

THE LEARNING FOR DECODING THE AUDIOVISUAL NARRATIVE: HOW TO EDUCATE THE CRITICAL GAZE OF THE NEW GENERATIONS



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ABSTRACT

The project consists of creating an app that will teach the users to analyze the color in the audiovisual content through films. This app will consist of mini-games that will lead to the analysis of several films, where the user will interact to discover the meaning of every color actively.

The new generations are continuously bombed by audiovisual content, but they did not receive a formation to help them understand the audiovisual narrative. So, they keep being passive spectators and, therefore, manipulable. The project is conceived to improve this situation, giving tools to the students and the educational centers to help the pupils to develop the critical eye in front of this media.

The audiovisual narrative is that wide that it is unsustainable in one project. Therefore I have decided to focalize the project on one of their tools, color. The color is just one of many tools inside the audiovisual language, but because it is built around and information that is already in the collective imaginary, it is easier for newbies to learn.

For transmitting this information, I'm going to use a game. The reason why is that while playing, we let the student learn particular content, and at the same time stimulating the mental energy and therefore increasing their motivation for doing that. I will realize a series of workshops to discover what is intrinsically fun about watching and understanding a film's messages. These workshops will help to build the mini-games that I'm going to use to teach color in the audiovisual narrative context.

Key words

Eduction app, color, playfiction, audiovisual literacy, film analyzy.

RESUM

El projecte consisteix en la creació d'una aplicació que mitjançant el joc ensenyarà als usuaris a analitzar el color del contingut audiovisual, a través de pel·lícules. Aquesta aplicació constarà de minijocs, que conduiran a través de l'anàlisi de diverses pel·lícules a l'usuari. Aquest interactuarà activament per descobrir el significat de cada color.

Les noves generacions són bombardejades contínuament pel contingut audiovisual, però no reben cap formació que els ajudi a comprendre la narrativa audiovisual. Per tant, continuen sent espectadors passius i, per tant, manipulables. El projecte està concebut per millorar aquesta situació, donant eines

als estudiants i als centres educatius per ajudar als alumnes a desenvolupar la mirada crítica davant d'aquests mitjans.

La narrativa de l'audiovisual és tan àmplia que és inabastable en un projecte, per això tinc la intenció de focalitzar-lo en una de les seves eines, el color. El color és només una de les moltes eines del llenguatge audiovisual, però, com que es construeix al voltant d'una informació que ja es troba en l'imaginari col·lectiu, és una de les àrees més fàcils d'aprendre inicialment pels novells.

Per transmetre aquesta informació, faré servir un joc. Mentre juguem, deixem que l'alumne aprengui contingut concret i, alhora, estimulem l'energia mental, augmentant així la seva motivació. Per fer-ho, realitzaré un grup de tallers per descobrir el que és intrínsecament divertit de veure i comprendre els missatges de les pel·lícules. Aquests tallers seran útils per construir els minijocs que faré servir per ensenyar el color en el context narratiu audiovisual.

Paraules clau

Aplicació educativa, color, playfiction, alfabetització audiovisual, anàlisi de pel·lícules.

RESUMEN

El proyecto consiste en la creación de una aplicación que mediante el juego enseñará a los usuarios a analizar el color del contenido audiovisual, a través de películas. Esta aplicación constará de minijuegos, que conducirán a través del análisis de varias películas al usuario. Este interactuará activamente para descubrir el significado de cada color.

Las nuevas generaciones son bombardeadas continuamente por el contenido audiovisual, pero no reciben ninguna formación que les ayude a comprender la narrativa audiovisual. Por lo tanto, siguen siendo espectadores pasivos y, por tanto, manipulables. El proyecto está concebido para mejorar esta situación, dando herramientas a los estudiantes y los centros educativos para ayudar a los alumnos a desarrollar la mirada crítica ante estos medios.

La narrativa del audiovisual es tan amplia que es inalcanzable en un proyecto, por eso tengo la intención de focalizar el proyecto en una de sus herramientas, el color. El color es sólo una de las muchas herramientas del lenguaje audiovisual, pero, como se construye alrededor de una información que ya se encuentra en el imaginario colectivo, es una de las áreas más fáciles de aprender inicialmente por los

noveles .

Para transmitir esta información, usaré un juego, el motivo es que, mientras jugamos, dejamos que el alumno aprenda contenido concreto y, al mismo tiempo, estimulamos la energía mental y, por tanto, aumentamos su motivación. Para ello, realizaré un grupo de talleres para descubrir lo que es intrínsecamente divertido de ver y comprender los mensajes de las películas. Estos talleres serán útiles para construir los minijuegos que utilizaré para enseñar el color en el contexto narrativo audiovisual.

Palabras clave

Aplicación educativa, color, playfiction, alfabetización audiovisual, análisis de películas.

JUSTIFICATION

After three years of performing an extracurricular in a high school where the main goal was to teach audiovisual narrative, I have checked the little or no audiovisual comprehension of almost all the students. But also, that it is possible to make this learning. Furthermore, in practically all the pupils, a restlessness arises in them, wanting to understand what they are seeing once they discover what they were missing.

Whit that time and after realizing several classes about composition, soundtrack, color... I had concluded that for their initial knowledge, color is the concept more effortless for them to understand at the beginning, and they started relatively quickly to decoded the color for themself. This motivates them to keep going and opens the door to introduce more complex concepts.

OBJECTIVES

Principals objectives:

- Educate the critical gaze of the new generations in front of the audiovisual content.
- Engage the learning thru palyfiction

Specifics

Conceptual

- Define the uses of color inside the audiovisual narrative
- Recognize that uses of color inside a film
- Demonstrated the benefits of play in the learning context

Procedimentals

- Build a prototype of an app that teaches the meaning of the color inside the audiovisual narrative
- Apply the technics in design research to involve the users during the design of the UX

METHODOLOGY

The methodology used in the development of this work is theoretical-practical. First, I have done two theoretical kinds of research. The first is about color, its function in films, and how filmmakers can control it during production. After performing this research and knowing the tools and techniques of color, I proceeded to study the color of several films. These studies constitute the content of the application.

Secondly, the second research is about the game in the educational environment, where I studied its characteristics, its benefits during learning, and the best way to incorporate play in education. As a consequence of this second research, I have realized a group of workshops to discover what is intrinsically fun to watch and understand the film's messages, and wich will be the best way to learn thru the app.

After that, to combine all those mentioned earlier, I will take the analysis done in the first section and the results from the workshops. I will design a user experience that will allow the students to develop their critic's eye and learn in a funny way to decode the use of color in movies. Also, I will create an app prototype that will allow me to perform a complete user testing workshop to analyze how the user experience that I devised is actually working.

1. IDENTIFICATION OF THE TOPIC

1.1 THE COLOR

1.1.1 Color in movies

“When you see a color in a film, what you see is not accident” (May, 2017).

When we talk about the use of color in a movie, we usually think about the color as an aesthetic element, but far away from reality, color is not just another element, it is used with a specific purpose (Amidi, 2011; Costa, 2011; García, 2016).

From directors as Stanly Kubrik, famous for his attention to detail and his fixation on the use of symbolism in his movies

“He has a preconceived idea about the color in every sequence(...), even if it didn’t keep relation with the sequence before. He was always very attend about the sensations that a determinate color could transmit.”¹ (Castle, 2016, p.771)

To Pixar movies with a more childish target that, in a conscious way, cannot understand complex relations.

“If he sees something odd in tho color, he asks What’s going on in the story there, not what’s that color.”² (Amidi, 2011, p. 11)

The aforementioned demonstrated that color has a principal role in a movie that most of the audience don’t notice consciously because it is the subconscious that preforms these interpretations (Brito & Dong-Min, C, 2017). Color is about the story; it’s about the characters; through it, the filmmakers can send symbolic or psychological messages to the audience. And these messages could go from simple relations; use cold and dark colors for transmitting negative emotions³, or the use of color to make complex references, for example, to madam Bobary⁴. (Bellantoni ,2005;Falcinelli, 2019; Rosero, 2018; Tello, 2018, p. 184; Wei, Dimitrova, Chang 2004; Costa, 2011; Feinberg, 2015)

¹ Chester Eyrie, Deluxe Lab Operations Manager

² Eggleston (colorscript artist) explained how it was to work with Andrew Stanton, director of WALL-E (2008)

³ In the movie Ratatouill (2007), they want to underline the fact that Ramy feel’s more attracted to the human world. Thus, the rats’ world is constructed with dark and cold colors, while the human world used warm once. (Lasseeter, Bird & Paik, 2007)

⁴ The movie in question is Beauty and the Beast(1991). You will find more information about it on the page 28.

1.1.2 How color helps movies to tell it’s story

As we exemplified before, color has to be genuinely effective inside a movie, it must be used as something more than a way to surprise and marvelous the spectators from an esthetic point of view. Therefore the filmmakers have to make use of the creativity. But with care, after all color, it’s still part of a body, and it must act like it.

“Color will not operate autonomously and will need to be in sync with the demand and requirements of the other elements of the film”. (Askari, 2014, p.170)

Kate Torgovnick May, in a Ted article (2017), classify in four the ways that color can operate inside a movie:

- 1- To Simplify complex story’s
- 2- To transmit emotions
- 3- To Show a character’s Journey
- 4- To communicates a film’s ideas

Next, we will analyze them in more detail, chequing why and how filmmakers use these resources. Finally, we will illustrate them with several examples.

1.1.2.1 Color to simplify complex story’s

When we are in front of a complicated story, either with temporal or spatial jumps, the color could be our best ally because it will help the audience not lose the thread of the history and know where they are in every moment. A typical resource would be the use of flashbacks and the filmmaker’s decision to change the color of those (for example, to black and white¹); This will relocate the viewer quickly (May, 2017).

Following, we are going to analyze how they use color for spatial jumps in two movies.

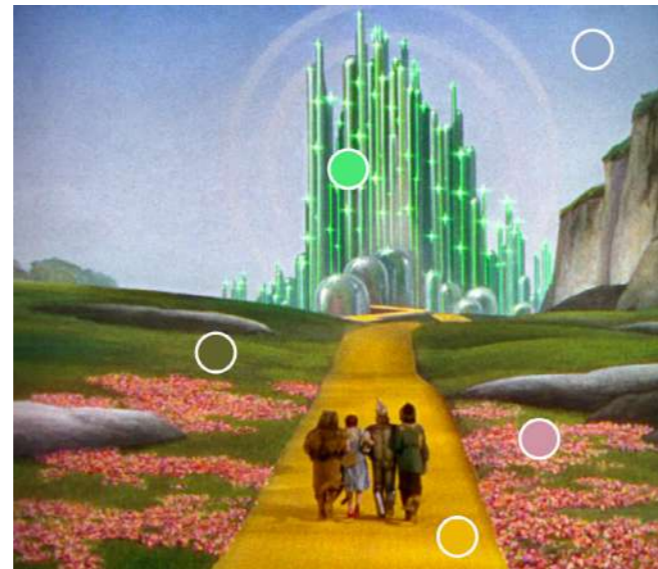
¹ We have a classic resource for representing two different timelines in Kill Bill.Vol I(2003), they used black and white for the scenes that happened in the past. While an opposite example would be, Johnny got his gun (1971), when Johnny remembers his past in color, while the present is represented in black and white.

The Wizard of Oz

The Wizard of Oz (1939) is the first movie that used color as a narrative tool. Filmed with the Technicolor technique, we are moved to Kansas, where the main character Dorothy lives. This world will be represented in sepia tones (Img. 1), like that they emphasize the rural's reality and its simplicity. When Dorothy landed in Oz, we can immediately figure out that she is not just in a new location, but in a new world. Oz is entirely opposite to Kansas, is represented with brilliant and saturated tones that show the extravagance and fantasy of it (Img. 2). Becoming the intensity of the chromatics one of the main elements that keep Dorothy apart from Kansas. (Departamento de Historia del Arte y Música de la Universidad del País Vasco, 2013 ; Echeverri, 2011; Falcinelli, 2019)



Img 1. Frame from the movie the wizard of oz (1939)



Img 2. Frame from the movie the wizard of oz (1939)

In the Wizard of Oz case, there is an obvious difference between the two worlds, and there are just two transitions the first one Kansas-Oz and one at the end Oz-Kansas. Let's see what happens when we complicate the history more.

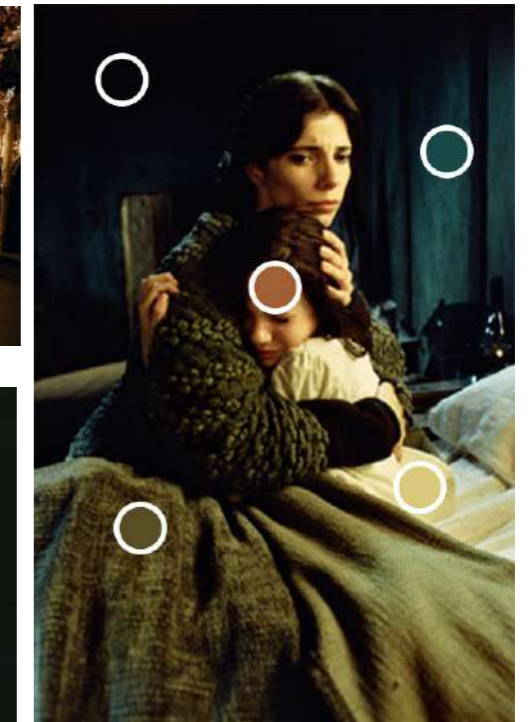
Pan's labyrinth

The movie Pan's Labyrinth (2006) brings us to Spain after the civil war. Ofelia's main character finds inside a labyrinth a faun that will open to her the doors to a fantastic world. Through the film, Ofelia is going to jump from one plane to the other, but a lot of times without changing the location, therefore, it was super important to give the audience an anchor point to differentiate in which world she was at every moment, and the selected tool for that was the color.

They pick the warm colors for the fantastic world (Img.3), with sphere forms for a more tender ambient. And for the hard reality, cold desaturated colors, especially blues and greens (Img.4). But while the movie steps forward, the two realities started invading the opposite, and Ofelia could no longer know in which plane she is, reality or the fantasy. Therefore, the two different color palettes that we had at the beginning start deluging and end up with a chromatic union between them (Img.5). (Calhoun, s. f.; Vélez, 2019)



Img 3. Frame from the movie Pan's Labyrinth (2006)



Img 5. Frame from the movie Pan's Labyrinth (2006)



Img 4. Frame from the movie Pan's Labyrinth (2006)

Hence we see how the use of color is crucial for the audience to follow the plot. As Guillerma Navarro cinematography director, affirms:

“we found the language we needed to help the audience understand the complexity of the movie.” (Calhoun, s. f.)

1.1.2.2 The color to transmit emotions

Trigger an emotion is one of the primary uses of the color in an audiovisual and, at the same time, one of the more complex goal to achieve. As Johann Lasseter seas: "Every single element in a film must support the emotional arc of the story" (Amidi, 2011, p. 7). And the color is not an exception.

This is possible thanks to their psychological qualities. But such is subcontinent, if we want achieves these connections, either for being able to trigger emotions or to persist them consciously, we must know the psychological qualities of every color profoundly. (Amidi, 2011; Bellantoni ,2005 ; Brito & Dong-Min, C, 2017; Costa, 2011; Feinberg, 2015 ; García, 2016 ; May, 2017; Pixar in a Box, 2017; Pixar in a Box, 2017; Wei et al., 2013)

But has the color psychological qualities?

The fact that we associate a feeling or a situation with a color is not something accidental, even less a taste matter. These associations came from the collective imaginer, which we learn as children and stay attached in our minds. This is an affirmation made by Eva Haller in her book *The psychology of the color* (2004), after realizing a study with more than two thousand persons from all over Germany. The colors become part of this imaginary in a completely unconscious way and are often related to the histories built over time. So "color is not anymore just a perception or the quality of something, if not a psychological quality." (Falcinelli, 2019) (Amidi,2011; Bellantoni ,2005 ; Falcinelli, 2019; García, 2016; Goethe & Eastlake, 2019; Heller, 2004; Pixar in a Box, 2017; Pixar in a Box, 2017;).

Therefore, the people who know this symbolic language that man has created all over history, and don't let the lead just to the intuition, play with an advantage while sending messages or triggering emotions. (Bellantoni ,2005; Heller,2004; Rosero, 2018)

The psychology of color

The psychology of color is the study that analyzes the relations mentioned before between color and emotion. These associations might change depending on the geographic zone due to their strong connection to the historical context (Falcinelli, 2019; García, 2016 ;Heller, 2004).

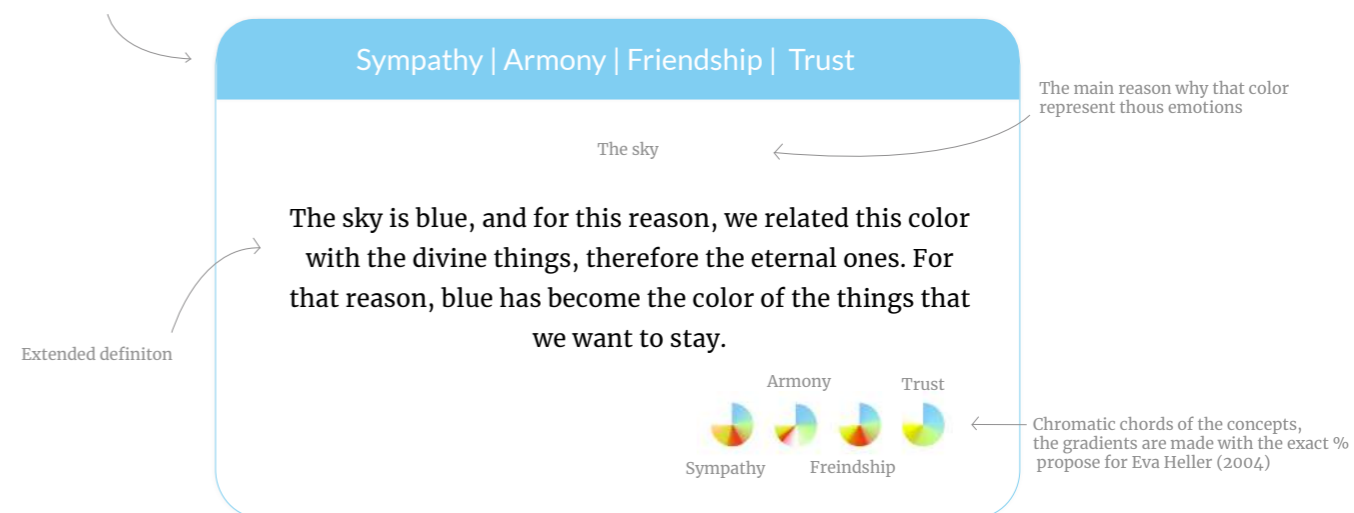
On the other hand, we have to consider that it is not just one color that triggers an emotion. The reason why is that there are more emotions than color therefore, a color can have more than one meaning, and those could even be contradictory. For that reason are the chromatic chords the ones that determine the effect of the main color. For example, the same red could be either romantic (red + pink) or brutal (red + black). (Bellantoni ,2005 ;Falcinelli, 2019; Goethe & Eastlake, 2019 ;Heller, 2004)

The first person to study the psychological effects of color was Gohet in his book, *The theory of color*. Nowadays, Eva Heller is the main referent in this area (García, 2016). Following, we will analyze the main psychological colors according to the books: *Psicología del color: Cómo Actúan Los Colores Sobre Los Sentimientos Y La Razón* (Heller, 2004); If it's purple, someone's gonna die (Bellantoni,2005); Goethe's *Theory Of Colours* (Goethe, 1840) .

The card following is an example of the once that are going to exemplify the emotions related to color, the reason why they are related to it, and the chromatic chords that represent that emotion.

Example of a card

The main emotions or concepts. Could be one or more, all are going to be realted to each other. Or either the origin to their relation with that color came from the same concept or because they are similar/oposit to each other



Blue

Sympathy | Armony | Friendship | Trust | Divine

Sky- feeling

The color for the feeling that need time an reciprocity. The sky is blue, and for this reason, we related this color with the divine things, therefore the eternal ones. For that reason, blue has become the color of the things that we want to stay.

Sky- Divine

The gods live in the sky, and the sky is blue.



Fantasy

Is far away

As the color of the far away, and the longing is the color for the unreal, therefore the fantasy. Formerly, in Germany, the fairytales were called blue stories.



Intellectual | Science | Concentration

Is cold

The cold reason vs the passion of the emotions. For the intellectual arts, especially science, we have to use the first one.



Feminine

The ancient feminine principles

Traditionally the feminity is linked to water. Also, a female had to be loyal, passive, introverted... all concepts related to blue.



Fidelity

Troubadour poetry

In the troubadour poetry, it appears a woman called Steate. In that context, Steat is the incarnation of fidelity, and she is always dressing in blue cloth. In nowadays, the English expression "true blue" refers to loyalty.



Far away | Eternal

The colors when are far away torn into blue

"As the upper sky and distant mountains appear blue, so a blue surface seems to retire from us." (Goethe,)



Cold

The skin and the shadows

When we are cold, our skin turns blue, even the lips. Also, the snow and ice have some blue tons. The reason why is blue the color of the cold and no white is that white is related to the light, while blue with the shadows.



Melancholy

The rain

In Greek mythology, the blue was associated with the rain, and they said that when Zeus was sad, he made it rain.



Img 6. Frame from the movie Inside Out (2015) - Blue: Melancholy



Img 7. Frame from the movie Alice in Wonderland (2010) - Blue: Fidelity / Feminine



Img 8. Frame from the movie The Truman Show (1998) - Blue: Far away / Divine



Img 9. Frame from the movie The Tree of Life (2011) - Blue: Far away / Eternal



Img 10. Frame from the movie Mary Poppins (1964) - Blue: Trust / Fantasy



Img 11. Frame from the movie Avatar (2009) - Blue: Science



Img 12. Frame from the movie Avatar (2009) - Blue: Fantasy



Img 13. Frame from the movie Mad Max: Fury Road (2015) - Blue: Cold

Red

Love | Hate

We blush

The color of the passions, the blood goes up to the head, and our face gets blush, either for shyness, love, or excitement (anger)



Strength | Courage | Live

The blood

In a lot of religions, the blood is where the soul lives.



Warm | Energy

The fire

The fire is powerful, energetic, and hot. Nothing can stop it, so red is like visual caffeine.



Masculin

The ancient male principals

Fire, strength, aggressivity. The red has all these meanings. It is the king of the colors. Also, in ancient Egypt, they represent the man with red skin.



Passion | Desire | Lusty

The fire

The passion can burn and consume, like the fire. When we are passionate, we have the "blood burning."



Anger | Aggressiveness | Excitement

War

The war is related to the color of the blood. Therefore the roman god of the war, Mars, has the name of the red planet. Also, the red is related to the strength, end the warriors used the dress up and painted themselves with red.



Immoral

Diable

The diable dresses up red and black. Therefore all the things red were related to him (the redhead's woman were accused as witches, and the squirrels and foxes were the devil's animals)



Forbidden | Danger

Traffic signals

If you skip a red traffic signal, you put in danger the other people and yourself. Also, any red alert means that something is not going well.



Img 14. Frame from the movie The Hunger Games(2012) - Red: Warm



Img 15. Frame from the movie Romeo + Juliet (1996) - Red : Love



Img 16. Frame from the movie The wizard of Oz (1939) - Red: Strength



Img 17. Frame from the movie American Beauty (1999) - Red: Desire



Img 18. Frame from the movie 300 (2007) - Red: Aggressiveness



Img 19. Frame from the movie The Shining (1980) - Red: Immoral



Img 20. Frame from the movie Alice in wonderland (2010) - Red: Hate



Img 21. Frame from the movie Rebel Without a Cause (1955) - Red: Masculin

Yellow

Fun | Amiability | Optimism | Pleasure

The sun

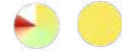
We related all the radian things to happiness. The smile is radiant, like the sun, and the sun is yellow.



Summer | Maturity

The flowers

This relations come from the nature. Almost all the flowers are yellow, and the fruit the more mature, the more yellow, and less green.



Img 22. Frame from the movie The Darjeeling Limited(2007) – Yellow: Optimism



Img 23. Frame from the movie Birdman (2014) – Yellow : Mad

Understanding | lack of understanding

The light of sun

The light of the sun looks like it comes from the top. For this reason, in the old European, symbolism is the color of the understanding, coming from the mind

Sin

But with black, the color of the sin, become the incomprehension



Unsafety

Unstable colors

While the grey is either black or white, the yellow is influenceable because another color's most minimum interference destroys it.



Img 24. Frame from the movie Inside Out (2015) – Yellow: Fun



Img 25. Frame from the movie Moonrise Kingdom (2012) – Yellow: Maturity

Envy | Jealousy | Mad

The bile

The yellow of the sulfur. When you are very mad, the bile ducts contract and the bile goes to the blood, making your skin look yellow.



Betrayal

Judas Iscariot

Judas Iscariot is typically painted with a yellow tunic. He was the one that betrayed Jesus.



Img 26. Frame from the movie Kill Bill: Vol. I (2003) – Yellow: Betrayal

Dishonor

You can always see it

Starting in the middle age, the yellow is the mark of dishonor; From heretics, outlaws to prostitutes, single mums, and jews. Is the color that you can't hide, it's visible even in the darkness



Img 27. Frame from the movie Big fish (2003) – Yellow: Summer



Img 28. Frame from the movie Seven (1995) – Yellow: Unsafety / Betraya

Green

Pleasant | Tolerance | Reassuring

Is in the middle

Green is between the opposites red and blue, so is the neutrality in the middle of the extremes. Therefore gives a feeling of peace. Also, green doesn't make the eye get tired.



Immaturity | Youth

Maturity in nature

In the process of maturation of nature, the immaturity is always green. Also, we use expressions as "he is still green," meaning that someone is still immature.



Terrifying

None mammal has green skin

None mammal has green skin. For this reason, green skin makes us think about snakes or lizards. Therefore the monsters usually have green skin.



The natural

Nature

Is the color with more presence in the nature. When we want to reference natural areas, we usually talk about "green zones" or on the city's "green lungs".



Hope

Spring

The spring is the renovation after the winter. And the spring is green.



Poison

Toxic green paint

The green paint in ancient times was toxic. Napoleon died because he had the walls of his room greens. With the humid climate, the paint dissolved and, with it, the poison.



Confidence - Security

Traffic light

The meaning is relatively new. Green brings a feeling of security and confidence for the green light of the traffic lights.



Img 29. Frame from the movie Boyhood (2014) - Green: Youth



Img 30. Frame from the movie Call me by your name (2017) - Green : Pleasant / youth / hope



Img 31. Frame from the movie The Lord of the Rings: The Fellowship of the Ring. (2001) - Green: Natural



Img 32. Frame from the movie Le Fabuleux Destin d'Amélie Poulain (2001) - Green Hope



Img 33. Frame from the movie Whiplash (2014) - Green: Confidence



Img 34. Frame from the movie Vertigo (1958) - Green: phantasmagoric / hope



Img 35. Frame from the movie Harry Potter and the Goblet of fire (2005) - Green: Poison



Img 36. Frame from the movie The wizard of Oz (1939) - Green: Terrifying

Orange

Exotic

The oranges

Before the oranges arrive, the orange doesn't exist. And the oranges came from Asia, so for the Europeans was an exotic fruit. Is that strong the relation between them, that the color has the name of the fruit.



Tasty | Aromatic

There are a lot of edibles are orange

From the cheese, chicken, the roasts or breaded... or anything cooked with safran.



Fun | Sociability

Opposite to the blue | Dionysus

The orange is opposite to the blue, so it represents the opposite qualities. Also, Dionysus, the Greek god of fun, always dresses up in orange..



Danger

Is has the most contrast with blue

For this reason is the color of the lifeboats, because it is the one with more contrast with the see. Also is the color for the emergency light of the cars or the traffic lights.



The transformation

Between red and yellow

The orange is between the red and the yellow. For this reason, it is the color of the transformation. The yellow and the red are opposites but at the same time very similar to the eye.



Inappropriate | Frivolous | Original

The color of the fun

Is the color of the fun, therefore the least we take seriously.

Plastic

For decades was the color of the plastic, they pick up the orange because there aren't any natural material with that color.



Img 37. Frame from the movie The Godfather (1972) - Orange: Transformation



Img 38. Frame from the movie A Little Princess (1995) - Orange: Exotic



Img 39. Frame from the movie Birdman (2014) - Orange: Inappropriate



Img 40. Frame from the movie Blade Runner 2049 (2017) - Orange: Exotic



Img 41. Frame from the movie Gattaca (1997) - Orange: Transformation



Img 42. Frame from the movie Harry Potter and the Philosopher's Stone (2001) - Orange: Tasty / Sociability



Img 43. Frame from the movie Joker (2019) - Orange: Danger



Img 44. Frame from the movie Alice in Wonderland (2010) - Orange: Fun / Original

Purple

Violence

Phonetic proximity | Power | We don't see it in nature

There are several reasons why we relate the violet with violence. First of all, is the color that most likely we will see in nature, also phonetically, are similar "violence, violete", in a stapling of languages. Last but not less was the color of the power in the ancient Rome



Power

Ancient Rome

It was the most precious color. Just the most influential people were allowed to dress in purple. In Rome, only the emperor and his family were authorized, under the death penalty for the others. Therefore, dress purple was more privileges than bring gold.



Penitence

Christianism

In the confessions, the priests were a purple stole, which also is the color of the time for fast and for the Cuaresma. In the Christians symbology, purple is the color of the humility



Extravagance | Singularity | Original

Nothing around us is purple

Almost nothing natural is purple. Therefore the purple is a conscious choice, and for this reason, it is an especial color.



Vanity

The sins

Vanity is one of the seven capital sins but is too beautiful and inoffensive to be a sin, therefore is purple. Because purple is at the same time the color of the penitence, and for this reason the color for the "beautiful" sins.



Artificial

The less common color in nature

Is the less comun in nature therfore the more artificial



Feminism

Emmeline Pethick

She popularizes the colors of the feminism movement (purple, white and green). Purple as the principal because as she said, "Purple, the color of the sovereigns, symbolize the royal blood that runs for the veins of every fighter for the right to vote, symbolize they're conscious of freedom and dignity"



Img 45. Frame from the movie Blade Runner 2049 (2017) - Purple: Artificial



Img 46. Frame from the movie Moonlight (2016) - Purple: Homosexuality



Img 47. Frame from the movie Chicago (2002) - Purple: Extravagance



Img 48. Frame from the movie Kick-Ass (2010) - Purple: Violence/power



Img 49. Frame from the movie The perks of being a wallflower (2012) - Purple: Singularity



Img 50. Frame from the movie Snow White and the seven dwarfs (2037) - Purple: Vanity



Img 51. Frame from the movie Breaking Bad (2008-2013)- Purple: Vanity



Img 52. Frame from the movie Avengers: Endgame (2019) - Purple: Power

1.1.2.3 Shows a character's Journey

When we are watching an audiovisual, we can't be in the character's mind. However, we immediately detect their personality, thanks to the costume, and the color is one of the key elements for determining this construction (Falcinelli, 2019 ;García, 2016). For example, in little miss sunshine, the costume designer Nancy Steiner used different colors for each character to show their nature. (Academy of Motion Picture Arts and Science, 2014; May, 2017)

So, "when in a fiction play a character is costumed in a specific color, never is something trivial. There are many characters their identities is related to a specific color" (Falcinelli, 2019). And if they change their initial colors, even for a small variation (saturation) or a big one (hue), it is because it has been an evolution of the character. This evolution could be from personality, way of thing about a specific topic... the reason is going to depend on the movie and themselves. Let's analyze this more deeply with some examples. (Falcinelly, 2019 ;García, 2016)

Vertigo

"In Vertigo, the color is a semiological question in a strict matter, opposite according to rigorous and elegant geometries. Here we don't just enjoy color, we decode it" (Falcinelli, 2019, p. 315)

At the beginning of the film, we are introduced to Madeleine. The first time Scott sees her is in a restaurant with red walls and with the other commensals dressed up in white, black, or gray cloth. But in the middle of the crowd, a woman is highlight. She is the opposite to the others she is blond and with a black and green dress. That green is not just the complementary color of the red from the walls, making Madeleine's highlight even more. That green is an advance of what is going to happen in the movie. While we move forward in history, we will discover that Madeleine is, in fact, Judy, and her color is green. (Fig 1)

Therefore we have two women that are just one, representing not only to different persons, otherwise opposed forces.

Madeleine is in chromatic matters, a classic cinema star, therefore black and white. Also, we can see her desaturated. She is the representation of the rigid, the cold, and intransigent. On the other hand, we have Judy. She is very colorful and saturated, while in Madeleine, the grey predominates, in Judy, it will be the green. Representing the flexible, the hidden, and the possible. (Fig 2) (Costa, 2011 ;Falcinelli, 2019)



Fig2. The contraposition of the colors between Madelyn and Judy (Falcinelli, 2019)



Fig1. Madelain appears on sense for the first time: Goes in a green dress (Falcinelli, 2019)



Fig3. How the colors act in Vertigo: Attraction between hidden complementaries (Falcinelli, 2019)

In the case of vertigo, the color not just codify the movie goes beyond and define it:

"We could say that the history talks about a man with a red soul that, for fear to women, hide himself in brown and, following a grey woman, that is, in fact, green, end up in love with her; but, when he is corresponded, he gets scared and without being able to bear with the green, wants to change her, wants to make the green became grey, colorless, and like that have control over her, and over himself" (Falcinelli, 2019, p. 326).

The Beauty and the Beast¹

The Disney movie Beauty and the Beast is full of references to the romantic model and is not casual. As Facellini affirms (2019), Beauty is the inverted double of Emma Bovary. Therefore, we don't have to be surprised to see her using Emma's color, blue. At the beginning of the movie, Beauty is costumed with a blue dress, and just with the colors and the first three minutes of the film, we appreciate that she doesn't fit, since nothing else in the town is blue, except the book that she is reading. That fact reinforces more the idea that she is different from everyone, but she is proud of that².

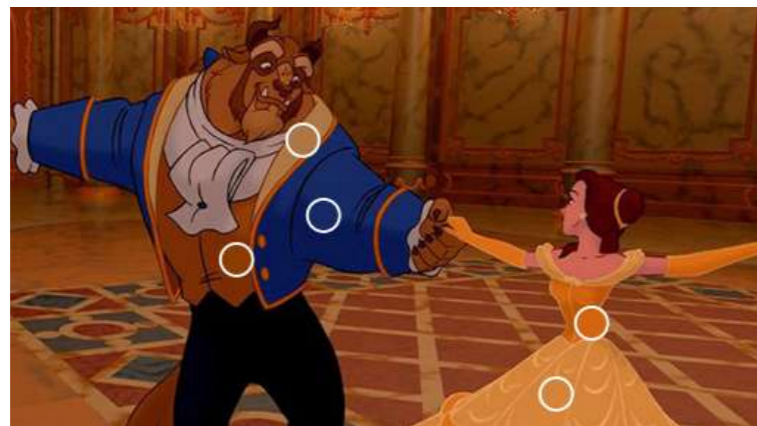


Img 53 Frame from the movie Beauty and the beast (1991)



Img 54 Cover Madame Bovary

Moving forward, the movie's next key scene (in the evolution of characters matter) is the dinner between Beauty and the Beast. Here the Beast is dressing up with a blue jacket and a yellow vest like Werther, showing up that he has a weathervane soul. And the Beauty let behind the blue dress appearing with a yellow one because she is now different from Bovary she sees something unique to the Beast. This elevates her to a higher level, reconciling the rational with the emotional. (Falcinelli, 2019)



Img 55 Frame from the movie Beauty and the beast (1991)

¹ The fairytale Beauty and the Beast appeared when the intention was to teach the young ladies that even if they end up married to an old or ugly man (a beast), they must learn how to see them from another perspective.

² We are not surprised that they reinforce this pride because it was the main idea of the main Disney characters of the 90'

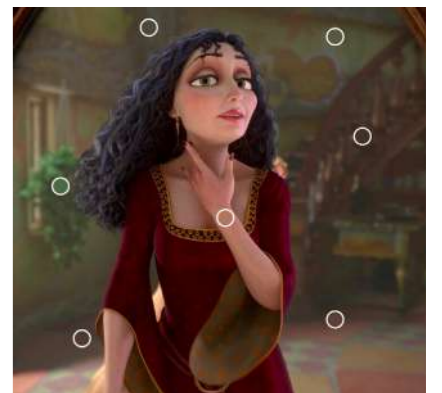
Tangled

For defining a character's personality, we don't play just with the costume. We also interact with the reaction of the environment they are. In the movie Tangled (2010), they needed the viewer to understand that Mom Gothel was a villain, even though she wasn't the Disney prototype villain from the outside. Thus, they decided to make a contrast with her and Rapunzel, and how the environment reacts to those characters' presents.

When Rapunzel is on scenes, all the environment is colorful and bright. She brings joy to everything around her. On the other hand, if Mom's Gothel breaks in, the background turns out cold and dark. We can see this difference in images 56 and 57, the same location but with the different characters. (Kurtti, Lasseter, Greno, Howard, 2010)



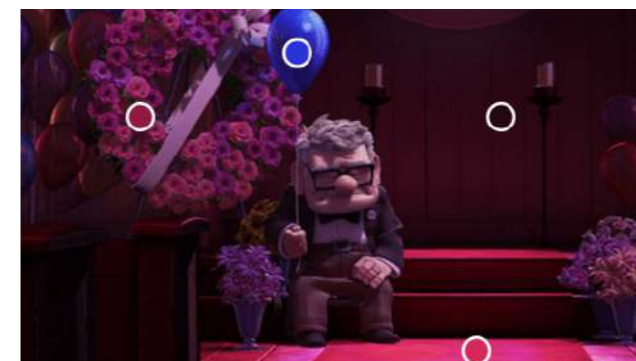
Img 56 Frame from the movie Tangled (2010)



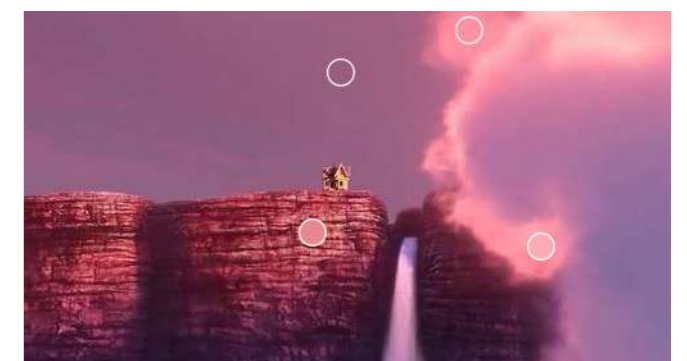
Img 57 Frame from the movie Tangled (2010)

Up

At the beginning of the film, they introduce us that Carl's color is the magenta. Through that color is how they will keep her presence in the movie after her death. When she died, we are transported to her funeral. Carl¹ is sitting alone while a magenta sunset² invades the scene. When the sunset ends up, the magenta will disappear from the film until Carl reaches Paradise Falls, the goal for what they were fighting for all their lives. (Pixar in a Box, 2017)



Img 58 Frame from the movie Up (2009)



Img 59 Frame from the movie Up (2009)

¹ The blue color from the balloon is not accidental represents his mood, melancholy. (Goethe, 1810)

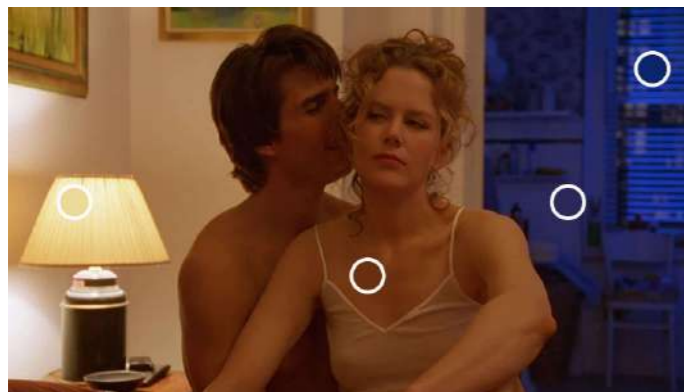
² In the cinema, the sunset represents typically the end of something (Pixar in a Box, 2017)

1.1.2.4 Color communicates a film's ideas

When we see a repeating color in a movie, either through all the film or in a specific situation, it is because this color is associate with an idea. As with the characters, this idea could evolve during the movie and the color will evolve with it. (Amidi, 2011; Falcinelli, 2019 ; García, 2016; May, 2017; Pixar in a Box, 2017; Pixar in a Box, 2017;)

Eyes Wide shout

In the Kubrick film, *Eyes wide shout*, we see how the warm colors are related to the comfort, the stability and the old. While the cold are associated with the idea of danger, dark, instability, and new, it is the new world to discover. So we can see in those two colors the main conflict fo the film, “the comfort reassuring of the marriage and the temptation of putting that in danger” (Falcinelli, 2019, p. 239)



Img 60 Frame from the movie Eyes Wide Shut (1999)



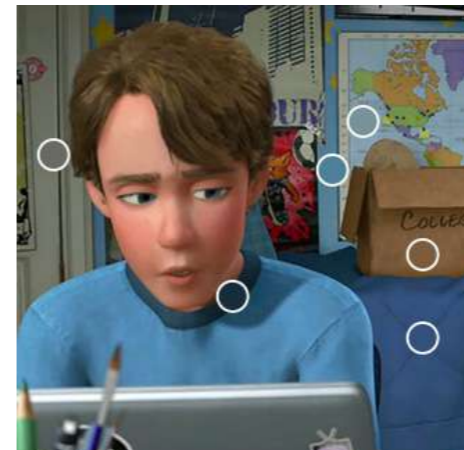
Img 61 Frame from the movie Eyes Wide Shut (1999)

With just one scene (Img 60-61) we can appreciate the dichotomy. The main characters are in the warm color's comfort, but behind them leaks this dark blue anticipating what is to come. As Kubrik affirms, “There is no relationship, no matter how happy, that don't raise doubts about the fickle human nature; there is no orange that not desire a little bit of blue.” (Falcinelli, 2019, pp. 240), (Facellini, 2019)

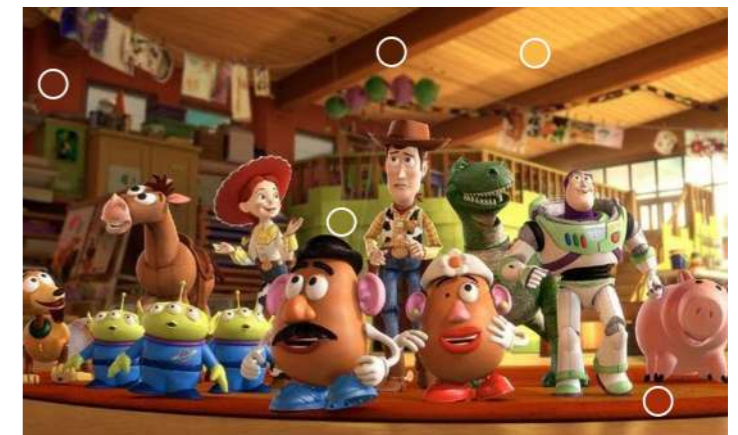
Toy story 3

In *Toy Story 3* the color blue is related to the idea of safe and home. However, how can we trigger this relation to the audience? For our main characters, Andy represents those two ideas, and he is dressed entirely blue at the beginning of the film, further his car is also blue as the walls of his room (Img.62).

Nevertheless, it is not casual. They use that to mark a patron to the audience and, like that, persuade them to relate a color to the desired ideas. Once this association is done with just a straightforward action, for example, delate the color blue from one scene, makes the feeling of danger augment on the audience (Img. 63). (Amidi, 2011)



Img 62 Frame from the movie Toy Story 3 (2010)



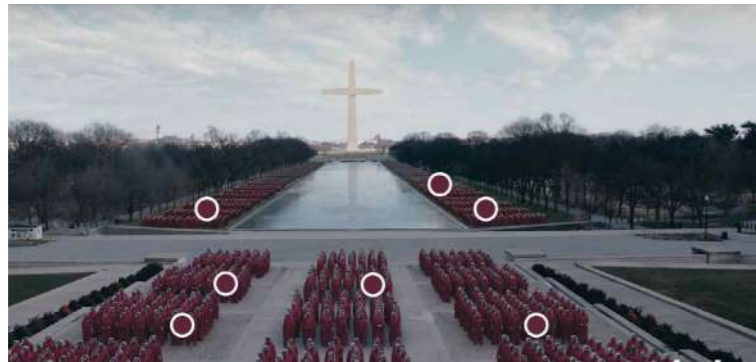
Img 63 Frame from the movie Toy Story 3 (2010)

Furthermore, I want to point out that as we saw in the psychology of color section, the color blue denotes safety (Goethe & Eastlake, 2019; Heller, 2004). Therefore, even though we could make the same sequence of association with any other color, for example, yellow, and it will work out as well inside the film's context, using the blue that has already this ideas related intrinsically, reinforce the association.

This relation could also be related to a character because if the concept is directly related to him/her, it is probable that the color shows their journey through that idea. (Amidi, 2011)

The handmaid's tale

The use of color as a narrative resource is not reserved just for the cinema. We can find it also in other productions, for example, television fiction production. One clear example could be, *The handmaid's tale*, the colors of the costume of the characters inside Gilead came already marked by the book. This gives less freedom to the costume designer to represent the evolution of the character thru the cloth. But this didn't stop her from expressing ideas related to characters through color because the color was specified but not the tone. For the handmaid's they decide to use the same tone for all the costumes, this decision was taken because while the series move forward the handmaid's start joining forces, and having all of them with the exact same color give the sensation of an army, an unstoppable red tsunami. And like that send the idea that the revolution is yet to come (Img. 64).



Img 64 Frame from the serie The Handmaid's Tale- Season 3 (2017- present)

On the other hand, we have the wife, that in season two experiment the opposite situation. They will end up divided into two groups, and the power jumps from one to the other. From now on, the basic blue-green dress is reserved for the supporters of Gilead at it is at that time. In contrast, the others wear greenish dresses (Img. 65) . Like that, we can figure out which group each wife belongs to. (Robinson, 2020)



Img 65 Frame from the serie The Handmaid's Tale- Season 2 (2017- present)

In the third place, the idea can be related to an action, and the presence of a color in the sceans warns the viewer that something will happen.

The Sixth Sense

In the Sixth Sense the red color (Img.66) marks the union between the two worlds, the life and the dead. Whenever those two worlds cross each other, some red object will aper in the scenes to prepare us. (Costa, 2011;Vélez, 2019)



Img 66 Frames from the movie Sixth Sense (1999)



1.1.3 ColorScript

“the colorsript, a roadmap for the way the color (and thus emotion) would be applied throughout the film” (Amidi,2011, p.10)

If the color has such an impact on the vision of a film's spectator, the filmmakers need a technique that allows them to understand the effect that the color is generating at a glance, and from this need appears the color script¹. As Facinelli seas “Look a color script is, in fact, as read a score from a symphony: It

¹ The color script is a Pixar innovation, performed for the first time by the artist Eggleston, since then is a cornerstone form Pixar productions.

gives us a vision form the set of the way of reason of the author, and reveals the deep structures of the used language” (2019, p.323)

The color script consist of a storyboard from about 12 scenes, more or less², from which they took three photograms, it is essential to simplify the film to its less expression, choosing the scenes according to their emotional beat.

Let’s see an example.

For creating the color script from COCO, they realize a linear graphic from all the movie. In the x-axis, they had the movie’s actions, and in the y-axis, the emotional beat of it. Dividing the film in acts, we go scene by scenes, and we relocate them in the graphic (Fig. 4)

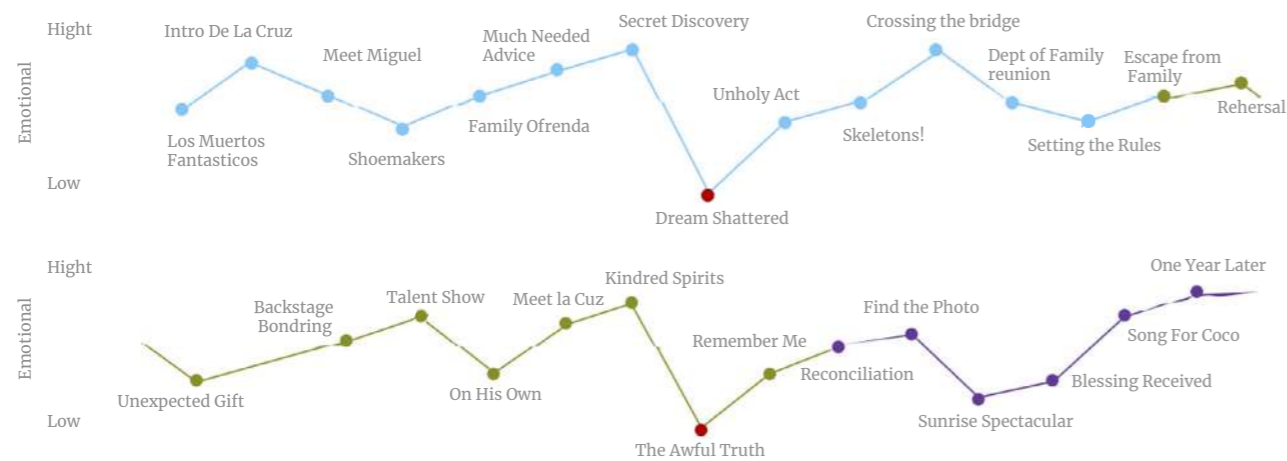
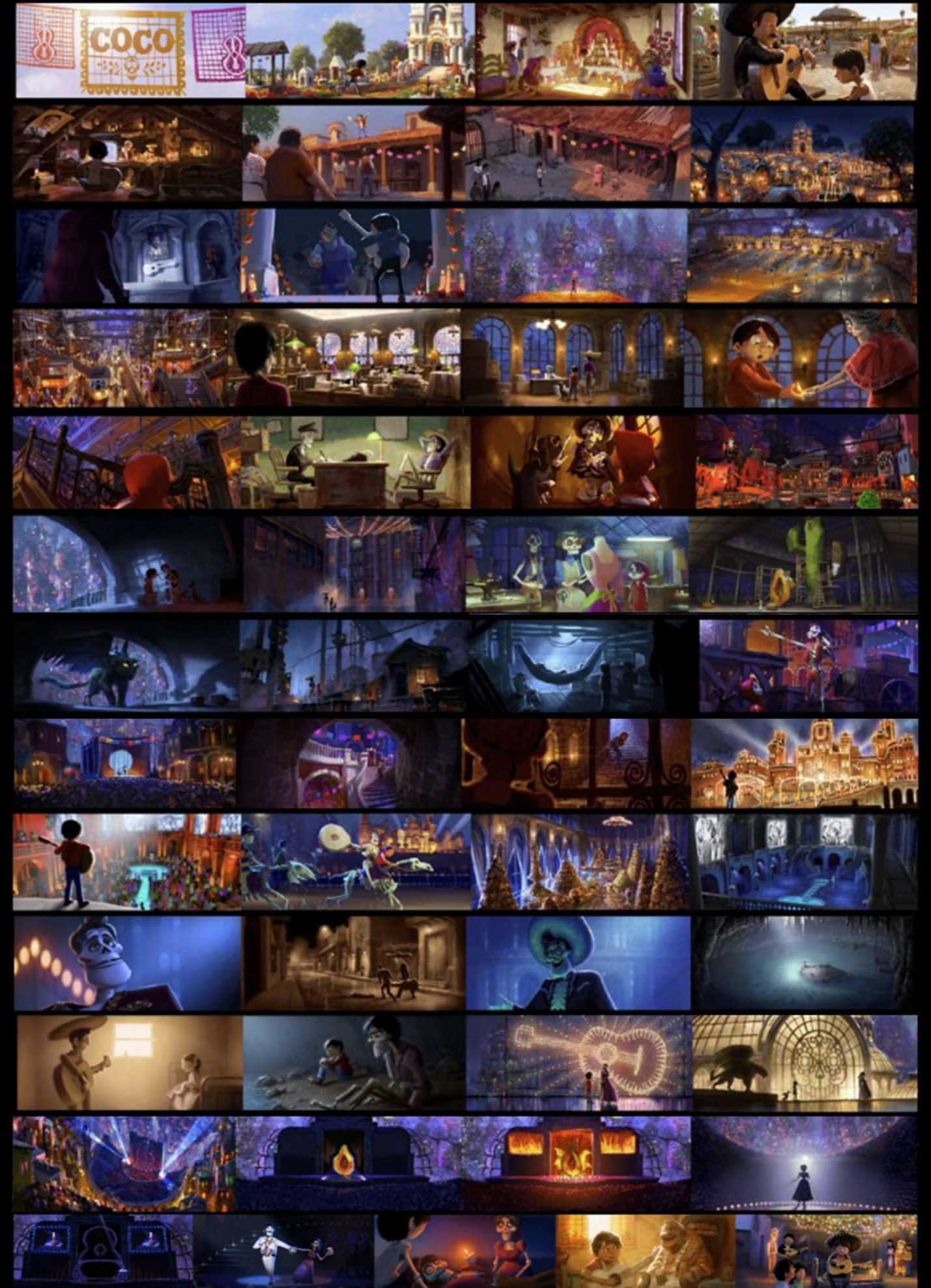


Fig4. Graphic of the emotional beat of COCO (2017) (Pixar in a Box, 2018)

We check which once had the most emotional impacts, either positive or negative, and from those scenes, we pick up around three photograms, we can cover the whole scene this way, like that we go building the color script from the movie.

The option of seeing the whole movie at a glance allows us to analyze how color is affecting or which relation they develop through the different scenes without the need to watch the entire movie. This is as helpful for the filmmakers to produce a film as for the spectators to decode those. For that reason, the color script is a crucial resource for visual training. (Amidi,2011; Lasseter, Unkrich, Molina 2017; Pixar in a Box,2018)

² This will depend on every movie and the level of detail that they want to give. We can't lose the focus the fact that we have to look at it at a glance, so we cannot extend much.



Img 67 Color script from the movie COCO (2017) (Lasseter et al, 2017, p. 62)

1.1.4 The importance of understanding the color

We have already seen that color is an essential resource in a film and the different ways the filmmakers have to take advantage of their qualities. But is it that important to understand the color consciously?

The color is just one of many tools inside the audiovisual language. But, because it is built around, and information that is already in the collective imaginary, it is one of the areas to learn initially; from here, we can increase the level. In conclusion, we should amplify the question of the importance of color to the importance of the audiovisual literacy in general.

The films transmit messages and, therefore, values. When we are passive spectators, those ideas end up stick in our minds without giving us the option to make a critical reflection and choosing consciously if we agree or not with those. Teaching to decode the movies thru audiovisual literacy, as Veléz (2019) says “is the first step to increases the quality consumption, and promotes audiovisual creations from the knowledge”.

Noone would discuss the importance of the reading comprehension because we know that it is not all about understanding the text but having a profound grasp of the author’s ideas in that text. Why don’t we have the same vision with the audiovisual understanding? In an audiovisual more than one sense, more than one language interfere, making it more complicated. Besides, the writing text is no longer the media most consume for the new generations. The internet and the social network have made way easy the access to a series of audiovisual content. Therefore the audiovisuals are more consumed than the lectures. Why don’t we teach to understand it?

Finally, we have a challenge here, and it is that as we saw with color, the structure is not one hundred % ruled. Two plus two is not always going to be four. Every movie, series, short.... can create their own language codes. Therefore the goal that we have to achieve is to stimulate the critic eye, intending to change the new generations’ state from passive to active audiovisual consumers. As Velez (2019) says, we should foment the reflection and the critic factor in them. (García, 2006; Velez, 2019)

1.2. TEACHING THRU PLAY

1.2.1 Why it is necessary to define play and game separately

Before realizing a project linked to play, we must have a clear definition of it, to which we can adhere. Including which characteristics we will consider essential and, like that having an anchor point during the design process.

The aforementioned is important because the game concept has been immersed in the ambiguity in the last years. We have applied their principles so widely that we have reduced their original meaning. This evidence has led to the fact that there is no clear focus on the ideas we are trying to understand. The common themes that they had been in the start become blurred in the middle of a mess of theories that can even become contradictories, where every author seas there own ideas. That lack of common language make’s difficult there definition and understanding. (Crawford, 1982; Salen & Zimmerman, 2003; Sicart,2014)

In the first place, there is considerable confusion between the concepts of game and play, especially in languages such as Catalan or Spanish, where they are two versions of the same word (“joc” and “jugar” / “juego” and “jugar”). Therefore before starting, it is vital to undersend the difference between them. (Salen & Zimmerman, 2003)

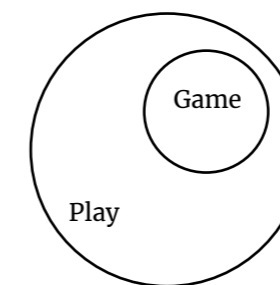


Fig 5 Just some forms of play are considered a game. Generally, those more formals and structured

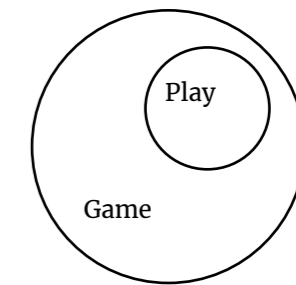


Fig 6.The games are formed for a lot of components, and even though the play is one of the crucial, is not the only one

But the game doesn’t matter that much, the important concept is play as Sicart affirms

“we are the fools looking at the fingers when someone points at the moon. Games are the fingers; play is the moon” (Sicart,2014, p.2),

So they can not be framed in the same definition.

1.2.2 Play

We can find several characteristics that may help us to define the concept of play. But the key idea is that playing is an experience, and this experience is not necessarily fun, but it is pleasant. In this experience, unlike what was believed at first, the rules are not an immutable element of play because thinking, manipulating, changing, and adapting those rules is one of the main ingredients of play. So play is creation but at the same time destruction, is between the creativity and the nihilism, is fragile, tense, active.... (Huizinga, 1938; Salen & Zimmerman, 2003; Sicart, 2014)

So what is Play?

To answer this question, Miquel Sicart (2014) have tried to define play thru some characteristics:

- Play is contextual: The context where the play happens. It is determined by a complicated relationship between people, rules, negotiations, localisations, and objects.
- Play is appropriative: Play it takes over the context in which exist, for example the Ninja game, is often played in public spaces, and while we are playing what used to be (for example) a parking lot becomes a battlefield.
- Play is disruptive: As a consequence of being appropriative, when it takes over the context in which play takes place, it breaks that context.
- Play is carnivalesque: play finds the equilibrium between creation and destruction, it leads to a festive liberation in search from freedom, expression and truth.
- Play is autotelic: Play has a proposal of its own, but the proposal is not necessarily fixed.
- Play is creative: The player will perform the actions according to their need, personality, so in the end, it is a creative way of expression. An example of that would be the creation of tactics in games.
- Play is personal: As we said before, the play is attached to the player, so the effect that this cause is going to depend on our memories.

Furthermore, the anthropologist Roger Caillois (1958) framed the different types of play, depending on their context:

- *agôn*: all those playful activities that have the competitive element as the main one
- *alea*: The decisions will be independent of the player. This one can not interfere; here, we have all the probability interactions such as bingo.

· *Mimicry*: simulations, all the playful experiences where the player imagines that they are another person, or they create a new world. Here we can talk from videogames such sims to the theater or the action of dance.

· *ilinx*: playing with the sensation of vertigo, for example, if a child rolls to dizziness, he loses his balance and falls.

(Caillois, 1958; Csikszentmihalyi, 2008, ; Salen & Zimmerman, 2003)

1.2.3 Game

As we mentioned before, the games are not that important as play, but the following part of the project will focus on creating a game, so it is essential to mention their main characteristics.

If play is not necessarily framed by rules, the game definitely is, being this the main characteristic that defines it (Abt, 1994; Crawford, 1982; Costikyan, 1994; Huizinga, 1938; Salen & Zimmerman, 2003 ; Sicart, 2014; Suits, 1978;) With that said this is the only characteristic that almost all the authors' agree. For this reason, after reading several theories (Abt, 1970; Caillois, 1958; Costikyan, 1994; Crawford, 1982; Huizinga, 1938; Salen & Zimmerman, 2003; Sicart, 2014; Suits, 1978). I have end up with my own principal characteristics

- *Rules*: As I mentioned before, a game has to have clear rules. (Abt, 1994; Crawford, 1982; Costikyan, 1994; Huizinga, 1938; Salen & Zimmerman, 2003 ; Sicart, 2014; Suits, 1978;)
- *Conflict*: The player has to found himself at least in front of one conflict that he has to solve. (Crawford, 1982; Salen & Zimmerman, 2003)
- *Goal/Results*: Without a goal, the user will lose their motivations, this goal can have a lot of shapes, and it doesn't have to be necessarily a reward. (Abt, 1970; Costikyan, 1994; Salen & Zimmerman, 2003 ;Suits, 1978)
- *Take of decisions*: The user has to interact actively during the game, and the decisions that he/she made have to be substantial. If those are superficial and easy, the game gets boring. (Abt, 1970; Crawford, 1982; Costikyan, 1994)
- *Safe*: The user has to know that he is in a safe environment and that nothing physical or psychological can happen to him/her. (Crawford, 1982; Caillois, 1958; Huizinga, 1938; Nørgård, R. T., Nielsen, C. T., & Whitton, N, Aarhus University, Denmark, Manchester Metropolitan University, UK, 2016; Salen & Zimmerman, 2003)

1.2.4 Games improve the learning experience

“Game contains the pieces necessary to engage students and help them enter a state of flow where they are fully immersed in their learning environment and focused on the activity they are involved in” (McClarty et al, 2012, p. 14)

The game gives the student a platform to interact with, like that they can play but with some directions to follow. In consequence, games can teach in detail complex concepts by exposing all types of knowledge¹. Letting the student learn particular content, and at the same time stimulating the mental energy and therefore increasing their motivation. The type of games normally used in the education context are either serious games or gamification. In those games, education is the primary goal, and they are becoming vital for learning environments. (Abt, 1979; Bogers & Sproedt, 2017; Deterding, Dixon, Khaled & Nacke, 2011; Gros, 2015; O’Donnell, 2014;)

So how exactly did games can improve the experience of learning? (classification by: Gros, 2015)

- Games to improve Motivation: Most games provide clear goals, tasks, and challenges, and those elements are crucial for enhancing motivation.
- Games to teach content: The serious games allow the user to have control over different variables and like that solve complex problems
- Games to improve learning experience: This is because games facilitate the flow experience (Kiili, 2005) (Fig. 7).
- Games for Assessment: In games, the student receives immediate feedback. Or the user advances to the next level, or they have to try again.
- Games for design and creativity: If the students design themselves a game, they develop problem-solving abilities and creativity. (Abt, 1970)

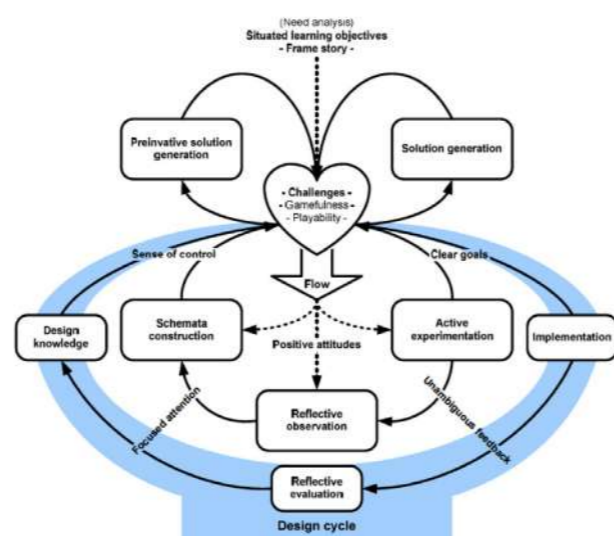


Fig 7 Experiential gaming model (Kiili, 2005)

What is the flow?

Csikszentmihaly (2008) defines the state of flow as an extasis state. In which you get in a very high concentration level, having absolute clarity about what you are doing, you make the task even the difficult. This leads you to serenity, making the sensation of time disappear and finally making you feel part of something bigger. To arrive at this state of flow, two variables must be in balance: the difficulty of the task you are performing and your abilities related to that task. (Fig 9). (Csikszentmihalyi, 2008; Csikszentmihalyi, 2004)

The middle point would be the balance of difficulty and abilities that the people have, so this one will change depending on the person. You arrive at the state of flow when you know that you are doing something challenging, but you have the ability to complete it. For this reason, in general, the only way of achieving this state is by doing something that you really want to do.

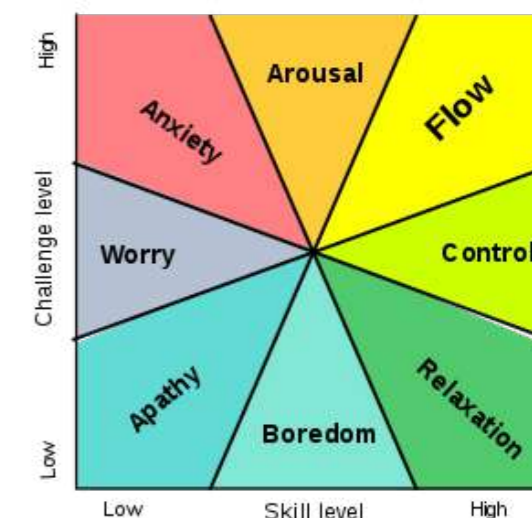


Fig 8 Graphic about the experience of flow, (Csikszentmihalyi, 2008)

The best area to develop the abilities would be the motivation because the challenges will be a little more complicated and will push you to evolve.

The concept of flow has been useful for psychology for studying the intrinsic motivations or for sociologists for the study of alienation; Inside the experience of playing in a learning context, it is essential to have in mind this concept while designing. Because we have to find the balance between the knowledge of the user and the challenge that they are facing in. (Csikszentmihalyi, 2008; Csikszentmihalyi, 2004; Sicart, 2014)

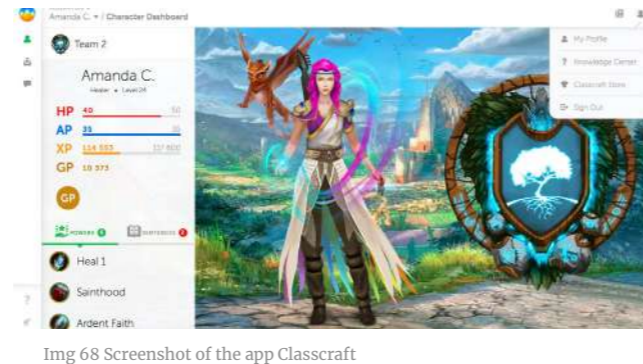
¹ They are specially good in subjects such as mathematics, physics and arts.

1.2.5 Gamificació vs. playification

When we talk about the game design or think of a ludic action that can motivate a person to effectuate an activity, we usually think of gamification’s concept. The definition of gamification would be:

“The use of game design elements in non-game context” (Deterding et al 2011, p. 10).

A clear referent of gamification is the app *Classcraft* that aims to motivate the students to act appropriately. To achieve that goal, uses some game techniques like the points, the rewards, or the punishments, depending on the action that the student realizes during the hours of class. This motivates the pupil to perform correctly, and thanks to that, achieve more level, and get new powers, like being able to chouse there sit in class.



But on the other hand, even it looks like an ideal technique, gamification has received a considerable volume of critics in the last years. It has been cross for not understanding the concepts of play/game. The main reason is that it uses some predefined game elements for all the situations and wastes its real potential. So, a player will feel motivated for the objectives that you are giving to them wholly alienated from the performing activity. But the system is not interested in a change because of how Ray affirms (2015), gamification has the goal of productivity and is very useful for the post-industrial capital system. Thus, it has begun a debate regarding whether it is ethical or not to use this technique because what we are doing is manipulating the user. (Altarriba., Márquez., & Isbister., 2014; O’Donnell, 2014)

In reaction to that appears a new concept named: playification. This one is very similar to gamification but with little differences, allowing it to become an alternative without that limitation. It designs the game taking profit from the intrinsic motivations of itself and creating the experience around this instead of searching the ludification in the predefined game elements. (Altarriba et al., 2014)

All of that, it moves to the fact that for designing those experiences, we have to get closer to the user when we create them, to focalize on the vision of their reality.

1.2.5 Geting closer to the user: hunting playpotentials

There is a recent technique that allows us to create this experience. To do that, what we do is work with Play potentials.

The Play potentials are a strategy that searches for play dynamics that already exist, and therefore they have meaning inside the context that we are using it. Basically, what we achieve with the play potentials is to light up these dynamics. For accomplishing that, it is essential to involve the users from the beginning of the research. Because interacting with them will help us understand the ludic interactions of the context that we are studying and which meaning has for the users. We can do that in two different ways, the first one through having a more direct relationship with the user, in which they are wholly involved in the creative process, or having a more distant look where we study their interactions.

Once we have identified the play potentials, we can start creating encounters that will be ludic in their context. We can use these play potentials as inspiration for building new experiences or as a design’s objective. (Altarriba., Márquez., Duval., & Isbister., 2019)

Even though while we are performing this study, it is crucial to have an anchor point because we have many different options, and it is so easy to lose the focus of the research. PLEX is a way to categories the ludic experiences developed by: Andres Lucero, Jussi Holopain, Elina Ollila, Riku Suomela, and Evangelos Karapanos (2013). That such their authors describe, can give this anchor point to the evaluators.

Experience	Description
Captivation	Forgetting one’s surroundings
Challenge	Testing abilities in a demanding task
Competition	Contest with oneself or an opponent
Completion	Finishing a major task, closure
Control	Dominating, commanding, regulating
Cruelty	Causing mental or physical pain
Discovery	Finding something new or unknown
Eroticism	A sexually arousing experience
Exploration	Investigating an object or situation
Expression	Manifesting oneself creatively
Fantasy	An imagined experience
Fellowship	Friendship, communality or intimacy
Humor	Fun, joy, amusement, jokes, gags
Nurture	Taking care of oneself or others
Relaxation	Relief from bodily or mental work
Sensation	Excitement by stimulating senses
Simulation	An imitation of everyday life
Submission	Being part of a larger structure
Subversion	Breaking social rules and norms
Suffering	Experience of loss, frustration, anger
Sympathy	Sharing emotional feelings
Thrill	Excitement derived from risk, danger

Fig 9. The PLEX framework consisting of 22 categories (Lucero et al,2013)

PLEX is born from a need for understanding “How playfulness can be employed in creating meaningful and memorable experiences for users” (Lucero et al, 2013, p.1), which is intrinsically related to the creation of Playficiton experiences because it has the goal to create ludic experiences with meaning.

After realizing several studies of pleasant experiences, the game, the emotions, the elements of the games, and the reason why the people play, the authors have made the first categorizations of the playful experiences, following that they

interviewed thirteen players of the videogames: sims2, grand theft auto IV and Spore. And finally, they establish what now are the twenty-two PLEX categories.

The best way of using this categorization in research is to use cards, which will be more understandable for both the evaluator and the users. We will assign a card to each category; in the card will be the name of the variety and an image illustrating the action. In this case, if we want to do this in a more specific way, we can use pictures related to the study's activity.

1.3. CONCLUSIONS

In the first place, I have been performing a research about the uses of color as a tool in the audiovisual media. From that point, I could demonstrate that color is a key instrument inside the audiovisual narrative, and in which different ways they use it: helping movies to tell their story, to transmit emotions, showing the character's Journey, and communicating a film's ideas. Thru the study of different cases, I could observe in more detail how and with which variations color intervene in this aspect inside a movie. Also, I saw how the filmmakers have complete control of color through their films thanks to the color script (a storyboard with color as the main element), which I didn't know existed before realizing the research. That tool will be super useful during the creation of the app because it will let the user see the whole movie at a glance. Finally, I demonstrated the importance of converting the viewers from passive to active and, therefore, the social impact that this project could have if it ends up established in the education centers.

Secondly, I went in-depth about the play concept and the uses of it in education. In the beginning, I had clear that I wanted a gamified app because nowadays, impulses surround the new generations. And, for me, gamification was the key to keeping them motivated. But after doing the research, I discovered new points of view. So I decided the change gamification for playfiction. In the theory, that concept is super similar to gamification, but with the difference that it builds the mechanics from what it's intrinsically fun about the activity, instead of picking up determined ones. I also check the importance of involving the users in the design process, and not just as a focus of study, but as creative subjects.

In conclusion, we could say that teaching the new generations audiovisual literacy is the key to their development, being as important as reading comprehension. Because at the end it is the material that they mostly consume. Nowadays, most of the viewers are passive. We need a change to make them active and have a critical vision about that format. Visualizing content and thinking about what you just saw has to become a habit, not an isolated fact. If we link this activity to play, we will provoke the user's motivation to intrinsically achieve this reflection.

1.4.CREATE AND COMUNICATE NEW IDEES

Once I realized the theoretical research, in the second stage, I will take all that content and transform it into an app, with the objective that they can use it in high schools to teach to students audiovisual narrative (focus in color). This app will consist of mini-games that will lead to the analysis of several movies. And like that, the students will be able to learn through practice to keep the habit of watching a movie and analyzing the content after.

The creation of this app is going to be divided into three sections:

1- The analysis of several movies that are going to constitute the content of the app. I will practice all the knowledge learned in stage 1 about color as a tool of the narrative, analyzing which is its use in those movies. Also, I will create their respective color script. This will be useful in first place for my own analysis process, and secondly as a support for the users inside the app.

2- Workshops. These sections appear after realizing the research about gamification and playfiction. I have proved the advantages of involving users in the creative process. For this reason, I have changed my initial idea about using gamification, and instead, I have added a new step to the project. I will realize a group of workshops to discover what is intrinsically fun to watch and understand the film's messages. These workshops will be useful for building the mini-games that I'm going to use to teach color in the audiovisual narrative context.

3- The design and coding of the app. I will take the analysis done in the first section and the results from the workshops, and I will design and code an app that will allow the students to develop their critic's eye, and like that, learn in a funny way to decode the use of color in movies

2. THE CREATION OF THE APP

2.1 OBJECTIVES THAT GUIDE THE OPERATION OF THE PROJECT

After researching the meaningful use of color in the audiovisual media and the importance of developing our glance, in this second stage, I will convert it into a playful app that will allow the users to train their glance while playing.

For doing that, I will take into account all the information about teaching thru play studied in the point before, with the primary goal of combining them to build the best experience for the users.

Therefore I am going to put my focus on user experience research. To do this, I will use the techniques that I learn while I was doing the internship in the Social and emotional technology lab at the University of Santa Cruz (California), where they perform interactive design research. The type of technique that I will perform is user-centered design and, at some points, even the user co-design.

Once I have the user experience, I will follow by developing a prototype that will allow me to perform the user testing. For this, I will design a basic UI (User Interface), code a primary prototype using HTML, CSS & JS, and create all the content to give the user the experience of one complete game (one film).

2.2 SCHEDULE

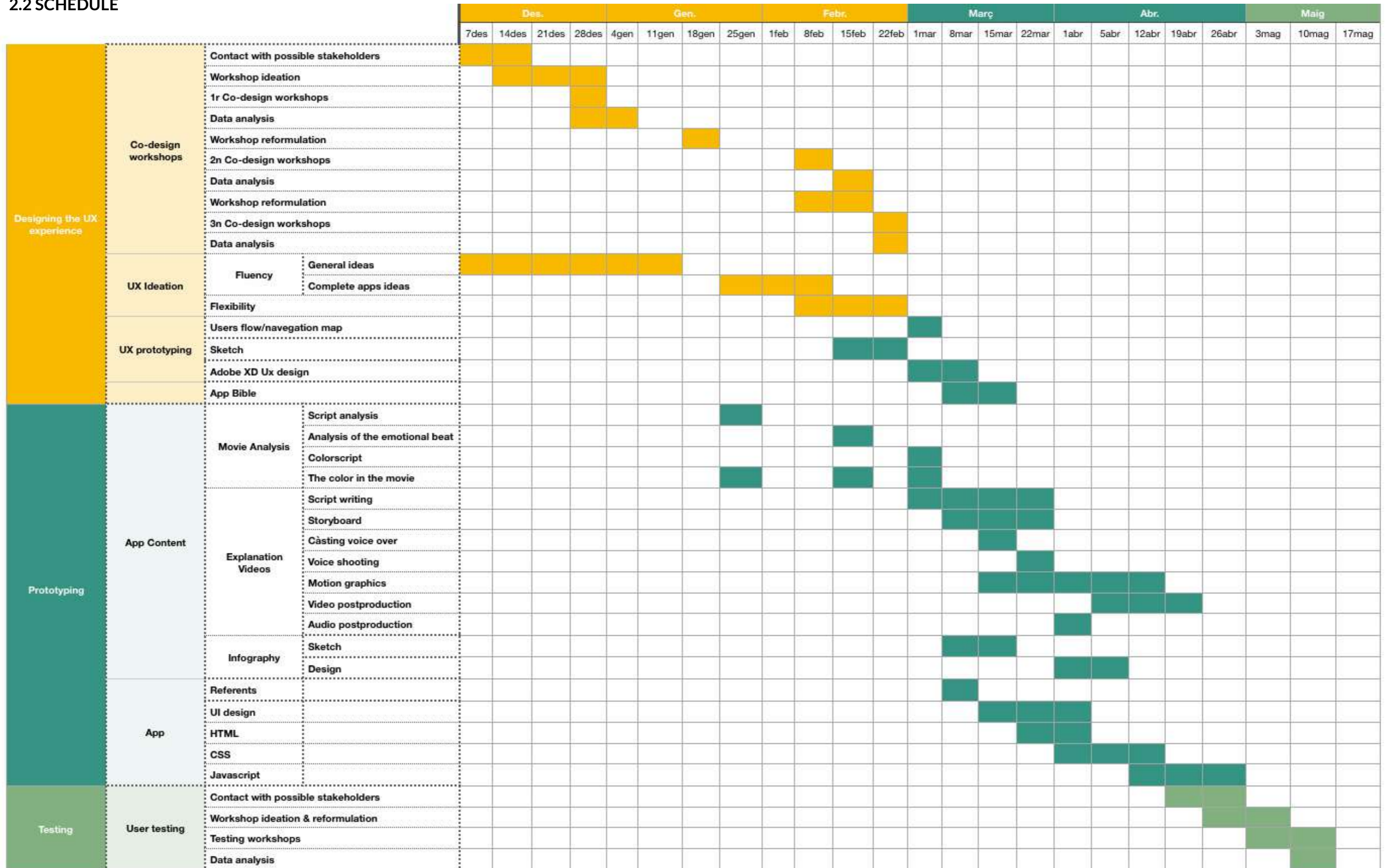
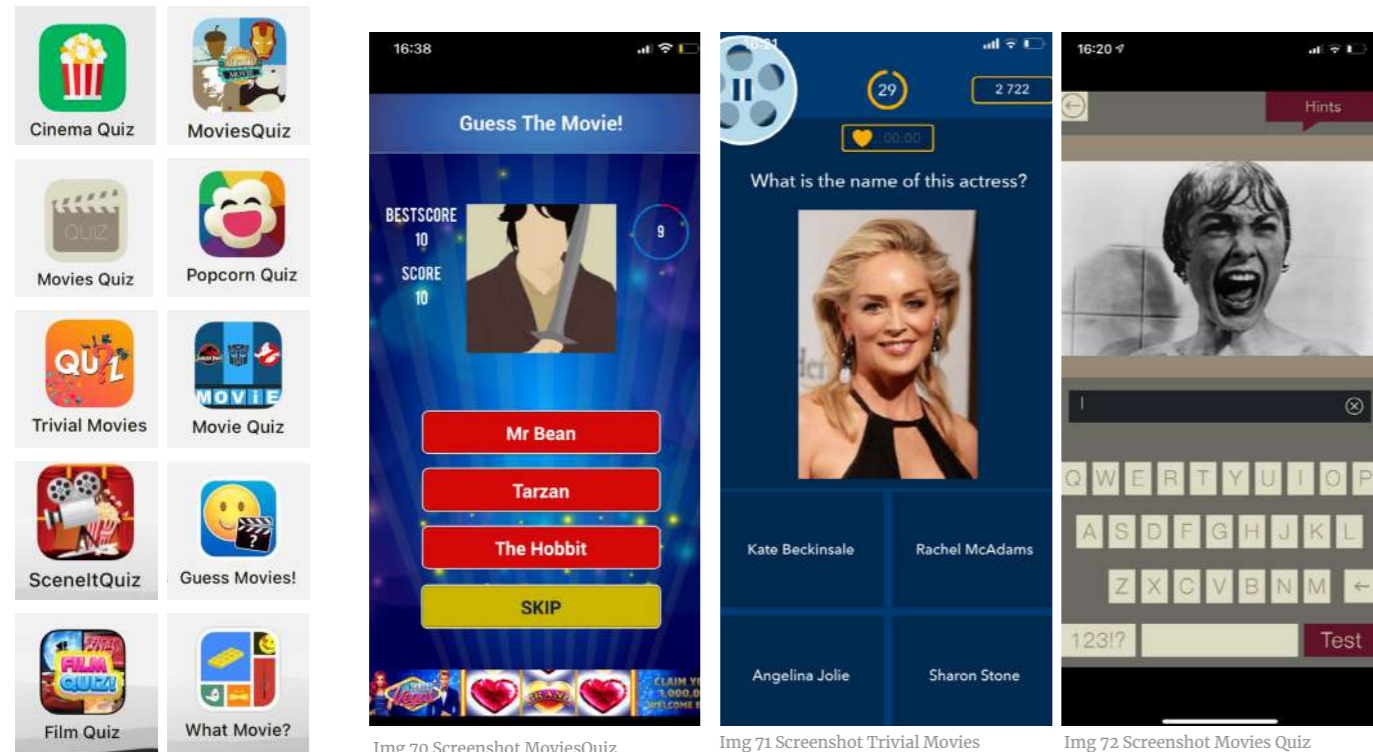


Fig 9. Schedule creation of the app

2.3 CREATING THE USER EXPERIENCE

2.3.1 Referances

In the beginning, I started going thru a bunch of different cinema games, but it did not take me a lot to figure out that they were all the same. They all offer the same kind of user experience. A multichoice minigame where you have to guess: the movie from a scene, or the actor that preformed a character. Or in some of them the name of the actor. They did that in different ways, from a direct screenshot from the movie to abstract draws or even emojis.



Img 69 Icons cinema games I tested

Img 70 Screenshot MoviesQuiz

Img 71 Screenshot Trivial Movies

Img 72 Screenshot Movies Quiz

On the other hand, we had the educative games, which right now the main one is Kahoot, but I saw that they mostly used the gamification mechanics and are more focused on learning theoretical content. Therefore, I did not have an actual user experience example of what I wanted to do because it does not exist yet. Moreover, I did not know if the mechanics of the apps I found would work for what I wanted to do.

So I decided to search for that information directly from the potential users to get a broader understanding of their experience with play, audiovisuals, and learning. Consequently, I turned them and their thoughts in my primary referances.

2.3.2 Co-design workshops¹

2.3.2.1 Selection and contact of the stakeholders

At that point in the project, I knew that it was better to search for quality over quantity. Instead of sending surveys to many people, I decided to perform several workshops with smaller groups to get a more close interaction with them.

I ended up performing the workshops, and the first was with a group of four 16 years old students. It had a total duration of 5 hours. The fact of just being 4 participants allowed me to be present in all their conversations and consequently collect more information about every decision.

At the same time, I got in touch with the high school of Celrà. They have an elective in the 4th grade where they study audiovisual, design, and multimedia. Accordingly, I performed the workshop with two groups (8 - 13 participants) and had a duration of 2h each. They offered me the option of having more students in each workshop, but as I said before, I was not looking for quantity, and I decided to do it with fewer students and get the chance to be more present in their discussions. In this case, I worked hand to hand with the principal teacher to devise the best workshop structure that could work for both the subject and my project.

2.3.2.2 Structure of the workshop

The workshop structure was not a fixed thing; I was adapting the activities to the needs that I had at that moment and accordingly of the previous one's experiences.

Activity 1: Brief theoretical introduction about how color helps movies to tell their story (20-30')

Structures

I did a small class summarizing all the information explained in the point 1.1.2 of this project. This is how I structured the content of the presentation:

1- Simplify complex storys:

- *The wizerd of oz*
- *Path laberinth*

¹ All the information about the co-design workshop in annexes pag.

2- Transmit emotion

Theory (I used the cards from the previous section page. 14-25)

Practical example: Analisis of the scene “Be prepared” (00:27:15-00:30:27) from *The lion king* (1994)

3- The jurny of a character

Theory

- *Beauty and the beast*
- *Up*

Practic example *La la land* (2016) (I used this example just in the first workshop because I already knew that they had seen the movie)

4. Transmit film ideas

Theory

- *Eyes wide shout*
- *Toy story 3*
- *The 6 sens*

Practic example: Analisis of the scene “Hellfire” (00:48:17- 00:51:28’) from *The hunchback of Notre*

Dame (1996) (I did not use this example in the first workshop because they already had the La la land example)

Goals:

The main goal is to give them a base about the use of color. This will help them follow the following activities, better understand the project’s whole point, and give more active feedback.

Activity 2: Viewing of *Black swan* (2010) (2h) + Interpreting the color (10 ‘)

I only did this activity in the first workshop. In the beginning, I thought about replacing black swan (2010) with the *Corpse bride* (2005), in the other two, due the movie is just 1h and 10 mins, instead of removing this activity due it also had an interesting use of color. However, that would have been more than half of the time that I had, and I finally decided that it was not worth spending that time in the movie visualization activity.

Structure:

We watched Black swan (2010), and they received the instruction of trying to identify symbolic uses of color around the movie. Nevertheless, without losing the focus on enjoying it, they had to let the unconscious work. Once the movie finished, I ask them about their experience, and we discuss the uses

of color in the movie.

Goal

Put in practice, the brief theory received previously.

Analyze their experience watching the movie .

Immersing them even more on the experience before moving on to the following activities.

Watch which level of interpretation they achieve just with the brief theory introduction.

Activity 3: PLEX (1h-Workshop 1 / 45’ Workshops 2)

Due to some schedule incompetence, I could not do the third workshop until three weeks after the second. So the project was much more advanced at that point, and I needed a different kind of information from the participants. So, in the end, I removed the Plex activity.

Structure:

In order to do this activity in the workshop 2, I divided them into three teams.

I picked up the plex cards and wrote them down in postits. Like that, I gave the participants freedom to move the cards around and change their position at any time if they feel like doing it. I gave them an empty graphic in the Y-axis there where the variables (desirable - no desirable) and in the X-axis (complex-Simple)

They had to place the play dynamics of the plex card in the graphic, and all the members of the team must agreed on the position. For that, they had to think about what they enjoy in watching a movie and analyzing its color. I asked them to take the experience of that day as a reference.

From my part, I acted as a spectator, and I did not intervene in their discussions. However, they could ask me if they did not understand something or needed clarification for some of the cards. Finally, I asked them about their experience while watching the movie that day related to the dynamic they were placing.

Variations

For the workshop two, I could not hear the whole discussions due to the number of groups. To solve that problem, in the last 20 minutes of the activity, they performed a presentation explaining why they decide to put each PLEX element in different positions. I asked them to speak about the elements they

founded more interesting or have had more trouble placing due to different opinions.

Goals:

Detect which of the playful dynamics were desirable or not in the experience of analyzing a movie

See which things are intrinsically fun in the activity of watching and analyzing a movie.

Activity 4: Design of an app (1h workshops 1-3 / 45' workshop 2)

Structure:

I divided them into groups, and I gave them 40minuts to design the app. I asked them to no think about technical limitations and to focus on either one part of the app or the app in general. There was just one condition: They have had to design an app that they would enjoy playing.

Goals:

Analyzed which kind of game mechanic they used, how they would like to found the information, and basically what would be for them the perfect app. Like that, I will use their designs as a reference for mine.

Activity 5 Debate around the UX experience (30min Workshop 3)

As I said before when I performed the last workshop, the UX was already quite advanced, so I used the activity to receive feedback from them.



Fig 10. Ux experience used in workshop 3

Structure

I showed them the scheme of the UX, and we started a group conversation. I had some empty spaces in the design that I was not sure about yet, so I used their opinions and asked them questions about those points.

Goals:

Receive feedback about the “final” User Experience. Ask them to co-design as a group with me from that point.

2.3.2.2 Analysis data from the workshop²

Activity 2

The previous knowledge did not distract them from the movie, and it improved their experience.

P3-W1 “Without the theory of the beginning, that would be super complicated, but with it, it was much easier.”

They all detect the colors with symbolism, but it was harder for them to figure out its intention.

P4-W1 “It was easy to see the main colors, but hard to know the meaning.”

Activity 3

In the next page, you would be able to see the graphics that the students made during the workshop, the complete data for this activity can be found on the Annex page:

Following the graphics, there is the Plax table with the categories mark depending on how desirable they were for the users. For this, I did not take into account the last group. Due this group decided not to do the plex, focusing on the insight that I gave to them (the fun things of analyzing movies). Instead, they pick up to think about their everyday lives experience.

² You may found the raw data on annexes page



Fig 11. The PLEX (Lucero et al, 2013) graphic from Workshop 1



Fig 12. The PLEX (Lucero et al, 2013) graphic from Workshop 2 Group 1

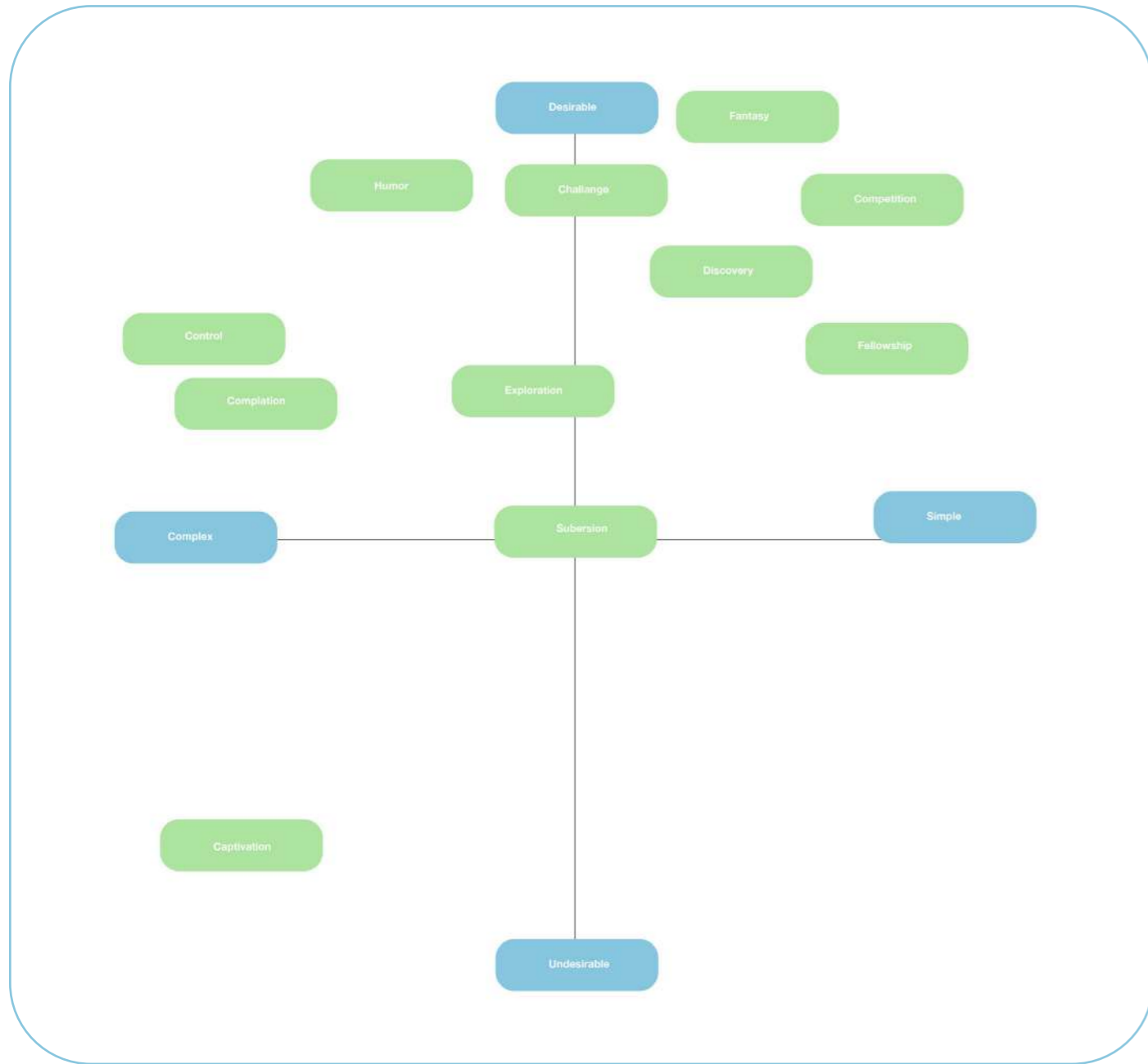


Fig 13. The PLEX (Lucero et al, 2013) graphic from Workshop 2 Group 2

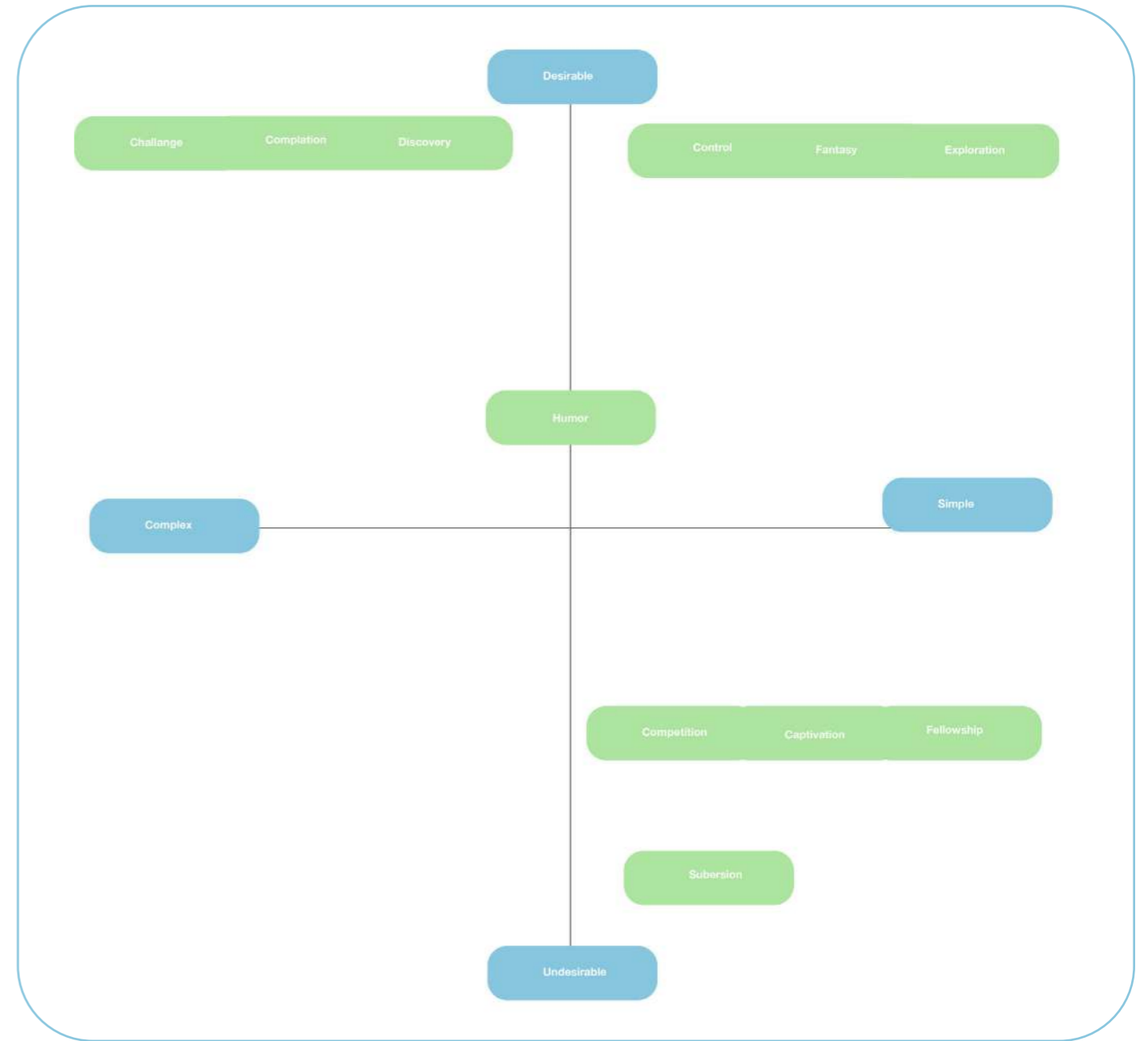


Fig 14.. The PLEX (Lucero et al, 2013) graphic from Workshop 2 Group 3

Table 1. The PLEX framework consisting of 22 categories.

Experience	Description
Captivation	Forgetting one's surroundings
Challenge	Testing abilities in a demanding task
Competition	Contest with oneself or an opponent
Completion	Finishing a major task, closure
Control	Dominating, commanding, regulating
Cruelty	Causing mental or physical pain
Discovery	Finding something new or unknown
Eroticism	A sexually arousing experience
Exploration	Investigating an object or situation
Expression	Manifesting oneself creatively
Fantasy	An imagined experience
Fellowship	Friendship, communality or intimacy
Humor	Fun, joy, amusement, jokes, gags
Nurture	Taking care of oneself or others
Relaxation	Relief from bodily or mental work
Sensation	Excitement by stimulating senses
Simulation	An imitation of everyday life
Submission	Being part of a larger structure
Subversion	Breaking social rules and norms
Suffering	Experience of loss, frustration, anger
Sympathy	Sharing emotional feelings
Thrill	Excitement derived from risk, danger

Fig 15. The PLEX framework consisting of 22 categories (Lucero et al, 2013), with the results of the workshops

This is the final choice of the categories that I would take on account for the app:

The discovery will be my main one:

P1” We saw that is easy because with this of the colors with a couple of things that you explained to us we were able to undersend everything, and I know much more than what I knew before, and with this game, I’m sure that I’m going to be able to discover a lot of new things.”

P4-W2: “If you don’t learn something new, it basically has no sense.”

that will go hand to hand with the exploration

P1-W1 “Yes, but it is more desirable the moment that you discover that the process itself (exploration),

this doesn’t mean that it isn’t fun! It is so fun! “

I will prioritize the challenge over the competition because I want to try to do something different and not relate to the competition mechanism to motivate the user. Moreover, some of the users point out that they did not enjoy competition.

“P3 + P4-W1 “For us no” P4-W1: “I wouldn’t enjoy the movie.”

I have to take into account what they told me about the challenge

P1:-W2 “Sometimes, if it is too hard, you get frustrated, and you lose the captivation that for us is the more important.”

P3-W2: “We are not saying that we don’t enjoy the challenge, but they must be super well balanced.”

Furthermore, it is easy for a challenge to go from fun to anxiety. I studied that with the flow (page: 41), if the challenge is in the right level of difficulty, I can make them arrive at the state of flow and, therefore, the captivation.

P1-W2: “When you are doing something is difficult to disconnect from the environment or your problems.”

If it is too hard, I will probably lose the user for the impossibility of completion. Therefore the category of completion will be one of the main ones as well.

P2-W1 “When we were watching the movie, and we figure out that we actually identify the color correctly, I felt superior. And I really loved that feeling” (P1-W1 agree)

P4-W1 “Well, I don’t feel superior, but I love the feeling of knowing that I was able to complete it.”

P2-W2: “Not always is easy but super rewarding when you finally achieve it.”

I will add some help if they need to to give them the sensation of control.

P2 “I think that the main point here is the fact that the control makes you feel more confident about the challenge, and I think that this is a goal for the users of that application.”

I decided to avoid humor due all the users told me that it is desirable if it is their sense of humor, but each user had a different one.

P4-W2: “The humor for us is super desirable, but hard because not all the persons have the same humor sense

Moreover, as they tell me, it might not be necessary for this kind of app.

P1-W2: “They see the humor as something desirable, but for example, in my case, humor would be something that is not desirable in some games, like the horror or the one that you talk us about.”

Activity 4

The following designs are the ones that gave some ideas for my final UX design. You can find all the designs explained on the Annexes page:

Workshop 1 - Group 1 (P1+ P2)

From this group, I took the idea of using videos as a start point for the questions:

“they are in a scenario of the movie, for example, the apartment in *Black swan*. There they found a series of characters or objects with the color that they are playing. When they press on them, they see a scene where the character/object is involved. After that, they have a series of questions that they have to answer.”

Workshop 2 - Group 2 (P4-P5)

From them, I took the idea of using a map and the color palette of the movie. I reformulated the idea, and I came up with the game’s goal in every movie (discover the color palette of that movie). This color palette will be hidden on the map and inside the main localizations of the film.

“This is a map divided into zones. Each zone has a landscape defined for colors (for example, red, it can

be hell). Moreover, at the top, it appears a clue that will lead you to one zone. Once you are in the zone, you pass an obstacle that will give youth clues for the next color. Every time that you want a color is added to the palette on the map.”

Workshop 3 - Group 3 & 4 (P6+P7+P8+P9 / P10 +P11)

Both groups devise a part inside the profile where the user can see their progress in the app.

Group 3 “After that, you can see the % of movies that you have seen and the % that do you did right in your profile.”

Group 4 “In the beginning, you have to log in. Then you go to your profile. Ther you can see your data, change the configuration. Moreover, a graphic with the % that you did right.”

Activity 5

There were a series of common themes during the discussion:

First of all, the use of points inside the app:

P11: “Yes, if you are top 1, you win more points, and as more correct answers, more points wins.”

They all agree with the points as an element to access to higher levels, and also, this is a dynamic that repeatedly appears in their apps.

P11: “Maybe you can do that. You can just unlock the top movies with points.”

They also point out that they really like the idea of the final explanation video at the end of every color

P2: “Could be interesting to put a video somewhere.”

P1 : It’s super good that fact that you have the short video at the end, because like that if you lose at least, you know why and you can learn about it for the next time.”

2.3.3 UX variations

2.3.3.1 Non-connected ideas

Before doing the workshops, I did the first brainstorm about possible minigames on the app. At that point, I was not trying to build a complete and connected experience, just devised possible interactions for the users. Following you would be able to see some examples:

<p>Wrong answer</p> <p>When the user makes a mistake with the answer, a pop-up appears, this will show the user a series of scenes, and it would ask them to choose which scenes, made them believe the answer they had choose was correct.</p>	<p>Minigame</p> <p>The user sees a black and white frame, and they have to guess which is the color palette in that scene (use of monochromatic scenes)</p>
<p>Reward for motivation</p> <p>The user wins a personalized scheme with their analysis of the movie.</p>	<p>Curious data</p> <p>Add curious data from the different films to generate more interest to the user.</p>
<p>Experience</p> <p>Make the whole app a sensorial journey, in which every movie is explained to the user like an interactive story.</p>	<p>AR</p> <p>The user is placed inside a room or a location from the movie, and they have to discover the colors from there.</p>
<p>Comunity</p> <p>The game follows the film so you can play it and compete with your group of friends at the exact moment that you are watching the movie.</p>	<p>Colorscript</p> <p>Use the color script as a way to help the user.</p>
	<p>Traning</p> <p>Create a training part where the user can train their habilities with specific scenes</p>

2.3.3.2 Compleat experiences

One thing for what the workshops were super helpful was for helping me to connect the dots between that independent concepts and build a complete experience. In that process, I had devised in my mind some complete games. Involving augmented reality, javascript animation graphics, real-time experiences... I discarded those ideas for how unrealistic they were in order of time, knowledge, and skills needed for them.

Finally, I end up with two different UX drafts.



Fig 16. Ux model 1: Draft

The user has first to watch the movie and then play the game. They will have to answer some questions about the color in that movie, which will make them reflect on it.

Also, I thought about adding the competitive part with some rankings. I discarded that option because I felt that it was not innovative enough and that something was missing. With that,

we could not squeeze its full potential. Moreover, as I said before, I wanted to try not to depend on the competition between participants for motivation but with to competition and challenge with yourself.

So I decided to move on with Model 2. Even though it was also a multichoice-based game, that was not the main focus anymore. I added some new interactions as discovering the color palette or using videos to guide the user.

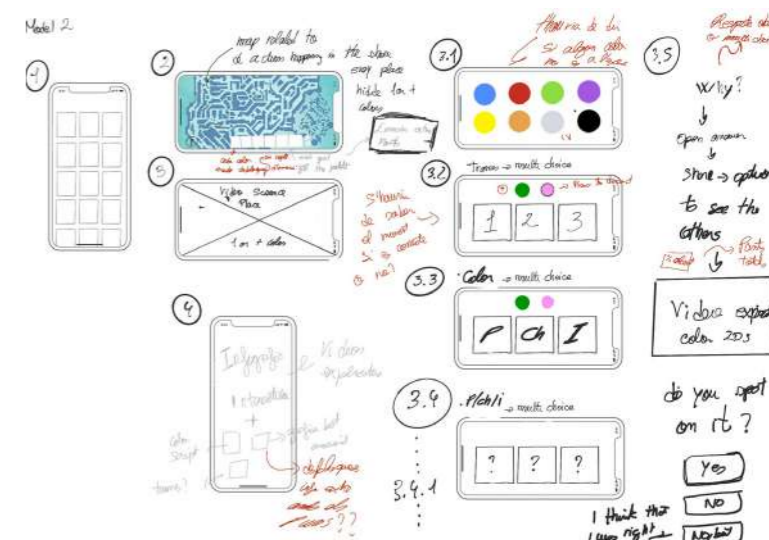


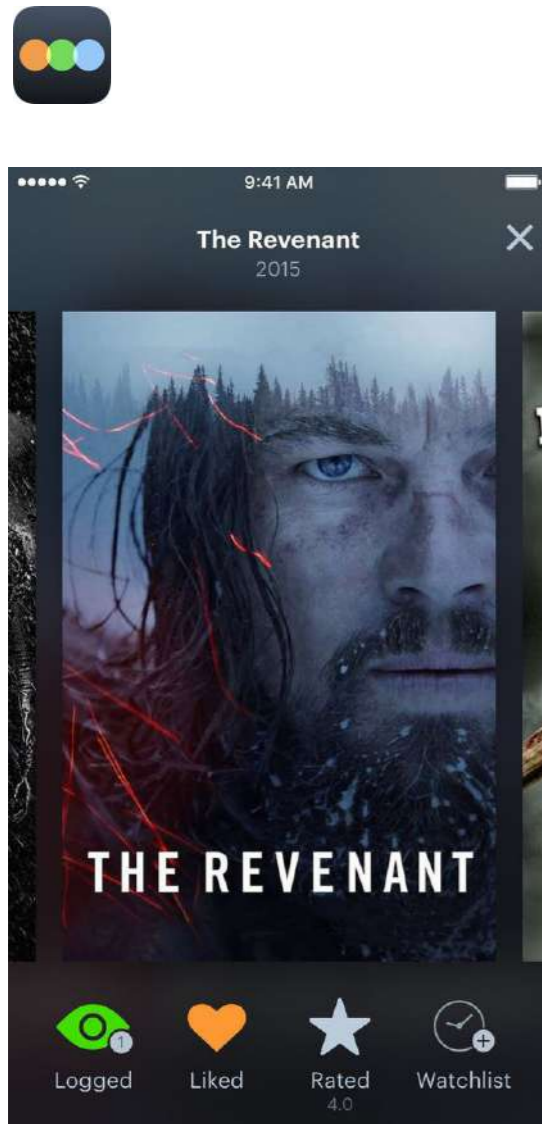
Fig 17. Ux model 2: Draft

2.3.4 Road to the final experience

As I said before, I chose model 2 (img.x) as a start point to build the app.

One of the first things that I wanted was to try to devise a multichoice interaction that did not look like a multichoice interaction. So I did a new research of reference just for that.

It did not take much time until two apps came to my mind, Tinder and letterboxd.



Img 73 Letterboxed screenshot



Img 74 Tinder screenshot

They both have that swipe way to interact with a multichoice. In the first one, you have to decide if you have seen, wanted to see, or rate a movie. You swipe right or left in the second one according to if some person catches your interest or not. So I thought that the experience with the cards would be a plus for the user.

However, after that, I still only had a draft and a lot of incomplete interactions. So as I mentioned in the workshop structure section, I decided to use the last workshop to co-design form there with the potential users.

So I used affinity design to create more understanding and cleaner wireframes to understand the app's flow better. Moreover, I added some empty screens in the points that I needed.

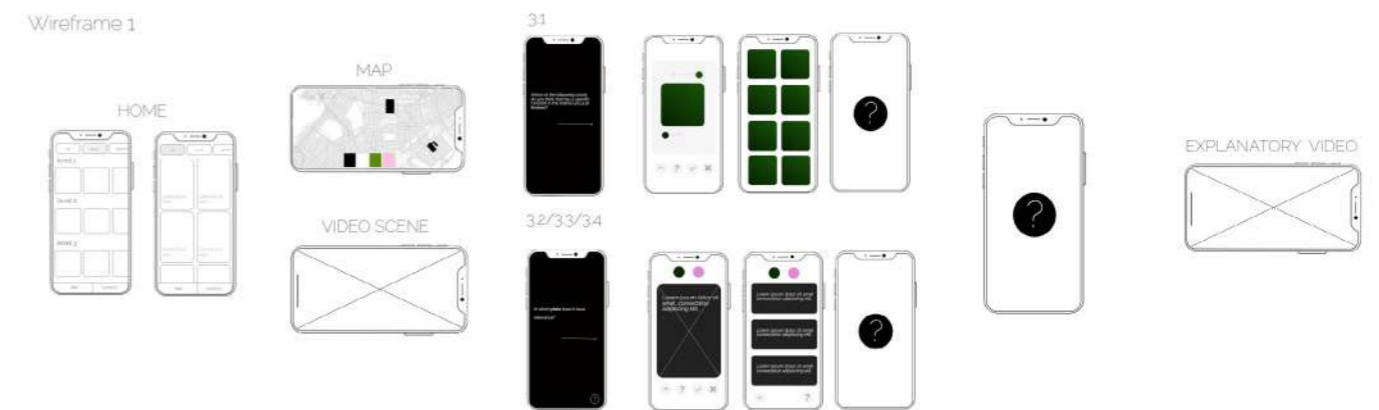


Fig 10. Ux experience used in workshop 3

So at that point, I had enough information to complete and details the full experience. In this case, I used Adobe XD due it allows you to prototype, and the workflow was better for me. Once I had all the UX screens designed, I moved forward to complete the app bible.

2.3.4.1 App bible

The creation of the app bible helped me focus on each section inside the app, such it is a complex and extended app, with many interactions, I needed some kind of guide, so the bible was it. It was allowing me to break down the different parts that I need to take into account.

User flow

I used Overflow to create the User flow. You can see an overview of the UX flow on the next page (img.67). A more detailed explanation of how the app works section by section can be found on page.X after the UI design section.

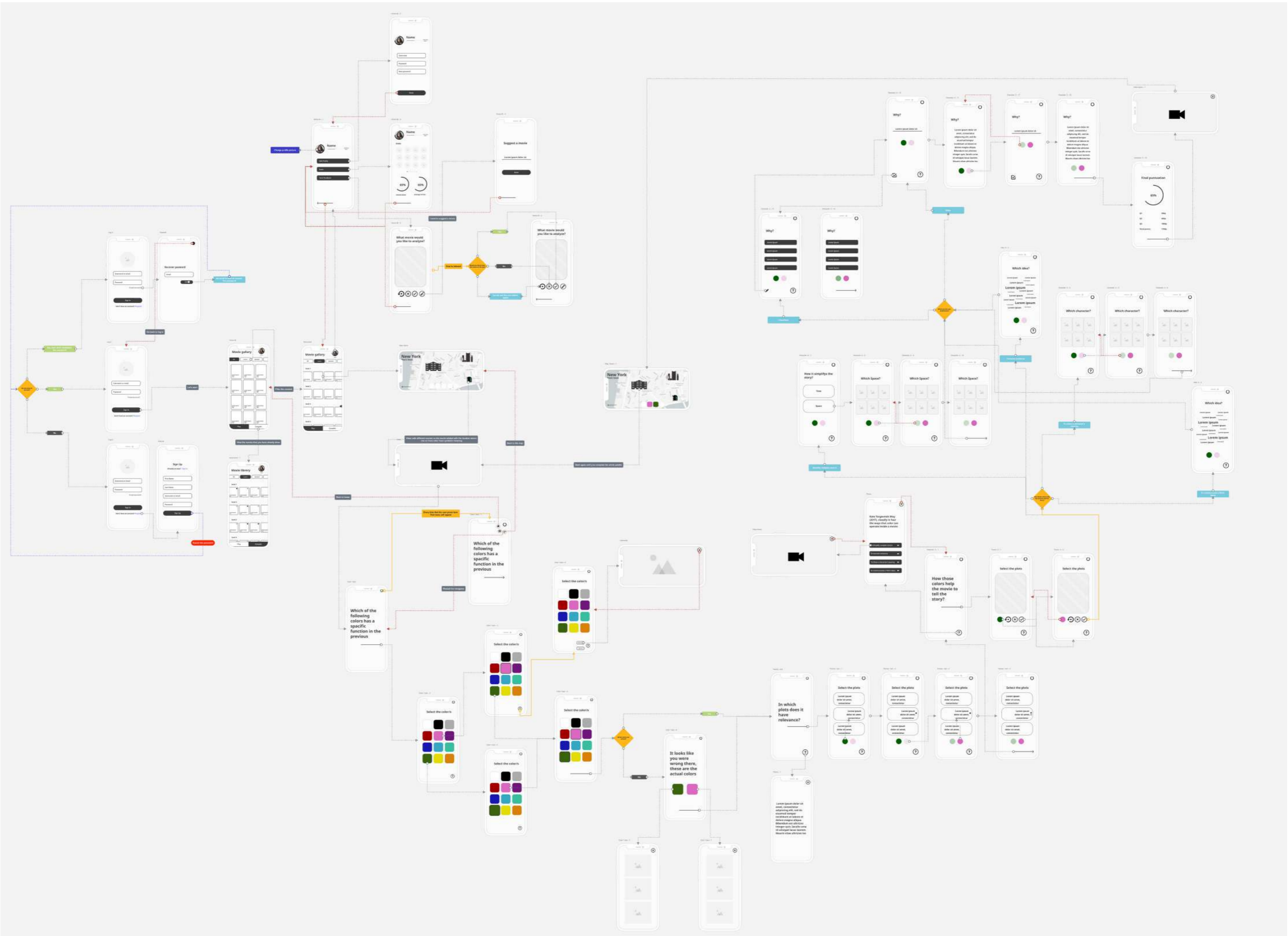


Fig 18. Ux - User flow: General view

Personas



Emily

Upper high school student, 17 years

She is always aware of the last trading on Netflix or which movies are nominated to the Oscars. She spends part of her time watching interviews or curiosities from the movies on youtube



Jonh

Bachelor student, 18 years

He is super curious, always up to learn new things. He loves to discover what's going on in the movies before the rest.



Elisabeth

High school teacher

She is far away from the old school methodologies. She used to engage her students thru the game, always up to develop their critical glance.

App Structure

- **Onboarding**
- **Log in / Sing up**
- **Home - Play**
 - Order by level
 - Order by popularity
 - Order by gender
 - Order by platform
 - All
- **Completed**
 - Order by level
 - Order by favourite
 - Order by gender
 - Order by platform
 - All
 - **Movie info**
- **The game**
 - **Map**
 - **Color palette**
 - **Video**
 - Scen
 - Explanatory video
 - **Questions**
 - **Colorscript**
 - **Points**
 - **Final resoult**
- **Profile**
 - **Medals - progress**
 - **Edit**
 - **Feedback**
 - Vote for new movies
 - Propose a new movie

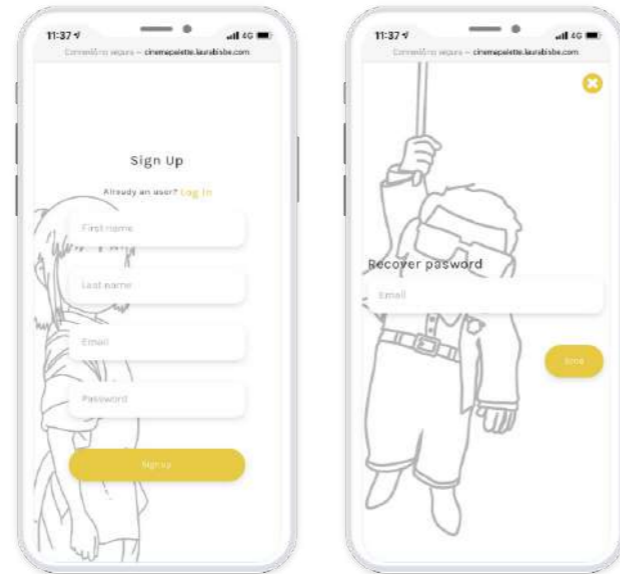
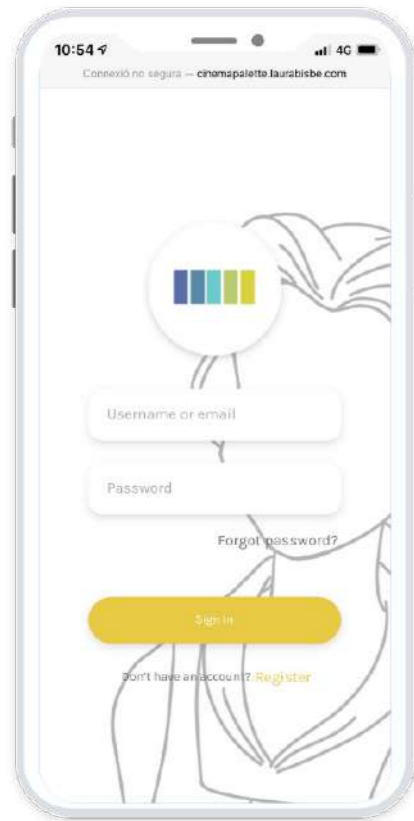
Content Requirements

Techniques requirements

- **Movies**
 - **Map**
 - **Video for each color**
 - Scene
 - Explanatory video
 - **Minigame for color**
 - Found the color
 - Plot
 - How?
 - Why?
 - **Colorscript**
- **Completed**
 - **Explanatory videos for each color**
 - **Colorscript**
 - **Emotional bit**
 - **Explanatory card**
- **Profile**
 - **Points**
 - **Level**
 - **Medals**
 - **Progress**
 - **Movies for the feedback**
- **User register**
 - **Filter**
 - **Difficulty**
 - **Gender**
 - **Platform**
 - **Popularity**
 - **Calculate the points**
 - **Add new movies**
 - **Progress calculator**
 - **Medals**

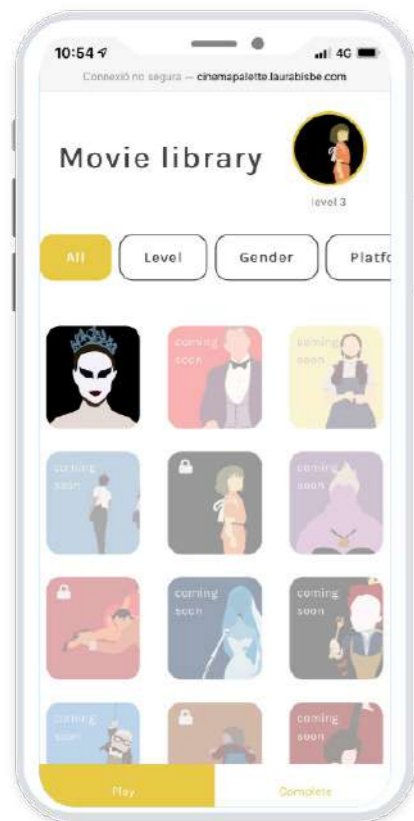
2.3.5 Quick guide of how the app works

1

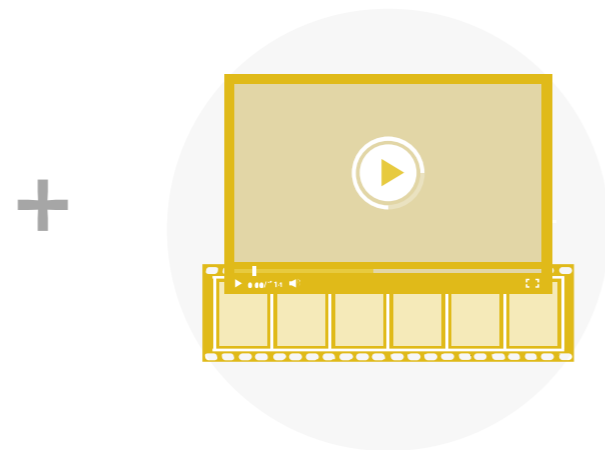


Log in to the app if you don't have an account sing up. If you forgot the password, go to forgot password

2



Select the movie that you want a play with and watch it

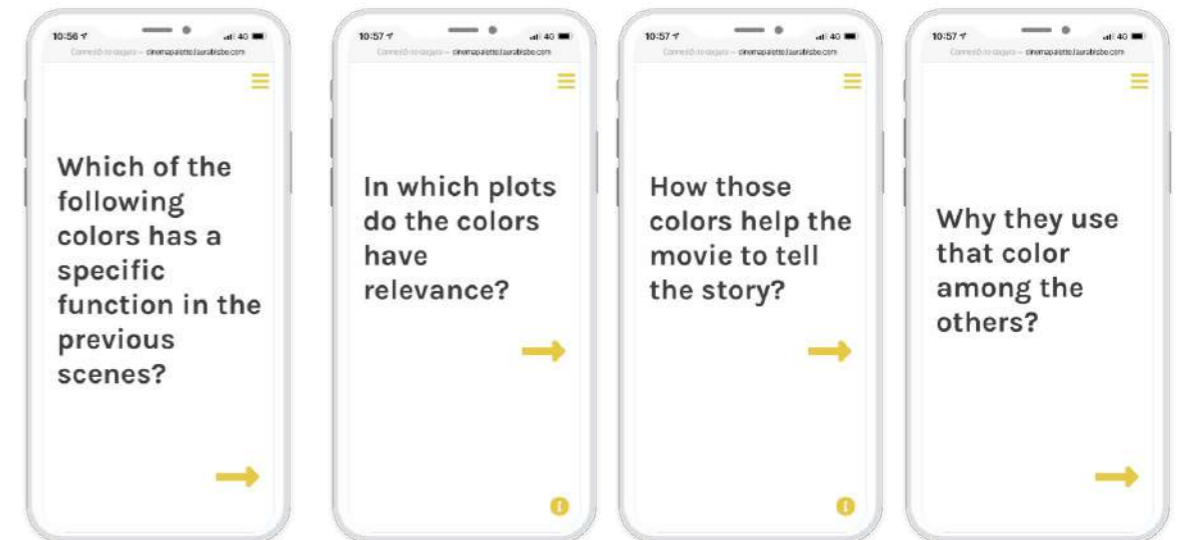


3



Play the game of the app. Your main goal is to discover the color palette of the movie. The colors are hidden in the different locations

4



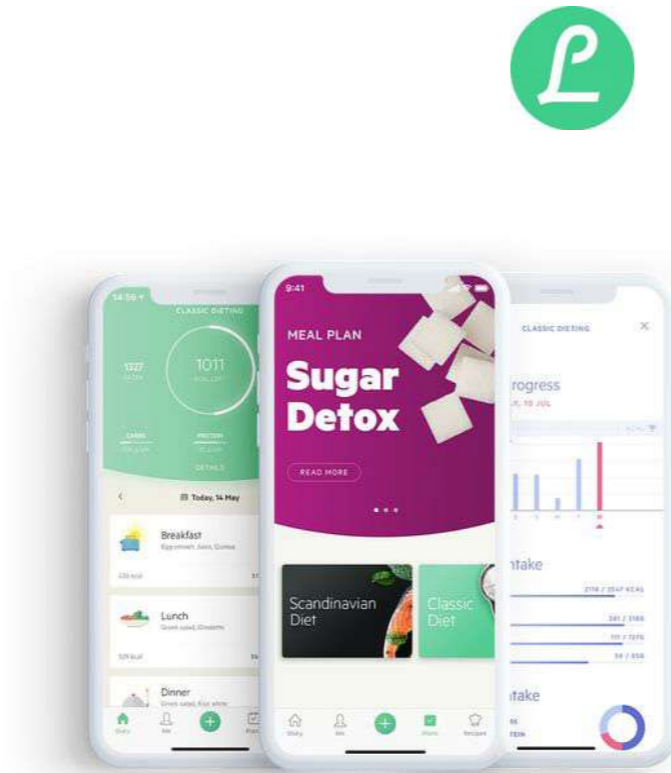
You will answer several questions about the colors that will guide you in understanding the function of those inside the movie.

2.4 USER INTERFACE DESIGN

2.4.1 References

Interesting things about them

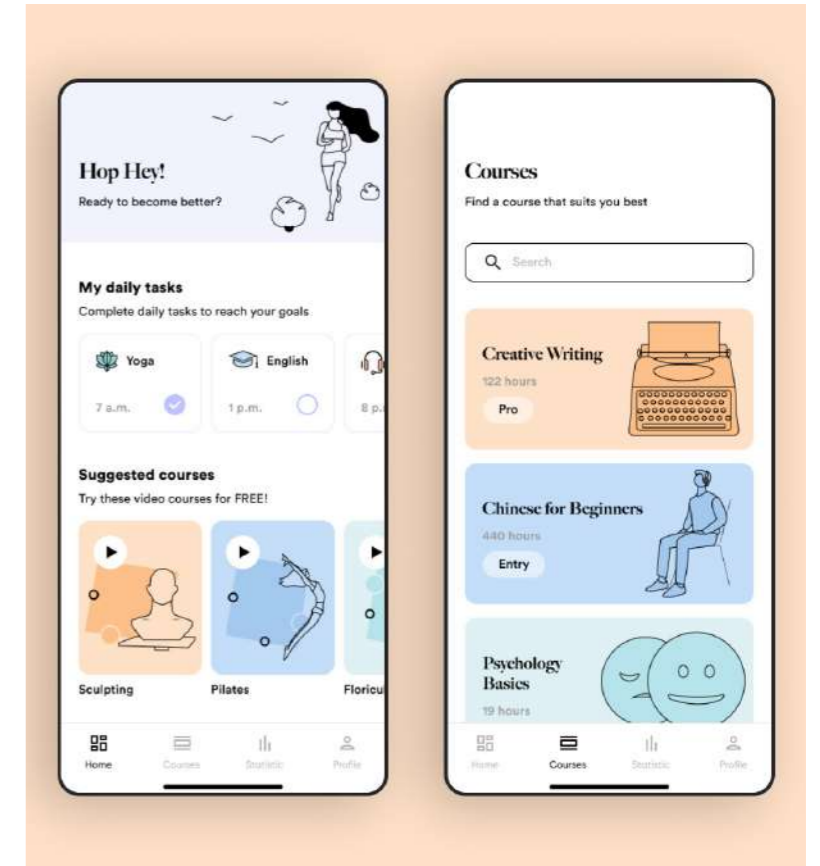
- Minimalism
- The way they interact with the color
- Minimalist illustrations
- Use of cards



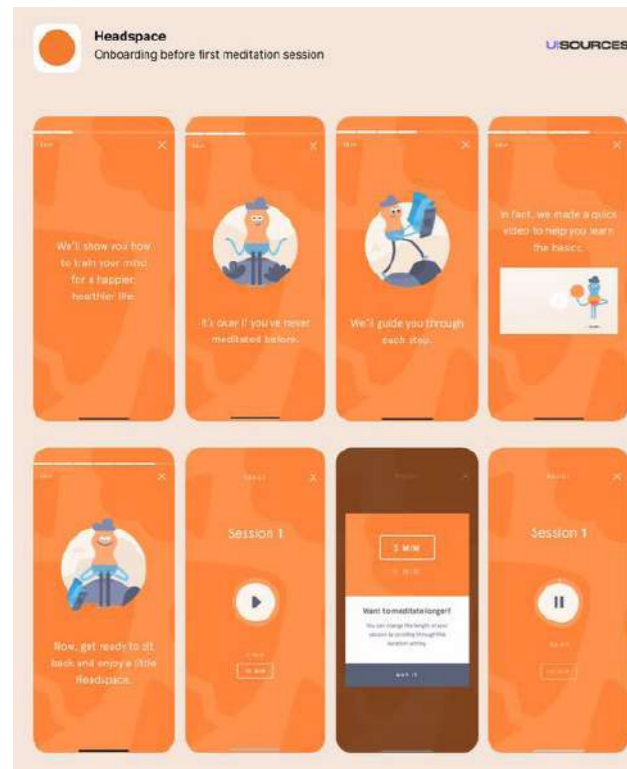
Img 75 Screenshots lifeserum

Interesting things about it

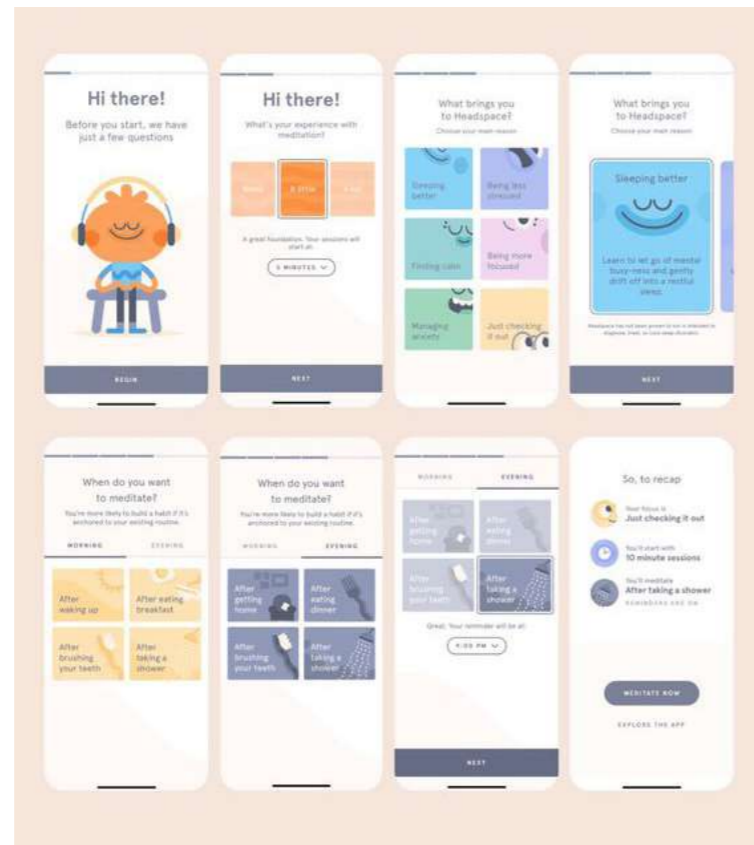
- Minimalism
- The illustrations on the cards
- How they design the cards



Img 78 Pinterest app screenshots



Img 76 Headspace screenshots

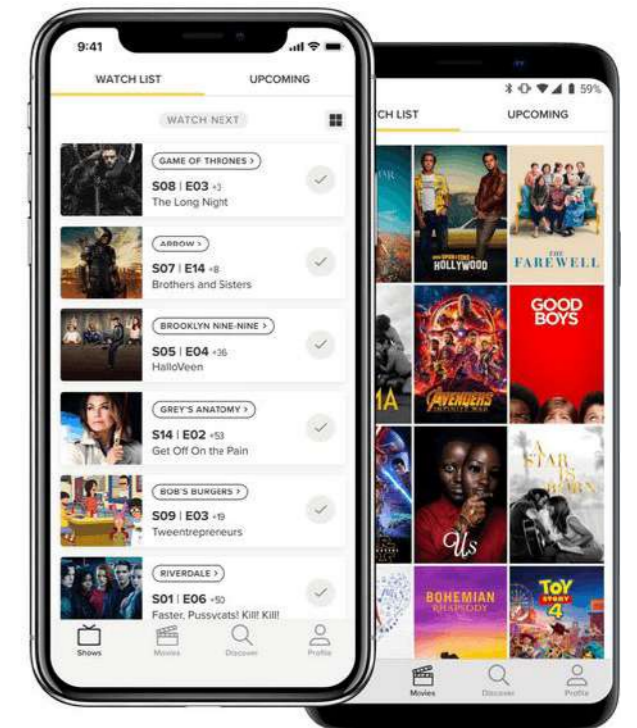


Img 77 Headspace screenshots



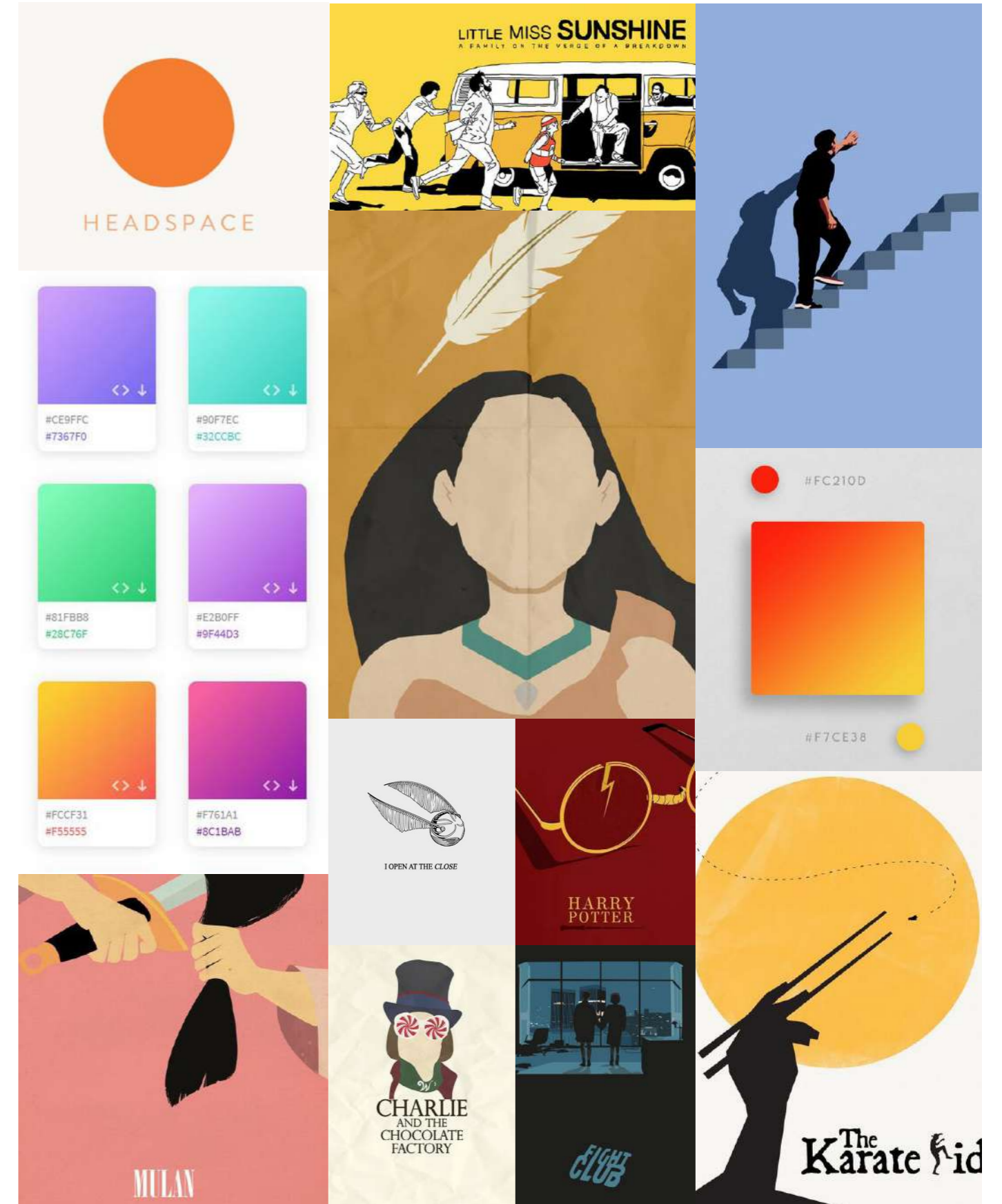
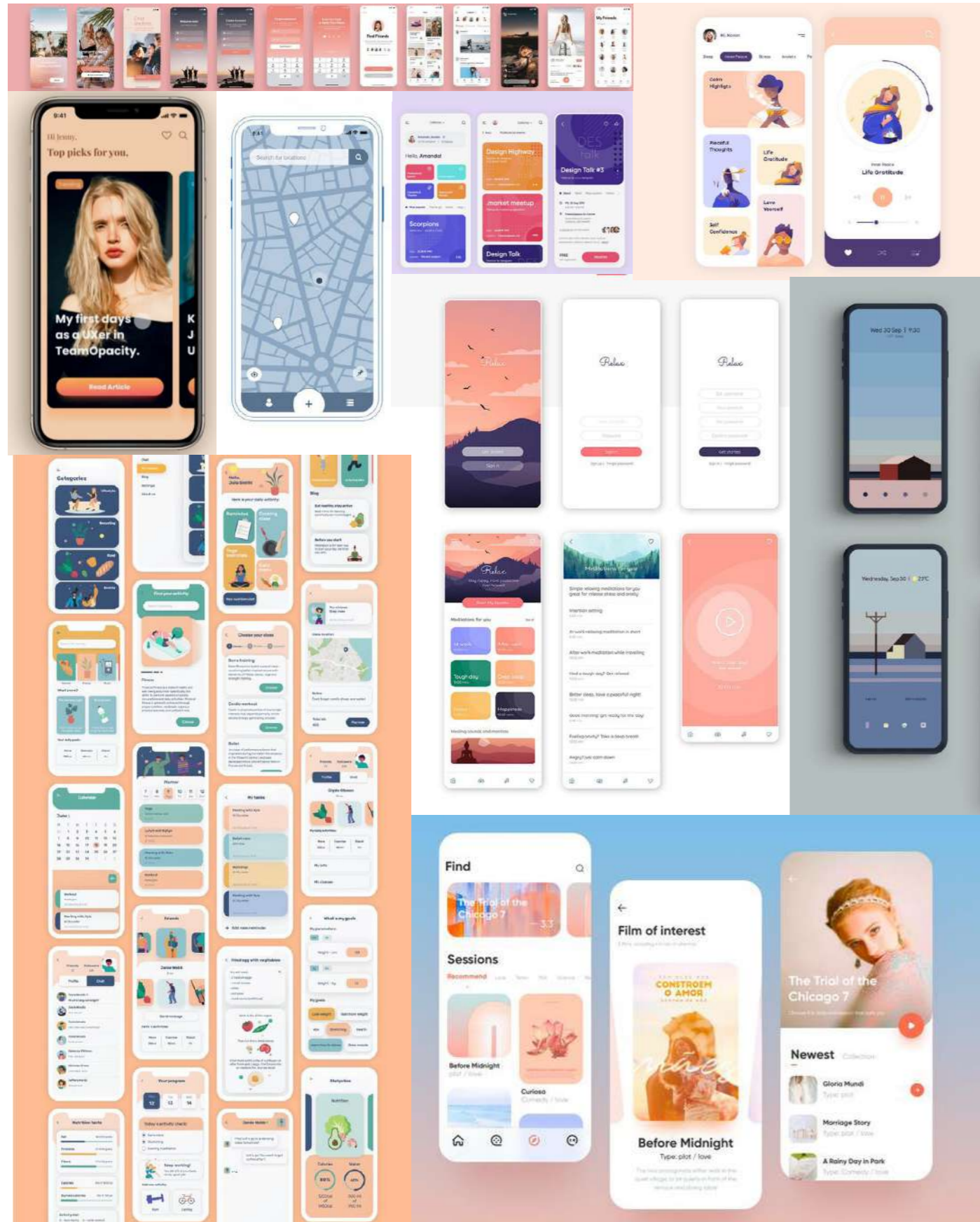
Interesting things about it

- Minimalism
- Is an app about movies
- How they present the movies
- The top part of switching between watch list and upcoming



Img 79 TV Time screenshots

Moodboard



2.4.2 Visual language

2.4.2.1 Color palette

I decided to keep the color palette simple to black, white + one color. I chose that because I wanted to keep the app as minimalist as possible and because there are going to be a lot of different colors for the analysis and the movie's illustrations. I did not want to overload the user vision.

Palettes options

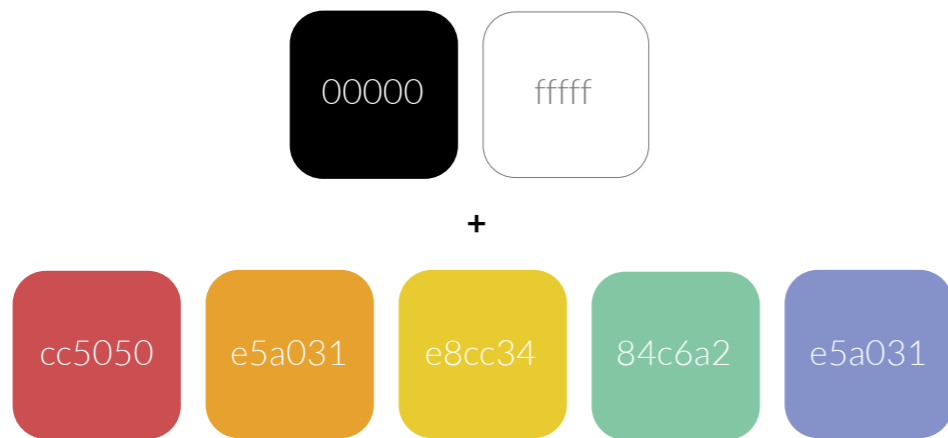


Fig 19. UI color palettes options

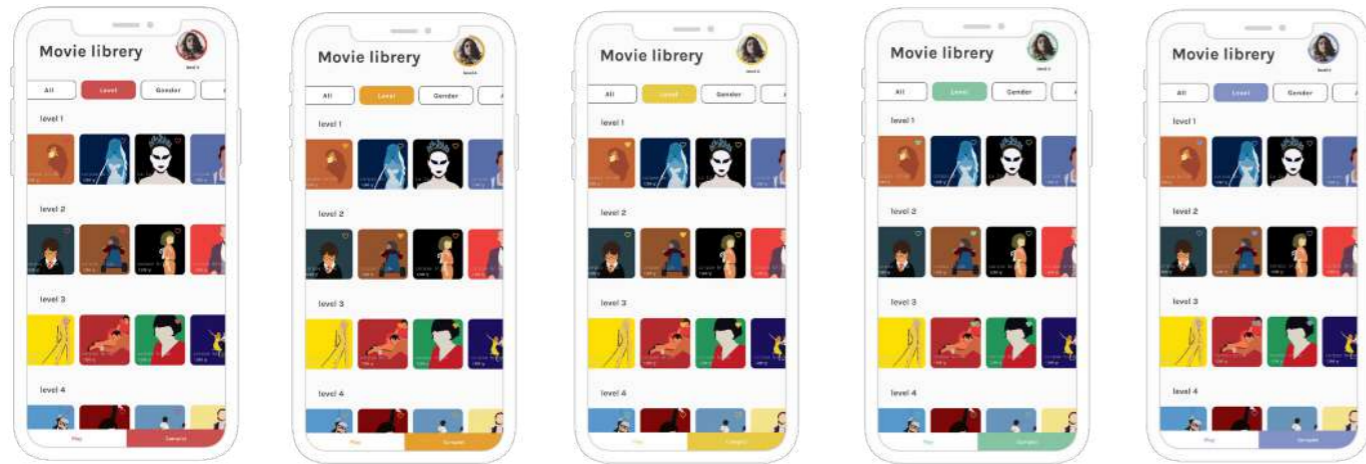


Fig 20. UI test with color

Finally, I decided to make it up to the user to decide which color they wanted the interface and make a more personalized experience. Nevertheless, I will use yellow (e8cc34) as the primary color for the project's test because of its psychological meaning (knowledge). From my point of view, it generates a better contrast with the main part of the illustrations.

2.4.2.1 Typography

I used Google Fonts to search for different typography, and after that, I searched for combinations.¹

Typography combinations

Hind & Open sans

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Karla & Karla

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Karla & Inconsolata

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Spectral & Karla

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Oswald & Quattrocento

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

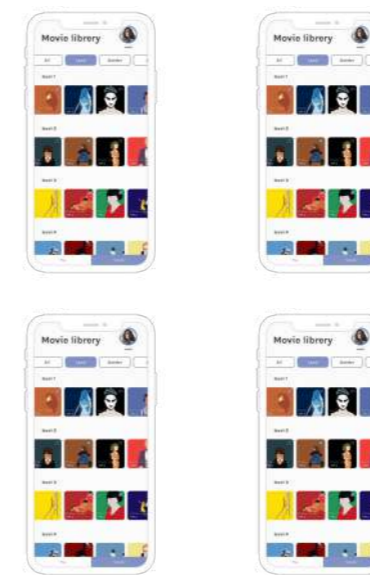


Fig 21 UI typography test

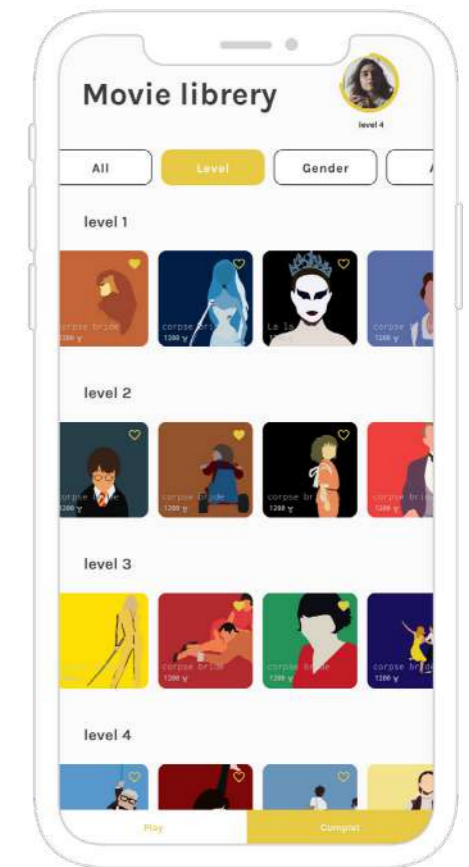


Fig 22. UI typography final "Karla + Karla"

¹ All the typography and combinations on the annexes page

2.4.2.3 Illustrations

In the beginning, I intended to use the movie posters as an image to identify every movie. However, I saw that everything looked overloaded, and such I was looking for a minimalist aesthetic, I started analyzing the references. I figure out that the ones more similar to what I wanted to do used illustrations that gave more air to the design.

So I researched illustrations inspired by movies (fig.23), and I tried to find a style adjusted to the aesthetic that I wanted to give to the app. The illustrations must be minimal, but at the same time, the user had to recognize the movie at the glance. For that reason, I decided to use one of the more recognizable characters of each movie.

To do the illustrations, I used the app Procreate, and I did a total of 25 illustrations, the necessary to give the app enough content for the design to look complete and to be functional. Also, even though I was not going to analyze those movies, I made sure that all of them were chromatic interesting.



Fig 23. UI Illustrations for the app

2.4.2.4 Icon

I wanted the app's icon to represent the content inside, so from that insight, I started doing several variations (img.24). In order to design the icons, I used Adobe Photoshop + Adobe xd.

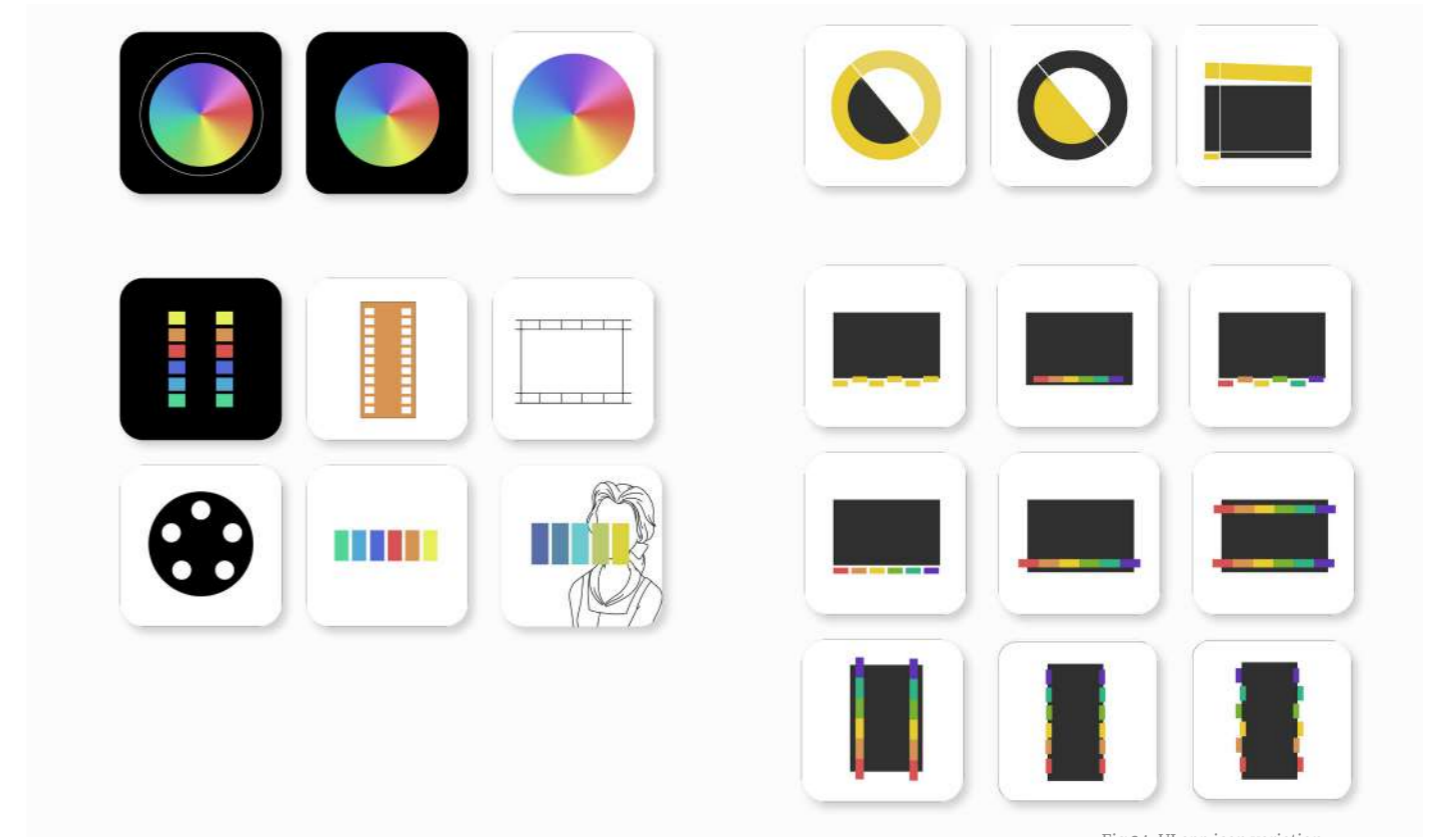


Fig 24. UI app icon variation

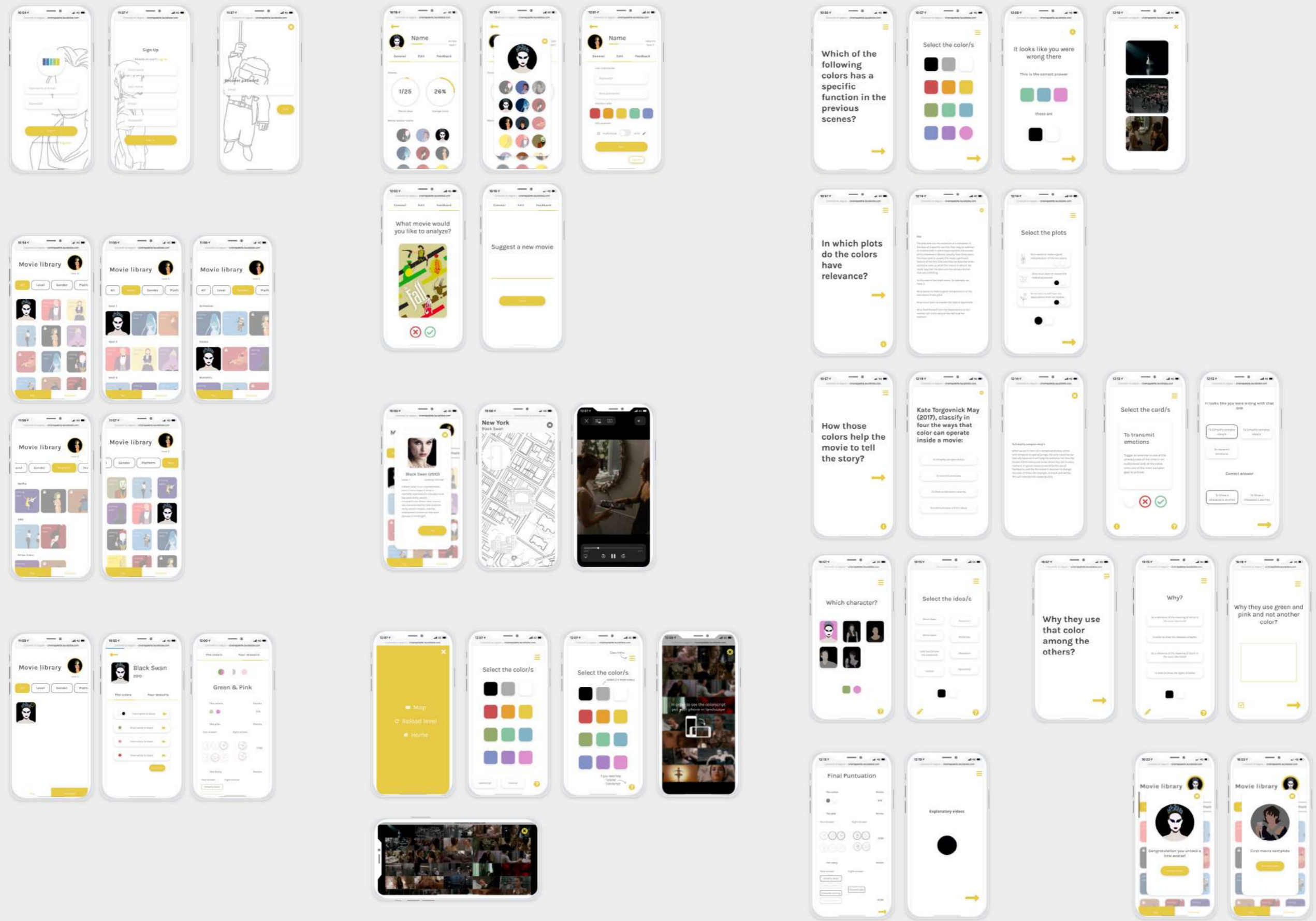
So the icon must represent the two main themes from the app: Color & movies.



Fig 25. UI final app icon

I ended up choosing this one because it perfectly represents both aspects of the app by choosing a character and representing their primary colors on top. Also, this combination allows me to change the icon for another character every specific time. I went to do Belle because she is a character that has a clear evolution in her clothing, and also, as I demonstrate in the previous section, this evolution has a meaning. Furthermore, I could

make representative that evolution on the palette. Moreover, belle is a character inside the collective imaginary, so everyone can quickly identify her. Last but not least, it also keeps the minimalistic style followed for all the app design.



2.5 APP CONTENT

2.5.1 Color analysis of black swan

2.5.1.1 Why black swan

The main reason why I chose *black swan* is for the massive relevance that the color has in the movie.

We can barely see a color that is not black, white, green, pink, or red. Furthermore, that leads me to the other reason, and it is that there is not a lot of colors intervening thru the movie, so it is easier to pay attention to them for the beginner, and they are not overload with much information at once. Also, thru the movie, they bring to the extreme the relation between colors and characters, so it is easier to see it as well.

Also, the movie is not very old for the stakeholders to have a prior rejection to it, or childish. Also, I made sure that it was suitable for them and the PG in different countries moves around the +14 (in some is higher in some lower) and in Spain is +12 (+16 on Netflix). So it is adequate for my objective target.

Finally, and to be sure that it is an excellent movie for beginners, I use it in Activity 2 from my first workshops (page.), and as you can see at the data analysis, it was a complete success.

2.5.1.2 The colorscript

The colorscript is the clue that the users will receive during the game, so first of all, I needed to do it.

Emotional bit

As I explained in the section, colorscript from the Identification of the topic. The first step to do a colorscript is to generate an emotional bit graphic from the film.

So in order to do that, I watched the film a lot of times, and the latest with the script on hand, like that I was able to go scene by scene and detect the emotional beat from each one according to the context of the film, and what I was feeling at that moment.

After that, I used Affinity design and Procreate to put each scene emotional level on the graphic (fig.x)

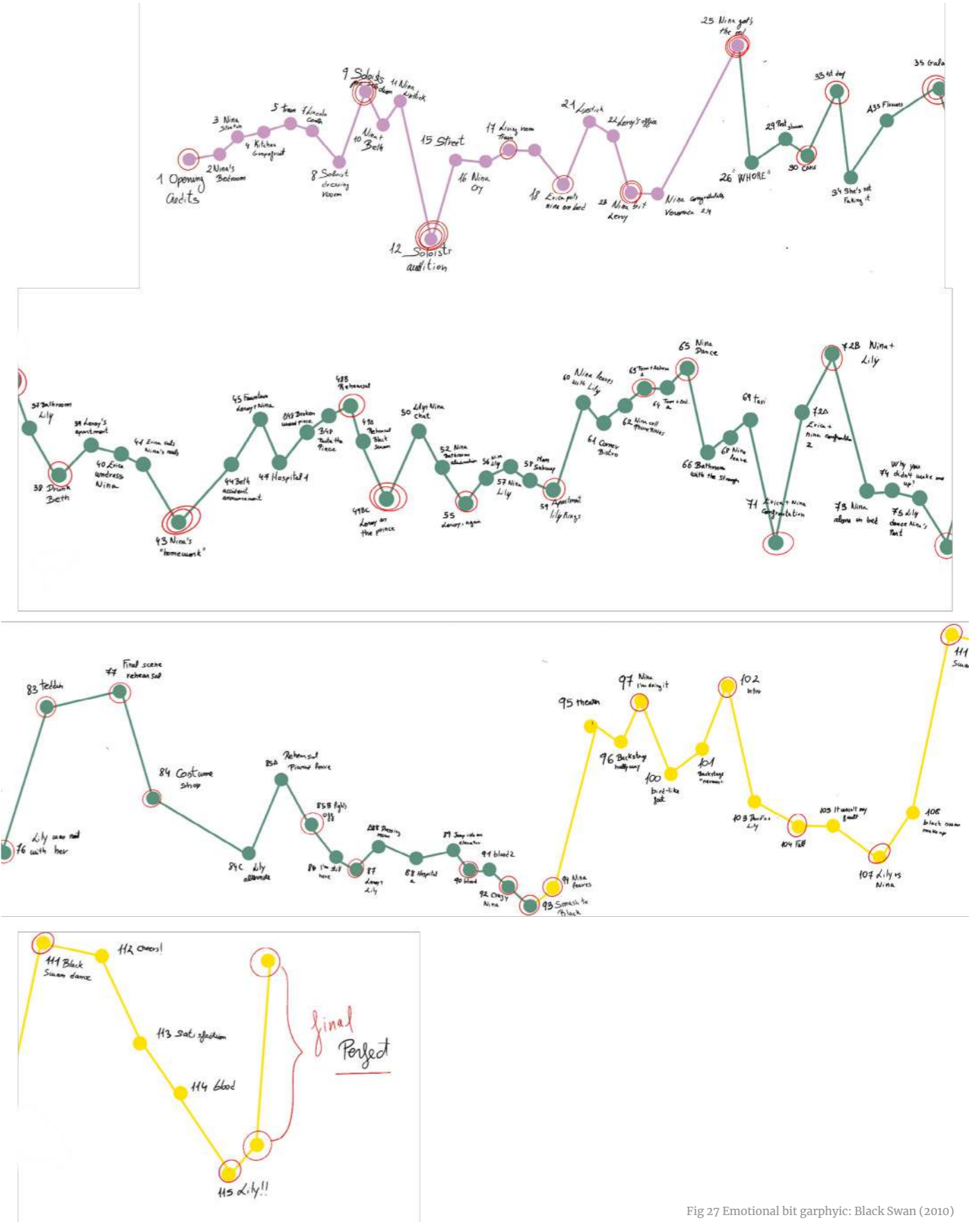


Fig 27 Emotional bit garphyic: Black Swan (2010)

Colorsript

After the Emotional beat, I selected the scenes more emotionally charged (circled in red fig.x). Also, I added some extra scenes that did not have a massive emotional charge but an evident use of color. In the end, the colorscript primary function is to help the user during the game. I have allowed myself the freedom to make these minor modifications, for example, adding extra training scenes.



Img 81 Colorsript Black swan

2.5.1.2 Color analysis

At the same time, I analyzed the scenes for the emotional beat graphic. I was paying attention to the color. Every time I watched the movie, I was entirely focused on one color, and again with the script on hand, I was writing down every time that that color appears, after I was able to see a patron in each one. Following that, I used all the knowledge learned while identifying the topic to identify the connection and a possible explanation of why they chose that color.

There are five symbolic colors in the movie: Black, white, green, pink, and red. Following, I would explain the meaning of these colors inside the movie. Also, this explanation will be the one performed the voice over in the app explanatory videos (page.93)

From white to black

In this movie, we can't understand the meaning of black without white. That is because they don't act individually. This two-color shows the spectator the evolution of Nina from white to black, from the white swan to de black one, from the control to de dyscontrol. We found them in 2 plots: Nina wanting to make a perfect interpretation of both swans, and Nina learning to domain the dyscontrol camp.

But these colors are not associated directly with her. They are associated with two ideas. White for the white swan and the control, and black for the black swan and the dyscontrol, indeed these two ideas conditionate each other, more dyscontrol leads to a better performance of the black swan, and for the white is the other way around. Moreover, they represent the extreme of those ideas. We can see this in how Nina and Lily dressed at the beginning of the film. While when we see them mixed or forming gray, it represents the transition or the half points.

This is pretty clear in Nina's training cloth. When the movie starts, and we see the training room for the first time, everyone is wearing at least one black cloth, in exemption of Nina that is completely white. As the movie moves forward, we are going to see how her cloth evolves into black.

In this case, the reason why they chose black and white is not as much for the psychology of the color as for the meaning of them inside the swan lake story itself.



Img 82 Frames from the movie Black swan(2010) - White to Black

The poisoning green

The color green is directly related to Nina’s mom. We can see it in her cloth, and her whole apartment is it too, except for Nina’s room, where morover the only thing that is green is the chear where Erica will sit during the movie.

But why green? As Eva Heller explains in her book the psychology of color, “the green of the painters become the color of the poison”(2004, p.3). And Erica has been poisoning Nina’s mind her whole life. But not just that, Erica’s chord is green plus black “the green is the color of the live, but combined with black, makes the chord of the destruction” (Heller, 2004).



Img 83 Frame from the movie Black swan(2010) - Green



Img 84, Frame from the movie Black swan(2010) - Green

Childish pink

The color pink is directly related to Nina. While the apartment is entirely green, her room is flooded with pink. Also, the coat that she is always wearing is pink as well. This color is associated with her but in the context of the plot between her and her mother.

Thru the movie, we see Nina been treated like a little girl by Erica, even though she is 24. So what better color to represent that than pink, the color of childhood. Besides, since around 1920, this has also become the color of femininity. That makes pink the perfect match for Nina. (Heller, 2004)



Img 85 Frame from the movie Black swan(2010) - Pink

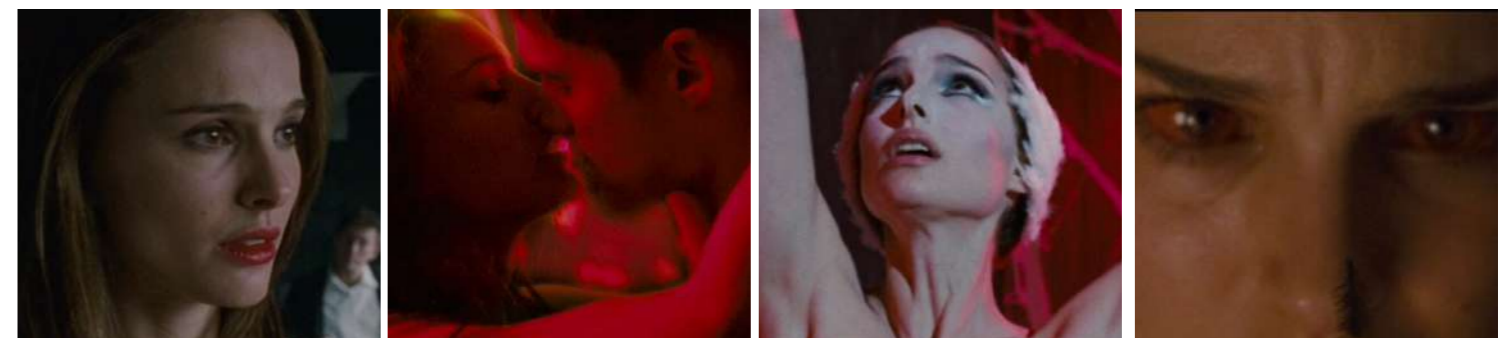


Img 86 Frame from the movie Black swan(2010) - Pink

The dyscontrol red

Nina has to learn to control the dyscontrol during the movie, but what happened when she loses control over it? At that moment is when the red appears. We can see it at the beginning in the first signs with the lipsticks. In the lights, on the club when she really loses herself for the first time, or during the final performance of the white swan giving the information to us that even though she is performing the white swan, she doesn’t have the control anymore, and she is still in the same state we saw her before. Finally, as we are approaching the end, we see the red in her body, especially in the eyes, and that is because the dyscontrol has taken over her.

Why red? The answer is easy, as Eva heller sees in her book the psychology of color. Red is the color of the danger, the blood, and the aggressivity (heller, 2004) Pretty accurate whit what happen to Nina when she loses control.



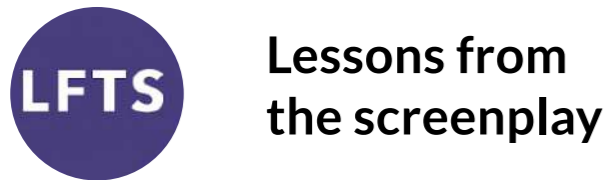
Img 87 Frames from the movie Black swan(2010)-Red

2.5.2 Creation of the explanatory videos

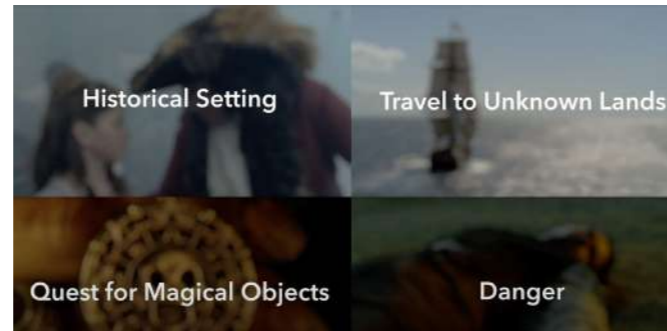
The explanatory videos are found by the user after completely discover a color. Moreover, it is a visual summary of the meaning of that color inside the film that they would also be able to found in the complete section after finishing the movie, as a resource that they can consult whenever they want.

2.5.2.1 References

In this case I had taked as a rafarances two youtube accounts:



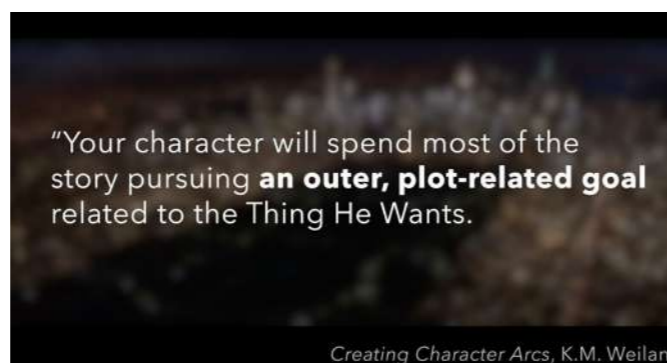
Img 88 Frames from the video Hidden Figures — The Power of Subplots: <https://www.youtube.com/watch?v=DLXwzj59mnM&t=127s>



Img 89 Frames from the video The Rules (Guidelines) of Adventure — The Pirates of the Caribbean: <https://www.youtube.com/watch?v=LJVL0tD6Mv8&t=14,0s>



Img 90 Frames from the video A Few Good Men — Writing a Final Battle: <https://www.youtube.com/watch?v=MoCQPEh3MyI>



Img 91 Frames from the video The Soul of Good Character Design: <https://www.youtube.com/watch?v=SM3IQFgP-d8&t=218s>

Interesting things about LFTS

- The use of motion graphics to explain complex content
- Adding the script if a direct phrase of the movie is reproduced
- How to present the direct citations from authors



Jordi Maquiavello



Img 92 Frames from the video SCAR y la COMPOSICIÓN en el REY LEÓN: <https://www.youtube.com/watch?v=V65-VI9TK1U&t=671s>



Img 93 Frames from the video FROLLO y la COMPOSICIÓN en el JOROBADO DE NOTRE DAME: <https://www.youtube.com/watch?v=j3vVgSDW6SA&t=719s>

Interesting things about JM

- These two videos (img. x & y) are color analysis from movie scenes
- The way he orders the content

2.5.2.2 Storyboard

To create the videos, I needed order because I had to select which part would be fragments from the film, and in that case, which fragments and which parts needed more clarification with motion graphics. And as I also wanted to hire someone from fiverr to do the voiceover, the storyboard would help him to better know the flow of the video with the audio.

So I did a storyboard for every color using the app Procreate. Following you can see all five colors, to see them in more detail go to annexes page. 174.

2.5.2.3 Producing the videos

Images

The main images are the scenes from the movie that illustrate what the voiceover is saying. That images are mixed with some motion graphics to illustrate the more complex/abstract explanations. I have included text every time a direct citation from an author is mentioned; moreover, every book that I used for the explanation is cited.

I used Final Cut Pro for the main edition and After Effects for the motion graphics to produce thous videos.

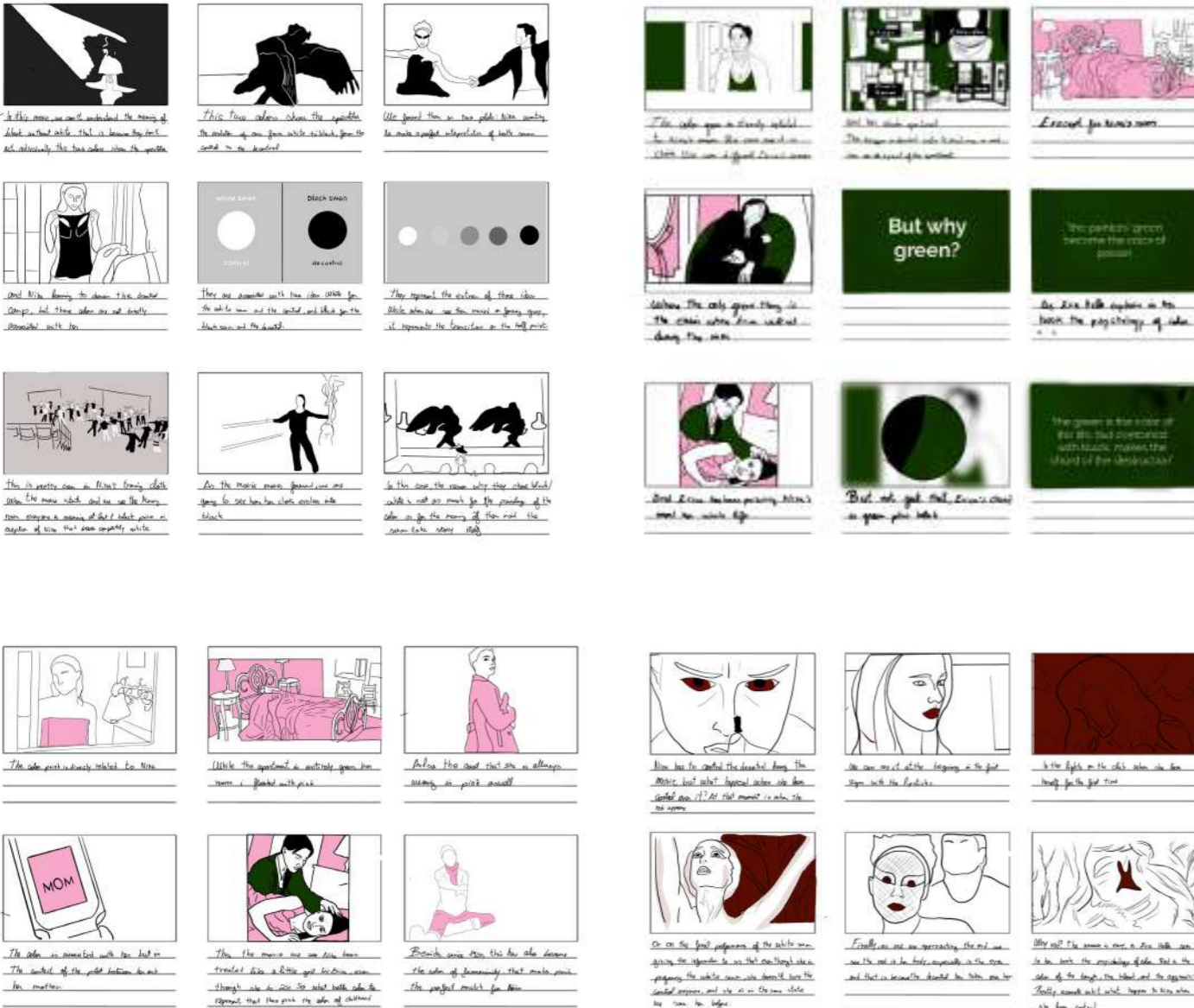
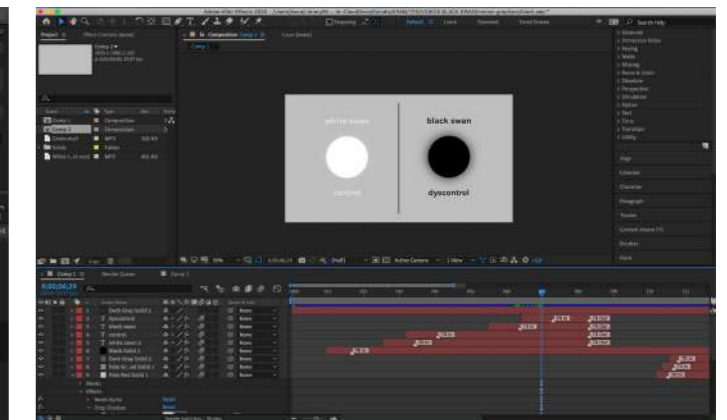


Fig 28 Explanatory videos storyboards



Img 94 Screenshot Final cut



Img 95 Screenshot After Effects

Voiceover

In the beginning, I wanted to shoot the voiceover myself. However, as the project was moving forward, I realized that the voiceover had to be in English, and I wanted the actor/actress to be a native English speaker plus good at narrating. Moreover, due to the pandemic, it was harder to contact people or do an open casting. Nevertheless, I finally solved that problem by finding a website called Fiverr and hiring a speaker.

I went thru a lot of different native English speakers, and I ended up choosing two:



Img 96 Screenshot thechrislynch fiverr



Img 97 Screenshot kmillions fiverr

They both had five stars and over 300 valuations. They also were inside my budget and offered two revisions. I decided to go for two to prevent possible complications if, in the future, when the moment of recording arrived, they were swamped with work or, for some reason, they were not able to do it.

Finally, I preferred him because I felt that her voice was more natural. Moreover, he had over 1000 valuations and, more important, just one project on the queue.

So I contacted him, sent the script of the voiceover, also attached to the text I wrote with instructions one video from lessons from the screenplay as a voice reference:

Lessons from the Screenplay (21 nov. 2017). Hidden Figures — The Power of Subplots [Video]. Youtube.
<https://www.youtube.com/watch?v=DLXwzj59mnM>

The screenshot shows a Fiverr order page with the following content:

- Activity:** REQUIREMENTS
- Text:**

To get started, I'll need your voice over script and any performance notes you may have. (ie Caring, Soft, Authoritative, Friendly, Dry, etc)
 Be sure to include pronunciation of any non-English words or uncommon proper nouns.

Hey! I'm an Audiovisual and multimedia student and I'm currently during my final project. I'm doing a prototype for an app that teaches the users to understand the movies' symbolical use of color. The voice-over is for an explanatory video that the user would find at the end of the prototype game that explains the meaning of every color in black swan. The video will mix scenes from the movie with motion graphics. For this reason, I would really appreciate if you could do longer pauses at every paragraph change since I will put more images to exemplify that part before moving on to the next sentence. And especially before and after every title. Regarding the performance, such it is a teaching video, it would be fantastic if it is confident but not too authoritarian. I will link you an example of what I'm trying to do: <https://www.youtube.com/watch?v=DLXwzj59mnM> I really like the tone and style he does the voice-over. If you have any question or you need some more information, please don't doubt to tell me. Thank you! Laura
- Attachments:** Voice ...pdf (26 KB)
- Order Details:**
 - Ordered from: Thechrislynch
 - Delivery date: Apr 17, 01:34 PM
 - Total price: €34.15
 - Order number: #FO82061B3BB08
- FAQs:**
 - Have questions? We have the answers. Check out the FAQs.
 - Have any issues with your order? Visit the Resolution Center.
- Disclaimer:** The information I provided is accurate and clear. Any changes at this point require the seller's approval and may cost extra.

Img 98 Screenshot Instructions I sent to thechrislynch via fiverr

On the same night, I had the file with the voiceover recorded, it was perfect, so there was no need for any revisions in the end.

Música

I wanted the music for the videos to be related to the movie but at the same time license-free. For this reason, I used the website Epidemic sound. They offer a free month for new subscribers, so I took that.

For the movie black swan, I was able to find music from the swan lake on that website, and therefore copyright-free, and that is the one that I used for the videos.

I used the following songs:

Txaikovski, P. (1877). Dance of the Little Swans Act II [Song]. Swan Lake.

Txaikovski, P. (1877). Dance of the Little Swans Act IV [Song]. Swan Lake.

Txaikovski, P. (1877). Swan Lake Waltz[Song]. Swan Lake.

Txaikovski, P. (1877). Waltz From Swan Lake [Song]. Swan Lake.

2.6 CODING THE APP

As I mentioned before, I needed the app to work, facing the viewer correctly. However, if the project continues after the presentation, it will be a prototype that would most likely need some adjustments and changes after the testing phase. So, there is no need to develop a perfect app.

Actually, it is widespread to use a technique called “wizard of oz” to tray the user testings, where the prototype is very abstract. In some cases, it does not even exist, being the designer itself works as a prototype. While contrasting my options regarding prototyping with the people of the Lab in Santa Cruz (an interactive design research lab), where I am currently doing the internship, and again with Jordi Marquez, the head of the multimedia department at the ERAM university, they all told me that there was no need to code for the project that I was producing, that I could use the prototyping tool from the Adobe XD or similars for the testing.

Still, I wanted to prove my coding skills, so I decided to develop the app anyway, even though it was much extra work. Nevertheless, taking into account what they advised me, I decided to simplify some parts, for example, not doing a database.

With that said, I used HTML, CSS, and Javascript as my primary code languages. I also added some extra libraries like Bootstrap and JQuery to help me to do some interactions. Even though I don't have a database to give the whole experience to the user, I needed to save some data like the points or the color they wanted the app. So to do that, I used LocalStorage. I have never worked with LocalStorage, so it took me a while to understand its full potential.

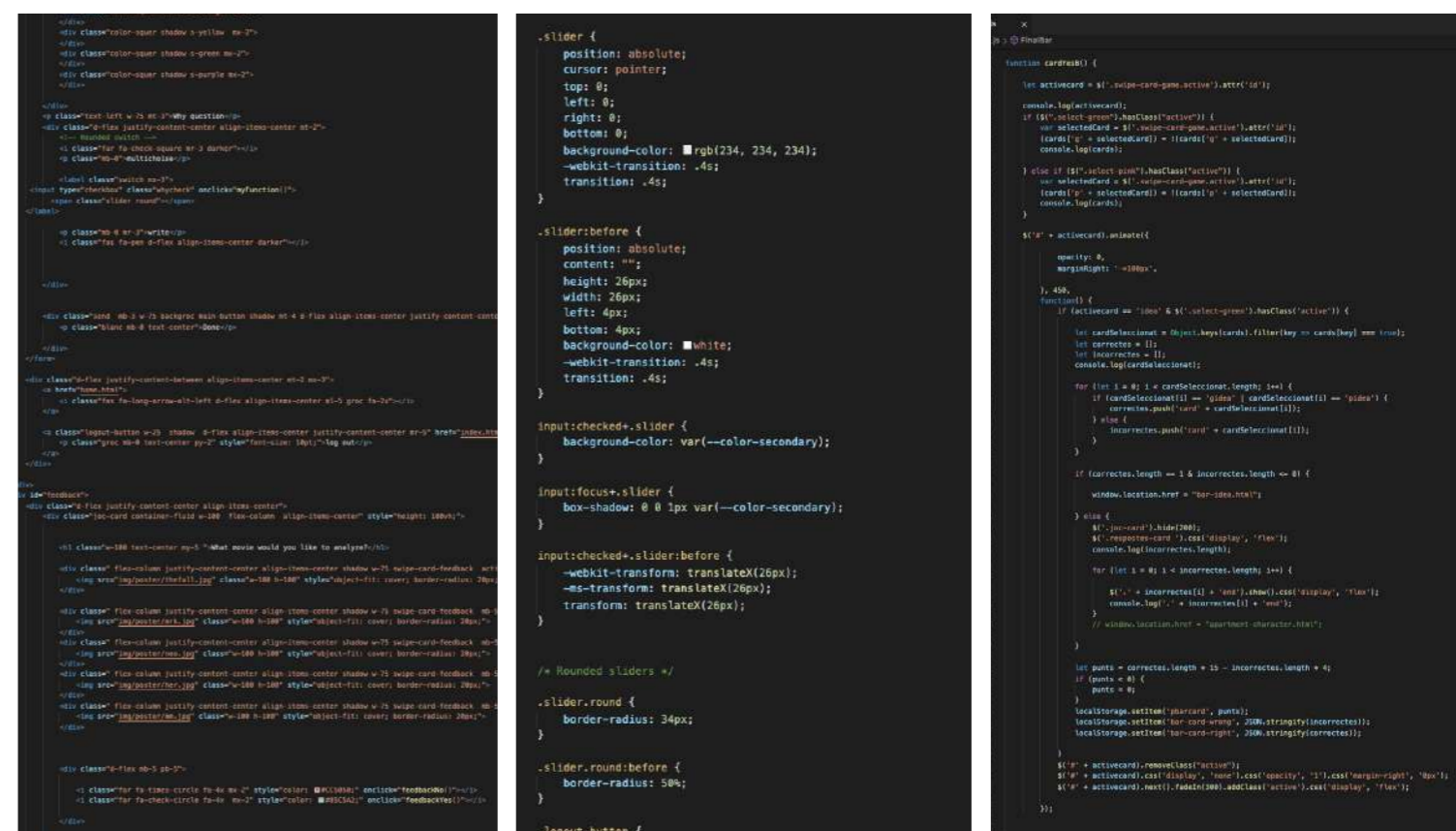
Regarding the login indeed, I could have quickly done it with the localStorage. But, it is not safe to save data like passwords or emails on browsers *chacé* because someone could easily access it. For that reason, I decided to keep that part to see the whole app flow, but it is not working.

While I was coding the app, I had to face several difficulties. For example, how to make the minigames the more efficient possible (in code lines terms) or count the points for the final results page. I was working with a lot of different pages, that at the same time, were doing similar things, so it was easy to get loose inside the code and change lines in the wrong function when I was not 100% focused.

If I had to start programming now, I would change part of my workflow. For example, I would do separate javascript documents for each page or a list for each block of games (the apartment, the theater, and the bar).

I'm well aware that some parts of the Javascript or the CSS could be more simplified at some points, but as I said before, this is just a prototype that has to work for the user for the tests. So I coded the app the way that was working best for me at each moment.

In the end, the app was more complex and significantly extended than I expected it to be, so it took me way more to finish the code. So that you can get an idea of how much coding it was following, I'm going to put approximately how many lines of each language create the app.



HTML
7164 lines

CSS
1045 lines

JavaScript
2644 lines

Img 98 Screenshot of part of the app code (html, css, javascript)

2.7 USER TEST¹

In order to do the user test, I decided to divide the users into two groups:

The ones that they had already seen the movie and knew the meaning of the color (this group will correspond to the stakeholders from the previous workshop 1). And the ones that they have not seen the movie yet, and therefore they do not know the meaning of the color (this groups will correspond from the stakeholders from the previous workshops 2). I will ask them to watch the movie, I agreed with the teacher that she will put the movie in the sessions before the test.

Again I was doing a qualitative research not a quantitative one, that means that with this test I can not prove if the app is difficult, fun, or effective. Instead I'm able to get interesting quotes and feedback that would help me to improve it from this point on, and to follow their experience closer and like that understand better how they interact with the app.

The reason why I decide to go for the qualitative research because I was not trying to prove the value of the app, what I wanted with the test was to learn from the users, in order to keep improving the game on the future.

2.7.1 Structure

Activity 1 (20min W1 - 50min W2):

Play the game, they have received the game via web, and they are asked to record the screen while they are playing. I gave them the instruction to not ask me any question unless it is strictly necessary for them in order to follow the game.

Activity 2 (30min Workshop1- 10 min Workshop2)

I performed a joint discussion, and I was guiding it with some open questions. Such I just had 1h of activity in the second workshop and I knew that probably I wouldn't have time enough to get all the

¹ Complete transcription of the user test on annex page: 157

information that I would like I prepared a third activity.

Activity 3 (Just for the Workshop 2)

I created a google form with some questions regarding their experience while playing the app, and I asked them to answer it ². The form mixes qualitative with quantitative questions, this is because by starting with a quantitative question they have to start thinking with the experience so when they answer the qualitative they have already have something going on in their minds and it's easier to get a more interesting reflection. So such I'm not going to have enough volume of answers I'm not taking into account the quantitative once. I'm just looking for interesting quotes.

2.7.2 Analysis of the data from the Play test**Test 1 Activity 2**

They had fun while playing the app

P1 "Like is dynamic because you mix the fact that you are playing a game and at the same time you are learning interesting things."

They would use the app but not on a daily basis, but they would really like the option of playing after seeing a movie that they really like

P4: Like I would really like to have this option to play this game with the movies that I enjoyed
They all agree that the app would make them learn.

They all think that the app can teach them new things about color

P1: I guess that maybe not in level one, but I'm sure that after a few movies, you will know the four uses of colors in movies, what a plot is... That maybe now you learn what the colors mean in this movie, but with more, you start interiorizing the general things, why they use color, how they use it...

² Such I knew that they would not answer it at home I previously speak with their teacher and we agree that she will make this activity in the next session with them, two days after the Workshop

They also found the app in the perfect range of difficulty, it was not dull, but it didn't give them anxiety either.

P1: But if someday you do another level 1, and you do it a little bit easier, nothing will happen...I don't say that isn't easy, but it is within the limit. Some things are easy, but I have to think a little bit, and there are some things, like, if you were wrong and that conditionals the other questions it tells you. And that is super good because otherwise, it would be frustrating arriving at the end and being like you did all wrong since the beginning.

P4: I have the feeling that while you keep playing, it will get easier

Also, the first location was more challenging for them because they didn't know how the app works.

P1: Yes, exactly, and this happened with everything like all the games. The first time is more challenging because you have to learn how it works, which is the dynamic of everything.

P2: Yes, for example, when we did the second location, it was way more manageable because we already knew what to do

I ask them for the pelx category and which ones they experience. They all agree on experiencing the following ones:

Captivation (in this case, they didn't experience it, but they are sure that they would in another environment)

P3: But I'm sure that if you do it in another environment, it would be captivated

Challange

P1: If it had been easy, probably it would have been boring, and it was fun having to think about going back checking the colorsript

Control

P1: I felt like I have the control, and that was super positive. I preferred knowing what I was doing and why I was doing that.

P2: At the beginning, the first time, you kind of feel a little luck of control, but at the second location that you already know what you are doing, you feel like you have it.

Fantasy(they didn't experience it because they already have before)

P3: I think that we were not able in this case because we already discussed it the other day, so we weren't able to fantasize and make the theory in our head. But if not, yes.

P1: Yes, absolutely because at the moment that we had that discussion the other day, it was exactly what we were doing, so if you didn't know, you basically do that in the game

Finally, I asked them if they would change something, and they propose adding an online competition, but they felt that everything was on point.

P4: Maybe adding the option to play together

P1: I think that everything is on point like maybe another round of questions would have been too much

Test 2 Activity 2

When I transcribe the discussion, I saw that I didn't record it correctly. Basically, I recorded the moments before the discussion, so when I pressed the record button after, I was actually stopping it.

Luckily, I had the google forms, and this discussion was less than ten minutes, for the class timing, and the users were not very interactive.

Basically, from what I can remember, they had a lot of troubles with the language, and for that reason, they were super slow doing the app. They also point out that they are interested in the theme and that they really wanted to learn more about it.

They like the general aesthetic of the app, and they learn new things with it.

Test 2 Activity 3

They just answer 10 of the 13 participants.

These are the things that they enjoyed the most:

“Being able to change de profile picture”

“Learning with which emotion where every color related with”

“The videos really helped for answering the questions”

“ I really like the fact that it was super dynamic and not as repetitive as other apps”

“Learning new things about color”

“ The design”

· I learn a lot of concepts about color”

“What I enjoyed the most was the question where you have to select the color from the scene that you just saw”

“Honestly all”

“I really like the aesthetic of the app, like how it is every organized the flow...”

The ones that they had fun with the game they really enjoyed learning about color. The others it was because they were not positioned for the theme

“I really enjoyed learning about color. It was super interesting”

“Because it has been a new experiance and a new way to learn”

“Because is a theme I’m not passioned for”

They learn exciting things about color

“ The colors have a lot of meaning inside a movie because every color is related with a different emotion or meaning”

“ The green with black mean destruction, and the green alone poison”

They also agree that the app it was at the perfect point of difficulty.

“Because we didn’t have any previous knowledge about color related to emotions and it was challenging to make the relations”

“It was in the middle point”

The categories of plex that they experience were: Discovery, completion, competition, challenge, community, and exploration.

“I discovered a new world about color and its meanings”

They also would like to experience: Competiton, challenge, captivation, subversion, humor, community, and fantasy

“The environment we were testing the app was not the best, so for this reason, I didn’t achieve it”

“It was not enough competitive”

They missed: Competition, humor, and subversion

“I always speak with humor, and my life without it is not the same”

“ I love being competitive”

Finally, this are some changes that they would make:

“ Doing it more competitive and adding humor”

“More easy questions, being able to play with another person at the same time, so like that adding competition, also I would add a timing for answer”

3. SELF EVALUATION AND FUTURE PRESPECTIVES

3.1 CONCLUSION AND VALORATION OF THE OBJECTIVE

Now that the project is done, I can affirm that all the goals that I put to myself at the very beginning have been completed. I have created an app that educates the critical gaze of the new generations in front of the audiovisual content, in this case, color, thru playficion.

Thanks to all the theoretical research, I was able to settle down a good base about color that allowed me to modify that information channel and turn it into a game. Also, I don't just understand but I interiorized the bases of playficion and learning thru play. Those areas combined had been the perfect combo to devise the experience.

After that, I was able to apply all that knowledge plus the various tools that I learn during the degree and recently in the internship to create an app literally from scratch. From going to search the references directly from the users to code the final prototype, creating all the content involved in it.

In conclusion, I'm proud of the final results and seeing that I was on the right path through all the processes. The playtest shows up that the users have learned new things with the app and have fun while doing it. I can't wait to keep improving the project and see how far it can go.

3.2 EVALUATION OF THE CREATIVE PROCESS

3.2.1. Fluid Factor

I had invested a lot of time in the fluid factor, such the base of my research was to develop a user experience. To master this tool, you need to relate to creativity. I decided to stay in the fluid stage and avoid closing myself in an idea too soon. For that reason, I didn't start to concretize definitive things about the app until the time was behind me, and I knew that if I didn't start concretizing, I wouldn't have time to have a functional prototype for it the test.

It was hard for me to try not to get attached to one idea too soon and to take advantage of the workshops hearing and applying what the stakeholders had to say. I'm so proud that I was able to do it in the end, and thanks to that, the app end up as complete and detailed.

3.2.2. Flexible Factor

In the end, the transition between the fluid and the flexible factor becomes very smooth. Such I had a solid theoretical background, and the insights received during the workshops allowed me to chose the best road with fundamentals. There were just minor details that I actually struggled to choose. For example, the decision of remove or not the competitiveness from the app or how the points would actually work.

I'm very satisfied of the ideas that I ended up choosing, and I think that they all help to reach the final proposal of the app, to teach through playficion, including the more risky ones that I think give an extra value to the research. It could have been easy for me to research gamification and apply those game dynamics directly to the app. But I didn't, and even though I was more insecure during the project, I like how It turned out, and I wouldn't change that decision.

3.2.3 Elevaoration factor

The elaboration process has been long but worth it; I didn't found a considerable difficulty. Once I had the basic structure of the app, all the other steps came up fluently, from the design to the coding. At some points, I doubted if it was actually necessary to code the app, and even though now that I have made the user test, I know that it was not necessary. It was still completely worth it. I was afraid of having some issue with the coding that would take me more time than what I expected at the beginning, and then I would run out of time, but luckily that didn't happen, and I was able to quickly solve all the minor setbacks that aper during the process.

3.2.4 Inovative Factor

The project is innovative by itself. As I mentioned earlier in the paper, it doesn't exist anything like what I did. There are some kind of similar apps but not similar enough to be taken as the main reference. For this reason, I had to go and search all the necessary information directly from the user. Moreover, I decided not to follow the gamification methods due to more resents studies that show up the benefits of playficion over gamification.

So, I was not just doing a completely new app, but also I was taking the risk to explore this new concept

of playficion and create my game dynamics based on the research workshops that I performed.

I'm delighted with the final results, and I wouldn't change those decisions that I took even though they mean more uncertainty about what I was doing during almost all the process.

3.3 SELF EVELUTAION / IMPROVMENT

I'm super satisfied with the project, not just for how it runs but also for how I have grown as a professional with it. From the beginning, I knew that it was a very ambitious project, but I love challenges, and this was a massive one. I have been dealing with imposter syndrome for a while, and I took this as an opportunity to prove to not just others but also to myself what I was capable of. For this reason, I wanted to incorporate all the areas that I have been learning in the past years.

Besides the fact of showing what I have learned, I used the project to develop my passions. Since the first year of the degree, I grew a passion for audiovisuals (especially cinema and tv). But, from a theory point of view, I love to analyze every little detail of them, and from the beginning, I knew that I wanted somehow to show that in the final project making it one of the main areas.

At the same time this year, thanks to the internship, I was able to work on a research lab on interactive design, and my supervisor Ferran Altarriba has helped me a lot on the project. During this period, I discovered how much I enjoyed interactive design, especially the user experience part. For that, I changed the focus of my project, and instead of having coding as my primary tool as I planned initially, I move the focus to the UX. Thanks to Ferran guidance, I tried all the tools used in design research that I was learning on the internship. Without his guides, the project wouldn't turn out as it did because he encouraged me to go deeper on the conceptualization and stop thinking with the technical mindset and start looking through the project as a creative. Even though I decided to code anyway for what I said earlier, I wanted to prove to myself and the tribunal my skills in the last years.

From the academic point of view, there is a lot of things that I would change, starting by putting my focus on the research and the experience from the very beginning. I would also give myself more time in both workshops, the co-design, and the user test. I felt that I missed interesting insights for running out of time, even though that was out of my control because I was conditioned by the class hours. Also, I probably wouldn't code and use that time to do a more planned and extend user test, but I'm still

planning it from a short-term future perspective.

In conclusion, I am delighted with the final result of the project. It has been a very enriching experience. Also, it has been a fantastic opportunity to do a project on my own from the beginning to the end, looking at how it went resing day by day. I can't wait to see how it is going to continue growing in the future.

3.4 FUTURE PRESPECTIVE

My future perspective is divided into several stages. After talking with Ferran Altarriba about the project, he told me that he sees potential in the research, so, first of all, we will perform a more extended user test. The objective of those tests is to be able to write a good article about the research that I had been performing the last month. I have several conferences checked where the project can feed: The CHI Play, CHI, DIS, Mobile HCI, and SIDeR (that one is for students).

From the app point of view, I'm going to make some changes considering the feedback received on the user test, and I'm going to add new movies. Also, my main objective was to educate the critical gaze of the new generations in front of the audiovisual content thru playficion. Now that I have achieved it with color and I have the general structure done, I will extend the game into other areas of the audiovisual language, such as the composition, the script, or the soundtrack.

Finally, and this last step, taking into account that the project has still gone on, I'm planning to add new interactions to the game, like the possibility to compete in online or stetional events.

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ANNEXES

WORKSHOP 1

Participants

<p>P1 16 years</p> <p>Student 1^{re} Bacxillerat of Science</p> <p>With previous basic knowledge about narrative language</p> 	<p>P2 16 years</p> <p>Student 1^{re} Bacxillerat of Science</p> <p>No previous knowledge about narrative language</p> 
<p>P3 16 years</p> <p>Student 1^{re} Bacxillerat of Science</p> <p>No previous knowledge about narrative language</p> 	<p>P4 16 years</p> <p>Student 1^{re} Bacxillerat of Humanities</p> <p>No previous knowledge about narrative language</p> 

Development of the workshop

Activity 1: Brief theoretical introduction about How color helps movies to tell their story (20-30')

Structures

1- Simplify complex stories:

- The wizard of oz
- Path labyrinth

2- Transmit emotion

Theory (I used the cards from the previous section page. 14-25)

Practical example: Analysis of the scene "Be prepared" (00:27:15-00:30:27) from the *lion king* (1994)

3- The journey of a character

Theory

- Beauty and the beast
- Up

Practical example: *La la land*

4. Transmit film ideas

Theory

- Eyes wide shout
- Toy story 3
- The 6 sens

Goals:

The main goal is to give them a base about the use of color. This will help them follow the following activities, better understand the project's whole point, and give more active feedback.

Activity 2: Viewing of Black swan (2010) (2h) + Interpreting the color (10 ‘)

Structure:

We watched Black swan (2010), and they received the instruction of trying to identify symbolic uses of color around the movie. Nevertheless, without losing the focus on enjoying it, they had to let the unconscious work. Once the movie finished, I ask them about their experience, and we discuss the uses of color in the movie.

Start Point:

P1: He has already seen the movie before, and he was seeing it for the second time but now knowing the meaning of the color

P2 / P3/ P4: It was the first time them seeing the movie. They didn't know anything about the color in the movie.

Raw data

The previous knowledge didn't distract them from the movie, and it improved their experience.

P3 “ Without the theory of the beginning, that would be super complicated, but with it, it was much easier.”

They all detect the colors with symbolism, but it was a little bit harder for them to figure out their intention exactly.

P4” It was easy to see the primary colors, but hard to know the meaning” P3 “ yes, for example, the green as a poison we would no have seen it without your help.”

P1: Enjoy the movie even more than the first time “ as I knew the meaning of the colors, I was focused on them, and I figure out things that I didn't the first time, which has made me now like the movie even more.

Goal

Put in practice, the brief theory received previously

Analyze their experience watching the movie

Immersing them even more on the experience before moving on to the following activities.

Watch which level of interpretation they achieve just with the brief theory introduction.

Activity 3: PLEX (1h)

Structure:

I picked up the plex cards and wrote them down in postits. Like that, I gave the participants freedom to move the cards around and change their position at any time if they feel like doing it. I gave them an empty graphic in the Y-axis there where the variables (desirable - no desirable) and in the X-axis (complex-Simple)

They had to place the play dynamics of the plex card in the graphic, and all the members of the team must agreed on the position. For that, they had to think about what they enjoy in watching a movie and analyzing its color. I asked them to take the experience of that day as a reference.

From my part, I acted as a spectator, and I did not intervene in their discussions. However, they could ask me if they did not understand something or needed clarification for some of the cards. Finally, I asked them about their experience while watching the movie that day related to the dynamic they were placing.

Goals:

Detect which of the playful dynamics were desirable or not in the experience of analyzing a movie

See which things are intrinsically fun in the activity of watching and analyzing a movie.

Raw data

While the dynamic was going on, I identify P1 & P2 as very similar types of players. They usually saw things from the same point of view, and they were usually agreed. While P3 & P4 were the opposite, leading to interesting discussions between these two groups.

Captivity: They were all agree that it was desirable and complex,

P1” Today, I was more captivated by the movie than other times.”

P3 “Yes, definitely I was more captivated.”

Challenge: They had trouble deciding the level of complexity to achieve that. They all agree that thanks to the theory, it was easier, but that without it, it would be too difficult.

P4 “I think it is desirable but not for being on the top” / “Because the fact of pay attention to it is fun.”

P3 “it’s fun depending on the day. If someday I’m super lazy, I don’t want to have to pay attention to that.”

P2 “But if you are lazy you are not going to pay attention to it, the fun thing of that is that is something that came up involuntarily” (P1 agree)

P2 “In our case that we don’t know a lot about color, maybe it is more difficult.”

Competitiveness: They all agree without a discussion that it is easy for the game to become a competition.

But they were 50% 50% about if that was desirable or not.

P1 “This would be super desirable for us (p1 + p2)” P2 agree

P3 + P4 “For us no” P4: “I wouldn’t enjoy the movie.”

P4 “If it is a game, the competition helps, and if its focus on us to learn, it helps because it makes me be more focused, and therefore learn faster.”



Completion:

All “super desirable.”

P1 “but not that easy, when we were watching the movie we didn’t complete it, we knew the colors but not the meaning.”

P2 “When we were watching the movie, and we figure out that we actually identify the color correctly, I felt superior. And I really loved that feeling” (P1 agree)

P4 “Well, I don’t feel superior, but I love the feeling of knowing that I was able to complete it.”

Control: They discuss two situations. The first one is the feeling of control now that they already knew the meaning of the colors in black swan. (for example, if before starting the movie, I would tell them the black, white, green, and pink are important colors)

P1 "If you have had already seen the movie before, super desirable, for example, in my case that I already knew the meaning of the colors, it was cool because I was able to pay attention in a lot of other things."

P3 "Yes, but then you lose that part of the challenge because if I already know all that is going to happen, the experience loses a little bit for me."

P4 "I think it depends one think is control because you have already discovered that for yourself, and the other is if someone explains to you that before you watch the movie for the first time, here we lose the part of the challenge that for me was more interesting."

And second control because they know the theory of color, but it is the first time they watch a movie.

P4 "It depends because now that at some point that can be a spoiler, as she sees you can expect something just for the colors."

P3 "Yes, but then every movie can focus the color differently so you can actually really know, and this part of the spoiler is actually complicated that it happened."

P1 "I think that in fact is desirable, feeling what is happening because you are discovering it, having the control of what is happening" (all agree)

P2 "I think that the main point here is the fact that the control makes you feel more confident about the challenge, and I think that this is a goal for the users of that application"

Cruelty: They all agree that for them is not desirable

P1 "For us is not desirable for as, but maybe someone enjoys making spoilers."

Discovery

All "This is super cool and super desirable."

P1 "It's amazing the feeling that you have discovered something! For example, when we went to see that movie, and I figure it out that that was not the killer and 5 minutes

before they tell us, the feeling was amazing" (All agree)

P2 "This is complicated, though."

Erotism (this one was a little off the context)

Exploration

P2 "Well, it's easy. Another thing is that you are doing it right."

P3 "It's desirable! But it depends on your mood thought"

P1 "Yes, but it is more desirable the moment that you discover that the process itself (exploration), this doesn't mean that it isn't fun! It is so fun! but some things are more so."

Expression

P1 "It's desirable to express yourself and give your opinion."

P4 "Not for me, I don't enjoy it."

P2 "It depends with someone that I have confidence yes if not no."

P3 "There is always the fear of saying something wrong."

Fantasy

All "Desirable and easy."

P2 "This is cool."

P4 "but like extreme no?"

Fellowship

All "Desirable"

P1 "but I wouldn't say easy, it is difficult to make a fellowship that you are confident with."

P3 "But in this case, the colors of a movie is true that it can be different opinions, but we couldn't disagree a lot."

P1 "Is more desirable the feeling of being a team than the one of compete."

Humor: They all agree that humor is desirable but complicated because everyone has different humor, and it's desirable if it's the same humor that they have. It is not desirable because it pulls you off the experience.

P2 "desirable desirable" (all agree)

P3 "But super complicated" (all agree)

P4 "Depend on the humor. If it's not my humor, is not desirable at all."

P1 "It's not something that my lives depend on the application having humor."

Nurture

P2 "In my case, I would ask for help all the time, but probably I will regret it later."

P4 + P2 + P1 "It's desirable to help others."

P3 "but at the same time, you are giving them control before it's time, and if I know that she/he is going to regret..."

Relaxation: The fact of being searching for the colors in the movie did not affect their level of relaxation

P1 + P4 "Well is fun to be in tension."

P4+ P2 "I prefer to be in tension."

P1 "One thing is being relaxed, and another is bored."

P2" But for example in an app, if there is time, if you put me a scene just 10 seconds and I have to find something, this is not desirable" (P1 agree + P3)

Sensations

P1 "For example that at the end I felt that adrenalin? this is desirable" (All agree)

Submission

P1 + P2 "Indesirable"

P3+ P4 "Desirable, I prefer that someone take the control for me."

P3 "a little bit of guide I think it is necessary, but don't give me a paper to fill. I don't want to feel like it is an obligation" (all agree)

Subversion

P3 "It loses the sense of the app, it makes no sense" (all agree)

P4 "you don't feel accomplished."

Suffering they where all agree that is not desirable and that it is easy

Sympathy

P1 "be sympathetic is easy, and desirable like, if the app is cute you don't want that the app starts bothering you"

Thrill From the context that if they lose, they are not going to be able to move forward, or that they are going to lose points

P4 "The fact of losing points makes you feel thrilled."

P3 "It's like if you lose, you are not going to know the real meaning of the color. You want to do it right because you want to know the meaning."

Activity 4: Design of an app (1h workshops 1-3 / 45' workshop 2)

Structure:

I divided them into groups, and I gave them 40minuts to design the app. I asked them to no think about technical limitations and to focus on either one part of the app or the app in general. There was just one condition: They have had to design an app that they would enjoy playing.

Goals:

Analyzed which kind of game mechanic they used, how they would like to found the information, and basically what would be for them the perfect app. Like that, I will use their designs as a reference for mine.

Raw Data

Design group 1

The game consists of 15 movies. There are five levels of difficulty and three movies at each level. So you have to watch the movie that is in the game, you don't get the option to choose (the game will tell you where you can find the movie: Netflix, HBO, disney+...)

During the first level, you can access anytime to the help room, where you can find an explanation of every color and the four principles uses. You have to pay with the game coins from level three if you want to access the help room.

The game:

First of all, the user selects which colors have narrative importance in the movie. They can share their opinions in a forum and see what others thought about it. They get points for every color that they do right.

After that, they enter a simulation (maybe AR?), and suddenly they are in a scenario of the movie, for example, the apartment in black swan. There they found a series of characters or objects with the color that they are playing. When they press on them, they see a scene where the character/object is involved. After that, they have a series of questions that they have to answer. They get points for each right one. If they fail more than five questions, they are going to lose coins.

In the end, they get a card with an explanation of each color in that movie.

Grup 2

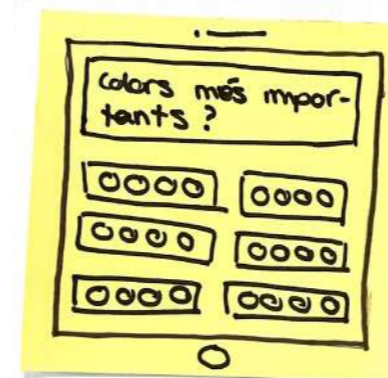
In the beginning, you have an explanation of the color is optional and you can access there anytime.

The game is divided into movies, and the idea is that you first watch the movie and then you do the analysis on the game.

You have the movies divided by genders and ranked by difficulty (illustrated with popcorns).

The game:

It is like a trivial they ask you a question about the color in the movie, if you win, you get points, and at the end you have a ranking of users and who did it best in that movie. The questions go from more general to



Si encertes quanyes punts i amb aquests es van sumant i es fa un rànquing per pel·li.
Les preguntes van de més generals a més específiques.

Fig 8. The PLEX framework consisting of 22 categories (Lucero et al, 2013)

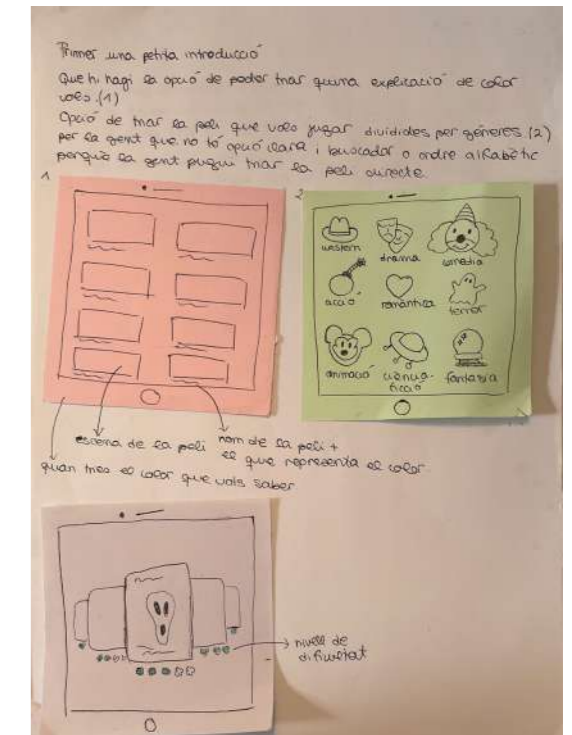


Fig 8. The PLEX framework consisting of 22 categories (Lucero et al, 2013)

Modification workshop 2-3

I get in touch with the high school of Celrà. In there, they have an elective in the 4th grade where they study audiovisual, design, and multimedia. And I was able to perform the workshop with two groups.

I had two hours, so that was way shorter compared to the first workshop. Therefore I had to redistribute the activities along with the teacher, in order to see which activities will fit better with the insights that I need from them and the content from the elective.

In the beginning, I thought about replacing black swan for the corpse bride, due it is just one hour and 10 mins. Even though that was more than half of the time that I had, and I finally decided that it was not worth spending time in the movie visualization activity.

Instead, I added an analysis of hellfire from the hunchback of Notre Dame (1996) as an example of color associated with an idea. Besides that, all the other activities were kept but with a reduction of time. For that, in the activity of PLEX, I have had removed some of the play directions(I chose the ones that had lead to more confusion in the last workshop and were less related to the activity itself)

This was the final one.



Fig 8. The PLEX framework consisting of 22 categories (Lucero et al, 2013)

Modification workshop 3

Due to some schedule incompetence, I could not do the third workshop until three weeks after the second. So the project was much more advanced at that point, and I needed a different kind of information from the stakeholders. I discussed those changes with her teacher, and she asks me to change anything but the “theoretical introduction” because she thought it was super exciting. And she didn’t want her students to lose that information.

So, in the end, I removed the Plex activity, and I move straight to the app design. After that, I showed them my provisional UX design, and we discussed it. I didn’t do it the other way around to avoid conditioning their ideas from the design.

WORKSHOP 2

Participants



Activity 1: Brief theoretical introduction about How color helps movies to tell their story (20-30’)

Activity 2: PLEX (45mins)

They perform the plex in 3 groups.

Grup 1

P1- P2- P3

Grup 2

P4- P5

Grup 3

P6- P7- P8

In this case, I could not hear the whole discussion due to the number of groups, so in the last 20 minutes of the activity, they perform a presentation explaining why they decide to put each type in the different positions. I asked them to speak about the ones that they find more interesting or that they have more trouble placing due to different opinions inside the group

Raw data

Group 1



Fig 8. The PLEX framework consisting of 22 categories (Lucero et al, 2013)

Captivation:

P1: “When you are doing something is difficult to disconnect from the environment or your problems”

Completion

P2: “Not always is easy but super rewarding when you finally achieve it.”

Humor

P1: “They see the humor as something desirable, but for example, in my case, humor would be something that is not desirable in some kind of games, like the horror or the one that you talk us about.”

P3: “I prefer something that makes me laugh and disconnect from my problems.”

P3: “Humor and fantasy are the best ways to achieve captivation.”

Exploration

P1: “It’s fun to explore a game and see how far you can arrive.”

Subversion

P2: “On one hand, you want to be fear and follow the rules, but on the other side is easy to achieve because at the end is easy to trick.”

Challenge

P1: “Sometimes, if it is too hard, you get frustrated, and you lose the captivation that for us is the more important.”

P3: “We are not saying that we don’t enjoy the challenge, but they must be super well balanced.”

Competition

P1: “The competition leads you to captivation if you are a competitive person you want to win

P3 “And this makes that you get more focus on the game and that you enjoy it more.

Discovery

P2: “Thru your life, you want to discover new things, and you got that interest to do that” “but at the same time can be hard.”

P1” We saw that is easy because with this of the colors with four things that you explained to us we were able to undersend everything and I know much more than what I knew before, and with this game, I’m sure that I’m going to be able to discover a lot of new things.”

Group 2

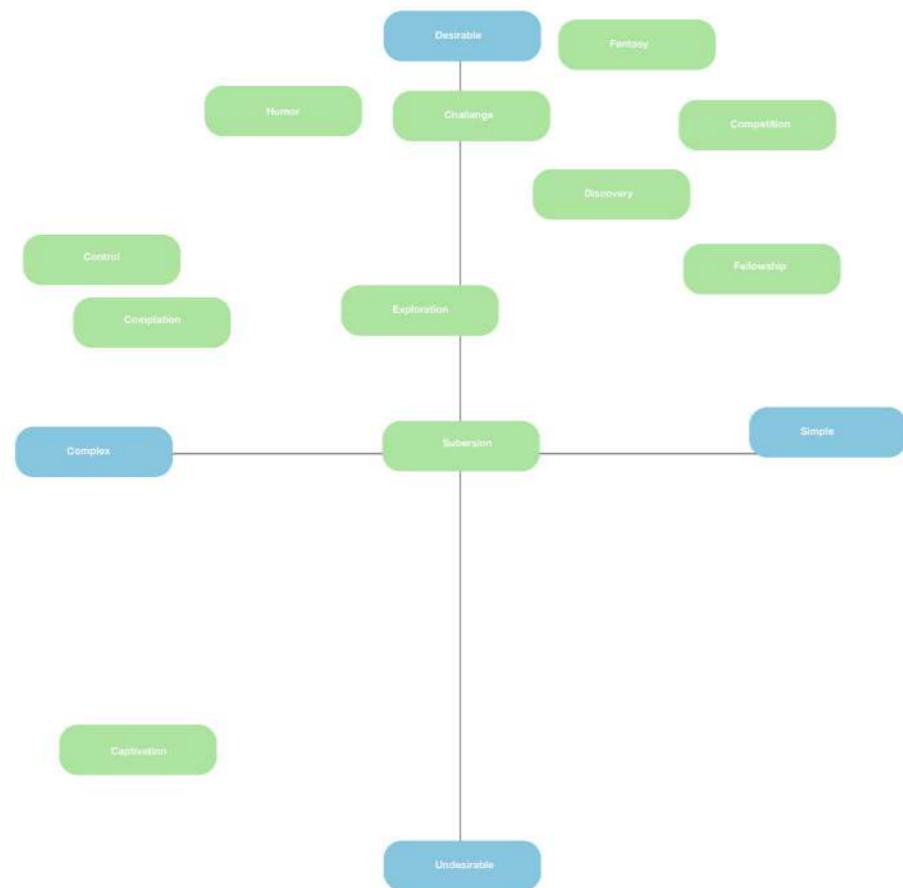


Fig 8. The PLEX framework consisting of 22 categories (Lucero et al, 2013)

Captivation

P4: “It’s not desirable because if you get to obsess with something is not good. So it can captivate you but not a lot.”

Humor

P4: “The humor for us is super desirable, but hard because not all the persons have the same humor sense

Subversion

P4” I would love to trick the game, but not that the other people could do it too if everyone can do it is not fun.”

Exploration

P4: “If you don’t learn something new, it basically has no sense.”

Group 3

This group decided not to do the plex, focusing on the insight that I gave to them (the fun things of analyzing movies). Instead, they pick up to think about their everyday lives experience. So I could use general feedback that they gave me but not at the same level that the one given by the other groups.

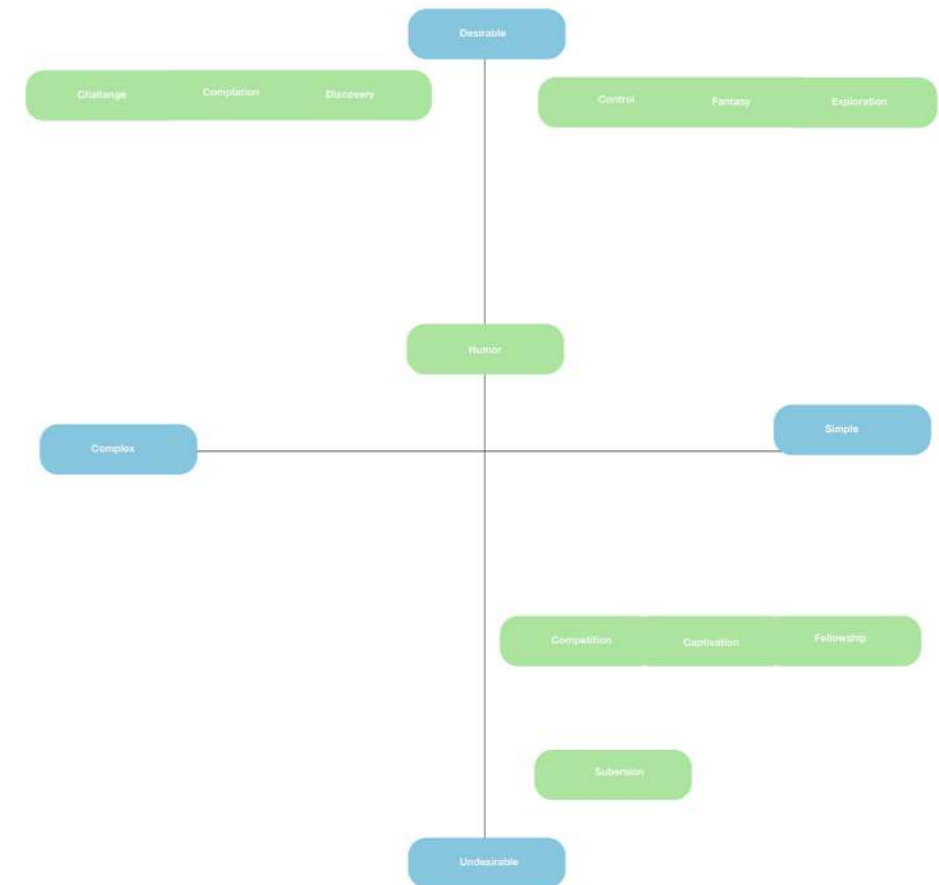


Fig 8. The PLEX framework consisting of 22 categories (Lucero et al, 2013)

Activity 3: Design of an app (45')

Group1

On the main screen, you are going to have different places to get in.

You will be able to do a tournament, go online, a 1vs 1, train, or get inside a league.

Tournament:

It is going to go by points and will be small events from 1day to 1 week

Online

With friends or strangers

Duos

The same as online

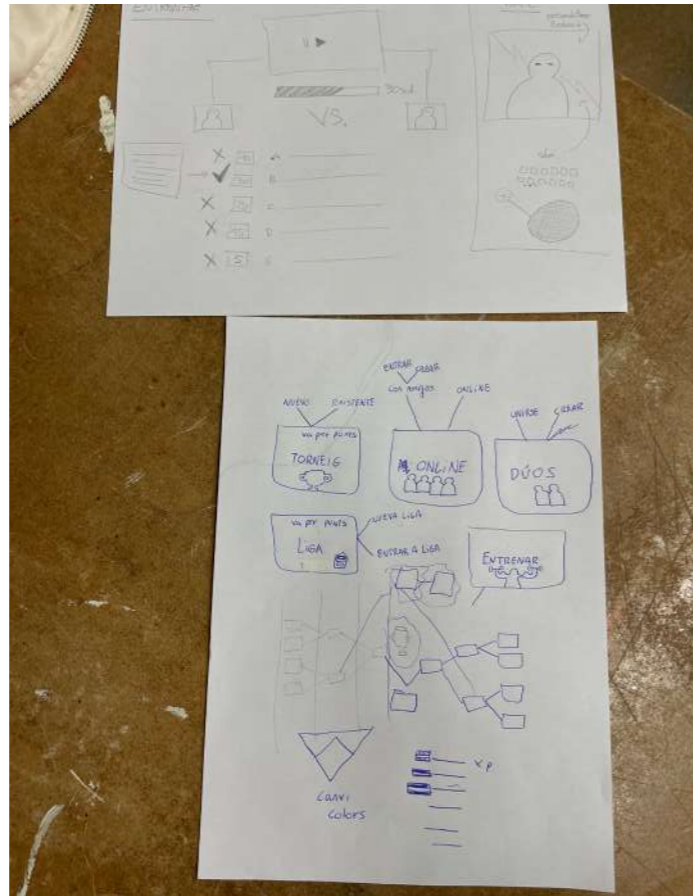
League

Combine the points from the tournament and the other interactions to win the united league

Training

You compete with a bot. And they put you small scenes from different movies, and they give you a multichoice. From what dos that express to which idea want this color to transmit

When you finish a scene, a short explanation will appear, telling you why that is the correct answer.



The trainings are going to be random, you don't get to chose the movies, maybe you can choose the difficulty, but maybe the difficulty of the training can be about your points.

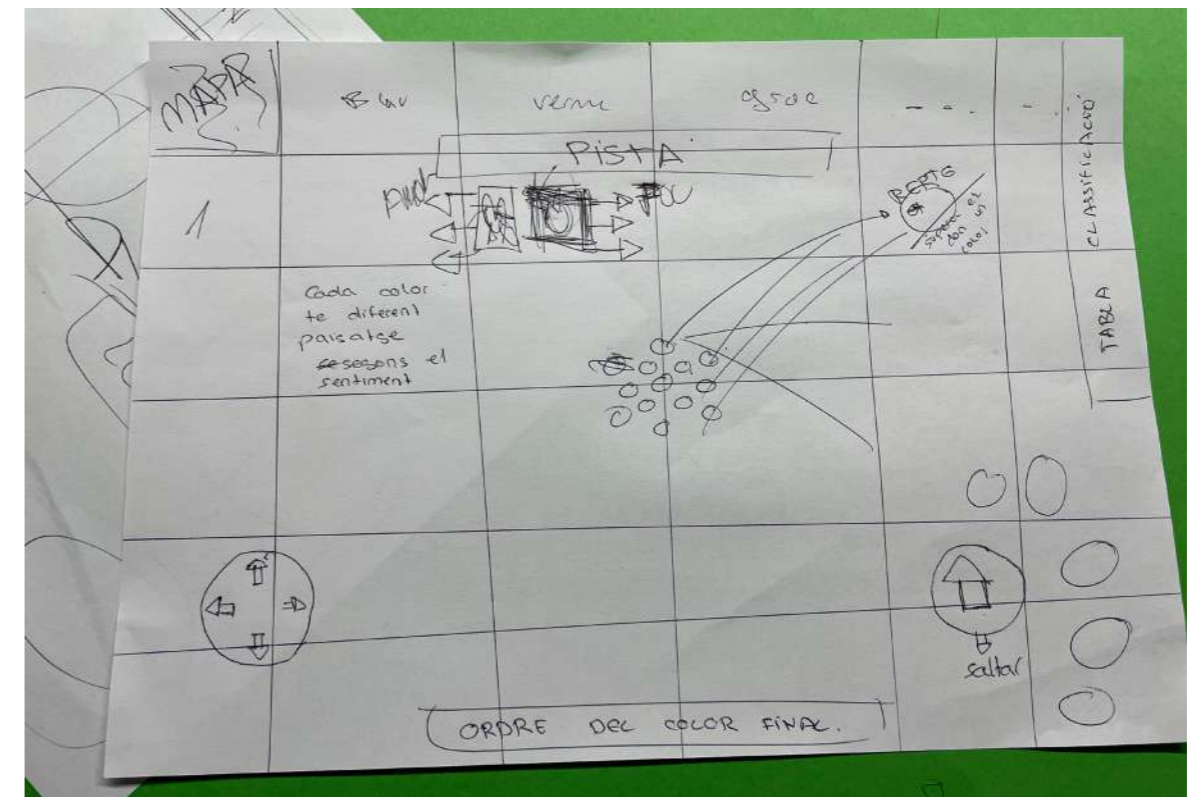
The other interaction work the same way that the training but without the explanation

Example of question

Wich color they use to show X's evolution? You have to choose from different colors. If it's something difficult and punctual, you will get, I don't know, 30 points. But if it's something obvious, you will get 5 or 10

If you win the final games you also earn points.

Group 2

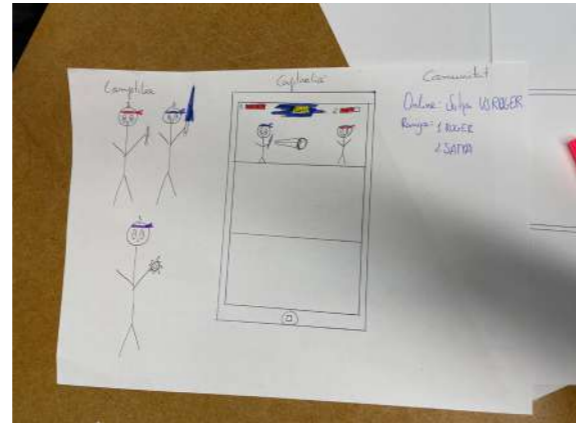
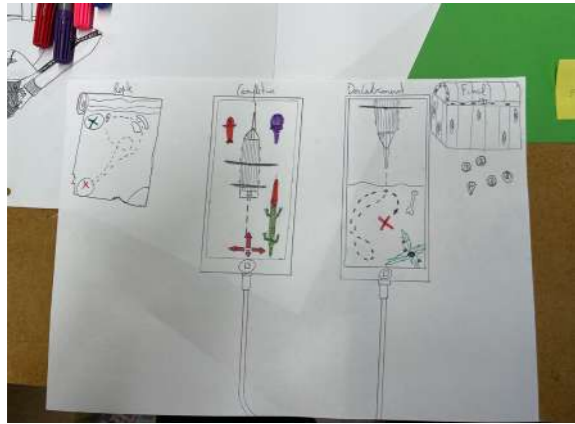


This is a map divided into zones. Each zone has a landscape defined for colors (for example, if it is red, it can be hell). And at the top, it appears a clue that is going to lead you to one zone. Once you are in the zone, you have the pass an obstacle that will give youth clues for the next color. Every time that you want a color is added to the palette on the map. Once you complete all the missions, you will have a color palette, and you can move on to the next level.

At the beginning of the game, you have a small tutorial.

Group 3

Again this group decided not to follow the insight that I gave to them. And therefore, they designed a random mobile game with nothing to do with colors. I saw it at the half of the activity, and I try to make sure that they understand the assignment. But in the end, they just added random colors to their draws.



WORKSHOP 3 Participants

P1 15 years Student 4th grade High school No previous knowledge about narrative language		P2 15 years Student 4th grade High school No previous knowledge about narrative language	
P3 15 years Student 4th grade High school No previous knowledge about narrative language		P4 15 years Student 4th grade High school No previous knowledge about narrative language	
P5 15 years Student 4th grade High school No previous knowledge about narrative language		P6 15 years Student 4th grade High school No previous knowledge about narrative language	
P7 15 years Student 4th grade High school No previous knowledge about narrative language		P8 15 years Student 4th grade High school No previous knowledge about narrative language	
P9 15 years Student 4th grade High school No previous knowledge about narrative language		P10 15 years Student 4th grade High school No previous knowledge about narrative language	
P11 15 years Student 4th grade High school No previous knowledge about narrative language		P12 15 years Student 4th grade High school No previous knowledge about narrative language	
P13 15 years Student 4th grade High school No previous knowledge about narrative language			

Activity 1: Brief theoretical introduction about How color helps movies to tell it's story (20-30')

Activity 2: Design an app (1h)

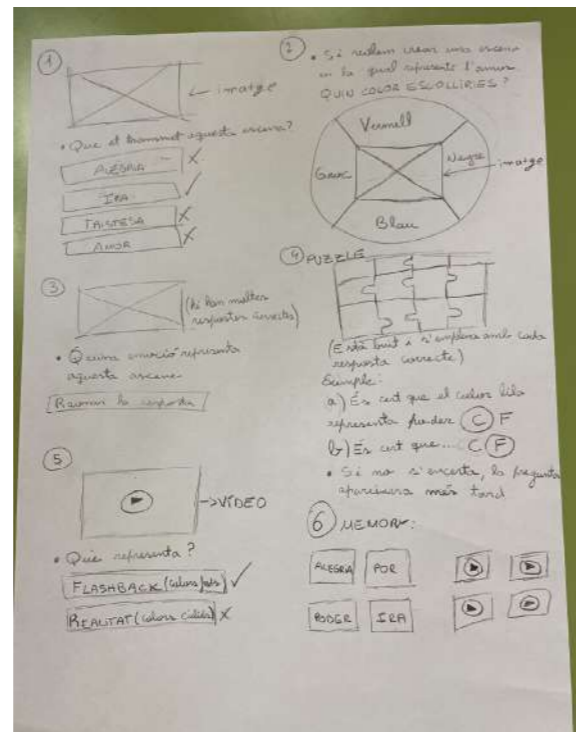
I asked them to divide into groups of 2 to 4 to perform the activity. It was hard for them at the beginning to understand what I was asking them to do. They had designed a UX experience before. So I did a short introduction to the UX design in 10 minutes. Afterward, they started designing.

Group 1	Group 2	Group 3
P1- P2- P3	P4-P5	P6-P7-P8- P9
Group 4	Group 5	
P10- P11	P12-P13	

Group1

This group has devised a series of possible minigames

- 1- There is an image on the top, and they ask you several questions about the image. And it's a multichoice game as the Kahoot
- 2- They ask you if you want to do a scene that needs to transmit X emotion, which color would you use?
- 3- They ask you a question related to a scene, but in this case, you have to write the answer and explain a little bit



more the why.

4- There are affirmations, and you have to say if there are true or false, for each one that you do right you won a puzzle piece, if it's incorrect at the end they are going to ask the question to them again, so like that they can finish the puzzle

5- There is a video, and you have to discover if that was referring to a flashback/flashforward. or to reality.

6- It's a memory. The first piece is a scene, and then you have to find the other part that is going to be an explanation of what means the color in the scene.

Group 2

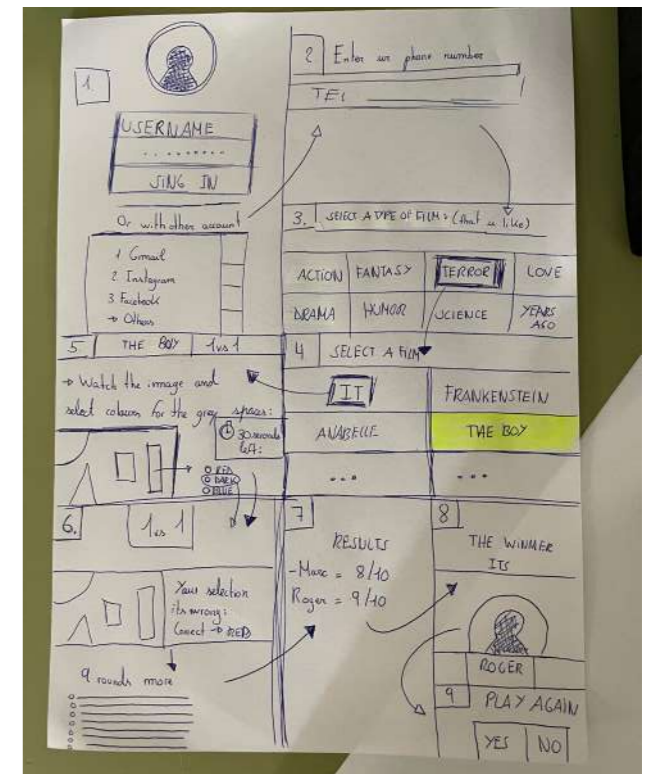
In the beginning, you sign in, and then you do the first questionnaire, selecting your preferences. (which kind of movies do you like the most)

After that, select which movie do you want to play, and you play against other persons.

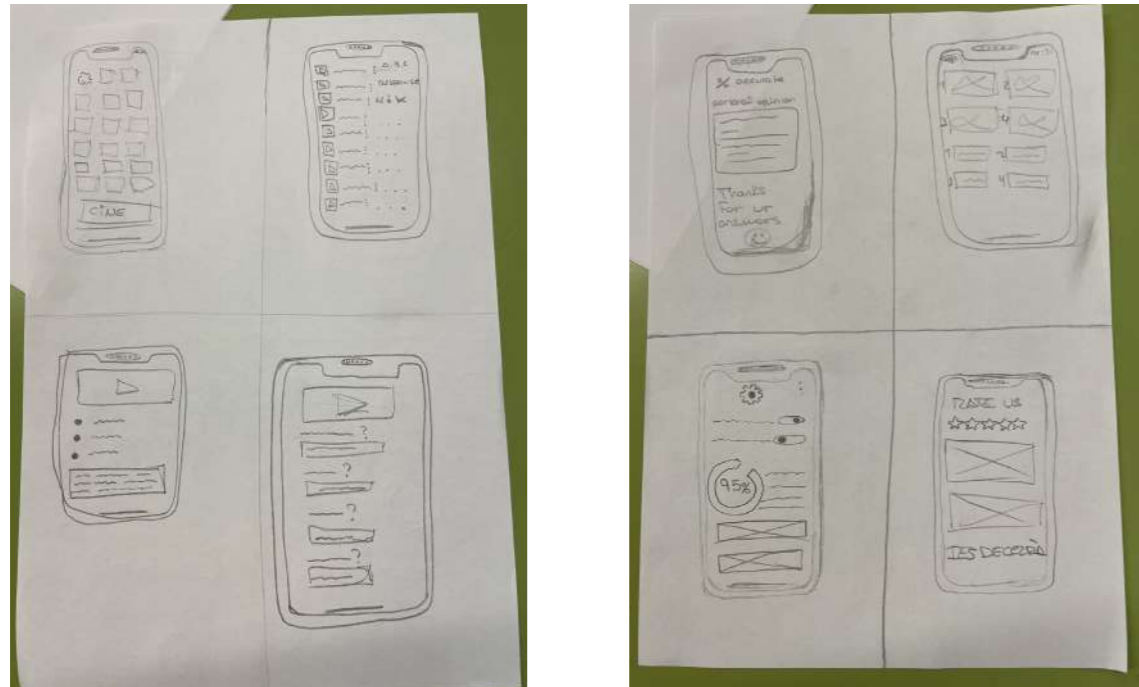
They are going to give you an image from the movie, and you have to paint it, guessing the color of the object.

Every time that you press on top of an object there is going to appear three different options (3 different possible colors) and you have to try to guess which is the right one.

P4: "the part of competing is the one that motivates me the most about this game."



Group 3



In the beginning, you can see all the movies, and you can choose if you want to answer the questions in a multichoice mode, you writing down or a mix of all.

Then they put you a scene of the movie where you will be able to find the answer to the question. After you answer, a small explanation is going to appear.

At the end of every movie, they show you the % that you did right and some technical stuff, and then they show you a series of images that you have to link with the definition.

After that, you can see the % of movies that you have seen and the % that do you did right in your profile.

Group 4

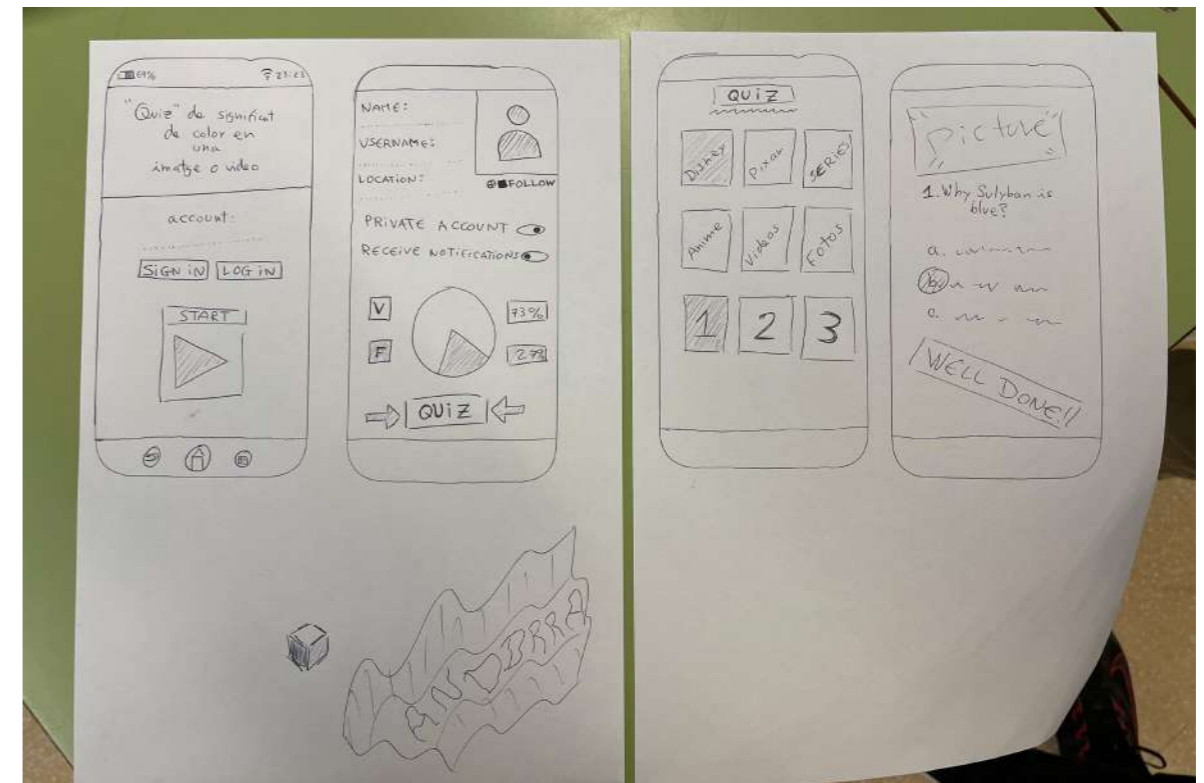
In the beginning, you have to log in. Then you go to your profile. Ther you can see your data, change the configuration. And a graphic with the % that you did right.

On the page quiz, you have the movies divided by thematics. You can play what you prefer. Once you

pick up one, you will go to the game screen where you are going to see a picture from a movie, they are going to make you a question related to that image, and then you have to answer through a multichoice.

Example: Why is Sullivan blue?

Also, you could add points, and then I don't know. Also inside the category is maybe you can choose the level, or that the level goes related to your points

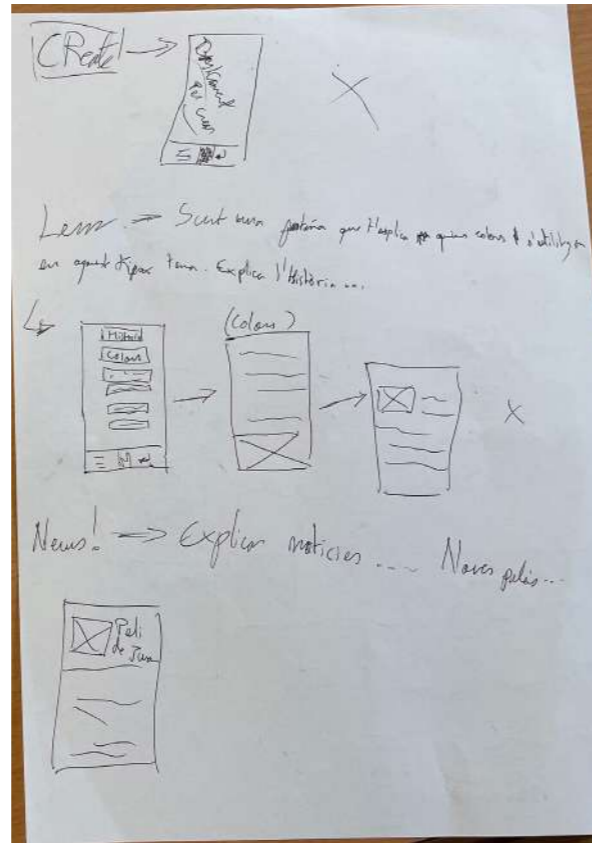
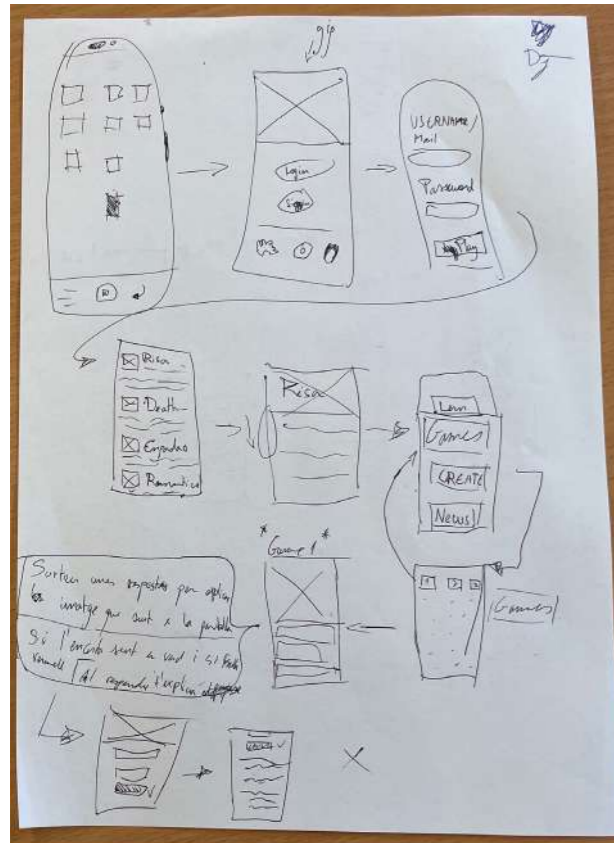


Group 5

First of all, you have to log in. Then you can select a category, and you can see a little description about what this category is going to go about. Inside the category, you have different options Or go to training where you can see the theory, play, create something new or see the new movies coming up.

Inside a game, you have some minigames, and you can choose the one that you want to play.

Example of minigame: Multichoice with an image



Once you answer is going to appear a small explanation.

I didn't want to go deep with the creative part because it doesn't have many secrets (you can create new questions)

Activity 3: Debate around the UX experience (30min)



Raw data

P5: "I don't quite understand the part of the why" "And for example, the best answer will be the one with more likes or something like that?"

P10: "Maybe you can do that. The question with more likes is the correct one, and you win more points for that."

P11: "Yes, if you are top 1, you win more points, and as more correct answers, more points wins."

P12: "But what can you do with the points?"

P11: "Maybe you can do that. You can just unlock the top movies with points."

Some of you will not be motivated for the points part?

P12" Well, if you don't have points, what do you win?"

P5: "Maybe you can do online competitions."

P11: "Or that every time that you ask for help, you lose points."

Some of them agree

Teacher: Yes, but at the beginning, if you don't have training or points, so maybe this could be something interesting to apply once you are on a certain level

P5: "Or you have to pay for the points, I don't know."

P10: "You can also make hype and prepare some events, this day at this hour there is going to be a competition about that movie and the person that make more points on the movie win a medal that can be visible in their profiles"

Teacher: "Like a premiere day."

P2: "Could be interesting to put a video somewhere."

P1: "It's super good that fact that you have the short video at the end, because like that if you lose at least, you know why and you can learn about it for the next time."

P10: Maybe you can do groups of friends and make like a competition between groups with a countdown, to see which one is the best

I ask them about the different options to answer the questions.

P10: "The first option as you can't see all the colors at once, you can't have a global view. And maybe you pick a color that it was more secondary."



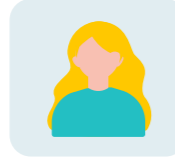

P2: "I think that maybe you should make a mix of all, like that not always appear the same one, that the minigames will change depending on the movie and the activity."

P11: "Yes, that you can interact with different game modes."

Play Test

WORKSHOP 1

Participants

<p>P1 16 years</p> <p>Student 1^{er} Batxillerat of Science</p> <p>With previous basic knowledge about narrative language</p> 	<p>P2 16 years</p> <p>Student 1^{er} Batxillerat of Science</p> <p>No previous knowledge about narrative language</p> 
<p>P3 16 years</p> <p>Student 1^{er} Batxillerat of Science</p> <p>No previous knowledge about narrative language</p> 	<p>P4 16 years</p> <p>Student 1^{er} Batxillerat of Humanities</p> <p>No previous knowledge about narrative language</p> 

Development of the workshop

Activity 1 (20min):

Play the game: they have received the game via web, and they are asked to record the screen while they are playing. I gave them the instruction to not ask me any question unless it is strictly necessary for them in order to follow the game.

Activity 2 (45 min)

I performed a joint discussion, and I was guiding it with some open questions. What I was searching for was qualitative quotes and valuable insights in order to improve the game in the future.

Transcription of the discussion

Q1: Did you have fun while playing the app?

All: Yes

P1: Yes, and also you have the plus that you are learning something, so this is super cool

P2: Yes, and also is super cool the thematic of the colors

P1: Like is dynamic because you mix the fact that you are playing a game and at the same time you are learning interesting things

All agree

Q2: If that app was actually able to follow, would you actually use it?

P2+P3: I wouldn't do it with all the movies, but yes with the ones that I'm more interested in

All: But with movies that we like, we will absolutely do it

P4: Like I would really like to have this option to play this game with the movies that I enjoyed

All agree

Q3: Did you learn something new?

All: Yes!!

P2: Well, we already knew a lot of things because we discuss them in the last workshop

P4: But if we didn't know that before, we would learn a lot of new things

All agree

Q4: What did you learn?

P1: I guess that maybe not in level one, but I'm sure that after a few movies, you will know the four uses of colors in movies, what a plot is... That maybe now you learn what the colors mean in this movie, but with more, you start interiorizing the general things, why they use color, how they use it...

So in a long term this minigame of how they use that color in the movie, you would be able to do it, right?

All: Yes

P1: Because you will already know exactly what everything means and it would be easier to make the connections

Q5: There is something that you didn't learn, but you would like to?

P1: I don't know, no

All: nono

Q6: How difficult was it?

P1: I think that a lot of things straightforward but another...

P3: Because without knowing something, especially at the beginning is harder

P2: But it is not a super hard thought, but some parts...

P1: For example, the first question is super easy (all agree)

P1+P2: Because with the video, you can see it

P2: But then some parts

P3: Like the one of the red about why they use this color that maybe is harder

P4: I have the feeling that while you keep playing, it will get easier

P1: Yes, exactly, and this happened with everything like all the games. The first time is more challenging because you have to learn how it works, which is the dynamic of everything

P2: Yes, for example, when we did the second location, it was way more manageable because we already knew what to do

Do you think that for being level 1, the point between is super easy, and I don't even have to think and is so hard is a good balance?

P2+p3+p4: Yes, I think it's okay

P1: But if someday you do another of level 1 and you do it a little bit easier, nothing will happen...I don't say that isn't easy, but it is within the limit. Some things are easy, but I have to think a little bit, and there are some things, like, if you were wrong and that conditionals the other questions it tells you. And that is super good because otherwise, it would be frustrating arriving at the end and being like you did all wrong since the beginning.

Q7: If the movies get harder in superior levels, would you keep the same minigames, or would you instead make the minigames also more difficult?

P4: Maybe I would change the dynamic in some points because if you have already done four movies and the fifth is the same...

P1: Is like yes I really enjoy knowing this, but maybe I would like some slight change, smoothing new, for example, what you told us about messing up with the user putting meanings that are not related with the color, that is fun because you are already supposed to know that meanings for previous movies

Q8: I'm going to tell you the PLEX category, and I'm going to ask you to tell me if you have experimented with it, if not and you miss it, or if not, but it would be a plus to have it

Captivation:

P4: In this case, it was difficult for the situation

P3: But I'm sure that if you do it in another environment, it would be captivated

Challenge

All: Yes

It was positive the challenge

All: Yes

P1: If it had been easy, probably it would have been boring, and it was fun having to think about going back checking the colorscript

Competition

All: There was no competition

P1: but maybe I would miss it a little beat

P3: I wouldn't

P1: Like it depends on how you use the app, if you want to have a "library" to know the

colors movies cool not to have competition, but I don't know.... no actually it was okay without competition, It was not a need.

Control

P1: I felt like I have the control, and that was super positive. I preferred knowing what I was doing and why I was doing that.

P1: The tutorial at the beginning, I think, is super necessary because if not, you just go at the beginning, and you are like pressing a location you see a video, and you are like oh nice, and then they ask you which colors, and you are like f***....

P2: At the beginning, the first time, you kind of feel a little lack of control, but at the second location that you already know what you are doing, you feel like you have it.

Cruelty

All: no

Discovery

All: Yes

P1: An it was super positive

Exploration

P3: Yes, in the beginning, when we started checking the app

P4: well, during the game, I don't know

P1: If everything goes straightforward and you can not move around, you can't actually explore anything

So did you miss it?

P4: At all, I think it was perfect like this

P1: If you add exploration, you have over control because if you can go back, see the video anytime...

P3: You also lose the challenge (all agree)

Fantasy

P3: I think that we were not able in this case because we already discussed it the other day, so we weren't able to fantasize and make the theory in our head. But if not, yes.

P1: Yes, absolutely because at the moment that we had that discussion the other day, it was exactly what we were doing, so if you didn't know, you basically do that in the game

P2: And that's super fun (all agree)

Community

P1: If we had the chance to play together, then yes, but no

Humor

P2: No

P1: And we didn't miss it

P3: Is super difficult the humor

P1: Like we play a game in the high school where there were memes in the middle, and they were super bothering

P4: Like is unnecessary

Relaxation

P2: I didn't relax, but I didn't get anxious either

P1: I didn't miss it, but maybe it would be a plus

Submission

All: No

Subersion + sufering+ simpathy

All: no

P1: Maybe with the points, if you need a point to unlock certain content or to be able to level up

P1: I think that with the point I would do that you can unlock some movies like a special one and like that you have the thrill that if I don't do it right, I'm not going to be able to do that

P4: Because if you can just get it... I don't know something is missing

Q8: What do you think about having a training area in the future?

P1: I think it is super necessary and a way to win points, and like that you don't get the people stuck in on level waiting for new movies, but it's not either like oh you didn't get the points... its okay just go on. I like the middle point.

P4: Yes, I would definitely add it

P1: Also, I would do that the first level super easy to move one, because If I just have 3 movies and I just like one, then I get stuck at the beginning, and I would love the app, but if with 1 movie I can unlock the once of level 2 now I'm playing over 6 movies, and that's different. So I would do it more challenging every time because you have more movies to play with

Q9: Would you change something?

P4: Maybe adding the option to play together

P1: And playing together having a little bit of competition


P1: I think that everything is on point like maybe another round of questions would have been too much

P3: Yes or even more questions for each color, but then once that there are right now are perfect


P4: The timing is perfect

WORKSHOP 2 Participants

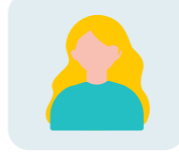
P1 15 years
Student
4th grade Hight school
No previous knowledge about narrative language



P2 15 years
Student
4th grade Hight school
No previous knowledge about narrative language



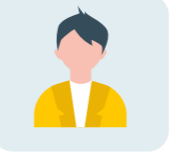
P3 15 years
Student
4th grade Hight school
No previous knowledge about narrative language



P4 15 years
Student
4th grade Hight school
No previous knowledge about narrative language




P5 15 years
Student
4th grade Hight school
No previous knowledge about narrative language



P6 15 years
Student
4th grade Hight school
No previous knowledge about narrative language



P7 15 years
Student
4th grade Hight school
No previous knowledge about narrative language



P8 15 years
Student
4th grade Hight school
No previous knowledge about narrative language



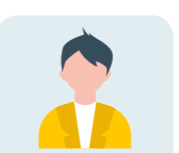
P9 15 years
Student
4th grade Hight school
No previous knowledge about narrative language



P10 15 years
Student
4th grade Hight school
No previous knowledge about narrative language



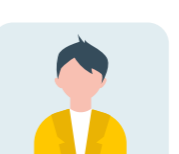
P11 15 years
Student
4th grade Hight school
No previous knowledge about narrative language



P12 15 years
Student
4th grade Hight school
No previous knowledge about narrative language



P13 15 years
Student
4th grade Hight school
No previous knowledge about narrative language



Development of the workshop

Activity 1 (50min):

Play the game: they have received the game via web, and they are asked to record the screen while they are playing. I gave them the instruction to not ask me any question unless it is strictly necessary for them in order to follow the game.

Activity 2 (10 min)

I performed a joint discussion, and I was guiding it with some open questions. I only had one h of activity in the second workshop, and I knew that I wouldn't probably have enough time to get all the information that I would like, so, I prepared for the third activity.

Activity 3

I created a google form with some questions regarding their experience while playing the app, and I asked them to answer it. The form mixes qualitative with quantitative questions. By starting with the quantitative question, they have to start thinking with the experience. When they answer the qualitative, they have already had something going on in their minds, and it's easy to get a more exciting reflection. So such I'm not going to have enough volume of answers; I'm not taking into account the quantitative ones. I'm just looking for interesting quotes.



Transcription of the discussion

When I transcribe the discussion, I saw that I didn't record it correctly. Basically, I recorded the moments before the discussion, so when I pressed the record button after, I was actually stopping it.

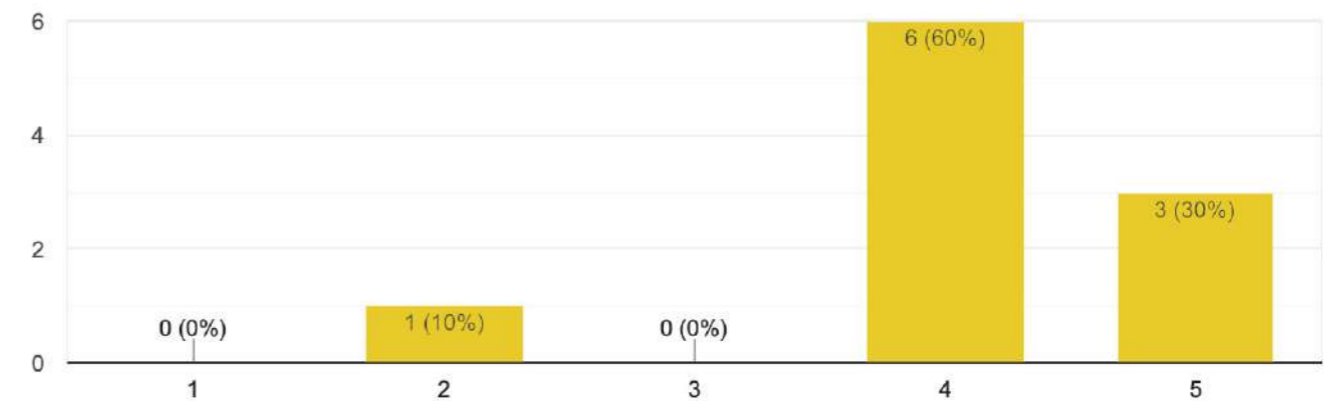
Luckily, I had the google forms, and this discussion was less than ten minutes, for the class timing, and the users were not very interactive.

Basically, from what I can remember, they had a lot of troubles with the language, and for that reason, they were super slow doing the app. They also point out that they are interested in the theme and that they really wanted to learn more about it.

They like the general aesthetic of the app, and they learn new things with it.

Raw data from the google forms

Q1: Valorate the app

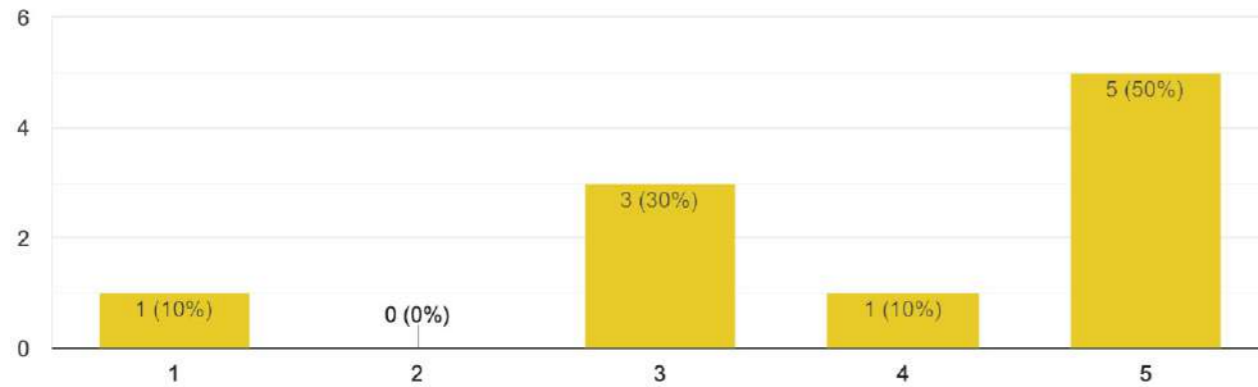


Q2: What are the things that you enjoyed the most?

- Being able to change de profile picture
- Learning with which emotion where every color related with
- The videos really helped for answering the questions
- I really like the fact that it was super dynamic and not as repetitive as other apps

- Learning new things about color
- The design
- I learn a lot of concepts about color
- What I enjoyed the most was the question where you have to select the color from the scene that you just saw
- Honestly all
- I really like the aesthetic of the app, like how it is every organized the flow...

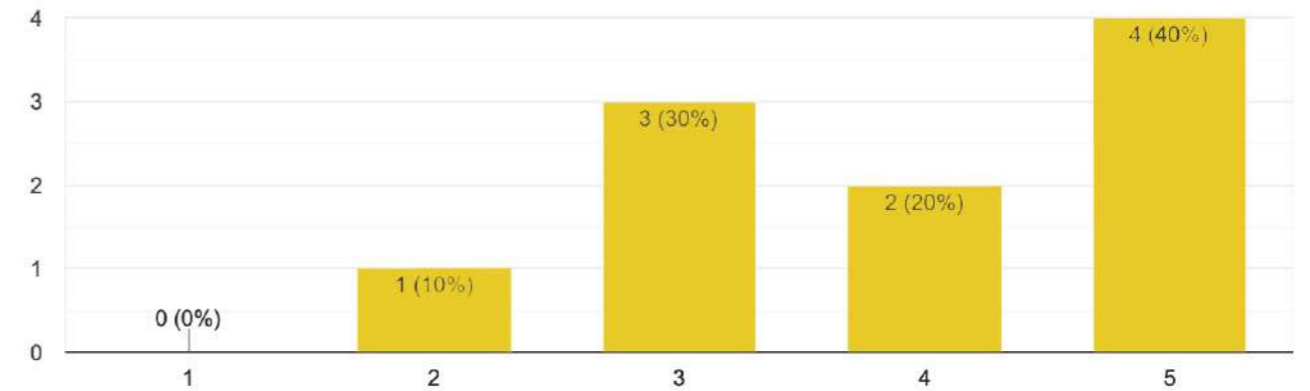
Q3: Did you have fun?



Q4: Why?

- The app was not fun
- I really enjoyed learning about color. It was super interesting
- Because the app is super interactive and easy doing
- Because it has been a new experience and a new way to learn
- Because I learn new things about color
- It was entertaining
- Because is a theme I'm not passionate for
- I found entertaining some parts of the app
- Because I learn new things, and it's an app with a lot of dynamics

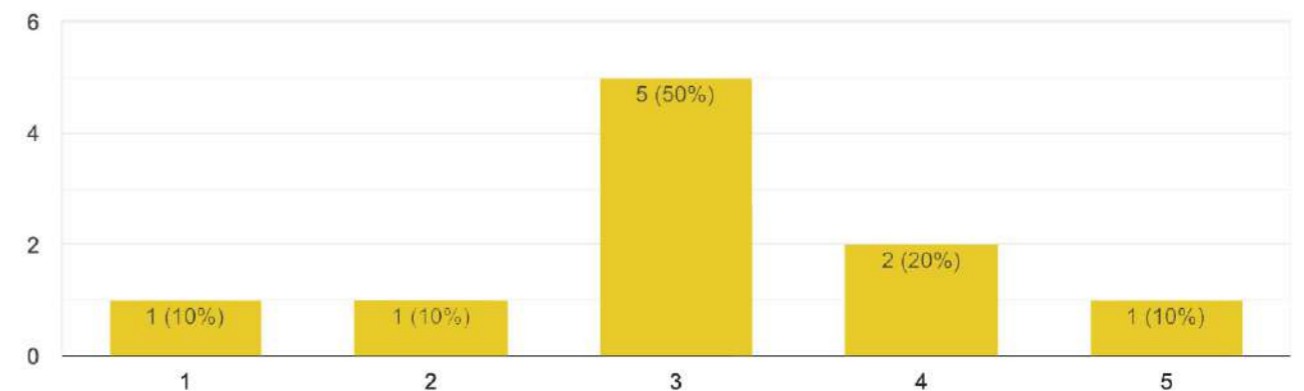
Q5: Did you learned something new?



Q6: What?

- How to design the scheme of an app
- The relation between color and emotions
- The green with black mean destruction, and the green alone poison
- The meaning of some colors
- The colors related to emotions
- Not a lot
- Concepts about color
- The meaning of different colors inside a movie
- The colors have a lot of meaning inside a movie because every color is related with a different emotion or meaning

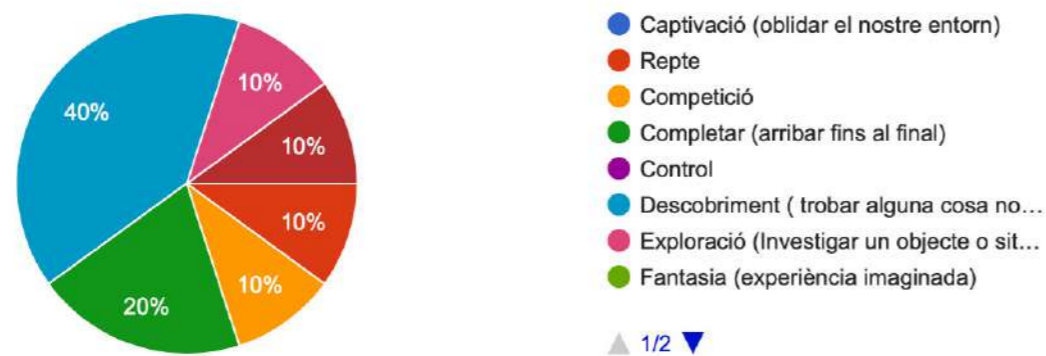
Q7: It was hard?



Q8: Why?

- The movie itself was difficult to understand
- Because we didn't have any previous knowledge about color related to emotions and it was challenging to make the relations
- Because it was the most accessible level and you could feel that while doing the minigames
- It was a little bit hard because the app was in English
- Some parts were difficult
- It was in the middle point
- It wasn't difficult, but it wasn't easy either
- Some questions were quite tricky and harder to answer
- It was not that difficult because we did the previous class about color

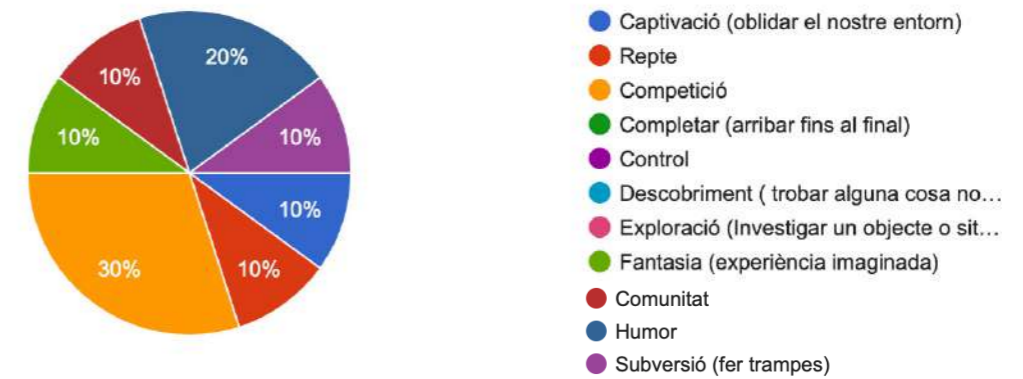
Q9: What of the following plex categories did you experience?



Q10: If you want, you can explain it in more detail

- I discovered a new world about color and its meanings
- I also experience exploration

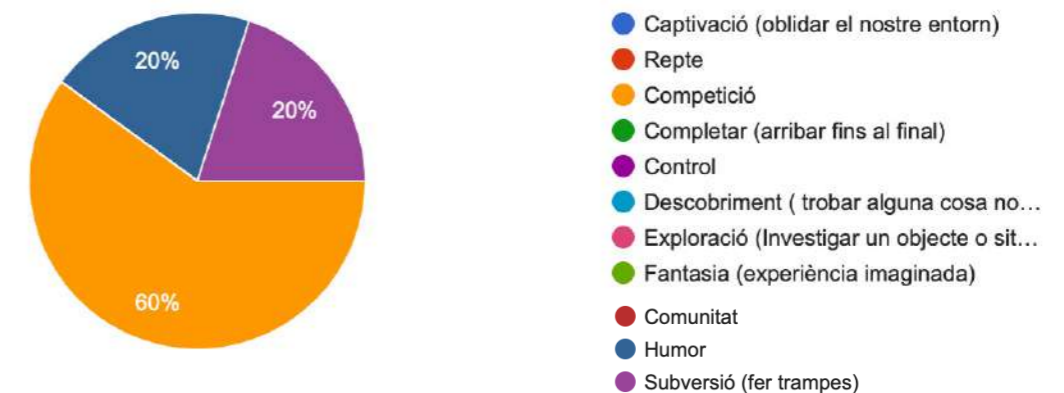
Q11: Which of the following Plex categories you DIDN'T experience, but you would like to



Q12: Why?

- Because I really enjoyed challenges when I'm interested in a topic, and I loved the color so is a challenge that I'm interested in
- The environment we were testing the app was not the best, so for this reason, I didn't achieve it
- It was not enough competitive

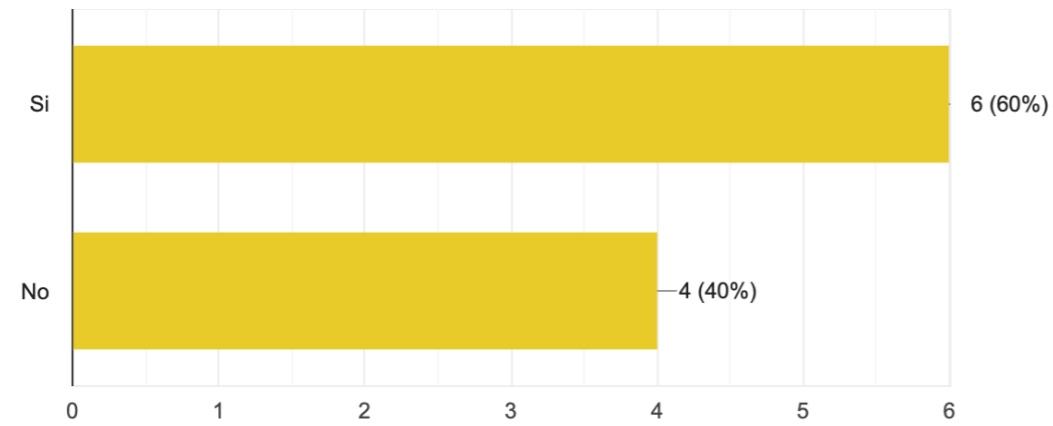
Q13: Which of the following Plex categories you DIDN'T experience, and you missed



Q14: Why?

- I want to win
- I always speak with humor, and my life without it is not the same
- I love being competitive

Q15: Would you change something?



Q16: What?

- Doing it more competitive and adding humor
- Just maybe I would add a little more of humor
- The language
- Adding the option to play online
- More easy questions, being able to play with another person at the same time, so like that adding competition, also I would add a timing for answer

Storyboards

Full size storyboards

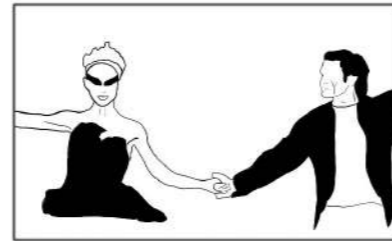
From white to black



In this movie, we can't understand the meaning of black without white. That is because they don't act individually. This is a color about the spectrum.



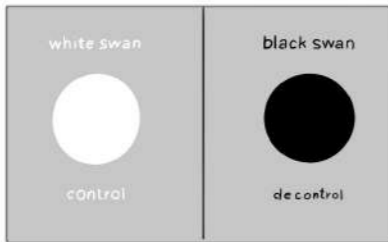
This two colors show the spectrum. The evolution of rain from white to black, from the control to the decontrol.



We found them in two plots: Nina wanting to make a perfect interpreter of both scenes.



and Nina learning to dance the decontrol camp, but these colors are not directly associated with her.



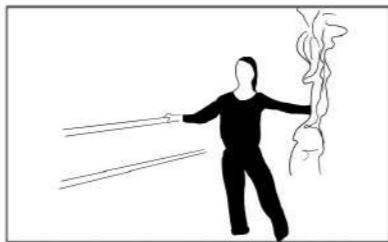
They are associated with two ideas. White for the white swan and the control, and black for the black swan and the decontrol.



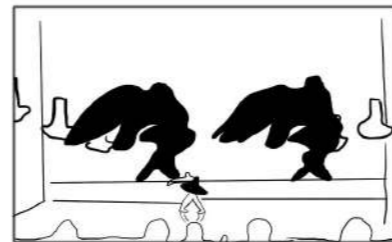
They represent the extremes of these ideas. While when we see them mixed or forming grey, it represents the transition on the half point.



This is pretty clear in Nina's training class. When the movie starts and we see the training room everyone is wearing at least black piece or except of Nina that dress completely white.



As the movie moves forward, we are going to see how her cloth evolves into black.



In this case, the reason why they chose black/white is not so much for the psychology of the color or for the meaning of them inside the human body story itself.

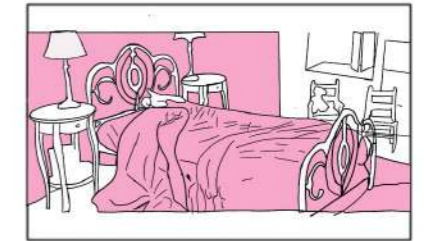
The poisoning green



The color green is directly related to Nina's room. We can see it in cloth. We see different Erica's scenes.



and her whole apartment. The screen is divided into 4 sections, in each one we see a part of the apartment.



Except for Nina's room.



Where the only green thing is the chair where Erica will sit during the movie.



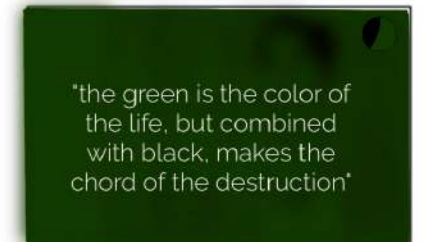
As Eva Hellm explains in her book the psychology of color " "



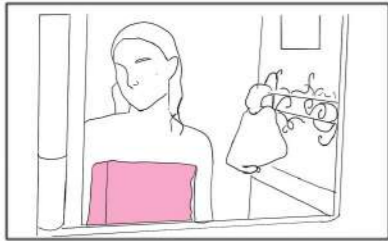
And Erica has been poisoning Nina's mind her whole life.



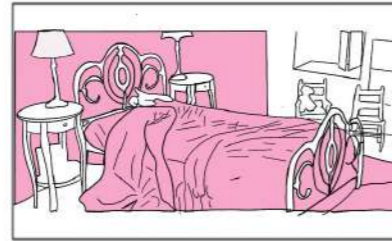
But not just that, Erica's chord is green plus black.



Childish pink



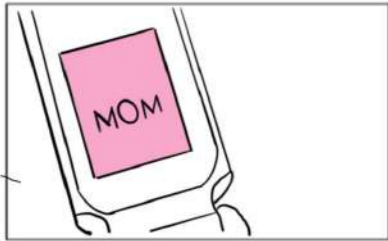
The color pink is directly related to Nina



While the apartment is entirely green, her room is flooded with pink



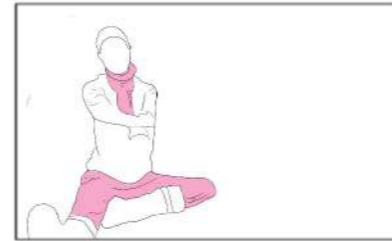
Also the coat that she is always wearing is pink as well



The color is associated with her but in the context of the plot between her and her mother



Then the movie as we see Nina been treated like a little girl by Eric, even though she is 24. So what both colors represent that than pink the color of childhood



Besides, since 1920, this has also become the color of femininity, that makes pink the perfect match for Nina

The dyscontrol red



Nina has to control the decontrol during the movie, but what happens when she loses control over it? At that moment is when the red appears



We can see it at the beginning in the first signs with the lipsticks



In the lights on the club when she loses herself for the first time



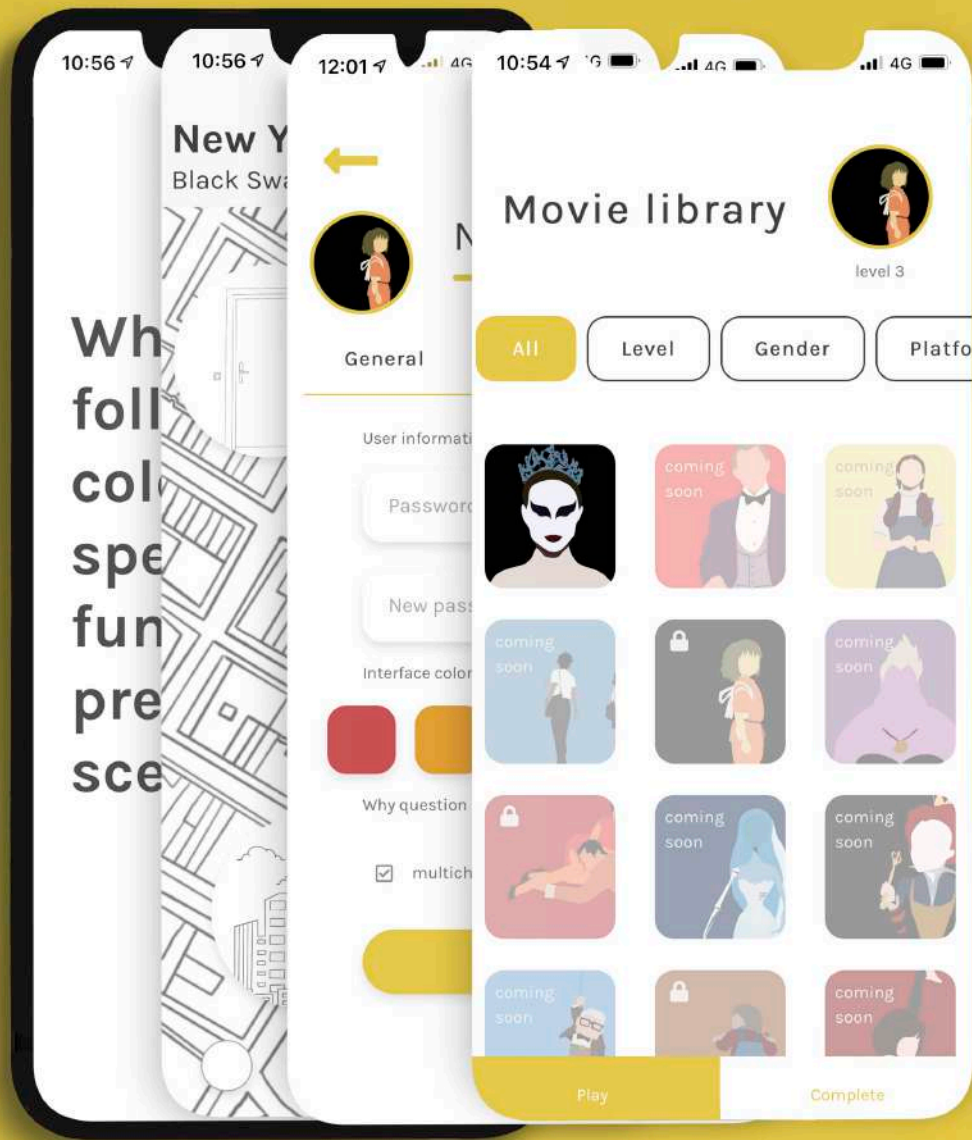
Or on the final performance of the white Swan giving the information to us that even though she is performing the white Swan, she doesn't have the control anymore, and she is in the same state we saw her before.



Finally, as we are approaching the end we see the red in her body, especially in the eyes, and that is because the decontrol has taken over her.



Why red? The answer is easy, as Eva Heller sees in her book the psychology of color. Red is the color of the danger, the blood, and the aggressivity. Pretty accurate about what happens to Nina when she loses control.



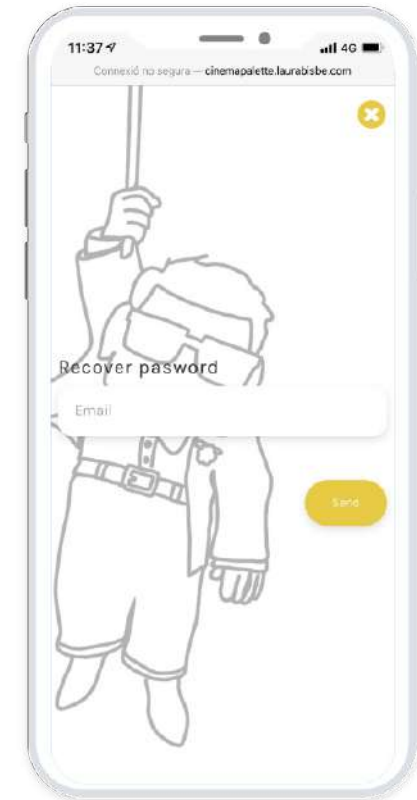
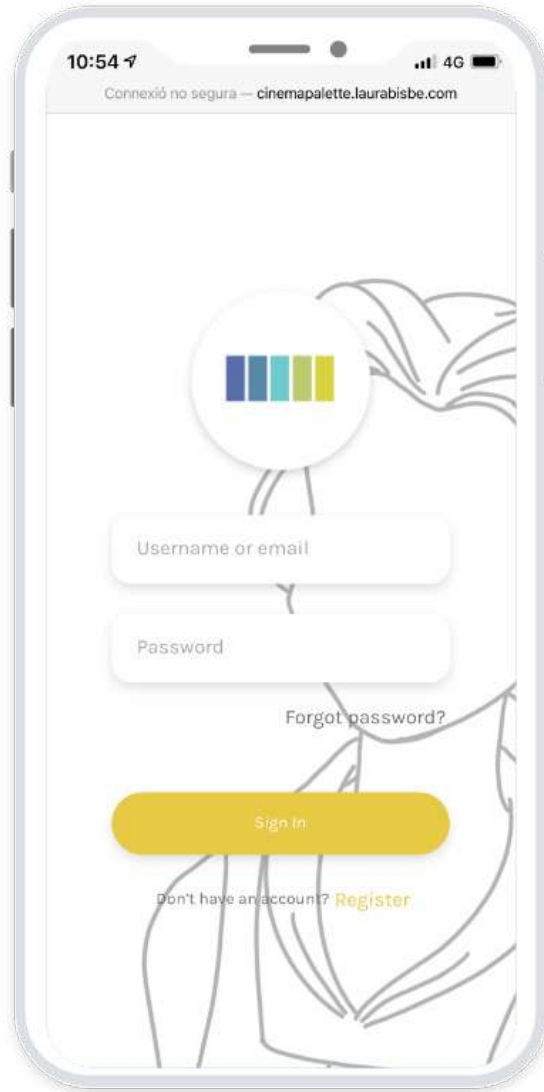
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Cinema Palette

app guide

1

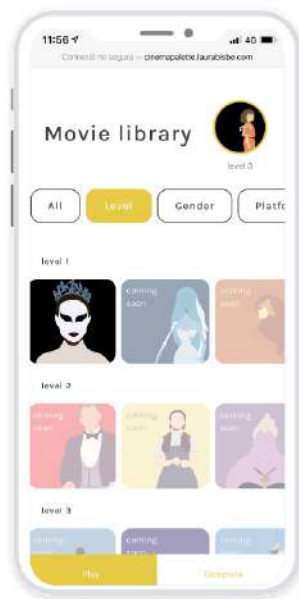
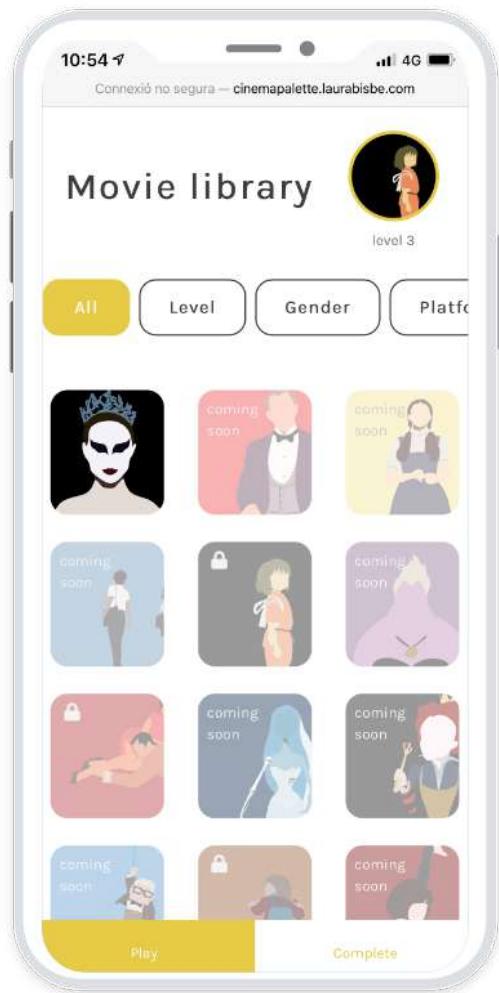
Log in



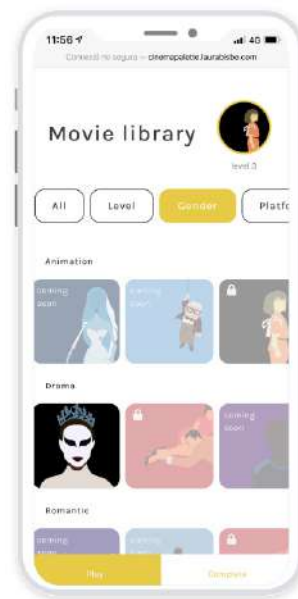
Log in to the app if you don't have an account
sing up. If you forgot the password, go to
forgot password

2 Home

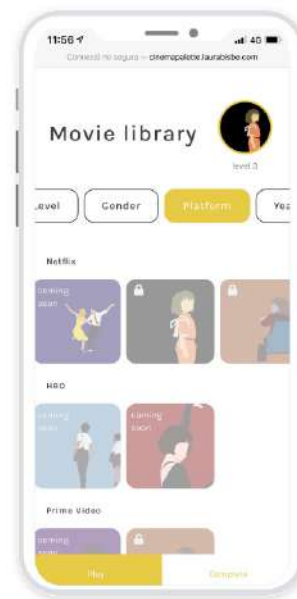
Filter the movies by:



Level



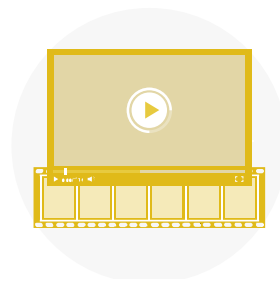
Gender



Platform



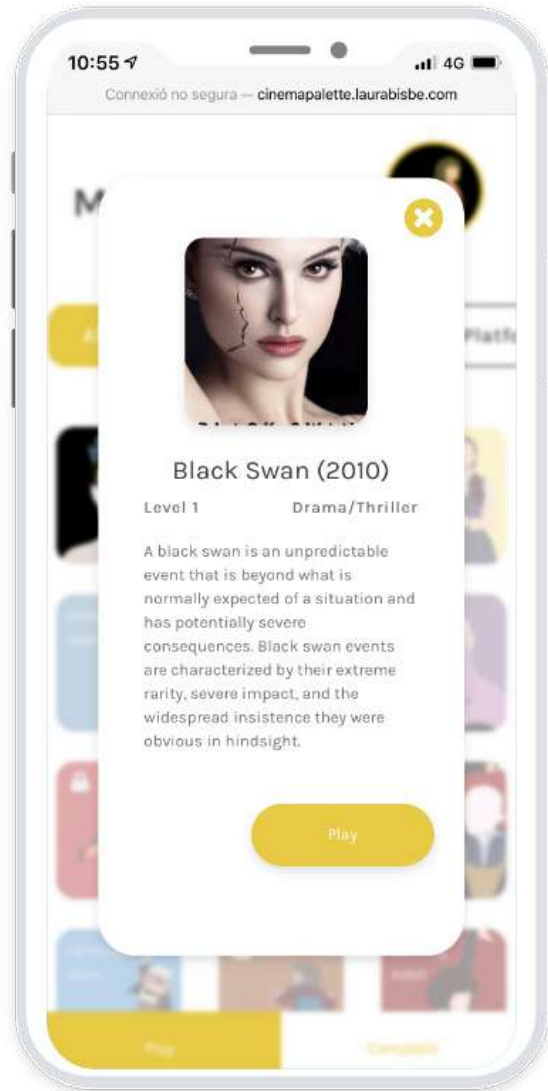
Year



Select the movie that you want to play with and watch it

3

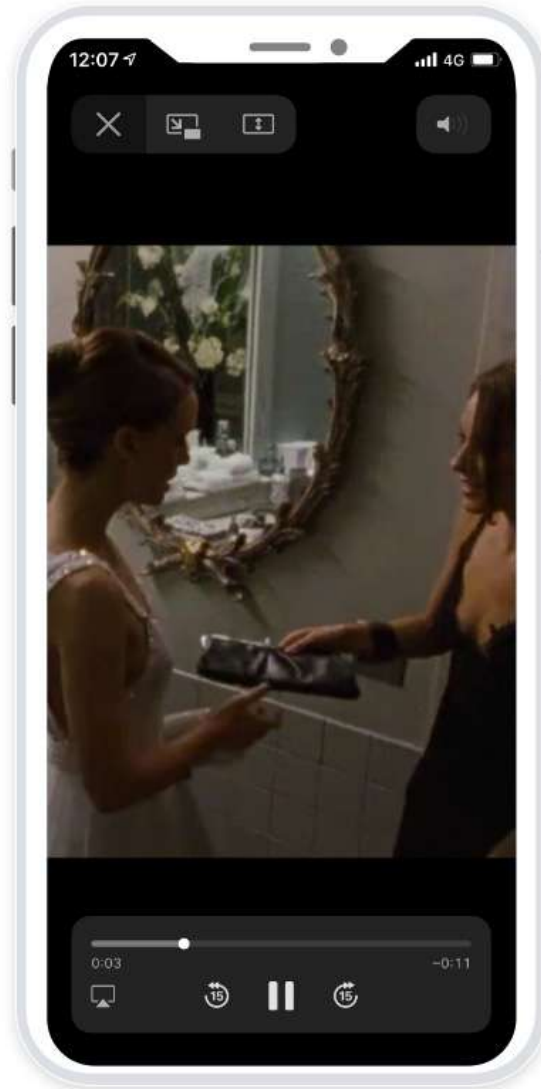
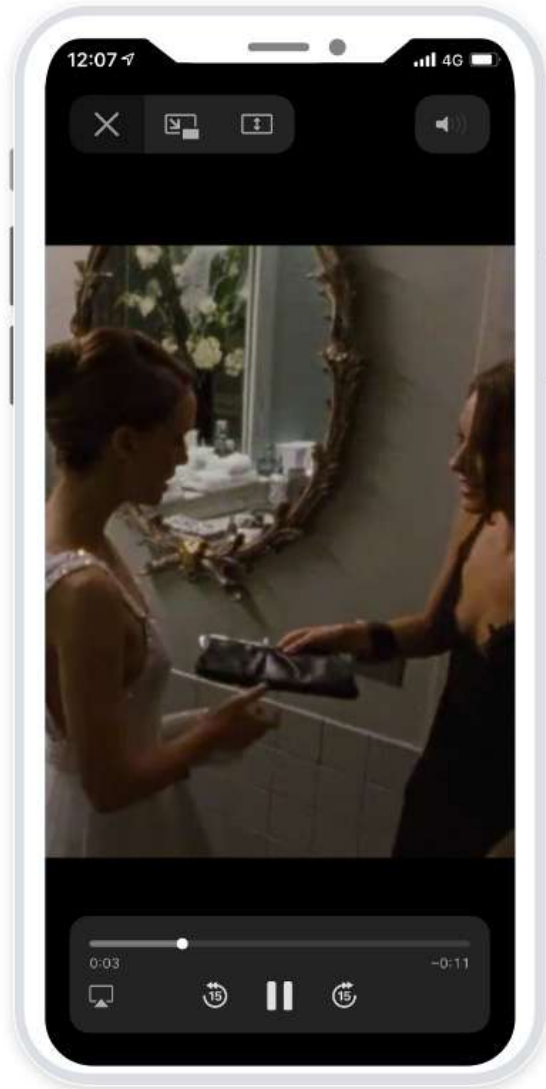
Start the game



Start the game- Your main goal is to discover the color palette of the movie. The colors are hidden in the different locations.

4

Scenes video

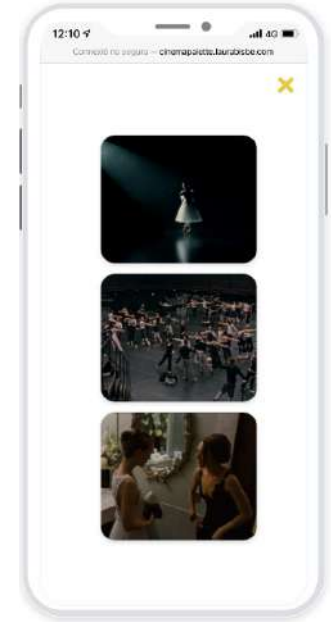
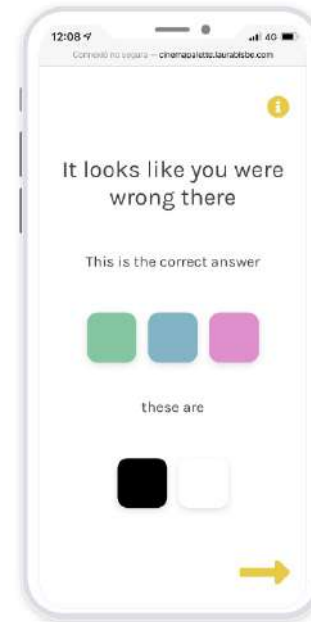
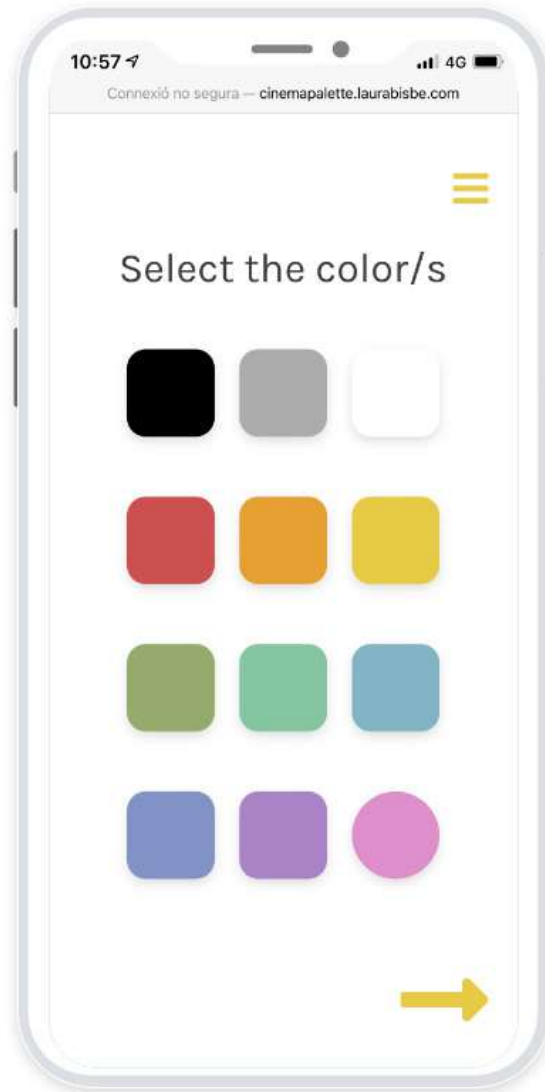
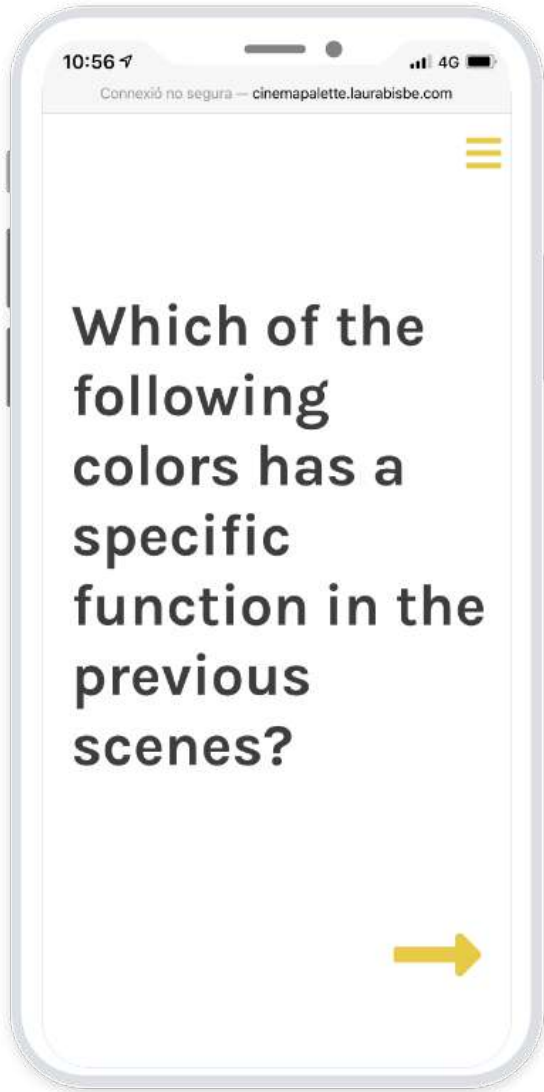


You are going to see a small video with several scenes where the colors hidden in that location pop up

After you are going to answer several questions related to that colors

5

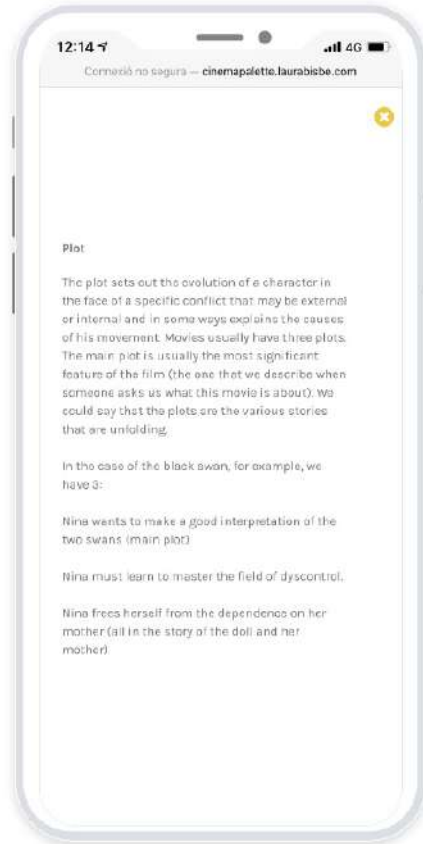
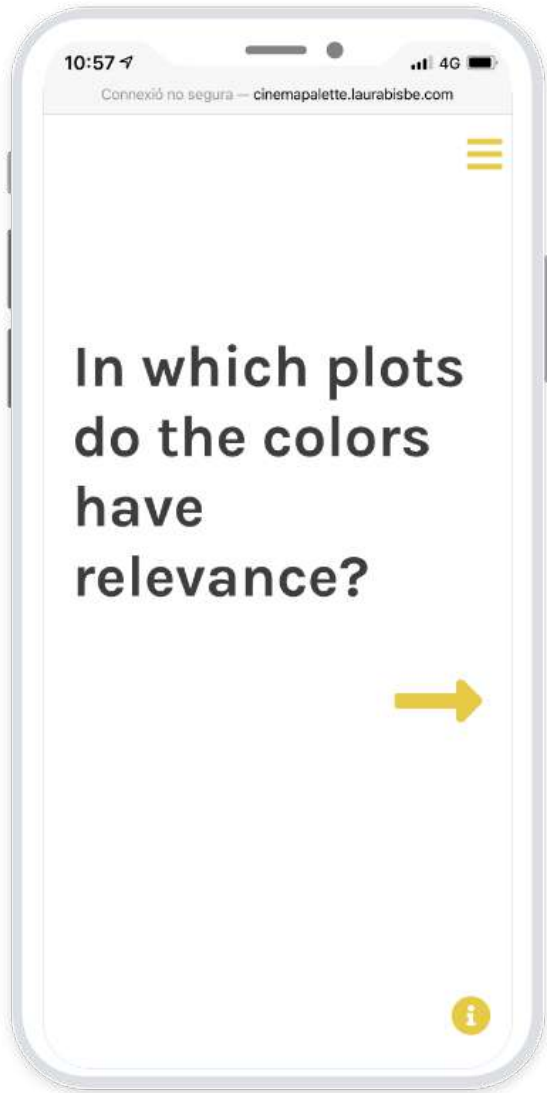
Which color?



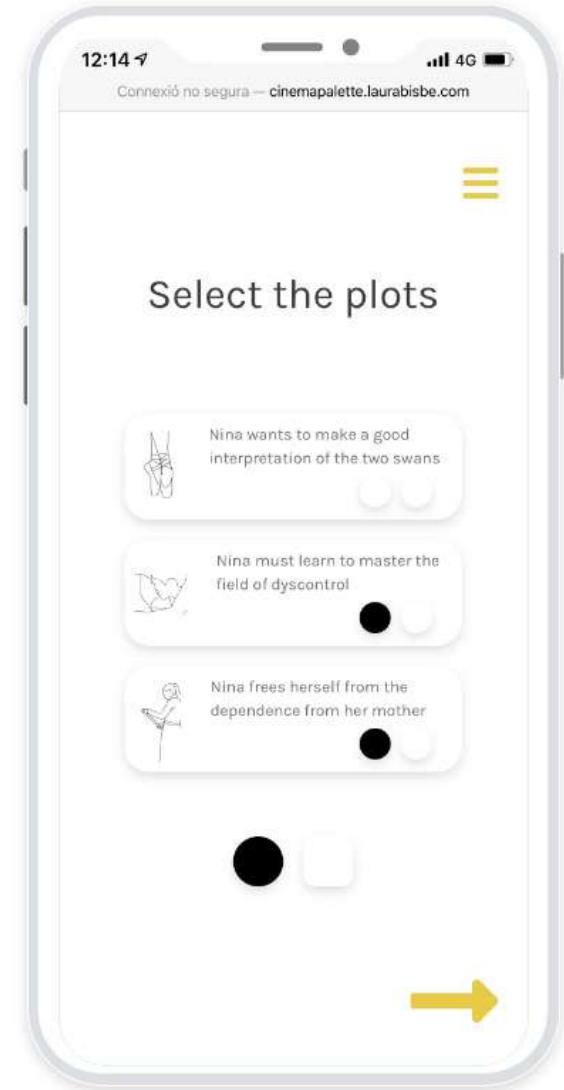
If you are wrong, a screen will pop up showing you what the correct colors are. Also, you can see specific images from the previous video that shows what the correct answer is

6

Which plot?

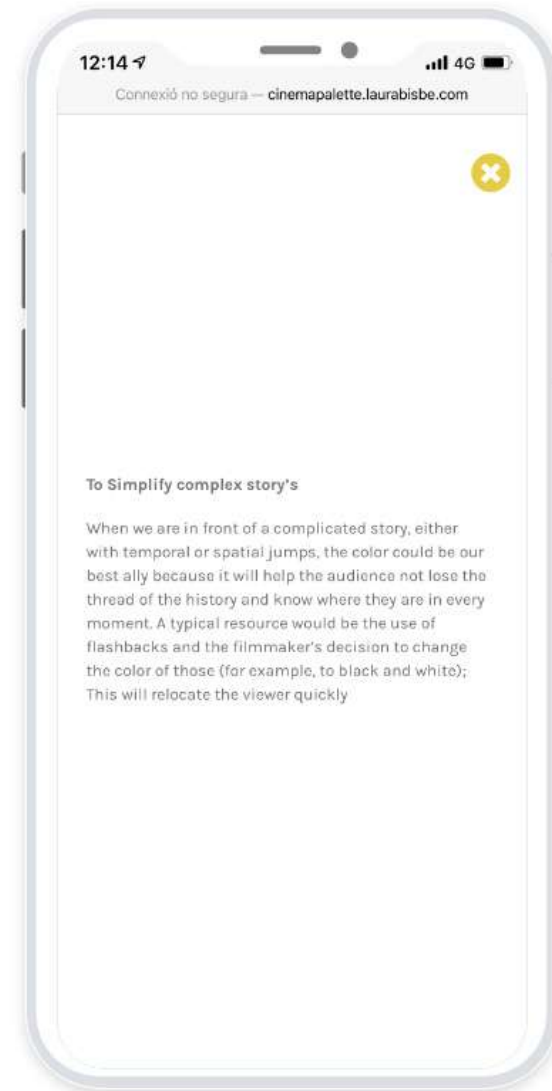
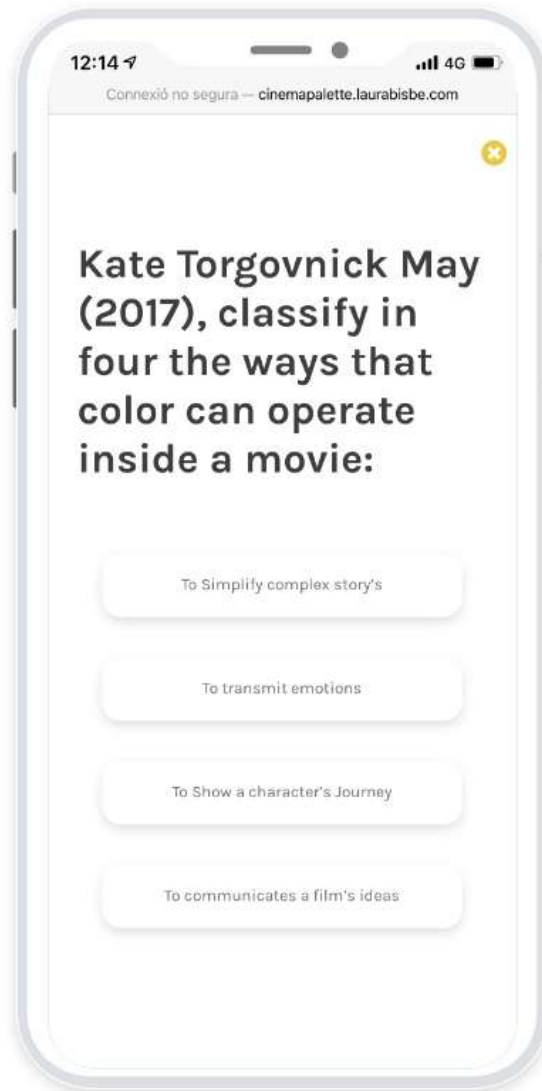
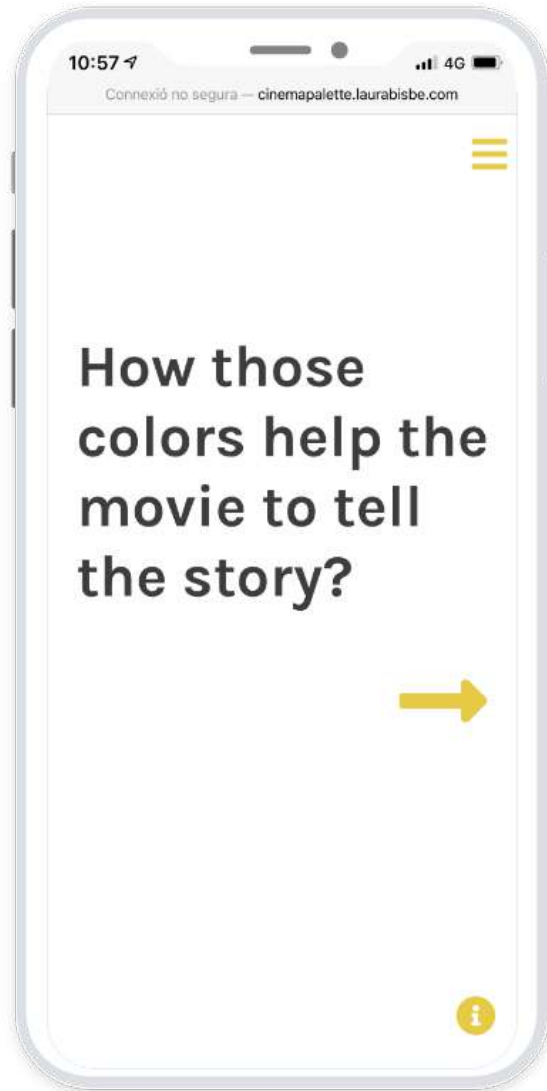


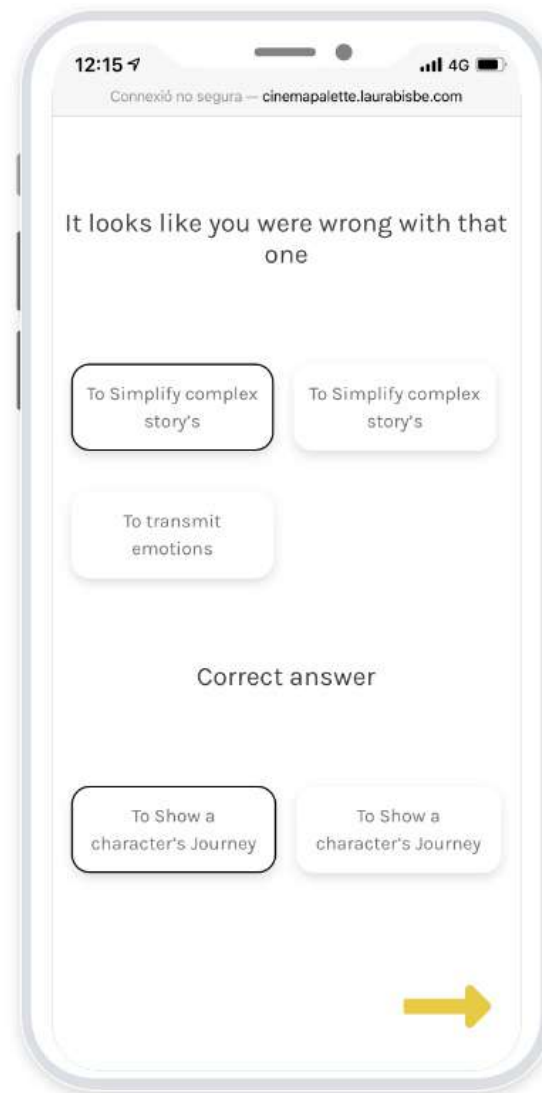
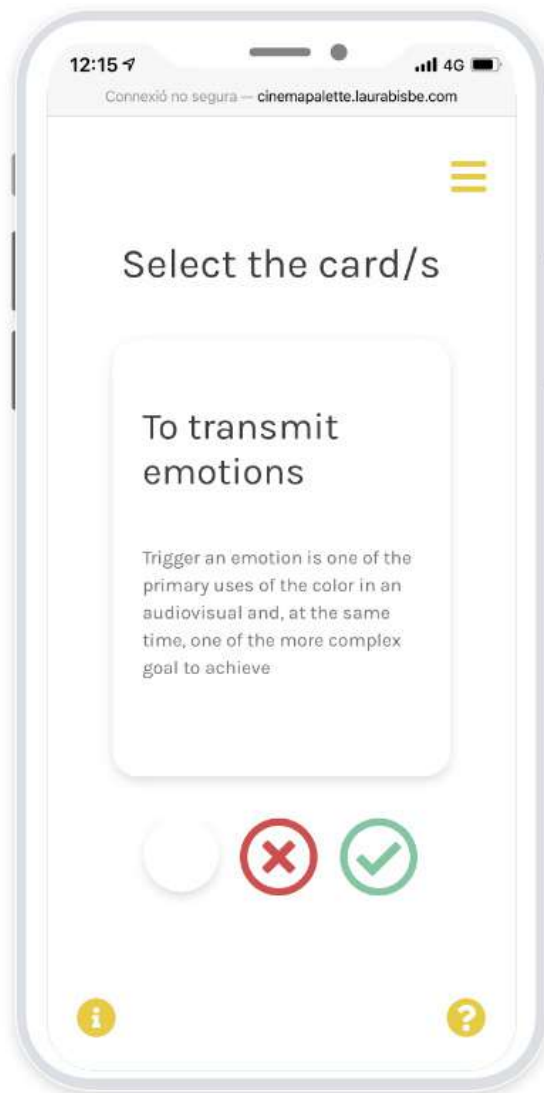
If you don't know what a plot is the information button will explain it to you



7

How helps to tell the story

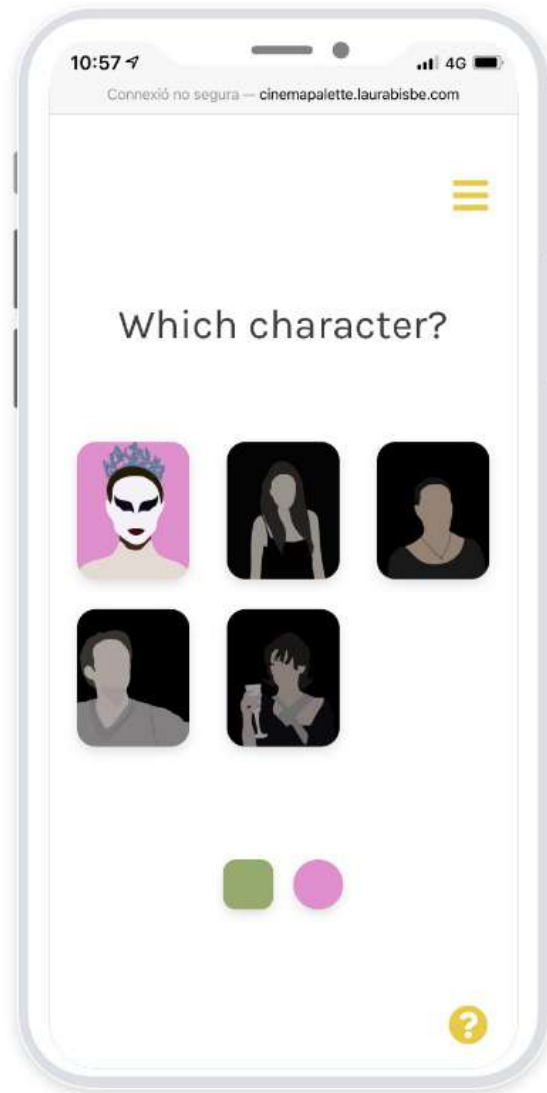




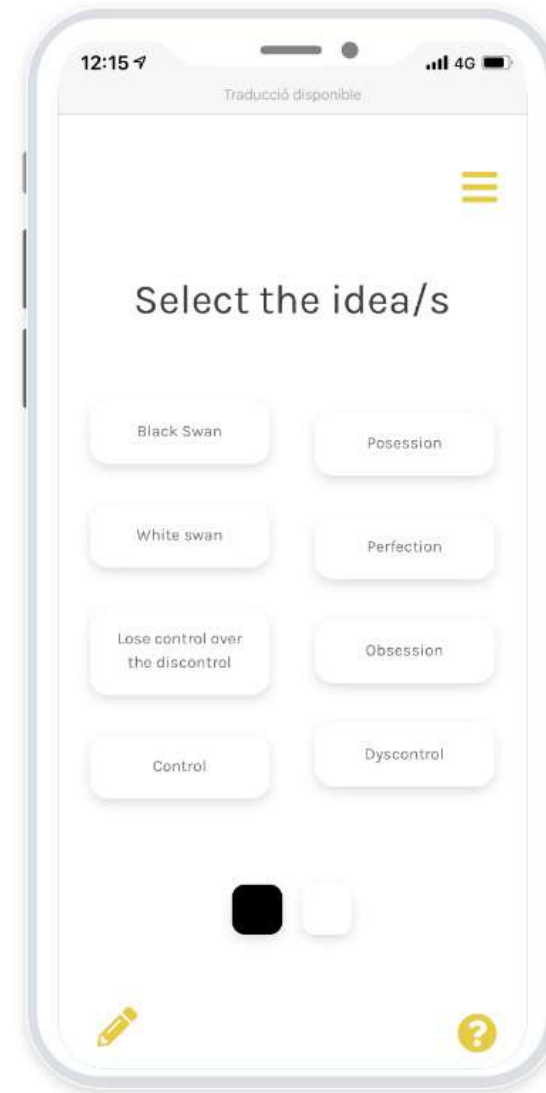
You can access information about the different uses of color in a movie. Also, as this answer determinates, the following questions will tell you if you were wrong.

8

To what is the color related



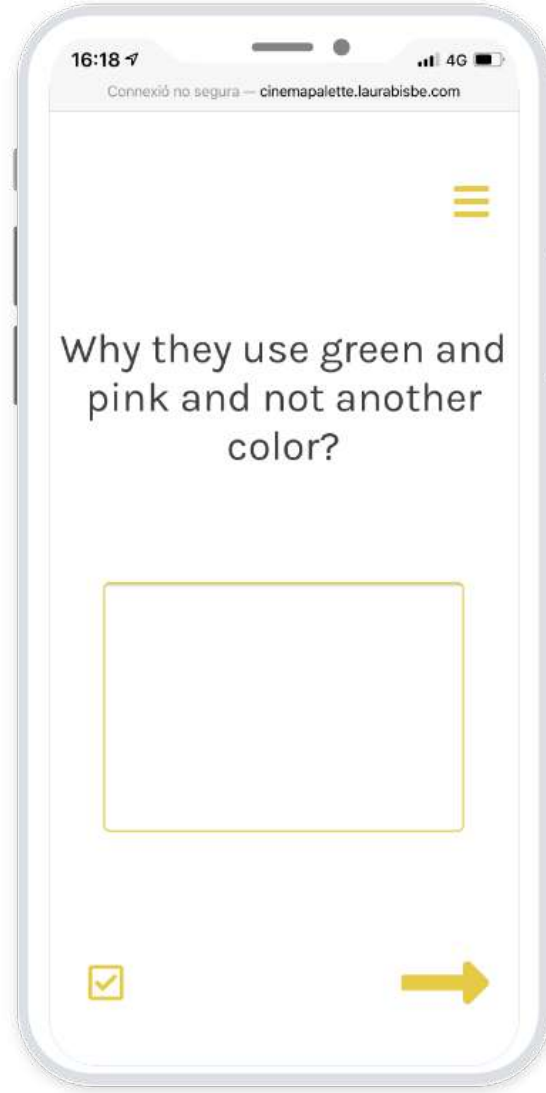
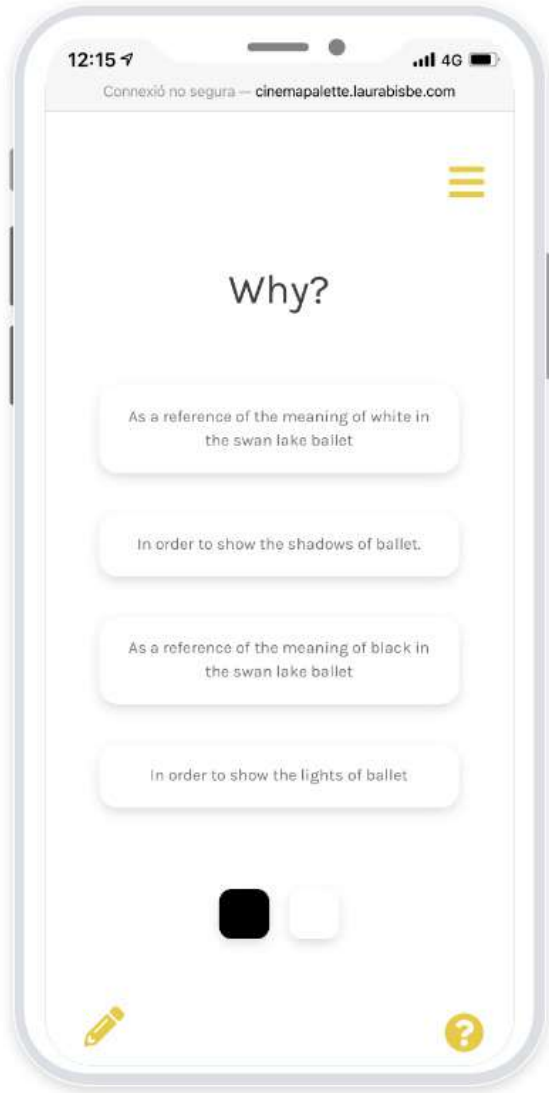
Shows the character journey



Communicate and idea

9

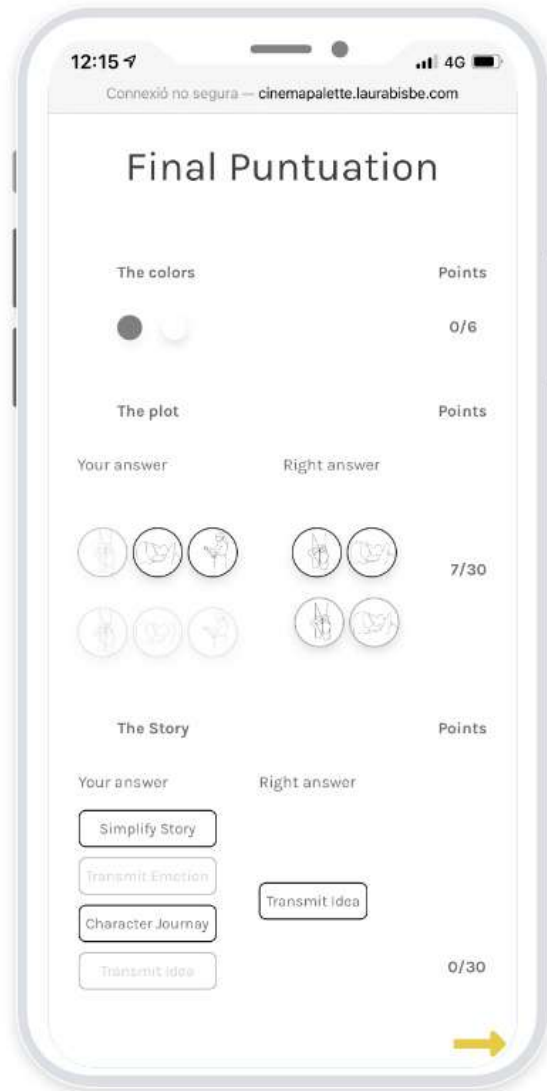
Why they chose that color for these



Here you are going to be able to choose if you want to explain yourself and answer by writing or you didn't feel prepared and preferred a multichoice minigame

10

Final results

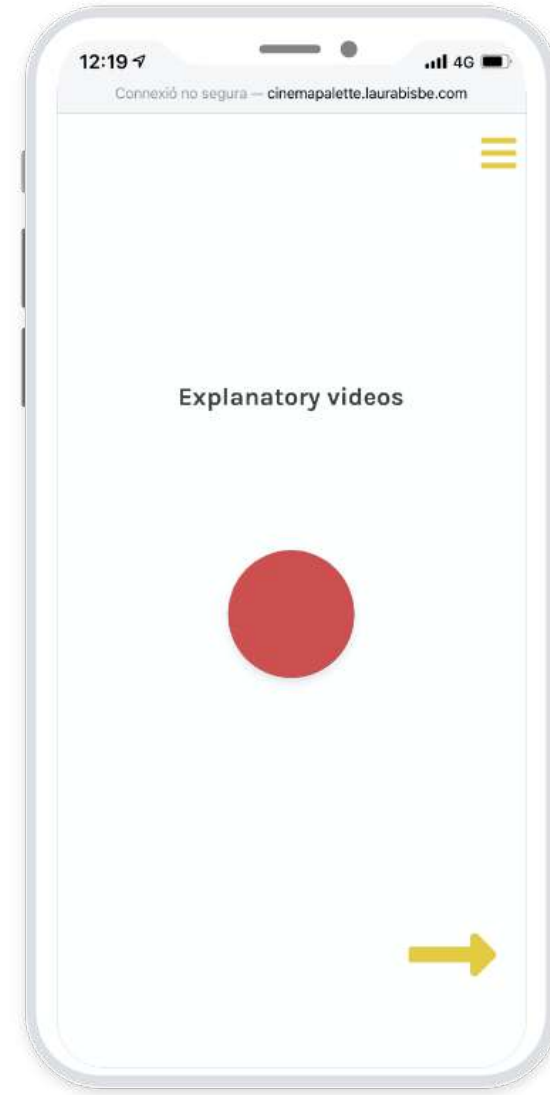
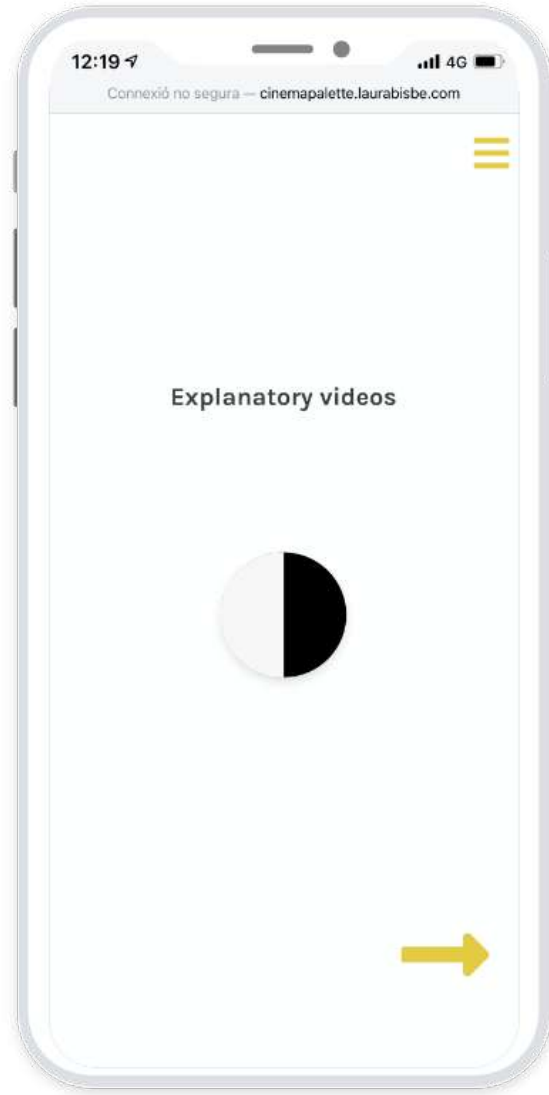
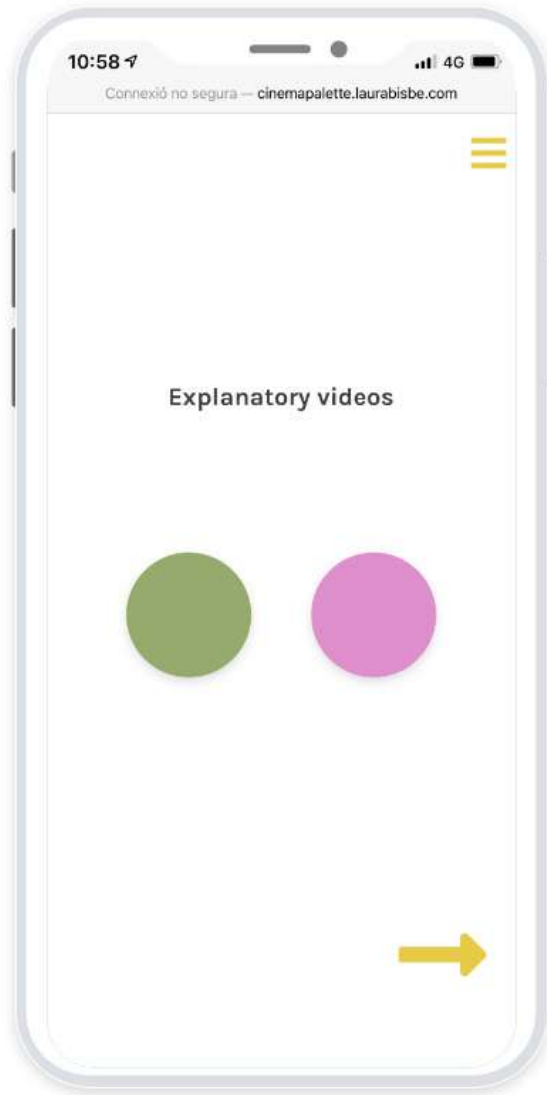


After finishing the colors, you will see the final punctuation with all your answers compared with the correct ones and the points you achieve in each section.

On the next screen, you will get the chance to see a short explanatory video that summarizes with scenes from the movie all the concepts discovered during the game.

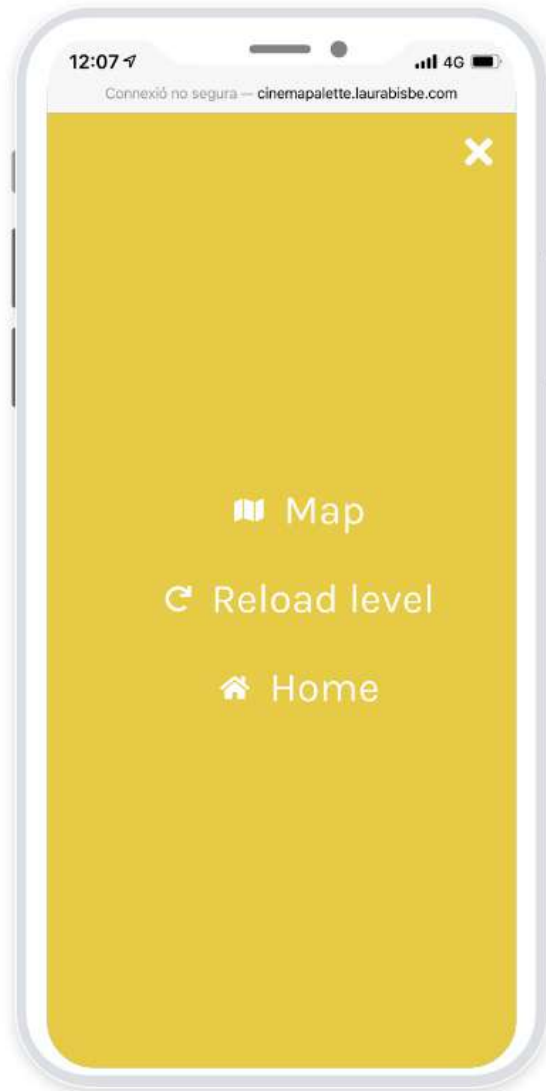
11

Explanatory video

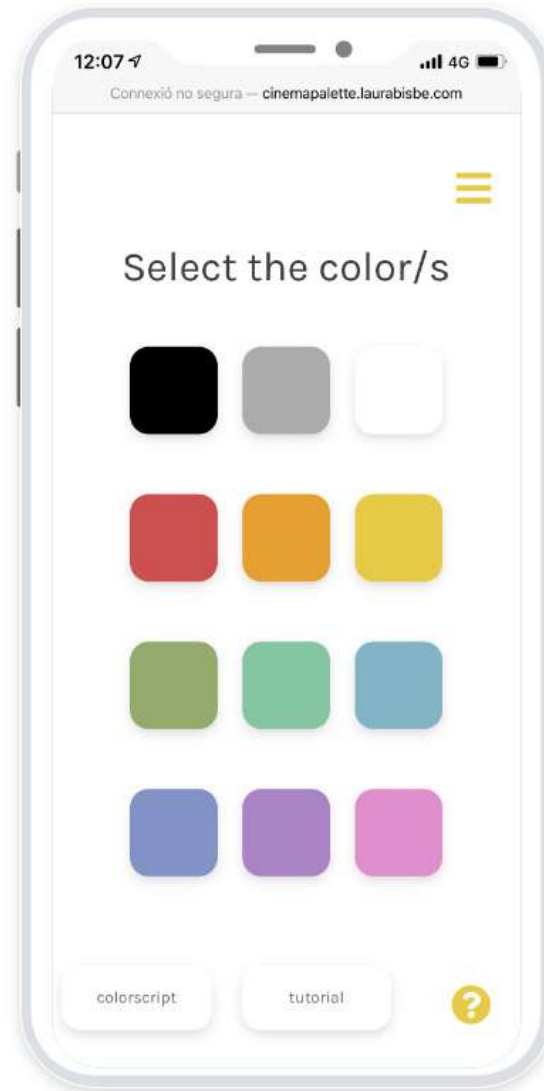


12

Other futures found during the game

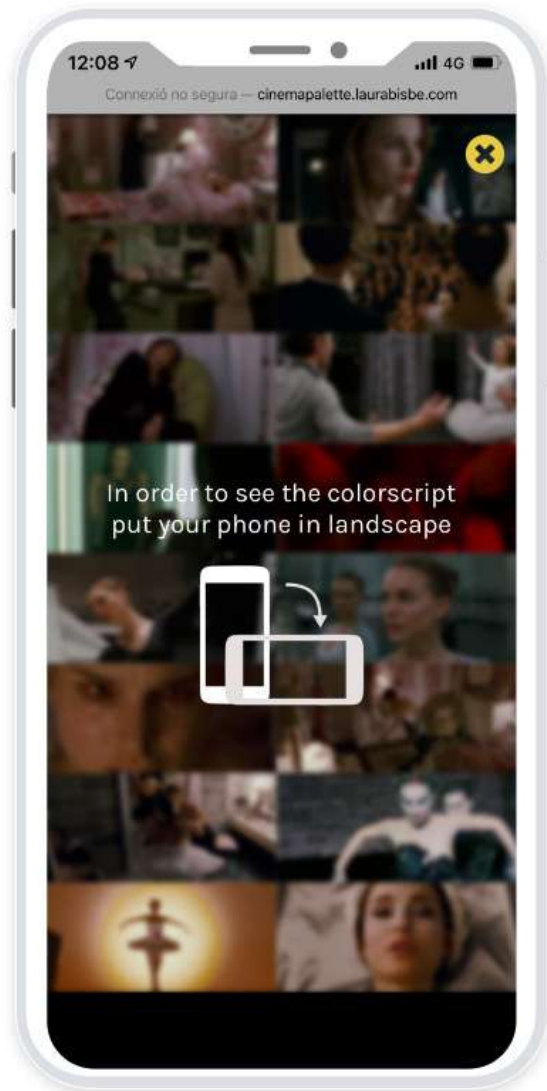


Menu



Help

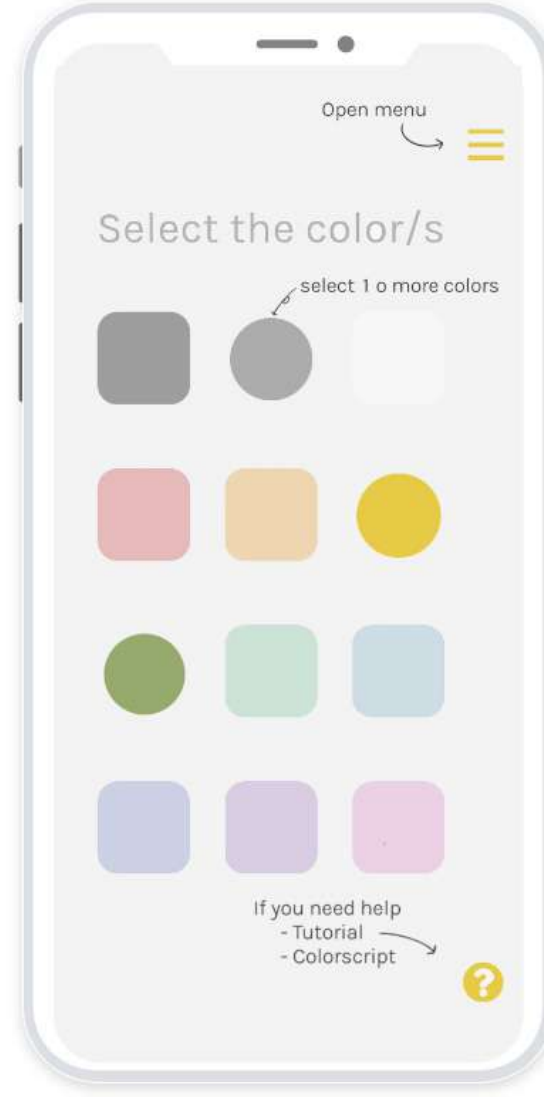
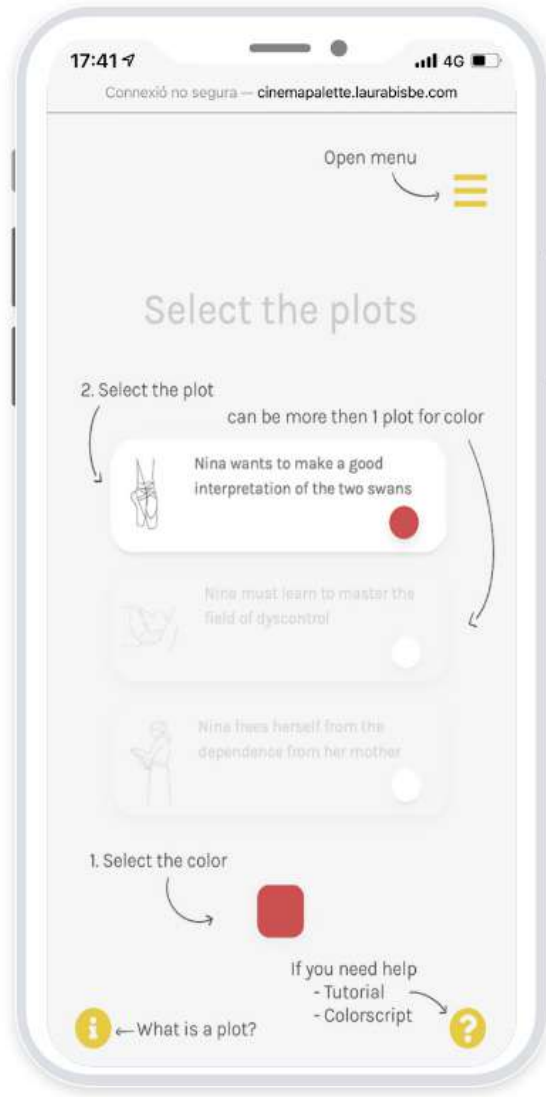
Help - Colorscript

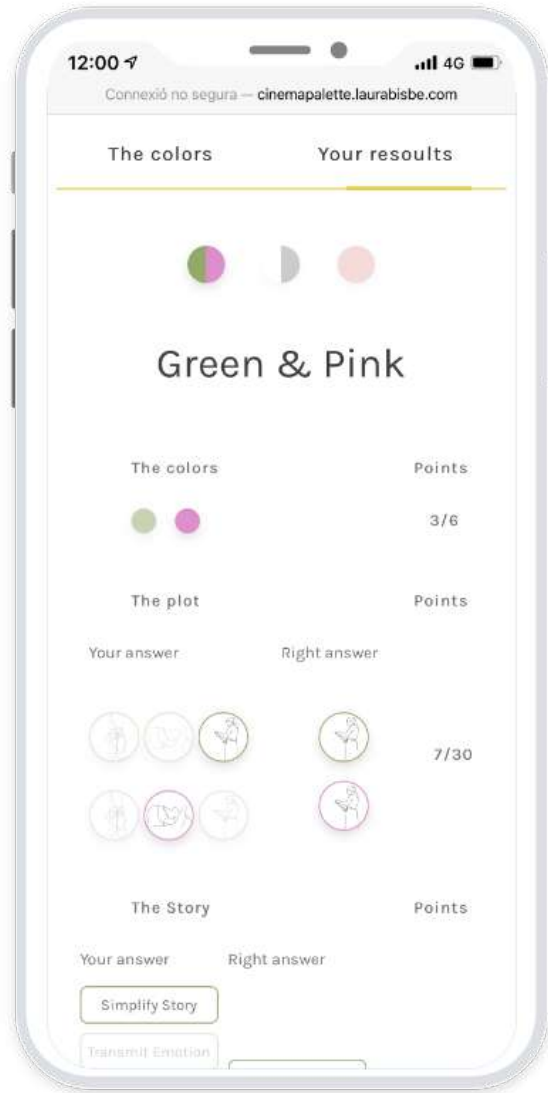
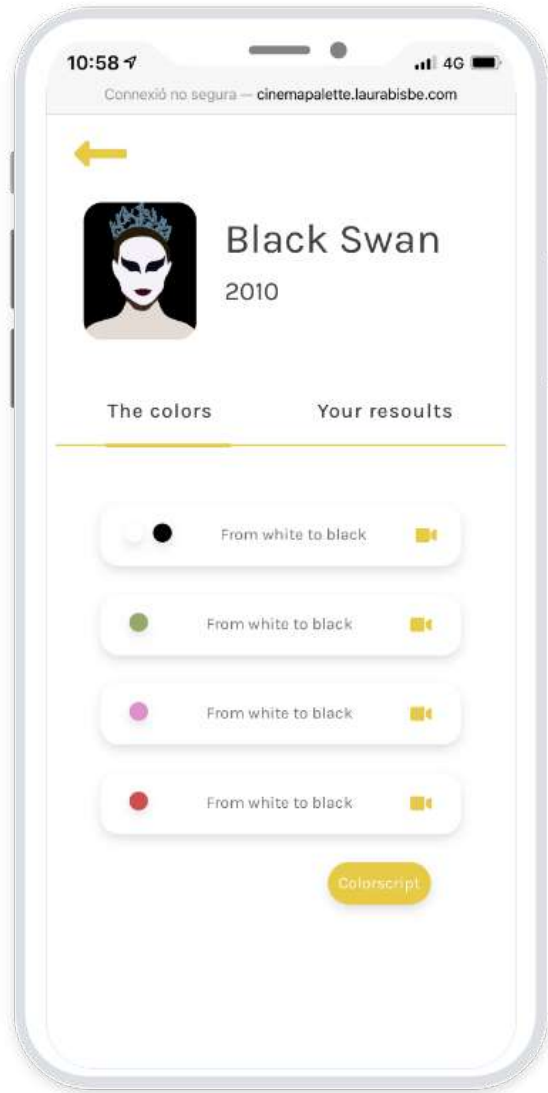


The color script allows you to see the movie at a gaze. Like this, you can refresh your memory or make better connections to understand how the color affects the movie.

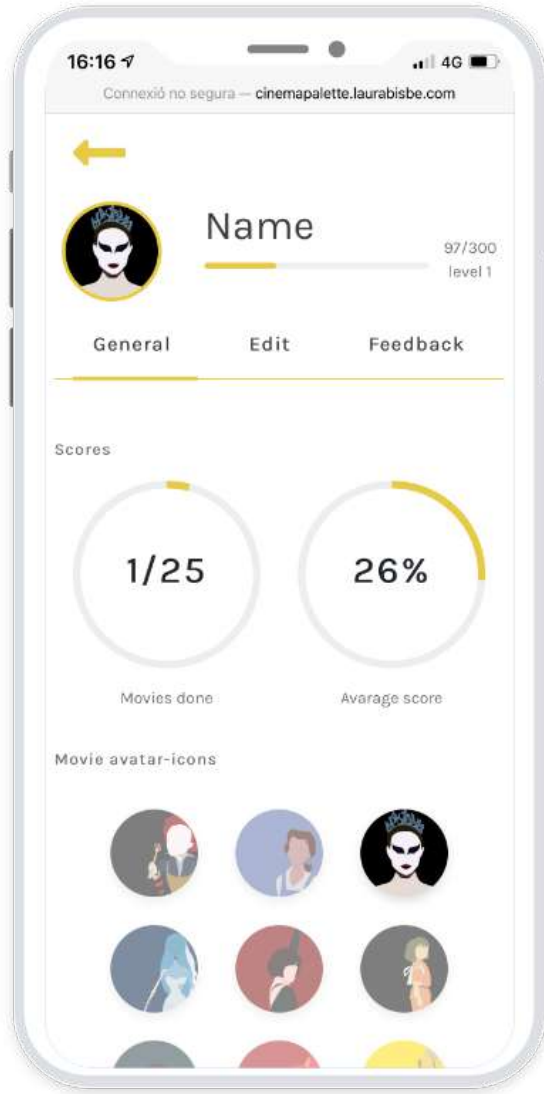


Help - Tutorial

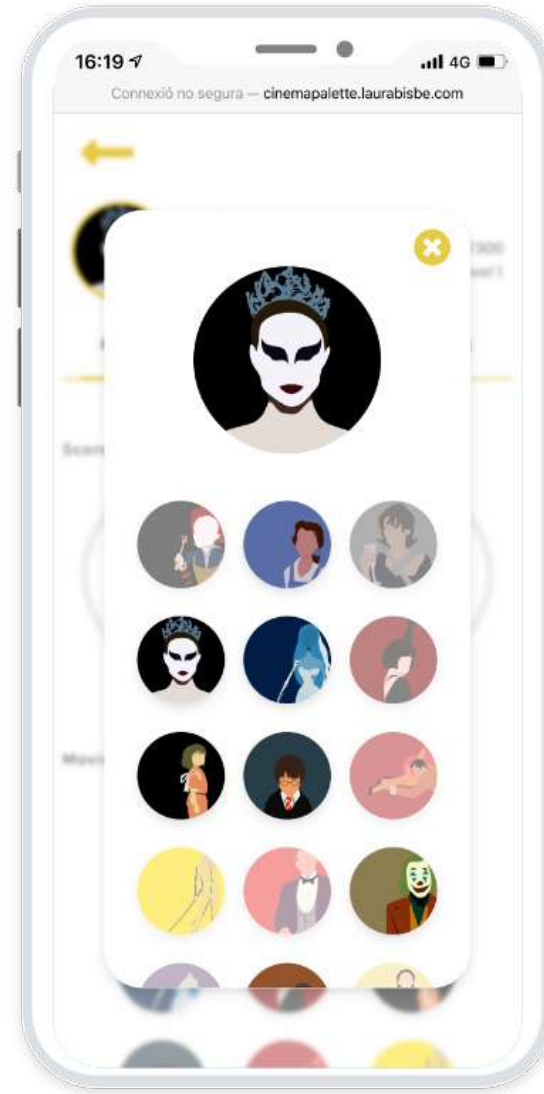




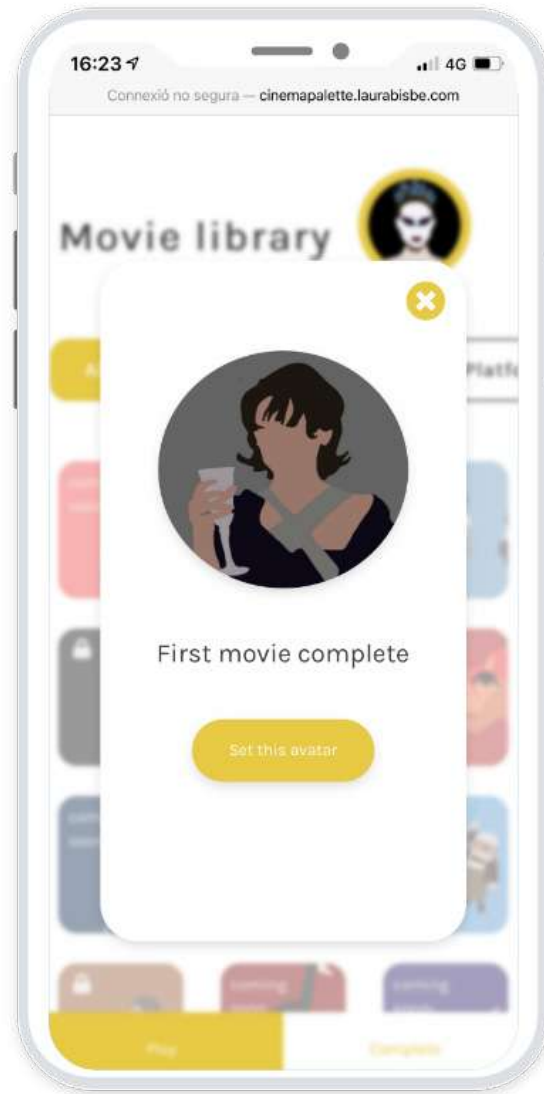
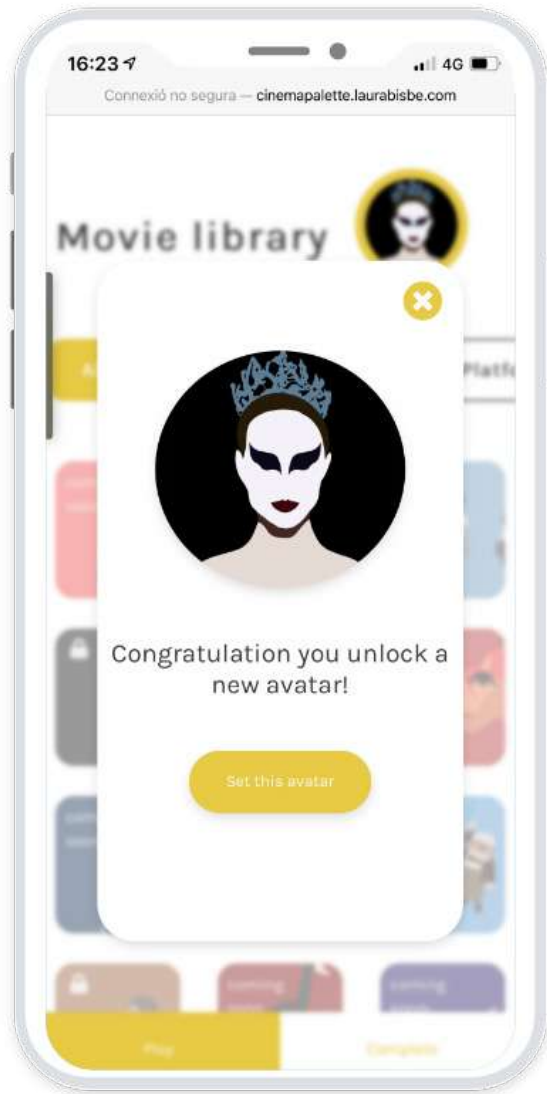
The complete option that appears once you have completed a game is a tiny library where you have stored all the movies that you have completed. There you can see your results and all the explanatory videos from the movie



Look up to your achievements

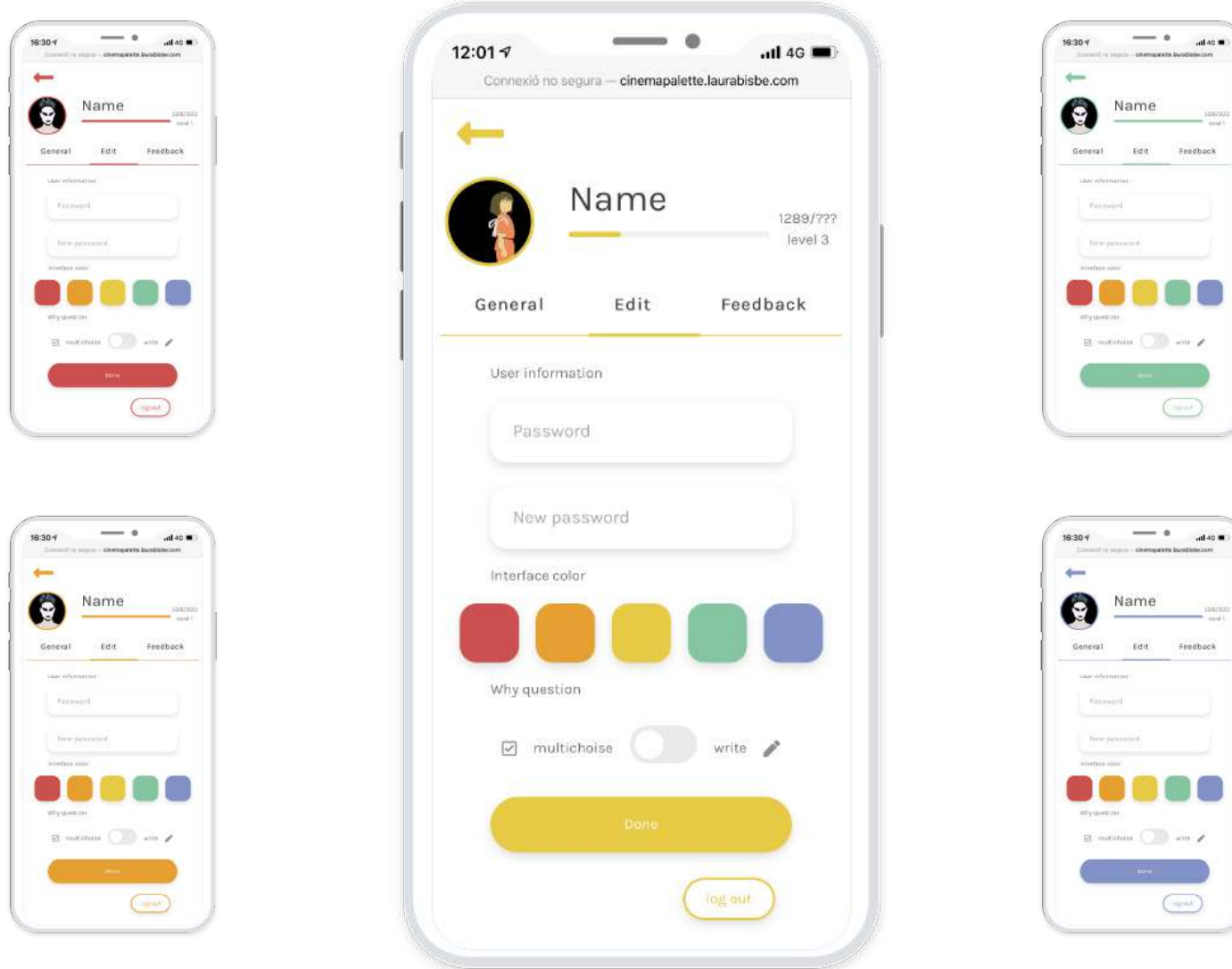


Change your avatar

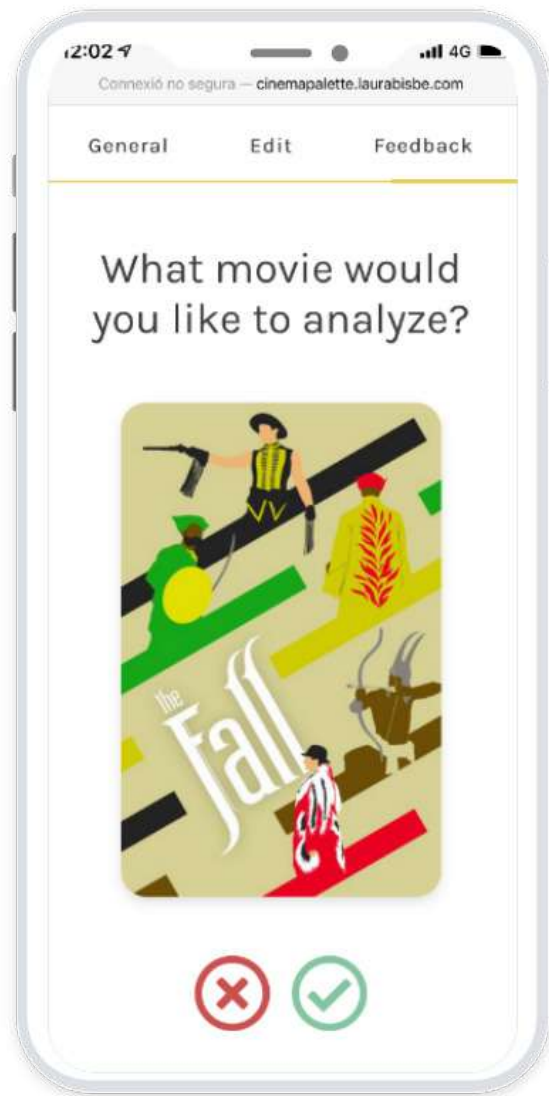


Unlock new avatars for every completed movie or win a medal by achieving a goal

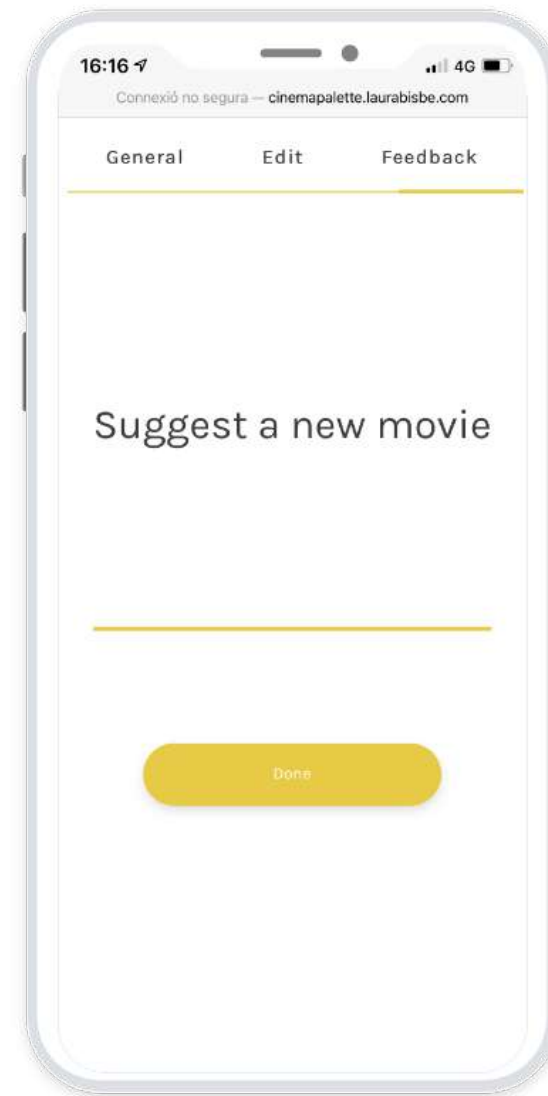
Edit your data, and personalize the interface



Give us feedback



Vote for the upcoming movies



Suggest a new movie

