
- Algumas vezes
- Muito frequentemente
- Sempre

17. **Qual a percentagem de trabalho da associação que é feita por voluntários? \***

*Marcar apenas uma oval.*

- 0%-25%
- 25%-50%
- 50%-75%
- 75%-100%

18. **Considera o voluntariado uma tarefa em sociedade... \***

*Marcar apenas uma oval.*

- Pouco incentivada e com pouca aderência
- Essencial na formação de consciências sociais
- Está bem assim
- Tenho outra opinião

19. **Se tem outra opinião, indique qual...**

\_\_\_\_\_

20. **Na sua opinião, a população da RAM tem uma atitude sobre a temática animal... \***

*Marcar apenas uma oval.*

- Pouco interessada
- Interessada mas com uma atitude passiva e pouco interveniente
- Algum interesse, até demonstra que defende algumas medidas, intervindo periodicamente
- Atitude interessada e agressiva na defesa das causas animais

21. **Quais são os meios de informação/divulgação utilizados pela Associação? \***

*Marcar tudo o que for aplicável.*

- Redes sociais
- Jornais
- Internet
- Publicidade, folhetos,...
- Presenciais
- Outra: \_\_\_\_\_

22. **Com que frequência mensal costumam realizar campanhas de adopção? \***

*Marcar apenas uma oval.*

- Diariamente
- Mensalmente
- Trimestralmente
- Semestralmente
- Anualmente
- A associação não realiza campanhas de adopção
- Outra: \_\_\_\_\_

23. **Com que frequência costumam realizar campanhas para angariação de fundos monetários? \***

*Marcar apenas uma oval.*

- Nunca
- 1 vez por semana
- 2 a 3 vezes por semana
- 4 a 5 vezes por semana
- Todos os dias

24. **Que outro tipo de campanhas realizam e com que frequência? \***

\_\_\_\_\_

25. **Acha que as Escolas podem desempenhar um papel importante na educação sobre o cuidado com os animais? \***

*Marcar apenas uma oval.*

- Sim
- Não
- Talvez

26. **Justifique. \***

\_\_\_\_\_

\_\_\_\_\_

27. **Acha que os municípios poderiam ajudar mais as associações? \***

*Marcar apenas uma oval.*

- Sim
- Não
- Talvez

28. **Como poderiam (os municípios) ajudar mais as associações? \***

*Marcar tudo o que for aplicável.*

- Monetariamente
- Recursos humanos
- Alimentação e outros recursos materiais
- Outra: \_\_\_\_\_

### **3.2.1.Results**

The NGOs that answered the online survey were:

- AMAIS - Associação Madeira Animais
- AMAW - Madeira Animal Welfare
- SPAD - Sociedade Protectora dos Animais Domésticos do Funchal and,
- Vamos lá Madeira e.V., being this last one registered in Germany.

#### Workers

- 50% of the NGOs had 10 to 20 people working for them, while 25% had more than 20 and the other 25% only 1 to 10 people.

#### Partnerships

- NGOs referred that volunteering was an essential act in shaping social consciousness; community volunteers do 75% to 100% of the work accomplished by NGOs.
- Only 3 of the 4 NGOs have some partnership with some governmental entity and, only two from the 4 add some collaboration with other services such as veterinary, SPAs or other private entities. All agree that regional governments should help these entities more, through monetary support, human resources and food.

#### Recognition

- The result shows that NGOs perception is that community members do not recognise well their fieldwork. All the NGOs share the same opinion about the population attitude about animal welfare as Interested but with an attitude passive and little intervening.

#### Fieldwork

- The most common animal welfare issues faced in the region are abandonment, litters, and mistreatment. Half of the NGOs perform adoption campaigns in periods that go from monthly to quarterly.

### Reasons for Abandonment

- Most of the abandonment causes denounced by the NGOs are uncontrolled reproduction and high maintenance of the animal, the lack of responsibility and knowledge by owners.
- All the inquired said that dogs are the animals more likely to be abandoned, because they need space, make noise and they need more support from the owners.

### Measures of Prevention and Awareness

- The actions of prevention and awareness deployed by these NGOs are campaigns, educational programs at schools and support to families in need.
- The means of dissemination for their actions were social media and the internet (table 7).

NGO	Number of followers on Facebook
AMAIS	11212
AMAW	3436
SPAD	25642
Vamos lá Madeira	764

Table 7. Number of Facebook followers of interviewed AW NGOs

- NGOs also mentioned that approaching young age groups makes it possible to raise awareness of the issue of abandonment as well as educating about what it is to have an animal, the responsibilities it entails and notions of animal welfare.

## Appendix B. Study of Personas and Scenarios

Persona 1

Name: Mary Turner

Age: 70

Occupation: Retired

Status: Widow

Pets: 1 Dog

Scenario: Mary has a dog in her little backyard

that is filled with flowers. The dog, being young, destroys all the flowers and make a mess all the time. Mary chained the dog so he would not run around anymore.



Persona 2

Name: Steve Bravo

Age: 28

Occupation: Bartender

Status: Married

Pets: 2 Dogs

Scenario: Steve lives with his mother and has 2

Pitbulls because he wanted “mean” dogs to protect

the house. Now his wife is pregnant, and with a baby coming he is moving into an apartment and does not have space to keep the dogs, besides the expenses will increase with this change, and they cannot manage to support it, so Steve had to give the two dogs away.



### Persona 3

Name: Paula Anderson

Age: 42

Occupation: Waitress

Status: Divorced

Pets: 3 Dogs

Scenario: Paula has 3 female dogs that walk around freely on her house backyard as it has much space. She loves animals but her financial situation, and with the kids at school, she could not manage the expenses of sterile all the 3 dogs and even being on the list of the city hall that has a program for helping with the sterilization expenses Paula is waiting for the call for more than a year. One day one of the dogs ran away and got puppies and Paula had to give the puppies away as she could not support all the expenses with all dogs.



### Persona 4

Name: Bernardete

Age: 58

Occupation: Disabled

Status: Married

Pets: 2 female Cats

Scenario: Bernardete lives in a small countryside house where she was born and had 2 female cats. She does not work because she had health. Receiving a small pension, she has little money to manage expenses. Her cats usually walk freely through the plantation. Bernadete has other animals like chickens and a “guard-dog”. She does not go to the vet as she thinks it is a waste of money. For more than 3 times her cats appeared pregnant, so she dropped the kittens away.



# Appendix C. Storyboards and Documentary Ideation

## 1. Storyboards

An isometric grid was used to make the drawings for the storyboard (figure 92), with the description of the scene, their choices, and where it leads.

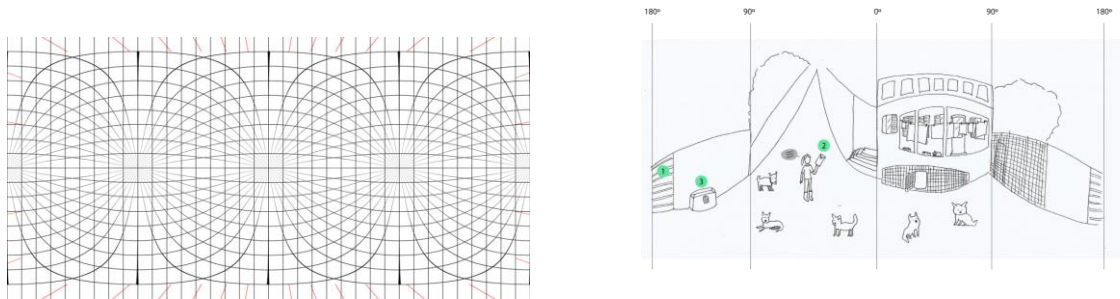


Figure 92. Isometric grid (left); storyboard scene (right)

Figure 93 shows several drawings made for the first storyboard providing a general idea of the user experience inside the VE and the IPs.

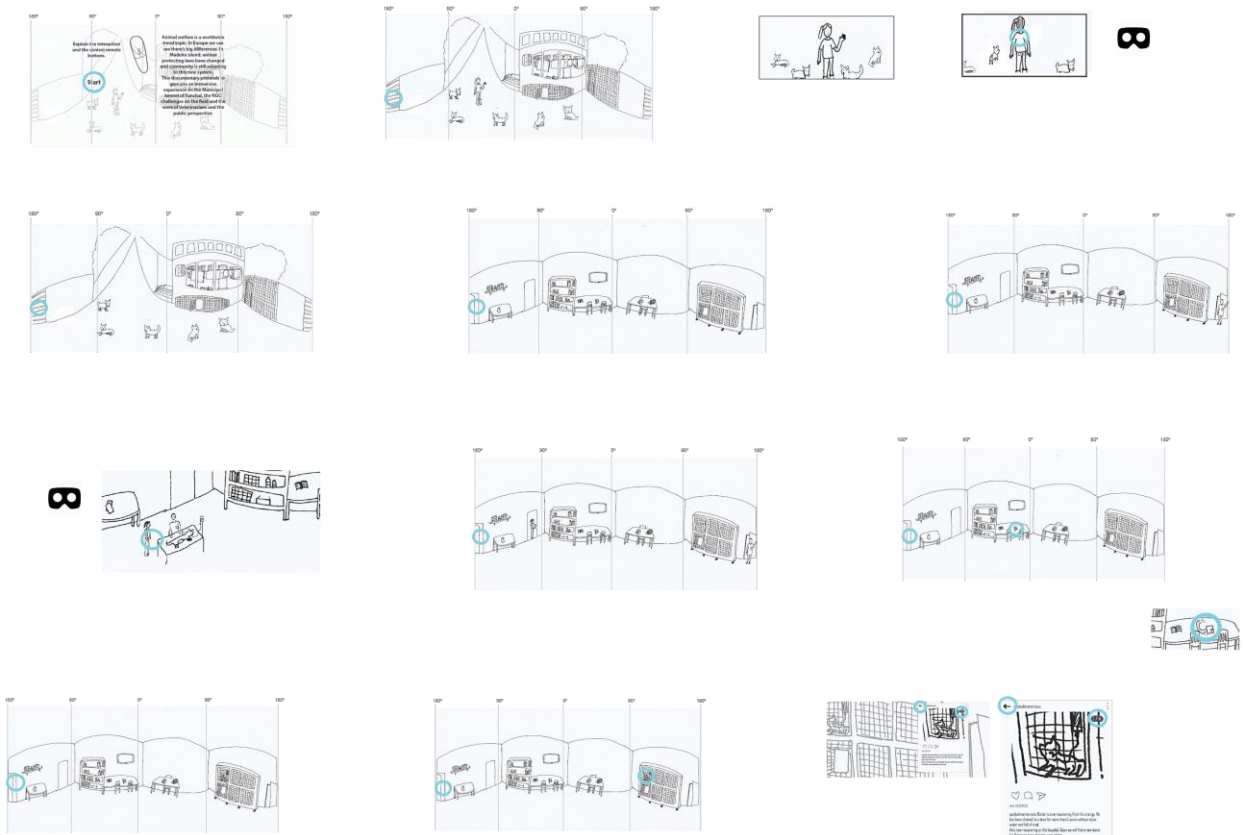


Figure 93. Drawings for initial Tell a Tail 360 storyboard

Figure 94 was an image showcasing an example of a user experience inside the VE, considering the user choices and the media.

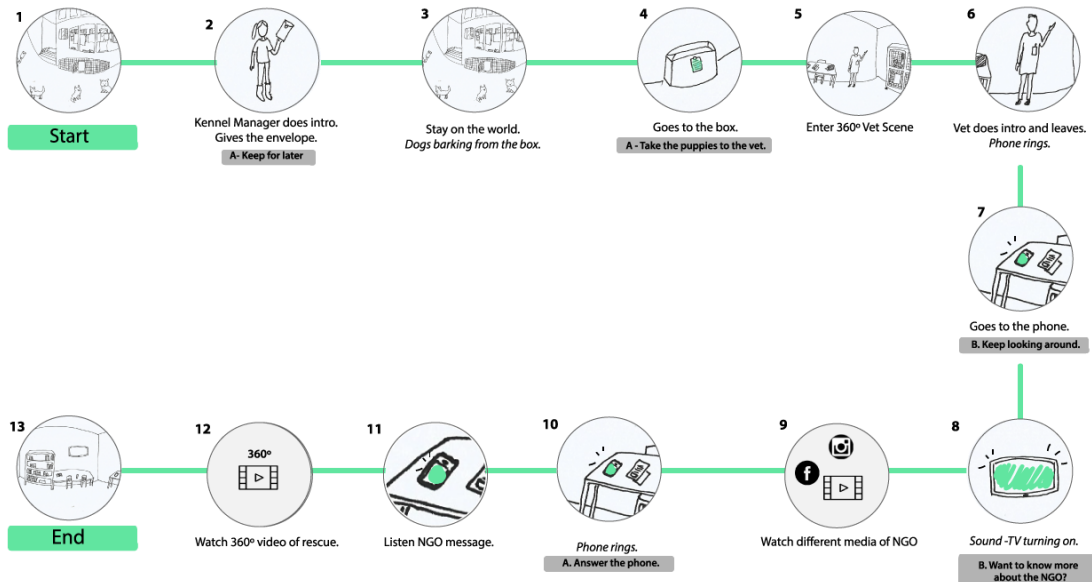


Figure 94. Example of interactions and media in the Tell a Tail 360 user experience

### 3.Documentary Ideation

The following section presents the preliminary draft of the main ideas for the documentary, which main topics idealized to be covered by the documentary were abandonment, adoption, “uneducation”/education and care/Health (figure 95).

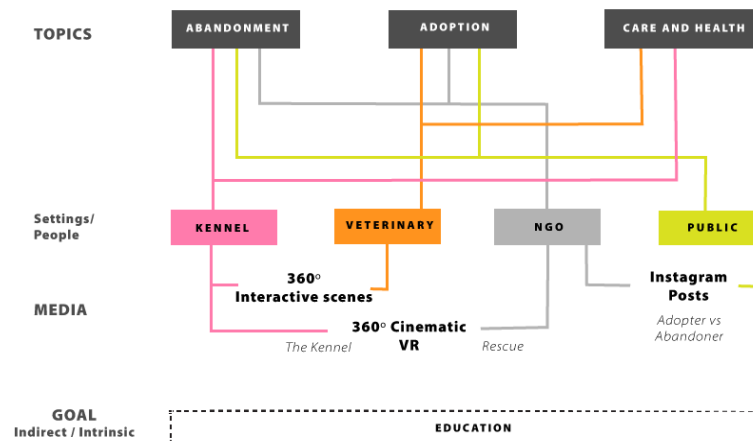


Figure 95. First Tell a Tail 360 documentary topics diagram

### 3.1. Topics and Possible Interviewers

#### Abandonment

##### Kennel (Canil Municipal Vasco Gil):

- Frequency of reception of abandoned pets
- How they usually come to the kennel (maybe speak about specific events that happened on the past and showing those animals if they are still on the kennel, e.g. on the visit they spoke about leaving animals during the night leashed to the kennel gate or nearby the kennel)
- Reasons for abandonment (point of view/perspective)

##### NGOs (Ajuda a Alimentar Cães e/ou Patinhas felizes):

- How they receive rescue appeals (social media, people call)
- Filming a rescue event
- What measures/procedures they usually take after rescue
- Who helps (partnerships)
- Reasons for abandonment (point of view/perspective)

##### Bombeiros Municipais do Funchal\*:

- \*As they usually are the people who bring the animals rescued to the kennel (considering the hypotheses: if a could film them arriving the kennel with a rescued pet; or having someone of them speaking about the issue)
- (Could be an extra because i am not sure if they could be a very important interviewer)
- Report a situation that happened (related to one reported by the interviewed person from the kennel)
- (i.e. they can speak cases like the “Coraçãozinho”, a female dog that returned after being adopted for reasons like “do not have time”, “it gives too much work”,...)

## Adoption

### Adopter Person\*:

- a person that adopts a pet in not normal conditions (e.g. a pet with limitations or needing special needs, an old dog, a straight dog)
- \*hypothesis of interviewing the Kikas owner - an adult female dog that needed physiotherapy done in Hospital Veterinário da Madeira (this could also be a link to the Hospital and vet issues)
- Why adopt it? Explain the reasons
- Report a bit the Before/After having an animal
- changes in lifestyle
- difficulties vs blessings
- expenses

### NGOs (StreetDogs Madeira, Vamos lá Madeira)\*:

- \*At least of this one's NGOs that are managing the adoption of older dogs to Germany
- Differences from Germany/Portugal/Madeira (politic measures, people thinking/animal education, other animal welfare questions)
- Why help the animals in Madeira (how the project as arise)
- How they make the connections between people in Germany and the pets to be adopted
- Partnerships (Madeira NGOs and Kennel)

### Uneducation/Education:

#### (NGO Ajuda a Alimentar Cães):

- How they prepare their visits to schools
- Which frequency
- What are the topics they consider with children and how they approach with them (considering they're children)

- How children react (feedback)
- What is the purpose of the project (if there's a relation to make with the education of parents, newer generations)

#### Departamento do Ambiente (CMF):

- Reasons for taking these actions at schools (this could also lead to the politic policies without going too deep on the topic)
- What are the target audience (students degrees and why)
- What are the issues topics on the events
- Feedback of students/teachers/school community
- Feedback of people in general (one of the comments for the publication below was that 'they should do it in every school in Madeira')

#### Care/Health

##### Kennel:

- How they do the management of the place (money budgets, funds campaigns, sponsorships)
- Daily routines (tasks and people working there)

##### Care Service (Dogtel- Dog Hotel, Spa)\*:

\*This could be an extra because I do not think this could be a significant issue on the flow, interviewing about:

- Whom are the owners looking for their services (profile idea)
- What they do there (film a training session)
- Costs

Hospital Veterinário da Madeira - (Vetmedis Group - Dr. Duarte Correia):

- Talking about the functional changes in animal welfare
- Achievements (like the acquirement of material)
- Talking about Mafalda (figure 96)



Figure 96. Mafalda, the HVM mascot

Below, is presented the documentary ideation considering the interviewing method, narrator choice and other aspects.

Interactivity:

- Extra content at the final (or even during, not sure if this could cause a break to the flow) the documentary
- The viewer can decide from which point to start the documentary (a relation to the narrative of Sarah comic book), but not sure if it could work with the Three-Act Model in which the story has three emotional stages.

How different mediums will merge inside the VE:

- Playing behind a news report about that specific topic shown on the scene (or, i.e., the speech of a politician)
- For extra content have links to social media posts (usual videos posted by NGOs)

### 3.2. Narrative Structure

Figure 97 shows a three act narrative arc, a model designed to start developing the action inside the documentary narratives.

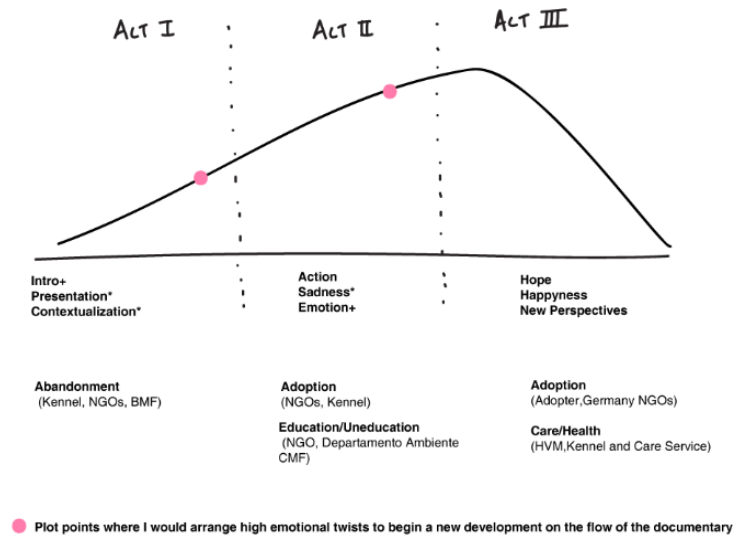


Figure 97. Three-act narrative structure ideated for the Tell a Tail 360

#### Act I

- +Intro to Animal Welfare in Madeira (statistics, newspaper news, tv report)
- \*Introduction to Interviewers (e.g. People on their workplaces, or Dr<sup>a</sup> Sara entering the kennel to start a new working day early in the morning)
- introduce the interviewers
- talk about the animal welfare general situation in Madeira (present some white statistics letters in a black screen)
- Start talking about the most important topic - the abandonment, by starting with the kennel
- Then passing to the NGOs (their role, work)

#### Act II

- Film a rescue accompanying an NGO (there is always the hypothesis of showing videos that they usually make to post on social media about an event like that).

- This act would be the sadness part, showing a less colourful reality.
- Abandonment cases, Rescues
- Showing the animals at the kennel (ground level perspective near the dogs)

### Act III

- Showing the animals at the kennel (ground level perspective near the dogs); how they are well treated there besides all difficulties; show the proper perspective
- The final act intends to give some relief to the viewer showing the happy cases, like partnerships with NGOs at Germany, the steps forward that we are giving as a community (giving the example of the project of the Hospital). Finishing with the same starting location, on the kennel, showing the happy dogs there, how they are loved and cared and giving the idea that the kennel is a “home” for the pets but a “temporary” one - that it is not the solution.

### 3.3. Graphic Design Low-Fi

Below is an image showing a low-fi of the menu for the CVRs when the user looks down (figure 98).



Figure 98. Low-fi design of a menu for the CVRs

Figure 99 shows an initial idea, where a scene filmed in the kennel manager cabinet, showing different interactive images of dogs, each one displaying more information about the animals when clicking in it. As the amount of text would become difficult to read inside an immersive experience, it was considered to use audio instead of text; however, the idea was not accomplished due to time management.

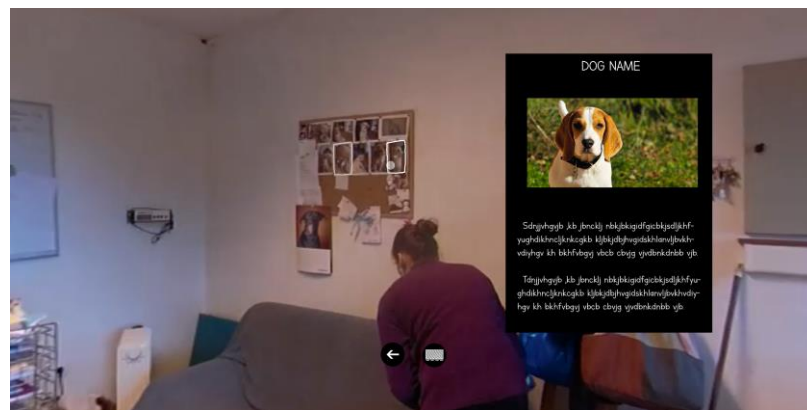


Figure 99. Low-fi design of the extra content inside the Tell a Tail 360 VE

## **Appendix D. Scripts Draft**

The first documentary scripts did not have many details about the events as they were not predicted yet but helped to formulate a general idea about a possible storyline.

### **1.360 CVR Kennel**

#### **1.1. Ideation**

The general idea is to show the daily kennel routine.

After the initial field visit to the kennel that highlighted the importance of their daily routine and the space conditions; becoming the leading inspiration for the documentary. During the visit was perceived that if pet lovers could feel afraid of entering the kennel, that could be a barrier to other people who are not so open about encountering dogs or even worse, might suffer from some animal-related trauma.

Possible scenes:

- The manager arriving the kennel
- How animals receive her
- How she starts the new day
- How she faces unexpected situations from the night

What tasks do they do every day

- Show how they do the tasks
- The challenges and difficulties

Director's Cabinet

- Calls
- Solving specific situations

### Room of Cats

- Show the space
- Animals playing

### Surrounding space

- Show the surrounding space
- The space they have inside a dog cave

### Dogs Playground

- How they organize the groups to do to the playground
- Dogs reaction
- Interaction between dogs and employees

## **1.2. Final Script**

It starts with the kennel manager arriving at the kennel and showing the reaction of the dogs at her arrival. Then the cages are open, and we can see happy dogs running across space. It is possible to see the dogs playing during the playground time, while their cages are being clean and their interaction with the kennel member. During the video, the kennel manager explains how the team members divide the daily tasks and the importance of that organisation, what was happening with the dogs before they were managing the space and the conditions they created to give a better life to the dogs while they are there.

## **2. 360 CVR Rescue**

### **2.1. Ideation**

The NGOs have a crucial active role in what it is done in the field to help animals in distress. The use of virtual reality technology could allow any person to live a situation that generally it is not possible to witness, like the Rescue of a distressed and mistreated animal.

### Rescue request

- How they receive the request
- Questions they ask and keeping the identity of people hide
- Procedures/Material needed
- Calling other services like the Police, volunteers, helpers

### The way to the Rescue (inside the van)

- What they wonder during the path

### During the Rescue

- Difficulties/Challenges
- How they analyze the situation
- What technical knowledge they have

### After the Rescue

- Procedures
- How they choose where to take the animal (as they work w/different vets)

## **2.2. Final Script**

Starts showing the AAAC members arriving at the local and speaking about the situation of the dogs and how they can get to them as they do not know the exact location of them. Then the situation of the dogs inside the space they live, surrounded by their faeces without any shade on a hot day is revealed. NGO members already with the dogs, called to the Police and waits for someone to claim responsibility for the dogs. There is also visible NGO member preparing the van to receive the rescued dogs and how they get them inside it and make their safe trip inside a cage to the hospital. On the outside of the van, a policeman watches the dogs already on their cages. This video finishes by showing the NGO members driving the van to the hospital and their dialogue about the rescued dogs.

### **3. 360 CVR Chico seen by the vet**

#### **3.1. Ideation**

Animals usually are rescued after several warnings to the owners and if they are living in deplorable conditions or receiving mistreatment. It is common to take those animals to the veterinarian to receive primary health care after rescue actions. The footage on the HVM expose the importance of professional animal care and bring consistency and continuity to the story told after the rescue.

#### **3.2. Final Script**

In this video, the viewer is an observer witnessing in vet visit to the dog just being rescued. It is possible to hear the dialogue between the vet and the NGO members, the pertinent questions about the conditions dogs were and the initial diagnosis of the state of the animal. After the vet exposes the first diagnosis, the NGO authorize the hospital to assemble everything needed due to the costs involved and, where the dog should stay while the result of the exams is getting ready.

### **4. 360 CVR Cats**

#### **4.1. Final Script**

This video shows the section of the shelter CMVG where the cats are, the daily tasks and the interaction of a team member with the animals. It is possible to see a volunteer helping on the section of the cats. The video also gives insights about the behaviour of the cats to the environment created for them.

In this video, it is possible to hear Mena responsible for the cats narrate about the volunteer work, the daily routines, and the behaviour of the cats.

## Appendix E. User Experience Drafts

This appendix presents the primary drafts of the user experience design, considering the path inside the VE and the different media to present. These drafts improved until getting a version with more sense and connection between the content, the user choices and the media (figure 100 and 101).

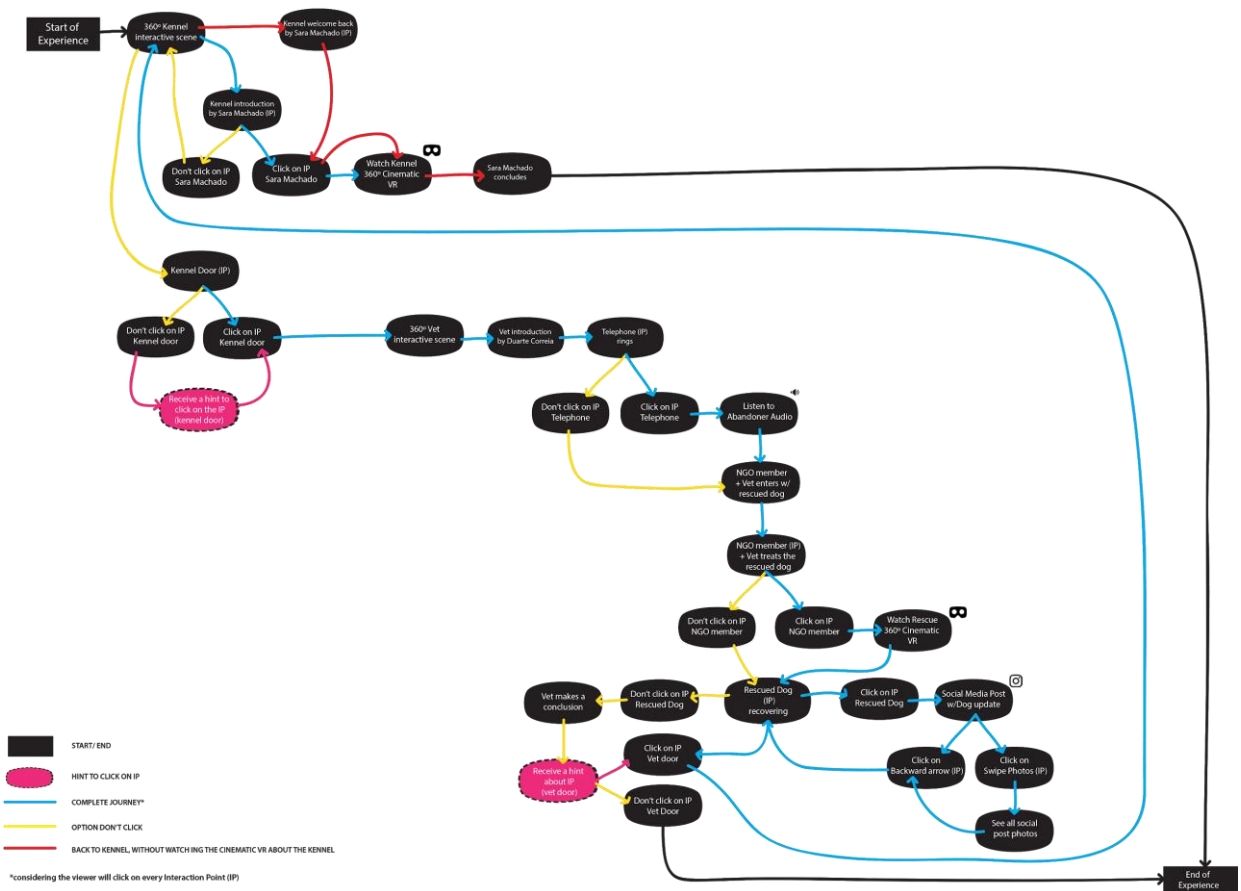


Figure 100. A first draft of the Tell a Tail 360 user experience

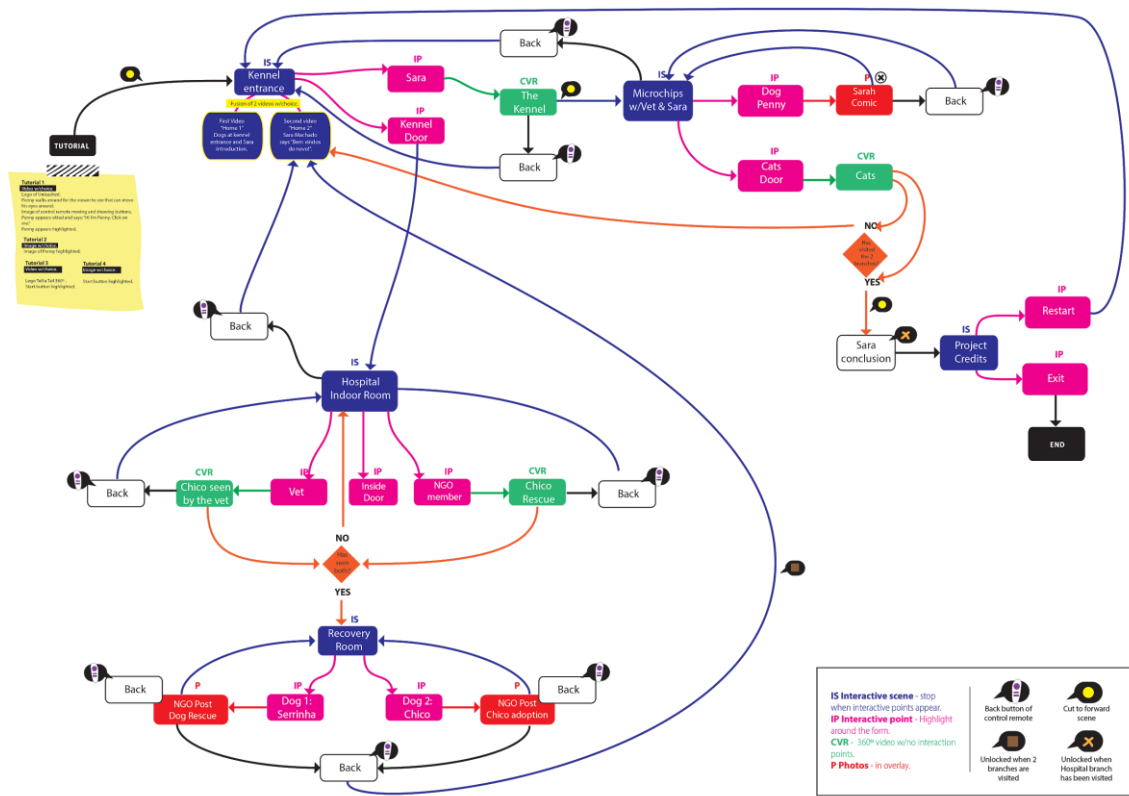






Figure 101. Improvement of a first Tell a Tail 360 user experience


# Appendix F. Research of Documentaries, Games and VR Apps


To get a better understanding of the creation practices and choices was made a more in-depth analysis to several documentaries, games and VR apps, which main insights were written on the following data base.

360° Documentaries					
Name of the Project	Year	Type	Summary Details	Personal Critique	Other Notes (links, images,...)
1. Anxiety - The VR Experience (360 Documentary)	2017	Documentary, Fiction but based on true story	<p>1.What is it: an immersive experience showcasing what it is like to have the illness "Anxiety" through the use of visuals.</p> <p>2.How to play/watch: Youtube or HMD.</p> <p>3.General plot: Putting the viewer in various scenarios that can be quite nerve-inducing, mainly touching upon social anxiety.</p>	<p><b>Visual graphics:</b> First visuals appearing after the title shows a kind of coloured nervous pattern as we were watching the snakes inside our brain what's relevant to the context of the documentary story.</p> <p><b>Bad:</b> On 1st scene if we don't move the mouse we keep seeing two people whispering to each other as we listen to the narrator saying they are talking about him. When we move the mouse we see the other classroom part very quiet and as they were not carrying at all what was happening so <b>NOTE TIP</b> for me was, probably it was best to start with first scene showing the one's who are not talking to each other and then trigger the viewer to move the mouse on other direction to see where were the one's whispering.</p> <p><b>GOOD:</b> Only after moving the camera around we realize the narrator is present on the scene in front of the class. 2nd scene we hear people talking but we don't see people, just a living room so again that's the TRIGGER to move around again the camera to see where are the people.</p>	<p>Video Youtube: <a href="https://www.youtube.com/watch?v=VtVfBRy5xY">https://www.youtube.com/watch?v=VtVfBRy5xY</a></p>
2. 360° Puppy Play 4K - DublinSPCA	2015	Non-fictional	<p>1.What is it: an immersive experience showing pets to be adopted playing around.</p> <p>2.How to play/watch: Youtube, HMD.</p> <p>3.General plot: Puppies playing around the park, that are available to be adopted on SPCA association.</p>	<p><b>Angles:</b> Camera on the ground give it a higher approach to the pets, feeling more attachment to them.</p> <p><b>Bad:</b> Get's a bit boring after a while seeing it from the same perspective. As the animals are always moving around, you have to always be moving the view also contributing to a bit annoying situation.</p>	<p>Youtube: <a href="https://www.youtube.com/watch?v=fbTxiYhm_jk">https://www.youtube.com/watch?v=fbTxiYhm_jk</a></p> <p>-The Gopro cameras were setup in the non-waterproof freedom360 rig attached to a custom made 45° screw mount, attached to a custom metal monopod pinned into the ground. Positioned less than a foot off the ground.</p> <p>- Recorded using 6 GoPro Hero 4 Black - filming at 2.7k 4.3 - 30fps proutne mode</p> <p>- Location: DublinSPCA (The Dublin Society for Prevention of Cruelty to Animals is a registered charity to prevent cruelty to animals and is also Ireland's largest animal welfare organisation.) <a href="http://www.dspca.ie/">http://www.dspca.ie/</a>, Rathfarnham, Dublin 16, Ireland</p>
3. Virtual Dream - 360 Golden Retriever Puppies	2016	Non-fictional	<p>1.What is it: showing golden retrievers playing around produced for children at oncology, hospices and child care houses.</p> <p>2.How to play/watch: Youtube, HMD.</p> <p>3.General plot: Puppies playing around the house; mother playing with puppies,...</p>	<p>First scenes start with ground level filming, near the dog nose. And the sequence after it's on the same level when it causes more emotional impact to the dog. Then it moves from a 20-50cm approximately level from the ground showing the whole dogs entering the room, to a ground level again. This 20-50cm filming approach allowed to turn the view and see the dogs laying down.</p> <p>Has a few scenes where the dogs are in movement (running) and the camera is also running with them what creates more interaction with the viewer as it seem they are running to us.</p> <p>One of the scenes the mother appear playing with a toy what then disappearing from the scene triggering the viewer to move the mouse and look for her...and then see her playing with her puppies.</p> <p>Legends on final appear the same text duplicate on each 180° degrees of the screen.</p>	<p>Youtube: <a href="https://www.youtube.com/watch?v=LbQJ1p6eaQA">https://www.youtube.com/watch?v=LbQJ1p6eaQA</a></p> <p>How they react to VR: <a href="https://www.youtube.com/watch?v=TVnOx0ARQ">https://www.youtube.com/watch?v=TVnOx0ARQ</a></p>
4. INVASION! 360 VR Sneak Peek	2016	Animation, Short film	<p>1.What is it: a VR 360° animation story.</p> <p>2.How to play/watch: Youtube, HMD, Gear VR,Daydream,Oculus Rift,Playstation VR, Vive (Steam).</p> <p>3.General plot: Mac and Cheez, two bumbling aliens with grand ambitions to take over the world. Instead, they are thwarted by two adorable bunnies.</p>	<p><b>Triggers:</b> Use <b>sounds</b> and <b>lights/shadows</b> to trigger movements with the mouse, searching for objects, characters on the scene, switching scenes...</p> <p><b>No Subtitles</b></p> <p><b>Characters don't speak...make only noises</b></p>	<p>Youtube Sneak Peek: <a href="https://www.youtube.com/watch?v=gfUeZfWtWE">https://www.youtube.com/watch?v=gfUeZfWtWE</a></p> <p>Youtube Full animation: <a href="https://www.youtube.com/watch?v=SZ0KW5PIM">https://www.youtube.com/watch?v=SZ0KW5PIM</a></p> <p>Baobab Studios: <a href="https://www.baobabstudios.com/">https://www.baobabstudios.com/</a> VR animation studio, founded by Eric Darnell (Director of all 4 Madagascar films).</p> <p><b>Prizes:</b> Baobab's Emmy® award winning VR animation, INVASION! starring Ethan Hawke, launched to substantial critical acclaim and has become the top downloaded VR experience</p>



<p>5. Chennai Floods Aftermath a 360° Virtual Reality Documentary   First VR Documentary from India in 8k</p>	<p>2016</p>	<p>Documentary, Journalism, Nature</p>	<p>1.What is it: VR 360° Documentary, based true story</p> <p>2.How to play/watch: Youtube.</p> <p>3.General plot: It tells the story of the <b>floods</b> that occurred on December 2015 in <b>Chennai</b>, India. The documentary emphasis on the impact, rescue and the reason for the floods.</p>	<p>Start with text and arrows around between it showing that you can move the mouse to left or right but i thought it was to show other information on other part of the screen, but not. Instead it was just showing that you can move around the view.</p> <p>Then appears some text contextualizing the viewer about the documentary content.</p> <p>Narrator.</p> <p>Suddenly the full view is reduced and appeared in the middle of several different screens as shown on figure below what misled me thinking i could click on other screen and watch a different sequence of the documentary. But it was simply photos of the event.</p>  <p>places and then adding a video passing at the same time on the scene showing the moment during the flood.</p> <p>There's a part when they are interviewing a authority person and on the wall of the room where they are, they pass a video from that moment the person is describing</p> 	<p>Youtube: <a href="https://www.youtube.com/watch?v=H5TK6mxsWQ">https://www.youtube.com/watch?v=H5TK6mxsWQ</a></p> <p>Vikatan TV</p>
<p>6. Climbing Everest with Ant Middleton   360° Video</p>	<p>2018</p>	<p>Documentary, Journalism</p>	<p>1.What is it: 360° Documentary, real story</p> <p>2.How to play/watch: Youtube.</p> <p>3.General plot: In Ant Middleton's new documentary he gets trapped in an unexpected, life-threatening storm as he attempts to climb Everest. And he seeks to understand the attraction of such a popular but dangerous challenge.</p>	<p><b>Entry Title:</b> Same approach of starting with a context text for the viewer to read</p> <p><b>Angles:</b> Are the filmmaker holding the camera on the hand, so as he's speaking and walking at the same time, you have the option to look for the view or switch to see his face while he's speaking.</p> <p><b>Bad at cutting the camera from the scene (As show the image below)</b></p> 	<p>Youtube: <a href="https://www.youtube.com/watch?v=ot_npm2QaK8">https://www.youtube.com/watch?v=ot_npm2QaK8</a></p> <p>Production for Channel4</p>
<p>7. SEPSIS 360 video documentary</p>	<p>2016</p>	<p>Documentary, Journalism</p>	<p>1.What is it: VR 360° Documentary based on true story. Basically is the woman telling the story while she's doing normal day tasks.</p> <p>2.How to play/watch: Youtube. HMD.</p> <p>3.General plot: Story of Christina that suffered from sepsis (blood poisoning) in 2014. Christina has several plastic surgery ahead especially in the face. The implants that she will operate in the arms and legs will take time. Each operation which has a recovery time of about one year. Christina has at least three to five years of rehabilitation ahead of her.</p>	<p>Scenes filmed inside the house of the woman, showing her doing her normal tasks.</p> <p>There's a <b>narrator</b> (pretending to be her telling the story) and sometimes that voice over at the same time the woman is talking on the video get's a bit annoying.</p> <p>All scenes basically is focused on her where she appears on the main screen. There's only the curiosity and the possibility of moving around the views as a <b>trigger</b> to do it.</p> <p>Quite monotonous.</p>	<p>Youtube: <a href="https://www.youtube.com/watch?v=focJKgTDf/E">https://www.youtube.com/watch?v=focJKgTDf/E</a></p> <p>Michael Wall 360 Producer/Fotographer</p> <p><b>Prizes:</b> <b>Award winner</b> Los Angeles Independent Film Festival Awards (LAIFFA) Best Foreign Documentary Short <b>Winner at Hollywood International Independent Documentary Awards.</b></p>
<p>8. "Interrupture" VR film</p>	<p>2016</p>	<p>Documentary, Fictionary Film</p>	<p>1.What is it: Very short Film based on a true story</p> <p>2.How to play/watch: Web. Preferable probably using a HMD.</p> <p>3.General plot: This is a VR/360 film that transports you into the true story of the escape of two 11-year-old girls from Syria and their fateful, serendipitous friendship after being threatened by ISIS. They add an interesting question to doubt what is the meaning of what we call "home".</p>	<p><b>1st Person Narrator:</b> Is the 11-year girl telling the story and what happens...</p> <p><b>Visual graphics</b> are a mix of photography with vectorial drawing. So it's a bit different but interesting. I think it builds a bridge between the past/present, as those events could not be filmed at the moment they were happening, they found a way to fictionalate what really happened but in a very realistic way.</p> <p><b>No Subtitles</b></p> <p><b>Closing credits:</b> 1st time the credits (cast, production, etc...) at the final appear all in 360°.</p>  <p><b>Triggers:</b> Visuals and sounds.</p>	<p>Link: <a href="https://vimeo.com/198423685">https://vimeo.com/198423685</a></p> <p><b>One of my favourites</b></p>

9. Mindscapes - A VR documentary	2016	Documentary, Nature	<p>1 What is it:</p> <p>2 How to play/watch: web</p> <p>3 General Plot: VR about Aria Baaijens traveling to the edges of Europe to explore the fields of rough Ireland, where we searched a bond between the land and its inhabitants. We discover that there is more to the land than the eye can see.</p>	<p>Narrator: 1st Person narrator</p> <p>Interview: Showing interviewer and interviewed (as show image below)</p> 	<p>Link: <a href="https://www.youtube.com/watch?v=I29toICbb-g">https://www.youtube.com/watch?v=I29toICbb-g</a></p>
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10. Refugees 360 VR documentary	2017	Documentary, Journalism, Politics/Social	<p>1 What is it: 360° Documentary about Syrian refugees</p> <p>2 How to play/watch: web</p> <p>3 General Plot: With no signs of the war in Syria ending, people continue to flee while refugees in neighbouring countries lose hope of ever returning home. With many refugees being sheltered in the region for as long as four years, it comes as no surprise that the desire of moving west is growing dramatically. After spending years with the inability to work or travel, the lack of education for children, and the overall increasing level of poverty, more and more refugees are taking a leap into Europe, an often expensive and extremely dangerous endeavour where insecurity and desperation are as real adversaries, as hunger and sheer discrimination. While many European countries deal with internal policy tensions, misinformation and prejudice among its populations seem to successfully spread indifference, fear, and hatred. People quickly turn into numbers when the discourse becomes one of 'us' versus 'they'.</p>	<p>Bad: Cutting the 360 camera of the scene (Again half of hands, arms cutted also)</p> <p>Legends: Appear on top of video at the middle of the scene</p> <p>Narrator: In some parts appear politicians talking about the issue/topic of the refugees; Other part it's a refugee speaking</p> <p>Credits: appear on the final in a vertical disposition (as in normal films)</p> 	<p>Link: <a href="https://vimeo.com/208655948">https://vimeo.com/208655948</a></p> <p>Prizes: Awarded Best Independent film</p>
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11. The Party: a virtual experience of autism – 360 film	2017	Documentary, Fiction Film, Social	<p>1 What is it: Documentary, Fiction, based on true stories</p> <p>2 How to play/watch: web</p> <p>3 General plot: Everyday situations can be stressful for those on the autism spectrum. Step into the shoes of 16-year-old Layla as she attends a birthday party. Hear her inner thoughts and experience how overwhelming an occasion like this can be for her</p>	<p>Narrator: 1st person narrator</p> <p>Title: Movie title appear on the beginning one time (middle screen, not in any 360° degrees)</p> <p>Angle: The camera is the person eyes</p> <p>Credits: Appear on the final in a vertical disposition (as in normal films)</p>	<p>Link: <a href="https://www.youtube.com/watch?v=DtwOz1GVkDg">https://www.youtube.com/watch?v=DtwOz1GVkDg</a></p>
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Documentaries					
Name of the Project	Year	Type	Summary Details	Personal Critique	Other Notes (links, images,...)
1. Skip Day	2018	Jornalism	<p>1 What is it: Documentary</p> <p>2 How to play/watch: web</p> <p>3 General plot: Schoo's almost out. For seniors in Pahokee - a small, mainly African-American industrial town on Florida's Lake Okeechobee - the Monday after prom is 'Skip Day.' Multitudes of long-time friends miss their lessons, instead driving sixty miles to hang, chill and ponder their futures on the windy dunes of the Atlantic shoreline. The film intimately observes the shared joys of communal activity and extravagant display which bind these engaging teens in rites of passage toward an uncertain adulthood.</p>	<p>showing 24h of a day very simple but clear to the point many wide and medium shots (show context) people speak naturally about the main theme (without interviewer) sometimes speaking between each other</p>	<p>Link: <a href="https://vimeo.com/299840222">https://vimeo.com/299840222</a></p> <p><b>Winner of the Illy Prize for best short film at Directors' Fortnight, Cannes Film Festival.</b></p> <p>Directors and Producers: Ivetle Lucas and Patrick Bresnan Producer: Maida Lynn Cinematographers: Patrick Bresnan and Joaquin del Paso Editor: Ivetle Lucas Executive producers for the Guardian: Charlie Phillips and Lindsay Poulton</p>
2. Inside the Network of Mormon Moms Fighting for Their LGBTQ Children	2018	Jornalism, Religion	<p>1 What is it: Documentary</p> <p>2 How to play/watch: web</p> <p>3 General plot: Growing up in the Church of Jesus Christ of Latter-day Saints can be an isolating experience for LGBTQ+ youth. Current Mormon doctrine doesn't have a place for those who identify as LGBTQ+, or any guidance or support for young adults navigating their sexuality. Many face unforgiving ideologies that teach them to be celibate, or to "pray the gay away." Furthermore, the state of Utah has the highest suicide rate among children ages 10-17, a statistic that is especially alarming to parents. Within this culture are the Mama Dragons, a fiercely loving support group of mothers that provides open ears and open arms to LGBTQ+ youth and families in the Mormon community. Comprised of Mormon, post-Mormon and never-Mormon women, the support group offers mothers of LGBTQ+ children an outlet and a community. Together, this grassroots group of mothers is breathing fire to protect their kids, writing a new chapter in a community of faith.</p>	<p>sound is used to give more feeling to the content narrators are the people of the documentary has a kind of intro (working as a generic) before starting the title and the documentary graphics/images with great quality and meaningful slow movements of camera showing places while characters narrate the events subtitles middle of the screen to give context (eg dinner at x house) people speak naturally about the questions (there's no interviewer) The scenes sometimes switch between the interviewed speaking and an event while he's speaking (that breaks monotony and still give context)</p>	<p>Link: <a href="https://vimeo.com/297756295">https://vimeo.com/297756295</a></p>

3. Blue - CNN	2016	Journalism, entertainment	1.What is it: Very short Documentary 2.How to play/watch: web 3.General plot: About colour blue	very short length made only with vectorial graphics animated very interesting how the transitions between graphics are made	Link: <a href="https://vimeo.com/187040716">https://vimeo.com/187040716</a>  website here: <a href="http://edition.cnn.com/interactive/2016/12/specials/colorscope-blue/">edition.cnn.com/interactive/2016/12/specials/colorscope-blue/</a>
4. REFUGE   Human stories from the refugee crisis	2016	Journalism	1.What is it: Documentary 2.How to play/watch: web 3.General plot: A small team of filmmakers set out for Greece, documenting human stories from the frontlines of the European Refugee Crisis, focused on humanity and hope. The world was changing and we found ourselves at a crossroads in history, so we set out to help in the way that we knew best - with the telling, and sharing, of stories.	interviewed speak naturally about the questions/theme context text on top of scenes people talk syrian and the subtitles appear on the left side of the person instead of normally appear on bottom center of the screen Mostly medium shots start with a black screen*	Link: <a href="https://vimeo.com/195306938">https://vimeo.com/195306938</a>  RefugeProject.co
5. Andy Goes In	2016	Journalism, undercover documentary	1.What is it: Undercover Spy Documentary 2.How to play/watch: web 3.General plot: He's a \$10/hr farmhand, and his name isn't Andy. He tells how's working in a farm and show lots of things they do there to animals etc...	hand held camera movements Some scenes are a bit hard to look	Link: <a href="https://vimeo.com/193677663">https://vimeo.com/193677663</a>  <a href="https://mercyforanimals.org/">https://mercyforanimals.org/</a>
6. AMERICAN BAGHDAD Short Documentary	2016	Journalism	1.What is it: Journalistic Documentary 2.How to play/watch: web 3.General plot: Tells about the bagdad war	start with a black screen* and with short text giving context about the theme (events/statistics) images sometimes are shown with news sound behind speaking about a relevant event or a politician speaking subtitles appear bottom center of the screen (standard) wide and medium angles mostly people speak naturally while they are doing normal day tasks each people speaking are presented appearing on the screen info about name, age, birth place	Link: <a href="https://vimeo.com/181792261">https://vimeo.com/181792261</a>




7. The Need To Be Alone (The School of Life)	2018	Social, art and design	1.What is it: Film 2.How to play/watch: web 3.General plot: A film about an introvert and how his time alone makes him a better friend. In collaboration with Alain de Botton for The School Of Life.	Documentary made with fabric toys (puppets) have a narrator that speaks all the film...and get a bit bored colours are monochrome and red  <b>Good:</b> creativity	Link: <a href="https://vimeo.com/255170713">https://vimeo.com/255170713</a>
8. SAMSARA food sequence	2015	Social, Food, animals defense	1.What is it: Documentary 2.How to play/watch: web 3.General plot: showing food production and consumption	very powerful images (not good for sensitive eyes) fast speed filming with sound coordination to give more feeling/impact	Link: <a href="https://vimeo.com/73234721">https://vimeo.com/73234721</a>
9. January in Japan	2015	Travel Documentary	1.What is it: Travel Documentary 2.How to play/watch: web 3.General plot: showing Japanese culture in a trip to there.	wide and medium angle shots music mixed with environment sounds, no narrator slow motion scenes no subtitles	Link: <a href="https://vimeo.com/87008050">https://vimeo.com/87008050</a>
10. Last Minutes with ODEN	2009	Documentary, people, social	1.What is it: Documentary 2.How to play/watch: web 3.General plot: showing last days of a cancer illness dog. <b>The owner speaks about the relationship with the dog and how difficult was to decide to put him down</b>	many close up shots the person speaks during the video naturally a few slow motion scenes very intense emotionally how scenes are filmed the background music fits well the scenes	Link: <a href="https://vimeo.com/8191217">https://vimeo.com/8191217</a>

<b>Games</b>					
Name of the Project	Year	Type	Summary Details	Personal Critique	Other Notes (links,images,...)


1.DarkSouls	2011	RPG, Action role-playing	1. How to play/watch: PlayStation 4, Nintendo Switch, PlayStation 3, Xbox One, Xbox 360, Microsoft Windows 2.General plot: Dark Souls takes place in the fictional kingdom of Lordran, where players take on the role of a cursed human character who was chosen to make a pilgrimage, leaving the Undead Asylum (literally, Hospice of the Undead) to discover the fate of the undead. The Dark Souls story is told primarily by the description of the game items and dialogues with non-playable characters.	Experience of who played the game: - It's an hardcore game where you need to capture some important items by defeating boss's nor open chests. The storyline is not linear and we need to puzzle up some information, in example each boss as a story behind them and it's told by other NPC's (find in the map) and during the battle some of them talk about themselves (normally the humanoid type). It isn't where you just play and relax, you need to have some objectives like in a strategy game to keep improving your character and finish the game. If you continue finishing the game the encounters and the game itself gets more and more difficult, normally casual players left at the beginning	<a href="https://pt.wikipedia.org/wiki/Dark_Souls">https://pt.wikipedia.org/wiki/Dark_Souls</a>  <a href="https://www.youtube.com/watch?v=PMLJ41taZJ1w">https://www.youtube.com/watch?v=PMLJ41taZJ1w</a>
2. Diablo III	2012	Jogo de RPG, Hack and Slash	1. How to play/watch: Nintendo Switch, PlayStation 4, Xbox One, PlayStation 3, Xbox 360, Microsoft Windows, Mac OS Classic 2.General plot: The story of the game takes place after twenty years of events that marked the end of Diablo II. Warriors have finally defeated evil, but when a comet falls to Earth exactly where Diablo has been confined, warriors are again summoned to defend humanity against the new enemy. The style of the game remains the same (isometric view), but this using new technologies by reproducing a totally 3D and interactive world, even destroying scenarios. Players will be able to choose from five available classes (seven after expansions) and venture into a magical and threatening world that Diablo III provides, but this time with new skills and equipment and a higher level of character customization.	Experience of who played the game: - Diablo is a grinding type of game. Diablo follows and it has a based storyline in the mythology where found demons fighting angels, prime evils fighting archangels and the nephelim. The nephelim are basically "us" who was born from an angel and demon relationship. Diablo also has books, npcs and items descriptions where it serves as a puzzle story for the player to figure out during the time he/she plays it. It is a great casual game where you can choose different game modes (story, adventure and challenges) and the difficulty levels (from normal to torments). Some encounters (rares, elites and epic monsters) have their abilities improved and even more skills on their skills set, we need to pay attention to their abilities and our resources / cooldowns to manage for a win versus the artificial intelligence. The game can be played solo or as a group of 4 but always versus the A.I.	<a href="https://pt.wikipedia.org/wiki/Diablo_III">https://pt.wikipedia.org/wiki/Diablo_III</a>  Trailer: <a href="https://www.youtube.com/watch?v=D-85YBega4">https://www.youtube.com/watch?v=D-85YBega4</a> Blizzard Entertainment
3. World of Warcraft	2004	Massively multiplayer online role-playing (MMORPG)	1. How to play/watch: Online exclusive for computers (Windows and MACs) 2.General plot: The game takes place in the fantastic world of Azeroth.	Experience of who played the game: -World of Warcraft (WoW) is a complex and a complete game in which every type of player can have some fun (from casual to hardcore). WoW narrative is one the most complete because of their transmedia world and the effect they have on other Blizzard games. The narrative is based on our world meaning that have an Big-bang event promoting the mythology part (ancient goods, goods, titans, elementals, demons, ...) come to the Warcraft world following their own objectives, where players need to stop them while they battle between factions and races. The difficulty on the game is set by the number of players promoting the interactivity and co-operations to defeat some dungeons, raids and world objectives against A.I. Also, players need to interact and co-operate in players versus players maps and some of them have a rank on the real world champion league.	<a href="https://worldofwarcraft.com/pt-br/">https://worldofwarcraft.com/pt-br/</a>  Trailer: <a href="https://www.youtube.com/watch?v=rRuvD5RT3-M">https://www.youtube.com/watch?v=rRuvD5RT3-M</a> Blizzard Entertainment  Prizes: 2005 - VGX: Melhor Jogo para PC; VGX: Jogo mais Viciante; VGX: Melhor RPG. 2008 - Prêmio Emmy de Tecnologia e Engenharia; Melhor Tecnologia e Aplicações para Videogames - Blizzard Entertainment  Papers link: <a href="https://di.acm.org/results.cfm?query=world-of-warcraft&amp;Go.x=D&amp;Go.y=0">https://di.acm.org/results.cfm?query=world-of-warcraft&amp;Go.x=D&amp;Go.y=0</a>

4. Elders Scrolls Morrowing	2002	Jogo de RPG, Action, Role-playing	<p>1. How to play/watch: Xbox, Microsoft Windows</p> <p>2. General plot: The player could join any of the guilds, serve the imperial guard or become a merchant to accumulate the greatest possible fortune. Morrowind, in addition to creating an extensive main plot, provides many detailed missions to serve serving a variety of factions, including various guilds, religious organizations, and aristocratic and feudal homes, as well as a host of secondary missions found for the sake of exploring. The various directions depending on the player's decisions. These decisions that the player made in the performance of these missions become methods of interpretation of the character.</p>	<p>Experience of who played the game:</p> <p>- Elders scrolls is a single player game, similar to the MMO games type, which we need to get items from grinding, quests and interactivity between NPC's. The narrative is rich due the fact of showing a new vision on fantasy genera where the authors mixture magic, mythological creatures and society functions in an harmony way. The game needs some skill level to played but different from hardcore games the difficulty can be adjusted so new players don't get frustrated. It has the crafting system where its the based for obtaining gear to progress in the game being do from resources found all over the world.</p>	<p><a href="https://elderscrolls.bethesda.net/">https://elderscrolls.bethesda.net/</a></p> <p><a href="https://pt.wikipedia.org/wiki/The_Elder_Scrolls">https://pt.wikipedia.org/wiki/The_Elder_Scrolls</a></p> <p>Bethesda Game Studios</p> <p><b>Prizes:</b> <b>Game of the Year de 2002</b></p> <p>Game video review: <a href="https://www.youtube.com/watch?v=r5dGt81mQo">https://www.youtube.com/watch?v=r5dGt81mQo</a></p>
5. Assassins creed (saga)	2007	Action-adventure Stealth	<p>1. How to play/watch: PlayStation 4, Xbox One, PlayStation 3, Windows,Android,IOS,PSP,Playstation Vita, Nintendo DS,etc...</p> <p>2. General plot: The central premise involves the rivalry between two ancestral secret societies, Assassins who desire peace through free will and the Templars, who have the same goal but through order. Both had an indirect relationship with a species that lived before humans, whose society was destroyed by a gigantic solar storm. Mix characters and historical fiction with events and real figures. It tells of Desmond Miles, a young man who, with the help of the Animus, explores the memories of some of the most prominent Assassins in history. Drawing inspiration from the novel Alamut, by the Slovenian writer Vladimir Bartol.</p>	<p>Experience of who played the game:</p> <p>- The type of game that makes the connection between the novel and the game very well. Being a solo game where players defeat several man encounters with the resources they had gathered until that time. It needs some skills and can be frustrating to defeat the bosses. On the other hand, the game gives a player a relax sensation while playing it.</p>	<p><a href="https://pt.wikipedia.org/wiki/Assassin's_Creed">https://pt.wikipedia.org/wiki/Assassin's_Creed</a></p> <p>Developers: Ubisoft Montreal, Gameloft Estudios, Ubisoft, Gameloft</p>
6. Witcher (saga)			<p>1. How to play/watch: Microsoft Windows, OS X</p> <p>2. General plot: A witcher (also wiccan or hexer or in the Elder Speech: varǵǵhem) is someone who has undergone extensive training, ruthless mental and physical conditioning, and mysterious rituals (which take place at "witcher schools" such as Kaer Mohren) in preparation for becoming an itinerant monsterslayer for hire. Geralt, the central character in Andrzej Sapkowski's Witcher series and the subsequent games inspired by them, is said in the stories to be one of the greatest witchers; he is certainly legendary, but whether famous or infamous is more open to interpretation (and/or subject to gameplay, as the case may be).</p> <p>Taken in as children, witchers-to-be are subjected to intense alchemical processes, consumption of mutagenic compounds, and relentless physical and magical training to make them dangerous and highly versatile against their vast array of opponents, many of which possess superhuman speed, strength and/or other deadly powers. These procedures ultimately mean that each fully-trained witcher is a mutant built specifically to hunt and kill inhuman prey.</p>	<p>Experience of who played the game:</p> <p>- Witchery is a game based on rusion books where they talk about the time of witchers. The protagonist is part of an order where he fights against some evil influences and at smae time need to help humanity. During the game you need to pain attention to all of your actions when you are fighting, talking to someone, helping people, traveling, hunting, trading, walking on kingdoms and the villages. The game has the difficulties levels but just do a little differences on the attack and health bars of the monsters, leaving the rest as hard as possible. It's a frustrating game but very captivating due to the storyline and narrative. The player for the encounters need to solve some puzzles, prepare for the batle, get the maximum information about the encounter and sometimes going with a friendly NPC.</p>	<p><a href="https://youtu.be/QXK0Lhndx87">https://youtu.be/QXK0Lhndx87</a>~241 <a href="https://en.wikipedia.org/wiki/The_Witcher_(video_game)#Plot">https://en.wikipedia.org/wiki/The_Witcher_(video_game)#Plot</a> <a href="https://witcher.fandom.com/wiki/The_Witcher_(game)">https://witcher.fandom.com/wiki/The_Witcher_(game)</a></p>
7. Castlevania	1986	PC game, Action, Adventure	<p>1. How to play/watch: Multi platforms (Playstation, PSP, Nintendo DS, Wii, Xbox,...)</p> <p>2. General plot: The series focuses on the war between the Belmont family (legendary hunter clan) against Count Dracula. The basic story would be that every 100 years Dracula would resurrect and a Belmont should defeat him before he would fulfill his revenge and rule the world, but over time (e as the titles were being released) Dracula passed to be resurrected by his servants outside the centennial intervals. At first the series focused more on the Belmonts and their descendants, but soon the series introduced other protagonists, like Alucard, Soma Cruz and Shanoa. The series is partly based on the novel by Bram Stoker, Dracula. In addition, the novel is included in the official chronology of the series, with the events of Castlevania: Bloodlines happening soon after the events of the novel. The connection goes a little further, to the point that Quincy Morris, a character in the novel, is a descendant of the Belmont clan.</p>	<p>Experience of who played the game:</p> <p>- Castlevania is a relaxing game due to not need a great focus by the players to progress and beware of the narretive behind it. The narrative is being figured out through the progress and presents the players some story fragments about the past of the protagonist.</p>	<p><a href="https://pt.wikipedia.org/wiki/Castlevania">https://pt.wikipedia.org/wiki/Castlevania</a></p> <p><a href="https://www.youtube.com/watch?v=iqEQN_G7NSM">https://www.youtube.com/watch?v=iqEQN_G7NSM</a></p>
8. Bayonetta	2009	electronic action game	<p>1. How to play/watch: Nintendo Switch, Wii U, PlayStation 3, Xbox 360, Microsoft Windows</p> <p>2. General plot: Turning into a fictional city in Europe, the game focuses on its title character, Bayonetta, who can use four revolvers (one in each hand, plus two that stand where the heels of his boots), among other weapons and perform magical attacks to defeat multiple enemies</p>	<p>Experience of who played the game:</p> <p>- The narrative is based on mages and some greater creatures who it hasn't a specific form, in exception when you fight them. Bayonetta is a more relax game due to it's cartoon graphics and their dialogues during the games.</p>	<p><a href="https://pt.wikipedia.org/wiki/Bayonetta">https://pt.wikipedia.org/wiki/Bayonetta</a></p> <p><b>Trailer:</b> <a href="https://www.youtube.com/watch?v=iZFLY01UKwY">https://www.youtube.com/watch?v=iZFLY01UKwY</a></p>
9. Don't Starve	2013	electronic action game, survival game	<p>1. How to play/watch: Android, PlayStation 4, Nintendo Switch, Xbox One, etc...</p> <p>2. General plot: The game tells the story of a scientist named Wilson, who finds himself in a dark and gloomy world and must survive as long as he can. For this, the player must keep Wilson healthy, well fed and mentally stable, avoiding supernatural and surreal enemies who try to attack him and devour him. The "Adventure" mode adds a certain depth to the plot, antagonizing Wilson against a villain named Maxwell.</p>	<p>Experience of who played the game:</p> <p>- Don't Starve is a survival game where can be played solo or in with a group of friends. During the game player need to gathers resources from the worlds (normal world, caves, temples,...) to survive the encounter at the night and at the final of the seasons. Also, bosses come at the end of the season, when you survive more time and in some specific zones. At the start, it's very difficult due to fact the game don't provide any information before the encounters. The game has several characters with different skills set and they don't talk as normal humans. The game follows an "antagonist" storyline and relays on the players expaculation / theories.</p>	<p><a href="https://pt.wikipedia.org/wiki/Don't_Starve">https://pt.wikipedia.org/wiki/Don't_Starve</a></p> <p><a href="https://www.youtube.com/watch?v=R5pLNt3Wk">https://www.youtube.com/watch?v=R5pLNt3Wk</a></p>
10. Encantasya	2017	tactical RPG	<p>1. How to play/watch: Windows</p> <p>2. General plot: The game follows the story of Angelo who was warped in a fictional Encantasya world because of a book. Some Filipino culture and core values were incorporated in the game design with hope that these values will be incultated through game playing. The ancient Filipino mythical Gods like Apo Laki, Bathala, Aman Sinaya, and Anitun Tabu were also included in the game story as supporting characters and villains.</p>		<p><b>Paper:</b> <a href="https://id.acm.org/citation.cfm?id=3056684">https://id.acm.org/citation.cfm?id=3056684</a></p> <p><b>Trailer:</b> <a href="https://www.youtube.com/watch?v=W3tN0xJQilc">https://www.youtube.com/watch?v=W3tN0xJQilc</a></p>






Transmedia Experiences					
Name of the Project	Year	Type	Summary Details	Personal Critique	Other Notes (links, images,...)
1. Pregoneros de Medellin	2015	Transmedia experience -Short Documentaries -Photo exhibitions -interactive web -documentary -length documentary	<p>- Documentary capsules for television: The capsules, or short videos, are audiovisual media designed for television. They are documentary "lightning", where for five minutes, the audience is introduced to a short, effective and independent sample of one of the cities, a facet of their life or of the Pregoneros de Medellin project.</p> <p>- itinerant photography exhibitions: An exhibition with more than 30 photographs is fully available to rotate through art galleries, halls, educational institutions, and unconventional spaces of the city and the country</p> <p>-Interactive exhibition: With the interactive exhibition at Parque Explora, we have allowed people from different socio-economic conditions, tourists and students to have a physical interaction with the interactive documentary.</p> <p>- feature-length documentary: The basis of this aesthetic and technical challenge is the viewers' role as co-authors whom participate and build their own documentary experience.</p>	<p><b>Graphics:</b> -very appealing</p> <p><b>Good:</b> I liked the <b>game style</b> idea to the interactive web documentary you can go out and return anytime you want to continue watching</p>	<p><a href="https://pregonerosdemedellin.com">https://pregonerosdemedellin.com</a></p> <p><b>Paper:</b> <a href="https://medium.com/@tbbbh/how-we-created-an-immersive-street-walk-experience-with-a-gopro-and-javascript442c8aa2dd">https://medium.com/@tbbbh/how-we-created-an-immersive-street-walk-experience-with-a-gopro-and-javascript442c8aa2dd</a></p>
2. The Blair Witch Project	1999	"pseudo documentary", Fiction ----- 3 Films ( Blair witch project, Book of Shadows: Blair Witch 2 and The Woods. Blair Witch 3)	<p><b>General Plot:</b> The studio billed it as a true story and released documentary shows on television that told the "true" story of the witch. It took months before viewers learned it was a fictional story.</p> <p><b>Note:</b> The three actors were given lessons on how to handle a camera and then were taken to stay in the forest for eight days deprived of sleep and food with just a compass and not even knowing where they were. The production was camouflaged and hidden in the middle of the forest. Everything was made to make the film look more real. By day, between the intervals of the filming, ideas were given of improvised speeches. At night, the production frightened them with noises, screams, witchcraft, tickets to slow discord and everything that can be seen in the film. They never knew what would happen and what they would find, because the documentary was real, spoke of a subject that may not exist, but was real.</p>	<p>- amateur mode of filming, almost "domestic" filming - very scary at that time - good creating tension to the viewer - camera is always moving fast to create more "fear feeling" into the viewer</p>	<p><a href="https://pt.wikipedia.org/wiki/The_Blair_Witch_Project">https://pt.wikipedia.org/wiki/The_Blair_Witch_Project</a></p> <p>one of the 100 highest-grossing American films of all time</p> <p>The Blair Witch Project (1999) - Best Scenes: <a href="https://www.youtube.com/watch?v=VNSAaYKd3XA">https://www.youtube.com/watch?v=VNSAaYKd3XA</a></p>
3. Year Zero (Nine Inch Nails)	2007	Music Album, AR Game, webseries	<p><b>General Plot:</b> Trent Reznor, the lead singer of the band Nine Inch Nails, wanted to make a concept album unlike anything listeners had before. Year Zero started as an alternate reality game that the band released in February 2007, several months before the release of the album. Fans quickly started playing the game to learn more about the album, which Reznor claimed was a reaction to the government administration of the time.</p> <p>"Things are not good. If you imagine a world where greed and power continue to run their likely course, you'll have an idea of the backdrop. The world has reached the breaking point - politically, spiritually and ecologically. Written from various perspectives of people in this world, "year zero" examines various viewpoints set against an impending moment of truth" - Trent Reznor.</p> <p><b>Transmedia cues:</b> The cover art depicting "The Presence" from the view of an individual in an automobile, follows the themes of his alternate reality game, as well as that done with his singles and derivatives.</p> <p>The album contains a heat-sensitive, heat-chrome CD face that appears black when first opened, but reveals a binary black code on a white background when heat is generated from the album having been played. The binary string translates to "external.net", the address of a website involved in the alternate reality game.</p> <p>Included with the album is a small insert: a notice from the fictitious United States Bureau of Morality (USBM), with a telephone number to report to people who "engaged in subversive acts." When the number is dialed, a USBM recording is played, stating that "By calling this number, you and your family are implicitly pleading guilty to the consumption of anti-American media and have been flagged as potential militants."</p>	<p>It takes place about fifteen years in the future.</p> <p>Songs are about social, political and other world questions as war.</p> <p>I bought the CD on 2007 and I found out at that time that after playing it the black cd turned into a brown pale colour with a never thought about searching on the internet about it and as I wasn't an hardcore fan and I didn't have must access to the internet that time I never realize this was part of a transmedia experience.</p> <p><b>Bad:</b> - A bit activist, too much criticism</p>	<p><b>Prizes:</b> The alternate reality game for Year Zero won several awards in 2008, including two in <b>Cannes</b>, the "Viral Marketing" Grand Prix and the <b>Silver Lion</b> in the "Integrated Campaign" category, two <b>Webby's People's Voice Award</b>, one in the "Stranded Content" category and the other in the "Integrated Campaigns" category and a Bronze at the <b>Clio Award</b>.</p> <p><a href="https://pt.wikipedia.org/wiki/Year_Zero">https://pt.wikipedia.org/wiki/Year_Zero</a></p> <p>Trent Reznor Year Zero Interview: <a href="https://www.youtube.com/watch?v=x8FXnur5Z4">https://www.youtube.com/watch?v=x8FXnur5Z4</a></p> <p>Nine Inch Nails   YEAR ZERO : Ep. 1: <a href="https://www.youtube.com/watch?v=VSGgDCvDXXA">https://www.youtube.com/watch?v=VSGgDCvDXXA</a></p> <p><a href="http://www.nin.wiki/Year_Zero">http://www.nin.wiki/Year_Zero</a></p> <p>An alternate reality game was constructed by Trent Reznor and Rob Sheridan, then run in partnership with and developed by 42 Entertainment to provide listeners with a greater understanding of the album's concept.</p>
4. Assassin's Creed	2007	Videogame series, 3 short films, a full-length action flick, multiple books, graphic novels	<p><b>General Plot:</b> These games allow you to play as the descendant of a secret group of assassins as you go back in time to save the world. The series consists of 17 different games that let you play during the renaissance, colonial times and other eras.</p> <p>The central premise involves itself from the rivalry between two ancestral secret societies: Assassins who desire peace through free will and the Templars, who have the same goal but through order</p> <p>Nintendo, Playstation, Windows,...</p>	<p>- Assassin's screed universe is build by eras. The games shows</p>	<p><a href="https://pt.wikipedia.org/wiki/Assassin's_Creed">https://pt.wikipedia.org/wiki/Assassin's_Creed</a></p> <p>one of the more popular video game franchises of all time</p> <p>Assassin's Creed - Guide to the Expanded Universe (Comics, Novels...) <a href="https://www.youtube.com/watch?v=waw5CPwUr4">https://www.youtube.com/watch?v=waw5CPwUr4</a></p>
5. FreakyLinks	2000-2001	American science fiction series that combined elements of horror, mystery and comedy ----- Website, Tv series,	<p><b>General Plot:</b> Derek Barnes runs the Freakylinks.com website, which he took over when his twin brother, Adam, committed suicide. The website is dedicated to uncovering the hidden and often dark and scary truths behind urban legends and the paranormal.</p> <p>Fans could actually visit the same website on their own computers to find hidden clues relating to the brother's disappearance.</p>	<p>- a bit confusing (filming scenes); - hand-held camera shots (same producer of Blair witch project, so same method used and other similarities) - tried to use all the visual horror tricks (atmospheric lighting, the weird close-ups, the slanted camera angles)</p>	<p><a href="https://en.wikipedia.org/wiki/FreakyLinks">https://en.wikipedia.org/wiki/FreakyLinks</a></p> <p>FOX created the television show FreakyLinks to capitalize on the popularity of The X-Files and aired the show in 2000.</p> <p><b>Generic 1st episode:</b> <a href="https://www.youtube.com/watch?v=Q2QLXUKOYk">https://www.youtube.com/watch?v=Q2QLXUKOYk</a></p> <p><b>Website of freakylinks:</b> <a href="http://www.haxan.com/archived/freakylinks/">http://www.haxan.com/archived/freakylinks/</a></p> 

6. Four walls	2017	Interactive web Documentary, Journalism, Activism	<p><b>1.What is it:</b> VRD</p> <p><b>2.How to play/watch:</b> Web Google Cardboard YouVisit App</p> <p><b>3.General plot:</b> Can click on different stories/videos about refugees at Syria</p>	<p><b>Graphics:</b> Always appear on the beginning of the videos this symbol indicating it's a 360° video (found important to give that feedback to the viewer)</p>  <p>There's also the information of how many videos you've watched from the total.</p>  <p><b>Titles:</b> Always appear on the beginning of each video you choose to play</p> <p><b>Good:</b> When you just hover the mouse on a video it starts playing automatically and you start hearing the sound of the video</p>  <p>But the video also starts playing on a kind of sphere in front of each face, what was not graphic appealing...anyway it triggers you to click on it to visualize the video on full-width.</p> <p><b>Narrator:</b> Some parts is a narrator outside the story sometimes it's the the interviewers that tell the story.</p>	<p>Link: <a href="https://www.rescue.org/four-walls">https://www.rescue.org/four-walls</a></p> <p>Essay of Narrator Rashida Jones: <a href="https://www.vanityfair.com/news/2016/10/rashida-jones-syrian-refugees">https://www.vanityfair.com/news/2016/10/rashida-jones-syrian-refugees</a></p> <p>They have an extra information part on the website: <a href="https://www.youvisit.com/fourwada/rescue/120074?tourid=tour1&amp;pl-v">https://www.youvisit.com/fourwada/rescue/120074?tourid=tour1&amp;pl-v</a></p> <p><b>Behind the scenes paper:</b> <a href="http://www.storybent.org/international-rescue-committee-used-virtual-reality-attract-donors/">http://www.storybent.org/international-rescue-committee-used-virtual-reality-attract-donors/</a></p>
7. The Lizzie Bennet Diaries	2012-2013	web series	<p><b>Platform:</b> Youtube</p> <p><b>General Plot:</b> comedy adapted from Jane Austen's book, Pride and Prejudice, in vlog format.</p> <p>Lizzie Bennet tells in vlog the trials and tribulations of her family life. As in Pride and Prejudice, Lizzie's mother is very anxious to marry her daughters with wealthy men. When wealthy medical student Bing Lee moves into the neighborhood and courts the eldest daughter Bennet, Jane, who changes the whole dynamics of the family. It's not long before the friend even richer than Bing and heir to an entertainment corporation, the mysterious Darcy, makes his way into the Bennet's life as well.</p> <p>The Lizzie Bennet Diaries is an inherently transmedia story, spanning multiple YouTube channels and a collection of in-world social-media accounts such that it becomes constraining to think of it in terms of "episodes."</p>	<p><b>Good:</b> -How they made people get involved into the characters decisions and events -Social media accounts of characters made fans get more involved into the story -It was a good/different adaptation of Jane Austen's Pride And Prejudice -It made people look interest for secondary characters also</p>	<p><b>Trailer:</b> <a href="https://www.youtube.com/watch?v=IQOPDSYr95k">https://www.youtube.com/watch?v=IQOPDSYr95k</a></p> <p><b>Prizes:</b> Primetime Emmy Award: Best Interactive Media - Original Interactive Program</p> <p><b>Paper:</b> A year with Lizzie: How transmedia storytelling brought Jane Austen into the 21st century, of Jennifer Rebecca Thompson <a href="https://honors.libraries.psu.edu/files/final_submissions/2077">https://honors.libraries.psu.edu/files/final_submissions/2077</a></p>
8. 18 Days in Egypt	2011	Participatory Documentary (Pop-up shops, videos, photos, Tweets, Social-Posts)	<p><b>General Plot:</b> An interactive crowd-sourced documentary project about the ongoing Egyptian revolution</p> <p>- As people didn't have money to afford sms's they putted pop-up shops on the cities and people went there to tell their stories - When you get context-rich material, the media will tell the story. The aim is also to highlight differences at various spots.</p> <p>Inspired by <b>Hypercities project at UCLA</b> (<a href="http://www.hypercities.com/">http://www.hypercities.com/</a>).</p>	<p><b>Good:</b> -Nice way to register together all the testimonials as in egypt (only 25% of people have internet access and very poor and stories happens on the streets) -As many people were registering the events with their own cell phones it was an interesting way to document things and put them together</p>	<p><a href="http://beta.18daysinegypt.com/">http://beta.18daysinegypt.com/</a></p> <p><a href="https://docubase.mit.edu/project/18-days-in-egypt/">https://docubase.mit.edu/project/18-days-in-egypt/</a></p> <p><a href="https://vimeo.com/35368376">https://vimeo.com/35368376</a></p> <p><a href="http://lamjan25.com/">http://lamjan25.com/</a></p> <p><b>Transmedia and cross media</b></p>
9. Highrise	2009	AN INTERACTIVE DOCUMENTARY  360° documentary, interactive web documentary, short videos, presentations, mobile productions, installations, films	<p><b>General Plot:</b> human experience in vertical suburbs around the world user-generated photos and stories</p> <p>multi-year documentary experiment</p>	<p>- kind of interactive storybook</p>	<p><a href="http://highrise.nfb.ca/">http://highrise.nfb.ca/</a></p> <p><b>Prizes:</b> 2013 Canadian Screen Award, the 2013 Canadian Urban Institute Urban Leadership Global City and Innovation Award, the 2011 International Digital Emmy for Non-Fiction, the 2010 Inaugural IDF-A Doolab Award for Digital Storytelling, and the 2011 Bakaf-orum Cross-Media Prize for Youth and Schools.</p> <p><a href="http://highrise.nfb.ca/about/">http://highrise.nfb.ca/about/</a></p>
10. World of Warcraft	2004	MMOG	<p><b>General Plot:</b> The computer games were the origin of the Warcraft universe, and continue to be its primary focus. Much has changed in the lore since Warcraft: Orcs &amp; Humans, with each new release greatly expanding the world and revisiting some of the past lore.</p> <p>Warcraft introduced the basic conflict between the orcs and humans, as well as the characters of Medivh, Llane, Garona, and Lothar.</p> <p>Warcraft II expanded the world beyond the continent of Azeroth to include Khaz Modan and Lordaeron. The dwarves, high elves, trolls, goblins, and Burning Legion were introduced, as well as a host of new characters.</p> <p>Warcraft III expanded the world yet again by introducing the continents of Kalimdor, Northrend, and Outland along with a mention of the mysterious land of Pandaria, a detailed backstory chronicling the creation of the world of Azeroth, and several new races including the night elves, the lauren, and the Scourge.</p> <p>World of Warcraft and its expansions has continued the trend by allowing the players to experience nigh all of the colossal world as no more than one of the many little players, as well as introducing a host of new creatures and characters</p>	<p>- The WoW universe is a very complex due to its massive types of media. It has books, comics, warcraft game (normal RPG game type), world of warcraft (the most played game, an MMORPG type) and going to the expaculations of the players. In my experience, many wow players and fans have the game due to its storyline/narrative. The based game storyline started with warcraft generaes where we have some social and communities events on the games where anybody knows well the "antagonists" behind the small stories that the game tells us, the Arthas or the lliad story are the most known by the fans for example. The books complements the story of the game giving the "extra" curiosities for the ones that want to know more about a character, an area, a city or even goods / semi-gods. When a new expansion came out, for WoW (the MMORPG), make the players expaculate what will be the story about and it has many paths to go with. The WoW universe is also adaptive to the modern world meaning that the game adapts not only on the gameplay but the story to justify your action showing to the old players a new points of view and opening a fresh new point in the narrative.</p>	<p>Franchise / Warcraft Expanded Universe: <a href="https://trises.org/mwsk/mwsk.php?Franchise/WarcraftExpandedUniverse">https://trises.org/mwsk/mwsk.php?Franchise/WarcraftExpandedUniverse</a> <a href="https://wow.gamepedia.com/Warcraft_universe">https://wow.gamepedia.com/Warcraft_universe</a></p>

VR Apps					
Name of the App	Year	Type	Summary Details	Personal Critique	Other Notes (links, images,...)
1. YouVisit App	2009	Library	Visiting places, locations around the world in 360° Create, Share, and Explore Interactive Virtual Reality	There are so many different categories to choose from: Real Estate, Travel, Restaurant, Most Popular, Live Events, College, Hotel, Business, Venue, Other  <b>Good:</b> - Find different videos on the same place to watch	<b>App Website:</b> <a href="https://www.youvisit.com/virtual-reality-apps/">https://www.youvisit.com/virtual-reality-apps/</a>  <b>Experiencing YouVisit App with Daydream:</b> <a href="https://www.youtube.com/watch?v=p7K2H8190A">https://www.youtube.com/watch?v=p7K2H8190A</a>  <a href="https://www.glassdoor.com/Reviews/YouVisit-Reviews-E691552.htm">https://www.glassdoor.com/Reviews/YouVisit-Reviews-E691552.htm</a>
2. VirtualSpeech	2017	VR scenarios and courses for individual and teams	VirtualSpeech's mission is to change soft skills training from passive listening to active practice. Our courses help people improve presentation skills, public speaking, networking, communication and other essential skills, through Immersive VR training.  The app has a host of different environments to choose from job interview to TED talk, and provides feedback on your performance, pointing out when you hesitate and showing eye contact heat maps. You can also load up slides to run through a presentation.	<b>Good:</b> -Use VR to help people training and improve their skills	<a href="https://virtualspeech.com/">https://virtualspeech.com/</a>  <a href="https://www.youtube.com/watch?time_continue=5&amp;v=LwgqYIqxD0M">https://www.youtube.com/watch?time_continue=5&amp;v=LwgqYIqxD0M</a>  <b>Journal interview:</b> <a href="https://www.youtube.com/watch?v=DodqyJ80Y0">https://www.youtube.com/watch?v=DodqyJ80Y0</a>  <b>Prize:</b> <a href="https://www.wbs.ac.uk/news/virtualspeech-app-wins-sophie-silicon-valley-spot/">https://www.wbs.ac.uk/news/virtualspeech-app-wins-sophie-silicon-valley-spot/</a>
3. Milk Vr App	2016	library of immersive videos	VR 360 player, allows you to upload, discover, search, download	<b>Good:</b> -users can watch VR content directly from their smartphone, even without a Gear VR strapped onto your head	<b>Review experiencing:</b> <a href="https://www.youtube.com/watch?v=dXt90E781F8">https://www.youtube.com/watch?v=dXt90E781F8</a>  Developed by Samsung  - doesn't support Cardboard playback
4. Minos Starfighter VR	2017	Game	Minos Starfighter is a first-person arcade space shooter built for virtual reality.	<b>Good:</b> -Great graphics  <b>Bad:</b> -Lack of story	built specifically for Google Cardboard type VR headsets and requires your phone is compatible with the Google Cardboard app  Orange Bridge Studios  <b>Experiencing with Cardboard:</b> <a href="https://www.youtube.com/watch?v=VRFRZYwpmI">https://www.youtube.com/watch?v=VRFRZYwpmI</a>  <a href="http://endspacevr.com/cardboard/">http://endspacevr.com/cardboard/</a>  - similar with a gear vr game named Anshar Wars
5. Jaunt VR	2015	360° Video Library	The Jaunt XR Platform is the definitive software solution for the cross-platform distribution of Immersive (VR, AR, and MR) content	<b>Good:</b> -the app puts you into the front row seat for all of its experiences -the camera placement makes you feel like you are right in the action or the scene - high quality footage so no immersion is lost -app is very easy to navigate and explore -incredibly wide variety of content to explore -Original content from Jaunt Studios specifically for VR storytelling	<a href="https://www.jauntvr.com/">https://www.jauntvr.com/</a>  <a href="https://www.youtube.com/watch?v=cF2McAIHb6A">https://www.youtube.com/watch?v=cF2McAIHb6A</a>  <b>Experiencing:</b> <a href="https://www.youtube.com/watch?v=LrsNmIOWm4">https://www.youtube.com/watch?v=LrsNmIOWm4</a>  <b>partnered with companies such as: Disney, Fox, ESPN, LucasFilms, Royal Caribbean,...</b>  <b>Videos from JauntVR</b> <a href="https://www.youtube.com/watch?time_continue=7&amp;v=g5ktqVXzk">https://www.youtube.com/watch?time_continue=7&amp;v=g5ktqVXzk</a> <a href="https://www.youtube.com/watch?v=DmSS3nHlU">https://www.youtube.com/watch?v=DmSS3nHlU</a>
6. VR Mojo Orbulus	2014	360° Video Library	App to publish Vr 360° Videos	offers you a virtual trek of sights and sounds from around the world. The app starts by displaying floating photo spheres, each one a gateway to a different destination. Look at a sphere that interests you, and you're transported to that place and event.	<b>Experiencing:</b> <a href="https://www.youtube.com/watch?v=L8b5ZHZ5YY">https://www.youtube.com/watch?v=L8b5ZHZ5YY</a>  <a href="https://www.vrcraftworks.com/orbulus/">https://www.vrcraftworks.com/orbulus/</a>  Studio: VRCraftworks Ltd Platform: Android
7. Samsung VR		360° Video Library	Library Player Create and share VR Required: Android 7.0 +	-different categories -can explore with different devices as samsung gear vr, oculus rift, oculus go, daydream	<a href="https://samsungvr.com/">https://samsungvr.com/</a>
8. Discovery VR	2015	Discovery Channel — IOS Android	Library of 360° videos filmed by the Discovery Channel	Just an app for watching the discovery channel videos in 360°... nothing away from that	<a href="https://www.discoveryvr.com/">https://www.discoveryvr.com/</a>  <b>Reviews:</b> <a href="https://www.youtube.com/watch?v=cESVAsj3e0">https://www.youtube.com/watch?v=cESVAsj3e0</a>  <a href="https://www.youtube.com/watch?v=1WQGB6APMFA">https://www.youtube.com/watch?v=1WQGB6APMFA</a>
9. InCell VR	2016	Game	<b>Devices:</b> iPhone, iPod Touch, iPad, Android  <b>General Plot:</b> It's the year 2134 in INCELL VR (CARDBOARD), and humans and robots have worked together to develop technology to shrink down to size to battle viruses that attack human cells. Your goal is to travel to the center of the cell – the nucleus – as fast as you can while pursued by the dreaded virus. To play the game, you race forward on a long path toward the center of the cell, dodging obstacles and collecting points along the way. The more you play, the more complex the game gets. You can race more effectively by choosing different organelles: Mitochondria produce energy for the cell and help you travel faster, while vesicles transport useful material and let you gather more bonus points along the way.	Kids won't learn much cell biology here, but the virtual world is gorgeous. In between races, it's worth taking the time to look up, down, and around at the brightly colored world inside the cell. It's also nice that InCell VR (Cardboard) works just as well with a VR viewer as with a device on its own. While the gameplay is fun, it can get a little repetitive. You can choose to add upgrades that make you faster or let you earn more points, but ultimately you're always just tilting and leaning to hurtle forward on a roller coaster through the cell. Also, though the organelles' abilities in the app mirror their real-life functions in the cell, there's no built-in explanation to help kids learn that information, so it's possible that kids will miss the science. Overall, this is an engrossing, speedy racing game for VR, and it's a good start for helping engage kids' imaginations about science and technology.	<b>Experiencing with cardboard:</b> <a href="https://www.youtube.com/watch?v=YEQw4IKYWRM">https://www.youtube.com/watch?v=YEQw4IKYWRM</a>  <b>App Review:</b> <a href="https://www.commonsensemedia.org/app-reviews/incell-vr-cardboard">https://www.commonsensemedia.org/app-reviews/incell-vr-cardboard</a>  <b>Skills:</b> Thinking & Reasoning: logic, solving puzzles, strategy, thinking critically

10. VR Street Jump	2015	Game	<p>A remake of the classic frog road jumping game in first person 3D virtual reality</p> 	<p><b>Good:</b> "Great concept. It's physically challenging to look both ways before crossing the road when you have no peripheral vision. You end up twisting your neck back and forth to make sure the road is clear before crossing, and you don't always see what hits you, but fun for a little while. It's the kind of game where a 3rd person perspective is kinda necessary"</p> <p><b>Bad:</b> "I had this app open and I configured it to my Cardboard V1 viewer. I then continued on to try to play it. When I used my Cardboard trigger to try to move, it did not work. I took my phone out of the headset and tapped the screen to play, and it worked like that, so I thought my Cardboard trigger was broken. When I tried it with the Cardboard app demos, however, it worked. This would be a great app, but it just doesn't work for Cardboard V1. Therefore, until this is fixed, it's a one-star rating."</p>	<p><b>Experiencing with cardboard:</b> <a href="https://www.youtube.com/watch?v=uHHz7vM88w">https://www.youtube.com/watch?v=uHHz7vM88w</a></p> <p><b>Reviews:</b> <a href="https://appgrooves.com/app/vr-street-jump-for-google-cardboard-by-denis-kropov/">https://appgrooves.com/app/vr-street-jump-for-google-cardboard-by-denis-kropov/</a></p> <p><b>ANDROID COMPATIBLE VR HEADSETS:</b> Google Cardboard VR Stocksy Durovis Dive Refugio 3D VRTX One ANTVR VR Smartview ColorCross VRTRIA FIBRUM VR Merge VR VR View-Master Nibiru</p> <p><b>IOS COMPATIBLE VR HEADSETS:</b> Google Cardboard Merge VR Stocksy Durovis Dive Refugio 3D VRTX One ANTVR VR Smartview ColorCross VRTRIA Nibiru</p>
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## Critical reviews of 360° documentaries:

Title/Link	Footage edition	Subtitles	Mix different types of media	Triggers to gain your attention	Characters introduction	Other
<p><b>Grenfell: Our Home</b>  <a href="https://www.youtube.com/watch?v=82ZaVqjmx84">https://www.youtube.com/watch?v=82ZaVqjmx84</a></p>	<p>1st Part - Before the fire event: Subtle transitions between scenes (eg. from first couple speaking to the second it's used the same background scene). Walls vanish to present the imaginary outside (eg. when a character says his apartment was on the 18th floor and you could see the view of London). Some transitions the screen gets black and a white line starts drawing the content (the apartment image), colouring the scene in a step by step mode (first sketch, then colour, then shadow/light, etc...).</p> <p>2nd Part - The fire event: Transitions with black screen and a slight white line outlining the ground. Characters appear and disappear more rapidly, each couple telling a sentence describing the fire events. Music changes to a sad classical melody. Add a subtitle echo to the characters voices while they're speaking.</p> <p>3rd part - The future: Screen gains colors again (just 3 colors... not colorful). Sound of birds at the final (portraying new beginning idea).</p> <p>*faded transitions</p>	<p>Name of characters appear behind them on the scene, sometimes at left, sometimes at right.</p> <p>Cast: Vertically, middle screen, static</p>	<p>They use vectorial drawing. They use a painting style with hues and saturated colors.</p> <p>Sometimes they used a rendered 3D animated style to portray the city life or the visual of the apartment inside.</p> <p>They use also in a scene a type of photography slide show.</p> <p>Music changes depending on the conversation and also in some scene transitions.</p>	<p>They put the characters speaking inside the apartments to make us move around and see if it corresponds to their descriptions.</p> <p>They use lines and vectorial drawing to draw the apartment parts making us keep focused on the scene to see the result.</p> <p>Constant movements of light/shadow while the transition on scene is occurring.</p> <p>They portray the city movement behind static scenes.</p> <p>Sometimes appear on the scene when they are talking about it - giving "form" to what we are imagining while listening the characters.</p> <p>The photographs are disposed in 360° making us move different directions to see them.</p>	<p>Through the different people speaking at the beginning of the video, giving an overall idea of the people that lived there.</p> <p>Characters are sited in the middle of an apartment talking about them and their expectations of the place.</p>	<p><a href="https://www.channel4.com/programmes/grenfell-our-home/articles/allabout-grenfell-our-home-5567">https://www.channel4.com/programmes/grenfell-our-home/articles/allabout-grenfell-our-home-5567</a></p>  
<p><b>Behind The Fence</b>  <a href="https://youtu.be/KOeFFymbMQ">https://youtu.be/KOeFFymbMQ</a></p>	<p>1st transition is from a black screen to the sky view of the place.</p> <p>Standard cuts between scenes.</p> <p>Music changes to a suspicious tone when the leader of the nationalist movement is talking.</p>	<p>The main title appears in a transition from the center to the edges, while it changes slightly from blurred to focused, and replicated in 360°.</p> <p>Other main titles appear in white with black background.</p> <p>Subtitles appear replicated in 360° views, color yellow, on top of the scenes (sometimes on top of people).</p>	<p>Multiple videos playing on the same scene.</p>	<p>Use color yellow on subtitles to make text more easy to read.</p> <p>They use an horizontal bar on the middle of the screen with different videos playing and we can move left/right to watch the video we want (good because you can see different things at the same time, choose what to watch; Bad because you have to divide your attention and cannot manage to see everything).</p> <p>They put the subtitles sometimes in different parts of the screen so we need to move on it to read it and see the other perspective of the scene.</p> <p>They put the action sometimes on the other part of the main screen to make the viewer switch the views.</p> <p>They use very low light when they show/film indoor scenes.</p>	<p>Characters are the narrators of their own stories.</p> <p>Sometimes they're introduce by the subtitles.</p>	<p>On top right appears the information that the video is a 360 and gives recommendations to a better experience.</p> 
<p><b>After Solitary</b>  <a href="https://youtu.be/G7_YGDh9Uc">https://youtu.be/G7_YGDh9Uc</a></p>	<p>Starts with black screen.</p> <p>Standard cut.</p> <p>The character image sometimes fade out from the scenes.</p>	<p>Subtitles with contextualizing text or narrating events/facts appear on the middle of scene in white.</p> <p>Main titles on the middle of the black screen in white.</p> <p>Cast: At the end on the middle of the screen vertically and replicated in each 180° views.</p>	<p>They use a holographic styled image of the character on the scenes.</p> <p>They put other video playing on top of a scene.</p> <p>They put photographs also dispersed on one's of the scenes.</p>	<p>Noises are correspondent to what character is describing.</p> <p>Events are narrated by text appearing disperse on the scene (eg. half of the text on the right side other half on the left side), that triggers the mouse movement through the scene.</p> <p>The holographic style of the character appearing and disappearing.</p> <p>They cover 180° of the scene with black color and pulled a surveillance video from the prison on top of the other 180° of the screen making us watch it.</p> <p>Sometimes they lower the scene light to increase the contrast between the scene and the white text of the subtitles to facilitate its reading.</p>	<p>Character is the narrator and introduces his own story.</p> <p>Also there's some contextualizing text that appears on the scene about the events on character's life.</p> <p>The holographic style of how the character is presented also correspond to the nervous person he is, how he speaks so fast and also I think it's an allusion to the "alucinators" that he went through solitary episode.</p>	<p><a href="https://www.pbs.org/vgbh/fronline/article/after-solitary/">https://www.pbs.org/vgbh/fronline/article/after-solitary/</a></p> 
<p><b>Damming The Nile</b>  <a href="https://youtu.be/Un0LWHH9CI">https://youtu.be/Un0LWHH9CI</a></p>	<p>Fade out/fade in (eg from the Earth image to the filmings of Nile River).</p> <p>Standard cuts.</p> <p>They start presenting the place on the Earth Globe, then they jump to the place they are documenting (Ethiopia) and them to the individual places on the country, until the point they show first the people waiting for the metro, then inside of it.</p> <p>To show what they usually eat they film the people eating on the restaurant while they are interviewing them.</p> <p>Issues hierarchy: They first start speaking about the religion, the constructions, the poverty, the gastronomy, the entertainment and the government opinion.</p>	<p>Subtitles are in white on the middle of the scenes (eg. name of the place).</p> <p>There's no subtitles with the name of minor places (just the contry or the river and more important places).</p> <p>There's no subtitles with the name of the people interviewed.</p>	<p>Music changes from left ear to right ear at the same time we move the mouse, as the sound also increases if experienced watching the video with headphones).</p>	<p>The journalist (that's also the narrator) starts walking on the scene and we need to move the mouse to follow him or see him stop on the other scene.</p> <p>When the journalist is speaking you can choose to move around and see what he's talking about or incorporate him on the scene to look at him speaking.</p>	<p>Has a narrator that introduces the theme of the documentary.</p> <p>The narrator (journalist) introduces the interviewed after starting the interview (in voice off).</p> <p>The journalist interview a politician and on the scene they are sited on the room and its able to see the other people on the room too.</p>	<p>Some hand-held camera angles.</p> <p>Air views.</p>
<p><b>The Protectors</b>  <a href="https://youtu.be/RuGeeGRdYIQ">https://youtu.be/RuGeeGRdYIQ</a></p>	<p>Standard transitions.</p> <p>Jump transitions (eg. from the military walking on the jungle to the military stopped; from the field to inside the helicopter).</p> <p>Fast speed scenes combined with normal speed ones.</p> <p>Transitions between more calm scenes to more tension/dramatic ones.</p> <p>As the theme is about military the majority of the scenes are passed on the jungle.</p>	<p>Subtitles appear in white color on the middle of the scene (sometimes replicated in 180° degrees, sometimes not).</p> <p>Sometimes they appear randomly on the scene/not at the same place/perspective).</p>	<p>Sound increases in more tension scenes (shot guns, runs...).</p>	<p>They show a part of a scene documenting an act to trigger the movement of the mouse to look for what's happening on the rest of the scene.</p> <p>They use the jungle sounds.</p> <p>Also they use shadows to trigger the movement on the views.</p> <p>Ground angle below the helicopter.</p>	<p>Characters are the narrators and they introduce themselves and the story.</p> <p>Subtitles introduce character names and what they are saying.</p>	

## Appendix G. User studies

### 1. Protocol

1-Welcome participants and give a brief introduction that explains the project and purpose of the study.

"Hi. We are Tânia and Sarah, and we are here today to introduce you to our master's project, to get your opinion on the prototype and how we can improve. So we want to thank you in advance for your time and availability!

You'll be able to test the Tell a Tail 360 experiment, which is a prototype of an animal welfare documentary at Madeira island.

For this, we will divide the class into 2 groups at random, and each group will see the documentary.

We want to hear your thoughts and criticisms that may be helpful to improve our work so each student will answer a short questionnaire before the documentary for us to understand what you know about the subject. Another at the end to find out how the experiment went and if you liked it. The answers are anonymous so we ask you to be as sincere as you can to know where we can improve. In the end, we will request some participants to answer 2 or 3 questions to understand in more detail what your experience with the prototype was like.

During the experience, we will be watching you from a distance, and we will not be able to answer your questions."

2-Deliver questionnaires to participants before experience

"As we cannot keep your data we will give you a random number which you can then put in the questionnaires."

3-Begin the experiment briefly explain how they should handle the equipment.

To those who will be using HMD (2), explaining one at a time:

"You have to adjust the virtual reality glasses and focal length here. In the first scene, you will see a button to get started. They have to use the command to select the button by clicking the back key. The remaining keys will be explained in the tutorial."

For the participant trying out the web version (1):

“Click here to start watching the documentary. In the beginning, there is a brief tutorial that explains what commands you can use. ”

#### 4-Observation Process

Record the user number to identify in the written notes.

Observation Sheet:

- Facial and body expressions
- Comment keywords during the experiment and at the end
- Demonstrated / Visible Difficulties
- Did you ask for help during the experiment? How many times? Because?

5-After the experiment: submit the questionnaires for evaluation. Remember to use the same assigned numbers.

“Now, we would like you to complete this questionnaire to learn more about how to run the experiment and remember to use the same number as you were assigned.”

6-In the end: thank you for your participation.

“Thank you once again for your participation.”

7-Do informal interviews.

Select 2-3 people from each group to conduct informal interviews. Questions:

- What is your general opinion about the technology used in the documentary?
- What were the most considerable difficulties you encountered in this experiment?
- In what matters has this experience contributed to feeling more informed/aware of the “animal cause”?
- How do you think we could make this experience better?

## 2. User Study Questionnaires

### 2.1. Questionnaires before the experience

#### Tell a Tail 360 (Antes)

Este formulário serve apenas para obter informações gerais sobre os utilizadores para dados estatísticos. As tuas respostas são anónimas.

\*Obrigatório

1. Que número te foi atribuído? \*

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2. Idade \*

---

3. Género \*

Marcar apenas uma oval.

F  
 M

Tens algum animal de estimação?



Sim



Não

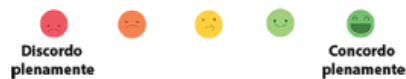
Opinião geral sobre o bem-estar dos animais.

Opinião sobre as ações tomadas em benefício e defesa dos animais.

"Tenho interesse pelo bem-estar dos animais e os assuntos relacionados com este problema."



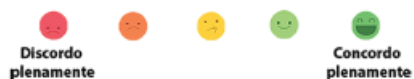
"Os animais de estimação são como objetos, para estarem em casa a fazerem-nos companhia."



"Devemos levar os animais ao veterinário apenas quando ficam doentes."



"A população da ilha da Madeira está bem informada sobre o bem-estar dos animais."



4. Quais as associações que conheces que trabalham em prol da "causa animal"? \*

---

"Já considerei ser voluntário numa associação."



Na tua escola já participaste em alguma ação de sensibilização sobre o bem-estar dos animais?



Já visitaste algum canil?

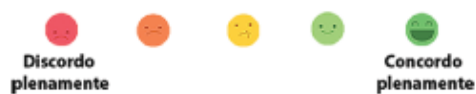


### Realidade Virtual e Documentários

Alguma vez experimentaste realidade virtual?



"Tenho interesse por esta tecnologia."



5. Costumas ver documentários... \*

*Marcar apenas uma oval.*

- Não costumo ver documentários.
- Tv
- Internet
- Outras: \_\_\_\_\_

Obrigado pelas tuas respostas!

## 2.2. Post-questionnaires

### Tell a Tail 360 (Depois)

Avaliação da experiência.

\*Obrigatório

1. Que número te foi atribuído? \*

"A tecnologia usada no documentário foi importante para cativar a minha atenção pelo tema abordado."



"Os temas escolhidos foram apropriados."



"Acho que o duração do documentário é apropriada."



"Após esta experiência, a minha opinião anterior sobre a causa animal mudou."



"Depois de ver o documentário, fiquei mais interessado(a) em visitar um canil."



Para ti o que mais te marcou na experiência foi...



Veterinário



Resgate



Gatil



Canil

---

Outro(s)

"Repetiria a experiência!"



"Após a experiência, senti-me motivado(a) a pesquisar mais sobre os assuntos e os cães que aparecem no documentário."



"Após esta experiência senti-me motivado a ser voluntário(a) numa associação."



"Poder escolher qual o caminho a seguir dentro do documentário tornou a minha experiência mais marcante."



O que senti mais dificuldade foi...



**Compreender o tutorial**



**Ler os textos**



**Os pontos interativos**



**Compreender os Diálogos**

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**Outro(s)**

Sentis-te alguma indisposição física durante a experiência?



**Sim**



**Não**

Obrigado pelas tuas respostas e pela participação!

# A Nossa Universidade

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