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**LIGHT AND LEGEND**

**Report**

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## **Resum**

“Light and legend” és un treball basat en les vídeo projeccions. La representació d’una llegenda tradicional amb un format actualitzat i modern. S’ha volgut treballar un tipus de mapping projectat sobre una superfície plana, on els efectes i les animacions facin canviar la percepció visual de l’espectador. El treball amb 3D i 2D són claus per crear la sensació de profunditat en una superfície on no n’hi ha. A més a més del producte final, aquest treball també ha servit per assolir uns coneixements audiovisuals i tècnics que fins al moment no tenia.

## **Resumen**

“Light and legend” es un trabajo basado en las video proyecciones. La representación de una leyenda traicional con un formato actualizado y moderno. Se ha querido trabajar un tipo de mapping proyectado sobre una superficie llana, donde los efectos y las animaciones hagan cambiar la percepción visual del espectador. El trabajo con el 3D y el 2D són claves para crear la sensación de profundidad dónde no la hay. A parte del producto, éste también se ha utilizado para alcanzar unos conocimientos audiovisuales y técnicos que no tenia hasta el momento.

## **Abstract**

“Light and legend” is a project about the video projections. The representation of a traditional legend with an updated and modern format. It has sought to work a type of mapping projected on a flat surface, where the effects and animations make the visual perception of the viewer change. Working with 3D and 2D is the key to create a sense of depth in an area where there is not. Besides the final product, this work has also been useful for me to achieve an audiovisual and technical knowledge that up to the moment I did not had.



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## Terms Glossary

3D	Three dimensions
2D	Two dimensions
VJ	Video jockey
BOE	“Boletín Oficial del Estado”
XGA	Extended Graphics Array
VGA	Video Graphics Array
SVGA	Super VGA
LCD	Liquid Control Display
DLP	Digital Light Processing
HD	High-Definition
TV	Television
AE	After Effects



## **Introduction**

In this report you will be able to find the steps that have been carried out to develop a different audiovisual project based on the mapping, a new emergent technique that is changing the concept of projections up until now.

What you will subsequently read about is an innovative way of explaining a traditional story. A legend explained with 2D and 3D animations, synchronized with music and voice. It will be projected over a flat surface that will acquire movement and volume, and it will change the visual perception of the viewer about this static element.

Another aim of this work is to show the evolution of the knowledge that I have acquired along this year. It has been an individual project, in which I have done a process of self-learning through courses, through Internet and in the street.

The errors and impediments that have been found, have improved and matured this work. On the other hand, these have helped me developing creativity and creating an audiovisual product different to those we are used to see.



# 1. Aims

The main objective of this work is to create an audiovisual show based on video projections and the mapping technique. We want the viewer to have the impression of seeing a surface that moves around and has depth, when, in fact, the surface will still be flat. It is about of changing the visual perception of the people through the effects, the music and the light that will be projected.

The purpose of this project is to develop individually an audiovisual content from the preproduction, passing through the production and the postproduction, to be able to end up distributing this product where people ask for it.

The goal I want to achieve with this product is the one of creating a video showing the assembly of the project set, the realization of 2D and 3D animations and the final product that will be projected. In this way the distribution will be much more practical and effective to share through social networks.

My prior scope is to learn new techniques and improve my present knowledge. I expect to use new software's and to develop new audiovisual techniques I have never worked with until now, such as *mapping*. For this reason one of the main purposes of using this technique is of knowing it, working on it, exploring it and deepening into up to the point of dominating it and being able to work in this audiovisual field in the future.



## **2. Overall conception**

### **2.1 Mapping technique**

Video projections are video signals that are projected on a surface. If we evolve and project different content than the actual until now (films, presentations, conferences...) and project something adapted to the structure, we will get to give temporally to something a new life. That is mapping.

Mapping born for the new technologies, the computers, the new projectors, the evolution of the software, Internet and of course, by the society. They are the bases of video projections development.

Every time there are more people interested in being introduced or improving their knowledge about projections and it's because of that step-by-step we will know more this technique that we can see in a lot of applications.

This is one of the reasons for which it has kept and society inserted it herself. The fact of being able to create, produce a different audio-visual or multimedia and feel like artists, has made that conscious or not, we are surrounded with every type of video projections.

The part of projections that has stood out, for the moment, is the VJ (Video Jockeys). People that play with light, doing real artistic creations. They appear for first time at 1981 as announcers of a program featuring music videos. At present they are knew as an artist who creates and mixes video live and synchronizing it to music. They are audiovisual and multimedia artists.

#### **2.1.1 Background**

We could say that the origins of musical video projections are in the dance halls of the eighties. It was here when the image started to be mixed with the sound. People was choosing the music, named DJ (DisckJoqueys), created loops of images (random or not) and had to sync them with the audio, in such a way that generated some contents that

went in accordance with music. It creates a spectacular effect by the age. They were DJ and were in charged playing live video.

This technique has kept on improving along years and every day it has evolved more, already not only for environments of discotheques, but also in many type of shows.

At the end of 70' born the electronic music, which opens a new way in the 'House' music. There was the need to have new visual experiences, beyond the music. In this moment the 'figure' of VJ was born. First VJ's appear at the end of 70' at New York, in the Peppermint Lounge Club, a place destined to the development of the video art and performances. It was the ordinary headquarter of this new one that was based on reinforce visually Trance, House and Techno music, among others, to fill in the emptiness that there was on stage for the moment.

VJ culture has evolved. At the end of 20<sup>th</sup> century society wanted to experience, to create contents related with cinema, architecture, music, design, improvisation, creation and the digital art. Later on this culture was also known with the name of 've-je', 'vijing' or 'vi-ji', and they helped to develop the elements of the audio-visuals live performances.

At any rate, the term VJ means "presenter of videos in the chains of musical videos" and they act as disk jockey. MTV (Music Television) was the main promoter thanks to having a programming based on video clips that had to be showed to give more rhythm and dynamism.

Some of the most respected VJs: The Light Surgeons, Actop, D-Fuse, UVA, 8gg, Elliott Earls, Coldcut/Hexstatic, Visual Kitchen, AntiVJ, and a large etcetera. [1]

### **2.1.3 Actual situation**

At present video projections are a very widespread technique. Firstly were only on the cinemas, presentations or any other show that needed to project a video or image, but now has appeared the VJ culture, people that plays with light and visual arts. We can mainly find them in discotheques, clubs or concerts where they working making live performances.

They are people who works with a computer and some visual content synchronized with the music, in such a way that when we it is project, the images move around in the same rhythm than the music.

This technique has kept on improving along the years thanks to the technological evolution and the society needs. They do not only projects in musical spaces, but can find in every type of spaces like theatres, shows, sculptures, museums, music festivals and other electronic music events, over people or cars or any other elements which until now we could not imagine. In this way, the creativity has been developed and we can achieve to product works of art only playing with light, sound, a basis and imagination.

This has made that other demonstrations related with performances have appeared, like *live art*—in a space of art to make a session of VJ, where it will also be instructive-, *live painting*—improvisational performance art, in which artists complete a visual art piece in a public performance—, *live performance* —project which it can be represented like an act that it is part of an exhibition of art's works-. And *live cinema* —That one that is represented in cinemas—[2]

The audiovisual performances and live cinema find in a new electronic culture and in the new media art. The VJ culture represents a new production technique, of a video creation in time with the realization and mixture of the contents at real time. Moreover, there is a big community behind this technique. People that want to grow, to be formed, to create, to improve and to become a name in the VJing's world and Internet. New technologies have been the fundamental root of all this development. [3]

## 2.3 Target

The target of this project is mainly young, age among 12-30. The content is suitable for children as well as for youngsters since the story is about a legend that year after year it has kept on transforming on a tradition. That is why the public objective main audience, regarding the content, is for all ages. On the subject of the format, it is more pleasant for the young public; due to fresh it is newer and modern. Although effects, animation and images have an adult look, the style of the characters has been designed in such a way that they were like drawings for children, with the aesthetics of puppets.

The music is also an element to distinguish the public. It has a marked rhythm, but in some points it bring us a sensation of fantasy, for the high-pitched tones that it has. Therefore, this is another factor that remarks us that the target is generally youngster, but without discarding other ages.

## **3. Idea development and references**

### **3.1 Origins of the project**

When I had to choose the idea of the project I knew I would not choose to make a documentary, a report or a short film, for example. I wanted a new thing, creating something out of scratch. I had no doubts about the technique I would use, that is, the animation, and therefore I should create the entire environment myself.

The previous months to start it, I happened to meet with people that had experience with the video projection technique called mapping. I did not know what it was exactly, or how it worked, and it was interesting. I was motivated by the fact of playing with the visual perception, creating effects, playing with the light and music and transmitting emotions to the viewers either live or in a video watched from the computer. This first contact was enough to decide which way would my project follow, and then I only had to choose its subject.

I made a research on Internet to know more about this world, to take references, to get deeper on the technique, etc. I noticed that the majority of the mappings were created by random effects synchronized with music as a base. I wanted to make something similar but instead of creating different effects, I wanted to explain a story to by using visual cues full of meaning. In this moment I had the idea to explain a children tale or legend adapting it to an adult or young public, since the technique requires so.

When choosing the subject for the mapping, Several ideas came out. I could create an own story or use an existing tale that was minimally known. Several ideas came to my mind: 'Three Little Pigs', 'The Cinderella' or the "Legend of Saint George". I finally chose this last one.

The reason is very simple, Saint George is the Patron Saint of Catalunya, as well as in England, and I thought it could be a good link to connect both cultures, since I do the project in English. In this way, I can influence to a much wider audience. On the other hand, the popular culture has always been interesting for me and carrying out a project with these characteristics, combining both my interests and motivations, seemed fair enough to start developing the whole project. [4]

Regarding the name of the project, “Light and legend”, it represents with two words all you can see in it. The light is the basis of the product. To make a mapping it is necessary to use a projector which sheds a light that remains over the corresponding surface. The word “legend” symbolizes what has been explained above. The content. The story. Therefore, after thinking about it carefully and discarding other alternative titles, I decided that it was the suitable one.

## **3.2 Synopsis**

In Catalonia, in particular, every 23rd April the day of Saint George is celebrated. Traditionally it is the day of the book and the day of the lovers, as ‘Saint Valentine’s Day’. To celebrate it, men give a rose to women, and women give a book to men. This has its origin in the legend, which is really popular as I explained at the previous point.

“Light and legend” pretends to be a representation of this tradition, it wants to show, in an innovation way, this story that people have kept explaining along years and that it is important in several places of the world.

The script is the story of a town, which live with complete calmness. Their inhabitants are in the service of the king and the princess, who live in the main house of the village. The calm finished when a dragon destroyed everything it came across, it ate the animals, it burned the crops of the villagers, lands and houses, and it invaded all of, the inhabitants with fear.

They attempted to find a solution to the problem, and the king decided that every day they had to bring a different animal to the cave of the dragon in order to keep it far away, but, on day they ran out of animals. They needed another solution and it was to raffle every day a different person of the village to make the same process. The problem came when the person chosen was the princess. The villagers were displaced, but they had to act in the same way than with the rest of people, so they brought her to the cave, but when the dragon was nearly going to eat her a knight appeared with a horse towards there. He came to save the village, to kill the dragon and to free the princess from that beast. The knight, named George, stuck a lance to the dragon, and from the blood of the dragon a bush of res roses was grown. George took one and gave it to the princess.

Everybody was very grateful with him and to celebrate it people gave him some books as a sign of gratitude. This was the beginning of what would end up being a tradition, year after year, every 23<sup>rd</sup> April, the boys give a rose to the girls, and the girls present a book to the boys. It is the day of lovers and also the day of the book. [5]

This is the basis I followed to start working with the story. On the other hand, I also wrote a longer version, as you can see in the annexes, and afterwards, some graphical outlines to be able to start with the visual part (Annex 1).

### **3.3 Trailer**

After writing the story, the next step was to transform it into images. I began designing a trailer, which would be the presentation of the project.

Firstly, the idea of my trailer was to show what I would make in my final project, the video projection, the projector, and some scenes of the story and some effects. This however, in that moment was complicated, since for making it, I had to have very clear the basis where the project would be, which effects it would create, etc., and it was my first mapping, I could not describe all these characteristics with accuracy yet, I needed an experience that I did not have yet. So I decided to show the story only; I made a trailer of the content and forgot the most technical aspects that I would already show later on.

The next step was to create a storyboard of the most representative moments of Saint George story. I made two versions, the first one with the images of each scene (Annex 2.1), without using the general stage that I would take into account. In the second version, I already took into account all the space that I would use, as if it was seen from the eye of the projector (Annex 2.2).

One of the points to take into account is that the story was already created, therefore, what I only had to do was to adapt all this legend to an own personal style and to give life to it.

### **3.4 Animatic**

To give life to the storyboard I had to place all these drawings I had made in a program that animated them, and besides, I could add voiceover and some background music. This program is “Toomboom” [6], and it allows animating an images sequence to preview the final result. The movements of the camera can also be added and the timing of each scene, therefore, is used to have a quite solid idea of what and how will be our final project. [7]

By the same way I did it with the trailer, I also made two versions of the animatic. One, with the individual images of each scene, and the second one, with all the stage that I would use and drawing over it. In the following images you can see both versions mentioned.

Finally I created an animatic of the entire production (Annex 2.3)and then, with the correct basis, the final storyboard (Annex 2.4)

### **3.5 General structure. Ideas evolution**

The majority of projections are made over a buildings or static surfaces that have relief, in this way, afterwards we will be able to work over this form and modify it, so that seems to have a different aspect than the real one.

#### **3.5.1 First idea**

The first idea was to project over a surface that had volume, but a volume created by me. As I explained next (3.6.1 General references), one of my main references has been a book made with the pop-up technique. I wanted to follow this technique and to create the different scenes of the story with this style, using papers and cardboards. I also wanted to play with the thickness of these cardboards to make the impression of more or less transparency where it was convenient. By doing so, I was be able to give an added value to the projection.

After taking a course of mapping and seeing which were the secrets of that, my plans of pre-production changed slightly. It was the first time I worked this technique; therefore, I did not have experience, so I decided to follow another way and make the expectations a little bit simpler. At any rate, the objectives were being the same, I only modified the format.

### 3.5.2 Second idea

The second idea was to focus on another mapping style. The fact that I did not have an own projector and therefore I had to hire one or move around in some other place to project, made me change the idea I had formerly. The aim was to work with a flat surface and to search the depth in a place. Which in fact is flat, that means that means that from the flat surface objects kept on coming out, and that flat images could move around. The reason why most people work with 3D, lights and shadows is to create objects and effects that the viewer will perceive as real, as if they came out of the flat surface. Appart from that, some audio component as the music or voices, which are synchronized with images.

In this surface it is where I had to represent the three main spaces that I will detail in the next selection (point 3.7 locations)... The objective was to divide this panel in three parts, in such a way that the three scenes were seen different. The main reference I took was a television programme about an interview between two people. The stage's background was formed by three panels that were modified according to the subject of the conversation, and the effects that it transmitted were awesome.

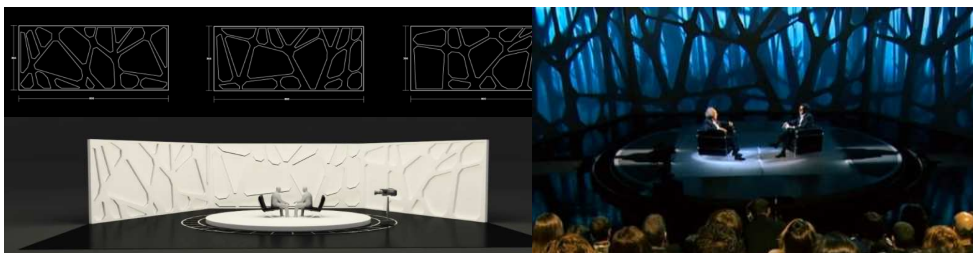
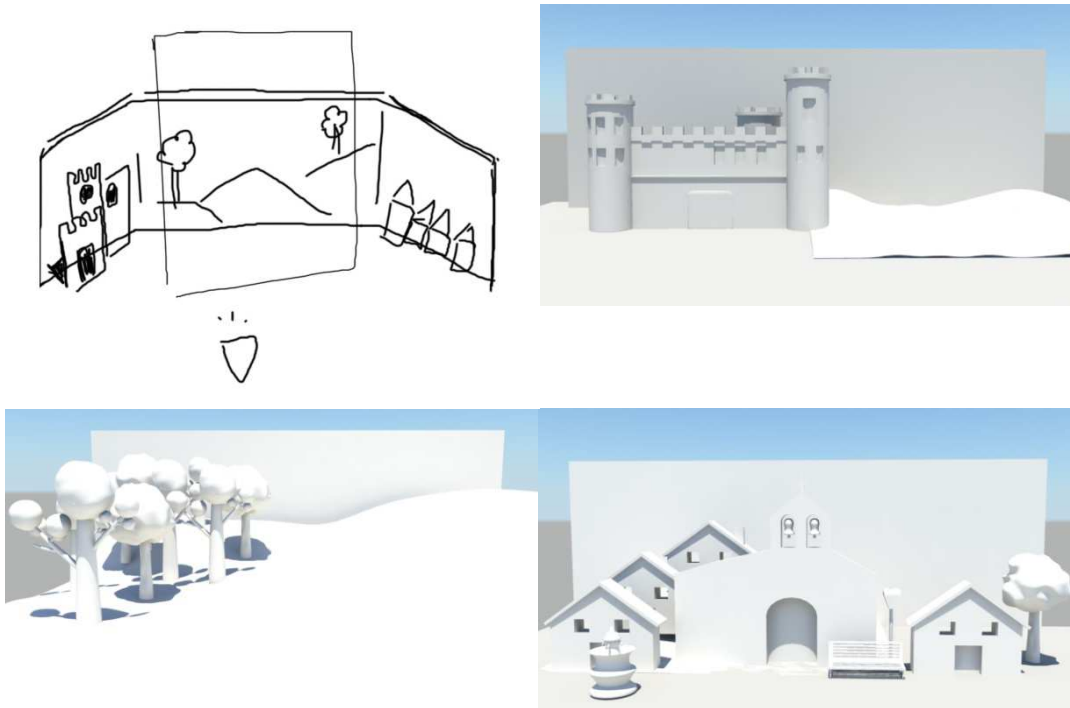


Fig 3.1 “Com va la vida”

This mapping was created by Telenoika, a specialized group in mappings. Mapping for tv show. This had a duration of two sessions during two days and the interviewed was Eduard Punset, lawyer, economist and scientist. The subjects were various, therefore,

the material to project had to be a wide range of visual content. The inconvenience of this reference was that it needed three projectors, since the panels were not in a straight line but they formed something like a “U” shape, and they therefore used different angle that could not cover with only one projector, as it had thought firstly. The next images



show the first drafts done in 3D of what they would be. They are divided into three parts according to the three panels that there would be.

You can see more images at (Annex 3)

### 3.5.3 Third idea

My third idea came out from this part. This would use a projector, and besides also only a flat surface. Without any change of angle that required more than one focus of light. But, in this moment, I had to change a bit the stage design and therefore merge the three main elements in only one space. For this reason, one of the changes that I decided to make was to use a panoramic format to be able to place all the buildings, mountains, and the cave, and at the same time to be able to find a perspective that joined all these items for me. Further on, I will develop more this idea with the corresponding outlines. (point 4.2.1 Stage). I show you a first outline in 3D of the base I would use to start to work.

Fig 3.2 Three panels and draft

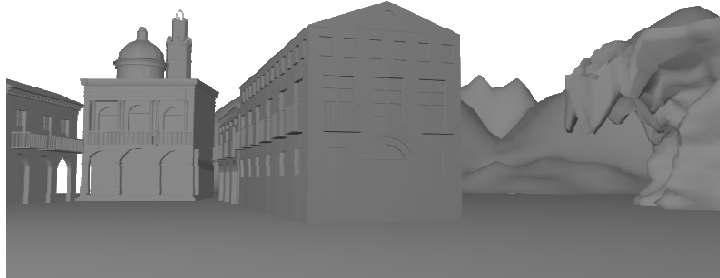


Fig 3.3 First 3D model

## **3.6. Aesthetic and visual references**

### **3.6.1 General references**

The video projections and mapping, in general, are used in shows, presentations, discotheques, any kind of important events, etc. They bring an interesting, outstanding and spectacular visual addition [8]. Many of them, however, are only video effects and light projected on a surface. For example the next photography's about an Audiovisual performance done in New Songdo City, in South Korea. This is made by AntiVJ. [9]. These are mappings projected on buildings and they play with the light and shadows to transmit the sensation that the building moves around, that it has life.



Fig 3.4. Audiovisual performance. New Songdo City

But I wanted to go beyond, to explain a story with 3D and 2D animations, but acquiring the disposition of video projection that the mappings have. That is, I also wanted to play with the forms, the shadows and light, but at the same time I also wanted to work with real buildings, created by me, the changes between the day and the night, and the characters animations. Creating a story from the images, as if it was an animation short but bringing this added value as the projection is.

Some example of explaining stories projected on a surface and with animations could be the following images from a video. A mapping projected on the State Capital of West Virginia to celebrate West Virginia's 150c on June 22nd 2013. Here images of the history of West Virginia, appear, and it is a live production produced by Monster Media 3D. [10]



Fig 3.5 Mapping West Virginia

Another of the most important references I have had in this work has been the work done by Davy and Kristin McGuire, story named 'The Icebook' which works with the technique of pop-up cut-outs and video projections. It is a wonderful performance, a work of fantasy. The story is projected over a book that represents a theatre made by paper. The light plays an important role [11].

There are many other artists dedicated to this technique. AntiVJ have been one of the most representatives and that has served as main reference to me. They are a group of



Fig 3.6 The icebook

people dedicated to create audiovisual projections. They have an appealed length and have projected on a large diversity of surfaces. Their mappings are of high quality, for this reason they are one of the referents and better known names. [12]

### 3.6.2 Mapping over a flat surface

Formerly I have explained the evolution of the three ideas that I had to carry out my project (point 3.5 General structure. Evolution of the ideas). The one that finally I chose was the last one, using a flat surface. In this case the 3D effects have to be worked very well so that is not a normal projection of 2D videos. For his, is added a very distinctive element that brings him some extraordinary characteristics. It is the case to follow with a line the edges of the static elements that will turn up on stage. In this ways what we

achieve is to stand out the objects and then to get a volume that of the other one way we could not perceive. In order to understand it better, I show you next three examples that describe this technique very well.

In the first case, we see a flat surface where the limits of the forms have been followed afterwards to project on with several lightings, in this way a depth sensation that really is not there is given it. The fundamental question in this case is to create all figures that we will draw in 3D, like this we achieve the effect that we are searching and transmit these sensations. [13]

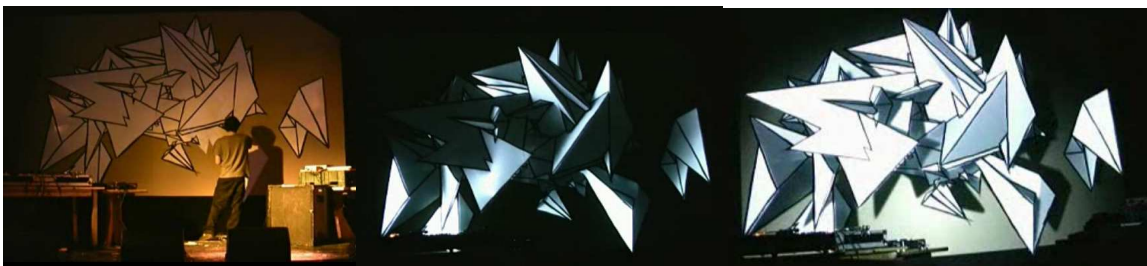


Fig 3.7 “Despertares”. Light Painting

The following cases have been designed by the group “AntiVJ” and have used also this technique with some spectacular results. The first images refers to a video where is showing a city projected and they appear keep on following the limits of the buildings little by little, in this way it can be seen clearly the optic effect that it provides, since the process of the change is seen. They are mixing drawing with 3D animations in order to reach a result that would go beyond a realistic environment. [14]

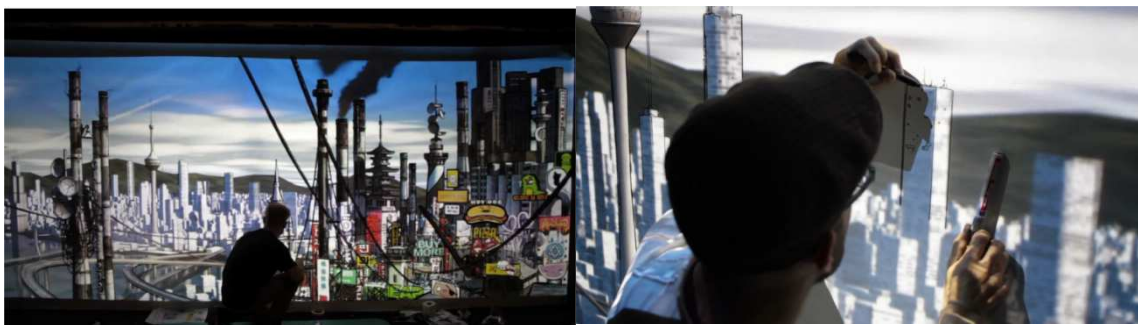


Fig 3.8 Cityscape 2095

Next images refers to a mapping inspired in the volcano Eyjafjallajökull, which erupted into Iceland. It is a stage of two panels, in which there is great amount of lines that represent the 3D mesh of the volcano. It is a technique that adds depth to a flat area and plays around with visual perception. [15]

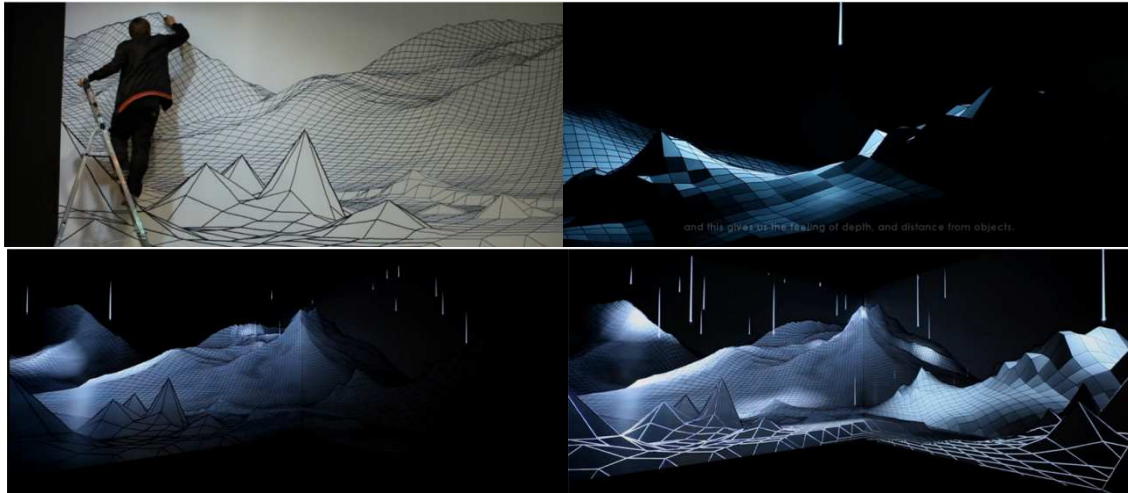


Fig 3.9 Eyjafjallajökull video projection

### 3.7 Locations

In this project is explained the legend of Saint George, three different main scenes can be distinguished there. One is the village, the other one the castle and finally the cave. For this reason, the main idea was to divide these three parts in a visible way.

In the village it is where on the day on day and the evolution of the town that receives the unpleasant visit of a dragon are represented. The people, their behaviour, and we see so the passage of time. This is represented by the shadows that are caused of the natural light on the buildings during the day or night.

The castle is one of the most relevant points. It is where live the king and his daughter, the princess, and it is one of the important points in this story, since they take away the most important decisions that make the story evolve.

The cave is where the dragon lives. Where it spends the nights and where it is preparing itself to attack to the town. On the other hand, it is where it take away the preys for eating them, animals or persons, and one of the most important actions happening is the

appearance of Saint George and the moment when he saves the princess of the dragon, and on the rebound, to all the people.

The legend of Saint George is a much known story that is why I had to differentiate it somehow, to give it an added value, to personalize it. I was thinking on changing some part of the story, to modify it, but finally I decided that what would change would be the aspect. I wanted to relate it with my village, Capellades. I made this inspiring in some buildings that there are, as the church, the town council, the cave or the paper mill museum. These were elements which I wanted to stand out somehow, and it seemed right to me to add them in my project.

The relations of the real elements with my idea were the following ones:

The town. There are some different buildings; the most important ones are the **church** and the **town council**. I mixed them in order to create the final facade of my Saint George's legend.



Fig 3.10 Castle references

There is also the **cave** that represents the house of the dragon. In my town there is an archaeological Palaeolithic Park. Every summer some excavations to know more about where our ancestors lived (the Neanderthals) take place. This cliff was shaped by the flow of water which created this form over the stone that I can use as the house of the dragon. [16]



This building is the **Paper Mill - Museum**. It is an important element of the town. Actually the manufacture or the handmade paper is explained there and it can still be seen how it is made. It is much known for the amount of the schools and families that visit it. This is the reason why I thought it was important to be added into the scene. [17]



The buildings of the “El Poble Espanyol” of Barcelona have been also useful as inspiration for me. All of these make the rest of the buildings that appear in the project. It is explained that the legend of Saint George was from the medieval age and these buildings seemed a good reference to me to represent it. On the other hand, they have also been useful to me as help to draw the correct perspective of the town and the buildings around them.



Fig 3.11 Cave and buildings references

In this outline in 3D that formerly I had already shown you (point 3.5 General structure. Ideas evolution), it is made a relation of the real buildings with what afterwards I have drawn for setting oneself the town where all the action took place.

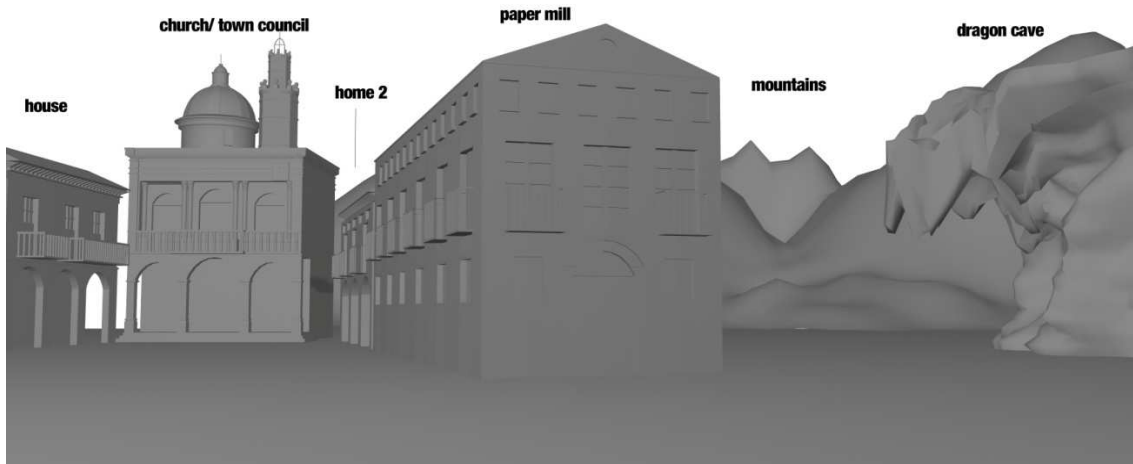


Fig 3.12 Base relations

## **4. Preproduction process**

### **4.1 Idea**

The main idea about this project was to make a video projection on a flat surface, playing with the visual perception and giving depth to an area where there is not. The final result, however, is a video that will summarize this project and at the same time, the video projection will be able to visualize, too.

### **4.2 Equipment**

The necessary equipment is quite extense, since is necessary elements to make the projection, but the recording of the video and edition of all process has also to keep in mind at the same time. In the following points is explained step by step all the equipment and the use of this, as well as also the changes that have been able to be made to improve the process that I thought initially.

#### **4.2.1 Stage evolution**

As it explained (point 3.5.3 Third idea), finally I used a flat surface, in which I would project some visual content that later it would reinforce painting some lines on the main elements that appeared, in this way, to change the visual perception and to bring a fourth dimension that bring us closer to the reality, as what we see it had depth and therefore, palpable.

The first drafts I made have ended up being quite different to the final result. The main elements of the story appeared there, but with different aspect.

This would be the first used basis. It was used initially to create the first storyboard and the animatic of the trailer. It can be seen how there is still the castle and it is far from the village, or as the cave it is also shown in a background. These points, however, I modified afterwards when I decided that the division of the stage would be different, one beside the other one and not superimposed.



Fig 4.1 Base I

Moreover, I would also change the aspect of the houses and I would inspire in my village (point 3.7 Locations).

So, the second version was already carried out thinking in the people and with this different disposition. In a beginning it was complicate to fins the correct perspective, since there had to be a lot of depth and the different spaces had to be coordinated good, I had to find an harmonic environment among the three parts (mountains, cave and village). What I made was to search an image of reference, which already had a marked perspective, and from here, drew my idea.

It is also necessary to highlight that the vanishing point of the drawings falls directly on one of the element that have more importance, the building that represents the castle where the king and the princess lives. It is because of that that I have focused on the main point on this zone, to be able to stand out it more. (a)

The next step was to transform this draft with a 3D model, in order to be able to work there over. (b)

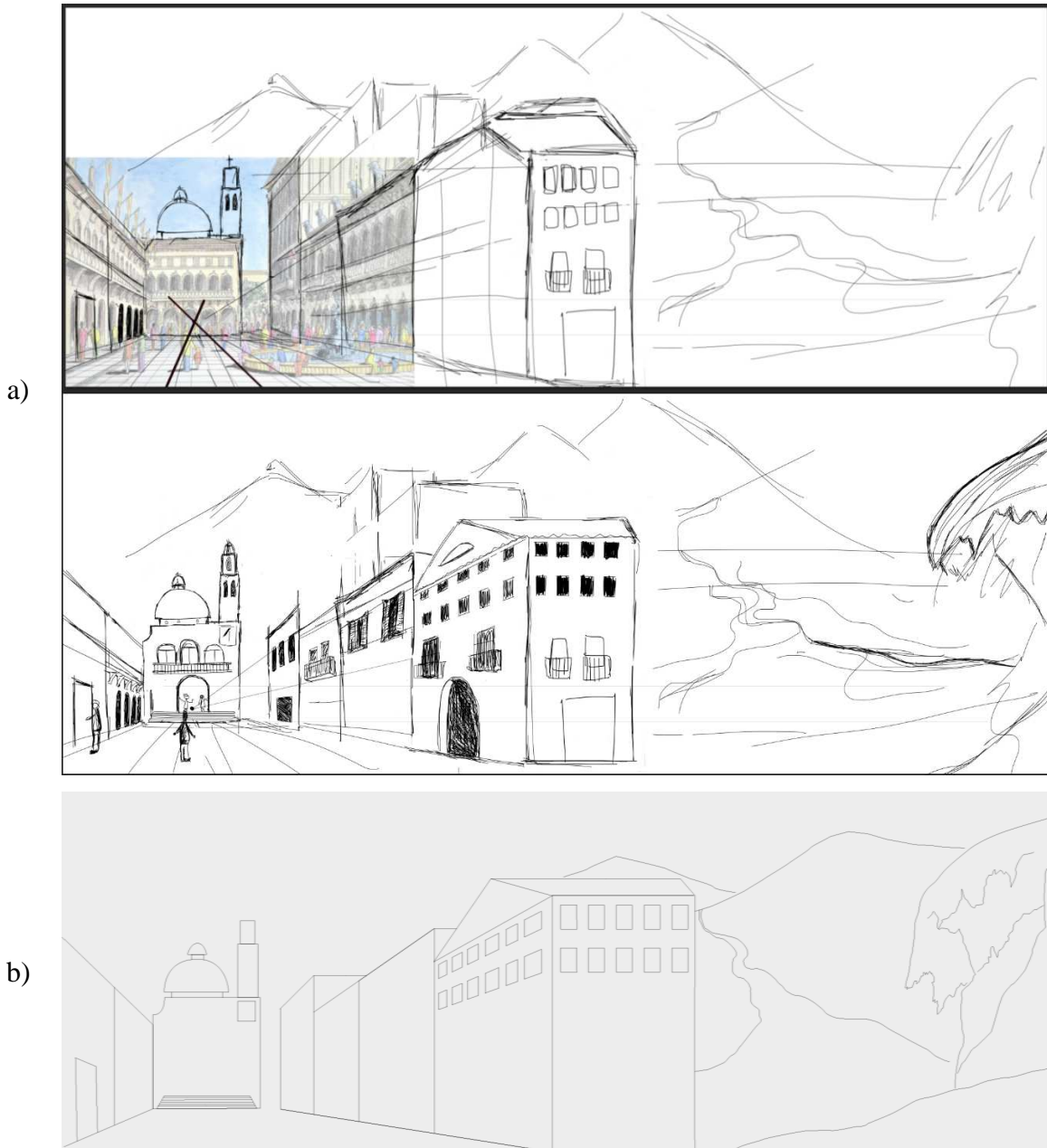
Firstly, appeared there more buildings than in the end, there since more buildings, more depth, and on the other hand, more details that probably during the projection would not be appreciated, so I limited myself to placing four buildings. (c)

Moreover, as it has been commented formerly ( point 3.6.2 Mapping over a flat surface), my objective was to focus on the projection with lines, it is because of that, that in the 3D model I also attempted to recreate these, to get a more faithful vision of what could be the final result. (d)

You can see the process to design these outlines at the annexes (annexes 3).

The software that was used to make these designs was Autodesk Maya, in a future, however, I decided to change it for Cinema 4D. The evolution was very good since the results were aesthetically much better. Besides, I also modified the perspective of the stage slightly, so that it had a more realistic vision and adjusted to the eye of the viewer.

(e)



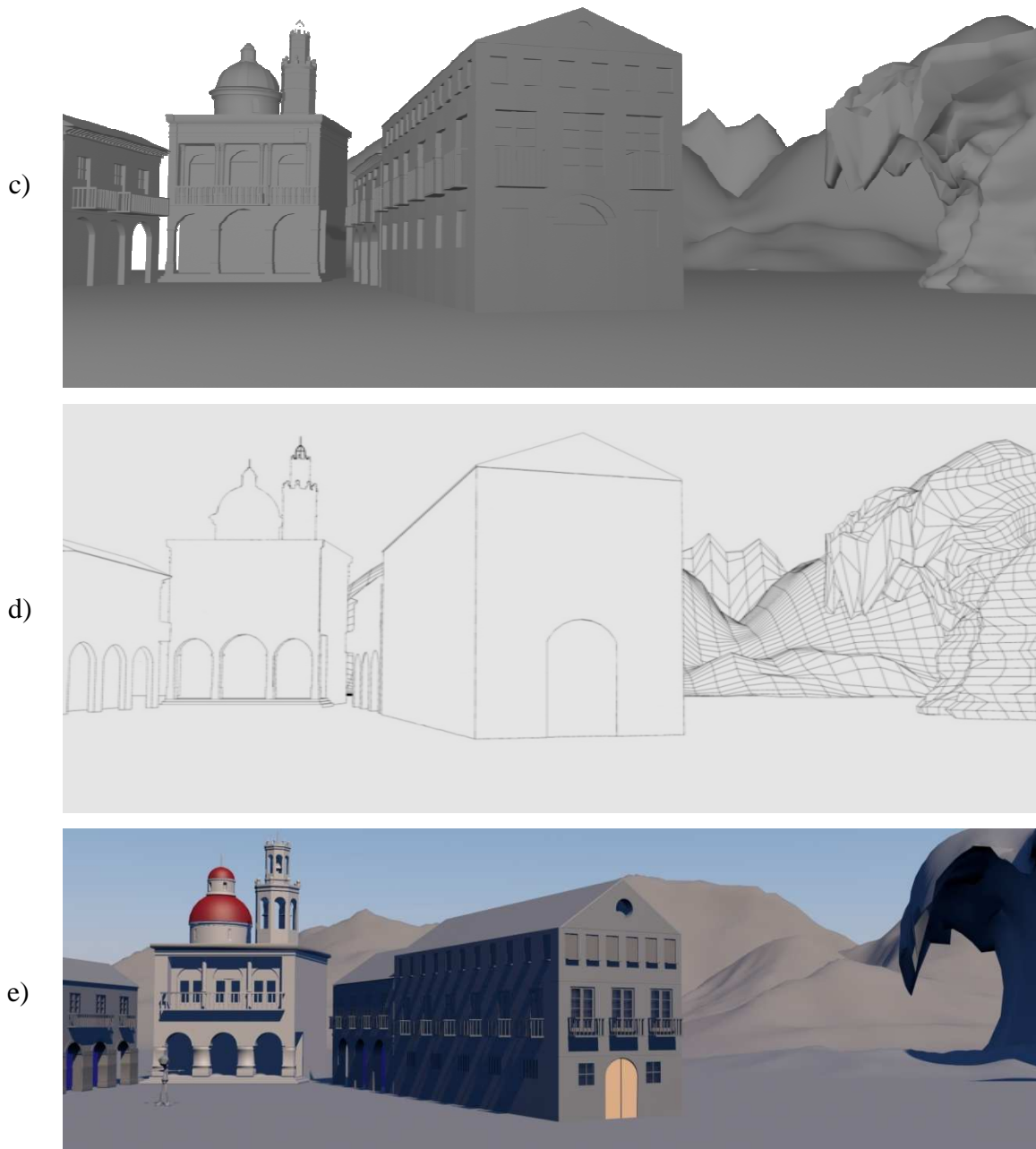


Fig 4.2 Stage evolution

One of the other changes was the sizes of the surface to project. Firstly these were of 120x50cm but I preferred to use a still more panoramic format of 120x40cm. As a result of that I achieved to reduce the altitude but to increase the length sensation, even if it was the same one. In this way I also approach to a format of screen similar than the cinema, fact that gives him a pleasant aspect. However, these sizes also have a disadvantage and it is that the formats of the files with I worked (3401,57 x 1133,86px) were very heavy and therefore, slow to use. The solution was to reduce the pixels

(1700,79 x 566,95 px) and the quality of these for finally to increase it again to achieve an optimum result.

### **4.2.2 Computer**

The files with which is worked making a mapping is very extensive and heavy, for this reason it is necessary to have a good computer with some appropriate characteristics depending of the use. Given that we work with a large extent with 3D it is necessary to have a good processor, an amount of considerable RAM (computer memory), minimum 4 or 8GB. Since it is not like this, the lost time in renders would be very high.

It is also necessary to have an enough good graphic card to have more fluency in the work. Finally not to forget a good Motherboard that will contain the former elements for us [18]

In my case I had an iMac de 27'' with 4GB of RAM, Core i7, 4 nucleuses at 3,4GHz.

### **4.2.3 Projector**

It is very important to know which projector we will use in our mapping. This will describe us the resolution with which we will work and will project. On the other hand, it is also important to know other aspects as the space where we will work on; the amount of people who will see the projection (it determines the size of the projected image); the distance that there will be between the light source and the surface that will receive light (the sizes of the surface have to be tallied with the distance, and the content has to be created, according to the suitable measures); the contrast (for the brightest or dark images); and the surface of the screen, or in this case, the model or the base where we will project on.

Projectors have a large variety of technical specifications. The most important are the resolution, the amount of light or brightness, the sensor technology or the lenses angle. You can see these most relevant features and the main characteristics below. [19]

## Resolution

*Native resolution: it's the real resolution. (Non-compressed and not-expanded)*

	Input signals	Resolution (px)	
Standard	SVGA	800 x 600	
	XVGA	1024 x 768	
	WXGA	1280 x 720	
	HD Ready		1280 x 1024
			1440 x 1080
	Full HD		1920 x 1080 16:9
		1920 x 1280 4:3 (cinema)	

## Sensor technology

### DLP (Digital Light Processing)

- Height brightness and contrast
- Low efficiency
- Smoother video
- Smaller box
- Generate more dark blacks; the mirrors inside the System reflect all light.
- Need more lumens in ambient light.

### LCD (Liquid Crystal Display)

- Rich colours
- Low contrast
- More visible pixels (screen door effect)
- Larger box
- Blacks more grey. More lighters
- Good quality in ambient light

## Brightness.

*It is a very relevant aspect for projectors. Measured in ANSI lumens. Defined by the audience, the size of the room or the place brighter.*

1000 or less	For smaller and closer rooms, without any ambient light. It is a cheaper option. Is becoming a Standard for the industry.
1000 to 2000	For rooms with normal lighting condition. It's not necessary an extreme darkness. Used for conferences, schools and a medium duration presentations. However, it's advisable to reduce the environmental light that there can be.
2000 to 3000	For an ambient light and an audience less than 100. It is used for presentations or conferences of a large duration. A bit more expensive than the previous one
3000 and up	For big places and for different applications like auditoriums, concerts, conferences, nightclubs, churches, etc. They are usually fixed for the projection. They are used for audiences of 200 with an ambient light. If we have 100 or more in a place with bright lights, we will use 5000 lumens or more. These types are expensive.

Table 4.1 Projectors

Moreover, we can pay attention to other aspects. For example the lenses, these works like a camera, where the smaller number means more light. The lens also can be without zoom, including a manual zoom or with a power zoom (motorized, we can adjust the image at the moment).

We can also consider the portability, the size and the weight. We have to know why we are going to use the projector for. There are 3 categories. The ultra light projectors can be transported without any problem; the conference room projectors are heavier but brighter and better; finally, the fixed installation projection has a higher price, on the other hand can be adaptable for bright rooms and different resolutions.

In my case, I used two projectors. The first one was to make the tests (rented in the University in the rental equipment service (Annex 4). The second one was to make the final projection, it was from a friend.

First projector: Hitachi CP-X440. It has an aspect ratio of 4:3 (XGA) and a native resolution of 1024x768p. It is compatible with HDTV and has a brightness of 2500 Lumens. The contrast of it is 500:1. Sensor technology LCD.

Second projector: Mitsubishi XD280U. It has de same aspect ratio of 4:3 (XGA) and a native resolution of 1024x768. It has more compatibility with other formats as progressive as interlaced and the brightness has 3000 Lumens. In this case, the contrast is of 2000:1, better than the first one. Sensor technology of DLP.

We can see some differences, and arrive to the conclusion that the second one is better than the first one, so I used it to do the final video projection. [20]

#### **4.2.4 Camera**

The final result of this project is not only a projection, but it is the recording of this and transformed to a video that pretend to be shared through Internet. The indispensable element to be able to make it is a Camera. In this case I used an own camera Canon 60D with a focal length of 17-85mm and an aperture of f/4.

Besides I also had another camera Nikon to make different perspectives, shots of views and details to finish dressing the audiovisual project. This camera was a Nikon D5100 with a focal length of 18-105mm and an aperture of 3.6-5.6.

## 4.2.5 Others

In the process of preproduction the drawings and outlines of the project are very important, and there is a great amount. In order to save time and to be more effective I decided to use a graphic tablet, then I could have directly all these drawings in the computer and at the same time, spearing the process of scanning the drawing made by in paper.

In my case was a Wacom tablet Bamboo pen & touch.

## 4.3 Characters

### 4.3.1 References

The characters which appear in my story are characters that already exist in the legend, that is, that I have not created from zero. What I had to think was how to represent them and making it some different, adapted to the technique that I used and to the type of the legend.

Initially I doubted about of making the characters in 2D, 3D or use real persons. This last option required to depend on third persons and besides, to have a time that I did not have. At any rate, I took several references to adapt this idea to the animation. One of them is a mapping made in the Council Town of Barcelona where appear animated characters that seem to be real.



Fig 4.3 Characters references

The following option was to make it in 3D, using puppets directly in a black silhouette, but that the movements and shape were in 3D, but this was also complicated, since I carried out the project alone and I did not have a team of people to create the skeleton for me, makes the rigging and later animates it. So finally, I believed that the best was to make the characters in 2D. I could make the drawings myself, and the animations would be simpler. On the other hand I wanted to give it an image like a tale, without being frame for frame animations, but that the movements were more cut and interrupted.

I had clear from the beginning the style of the characters. Black drawings with a thin white line that delimited the reliefs and the different parts of the character. With this I wanted to transmit a sensation of elegance and cleanness in the image that it made they were pleasant in sight. It also brings it a magic effect that in another way it would not achieve, and I thought that it would be coherent with my story since it have more category of tale or legend.

The images that you will see next are references that I took to decide the style of my characters. These are drawings of Michel Ocelot and Lotte Reininger, which they used these styles in their productions.



Fig 4.4 characters references. Silouett

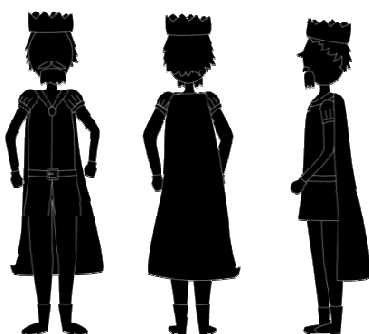
### 4.3.2 Final Characters

On the other hand this legend explains a story that took place during the mediaeval age, that is, that I had to make a research to know the way of life, how were the people, the dresses, the houses, etc., and from here, to start to make the first outlines to define the image. (Annex 5)



Fig 4.5 Firsts drafts of the characters

You can see how I took the style of the silhouette, but I added the white detail along the bodies to stand out it. In a first moment the characters had eyes and mouth. However, later on I changed this style and I only stand out the main features of the cloth and the hairs in order to be able to differentiate them. Besides to make the basis image I also focused on drawing different views and positions. Next you will also find a small explanation of each character, and in the annexes you will find more information and other drawings, too. (Annex 5.2)



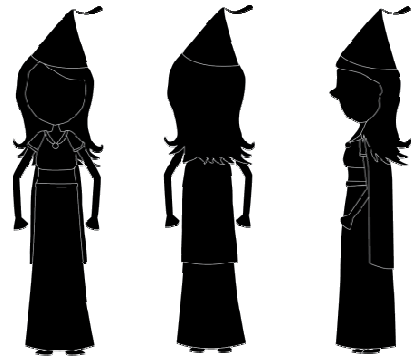
The king is one of the main characters, develops an important role. He is responsible of the village and who will have to take several compromising decisions for the village and for himself.

Fig 4.6 Characters I

The dragon is the main responsible for all the problems, which brought the fear to the people and ate all it could. In this image we can see several points of views, flying, sleeping, etc. I searched to give it a bad aspect, aggressive, but at the same time an aesthetic coherent with the rest of easy-going characters.



The princess is also one of the main characters. She has an important weight in the story. Firstly she appears in the background, but later she ends up being indispensable. I wanted to give her a young style, attractive, clothed with a dress and long hairs with a distinctive hat.



Saint George is the knight who arrives to the town with his horse and kills the dragon. He saves the village of the beast and he ends up becoming Saint for this act. Finally, he falled in love with the princess and here starts the romantic part of this legend and all it has entailed from then until now.

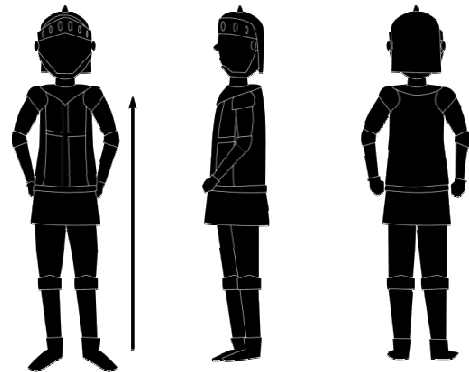
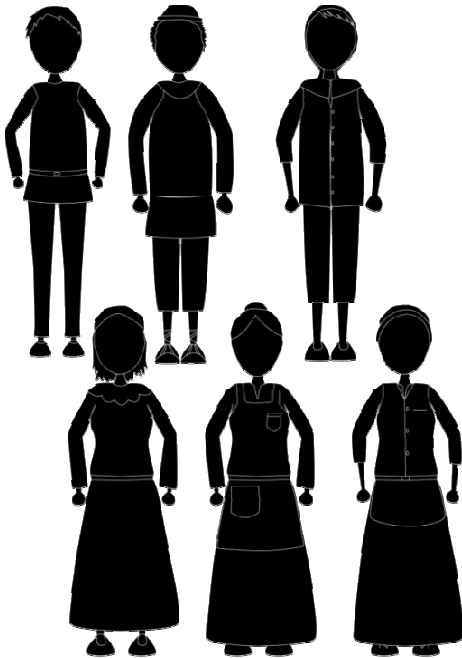
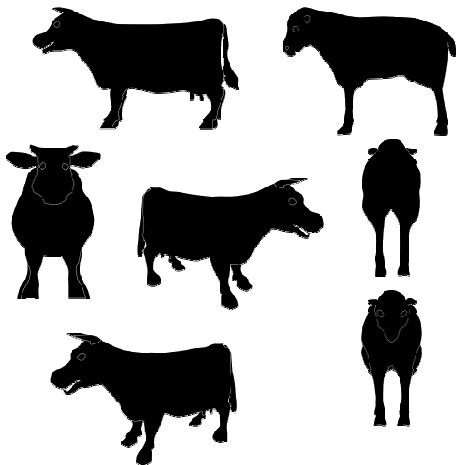


Fig 4.7 Characters II

We do not have to forget the secondary characters, these are also important because they represent some part of the story, in this case they are the population and the animals.



The villagers turn up at all times representing the town. They defend the village of the dragon and they are also affected by the problems of the beast. Every moment, in which an inhabitant had to be eaten by the dragon, they backed it up and went with the person to the last moment. There is diversity among the persons, we can see that they do not have facial expressions, but they have lines that follow some of the details of the character.



The animals represent the ranching that the dragon ate every time that it flew over the village. At the beginning of the story the animals were rationed and every day they gave a different one to itself, in order to keep the dragon as far as they could for the village. At the end, however, they run out of animals.

Fig 4.8 Characters III

## 4.4 Software

The used software was different depending of the point of production in which I was.

On the following table you can see the software used specifically in every moment and the use that has been given to them.

SOFTWARE	USE
<b>Preproduction</b>	
Toomboom	Animatic creation
After effects	Camera movements, trailer effects
Flash	Characters creations, draws
<b>Production</b>	
Maya and Cinema 4D	Modelling, Textured, animation
Real Flow	Fluids creation
After Effects	Composition, Editing, Apply effects
Illustrator	Characters creation, vectorization.
Photoshop	Image retouches, draws
Audition	Edit music, compose and apply sound effects.
Garageband	To record voiceover and other sound effects.
<b>Postproduction</b>	
After Effects	Color corrections, video corrections,
Audition	Sound edition
Premiere	Final video edition.
Madmapper	Video mapping projection

Table 4.2 Software

It can be seen how there has been a change in the software used to make the modelling and the animation in 3D. When I started the project one of my aims was to learn new softwares, one of them was Cinema 4D. Actually I found more facilities when I was learning and using it than Autodesk Maya, that was the other software. The interface is easier to use and the accessibility in any tool is little faster, too. On the other hand, the

tools of Motion Graphics allow to make animations that with Maya they would be unthinkable, or it would take longer time to achieve them.

In the case of mappings there are a lot of animations with creations made with motion graphics, therefore, I tended every time more to Cinema 4D. The course that I did to go in depth into this software also was the cause for choosing it as main software of my project. I learned a lot and at the end I achieved a speed and effectiveness that I did not have with Maya. That is, that to be able to carry out the work in an efficiency way, it was better if I used this one.

We also have to talk about the final results, in the renders is also appreciated the difference. With Cinema I achieved some much more real renders than with Maya, and with a long less time. It can also be worked many types of renders, therefore, it fits better to the needs of every moment.

## 4.5 Planning

The development of this project has been divided into three stages: pre-production, production and post-production... Here is a sum up of my planning. Later I will explain if I was be able to accomplish this phases or not, and why.

PLANNING	
Pre-production	July-March
Storyboard. Animatic. Trailer	July
First characters design	July
Knowledge: courses (Cinema4D, After Effects, Mapping)	September, November, April, May
Draft of the base. Design. To choose the size, resolution, type	November-December
Final characters design	February
Final model design 3D	March
Final storyboard	March
Production	April-July
Modelling	April

3D motion graphics	April-May
3D animations	April-June
First characters animations	June
2D animations	July
Composition 3D and 2D	June-July
Post-production	July
2D effects	July
Edit corrections	July
Sound and colour corrections	July
Credits	July
Video mapping projection	August
Video projection, Recording, Edition, Colour, Sound	August
Distribution	August

Table 4.3 Planning

The first pretensions were to reduce the length of this calendar to be able to finish the preproduction to dedicate more time in the production. The time did not work in my favour and for different causes I spent more time that I wanted, fact that it made that I was against time during the last weeks of the project. Also the fact of learning two new software's practically from zero, retarded it everything, since at first I carried out the vases made with Maya, but I reworked it with Cinema 4D and it means lost time, relatively. At any rate, these changes, eventually, have been totally positive.



## 5. Production process

### 5.1 3D

All the 3D animations of this project have been made with cinema4D. To have an organized development I divided the entire story in scenes, I could start to work in this way in the representation in 3D. However, before making the animations, I modelled the entire environment and several elements. The image of the right represents a fourth part of the organization that I had in the software Cinema 4D.

#### 5.1.1 Modelling

As I have explained firstly I started to use different software that not in the end (point 4.4 Software). I started the modelling with Autodesk Maya, but finally I decided to change it to Cinema 4D, obtaining very improved results.

The firsts steps were to reproduce the stage of the scene, that is, the buildings, the mountains, the floor and the cave. In addition, I also designed other necessary elements during the animations. On the other hand, while I was advancing the project I kept on making improvements of the models made formerly. You can see the outline at the annexes. (Annex 6)

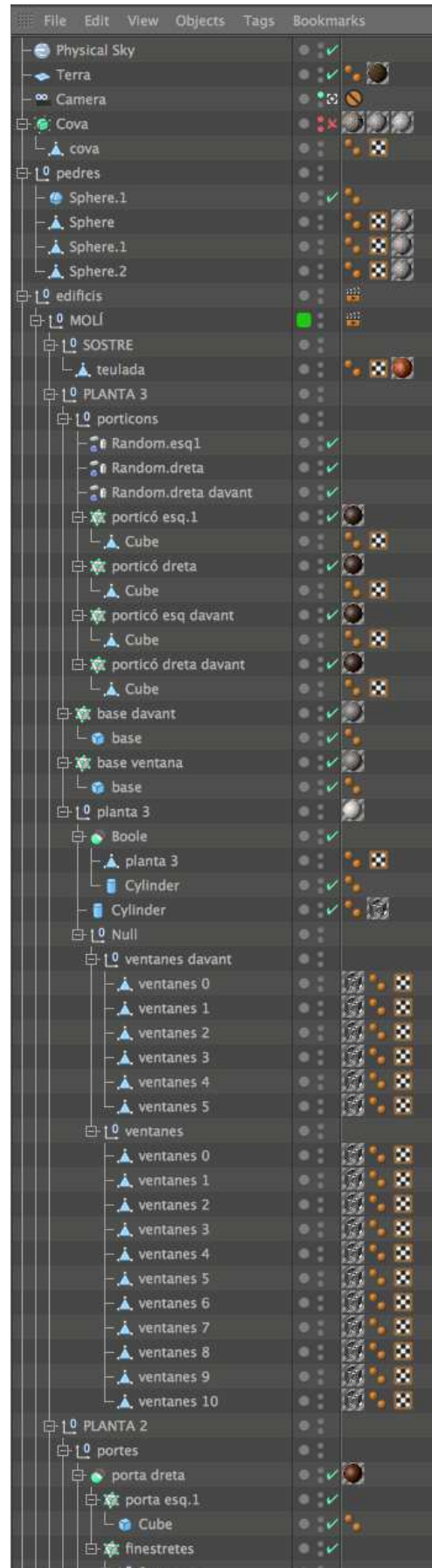


Fig 5.1 Cinema 4D organization

Once I had the base, I was modifying the views and perspectives as I agreed. The position of the camera had an important role, since it represented the eye of the viewer and therefore, the effects in 3D would see of a way or of another according to this eye.

Formerly we have already been able to see which was the result with which I worked *a posteriori* (point 4.2.1 Stage evolution). At any rate, I still carried out some changes more, as the case of the mountains. In the following images you can see these. In a beginning these were higher (first image), but I thought that they did not remain enough adapted with the rest of the stage and that did not approximate very much the result that I had thought, so I reduced the height to get something like a fields and on the other hand the scene had more depth (second image). And finally, the stage I used to work, in perspective view (third image).

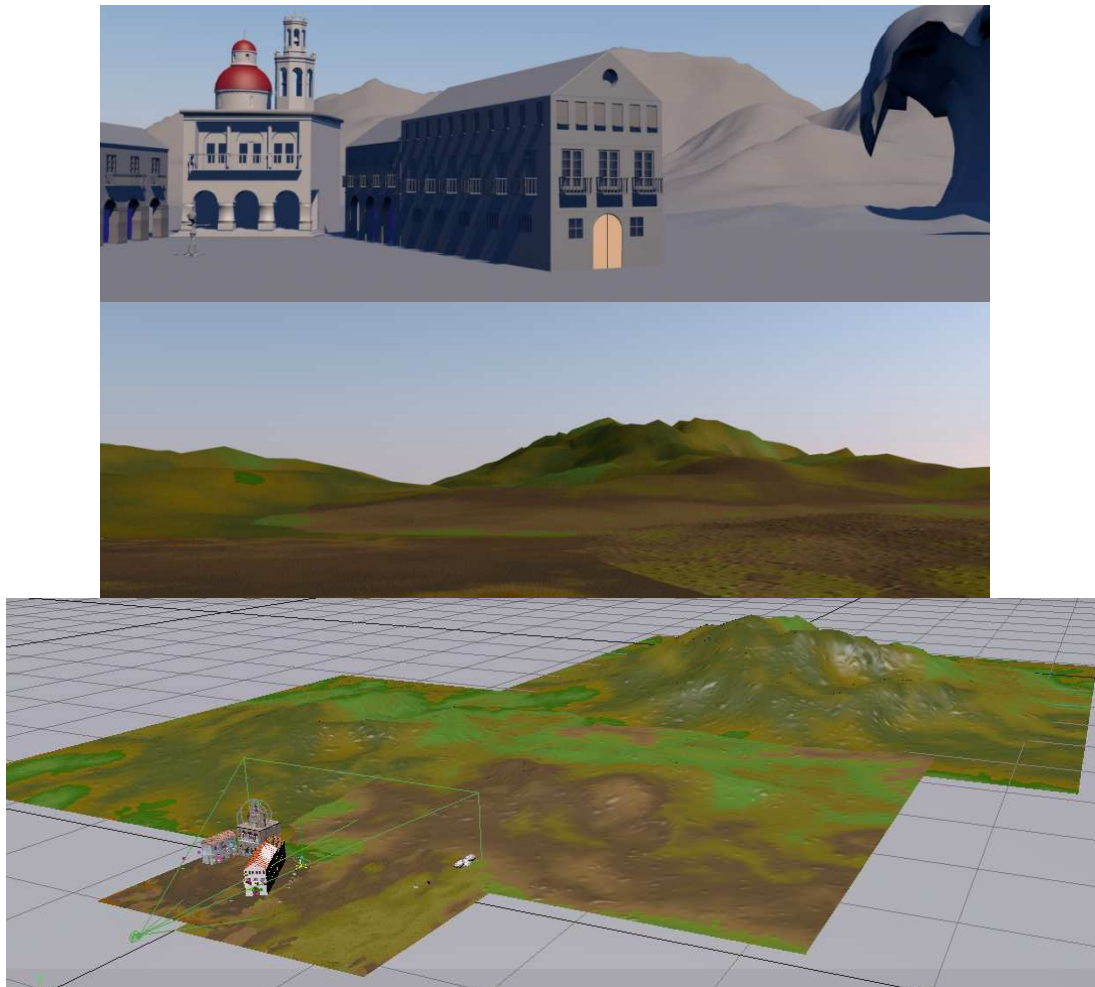
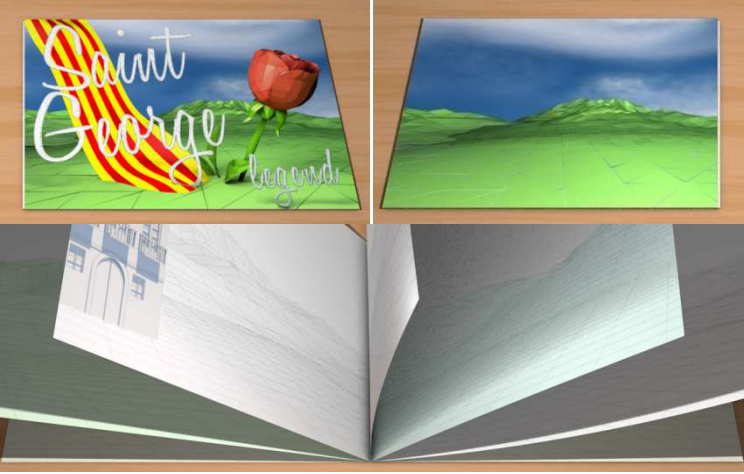
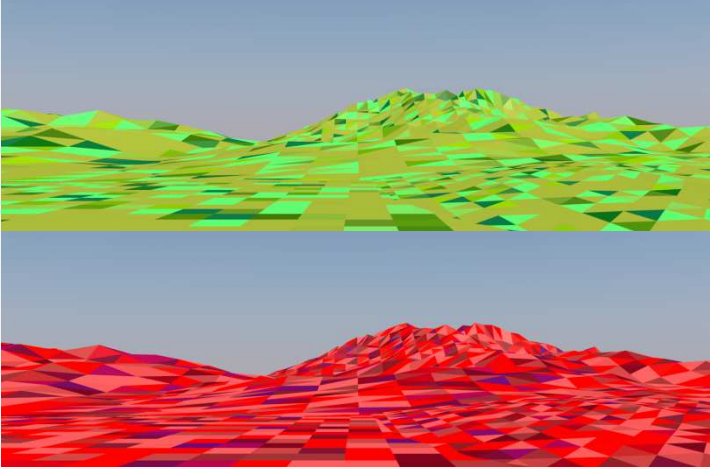
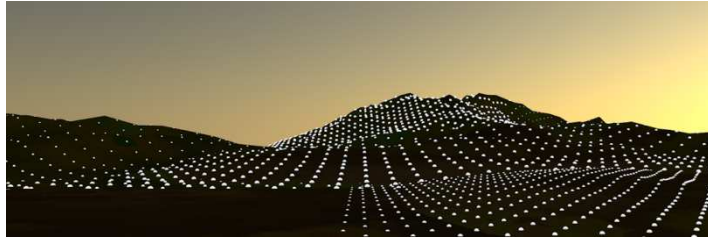


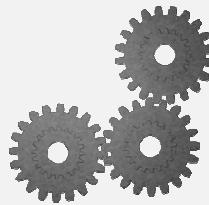
Fig 5.2 Mountains and perspective view

Other individual elements that I modelled were the following ones, by order of appearance:

3D Elements	Images and explanation
<p><b>Book Saint George</b></p>	 <p>Book that represents that the story is a tale. Appears at the beginning and at the end.</p>
<p><b>Mountains</b></p>	 <p>There are some variations of the mountains depending of the situation. The first one is when the dragon attacks the town. I used red tones to represent the blood, fire and evilest. The second one represents Saint George arrival, when he saves the village and the colours were more brilliant.</p>

**Mountain2**

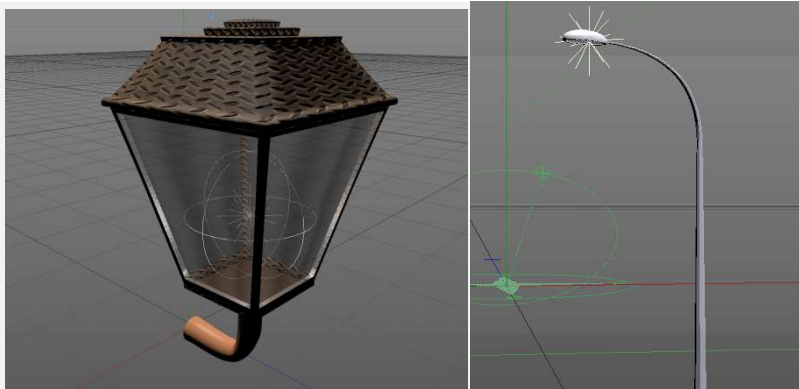
Mountains during the night with balls in each vertex of the mesh.

**Gears**

While the king is thinking about to found a solution, his head is working and the gears represented that.

**Bulb**

Represents an idea. The idea of the king when is thinking about to resolve the situation

**Streetlight**

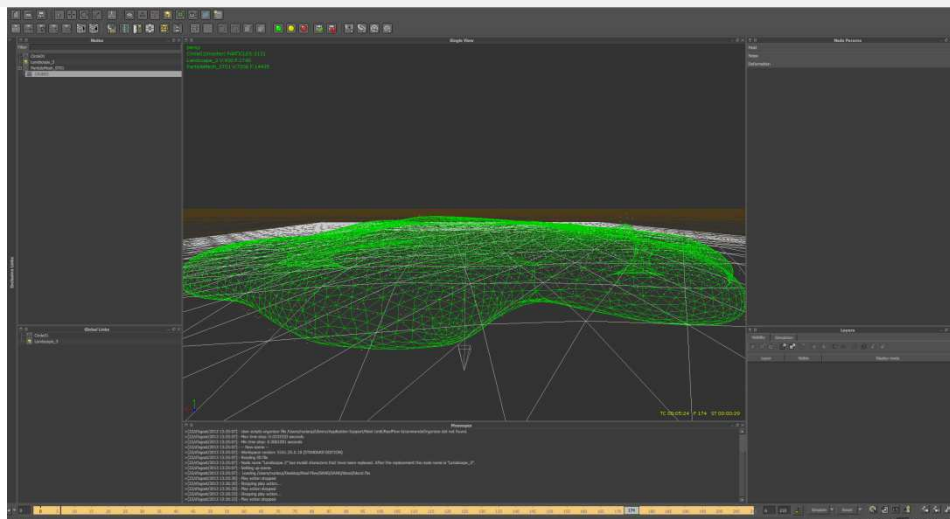
Appear when night is and the lights turn on.

**Raffle grid**

There are three raffles. 1 to choose a villager, 2 to choose the princess and 3, to choose the dragon. The last one represents that the dragon is dead.

**Roses**

The tradition says that from the blood of the dragon grew a rose bush and then Saint George presents the princess with one rose.

**Blood**

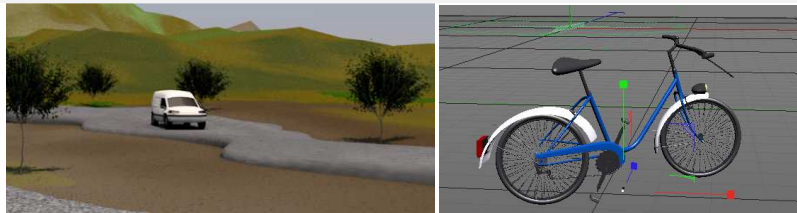
When Saint George kills the dragon appear a pool of blood. It is done with Real Flow software.

### Calendar



Represents the tradition, the years are going on and every 23<sup>rd</sup> April people celebrates the win of the town.

### Car and bike



The last image of the evolution scene appears a car that represents the modern age. The same for the bike.

### Bench



In the evolution scene appears a bench that represents the modern age, there are some benches, every time are newer.

### Tents



Is where the books are sold every 23<sup>rd</sup> April. As a tradition the people starts to sold books to the villagers.

Table 5.1 3D elements

## 5.1.2 Animation

One of the animation techniques used in this work was 'Mograph' or Motion Graphics. It is a tool in Cinema 4D that make easy to create everything we want to animate. We can clone a lot of objects, apply effectors that will control this cloners or for example to extrude a text and create 2D thing in 3D, all of that without any keyframe. [21]

The simplicity and speed to create the animations that offers the *Mograph* tool in Cinema4D, made that I finished deciding to use this software, since the majority of the animations that I thought in the pre-production were based on motion graphics.

On the other hand I also made the basic animations with key frames, de position, rotation and scale to move the elements I had.

The rest of the animations were made using several plug-in that helped me with the creations. For example the rose bush that is growing (a); either the constructions of the houses at the beginning of the mapping (b); or the sheets of the book (c) when it is opening or closing.

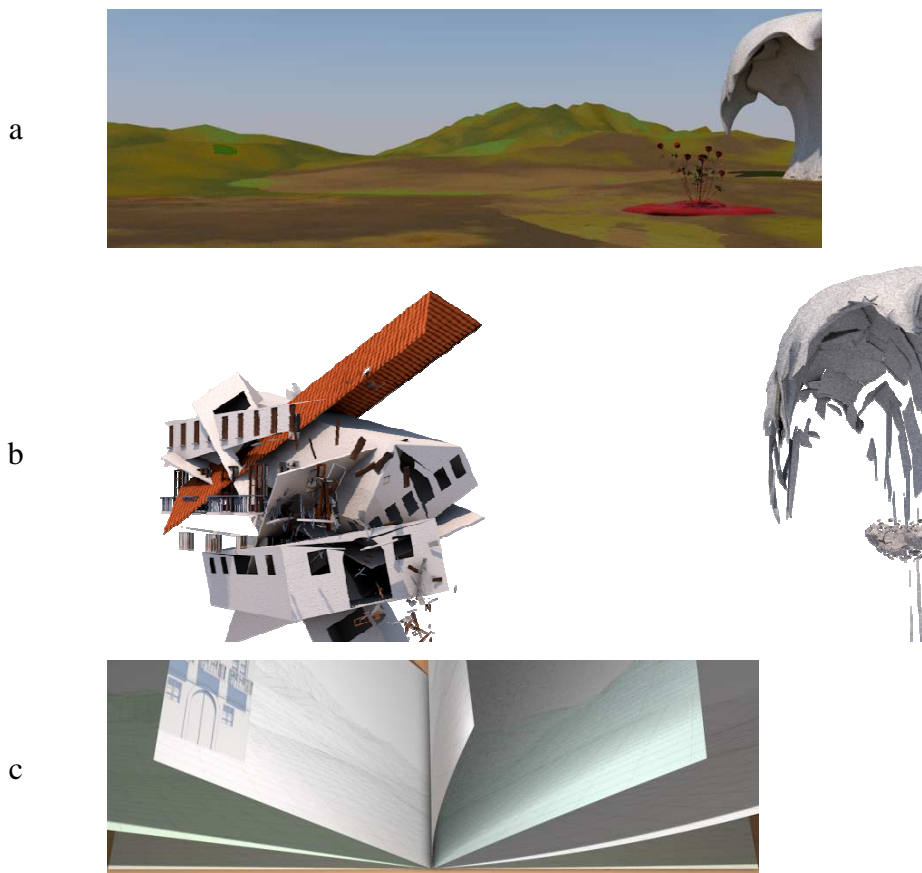
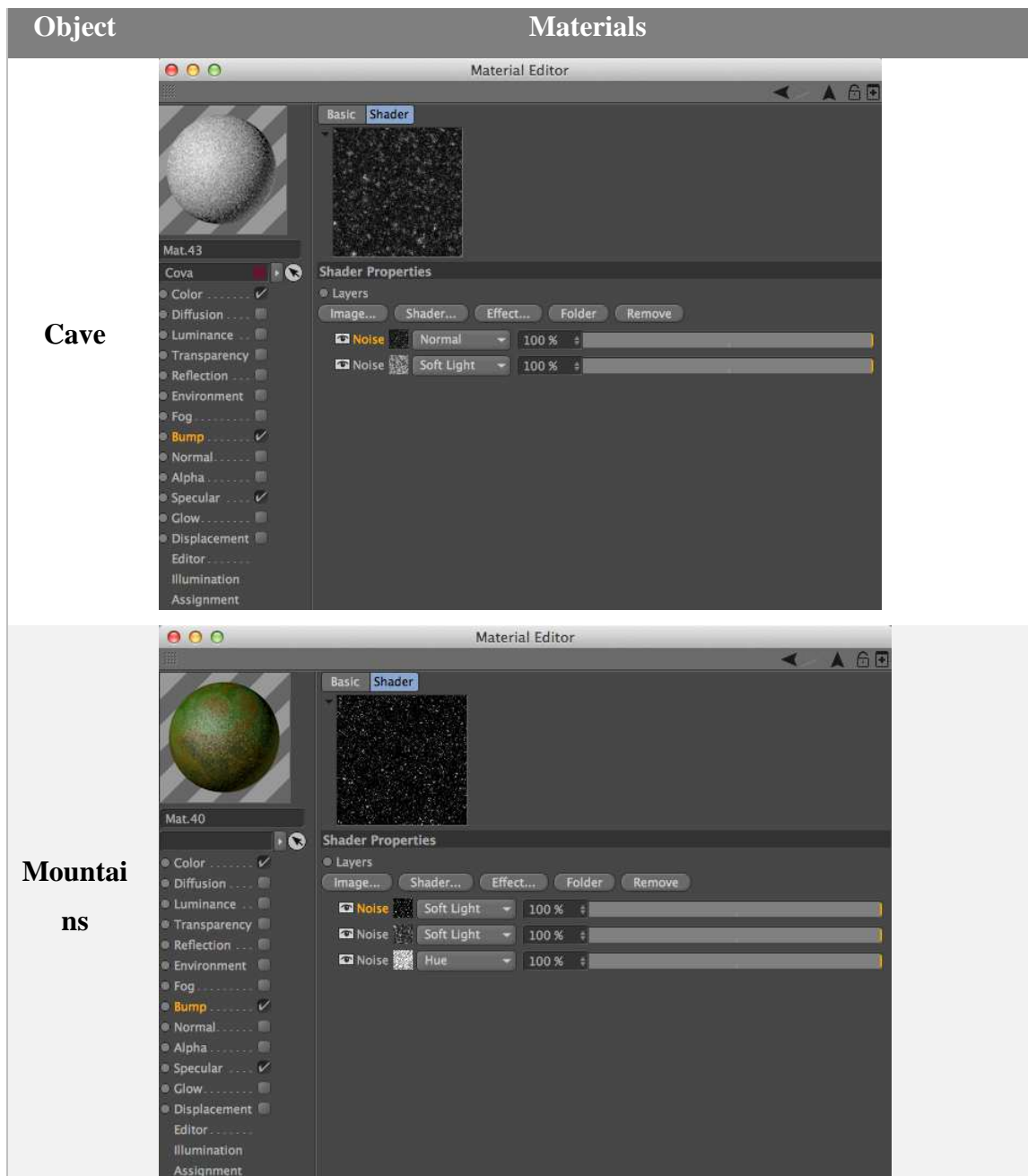


Fig 5.3 plug-in animations

### 5.1.3. Texturing

The textures had been made from images, but also from material created directly in the software. The images were extracted from a web page and applied taking into account the form of the objects, if it were flat, spheres, cylindrical, etc. [22]

I added some ripples and several layers of effects to approach the material to the reality a bit more. This is the case, for example, of the mountains, which are created with a material that contains several layers.



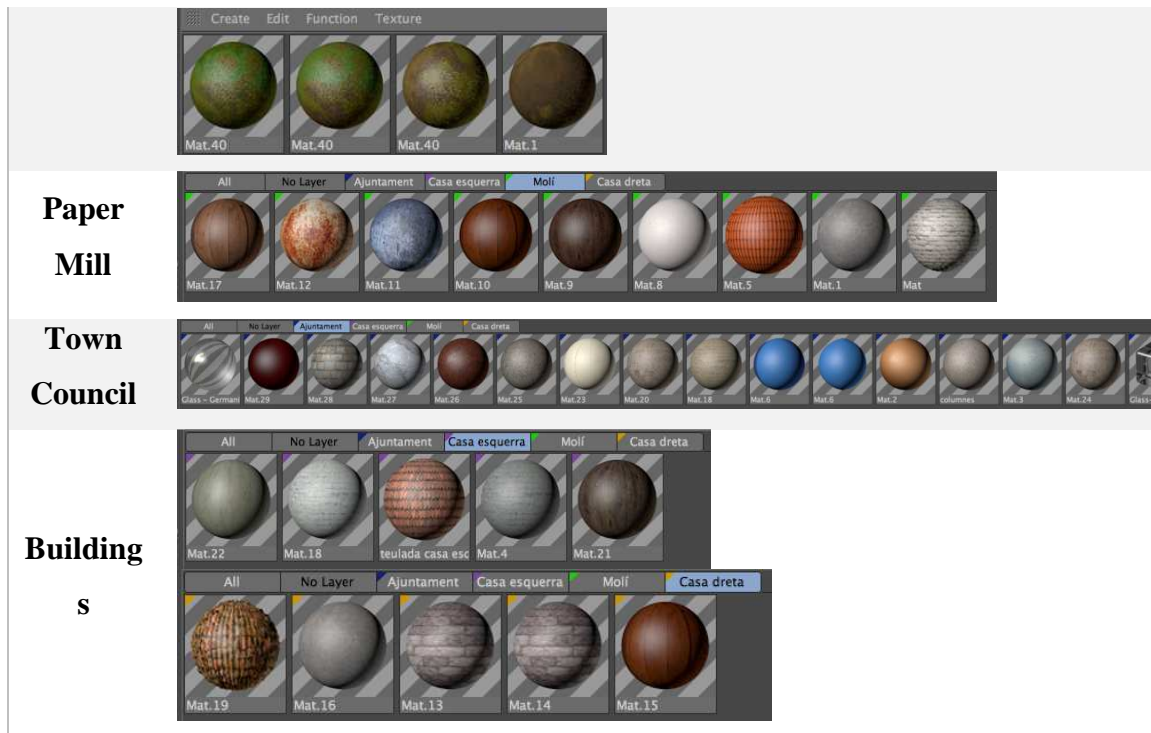


Table 5.2 Textures

## 5.2 2D

The 2D animations were created with Adobe After Effects. These were made directly in the same software from images or other objects. Mainly, the animations have been the characters, the transitions between the scenes, the changes in the sky, special effects and the integrations of the 3D animations on the 2D images.

To create the images that later I would use in AE I used other software as Adobe Illustrator or Photoshop. The first one mainly to obtain images in vectors, and the second one to retouch the images or other concrete uses.

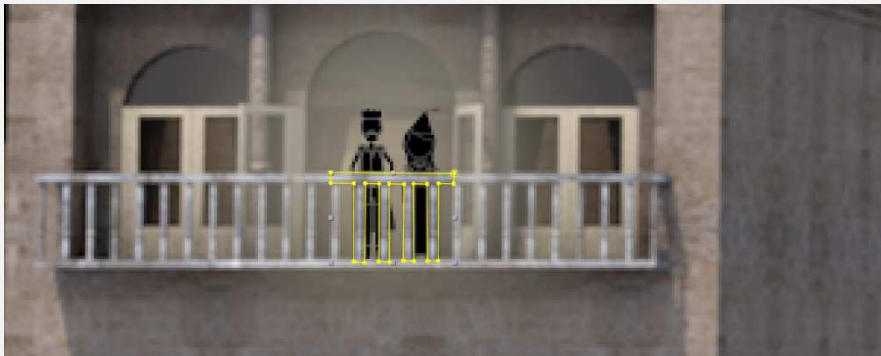
### 5.2.1 2D animations

The following table is explained some of the animations made in 2D, without taking into account the characters, which I will speak about in the next point.

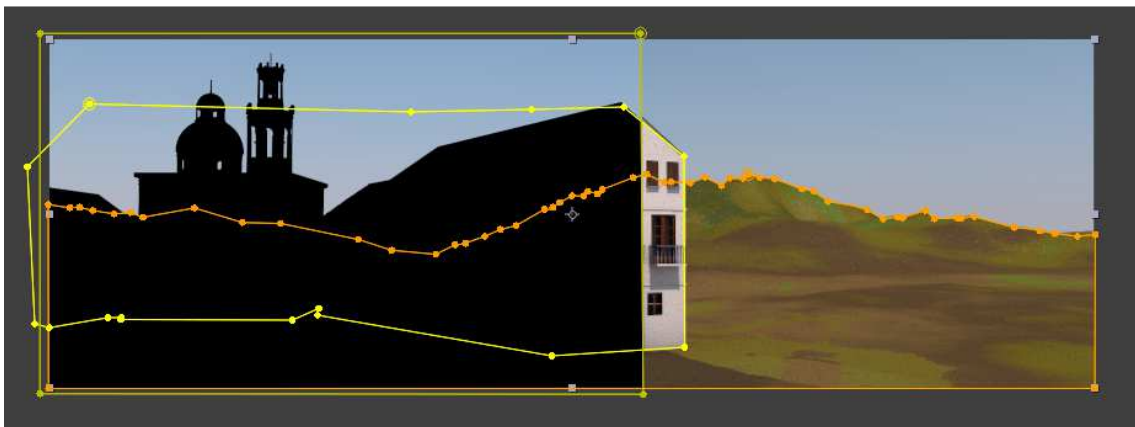
2D animations	
<b>Fire</b>	That was done with some videos of fire. Using some masks I adapted it to the buildings and I worked the scale to represent the appearance of it



**Masks** There are a lot of masks in each scene.



**Transitions** These are found in each change of scene, some more remarkable than others, but they always turn up. These are created using masks.

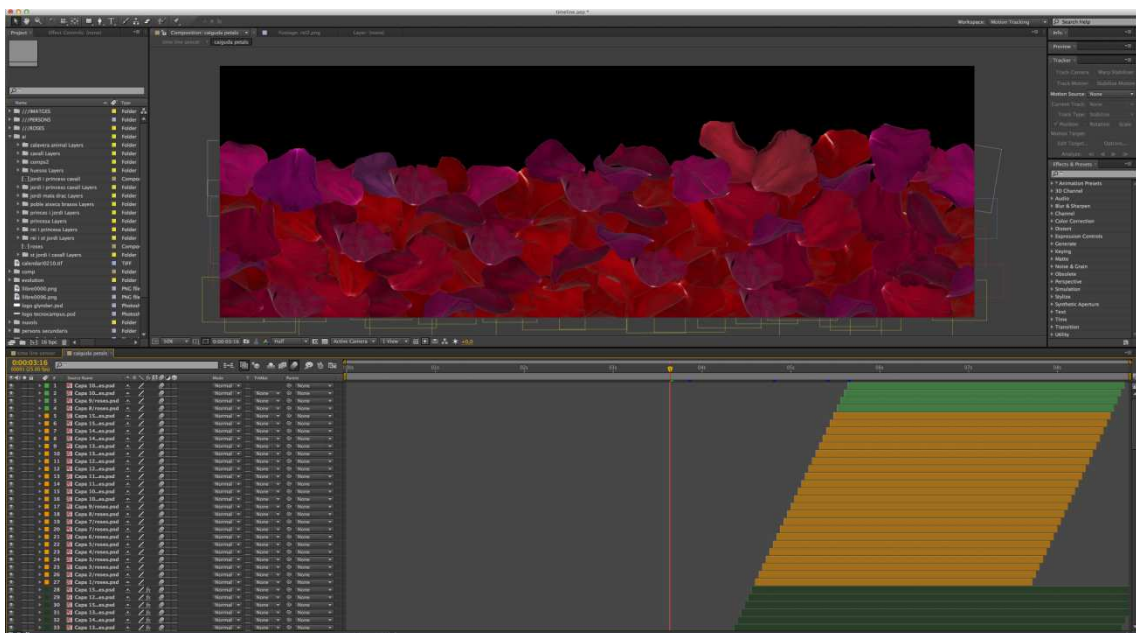


**Shadows** The majority of the shadows are created in 3D, with the light of the sky, directly. The only ones I had to create with 2D was the shadows of the characters



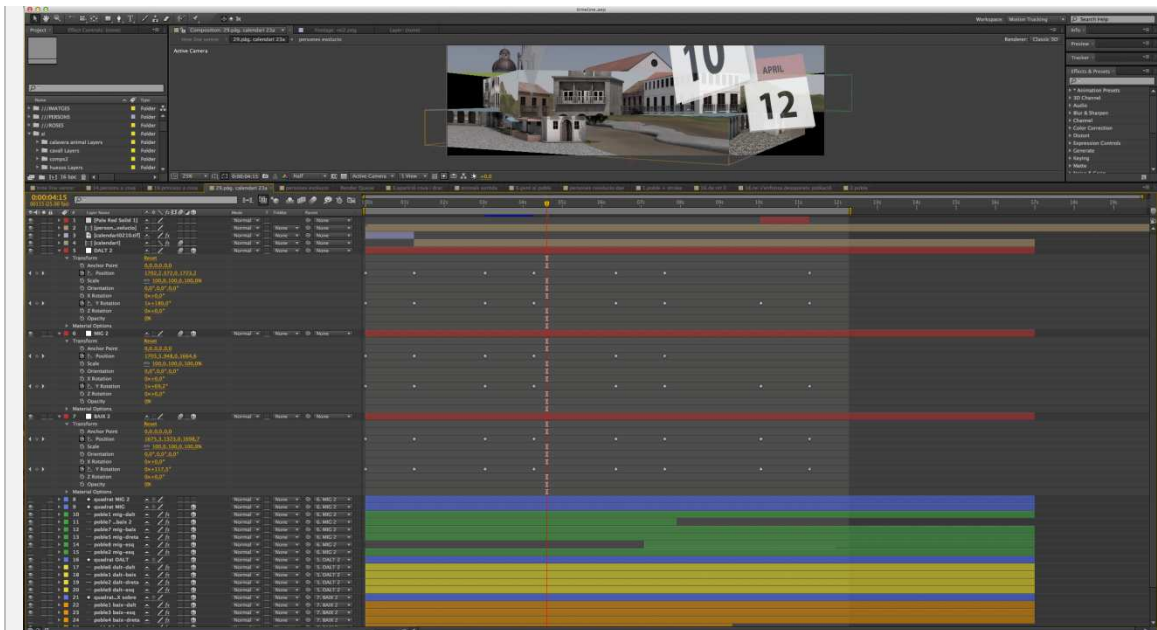
## Petals

I pretended to symbolize the rose that grew from the rose bush using a lot of petals, and moreover, to have a transition to pass from the cave zone to the town. I used a lot of different petals and I animated it one per one.



## Evolution

This was one of the most complex scenes. I had to join and square different images and create a 3D effect but I only had 2D images. I used a “null” to link the different groups of images and then I changed the rotations to make the corresponding turns. In the image you can see a good part of the layers and keyframes.



### Strokes

It is a feature very characteristic of the mappings, the most of them always has a moment in which some lines turn up and start to follow the edges. Here it could not be missed and I created it with an effect named “stroke” of the software and following a mask created formerly with vectors, which you can see of yellow colour in the next image.

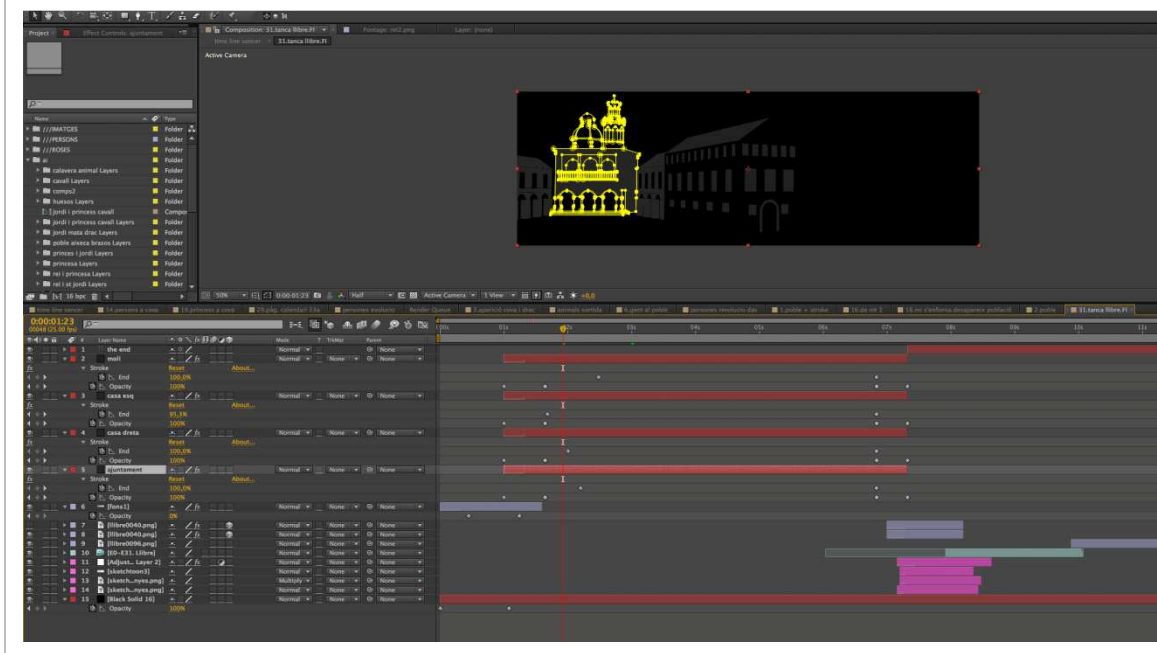


Table 5.3 2D animations

## 5.2.2 Animations of the characters

The animations of the characters were made frame by frame, at any rate, I wanted to give them an intermittent effect, without too much fluency, on the one hand I wanted to bring them an effect of puppet and for the other one, and it was a great amount of work for only one person. So I decided to take this path and to make cuts in the animations, as if they went jerkily.

In some of the scenes I placed the characters directly with the basis that I had (point 4.3.2 Final characters), others however, I created a recreation of the scene with Illustrator with the sequences of the movements. You can see it next:

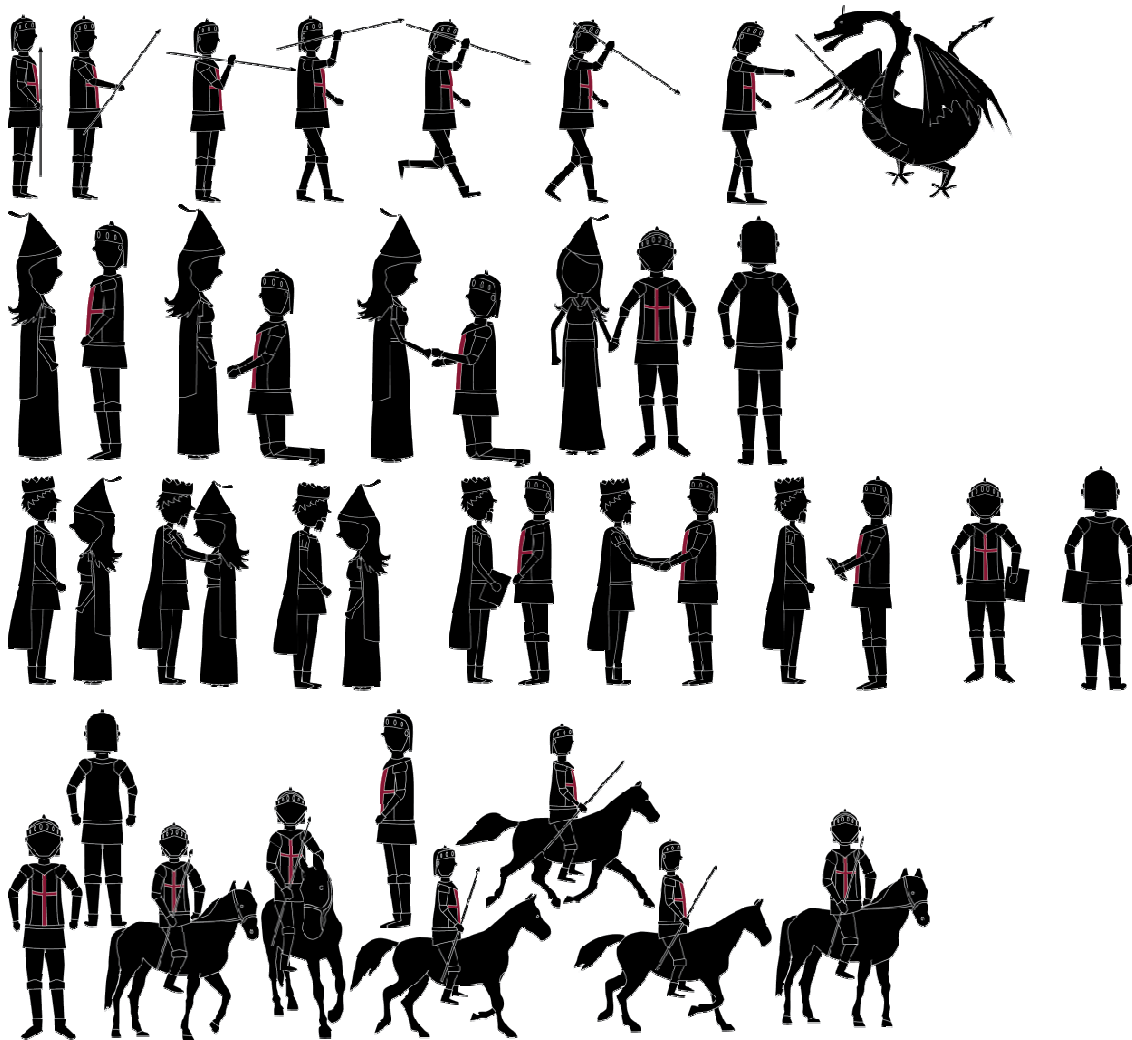


Fig 5.4 Characters sequences

Once created all these series, I brought it to AE and from there I already started to work individually each character placing it at the correct position and size.

In the following image you can see a capture of the space of work while I carried out the animations of the characters. I made it placing all this series of steps and next moving the layers so that they went turn up progressively.

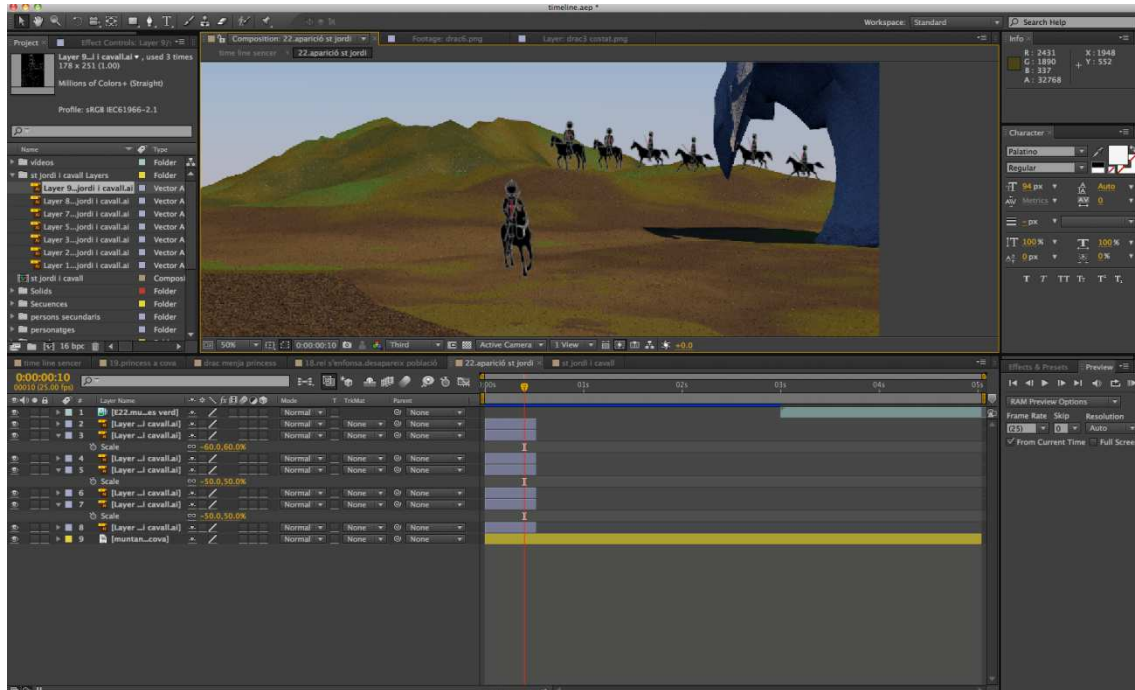


Fig 5.5 Characters sequences in AE

### 5.3 Effects creations

The main special effects that we can find are the fire, the smoke, the light, effects of lighting over the raffle grids, or the stains in the buildings, among others.

As an example, one of the scenes that have more effects is the first appearance of the dragon. In this one the different layers that I created can be seen. On the one hand we find there the fire, that turning up while the dragon is flying over there, at the same time, the smoke starts to grow and with him the stains of ash of the walls, simulating that the buildings are being burned. There were achieved from images, playing with the opacity to integrate it into the images.

There were also the bones that turned up when the dragon passed over the animals and ate them. On the other hand the sky also kept on changing according to the moments of

more tension. First, without clouds, then covered up with black clouds and finally, when the dragon had already gone, it came back to its initial state, without any cloud.

Besides these effects we also have to add the red tonality to it. Mainly it can be observed how the mountain change of colour and they transform in red and these reflects on the rest of the scene, in which one has been added a layer of adjustment to apply a red tone that affects on the rest of the layers, too.

This would be an example of scene where appear several effects, the rest of the short film follows the same style and procedure.

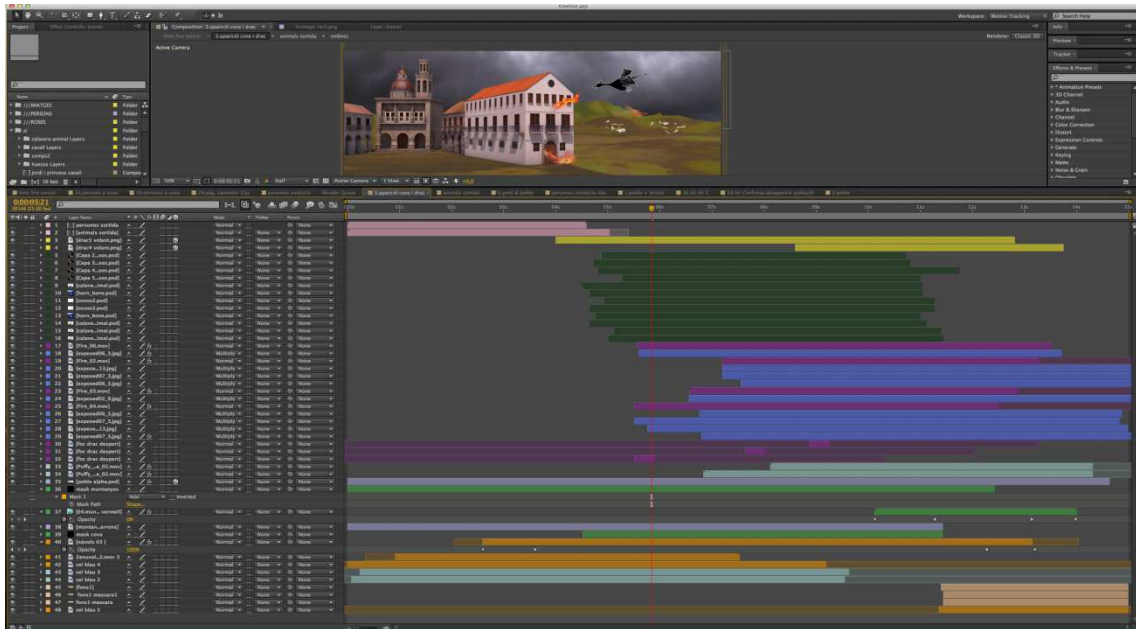


Fig 5.6 Scene production in AE

## 5.4 Music and sound effects

The soundtrack of my project is based in only one song. I spent a lot of hours trying to find a song that sounded good during the video and moreover, that it is squaring with the images, since it was one of my aims. But it was very difficult to find it.

Many of the people that creates mappings first search the music and next, work over this, since in this way, they already know where there are the most important changes or variations of rhythm, in such a way that they can adjust the image and sound easily.

As was my first experience in this sector, I decided that I would make the inverse order, which is possible, but more complicated. Then I began to design the visual part and finally the music and the sound.

Finally I found a song that was adapted to all my short, is squared with the images and the high-pitched tones provided it an style of a tale, as I searched. Besides, the rhythm was light, therefore, perfect for my project

Using the Adobe Audition software I placed the music on the video and I retouched some effects later to finish synchronizing it with the sound.

On the other hand I added some light effects of sound to it as for example the voices of the people, exclamations, sounds of surprise, etc., especially for the moment of more tension, as the persons went out chosen or the dragon ate them.

The music was extracted from a web page, free of licenses (Free Music Archive) [23] and the voices belong to two girls who helped me to make the effects and the narration.

## **6 Postproduction process**

### **6.1 Effects and colour edition**

At that point, the tasks of postproduction consisted on fixing some of the effects that I had made, as well as retouched the colours and brought them a more cinematographic style. Besides, another objective was to give uniformity to the whole project.

The tasks that I carried out were especially to finish off the details of the transitions. In some of the scenes, the position of the buildings changed slightly by some previous render errors. Therefore, what I had to make was to adjust the parameters in order to be the minimum jump possible in the image.

The scene where the fire and the dragon appear was also retouched of colour. I wanted to transmit with the fire and the red tones, a feeling of the hell, terrifying sensation; so I added some colours to the scene to get it redder and the fire seemed that it was reflected in the buildings.

Another important retouch of colour that can be found at the end of the video is the moment of the evolution, in which the stage is divided into three parts and the calendar turns up. In this part, as it represents an advance in the time, an evolution, I edited the first images with black and white tones to indicate that I was speaking about an antique story that, little by little, would be taking colour, so as to say, they would keep on spending the years and periods up to the moment.

Other tasks were to adjust many other masks in order to eliminate possible jumps of positions and sizes among the several objects.

## 6.2 Music and sound effects

This point consisted on placing the effects of sound that were missing and adjusting the music and image in order to search the maximum synchronization. Besides, I added voiceover and I regulated the volumes to search uniformity in the final editing.

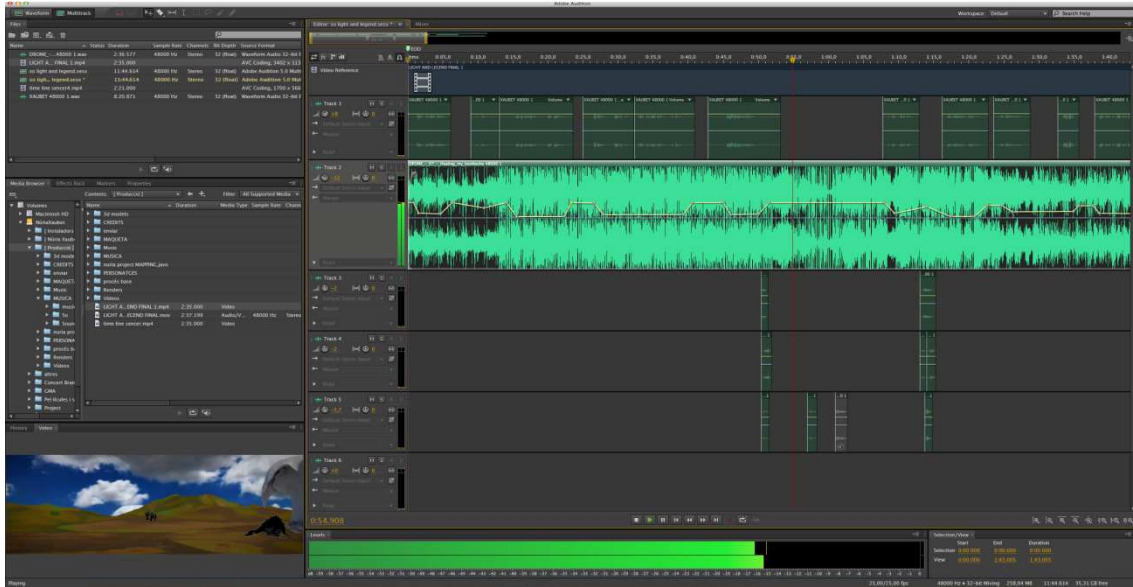


Fig 6.1 Music edition

## 6.3 Graphic design

Regarding to the credits design I decided to make it easier with an understandable without standing out and elegant typography. All along the project I have tried to keep a same visual line, without great changes in the design. Therefore, the credits had to be done in the same way. To make them, I chose to use two colours, with the maximum contrast, black and white: black for the background and white for the letters, keeping the style followed with the design of the characters.

The chosen typography was “Helvetica Neue” with its variants of style of “Ultralight” for the task of the person and “regular” for its name. So, I managed to stand out the names and not too much the rest of the text. The transitions between the texts are dip to black and also synchronized with the music.



Fig 6.2 Typography

## 7. Video projection

The video projection was the next step after making the entire video creation. Once I had it prepared, it was the moment to do the physical and real assembly of the projection. The needed elements were a projector, a computer, the basis to project and the cardboard surface by 140x40 cm, which would be hanged on the wall.

The procedure was the following one. First of all I made the technological assembly, which is to connect the projector and the computer. The next step one was to open the mapping software, Madmapper, and configure it with the sizes of the projection. However, I opened before the video with this program and with the projector turned on I adjusted the video output so that it remained in the limits of the structure of cardboard that was hanged, which had the size of 120x40cm.

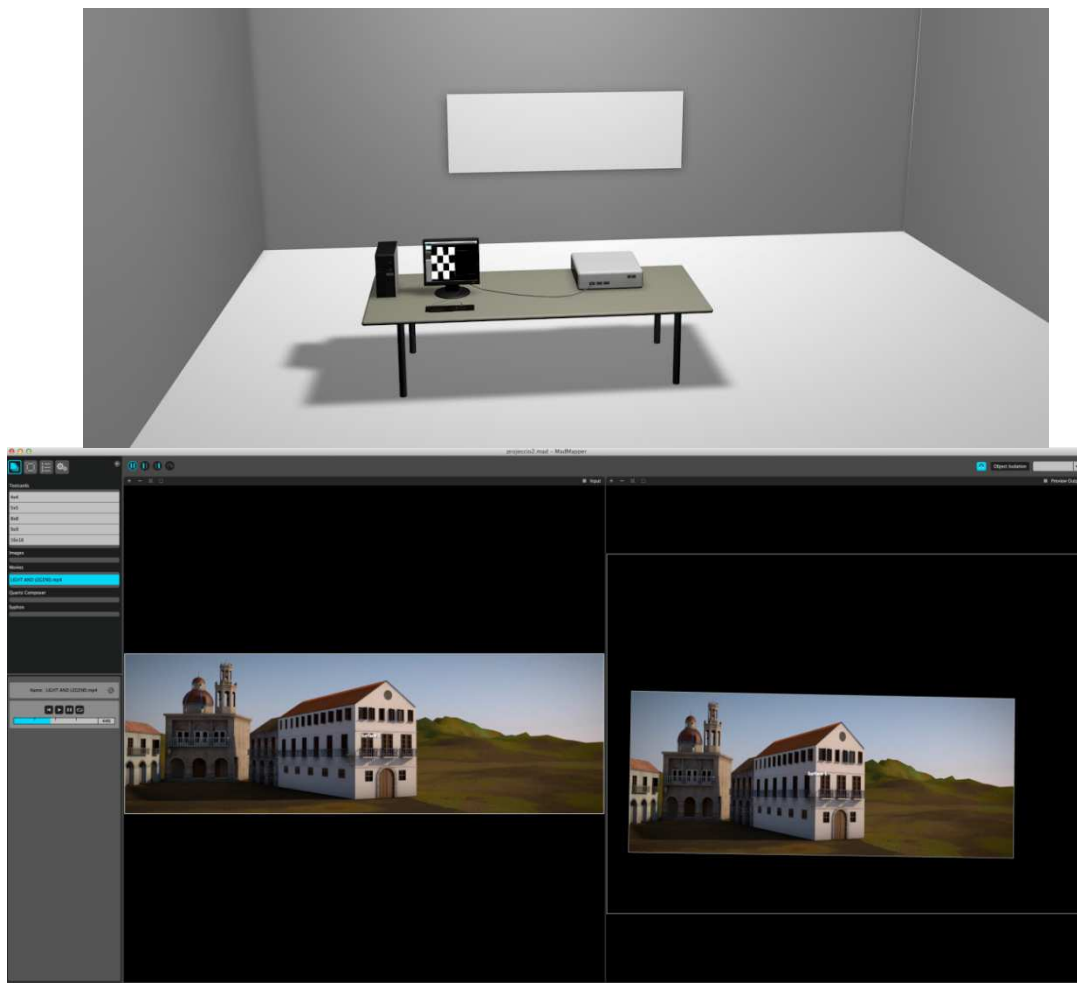


Fig 7.1 Videoprojection

Once this procedure was made I started with the projection, and with that, the recording. I had two cameras, one with a fix shot and the other one with different camera positions from different angles. I wanted to show the vision that could have a person visualising it, and also to show the edit and the procedure to create the mapping.

## 7.1 Problems and solutions

As I have explained above, the first idea was to draw the limits of the building and the cave with a black line made with a pen. When I tested it, however, I saw that the result was not the one I expected and it could not be well appreciated. Furthermore, when the video covered 100% of the surface and the buildings did not appear, but the lines, they were annoying and it was not the effect that I expected to obtain.

I decided that I had to change this idea, or at least modified it. Finally I found the solution. What I made was to make a second cardboard layer on the basis structure that I already had, so I managed in this way to have a relief that made surface not completely flat, but stood out half a centimetre more in the village zone and the cave.

Also, I did not eliminate the idea of the lines, since I already had one relief, shadows were projected and they already gave the sensation that the edges were stood out. A part of the buildings, in particular, the belfry of the church-town council, I decided to follow it since it was a zone that it was not annoying and that it had quite detail that it could stand out.

Finally, my project has ended being up a mix between two types of mapping, with relief and black lines. At any rate, I have kept the idea of making it on a flat surface, since the relief is minimum and only the cave and the buildings stand out.



Fig 7.3 Town surface

## 8. Final video

Once made and recorded the projection was the moment to edit the final video, get the master file and place all the images and videos that could be relevant for the project. As it would be the video to distribute, it had to contain the part of visual contents of the video, as well as the procedure to achieve it.

The software used was Adobe Premiere and I used two different music, the first one was used to show the assembly (Everlone - Blind Eyes) and the second one was the same used of the video I had to project (Drone - Healing my toothache). These two were extracted from “Free Music Archive” web, free of licenses.

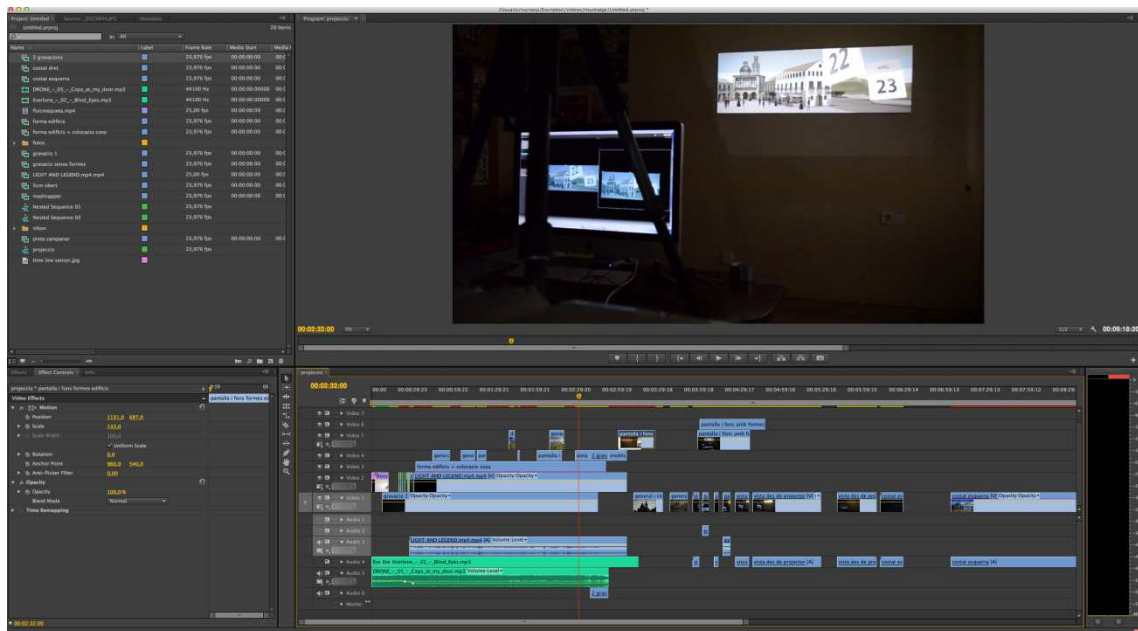


Fig 8.1 Final video production



## **9. Intellectual propriety**

This project is for an academic purpose and has an attribution of creative commons license. People will be able to share and download the video but with some restrictions.

The intangible assets, such as literary, artistic works, designs and inventions have exclusive rights of Intellectual propriety.



## 10. Conclusions

This project has helped me to think through the bunch of ideas I had. I have worked and dealt with a technique that I did not know. Also, I started a project from the very beginning, and that means to learn and discover all the programs and the secrets that I have found and needed.

It was not an easy job. An animation project requires a lot of effort, patience and time. Also, to do this kind of project alone is more difficult than doing it in groups or in pairs. However, I am quite satisfied with the result, if I took into account the circumstances, and also, at the beginning of the adventure I did not have even the half of all the knowledge I am having currently. For only that reason, I achieve one of the main objectives. Although the results may not represent all the visual work I have done, what I take away from this project is much more.

I have learned from the mistakes, the inexperience and problems that, at the beginning I had not foreseen and I have found while I was doing the project. All of that is what made me learn.

I know that if I have to do a project of this kind and magnitude again, I will not do it alone. And if I did it, I would take a different path. Currently, it could work much better in the preproduction, since I know how to develop a project as video projections.

The fact of changing the software at the beginning of the project made me lost a valuable time. However, I do not regret it, because it made the work easier, even if I did it more slowly. Also, I did the animations that otherwise they would have been much more difficult. Therefore, the production time was reduced. Besides, since I was being trained at the same time I was doing the project, I could not dedicate all the required hours.

I think that I have accomplished most of the aims I set. I created a video of the projection, and, foremost, I created a visual content based on the animation, which later would be used to project. I told a traditional story using modern techniques, as both 2D and 3D. These techniques are reflected in the project.

Another of the main objectives that I set was to transform a flat surface in an area that had movement, so as to say, it had life. I think that I have achieved quite this purpose, which was one of the most important aims. However, there is much to improve and I think that, in future projects, I can achieve more accurate results.

On the one hand, I would have liked to dedicate more time to the characters. I believe that they are one of the weak points of the project. Regarding the animation, I think it could have been more worked and precise. On the other hand, their design and the style are approximately the one I had proposed to, the black and white in a silhouette shape, but I think it could be improved and better integrated with the rest of the scene.

One of the last parts to be improved might be the music. The chosen song is very appropriate and it fits perfectly in my project, but to achieve perfection would be convenient to have an original soundtrack, specifically for the video. Anyway, I am very satisfied with the chosen piece.

Finally, I think I have achieved most of the aims, or at least, I was closer. I have learned many things that I know they will be useful in my future and I have found many errors that helped me to improve and to find solutions to make this project real.

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# Escola Universitària Politécnica de Mataró

Centre adscrit a:



UNIVERSITAT POLITÈCNICA  
DE CATALUNYA

**Graduat en Mitjans Audiovisuals**

**LIGHT AND LEGEND**

**Financial plan**

**NÚRIA XAUBET I PUJADÓ**  
**TUTORS: DAVID MINGUILLÓN**

SPRING 2013



**TecnoCampus**  
**Mataró-Maresme**



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# 1. Cost of production

In this document you can see the economic expenses related with the project. These are divided by different important steps to create a video projection.

Here we consider several aspects as:

- Material costs
- Human resources costs
- Amortizations costs (technical material used for the project realization)

The references of the salary costs are extracted from BOE (“Boletín Oficial del Estado”), in the section of the audiovisual sector [1].

## 1.1 Material costs

The costs to construct the set to make de projection are the following ones:

DESCRIPTION	QUANTITY	PRICE/UNIT(€)	TOTAL (€)
Cardboard (200x100)	1	5,70 (+cost of cutting in 120x60)	7
Marker	1	2	2
Pencils	1	0.75	0.75
Cable Mini display Port to VGA Adapter	1	30	30
<b>TOTAL</b>			<b>39,75 €</b>

Table 1.1 Material costs

## 1.2 Human resource cost

CONCEPT	WEEK	PRICE/WEEK (€)	TOTAL (€)
Script & planner	1	315,65	315,65
Designer	2	394,73	789,46
3d modeller	5	726,23	3631,15
Animator	5	726,23	3631,15
Video Editor	3	392,38	1177,14
Sound Editor	3	354,01	1062,03
Video Postproducer	2	394,73	789,46
Audio Postproducer	1	356,14	356,14
VJ	1	392,38	392,38
Camera Man	2 days	42,06 (day)	84,13
Audio Technician	2 days	42,06 (day)	84,13
Attrezzo	2 days	42,06 (day)	84,13
<b>TOTAL</b>			<b>12396,95 €</b>

Table 1.2 Human resource costs

### 1.3 Amortizations cost

EQUIPMENT	PRICE/ UNIT(€)	USE HOURS	RENT COST/H (€)	TOTAL (€)
<b>Equipment &amp; software</b>				
Computer iMac		1500	0,75	1125
Suite Adobe		400	1,00	400
MadMapper	177,905	48	0	177,905
Cinema4D Student version		700	0	0
Microsoft Office		150	1,00	150
<b>Projection equipment</b>				
Projector		48	3,00	144
<b>Recording Equipment</b>				
Kit Camera Canon 60D		48	5,00	240
Kit Camera Nikon D5100		48	5,00	240
Canon 17-85mm f4		48	2,50	120
Nikon 18-55mm f3.5		48	2,50	120
Tripod Dorr		48	2,00	96
<b>TOTAL AMORTITZATIONS</b>				<b>2812,90 €</b>

Table 1.3 Amortizations costs

## 1.4 Final theoretical cost

CONCEPT	PRICE (€)
Material costs	39,75
Human resources cost	12396,95
Amortization costs	2812,90
<b>TOTAL</b>	<b>15249,60 €</b>

Table 1.4 Theoretical cost

So, for one unit of my product, we should spend **15249,60 €**.

## 2. Distribution

### 2.1 Distribution method

The main methods of distribution will be basically through Internet, by Social Networks as Facebook or Twitter. This is an audiovisual product, a video, therefore, the visualization has to be through the computer and the own Internet.

However, we could consider to transfer the installation in some other space. In this case, it is an extra cost of a person that transports all the material needed (computer, cables, projector, surface)

### 2.2 Distribution cost

In the case of the Internet distribution, the cost will be of zero €, without taking the expenses of internet or electricity into account.

For the other hand, if we consider that the video has a resolution of 3402x1134 and the standard account from Vimeo only allows resolutions up to 720p, here we can find an extra cost, to purchase a “Vimeo plus” account, that allows videos with HD resolution up to 1080p with the price of 7,95€/month (49,95€/year).

If we have to transport the installation, the costs would be the following ones:

CONCEPT	PRICE(€)
Public transport	33,38(day)
Petrol	1,568(L)
Diesel	1,364(L)
<b>TOTAL</b>	(Variable)

Table 2.1 Distribution cost

Therefore, depending of the distance of the place, the cost will be more expensive or less.



### 3. Real cost

#### 3.1 Material costs

Expenses carried out in the “Light and legend” project.

DESCRIPTION	QUANTITY	PRICE/UNIT(€)	TOTAL PRICE(€)
Mini Display Port to VGA Adapter	1	30	30
MadMapper	1	177,905	177,905
Cardboard (200x100)	1	5,70 (+cost of cutting in 120x60)	7
<b>TOTAL</b>			<b>137 €</b>

Table 3.1 Material costs

#### 3.2.Final real cost

CONCEPT	PRICE (€)
Material cost	137€
Human resources cost	0€
Amortization costs	0€
<b>TOTAL</b>	<b>137€</b>

Table 3.2 Final real costs



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## **Annex 1. Synopsis**

### **1.1 Storyline**

#### **SAINT GEORGE (SantJordi) Story line.**

Once upon a time, in a far, away land there was a small medieval village with a wonderful castle on the top of a hill. There lived the King and his daughter, the Princess.

The village didn't have many villagers so daily life was really quiet. Each family had their own animals and their jobs, which allowed them, carry on with a normal life.

It was at the beginning of spring and one day something happened and broke the calm of the village. An enormous and fierce dragon appeared, it was living in a cove near the town. That beast was the worst thing that could have happened to them. It was the evilest, ugliest beast those villagers had ever seen. The dragon could also walk, swim and fly!

Moreover, it was very big so it was always starving. The dragon ate everything it came across: flocks of sheep, horses, cows, vegetables... It destroyed all the villagers' crops.

The villagers had to found a solution. They wanted to return to their relaxed and peaceful way of life and stop that chaos. So they decided to go to the castle, looking for the King and tried to make a decision to fight the beast. After some hours they agreed that they would gave two animals to eat every day to keep the dragon far from the village. They had to bring him sheep, bulls, horses... to the cove where the dragon lived.

They had a problem. One day the villagers ran out of animals. They hadn't got anything to give to the beast. They decided to go to talk with the king another day and to found another solution. They decided to give to the dragon a different person every day, as a meal, like a raffle to keep the dragon as far from the village as they could.

The days were passing by and they couldn't stop the beast. Every day the king went to the village to do a "raffle" and choose the unlucky person. One unlucky day the King's daughter was chosen. That moment was very dramatic. She was the King's only child so the king didn't want to give her to the dragon. The people were angry because he had to act like all the other villagers. The king had to accept it.

The entire town brought the princess to the dragon, like every other day with every chosen person. The moment the princess was going to be eaten was getting closer. The dragon prepared his big nasty mouth to eat the princess. Suddenly appears a handsome knight riding a white horse that came to the place where all the people was. The boy named George brought a shield and a spear with a red cross that identified him.

He went towards the dragon and started to fight with the beast. All the people were *surprised*. They didn't know anything about that boy but he was saving the village of that ugliest animal.

Finally, after the battle, St Jordi killed the dragon with his spear. From the blood grew a rose bush, and from its branches bloomed red roses. He took one of them and gives a rose to the princess.

All the villagers were grateful to George. The dragon was dead and the village could return to its relaxed and calm way of life. Saint George had to return to his village, but he didn't go back alone, he returned with the princess and with some books that people gave to the boy as a present for the battle.

They decided that from that moment they'll celebrate the Day of Saint George every year at the same day, to remember his fight with the dragon and him saving the population.

There starts the tradition which says that every Day of Saint George, at 23th of April. The boy has to present a rose to the girl and the girl has to present a book to the boy as a romantic sign.

.

## 1.2 Storyline by scenes

### Saint George legend (Story divided by scenes)

#### SCENE.1

Once upon a time, in a far, away land there was a small medieval village with a wonderful castle on the top of a hill. There lived the King and his daughter, the Princess.

#### SCENE.2

The village didn't have many villagers so daily life was really quiet. Each family had their own animals & their jobs which allowed them carry on with a normal life.

#### SCENE.3

It was at the beginning of spring and one day something happened and broke the calm of the village. An enormous and fierce dragon appeared, it was living in a cove near the town. That beast was the worst thing that could have happened to them.

#### SCENE.4

It was the vilest, ugliest beast those villagers had ever seen. The dragon could also walk, swim and fly!

#### SCENE.5

Moreover, it was very big so it was always starving. The dragon ate everything it came across: flocks of sheep, horses, cows, vegetables... It destroyed all the villagers crops.

#### SCENE.6

The villagers had to find a solution. They wanted to return to their relaxed and peaceful way of life and stop that chaos.

#### SCENE.7

So they decided to go to the castle, looking for the King and tried to make a decision to fight the beast.

#### SCENE.8

After some hours they agreed that they would give two animals to eat every day to keep the dragon far from the village. They had to bring him sheep, bulls, horses... to the cove where the dragon lived.

#### SCENE.9, a, b, c, d

They had a problem. One day the villagers ran out of animals. They hadn't got anything to give to the beast

#### SCENE.10

They decided to go to talk with the king another day and to find another solution.

#### SCENE 11

They decided to give to the dragon a different person every day, as a meal, like a raffle to keep the dragon as far from the village as they could.

#### SCENE.12 (every day less people) a, b

The days were passing by and they couldn't stop the beast. Every day the king went to the village to do a "raffle" and choose the unlucky person.

#### SCENE.13

One unlucky day the King's daughter was chosen. That moment was very dramatic. She was the King's only child so the king didn't want to give her to the dragon.

**SCENE .14, b**

The people were angry because he had to act like all the other villagers. The king had to accept it.

**SCENE 14b**

All the town brought the princess to the dragon, like every other day with every chosen person.

**SCENE.15**

The moment the princess was going to be eaten was getting closer. The dragon prepared his big nasty mouth to eat the princess,

**SCENE.16**

Suddenly appears a handsome knight riding a white horse that came to the place where all the people was. The boy named George brought a shield and a spear with a red cross that identified him.

**SCENE.17**

He went towards the dragon and started to fight with the beast. All the people were *surprised*. They didn't know anything about that boy but he was saving the village of that ugliest animal.

**SCENE.18**

Finally, after the battle, St Jordi killed the dragon with his spear

**SCENE.19**

From the blood grew a rose bush, and from its branches bloomed red roses.

**SCENE.20**

He took one of them and give a rose to the princess.

**SCENE.20**

All the villagers were grateful to George. The dragon was dead and the village could return to its relaxed and calm way of life.

**SCENE .21**

Saint George had to return to his village, but he didn't go back alone, he returned with the princess and with some books that people gave to the boy as a present for the battle.

**SCENE.22**

They decided that from that moment they'll celebrate the Day of Saint George every year at the same day, to remember his fight with the dragon and him saving the population.

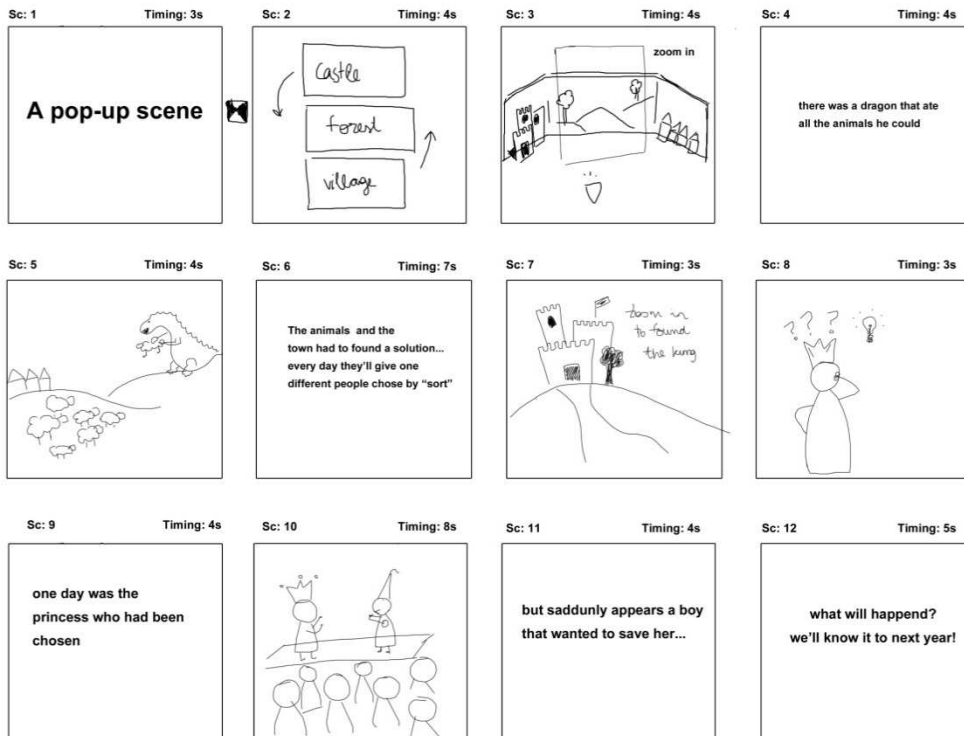
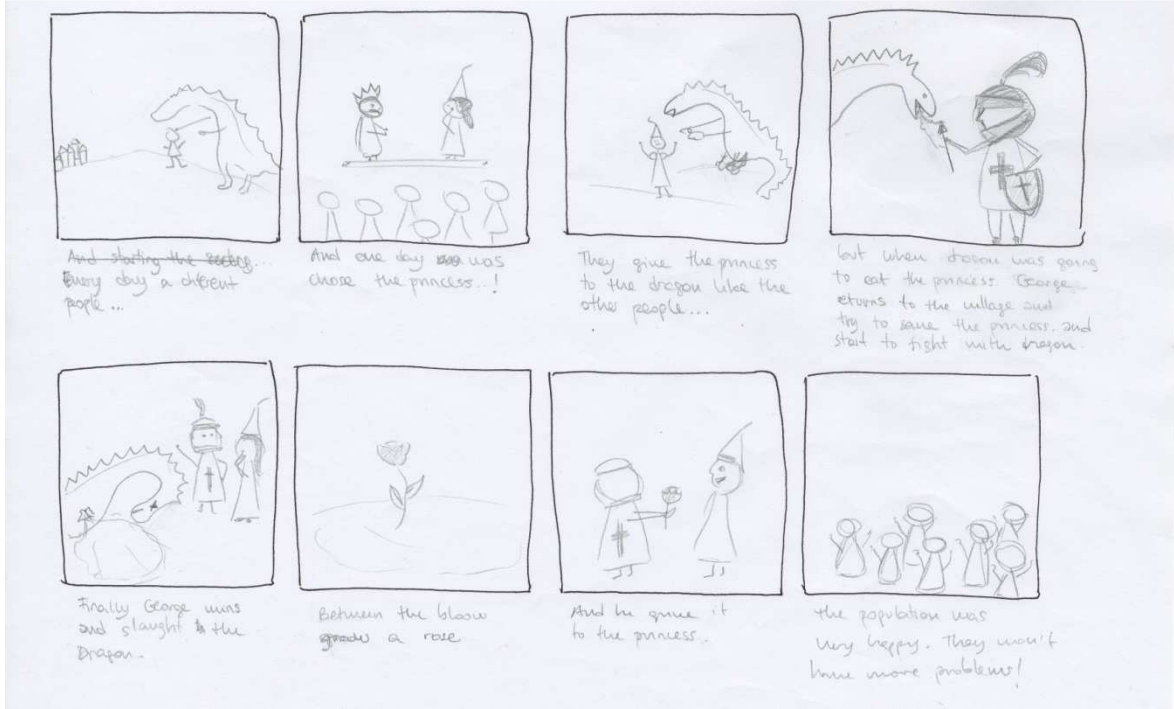
**SCENE.23 a, b, c, d**

There starts the tradition which says that every Day of Saint George, at 23th of April,


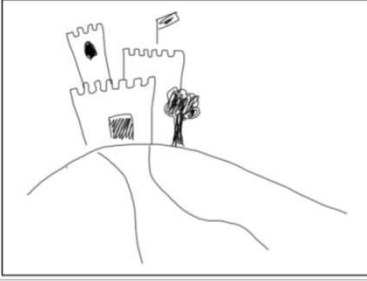

The boy has to present a rose to the girl and the girl has to present a book to the boy as a romantic sign.


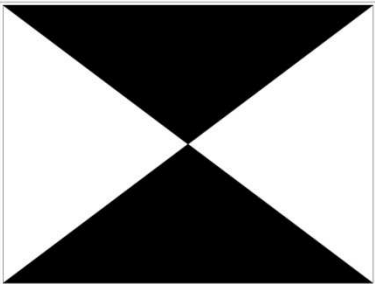
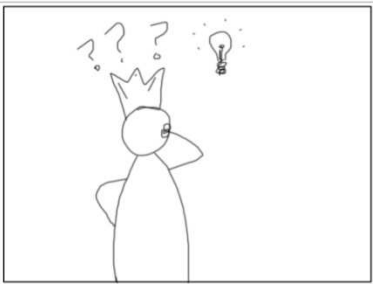
# Annex 2. Storyboard

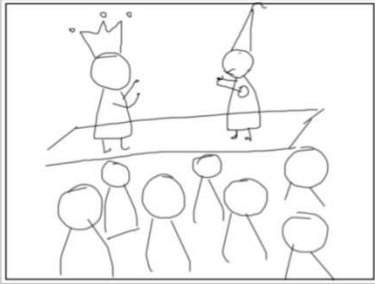
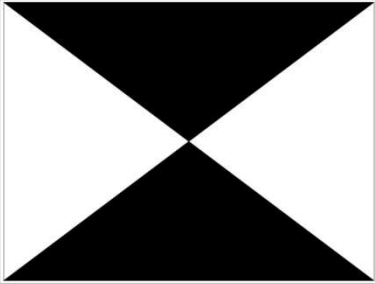

## 2.1 Storyboard of the trailer



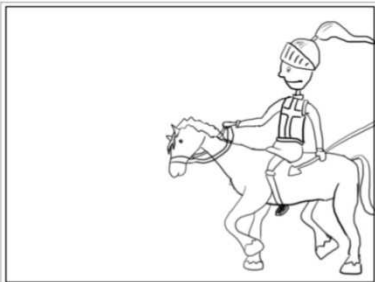
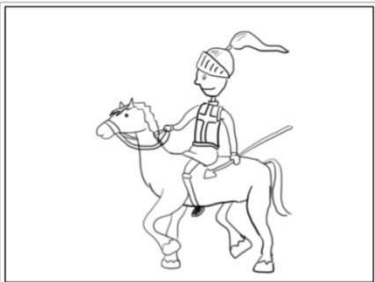
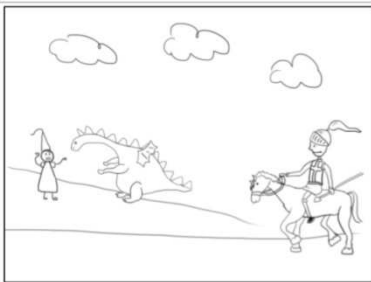
## 2.2 Animatic of the trailer.

Storyboard				Storyboard				Page 2/6			
Scene	Duration	Panel	Duration	Scene	Duration	Panel	Duration	Dissolve	Duration		
4	09:21	2	04:00	5	05:00	1	05:00		01:00		
											
<p><b>Dialogue</b> (off) They had to found a solution...</p>				<p><b>Dialogue</b> ... so the king decided one different person per day...</p>							
				<p><b>Action Notes</b> Visual effects on the castle.</p>							
<p><b>Camera</b> cut camera</p>				<p><b>Camera</b> Zoom in to the windows and fade to black</p>							
				<p><b>Effects</b> intriguing sounds like going in another space.</p>							


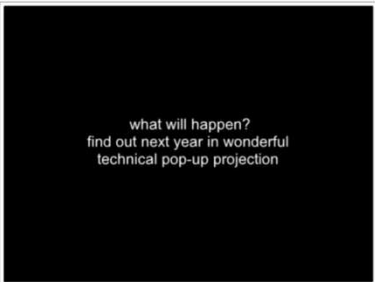
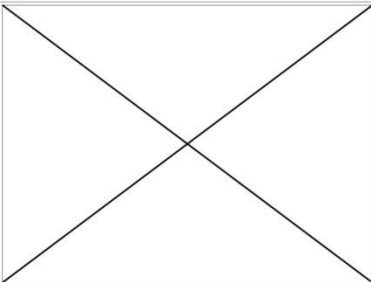
Scene	Duration	Panel	Duration	Dissolve	Duration	Scene	Duration	Panel	Duration
8	01:09	1	01:09		00:08	6	05:00	1	05:00
									
						<p><b>Dialogue</b> (off)...should be randomly chosen and sacrificed to the dragon. Every day, a different person.</p> <p><b>Slugging</b> King is thinking and worried to found a solution. He's scratching his head.</p> <p><b>Camera</b> zoom in to the king. From to back.</p> <p><b>Effects</b> murmur and grunts.</p>			

Scene	Duration	Panel	Duration	Dissolve	Duration	Scene	Duration	Panel	Duration
7	05:00	1	05:00		00:22	8_1	00:23	1	00:23
									
<p><b>Dialogue</b> (off) One day the princess was chosen</p> <p><b>Action Notes</b> The king randomly choose one person and we see that's his daughter</p> <p><b>Slugging</b> population starts to murmur when they knows that princess was chosen. The king was sad.</p> <p><b>Camera</b> zoom in to the king and the princess</p> <p><b>Effects</b> people murmur. King</p>									

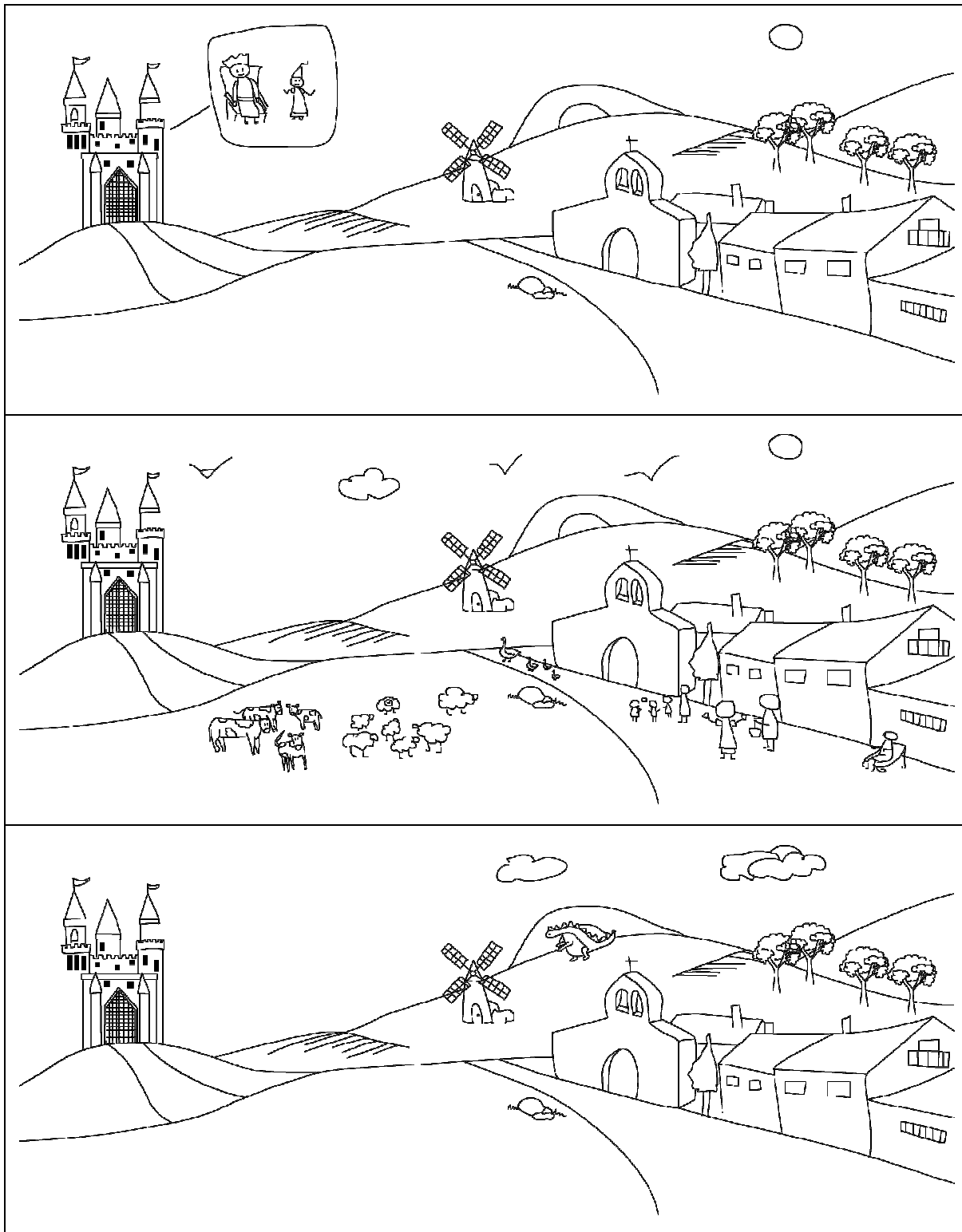
**toonboom** storyboard

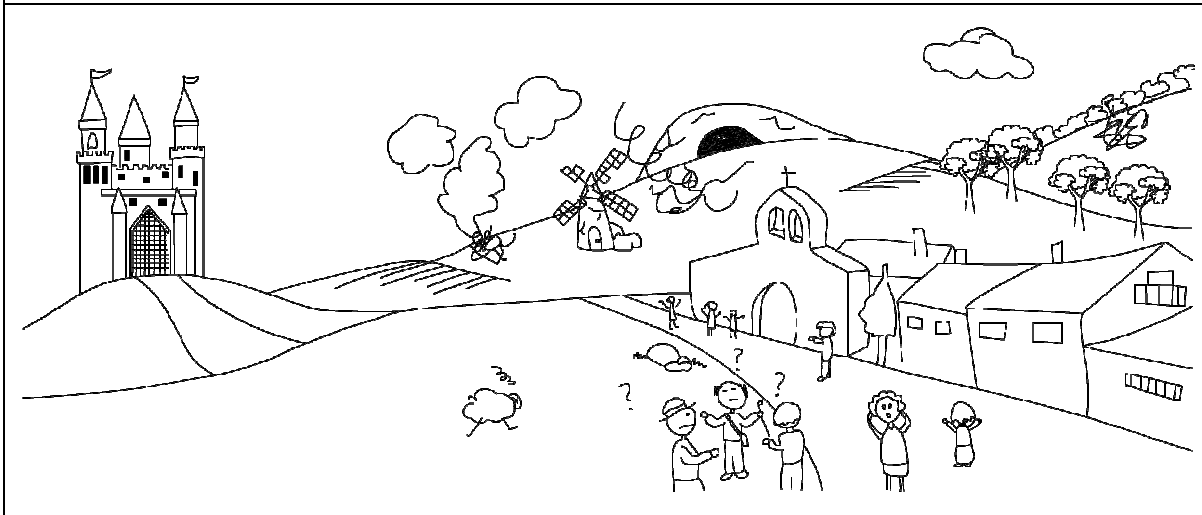
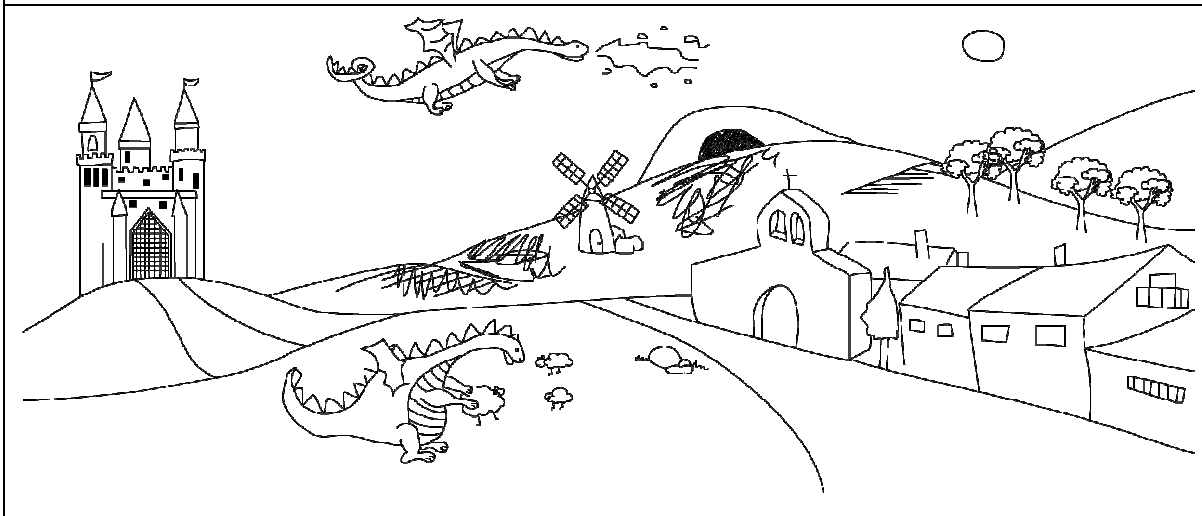
Scene	Duration	Panel	Duration	Scene	Duration	Panel	Duration	Scene	Duration	Panel	Duration
8_3	04:00	1	02:00	8_3	04:00	2	02:00	8_2_A	04:23	1	04:23
											
<b>Action Notes</b> Horse and Saint George go forward (?)				<b>Dialogue</b> (off) but suddenly appears a handsome ....				<b>Dialogue</b> (off) boy named George who pladged to save the maiden.			
<b>Slugging</b> concentrated and worried for the dragon				<b>Action Notes</b> Horse and Saint George go forward (?)				<b>Slugging</b> The princess is terrorised. Dragon looks hungry and evil. Saint George is concerned and troubled.			
<b>Effects</b> horse galloping				<b>Slugging</b> concentrated and worried for the dragon				<b>Camera</b> Very little zoom out			
				<b>Notes</b> Horse will walk				<b>Effects</b> horse trotting. Princess shouts and ask for help. dragon's grunts.			
				<b>Camera</b> zoom in to him							
				<b>Effects</b> horse galloping							

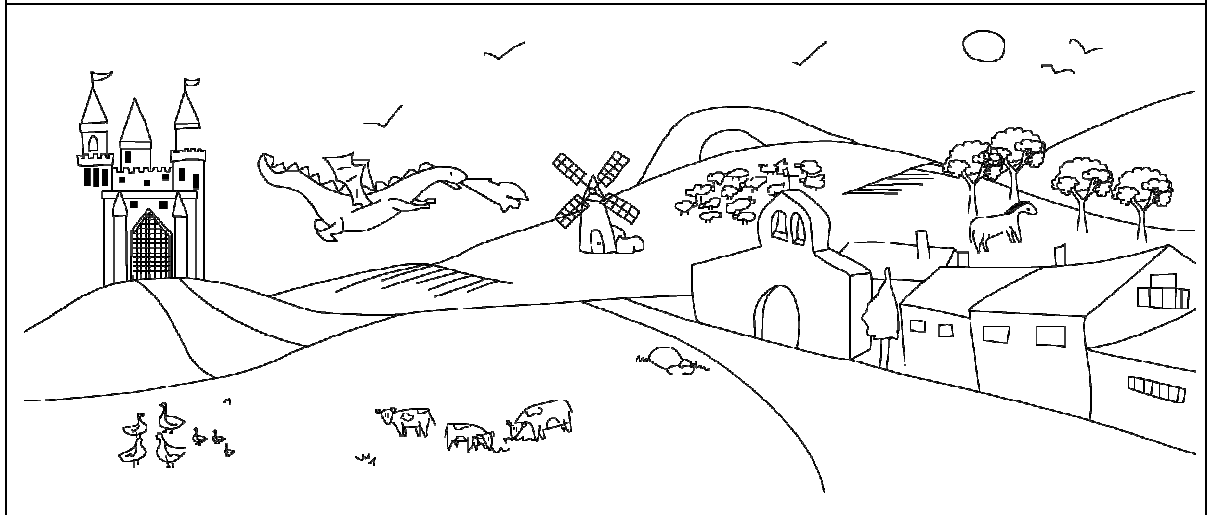
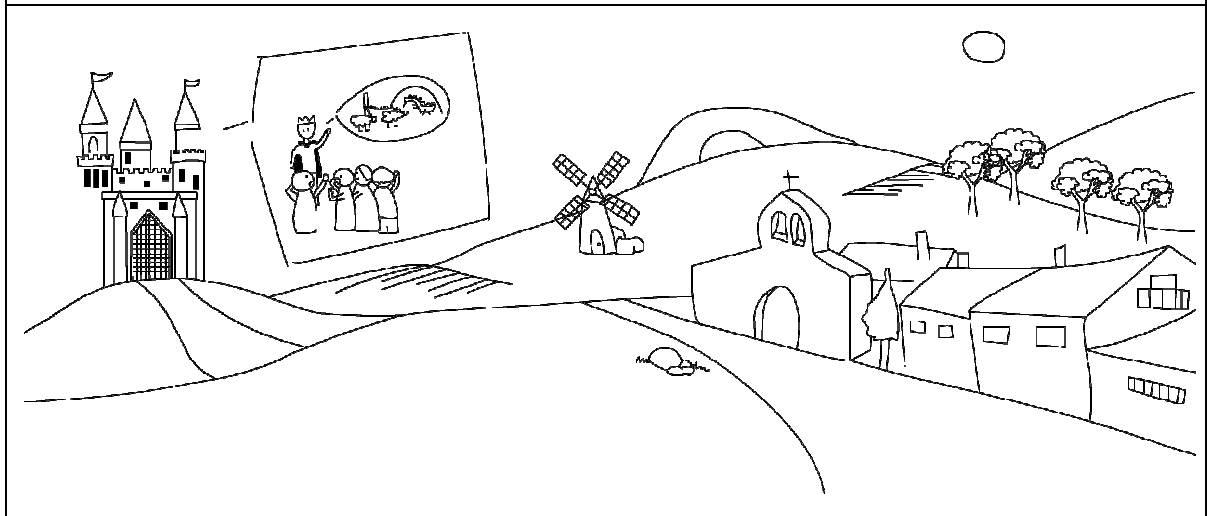
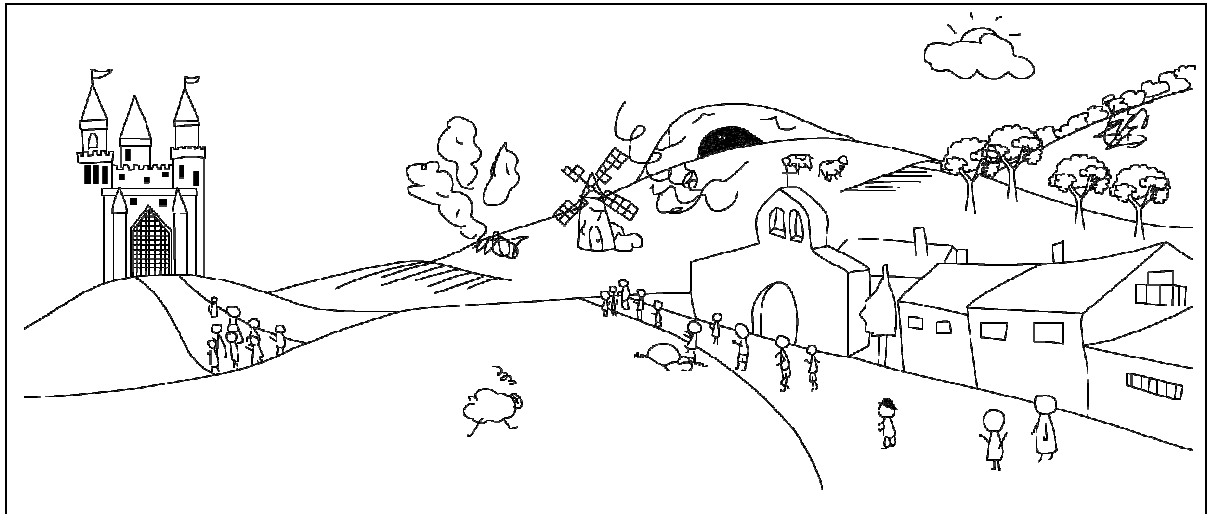
**toonboom** storyboard

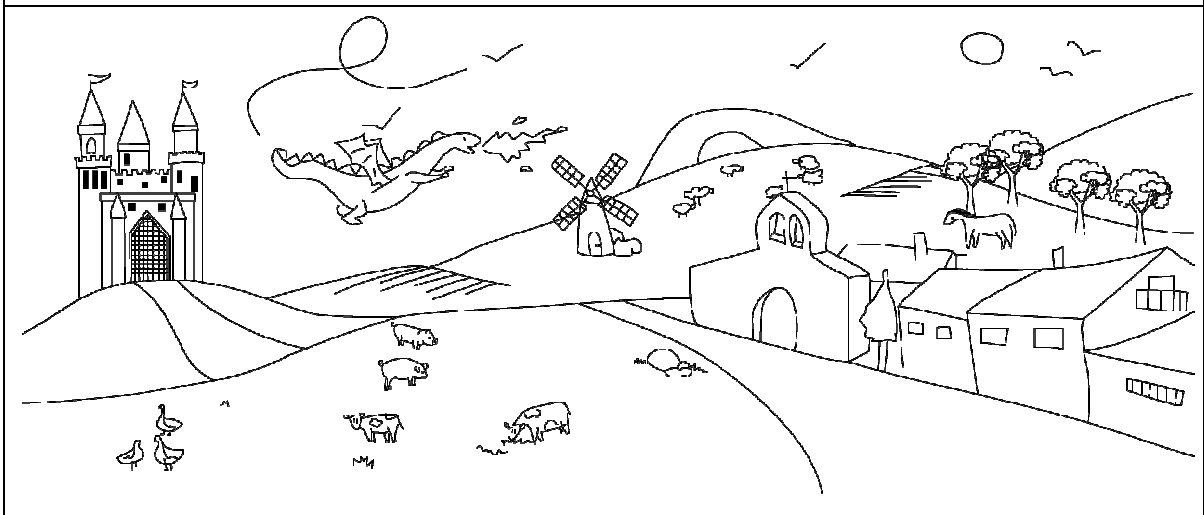
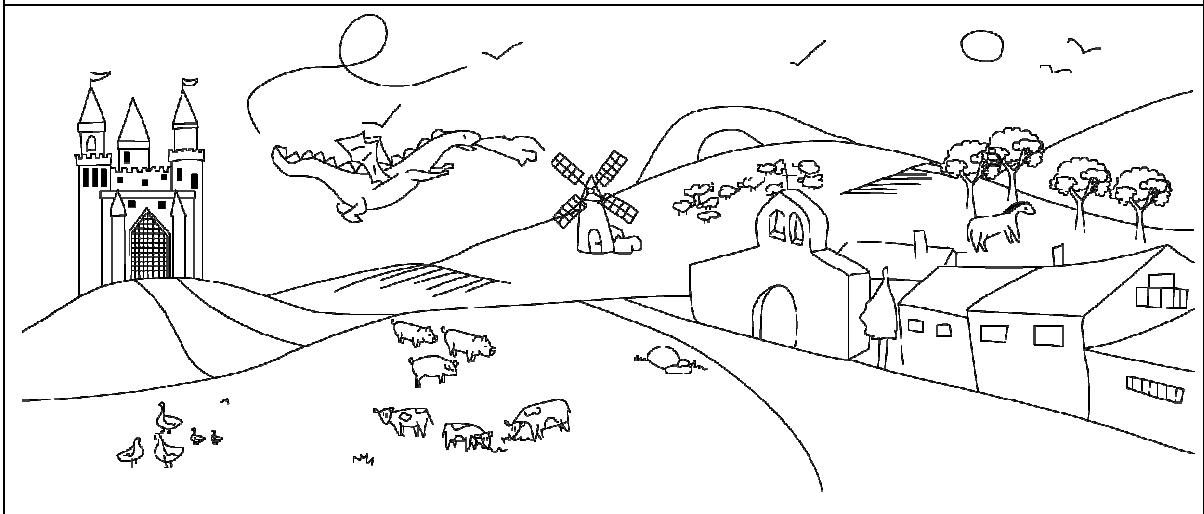
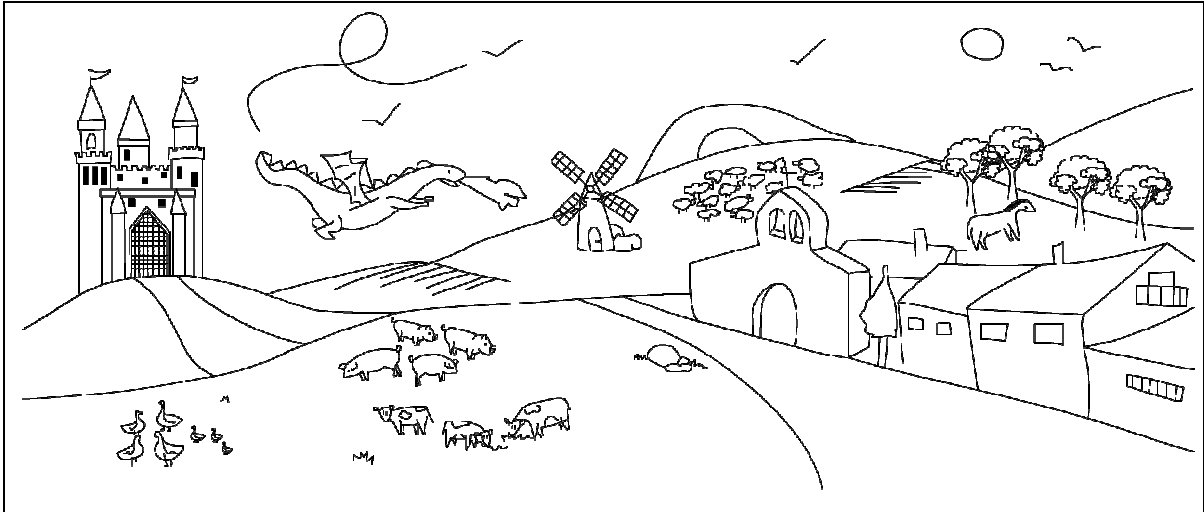
Scene	Duration	Panel	Duration	Scene	Duration	Panel	Duration	Scene	Duration	Panel	Duration
Dissolve	01:00			2	06:20	1	06:20	NO PANEL			
											
				<b>Dialogue</b> (off) what will happen? find out next year in wonderful technical pop-up projection							
				<b>Dialogue</b> (off) What will happen? find out next year in wonderful technical pop-up projection							

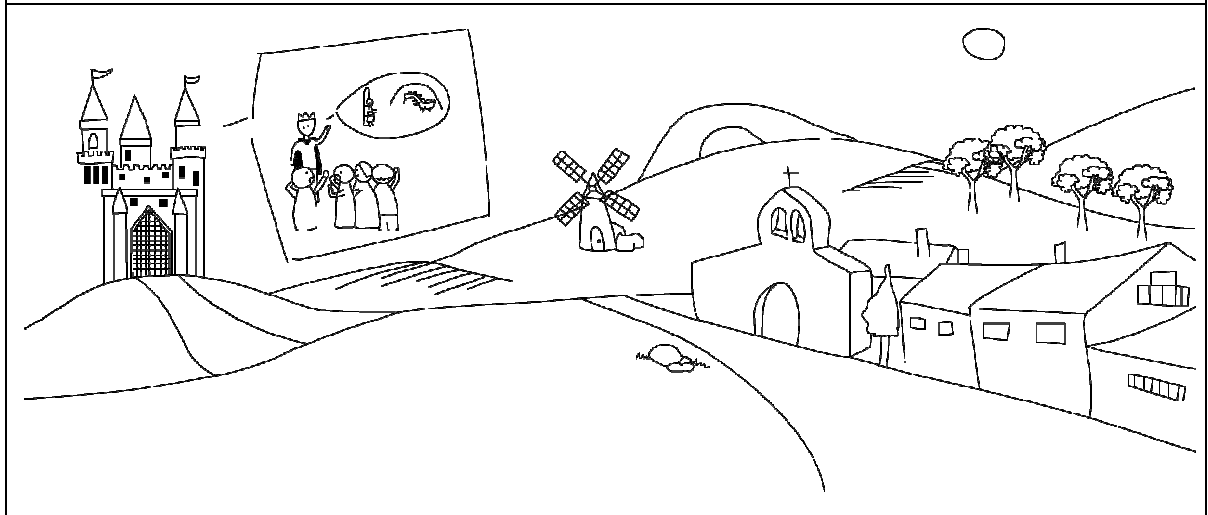
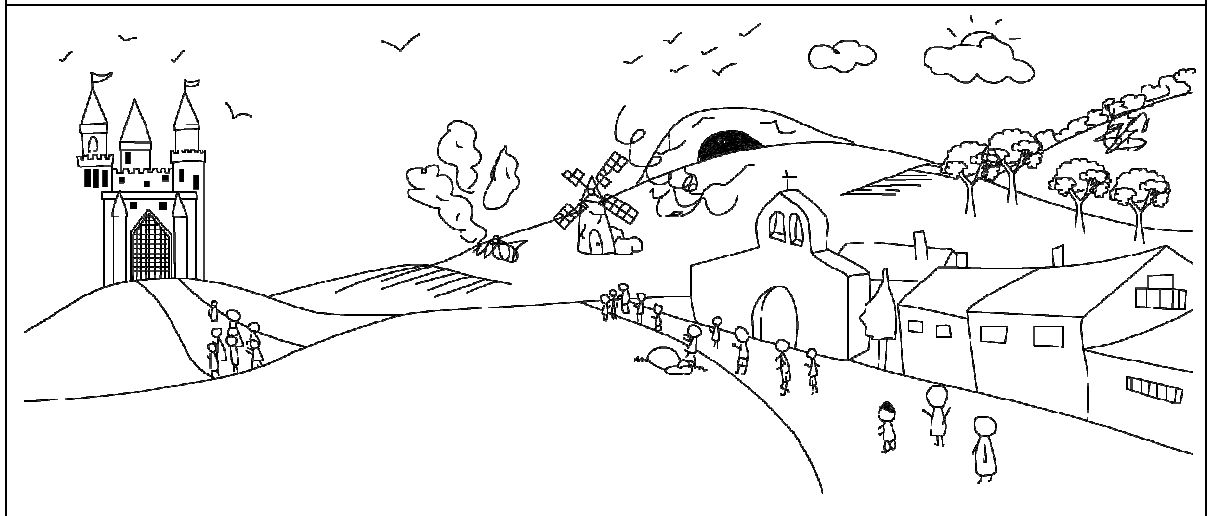
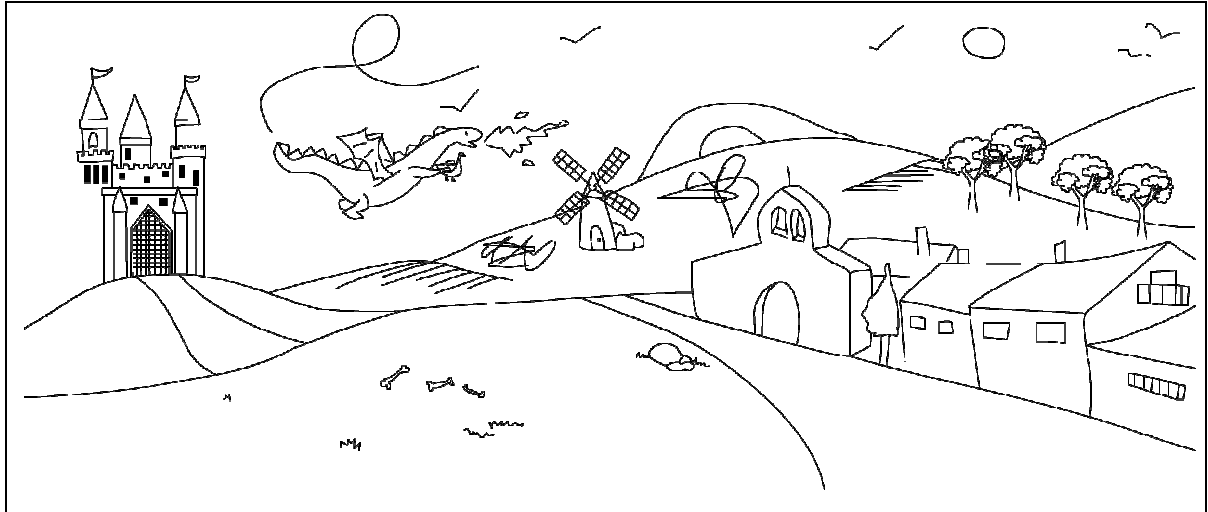
### 2.3 Storyboard of the entire production

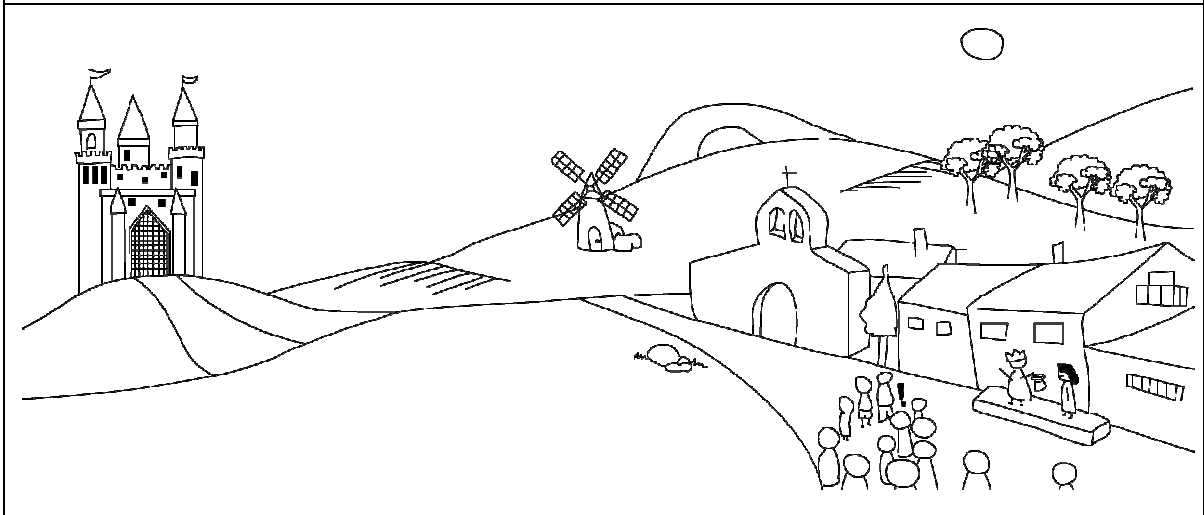
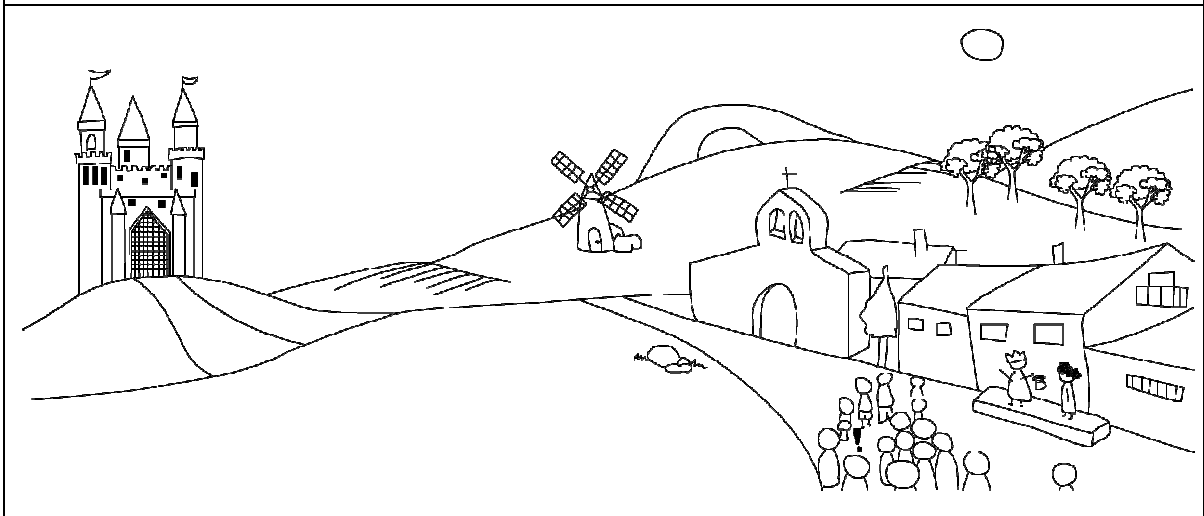
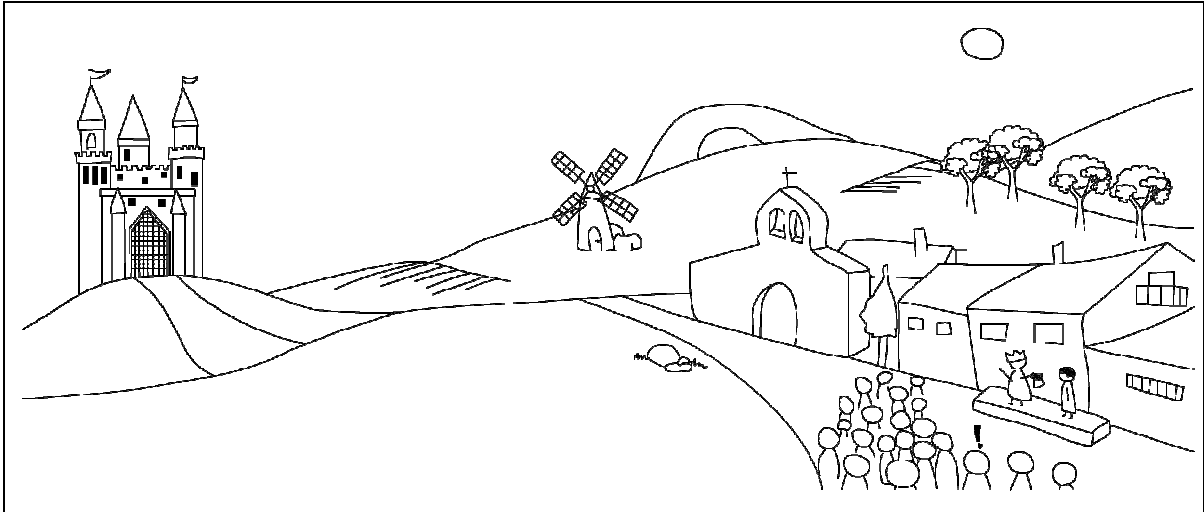


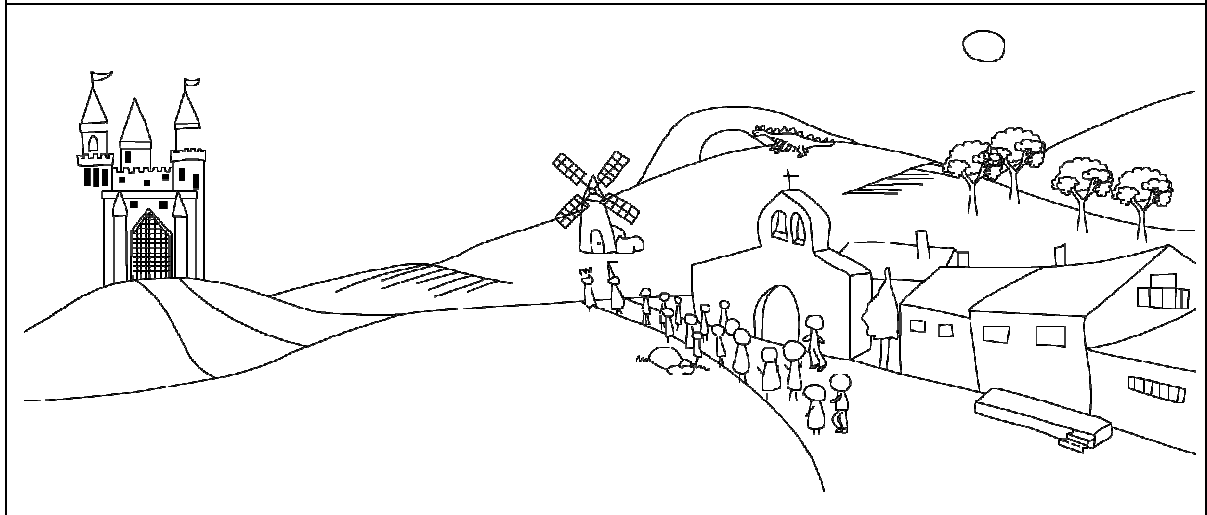
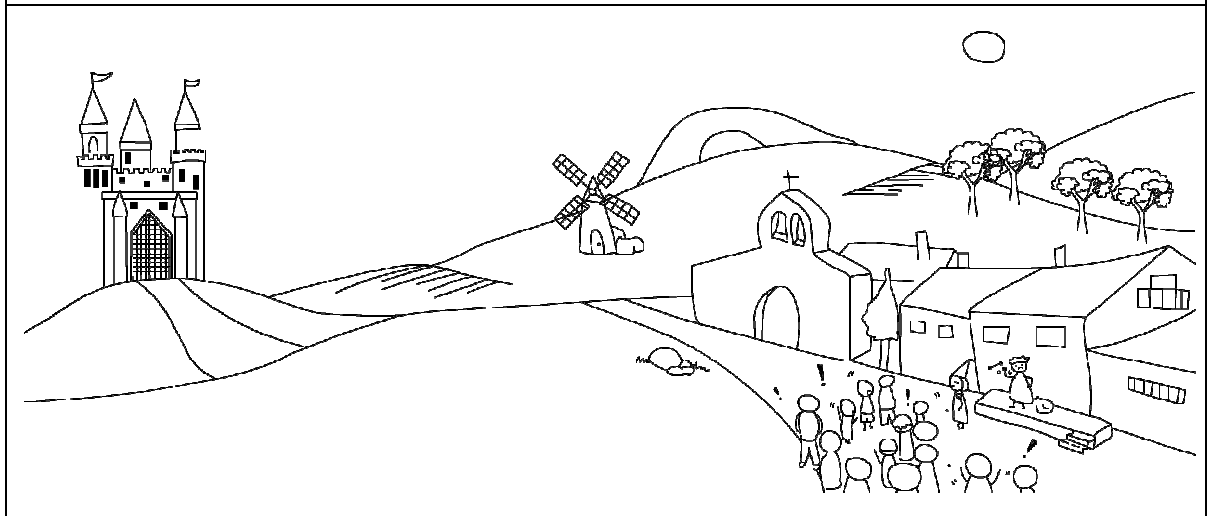
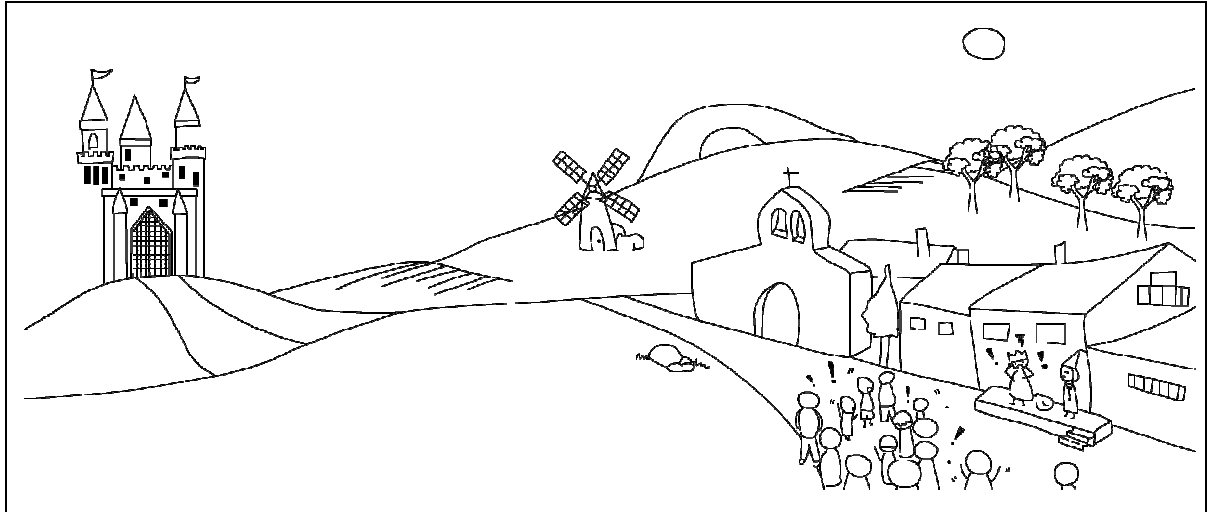


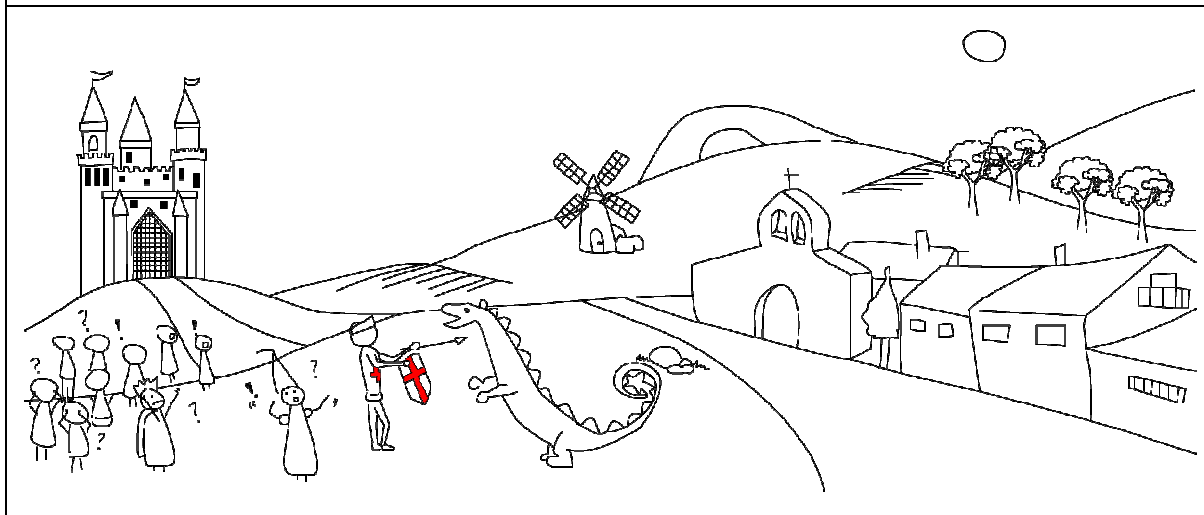
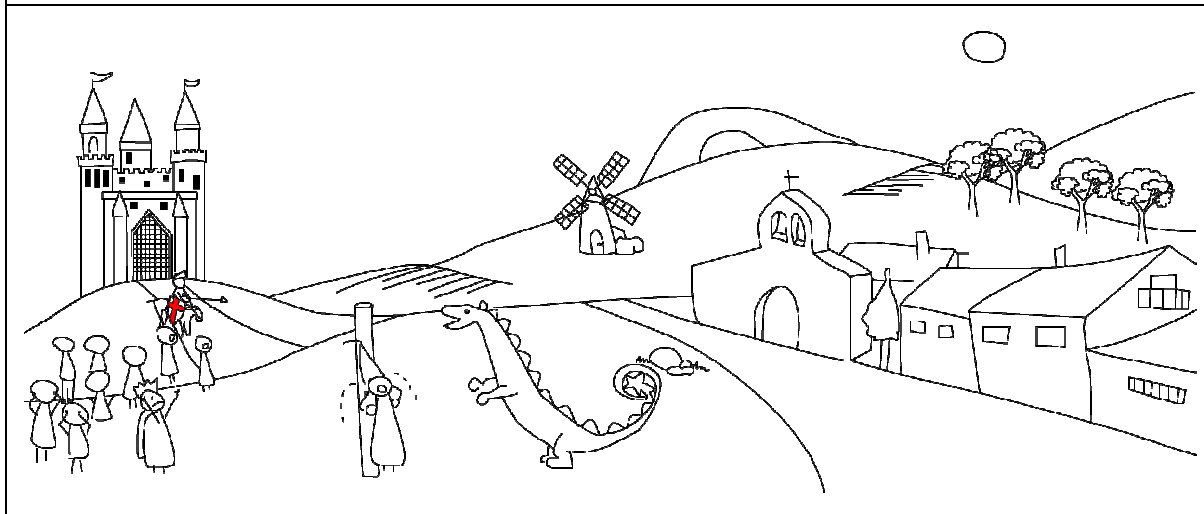
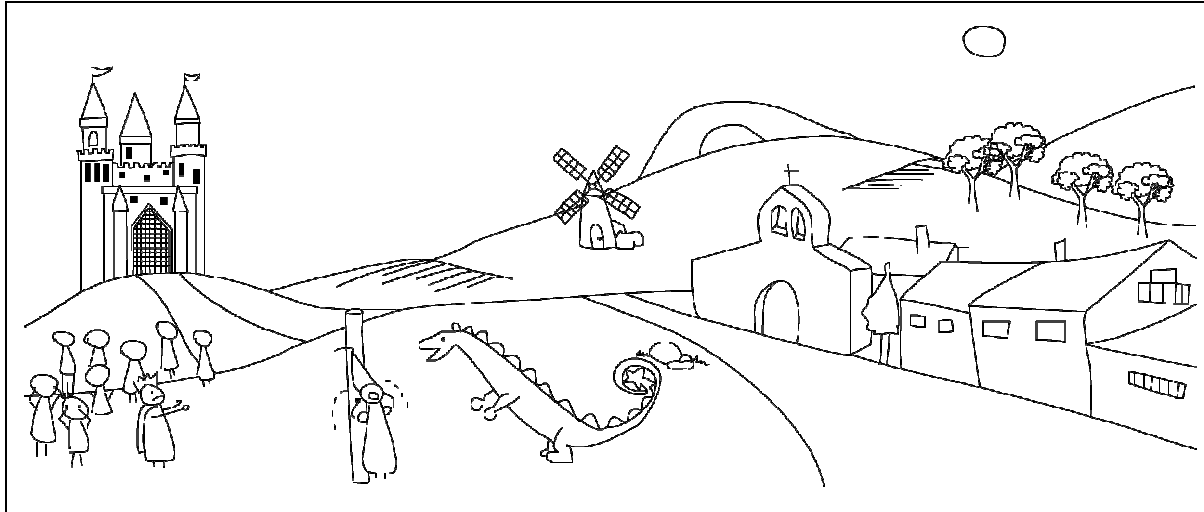


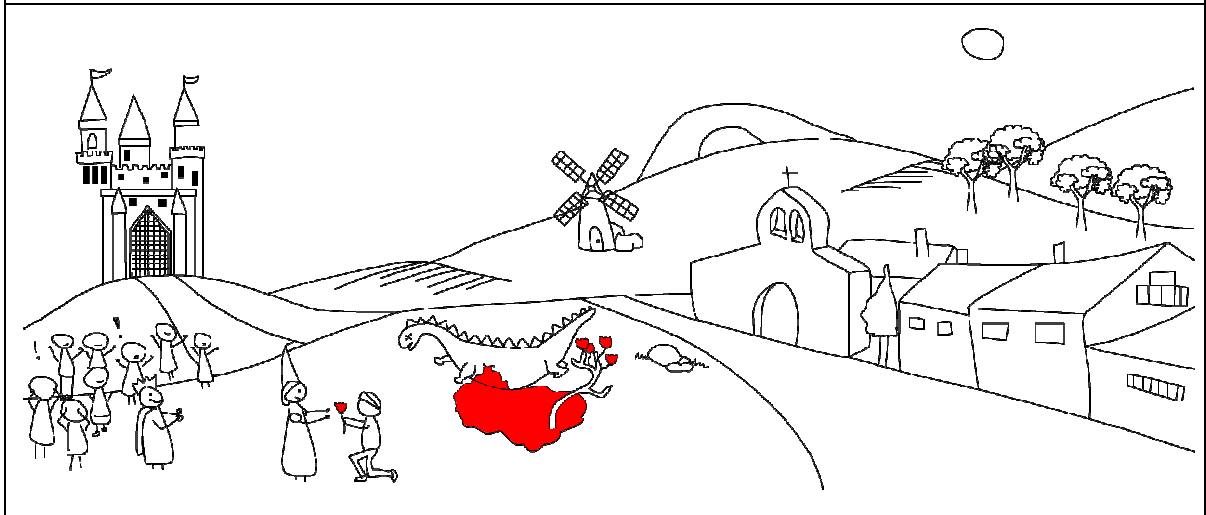
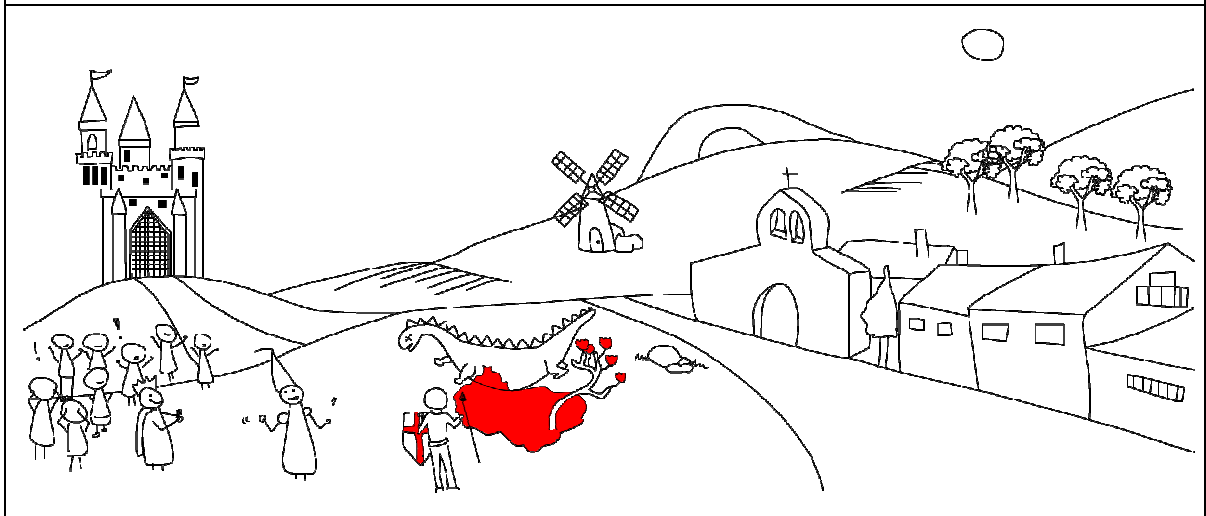
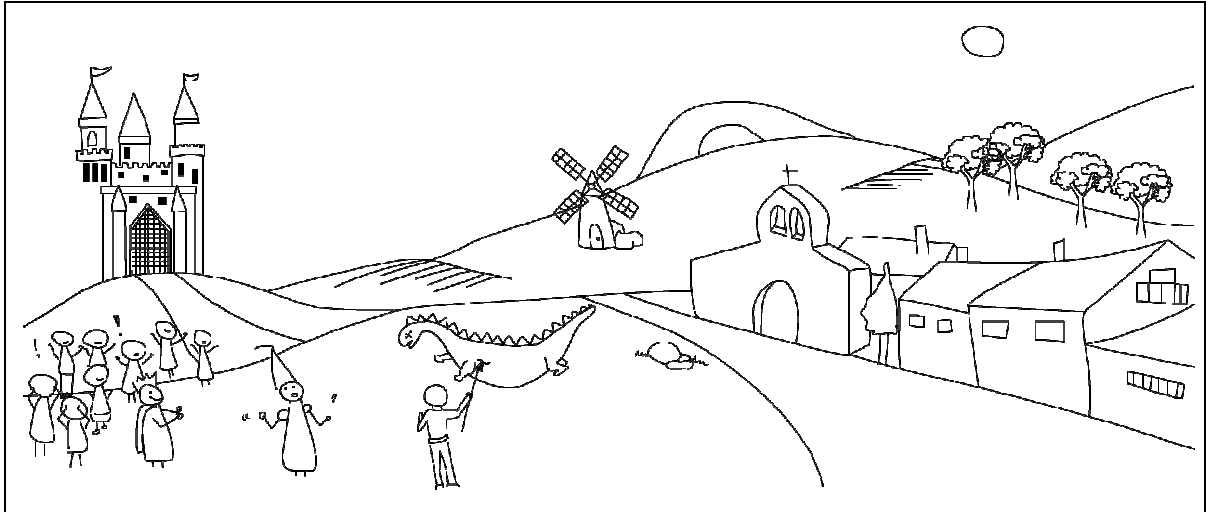


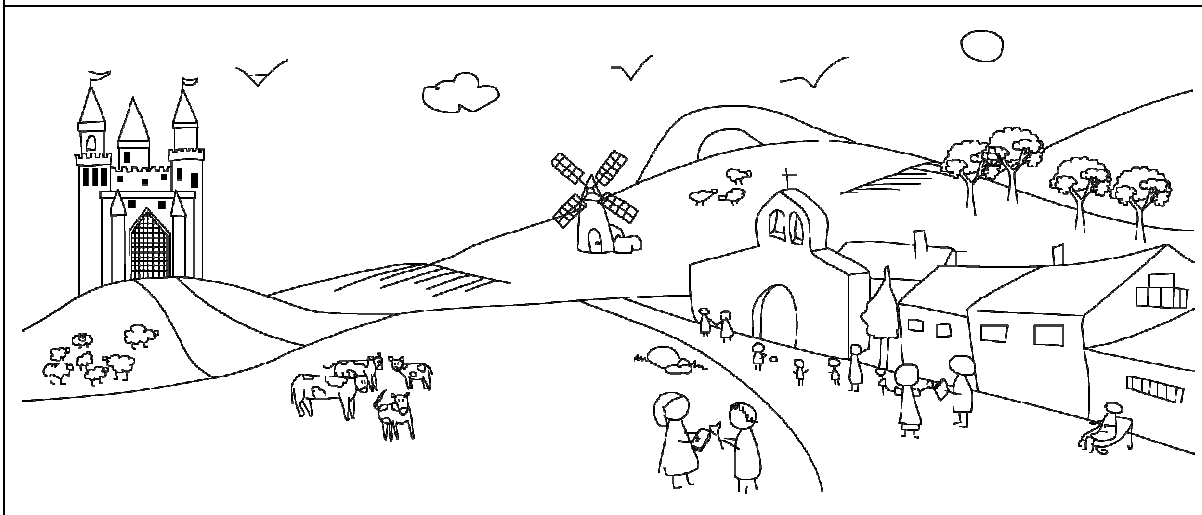
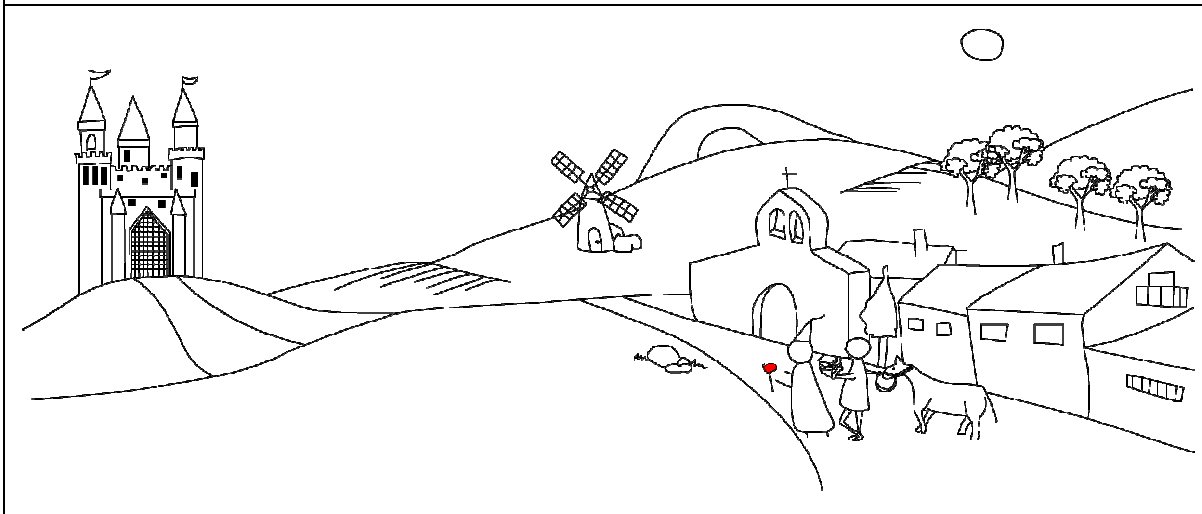
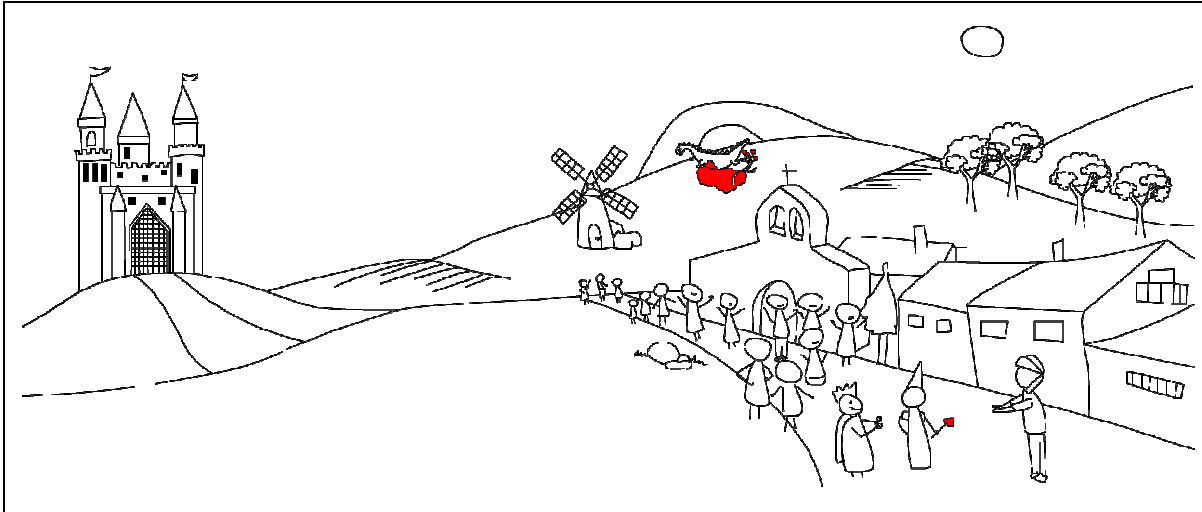


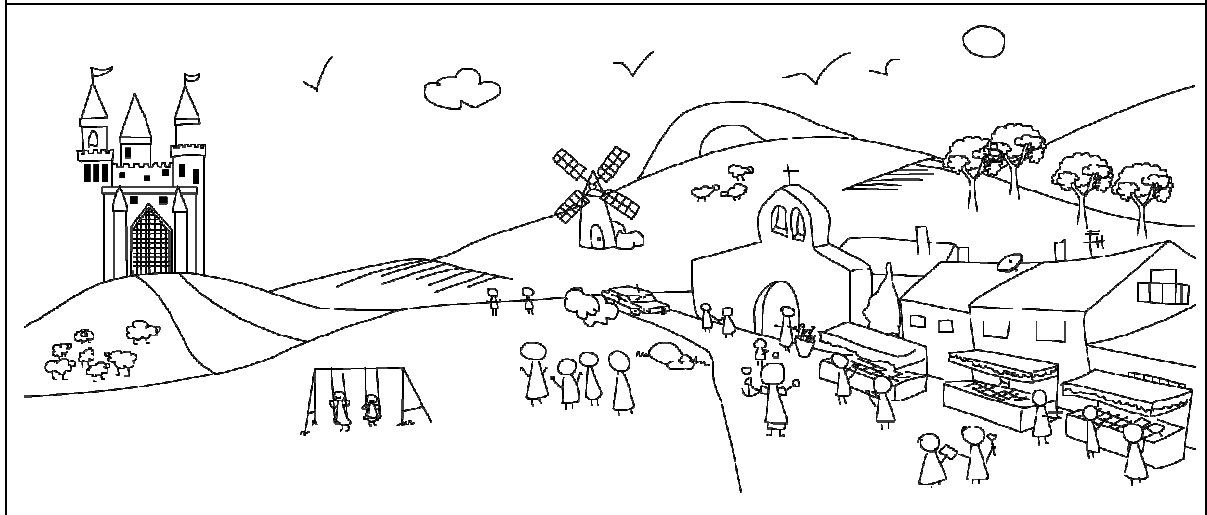
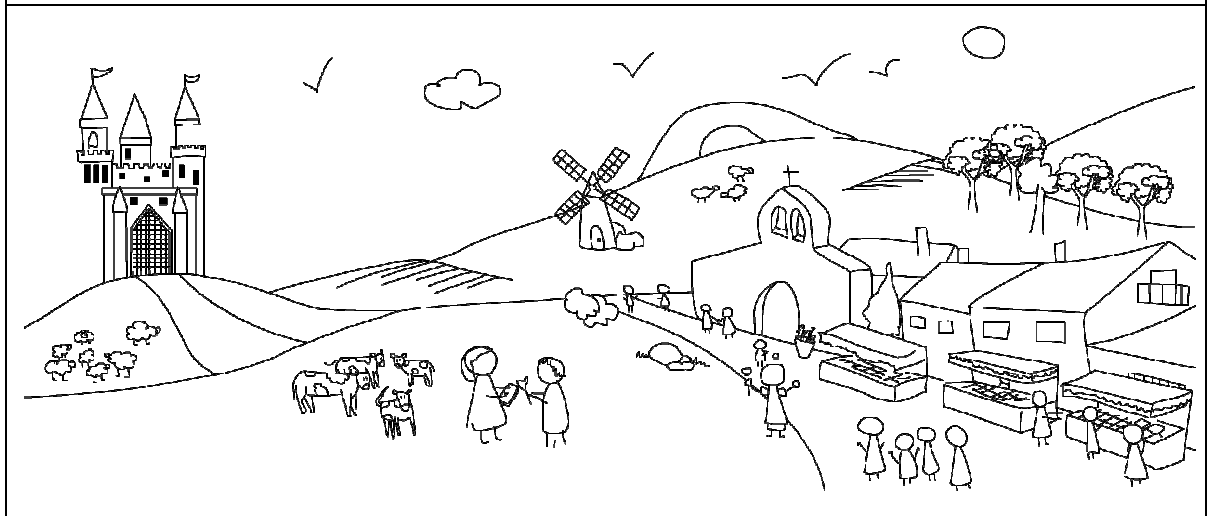
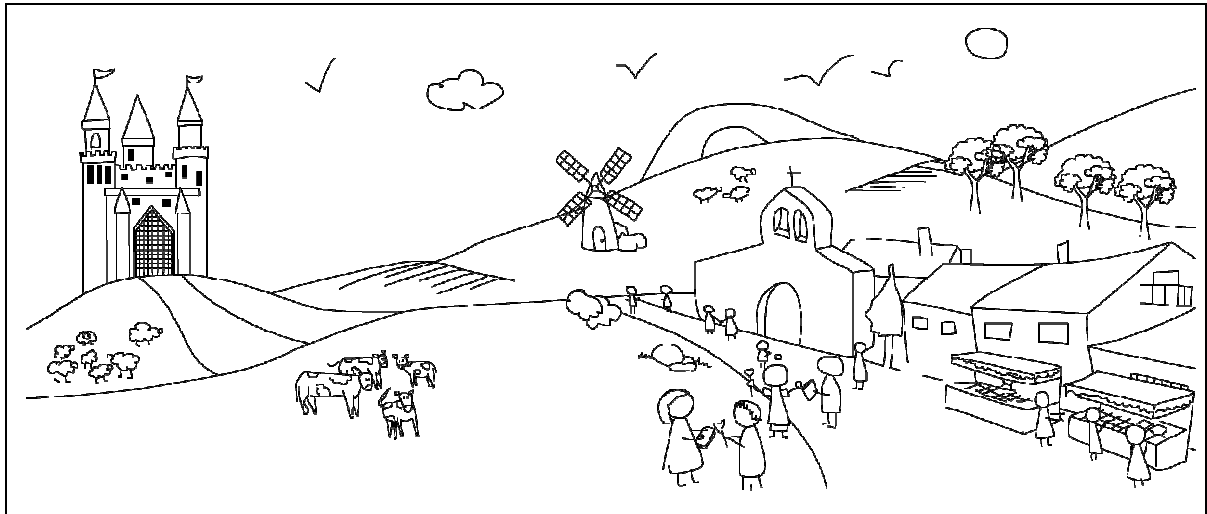




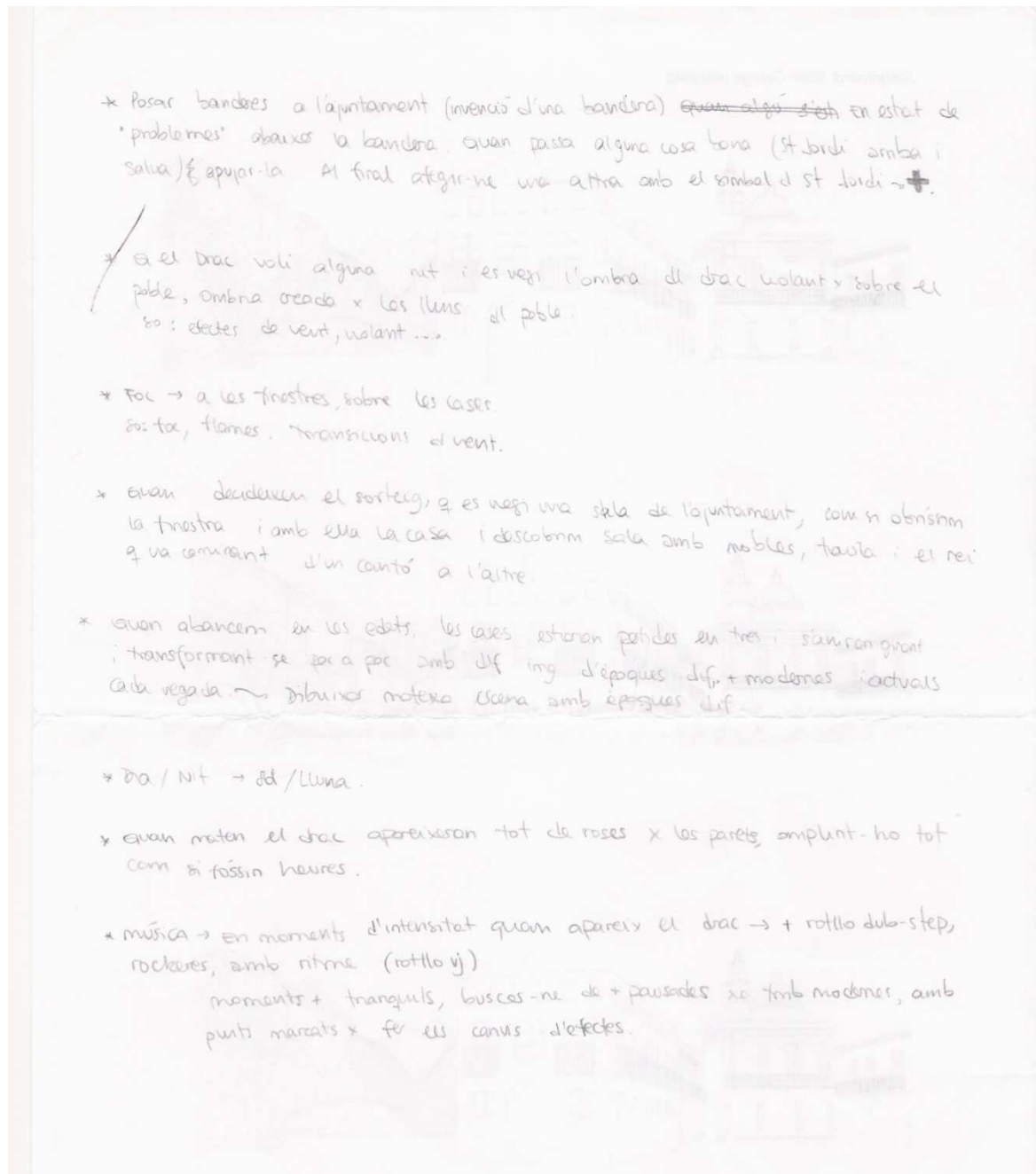








## 2.4 Final storyboard of the entire production





quadre > aparició cases.  
senyal

Es veu el poble. Bon dia, el cel redre, núvols (pocs) q van passant. Fa sol.

① Es veu gent passant. És un dia normal, entren i surten de les cases...  
De cop fa pampallugues la llum, com si s'anés a apagar tot el quadre (mode fluorescent apagant-se).  
So: oells, clima de gent parlant, però poc, suau. sense música.  
[Quan s'apaga el "llum", tot fosc, passem a la següent escena.]  
... vidres blaus de les finestres, aconseguim reflex dels núvols?  
Al ppi no es veu la cova. Apareixerà després.

→ not silueta de tora

En fosc, veiem com es van construint les cases, (stroke) de baix cap a dalt.  
Anar fent variacions amb l'end/stroic de l'AE. I només el poble; cases, mobl, església... Quan tot això estigui, anar definint l'interior  
obj: crear certa intriga, tensió (passem de clima tranquil a algo "estressat")

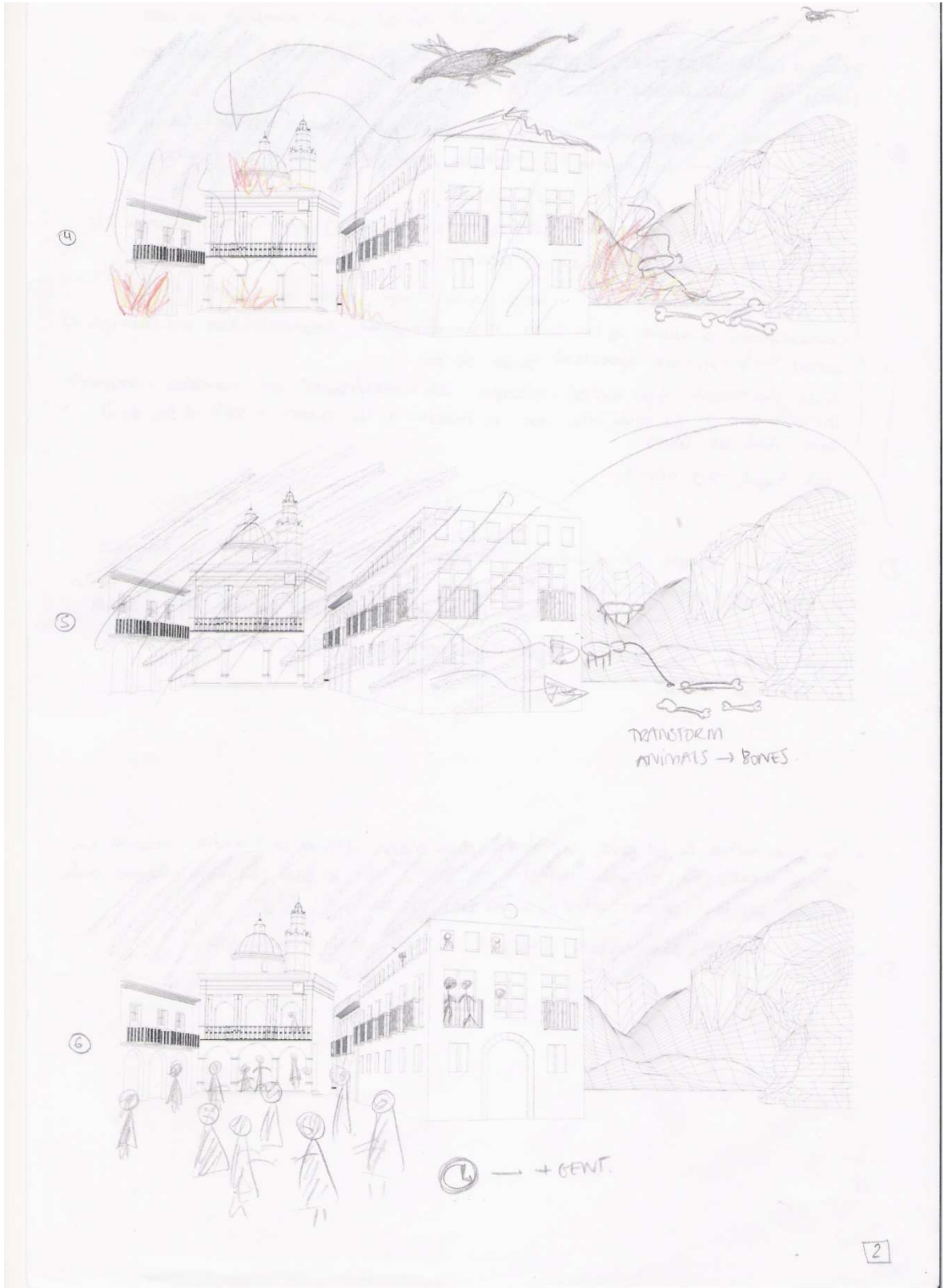
② 2.1 → col·locar totus, construcció de les cases (?) fè-ho ràpidament, q calguin de dalt i vagin venint.  
colors: blanc i negre, com a màx línies d'algun color, q ressalti.

Quan estigui tot presentat, q apareixi la muntanya del darrere. Amb stroke marró, crear poc a poc totes les línies i quan es vagi acabant, al mateix temps, començar a donar una mica de color als edificis, poc. Com si s'anés a pintar (deute After).

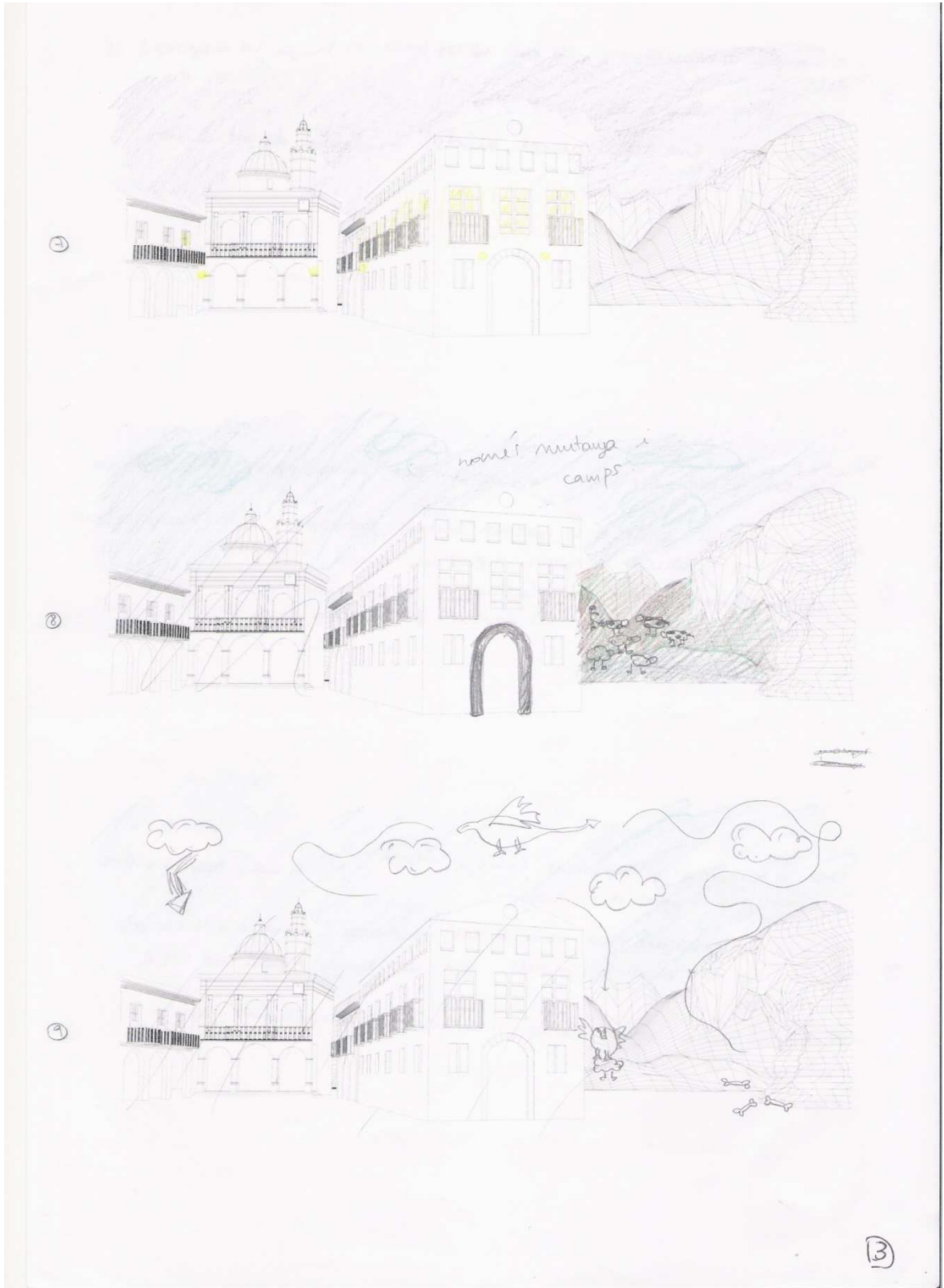
Aparició de la cova: Es torna a enfosquir tota la resta i va apareixent la cova. l'important és aquesta zona. El cel es veu, però s'enfosqueix, entren núvols i es toquen, colors calents. Estilo "terrorífic", tensió, intriga, suspens...

③ Començarem a veure la silueta del drac, q no not una ombra, a mida q vagi apareixent, veurem les línies d'aquest (blanques, com tots els postwar)  
música: dubstep? rock... (kasa!)

3.1. Ens centrem en el drac, que es va movent, camina pel seu espai...  
en un moment treu foc i es posa a volar → següent escena →



- p. tot sota cel i van apareixer les cases.
- Torna a aparèixer el palla, es torna a obrir el cel, normalitat, passen uns segons de tranquil·litat i...
  - ④ - Veiem una silueta, ombra petita, de lluny, que es va acostant. Va d'un cantó a l'altre → la música s'intensifica, més forte, ritme + marcat i ràpid.
- Està cap + a prop, vola entre les cases (x arbre tmb) (ara no hi hauran els detalls de les cases, només un color "pla" o texture).
- El drac aurà tranc foc x arreu, quan hagin passat uns segons (1-2-3)
- Començarem a veure q les cases estan danyades, cremant. Les muntanyes al darrere tmb. Aniran apareixent zones de foc
- A les muntanyes, tipu volcà islandica. Les línies/"bores" seran vermelles i anirant corrent com si fos lava del foc. A mateix x les cases. A part d'l foc de d'l terra, tmb les línies cel tibat, roig, núvols.
- +
- ⑤ - Al mateix temps es veurà q a la lava hi van apareixent els animals q la robat/agafat als camps. Com + en desapareixen allò, + apareixen a la seva lava → començ a entendre q ho està prenent tot. ~~Si~~
  - Després d'allò tmb aniran ~~trou~~ transformant-se en ossos uns símbol q ja s'els ha creupat.
- la gent sortirà de les cases, es trobarà a la plaça (Aquí ja s'aurà aclarint una mica el cel, tot i q amb núvols. Ma trist) tot de gent al mig (negres amb silueta) s: gent parlant, "trista", alguns plors, xiscles...
  - ⑥ - es van movent, cada vegada més gent. Fum x la muntanya.



- Es va fer de nit, s'encenen els llums de les torres. El foc ja ha desaparegut del tot.
- ③ - Alguns efectes sobre les cases, → ?
- Alguns efecte time lapse al cel, núvols. ~ canvi de nit a dia.

- Es va fer de dia. Els llums es van apagant fent pampallugues fins q s'ilumina tipus sol.
- A la muntanya de l'arròs es veuen animals pasturant. Camps (menys, aigua malmenada). I la silueta d'una persona treballant x'alla.
- ④ En aquest punt no es veuen la silueta d'les cases tot de la muntanya, sencera ; com si la part d'davant fos un camp tmb.

- Torna a aparèixer el foc, volant (música intensa) - és de dia. Apareix entre el núvols, d + a prop a + lluny.
- ⑤ Es torna a enfosquir una mica el cel, no massa. Veia avall cap als camps i es va espantant ovelles, se'n va tornar Agostà un altre animal, etc
- Així amb música molt obstep. Il·luminació de pampallugues, com si bellugues tot l'ambient
- Efectes →



Passem de la muntanya al poble. la ra la deixem al dors, fem q surt d'allà.

- Treu !! l'ajuntament, s'il·lumina el presentem. Ressequim tots els contorn. Fem veure q les finestres s'obren i es tanquen, q hi ha gent q passa x dir, moltes donant voltes i pensant. q les columnes es van construint i desconstruint engranatges com si estigués funcionant i a dins s'hi estigués pensant. Les escales van intercalant colors.

El canvi i canparar tots es mostra, de la mateixa manera q la llum al rellotge es va movent com passant les hores

Canvi - canparar → tots s'obren, construint-se i desfent-se, van generant el element, com peces.

Mús: intriga, tensió, ritme als passos als q es veuen x la finestra (rei), ritme d'estructura, engranatges.

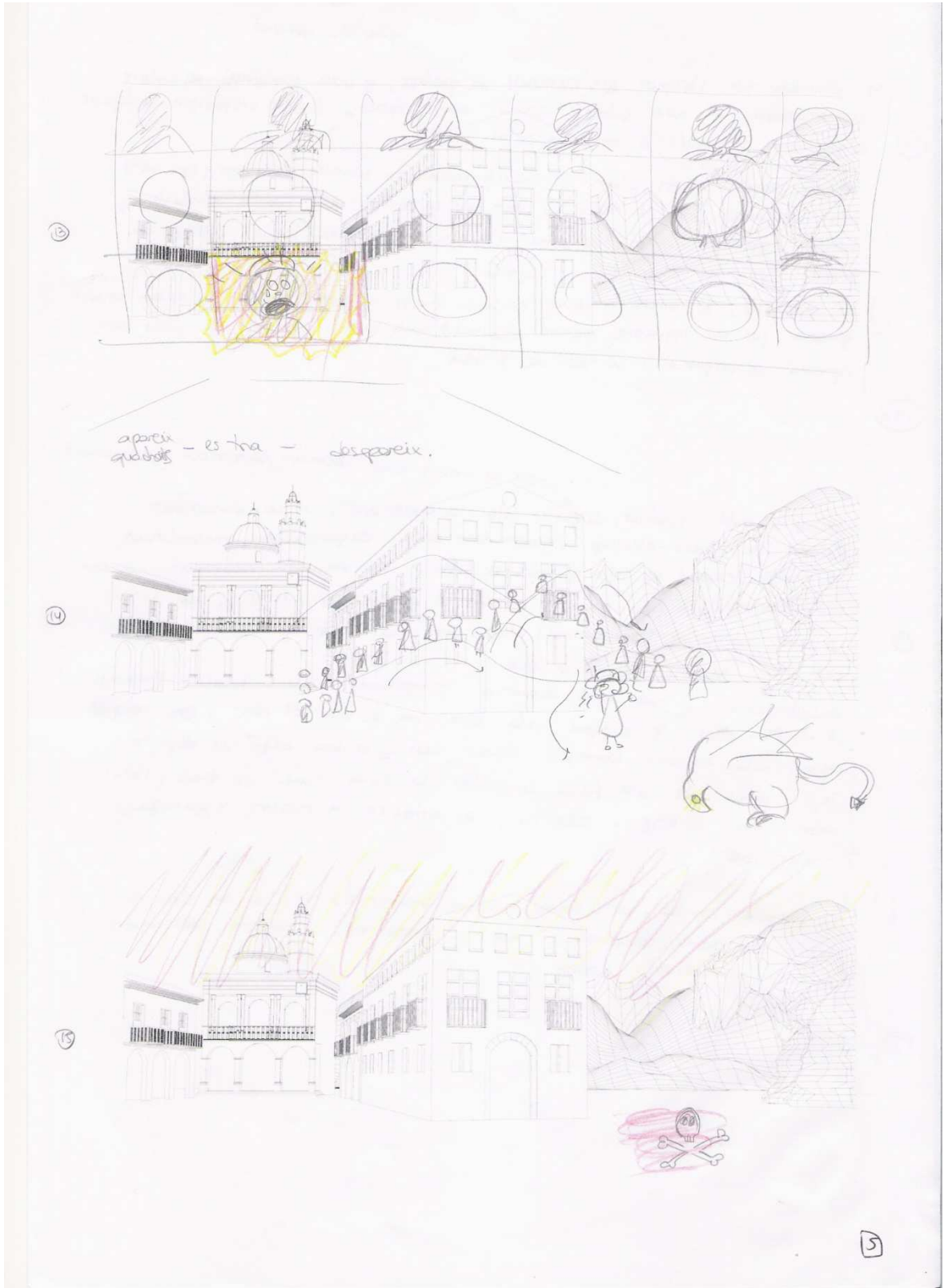
un cop presentat, la població es torna a trobar al centre del poble. Revolució. Remanen solucions. Aixequen els braços exigint resposta al problema del drac.

- ⑪ música: torbellenta. la gent va caminant cap allà, concentració, ences aixecades. Busquen solucions!  
Gent a les finestres dels edificis

→ soroll, les portes corren a poc a poc es tanquen els llums de dalt i s'obren els de baix.

s'obren les portes de l'ajuntament, i en surt el rei i la princesa. la gent calla, comença a callar, xo encara s'interpreten entre esperòrics (va solvant fora el drac!)

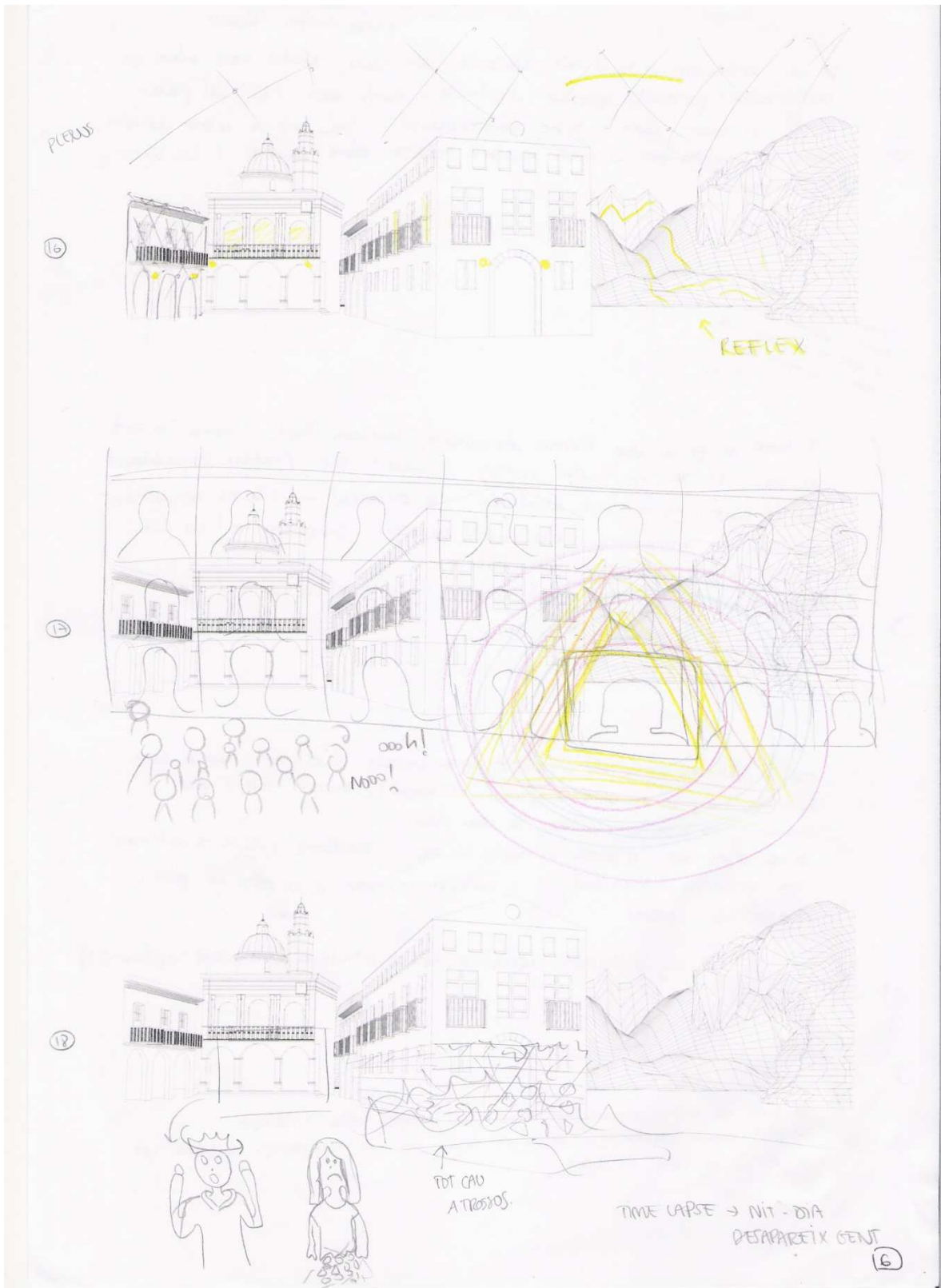
- ⑫ El rei (la seva zona) s'il·lumina + se li dona + !. la resta d'quadre es difumina + es torna a negre. i parla ell.  
Representa q explica q es farà un sortleg x anar portant cada dia una persona diferent al drac. Aixeca les mans tot explicant-ho.



- quadrícula general.
13. Es diu que tot l'escenari, els elements, de quadres, s'van canviant de colors aleatoriamment, hi not colors - canvis molt ràpids. Com si estiguéssim sortejant alguna cosa i haguéssim de sortir un color escollit.
- segons després, aquest color es transformava en siluetes de cares (tipu nites fotos de carnet. També d'època a lent, fins q sortirà una persona escollida, q haurà "guanyat". És de "carro", com si va màquina hagués guanyat un premi, tipu bingo o bolera...
- 13b. La gent, poble, es tornarà a veure (1=segon abans q sorti l'escollit) i quan aquest aparegui (el seu rectangle quedarà ressaltat amb llum i color), la gent farà expressió de sorpresa i un "ooh" de tristesa.

13b

- passa al mateix temps. Aparició / desaparició gradualment.
14. Un cop ha sortit l'escollit, desapareix tota la quadrícula i es veu únicament la cara de la persona escollida. Aquesta foto anirà desapareixent gradualment, al mateix temps q es torna a veure el poble. En aquest moment veiem una fila de gent (no gaires) desena de persones o menys q van sortint del poble (dreta d l'apuntament) i van cap a la muntanya x arribar al Cap d'uns segons abans a la cova.
- Aquest canvi es farà ràpid, arant a "trompe l'oeil" com si tinguéssim frames al temps. fins q arriba a la cova, on es veu el drac q està afegut allà, esperant. Darrint quan veu q arriba abans es desperta.
- Se li drec els ulls (d'on en sortirà la única llum al drac (l'única color) com si estigués posseït. (es comença a moure i gemega, treu foc.
15. La persona arriba a la cova, intentant resistir-se, fins q el drac se'l menja, la persona desapareix i tot es torna fosc - tempesta, ~~de~~ colors calents, nermelosos de sang...



(cases, finestres, fanals).

- 16) És un entossunt, es fa de nit, s'encenen els llums, efectes visus sobre les cases, núvols passant, aparició d'estrelles; amb elles i els del pleus sobre les cases, com si fossin constel·lacions. També passaria algun cometa sobre les muntanyes el qual quedaria reflectit sobre aquesta i les línies q la formen.

Tomarà a passar uns segons i després tornarà a aparèixer el poblé i la gent i es veurà la reacció

- 17) És torna a fer de dia. S'obren els núvols, tanquen llums i torna a sortir el sol. És tot un altre sorteig i aquest cop (mateix procediment q el punt 13) s'ha escollida la princesa! → Efectes al voltant del regadre. Triangles, quadrats → estil hipnòtic. Desapareix tot lo del voltant i només queda la seva cara.  
Després (?) veiem la reacció de la gent. → semblant a l'anterior ko + intenció. Orits de sorpresa màxima.

reacció del rei → estarà al costat de la princesa i es girarà cap a ella, sortiran ones al seu voltant (x control l'atenció), s'aniran fent + gran x abarcar tmb allà on hi hagi la seva filla. Al cap d'uns segs es posarà les mans al cap i s'entossarà (efecte de destrucció), cau a trossos literalment, a la mateixa manera q la resta de gent i quadre de l'escena.

↳ (treure img de l'illustrator, vectoritzar, aplicar extrude a 4D, efecte "explosió" (?) )

- 18) - el títol  
És farà de nit i tornarà a ser de dia → ràpid rotlle time lapse.  
B) la gent anirà desapareixent un a un. quan no hi hagi ningú quedaria tot negre. → farà de dia:



movilització cap a la cova

Despareixen totes les cases. Nom es veurà la gent, les muntanyes i la cova. (11 si q  
 es veurà el poble, no quan surtin d'ell ja no).

19) les persones aniran caminant cap a la cova (processó). El rei i la princesa al davant

Efectes: línies q vagin resseguint tot el camí q han d'fer, com estels fugassos, (def  
 colors → passa d'color cap a negre, quan s'apropi a la cova).

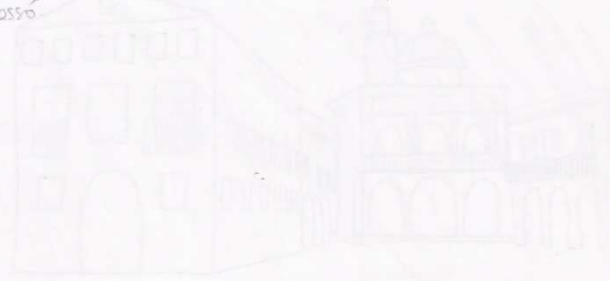
El cel es va tancant una mica a mica q ~~est~~ amben a la cova  
 cova. El drac ajegut dormint ~~est~~

19b) quan amben es despota i s'aixeca. Va gemegant, la cova s'illumina es van resseguint  
 tots els contorns d'aquesta. llum blanca sobre fons negre. Els punts entre línies +  
 gruixuts i gross (glow). De tant en tant alguna línia vermella (representa sang)

11 va obrint els ulls (drac negre, ulls gross amb glow), després es va movent, li surt  
 fum x el cap/nos. → s'aixeca i es gira cap a tota la gent q ha ambat.

música: marcant ritme processó

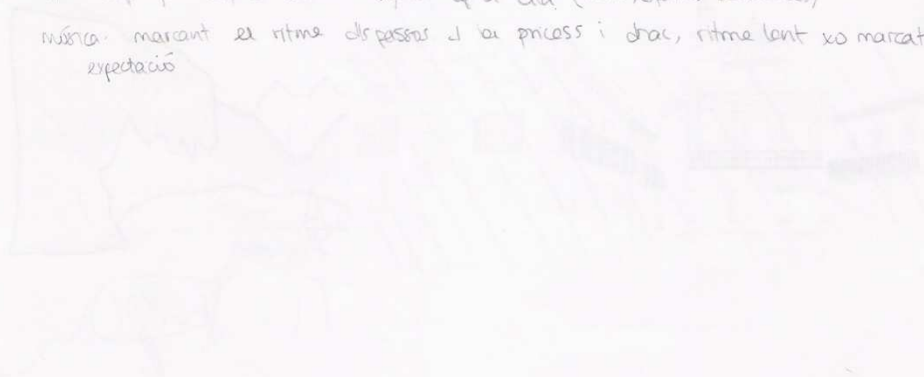
20)



quan arriben tots a la cova, el poble ja haurà desaparegut ⇒ gent "sobr" les cases, q  
 miren de lluny l'escena d la princesa abraçant-se amb ~~pare~~ el seu pare despedint-se  
 Ella s'apropa cap el drac i aquest cap a ella (trista, espalles baixades)

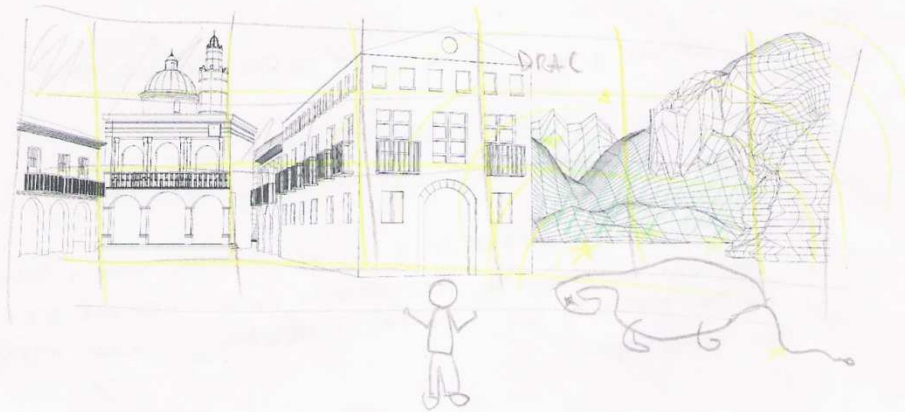
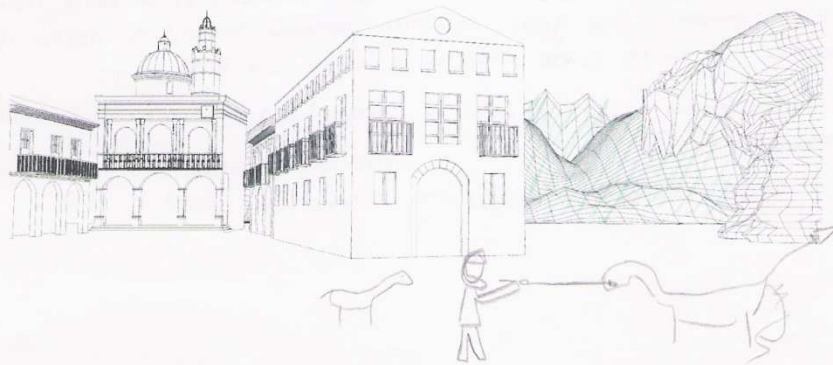
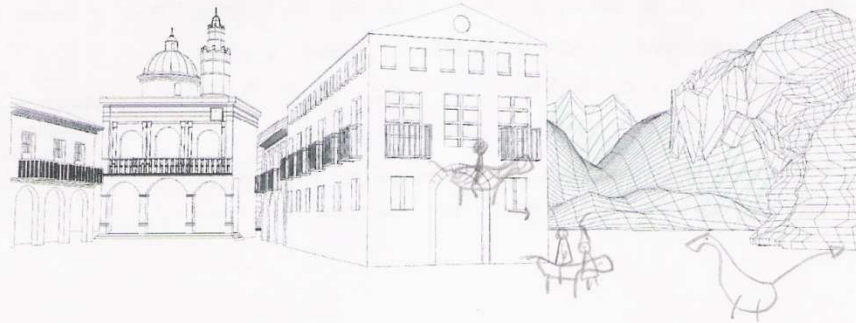
música: marcant el ritme d'apropar d la princesa i drac, ritme lent xo marcat. ~~trista~~  
 expectació

21)



22)

Storyboard. Saint George mapping



Aparició St Jordi.

La muntanya canvia de color (albans marro, ara + verda) i veiem una silueta d'un cavaller q baixa la muntanya. Amb cavall blanc. La gent es va girant cap a ell, poc a poc. La figura cada cop és + gran. Fins q arriba a la cova. La gent s'aparta encara + (topant x sobre els edificis q no es veuran) i deixen lloc pq amb; baixi del cavall.

també canvia ~~se~~  
apareixent línies  
resseguint el seu camí  
cap a la cova

La processó es para nedra seu y protegir-se i el drac s'enfada, treu foc x la boca i fum pel nas

St Jordi s'enfronta amb ell i treu l'espasa / llança (?). Un peu endavant els 2. s'apropen i van girant. El Drac continua traient foc mentre l'altre es tira una mica enrere cada cop q ho fa ~~no~~ OUEL.

En un moment clauat ~~St Jordi~~ li clava l'espasa al cor. tot fent unsalt x arriba hi (?)

→ Alguns es ralentitza

Just aquest moment es congela iing i comencen efectes.

efectes:

- rodones blanques q van sortint de la zona on s'ha clavat, cap enrere. Com ones.

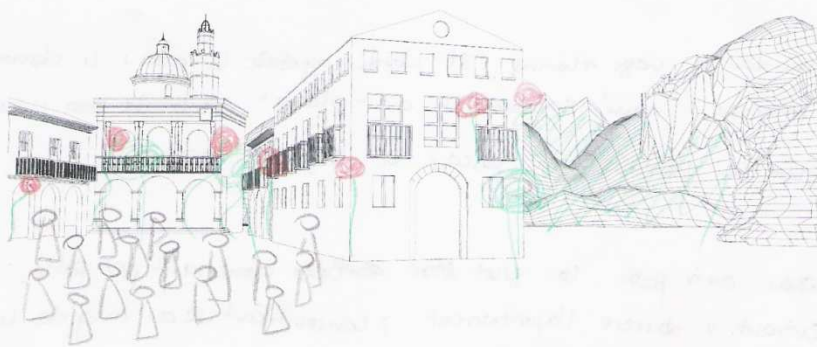
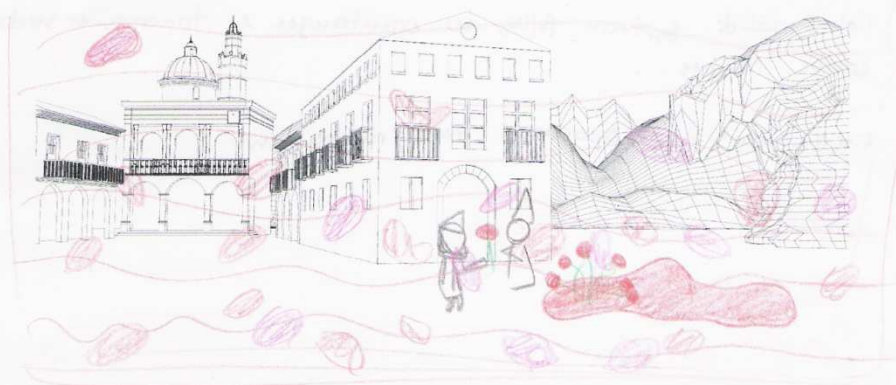
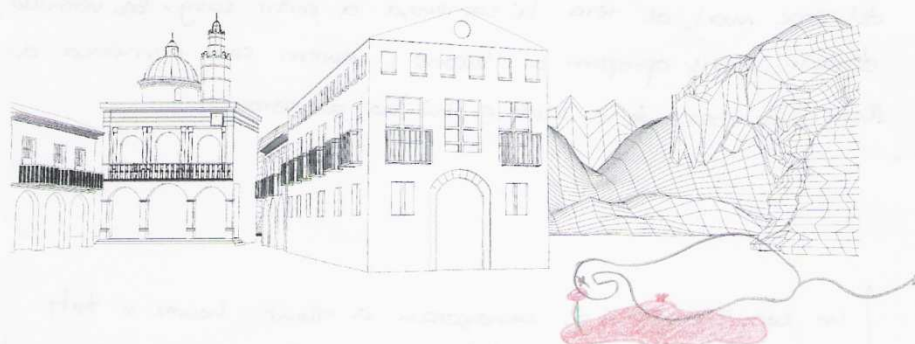
- Apareixen estrelles, noct blanc i clar tot, glow!!

- Tot es torna a quadets blancs, amb les ombres negres (o fosques) q vagin sortint i arrasant-se.

→ s'anirà duudint la pantalla en 3. Les zones de divisió seran + fosques i seran com una creïença escurabotxoques on hi haurà dif peïous

i sortirà escoltat el drac. En els 2 quadrats. S'aniran il·luminant fent pampallugues

Storyboard. Saint George mapping



Tornem a la realitat. Desapareixen els quadres i tornem a l'escena del drac mort, al terra. Li comença a sortir sang, ben vermella, x  
 (25) destalar. ens apropem a l'escena i veurem com comença a florir una rosa de la sang q hi ha al terra.

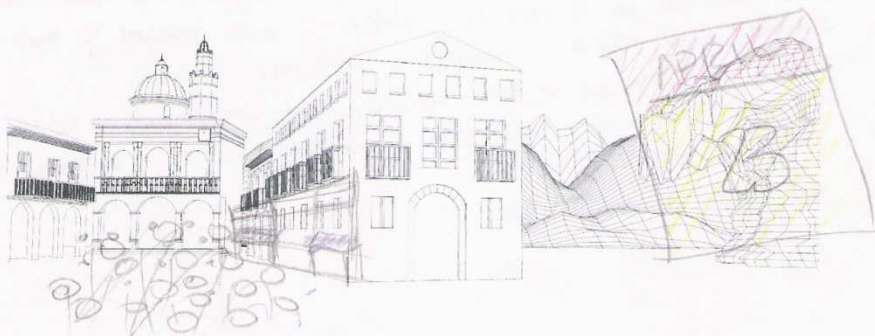
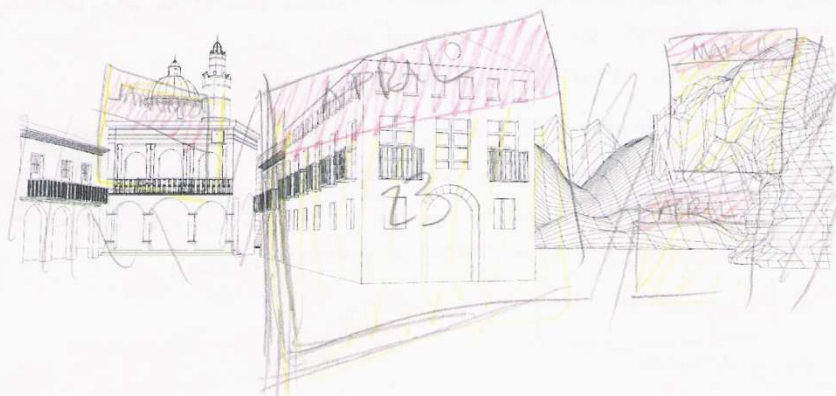
Un cop passi això, comencaran a florir herbes x tots els racons, q es connectaran en + roses. Hi envoltaran totes les línies del dibuix, silueta finestra... Els arbres tmb, verds, colors càlids. Sortiran fulles, les muntanyes es tornaran + verdes, camps llaurats...

(26) Efecte "pop" amb apareixent roses, ràpidament

A mida q vagi florint, St Jordi agafarà la rosa i li donarà a la princesa. Aquí comencaran a "ploure" pètals de rosa i aniran omplint la pantalla x poscar a regient escena.

(27) quan això passi la gent estarà ~~estada~~ apareixent pel poble, entrant x darrere l'ajuntament i concentrant-se al mig de la plaza.

Storyboard. Saint George mapping



al davant, PP.

(28)

- un cop al centre la gent ho celebra i el rei, morsa i Jordi es passen a l'apuntament i el rei l'obsequia amb un llibre. (q s'ha trociao) <sup>+ anell</sup>
- la cova desapareix → aprofitar + espai.
- la gent es passa al voltant i veiem el moment en qè li dona el llibre comença a caure confeti x la plaça. la gent surt al balcoo x rebre el cavaller.

Canvis d'època

ABRIL 23

(29)

- Apareixerà un calendari, començant per 23 abril i anirà passant de pàg, cada vegada + ràpid, anirà passant els mesos, fins tornar al 23 abril.
- A pantalla sencera. Al voltant d'altres calendaris + petits.
- Quan tornem a arribar al 23 abril, veure q hi ha alguna parada q ven llibres i roses ~ Aniran apareixent i desapareixent roses al fons.
- Quan van passant pg i tornem a arribar a 23, tornar a ralentitzar el temps y veure q estem arribant ~ tornar a prestar atenció.

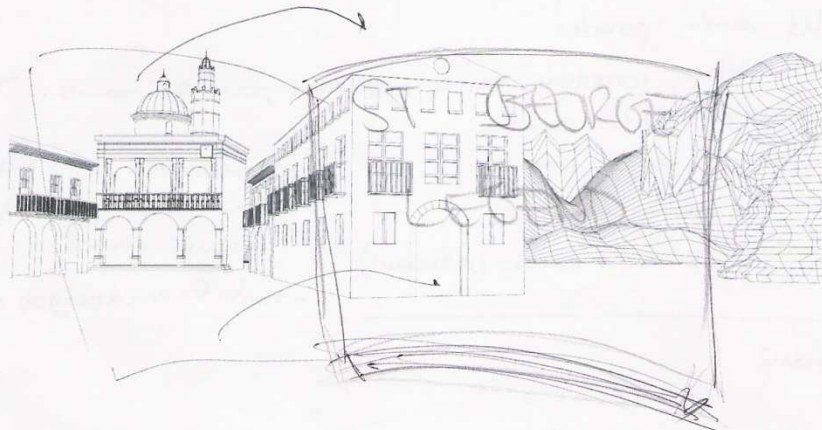
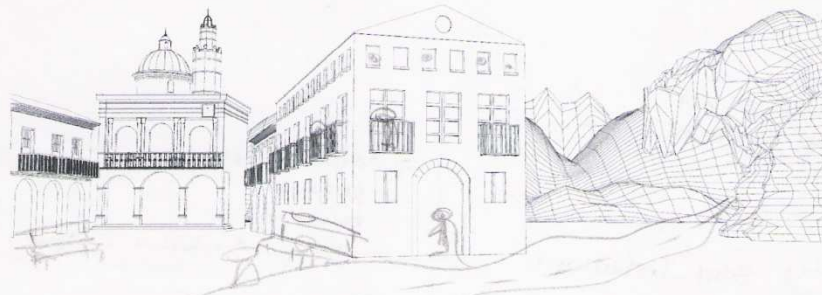
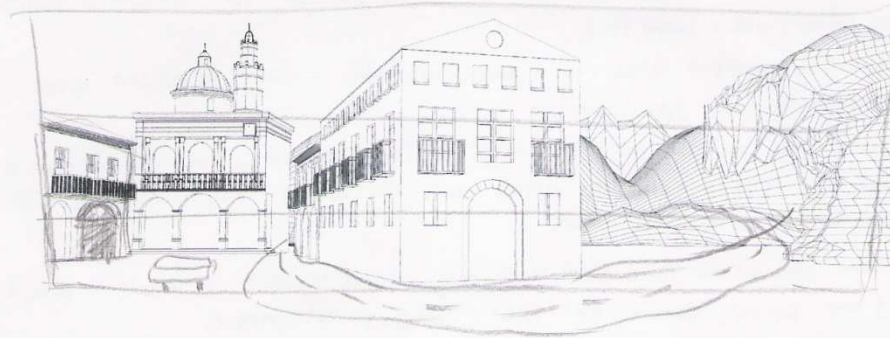


- El segon cop q passem a un nov 23, les cases començaran a evolucionar. escena dividida en 3 parts / els edificis i anes canviant les parts d'aquests. Cada vegada + arreglats o moderns.
- Tenir 3 o 4 img dif d tota l'escena - Amb complements → cotxes, arbres dif, parades noves i construïdes + modernes; finestres + arreglades. Fanzals moderns, carrers estalitats...
- ... fins arribar a l'actualitat

(30)



Storyboard. Saint George mapping



Final:

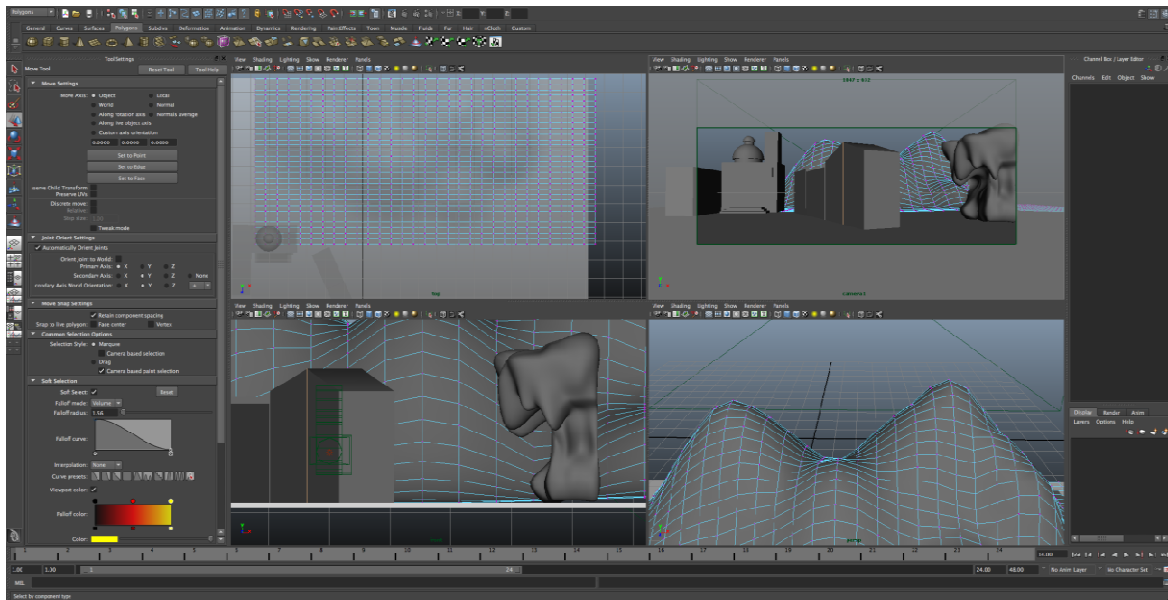
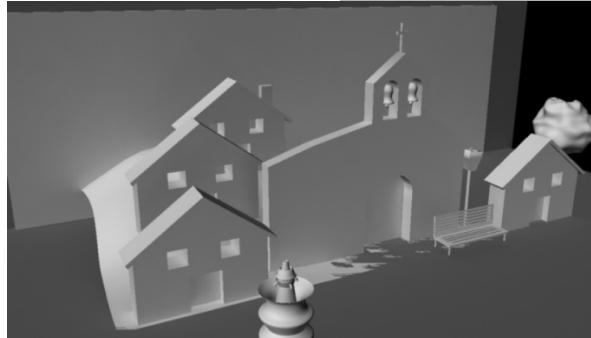
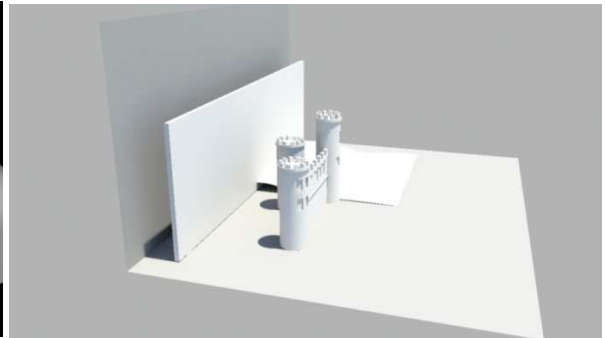
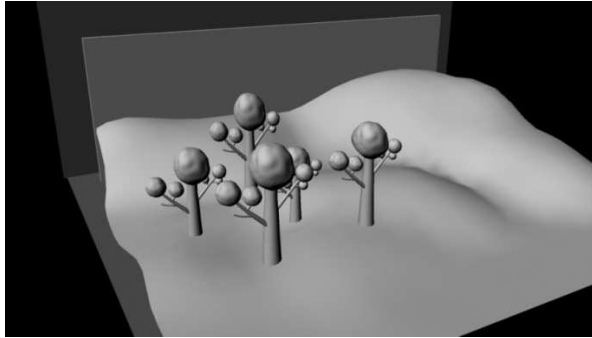
Apareixerà l'última escena, l'actual (colors + vius). Fa un bon dia. la gent torna a la normalitat → Gent caminant pels carrers, dia clar, gent entrant a treballar al negoci, ocells, arbres florits...

(31)

- la img s'amura tant petita, com si ens allunyéssim i aurà apareixent altra vegada la img del llibre.
- D'aquí en sortiran + flors. -bot del cantó de la cova, veurim com hi ha un roser i x alguns altres punts del quadre tmb, com si florissin arbres (efecte pop) del llibre.
- Després començarà a amucar-se la pàg x anar tancant el llibre i a mida q vagi passant, s'amura tant fosc i quedarà tot negre.

Fi.

# Annex 3. Stage





## Annex 4. Rental equipment

29/08/13

Gmail - Lloguer projector



Núria Xaubet &lt;nuriexp@gmail.com&gt;

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### Lloguer projector

4 missatges

**Núria Xaubet** <nuriexp@gmail.com>  
Per a: sermat@tecnocampus.cat

14 de juny de 2013 19.54

Hola, volia demanar el projector petit per la setmana que ve. A poder ser el dimarts, dimecres i dijous. El necessito pel projecte final de carrera. D'altra banda, me'l podria emportar a casa, o l'haig de fer servir a la universitat?

pd: com a professor responsable tinc el David Minguillón.

Gràcies!

Núria.

---

**Raquel Rodríguez** <rrodriguez@tecnocampus.cat>  
Per a: Núria Xaubet <nuriexp@gmail.com>

14 de juny de 2013 20.15

Hola,

Ja tens el material reservat des de dimarts 18 al dijous 20, t'el pots quedar i tornar-ho el mateix dijous.

Salutacions,

**Raquel Rodríguez Sánchez** | Departament Audiovisuals | [rrodriguez@tecnocampus.cat](mailto:rrodriguez@tecnocampus.cat) | [sermat@tecnocampus.cat](mailto:sermat@tecnocampus.cat)



Av. D'Ernest Lluch, 32 | 08302 Mataró (Barcelona) | Tel 937574404 (central) , 672349571 (mòbil) o 10617 (Intern)

[www.tecnocampus.cat](http://www.tecnocampus.cat)

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#### HORARI SERMAT :

de dilluns a divendres de 7.30 a 20.30h

29/08/13

Gmail - Lloguer projector



Núria Xaubet &lt;nuriexp@gmail.com&gt;

---

**Lloguer projector**

2 missatges

---

**Núria Xaubet** <nuriexp@gmail.com>  
Per a: sermat@tecnocampus.cat

25 de juny de 2013 20.35

Hola! volia llogar el projector petit aquest dijous i divendres i també la sala de pospo7, per fer el TFG.

Gràcies!

Núria.

---

**Servei Reserva material video** <sermat@tecnocampus.cat>  
Per a: Núria Xaubet <nuriexp@gmail.com>

26 de juny de 2013 8.05

Okay Núria, tot reservat!

Salutacions,

**Raquel Rodríguez**

**Luca Saavedra**

**David Valverde**

**Ramon Rosa**

**SERMAT**

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**HORARI SERMAT :**

- **RETORN:** de 7.30h a 8h.
- **RECOLLIDA :** de 7.30h a 14.30h.

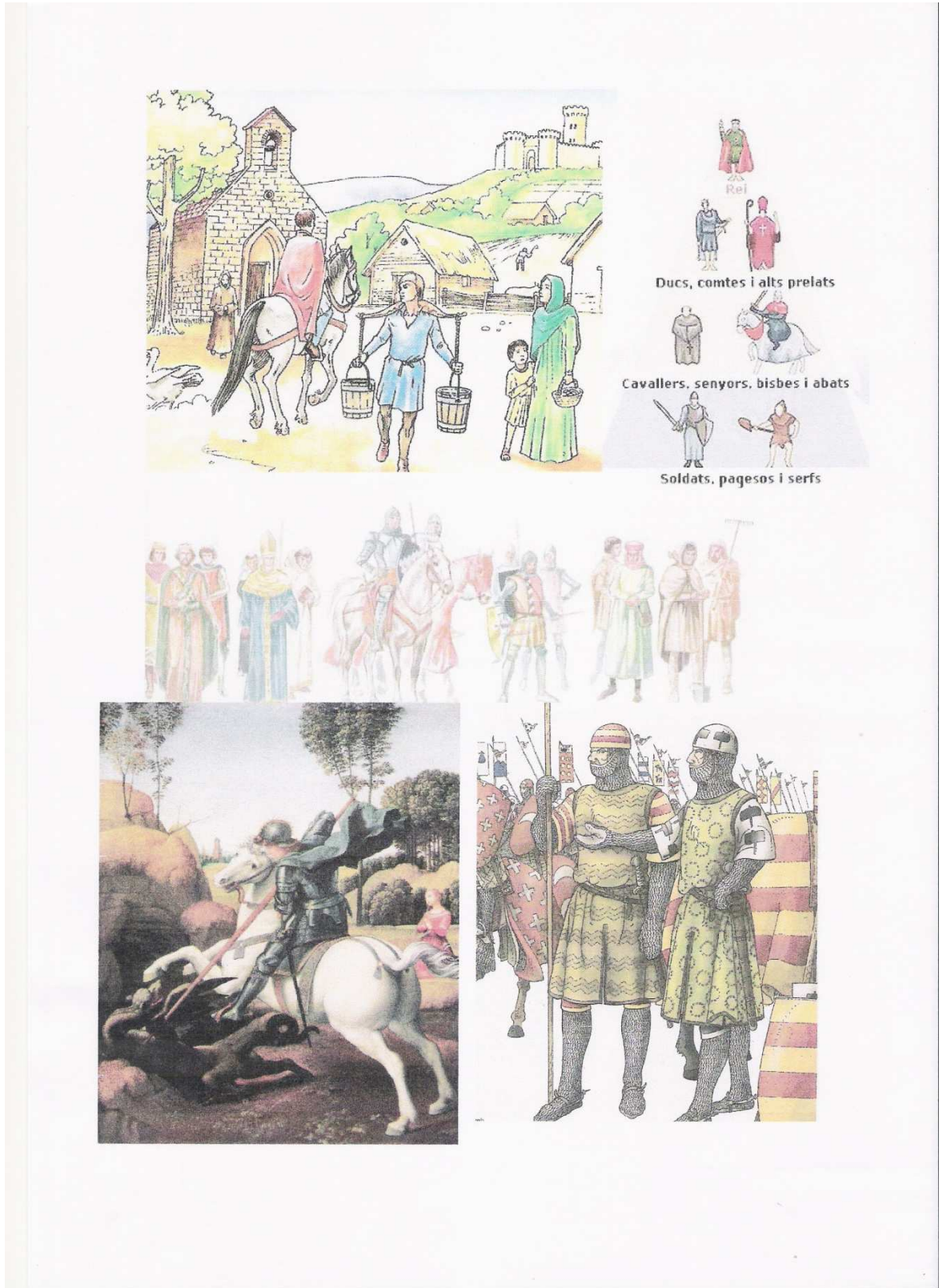
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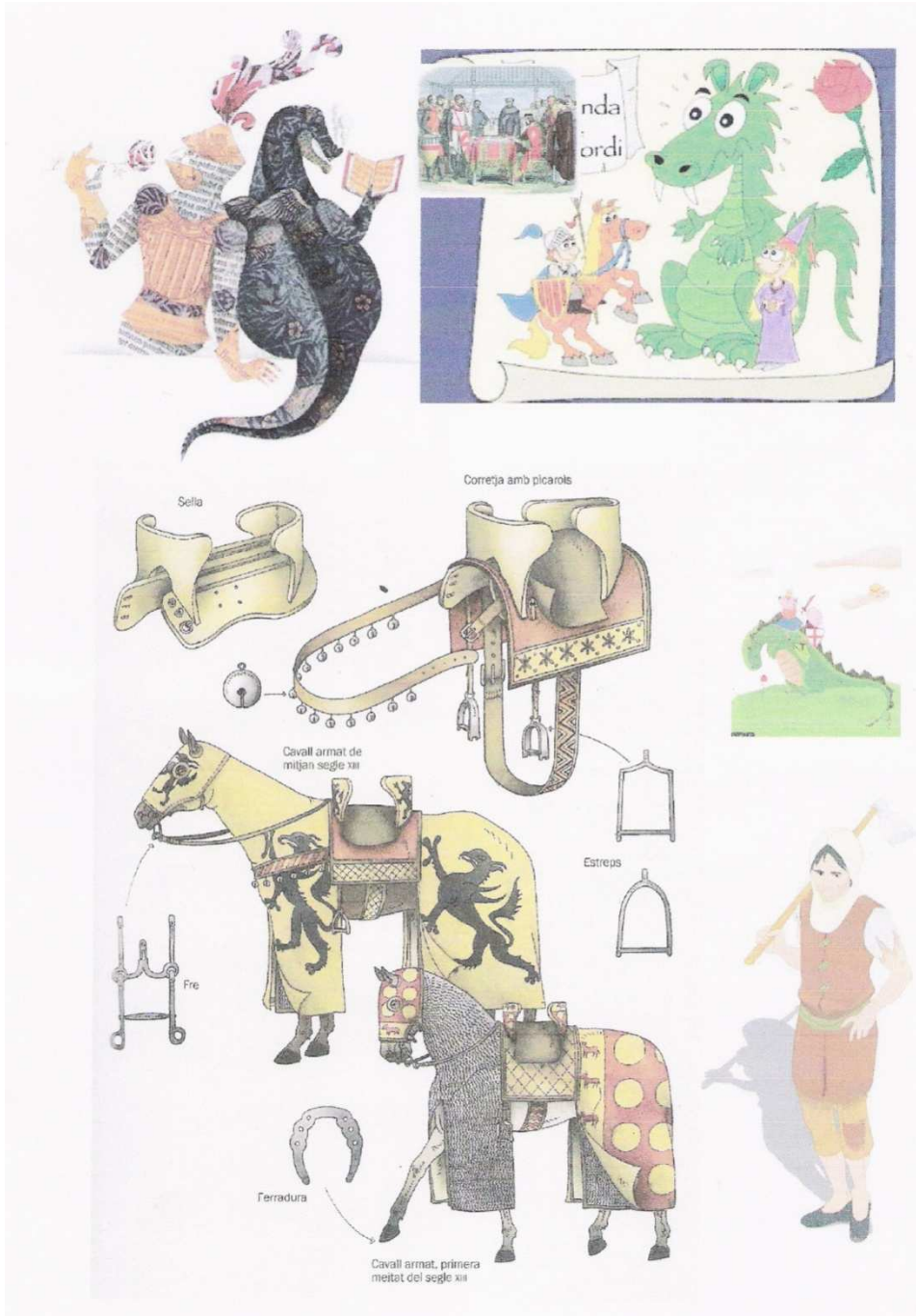
**NORMATIVA DE SERMAT :**

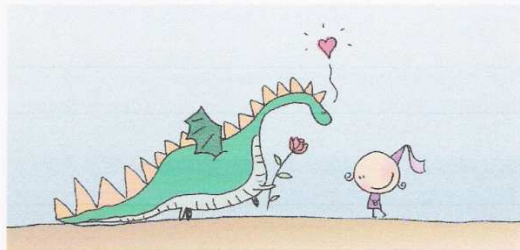
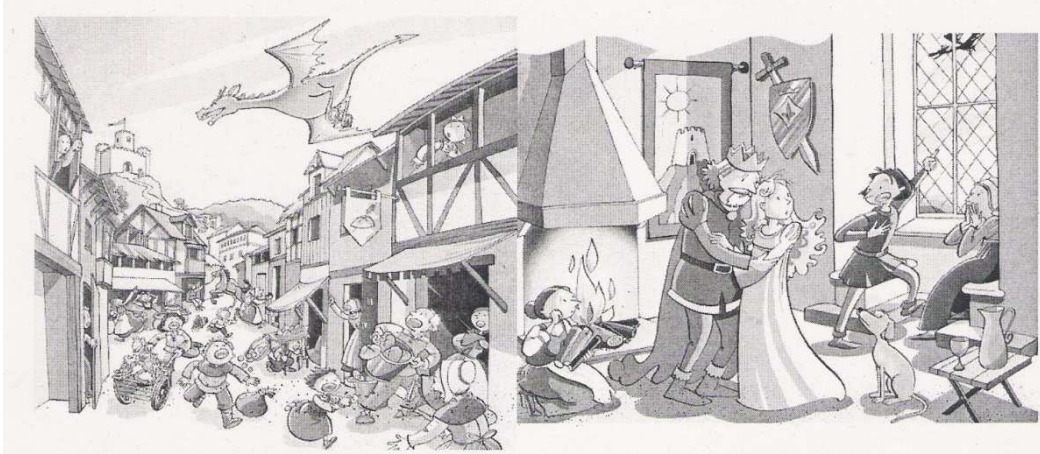
- **Tots els préstecs s'han de sol·licitar amb 48h D'ANTEL·LACIÓ mitjançant el formulari web (o si no funciona a sermat@tecnocampus.cat), si no, no es deixarà el material.**

## Annex 5. Characters

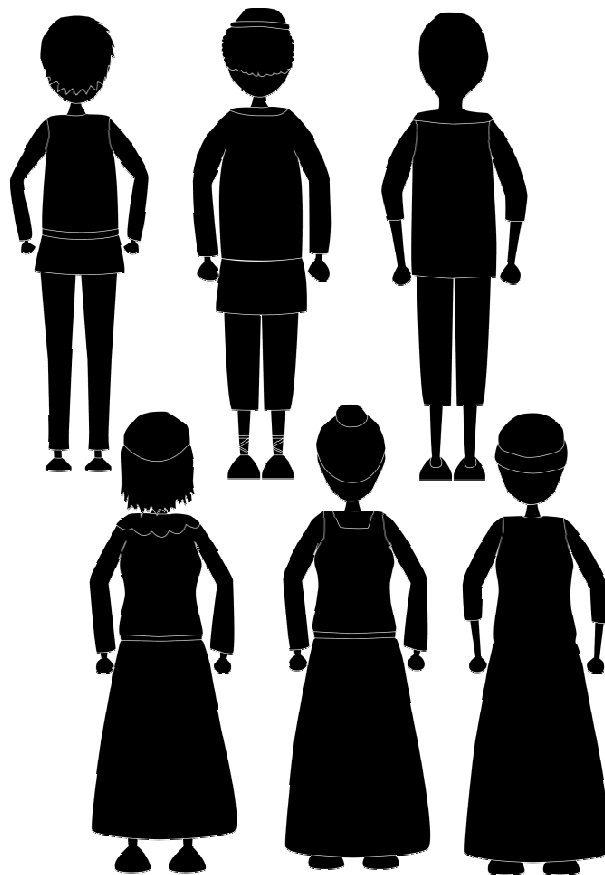
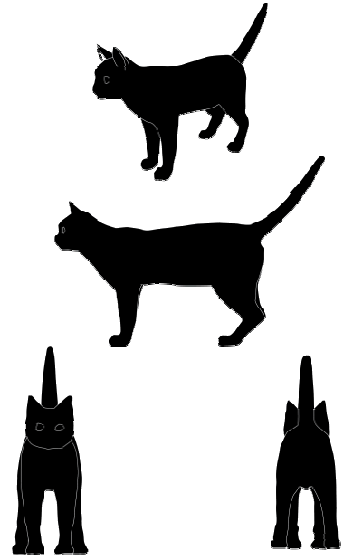
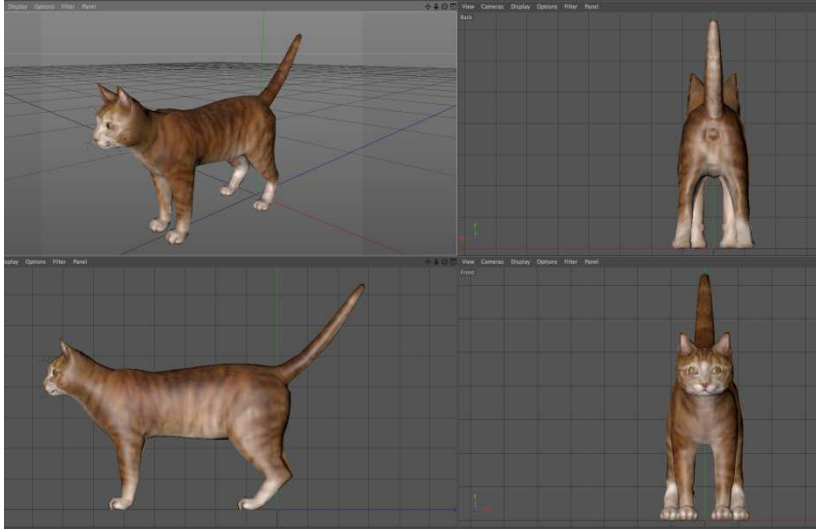
### 5.1 Characters references

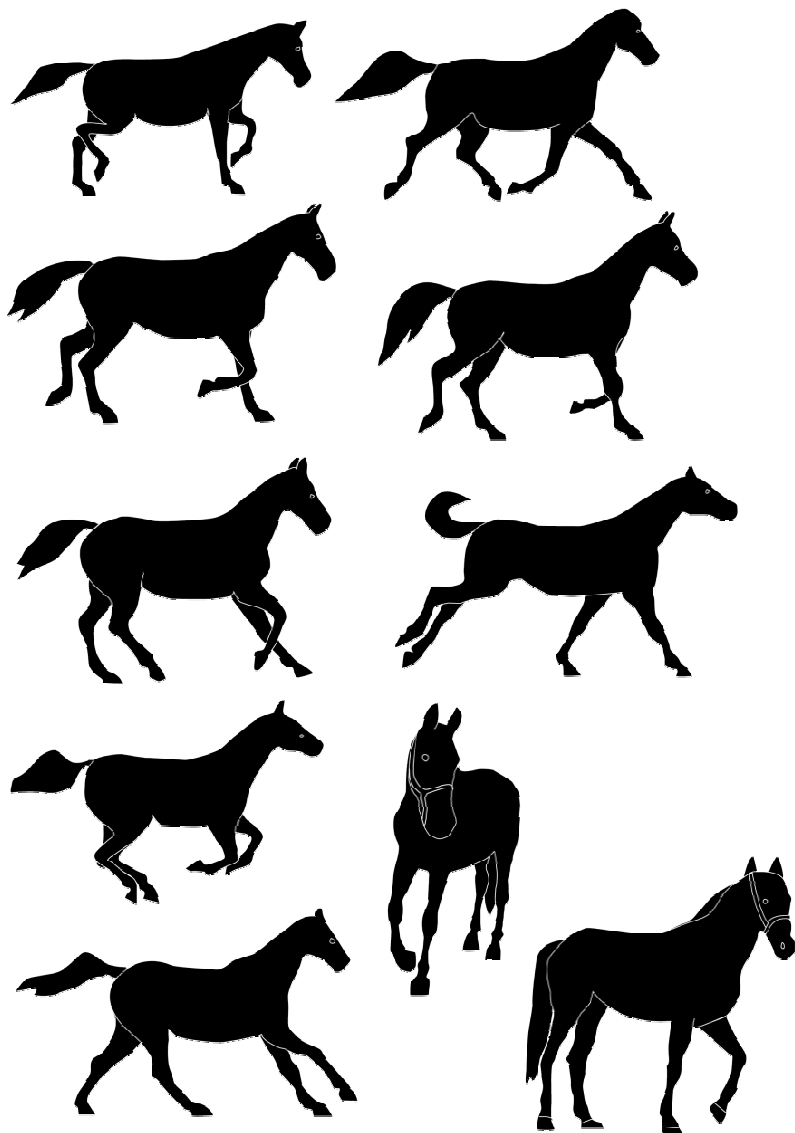
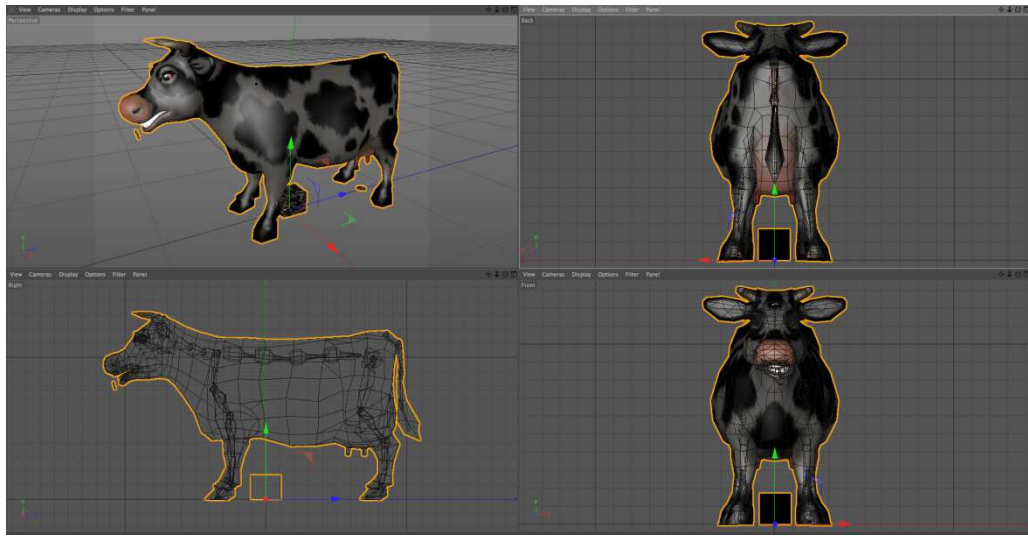






## 5.2 Characters







## Annex 6. Scenes planning

ESCENA	FONS	ANIMACIONS	transicions Crona 4D ● sound
0. INICI	• sketch i teon.	• <del>libre</del> llibre obrint-se • transf. imatge dibuixada en animació.	<del>gent</del> - pàgines - vent (clicant en imatge) - Fons: música.
1. POBLE <del>de</del> CONSTRUCCió	• Poble + muntanya.	• <del>construcció</del> construcció dels edificis. • Aparició personatges.	<del>gent</del> - "ops" mentre munta - "plop" gent apareixent • <del>gent</del> • <del>oleta</del> • <del>esg</del> • <del>melé</del> .
2. POBLE DIA A DIA.	Poble + muntanya.	• persons, animals..	- gent parlant - animals - soroll poble - carro passant?
3. APARICió COVA.	P + M + C (1a) M + C (2a)	• Animació cel en 3 parts → s'enfosqueix. • Transició → desapareix poble i apareix cova.	- música + marcada, tensió - "vent" de transició
4. POBLE CREMA + DRAC	P + M + C ↳ cremat.	• Drac volant cap al poble • Poble comença a cremar. • <del>animacions</del> animacions fons rònecs. • cel ennegrit.	<del>gent</del> - vent alar volant drac - foc - tira foc al poble - so cremar foc - música + potent
5. ANIMALS - OSSOS	P + M + C	• El drac s'emporta els animals. i apareixen a la cova. • la gent també desapareix	Animals + ossos. - animals (vaca, ovela, ) - gent - crits, desapareixen.
6. GENT AL POBLE	P + M (desapareix cova)	• Gent concentrada a plaça. • la resta → a negre. • exclamacions.	- reuolució gent, crits, parlar, "bu llir" - "solutions"
7. DE NIT	P + M.	• Poble s'entonsa i es fa de nit. • boles a les munt, il·luminades es apaga i quan es fa el dia desapareix.	- transicions. poble s'entonsa. - grills, mt. - música + pausa da

ESLERA	TONS	ANIMACIONS	
8. ANIMALS MUNTANYA	M + COVA.	<ul style="list-style-type: none"> <li>De nit a dia. Boles despatxen <b>sense poble</b>.</li> <li>Aparició animals. 1 drac. Cada cop - animals.</li> </ul>	<ul style="list-style-type: none"> <li>- animals.</li> <li>- drac als tallant vent</li> <li>- soroll fons</li> <li>- foc drac</li> <li>- music: tenso, tràgica.</li> </ul>
9. DRAC POBLE - COVA.	P + M + C	<ul style="list-style-type: none"> <li>Apareix poble a trassos. (il·lustrator + extrude)</li> </ul>	
7. <del>10.</del> AJUNTAMENT	P.	<ul style="list-style-type: none"> <li>Ajuntament. Animacions. Cent passant x dins, engranatges.</li> <li>Algún rellotge al voltant... passen hores. Quan acaba d'pensar apareix bombeta → il·luminació</li> </ul>	<ul style="list-style-type: none"> <li>- engranatges.</li> <li>- passes rei</li> <li>- cubos entrant i sortint</li> <li>- màquines, torn,</li> <li>- fàbrica.</li> <li>- tic, tac rellotge,</li> <li>- "cling" bombeta encant.</li> <li>- soroll bombeta apareix.</li> </ul>
11. RENOVACIÓ POBLE	P	<ul style="list-style-type: none"> <li>Població demanant solucions.</li> <li>Obren portes baix ajuntament.</li> <li>Sortida rei + princess.</li> <li>Vent a finestres tmb</li> </ul>	<ul style="list-style-type: none"> <li>- renovació gent, soroll</li> <li>- obren portes.</li> <li>- rei parla</li> <li>- poble</li> <li>- ocells, ambient fons</li> <li>- música.</li> </ul>
12. SORTIDA REI	P	<ul style="list-style-type: none"> <li>Animació rei, llum not a aquesta zona.</li> </ul>	<ul style="list-style-type: none"> <li>- camins rei, bla, bla.</li> </ul>
13. SORTIDA 1.	P	<ul style="list-style-type: none"> <li>Des d la zona rei, veix quadrícula → A pantalla sencera.</li> <li>Toma a fe se poble.</li> </ul>	<ul style="list-style-type: none"> <li>- so sortida, bingo, paintball, música.</li> <li>- persona escollida</li> <li>- traheria veix esclut i sort.</li> </ul>
14. PERSONS A COVA	P + M + C	<ul style="list-style-type: none"> <li>Person a la cova surten del poble, a mida q passen va apareixen + multitud i cova.</li> </ul>	<ul style="list-style-type: none"> <li>- camins.</li> <li>- música</li> </ul>
15. DRAC DESPERTA I MENJA.	M + C.	<ul style="list-style-type: none"> <li>Es surt el poble i queda muntanya + C.</li> <li>Es desperta, treu foc i menja la person q te a prop.</li> <li>Resta gent, aportat mica.</li> </ul>	<ul style="list-style-type: none"> <li>- "grunyides" drac</li> <li>- foc,</li> <li>- moments drac</li> <li>- soroll menjar person</li> <li>- crits person i població.</li> <li>- transició a munt.</li> </ul>

ESCENA	TONS	Animacions	
15. DENIT	P + m	<ul style="list-style-type: none"> <li>Després de la cova, apareix poble nit. s'encenen els llums. Algun efecte plorós.</li> </ul>	<ul style="list-style-type: none"> <li>- <del>trassos</del> <del>cova</del> <del>cauent</del></li> <li>- música.</li> <li>- llums encenent,</li> <li>- gent (poc), ambient poble nit.</li> </ul>
17. REI TORNA	P + <del>ca</del>	<ul style="list-style-type: none"> <li>Torna sortir rei i es fa un altre sortej. <del>ca</del></li> <li>Es fa de dia.</li> </ul>	<ul style="list-style-type: none"> <li>- sortej, posen escalinets.</li> <li>- transició música</li> <li>- sort rei, caminar</li> <li>- bla, bla.</li> </ul>
18. SORTEIG 2.		<ul style="list-style-type: none"> <li>Segon sortej, surt escollida la princess.</li> <li>Gent va desapercebut.</li> </ul>	<ul style="list-style-type: none"> <li>- sortej,</li> <li>- posen escollida, IN-OUT</li> </ul>
19. REACIÓ I CAP A COVA.	P → M + C	<ul style="list-style-type: none"> <li>Després quadrícula i veiem reacció gent, exclamacions. La princess, costat del rei, es posa mans al cap.</li> <li>Gent va cap a cova. Rei i princess al davant.</li> </ul>	<ul style="list-style-type: none"> <li>- reacció gent, crits, por.</li> <li>- música <del>trassos</del> suspensió, lenta.</li> <li>- Gent caminant a cova.</li> <li>- música</li> <li>- murmuris</li> </ul>
20. DESPERTA DRAC	M + C	<ul style="list-style-type: none"> <li>Després poble arriben a cova i drac desperta. Treu foc i s'aixeca.</li> </ul>	<ul style="list-style-type: none"> <li>- Persones i poble es disten a trassos (extremes)</li> <li>- grinyols drac,</li> <li>- foc, fum drac.</li> <li>- moviments.</li> <li>- transició.</li> </ul>
21. COMIAT PRINCESSA.	M + C	<ul style="list-style-type: none"> <li>Princes es gira cap a rei, s'abraça i va cap a drac.</li> <li>Drac treu foc, aixecat, movent cua.</li> </ul>	<ul style="list-style-type: none"> <li>- parla princess/rei.</li> <li>- camina</li> <li>- drac, sorolls.</li> <li>- moviments drac.</li> <li>- foc, alè.</li> </ul>
22. APARICIÓ ST. JORDI	M + C.	<ul style="list-style-type: none"> <li>Drac a punt d'empè. Surt St Jordi d'entre la muntanya.</li> <li>amb cavall. muntanya colors vells, clars!</li> </ul>	<ul style="list-style-type: none"> <li>- stop music, suspense!</li> <li>- soroll cavall.</li> <li>- crit st jordi,</li> <li>- colors canviant "click"</li> </ul>
23. LLUITA ST JORDI + DRAC	M + C	<ul style="list-style-type: none"> <li>St Jordi beica el cavall, treu llança i li clava a drac.</li> <li>Drac cau a terra.</li> </ul>	<ul style="list-style-type: none"> <li>- salta el cavall.</li> <li>- so llança/ espasa.</li> <li>- lluita.</li> <li>- crits, <del>son</del> gemecs, foc, alè,</li> <li>- crit drac,</li> <li>- cau a terra.</li> </ul>
24. MORT DRAC.		<ul style="list-style-type: none"> <li>Surten rodones d'zona drac, tot es torna blanc, molt il·luminat.</li> <li>Sortej → drac escollit.</li> </ul>	<ul style="list-style-type: none"> <li>- música</li> <li>- sortej.</li> </ul>

ESCENA	FONS	ANIMACIONS	
25. SANG DEU + ROSES.	M + C.	<ul style="list-style-type: none"> <li>Leua cau a trosos.</li> <li>Gent al voltant, St Jordi princess, poble</li> <li>Gent rosa de sang.</li> </ul>	<ul style="list-style-type: none"> <li>sonollets destrucció parts.</li> <li>ambient gent, murmureig.</li> <li>sang, líquid q cau</li> <li>surt roses, gent flor.</li> <li>music + alegre.</li> </ul>
26. ROSA A PRINCESS.	M	<ul style="list-style-type: none"> <li>St Jordi agafa rosa i la regala a princess.</li> <li>cauen roses al cel. i omple pantalla.</li> </ul>	<ul style="list-style-type: none"> <li>zas! agafa rosa.</li> <li>"rotlló music meravellosa."</li> </ul>
27. GENT POBLE, VIDA	P + M	<ul style="list-style-type: none"> <li>moxen pétals i apareix poble.</li> <li>Roses voltejant poble. <u>must</u>, <u>verts</u>.</li> </ul>	<ul style="list-style-type: none"> <li>"plot" surt petals.</li> <li>"click" must verdes canvi.</li> </ul>
28. OMBREMI LIBRE	P + M	<ul style="list-style-type: none"> <li>Gent a plaça. Rei + princess + St Jordi al davant</li> <li>Rei regala llibre al Jordi</li> </ul>	<ul style="list-style-type: none"> <li>ambient poble,</li> <li>aplaudiments.</li> <li>bla, bla - rei/st Jordi</li> </ul>
29. CALENDARI	P + M	<ul style="list-style-type: none"> <li>Quan regala llibre apareix <u>calendari</u>, 23 abril</li> <li>Van passant pàgs, quan torna al 23 abril apareix alguna <u>parada d'llibres</u>.</li> </ul>	<ul style="list-style-type: none"> <li>sonoll pàgines "calendari"</li> <li>ambient</li> <li>canvis scena</li> </ul>
30. ANUNCIO POBLES.	P + M	<ul style="list-style-type: none"> <li>A muda q passa calendari l'escena o circuleix en 3. i na evolucionant cases / edificis.</li> <li>Cotxes, edifici, asfalt, ferral, arbres.</li> </ul>	<ul style="list-style-type: none"> <li>canvis scena (tt-tt)</li> </ul>
31. TANCA LIBRE	P + M ~ sketch & toon.	<ul style="list-style-type: none"> <li>stroke dels edificis + murtales, desapareix color i es transif en dibuix (sketch &amp; toon)</li> <li>lám enrere i tornam al llibre q es tanca!</li> </ul>	<ul style="list-style-type: none"> <li>sonoll stroke, tipu vent felt</li> <li>transició</li> <li>pàgines llibre.</li> <li>tanca llibre.</li> </ul>

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## **Annex 7. DVD documentation**

- Project documentation
- Subtitles in catalan
- Short Movie to project
- Final Video

