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Enhancing Cultural Heritage of a Region Through Visual and Auditory Engagement in a Video Mapping Projection

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Abstract

New media, such as projections using the video mapping technique, are increasingly used in public spectacles, attracting many viewers. However, most video mapping spectacles are highly focused on special effects and visual appeal, rarely focusing on the visual narrative with the aim of communicating and diffusing historical knowledge. Interested in the unexplored potential of using this technique, the project was established for the development of an audiovisual production for a video mapping projection that took place in May 2019, as part of the NMSPCAM project. The current article reveals the research and consequent method for storytelling and communicating cultural heritage, in the real context of the project. Starting by analyzing cases of relevant audiovisual productions and immersive exhibitions, the video mapping technique is studied on its ability to convey facts and information, exploring its potential to discover and enhance culture to a wider audience.

The present article investigates the narrative facet of the production using the results of the NMSPCAM project's audiovisual production as example. The visual narrative, as a central topic, is explored on the different facets of production, from the medium, to the character design, historical elements and sound design. Thus, it was observable that the use of the video mapping technique, in conjunction with a properly constructed visual narrative, was a contribution to communicate and transmit historical knowledge and invited the audience to observe it with a new understanding and interpretation.

Keywords: *Video Mapping Technique, New Media, Audiovisual Production, Visual Narrative, Cultural Heritage.*

1. Introduction

The most common usage of the video mapping technique is of visual effects and can also be used into the art of visual narrative. This equally signifies the spectacles typically do not intend on communicating historical facts. However, that potential can be presented in a visual production for a large audience, especially in the case of video mapping technique, which augments by the participation of the historical building projected on. Aware of that untapped potential, the present project set on developing an audiovisual production with the main goal of innovating in by communicating and transmitting historical knowledge.

The present article shows the technical steps and tasks accomplished in order to use the video mapping technique. By using this technique to transmit information, specifically historical facts and cultural heritage, the project proposes the use of video mapping technique as more than a spectacle of visual effect, becoming a participant and enhancer of storytelling and communication of history.

The present article focuses on the possibilities of video mapping technique for cultural and historical learning enhancement, starting by. The potential of a historical-based visual narrative was explored in the real context of the project by the development of an audiovisual production, projected with video

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mapping technique at Antigos Paços do Concelho, on May 2019, titled “Viana do Castelo: Uma Viagem no Tempo”, showcasing the local history of Viana do Castelo.

The NMSPCAM project (meaning *Novos Media ao Serviço do Património Cultural do Alto Minho*) emerges by discussing and by analyzing the investigation results, revealing the future possibilities of video mapping technique and its usage in enhancing cultural heritage and learning of local history. The article culminates by revealing the steps taken during the production, focusing on the attention on conveyed historical accuracy and cultural significance of the final result.

The article is divided in two main chapters: The first chapter studies the video mapping technique, analyzing cases of previously audiovisual productions. The examples were selected by their intent on historical display, studying their ability to convey facts and information. Secondly, it is explored the potential of using video mapping technique to discover and enhance culture to a wider audience.

The final chapter focuses on the audiovisual production of the project NMSPCAM, starting by the location choice, the historical study performed and explaining how historical accuracy was maintained. After explaining the choice of animation technique suited for the project’s goals, the article dwells on the narrative aspect of the production. The visual narrative, as a central topic, is explored on the different facets of production, from the medium, to the character design, historical elements and sound design, using the results of the NMSPCAM project’s audiovisual production as example.

2. The Video Mapping Technique

To construct a base of knowledge regarding the uses of video mapping technique (Faria, Cardoso & Morais, 2019; Faria *et al.*, 2019), a set of previous cases where analyzed according to the following subjects:

- How complex is the building where the projection will take place;
- Which solutions to its complexity where implemented;
- What were the audiovisual techniques employed;
- What kind of narrative is explored;
- Which historical facts will be used.

2.1. Uses of Video Mapping Technique on Visual Enhancement

Video mapping projection technique is commonly used for visual effects. Exploring the surfaces of buildings is a strong characteristic of the technique and being the focus of the productions, centered in special effects and visual appeal (Yoo & Kim, 2014).

Figure 1. Projection "Caras de Lisboa".

An example of that style of production is the video mapped projection "As Caras de Lisboa", produced by Bridge and directed by Grampa's Lab, projected on Terreiro do Paço during August 2016 (Grandpa's Lab, n.d.). From Figure 1 it is possible to observe how the features of the building are interpreted visually, communicating with a linear concept, in a manner of optical illusions with interesting and attractive results.

On the other hand, although the visual field is full of possibilities when it comes to explore visual narratives, they are often absent. These spectacles may not be focused on knowledge transmission, even if potent with graphic appeal and visual cues for historical details. There is a clear reference to Fado iconography, such as the Portuguese guitar and decorated shawls. Instead of exploring these important elements of cultural heritage, the audience receives a quick and momentary visual reference.

It is undeniable the visual communication of these imageries, specially considering the repeated presence on tourist-oriented venues, however, they may seem a faded remembrance of the rich musical artform. Believing these are possibilities, and considering the absence of such cases, the present project set on developing an audiovisual production to be projected by using the video mapping technique, to communicate and transmit historical knowledge.

2.2. Historical Adaptation for Video Mapped Projections

In the example shown in Figure 2, the building projected on was large and complex, with multiple arches, windows, sculptures, details and a tall opening in the center.

Figure 2. Projection "Terreiro do Paço - A Nossa Praça", Lisbon on August 2013.

To solve its complexity, the arches were usually avoided. The most important actions occur in the center, where the flattest area was located. The narrative was visual, without a narrator, and with historical purposes. Portraying historical events, such as the Discoveries Age, the narrative was simplified to its main elements: a map, a caravel in the ocean, and an explorer. Later, the explorer jumps into the caravel and sails away, fighting strong winds in the harsh ocean. After a quick flash, the scenario appears filled with a tapestry texture and the name “Vasco da Gama” in a typography mimicking Sanskrit.

The simplification helped to convey the message directly by focusing on the topic. The same concept was applied in the example of Figure 3. To represent the beatification of Saint Isidore, a chariot carrying a golden casket is surrounded by angels. On both sides, the text “Beatificación San Isidro” (beatification of Saint Isidore) could be read, describing the event portraited.

Both examples attempt to explore the possibilities of using the video mapping technique for a historical setting. However, it is important to note that these examples appear to not attempt to teach or educate, but instead to evoke a known fact. For instance, in the example on Figure 3, by using the elements and assets referred, it evokes the known fact that an explorer sailed in a caravel across the sea, whose name was Vasco da Gama, and therefore we know they refer to

the discovery of India by Vasco da Gama. The destination is also evoked by the decoration and the typography.

Figure 3. Projection "IV Centenario de la Plaza Mayor de Madrid", Madrid on 17th February 2017.

However, if anyone in the audience had not learnt that historical fact previously, then they most likely would not learn it in this occasion either. Considering that perspective, by reanalyzing the moment of discovery of India, we can exercise other possible misinterpretations: the map is centered on the north of Africa and, since does not change to show the location of India, the correct destination remains out of view. There are other elements indicative of India, but still not identifying enough to properly transmit the information. For example, the textures used are also common across the middle east and not particular to India. If not knowing Vasco da Gama and his achievements, the audience were unlikely to assume he discovered India in particular. Therefore, although the information is attainable by a knowledgeable audience, an unknowing viewer might remain unaware of the relevant historical moment. The narrative could be constructed to dwell deeper into the historical facts. By doing so, it could be possible to communicate and educate the audience. An example of that possibility can be observed on the video mapped projection at Byblos-Jbail, July 2013, projected on the ruins of the medieval citadel to celebrate the 8000 years of recorded history (Studio Mr.White, n.d.). In between the multiple visual effects there are occasions where historical facts are properly represented (Figure 4).

Figure 4. Projection "Byblos Projection Mapping".

Here, a set of stone slabs drag on the surface of the building while, on the side of the pedestal, the years pass. Each slab, which portraits a different stage of history with cultural representations, is then pushed out of the pedestal into the water bellow, representing the fall of each civilization's presence in Lebanon. The possibilities of digital technologies, such as video mapping projections, can become a medium to connect the historical facts and the location. Therefore, it becomes a path linking the local and visiting community to understand the relevance of the site while enhancing cultural knowledge and education.

2.3. Video Mapping Technology Applied for Cultural Engagement

During the celebrations of Festas de Lisboa on 13 of July 2019, at the Museu Arpad Szenes-Vieira da Silva, a video mapped projection anticipates the opening of the temporary exhibition Vieira da Silva: Exposição Imersiva à Obra da Artista. The video mapped projection and the consequent immersive exhibition were produced by Oscar&Gaspar, celebrating the artist's work and immersing the viewer on her works (Oskar&Gaspar, n.d.).

The video mapped projection allowed the audience to experience the artworks of Maria Helena Viera da Silva. As seen in Figure 5, the spectacle of textures, colors and movement accentuates the envisioned works by the artist. The video was accompanied by a musical soundtrack by Rodrigo Leão, especially composed for the project to explore the abstraction experienced by the Viera da Silva's artworks.

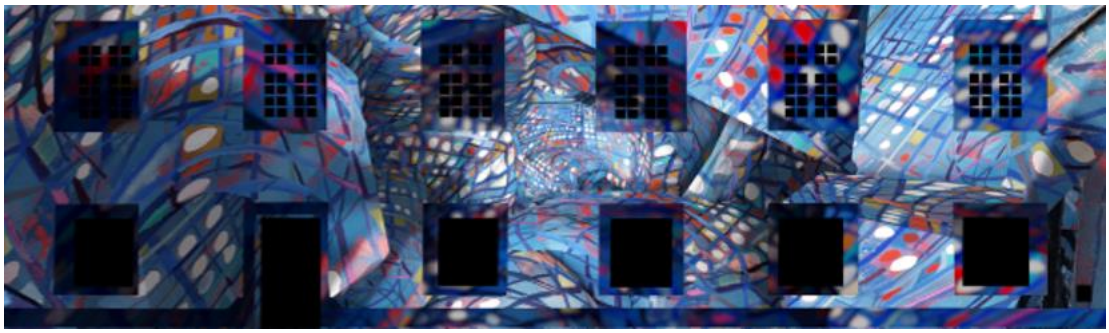

Figure 5. Projection "Video Mapping com obras de Vieira da Silva".

When projected on the building, the abstract shapes morph and contort to fit the architectural details, such as the existing windows, doorframes and frontal details. The same could be experienced when analyzing the original artworks, such as in Figure 6 "Paris de Noite" (1951). On that painting, Viera da Silva explored the architectural impression of Paris during the night, where the consequent abstraction imprints the observer with a unique experience of colors and light, almost absent of form and body. In that sense, the video mapping projection technique allows the viewer to further explore the artist's process. By providing a new architectural surface to replicate the progression of abstraction while retaining the intense participation of light and

color, the process of video mapped projection provides the audience with a new understanding of the artist's artworks and career.

Figure 6. "Paris de Noite", 1951. Maria Helena Vieira da Silva. Oil on canvas (54 x 73 cm).

The relevance of video mapping technology when enhancing culture to a wider audience can be further analyzed by the case of Atelier des Lumières, the first center dedicated to digital art in Paris since April 2018. Produced by Culturespaces, the Atelier des Lumières focuses on "immersive and monumental exhibitions", by using 140 video-projectors and 50 speakers to project over 3000 images of artworks in a space of 2000 m2 with walls up to 10 meters high (Atelier des Lumières, n.d.).

Figure 7. Immersive exhibitions "Gustav Klimt" (left) and "Van Gogh" (right), 2018. Atelier des Lumières.

The importance of the Atelier des Lumières on the topic of cultural legacy expands to the exhibition site itself, born from the restoration of the nineteenth century heritage site of the

Plichon iron foundry. After the restoration, the foundry becomes the site for these immersive exhibitions and an essential part of the artistic experience with its monumental architecture and original metal structure. Covering the space with these images, the viewer can “enter” the artworks, experiencing them in an active role. Because of the light process used, the viewer physically participates on the video projections by moving on the space, by interfering with the projections, and by contributing to other viewers’ perception. As explained by the artistic director, "the use of the newest and most advanced multimedia and interactivity technologies allows to create an ‘interactive environment’ in which the spectator can move freely, changing their own perception of the artwork.” (Gianfranco Iannuzzi, n.d.).

These digital experiences do not attempt to exclude or substitute the audience’s experience with the artworks. As well, they are not a “translation” to the twenty-first century. Instead, they function as a dynamic path of dissemination, inviting the audience to observe the artworks with a new understanding and interpretation.

2.4. Recovery of Cultural Heritage

After the fire only the walls remained, as seen in Figure 8, leaving the empty husk of the original building and a void on cultural heritage of archeological discoveries. Regardless of the tremendous loss, there is a possibility of recovery.

Figure 8. The National Museum of Brazil after the fire of September 2018.

The twenty million artifacts lost cannot be fully recovered (Escobar, 2018), neither the possibility of archeological analysis for future discoveries. However, the experience they provided to the public could be simulated. Among the debris of the tragedy, around two thousand individual artifacts were recovered which, along with the existing records, could be joined in a multimedia experience. These could include video mapped projections on the empty walls of the museum, simulated projections on the surviving yet charred artifacts, and virtual-reality views of the original museum.

Much like the digital experiences of the Atelier des Lumières, these experiments will not substitute the artifacts lost during the fire, however, they may provide a closing gap to recover some of the cultural heritage lost. The same can be applied when recovering other cultural heritage, such as legends, tales, historical events and traditions, where the digital medium such as video mapped projections can provide an enhanced and participating form of interaction.

3. The NMSPCAM Project

Digital technologies, such as video mapped projections, can transform the viewer's perception of history and cultural heritage. By allowing an interaction on a historical surface and with the audience's natural motion, video mapped projection recovers them and exhibits them to a wider audience. To reflect and explore those possibilities, the project NMSPCAM project (Alto Minho Cultural Heritage Supported by New Media) proposed to develop an audiovisual production for a video mapping projection featuring the city of Viana do Castelo. The motive for focusing the project on Viana do Castelo, and consequent importance of the project, is revealed by considering the long and rich history of the city, and how it is mostly unknown to the local community. The goals of that production can be summarized as the following:

- Acquire a set of skills and knowledge about the video mapping technique;
- Investigate the potentialities of using the video mapping technique in a historical-based visual narrative;
- Develop an audiovisual production that seeks to transmit knowledge about the cultural heritage of Viana do Castelo.

3.1. Choosing a Historical and Culturally Significant Location

One of the first steps to develop an audiovisual production using the video mapping technique is to choose the location of the event and respective hosting building, which will serve as the surface where the video will be projected on. The choice was made by the team of researchers, along with the team of specialists in education and tourism and the representatives of the town hall, guided by experienced technicians of the projection company. A selection was made by analyzing the options along a few key characteristics: i) long presence and history in the city; ii) details and interesting features; iii) cannot be too dark or too simple; iv) located at the historical center; v) space for the projection setup; vi) capacity for the audience. The location chosen to

host the video mapping projection was the Antigos Paços do Concelho, situated in Praça da República of Viana do Castelo, shown in Figure 9.

Figure 9. Antigos Paços do Concelho.

The building was the town hall for centuries since the year 1500. It features strong granite walls, Romanic arches, balconies and stone detailing. The front façade of the building was divided according to its flatness and three-dimensionality. These could mean distortive areas or interesting details, depending on its usage (Table 1).

Table 1. Division and Surface Area usage.

Flat or Two-Dimensional Areas	Volumetric or Three-Dimensional Areas
Main action	Visual effects
Characters and objects	Overlapping objects
Scenario details	Interacting with the details or three-dimensional surface
Different levels can be used as different planes	Avoid characters and other detailed elements to prevent distortion

3.2. Research for a Historical and Cultural Audiovisual Production

Since the main objective of the video mapping project is to teach the local community about its cultural heritage, the step necessary to develop a narrative fit for the goals of the project was to embark on historical and cultural research.

As the production will feature historical facts and cultural heritage of Viana do Castelo, a Historic Setting study was performed to choose the most relevant and important events, personalities, monuments, legends, stories, etc. The study was performed by a team of

specialists in the fields of education and tourism, which provided the researchers with material to study the city and guided the development of the visual narrative (Scott, 2002).

In turn, the project's researchers performed a State of Art and Case Studies analyzing for:

- Projections using the video mapping technique;
- Audiovisual productions focused on teaching historical facts and/or cultural heritage;
- Existing references and imagery of each historical fact and era.

To inspire and study the city, the team of researchers executed field research excursions. These also provided for content, both visual and non-visual historical records used during the phases of production. The outcome comprised of diverse records and techniques, such as photography, voice, sound and video recordings, but also sketches, annotations, conversation maps and even watercolors. The purpose of these were to document the first impressions of the researchers, but also provide material to be used later.

3.3. Production with Historical Accuracy

The most important moments of the story were local legends, divided by five eras, chosen by the education and tourism team, developed and adapted by the researchers into a visual-based narrative. Representative artistic mediums were also gathered in those eras. Some were characteristic, commonly used at the time; others were unique examples of artistic expression and cultural significance. The remaining details and historic details were accumulated during the production, chosen according whether it fits visually and/or follows the narrative. These details were not initially chosen by the education and tourism team but developed organically during the multiple stages of production. Therefore, these resulting elements, such as concept art, illustrations, developed narrative, animation and final result of the entire production were continuously approved by the education and tourism team for historical accuracy.

3.4 The Animation Technique

The demands of a narrative-based video mapping production require a choice in the animation technique to best suit its needs. To select the animation technique, the researchers considered:

- Time efficient, as dozens of characters and animated assets will be necessary for multiple scenes and scenarios;
- Flexible to be adapted to varied characters;
- Executable in the production timeframe and schedule.

Analyzing the multiple animation technique possible, a table was organized (Table 2).

Table 2. Animation Technique Differences

PROS	CONS
Frame-by-frame or hand-drawn 2D	

Recognizable as quality animation Flexible to vary the position and details during production May become a visually appealing result	Each character and asset is redrawn in every frame Requires a high proficiency and years of specialization Main changes during the entire production (ex: change hair color) are not efficient May not be executable in the available time
2D Cutout in Computer-Assisted Animation (CAA)	
Easily adapted into different characters. Not as skill demanding as frame-by-frame Main changes during the production are possible	May look too rigid or too flat For different positions is necessary different cutouts Complex to move in three-dimensions
3D or Computer-Generated Imagery (CGI)	
Availability of multiple tools to speed the rigging, texturing, animating and effects Most main changes are particularly simple (ex: change hair color) Can be used with the 3D model of the building, simulating directly on it	Individual and dedicated rigging for each character Extra work to complete the scenario and lighting Demands multiple skills, such as animating, texturing, modeling, lighting, etc. Prone to heavy system requirement

The chosen main technique was the cutout animation in Computer-Assisted Animation or CAA. Nevertheless, during the production, some elements were animated using the other techniques, whenever the main technique was not enough to achieve the requirements. Animation production has multiple stages, from character and asset animation to visual effects. The animated elements require adaptation, not only to be projected with the video mapping technique, but to the selected animation technique. To ensure each character can be properly animated, a matrix was developed. The matrix used allowed to animate every character with complex movements, summarized in Figure 10: Rigging matrix used for the cutout technique (left), an adapted character (center) and a limb as example (right) showcasing the rounded ends and markings of rotation and anchoring. Each articulation should be tested during the adaptation, to ensure no flaws or weaknesses occur later.

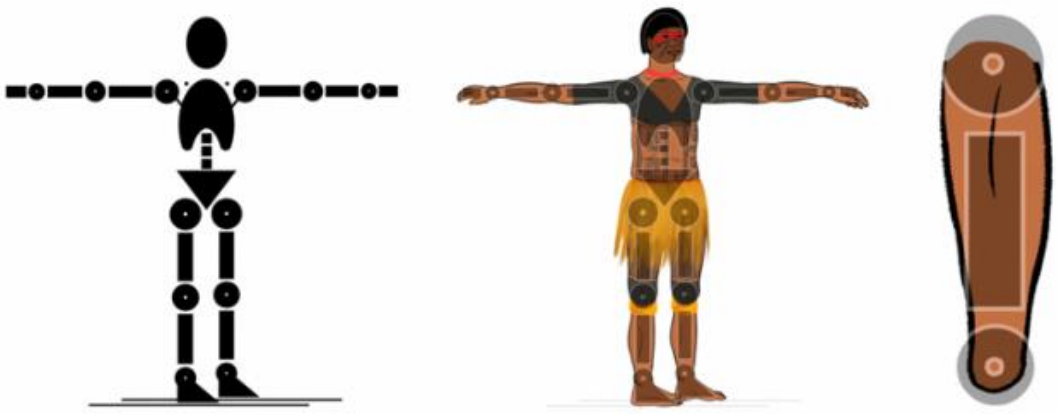

Figure 10. Animation matrix used to adapt illustrations.

The visual effects were produced during both production and post-production. Because they were used during the video mapping to give more impact, or to highlight certain elements from

the scene or from building (such as the windows, arches, balconies, etc.), the production of visual effects was continuous.

Figure 11. Accentuating linear visual effects.

In the example of Figure 11, by applying lines to the building's features, its three-dimensionality is enhanced. This is a common use of video mapping, which the researchers applied to the projected material (such as the projected characters, assets, scenario elements, etc), enhancing them visually.

3.5 The Importance of Medium on the Visual Narrative

The duration of the production was set to 15 minutes which, considering the amount of history to be told, directed the narrative to concentrate on developed visual cues and composition (Hart, 2008). This resulted in a narrative converging to its visual descriptions, and less dependent on the narrator. The narrator's role was to ensure the clarity of the facts, and to voice the characters, making its arrangement one of the last tasks. The production, as would be seen by multiple people, from children, to locals and foreigners (unlikely that all speak the same language) meant the narrator's participation was intended to be limited. Since the success of the project was dependent on its ability to transmit local history, and oral communication could be inadequate, the use of visual storytelling was imperative in preparation of a narrative for a larger audience (Kosara & MacKinlay, 2013). Considering the project's narrative focuses on transmitting local history and culture, where in each historical era multiple artistic mediums occur, the medium used for the visual production can be perceived as an indirect form of conveying information.

Figure 12. Scenario in Azulejo.

In the example on Figure 12, the time-period of the scene was the sixteenth and seventeenth centuries where, on the city of Viana do Castelo, occurred a growth in the use of tiling, particularly blue and white azulejo[1], to decorate churches and houses (Almeida, 2009). To accentuate that, the stone building was simulated as if decorated in azulejo, using the tiles from Igreja da Misericórdia. As well, other religious icons and gilded decorations from the same church provided three-dimensional elements, but also deepened the cultural connection, since they were also equally valuable and present. By using the specific mediums for that time-period, the viewer is engaged with an underlying communication and cultural association.

3.6. Historical-Based Character Design

The space available and the determined duration are limited on video mapped projections (Ekim, 2011). Therefore, each element present was important and designed to fit the narrative and navigate the viewer during the story. One of such cases was the representation of Decimus Junius Brutus Callaicus, seen in Figure 13. The Consul was the main character for one of the narrative's tales and its design was essential.

[1] Azulejo is a portuguese word meaning ceramic tile.

Figure 13. Representation of Decimus Junius Brutus Callaicus.

A good example of the impression related with the tale is the tapestry by Almada de Negreiros, in Figure 14. This artwork was analyzed along with other historical records such as sculptures, frescoes and mosaics of the roman empire period, as to guide the design of each soldier and main character, detailing on the armory accordingly (Bishop & Coulston, 2006).

Figure 14. Tapestry by Almada de Negreiros (1957).

In a sense, every historical element on a historical-based visual narrative with set limitations is a crucial character to convey such information. As Withrow (2009) refers, a character has a function in a storytelling and all the elements must work to serve a story in a unified design.

3.7. Portraying Historical Elements

Objects need a development according to the narrative in as much attention as a “living” or “human” character. One of the time-periods on the narrative was the Age of Discoveries. Serving as a shipyard with a long mercantile history, the locals of Viana do Castelo participated as shipbuilders, traders, merchants and sailors. One of those sailors became a relevant person, and his history was portrayed on the narrative.

The map used as setting to tell the development of the Age of Discoveries was the Cantino Planisphere, seen in Figure 15, which is the earliest surviving nautical chart of the Portuguese geographical discoveries. It is important to note that the use of maps on a video mapping projection is highly inadvisable, since the combination of the projectors and the building’s surface may remove the necessary details and information, which prevents the understanding of the image. To circumvent that problem, a solution was devised with cinematic movement and film shots (Rall, 2017), guiding the viewer’s gaze to where the action occurs on the large surface, negating the blurring effect of maps.

Figure 15. Planisphere of Cantino (1502).

The historical elements used should be, when possible, opted from already existing and relevant items. The case in Figure 16 is an example of that option, where the architectural characteristics of the hosting building were transformed into the decorative style. Window frames and balconies were transformed into the Manueline style, developed prominently in the city of Viana do Castelo. To perform that transformation, the windows in Manuelino style from the city

were projected on the building. The windows were chosen according to their historical and cultural significance, representing the progress of the late gothic style from left to right.

Figure 16. Scenario in Manuelino Style.

To properly convey the underlying information, such as the time-period portrayed and its correlation with the rule of D. Manuel I and maritime expansion, the connecting scene shows the arrival of the king visiting the city, who orders the constriction of the shipyard, maritime defenses and the start of the Age of Discoveries sailed on the Cantino Planisphere chart.

3.8. Engagement by Involving the Community

The creation of the project stems from how unknowledgeable the community was about their city's rich history. Therefore, an important topic left to approach was to directly involve the community with the project.

- Simple and easily recognizable story;
- Flexible representation, possible to be drawn by anyone;
- Popular and traditional, transmitted through generations.

The chosen topic was one of the most popular subjects, which was the story surrounding the name of the city of Viana do Castelo. The tale is commonly told in schools and by elderly family members, becoming a familiar part of the city and, therefore, connecting the audience with the production on an essential level. Elementary school children were asked to draw their own version of the story. Afterwards, the researchers used some of those drawing to build the animation. Since the narrator would focus on narrating the story portrayed, the visual cues would need to guide the viewer to understand, not only the story, but also who participated to create it.

To communicate the children's participation and involvement, the scenario transformed. The transformation, seen in Figure 17, begun by decorating the building with school supplies such as pencils, rulers, desks and crayons. Subsequently, the used drawings of the children fell from the top of the building, crossing the entire scenario. Finally, the scenario darkened, guiding the viewer to look at the arches, where the story unveiled as a puppet theatre.

Figure 17. Transformation of the scenario.

The actual story surrounding the name of Viana do Castelo is a play on words. A young man, usually a sailor or fisherman, falls in love with a girl named Ana and, whenever he saw her, he would declare "Vi a Ana" (I saw Ana). By the natural flexibility of languages, the expression reduced to "Viana", the name of the city. With the interest to convey visually as much as possible, the researchers attempted to transform the word during the play, as seen in Figure 18, where the speech-bubble dropped the "A" by sliding the central slab.

Figure 18. Speech-bubble.

The animation style mimicked puppetry as to represent the folkloric and traditional facet of the story, pretending the theatre was being performed at that moment, on the small stage inside the building's arches. This allowed to use the children's drawings organically, serving as background, character or secondary element, exemplified in Figure 19. As well, the puppet show was an added three-dimensional element, which displays well using the video mapped technique and avoided the flatness of the drawings while keeping their essence.

Figure 19. Puppets and animated drawings.

By involving the community, they recover a part of their history and culture, engaging them with curiosity for cultural projects and for exploring their own city. From their direct involvement, the children gain a new perspective on their drawings and use of creativity. They can recognize the landmarks and are now informed on their historical facts, which may spark further discoveries.

3.9. Dichotomy of Visual Narrative versus Narrated Communication

The sound design is one of the last items to add. The audiovisual production, as would be seen by multiple people, from children, to locals and foreigners (unlikely that all speak the same language), the narrator's participation was intended to be limited. Since the success of the project was dependent on its capacity to transmit local history, and oral communication could be inadequate, the use of visual storytelling was imperative in preparation of a narrative for a larger audience. However, it would be a generalization and misinterpretation of the complex dichotomy. Beauchamp (2005) refers that the importance of a good sound design is reflected throughout the production, because any type of sound is allowed to influence the animation creatively at all phases of production. The musical chord for the children's story must reflect their innocence and appeal to the familiar comfort. The medieval music accompanying the arrival of the king serves as an ambience and as a communication cue for the time-period. That logic applies to foley sounds, be it simply steps, the sound of waves or murmur of a crowd.

Even the narrator, who's presence would seem a contradiction on a project based on visual narrative, or a useless noise for a multilingual audience. In fact, the narrator serves a purpose that goes beyond that of simple narration. They may recite the story to the visually impaired, clarify details or proclaim facts, and even become an element of sound design itself. How the narrator declaims and recites, the theatrical tone, the dramatic voice and the occasional silence,

all are perceptible to anyone of any language, meaning their participation contributes to the sound design. These appeal to the deeper emotions, adding another connecting vector between the audience and history.

4. Conclusion

The unexplored potential of using the video mapping technique to communicate and transmit historical knowledge originated the present project's aim to develop an audiovisual production. By tapping on the unexplored potential of using the video mapping technique on an audiovisual production, the project developed a visual narrative focusing on communicating local historical and cultural information of the city of Viana do Castelo. Considering limitations and possibilities alike, the narrative was adapted to fit the specialization of the digital technique. The potential of a historical-based visual narrative was explored in the real context of the project by the development of an audiovisual production, projected with video mapping technique at Antigos Paços do Concelho, on May 2019, titled "Viana do Castelo: Uma Viagem no Tempo", showcasing the local history of Viana do Castelo. The possibilities of digital technologies, such as video mapping projections, can become a medium to connect the historical facts and the location. Therefore, it becomes a path linking the local and visiting community to understand the relevance of the site while enhancing cultural knowledge and education. With the ability to function as a dynamic path of dissemination, the use of the video mapping technique, in conjunction with a properly constructed visual narrative, invites the audience to observe with a new understanding and interpretation.

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