MAGIC BOOK

Chapter One : Renard'O The Water FOX

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NARRATIVE XR VIDEO GAME FOR CHILDREN (5-8 YEARS OLD) AND FAMILIES

LA MEDUSE VIOLETTE

CONCEPT

THE PROJECT

Magic Book is an XR video game, a real immersive and interactive journey where digital projections on the theme of the four elements come to life. By immersing oneself in the heart of a story for children (5-8 years old) and families, a new vision of environmental awareness is discovered. The goal is to involve 6-year-old children more in the protection of nature. Our project combines learning through storytelling and raising awareness of environmental issues.

ORIGIN AND INSPIRATION

The Magic Book project is inspired by the growing urgency for environmental protection amid increasing natural disasters and the recognition that human activities are severely impacting the world's ecological balance. Acknowledging that we are the first generation fully aware of our impact and possibly the last with a chance to correct it, the project aims to catalyze change and restore the fragile environmental balance.

At a crucial time for our planet, now altered into the Anthropocene epoch, the project targets the new generation to foster a connection with nature and promote planetary conservation. Magic Book is envisioned as a bridge between children and nature, posing the question of how to mend the deteriorating relationship between humans and the natural world.

Embracing the potential of new, eco-responsible technologies, Magic Book symbolizes the rebirth of a world from its ashes, celebrating nature and advocating for the restoration of our world. The project intends to educate children about nature's fragility, the impact of human activities, and ways to mitigate it. This is embodied in the creation of the story “Renard'O,” a narrative centered on environmental protection that immerses the audience in a quest, making them key players in environmental conservation and prompting active engagement and reflection on environmental issues.

INNOVATION

The technological and scenographic dimensions bring new horizons to our project. Indeed, a simple walk in the forest would not allow the appearance of our magical little fox. Thanks to the art of animation, we have a new way of telling a story and especially few limitations from a graphical point of view. With this scenography, the audience will be guided and will be able to become one with the digital environment through the various interactions set up.

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CONCEPT

RELEVANCE OF MULTIPLATFORM DEVELOPMENT

The Magic Book is aimed at a young, highly adaptive audience that is already familiar with various forms of digital media. Multiplatform development is crucial for several reasons:

- Increased accessibility : being available on various platforms (tablets, smartphones, computers, and augmented reality devices), "Magic Book" can reach a broader audience. Children and their families can access the content at home, while on the move, or in educational settings.

- Immersive and interactive experience : each platform offers unique features that can enhance the storytelling experience. For instance, augmented reality on smartphones and tablets can bring the magical little fox into the real world, making the experience more tangible and memorable for the children.

- Educational adaptability : teachers can use different platforms to integrate the content of "Magic Book" into their curricula, whether it be through a projector in a classroom, on individual tablets, or on an interactive whiteboard.

- Content updates and evolution : multiplatform development allows for regular content updates, adding new stories, challenges, or environmental information, thereby maintaining the children's interest and engagement.

THE PLANNED MULTIPLATFORM DEVELOPMENTS

The multiplatform development and the various innovations envisioned for the Magic Book aim to create an educational, interactive, and profoundly immersive experience, raising awareness among the new generation about the critical issues of environmental protection.

1. Interactive Content Development

- "Renard'O" story : creation of an interactive tale where children can influence the story through their choices and actions. This includes developing animations for the magical fox and other characters, as well as platform-specific interactive elements.
- "Lola the Turtle" story : an interactive tale with similar mechanics to Renard'O. This chapter is created as part of the 2025 International Ocean Forum in Nice (United Nations conference) and in partnership with the Natural History Museum of Nice. It's a collaborative effort with scientists and researchers.

2. Augmented Reality Technology (Video Game and Animated Series)

- Use of AR to overlay digital elements in the real world, allowing children to interact with the magical fox in their environment.
- A proposal to integrate AR in the adaptation of "Magic Book" into an animated series, to enhance audience immersion.

3. Educational Version

- Creation of a version tailored for schools, including pedagogical guides and interactive activities related to environmental issues (Edu UP file submitted to Eduscol, a French initiative created by the Ministry of National Education to highlight educational innovations).

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SYNOPSIS

This is the story of a fox with a coat made of water and aquatic flowers named Renard'O. He lives with his family in the heart of a magical spring, the 'Ki' spring, located in a forest in Provence. Due to pollution and the ravages committed by humans on Earth, many life-giving springs have dried up over the centuries... except for 'Ki,' which is still preserved from human presence.

But lately, the spring is drying up, it's sick, and the animals are starting to disappear. Renard'O is worried, his once bright light is slowly fading. A race against time begins for Renard'O. He then spots a child saving a frog trapped in a plastic bottle.

The child's innocence and kindness allow him to see this fantastically coated fox. Renard'O approaches the child, commends his action, and asks for his help. In doing so, he will save the spring and the surrounding animals. Children are the only ones who can change things by growing up in the world of humans.

Renard'O trusts him, introduces himself, and entrusts the secret of the springs to him. He explains that his light is slowly fading, and action must be taken quickly. For this, the child must help clean the water.

Once the waterway is clean, it must be repopulated. The child must draw what he wishes and bring life back to the forest. Renard'O then regains his light, his companions; he is happy and shines more and more. He thanks the child; without him, he would never have made it.

But it's not over yet: other spirits suffer from pollution in their natural habitats. Because Renard'O is not the only magical being in this forest, other little anim'o - called the 'O' - are the original spirits of all the marine and terrestrial sources of this planet. They need help. Will he agree to help them?

Renard'O invites you to follow him by diving into the river.

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IMAGES AND GRAPHIC ELEMENTS

LA MEDUSE VIOLETTE

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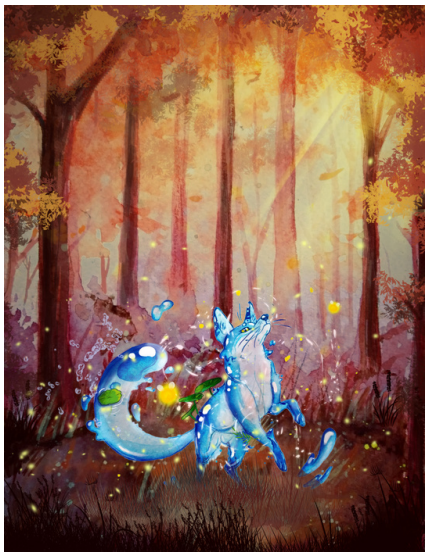

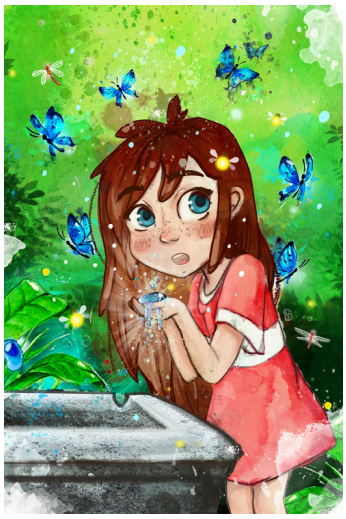

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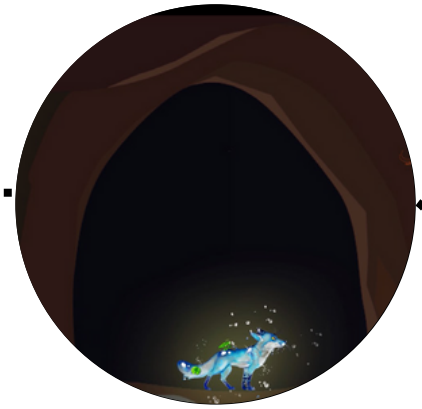
USER JOURNEY

Introduction

Visitors are welcomed into the world of Renard'O. A simple voice-over guides them.

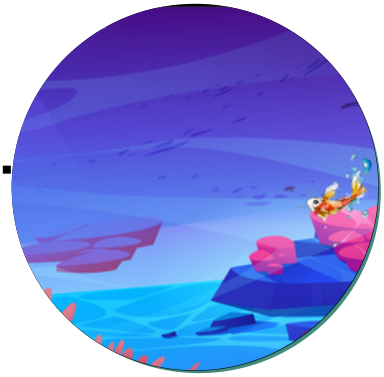
Forest - Air

Encounter with Renard'O and discovery of the ailing forest.
The spectators will have to dispel the thick fog that has settled in the forest.



Cave - Earth

Taking refuge in this deserted cave, the spectators encounter new characters.



Spring - Water

To thank his new friends, Renard'O invites the spectators to the heart of his magical spring.

Forest's Heart

Renard'O, accompanied by his new friends, has finally found the source of the problem: the tree of life, which is sick.
They will be called upon to heal it using their energy and the magic of the little blue fox.

Clearing - Fire

Having finally emerged, they find themselves in the middle of a sleeping clearing, under a starry sky, and spot a glow that seems to be growing stronger.
They will have to find a way to protect it.

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CHARACTERS

Renard'O

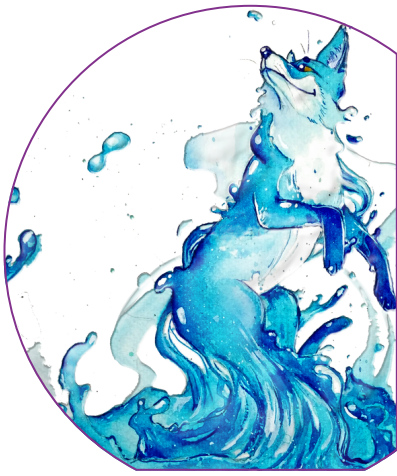
Renard'O is a magical creature from the "Kî" source. He roams the forests of the World to heal them.

Standing at 90 centimeters in length, with his elongated body, he is graceful and delicate. His unique feature: his turquoise blue fur which highlights his orange and black eyes. His fur shelters an entire ecosystem.

Renard'O shares his life with the anim'O of the "Kî" source where they all live in harmony. He enjoys playing with his friends and walking through the natures he discovers every day, thanks to the source that moves by itself. Our blue-furred adventurer loves to play, travel, learn, discover and, above all, help others. He fights against the disrespect of the ecosystem and pollution.

Renard'O is friendly and cheerful, his greatest quality is that he is philanthropic but can become quite stubborn. He witnessed helplessly the death of a forest, and since then, his primary goal is to explore all existing environments and be able to heal those afflicted with diseases, thanks to his magical power: to breathe life into everything he touches.

He will gradually learn the right actions to take care of nature.



Badger

The Badger is a friend who meets Renard'O during his journey. He is sincere and above all, loyal.

He measures no more than 60 centimeters, slightly plump which makes his gait clumsy.

He lives in his native forest, where he interacts with the fauna and flora. He loves to sleep, take his time, eat regularly, make jokes, and eat all the fruits he can find. Aggressiveness scares him, and he has no family to take refuge with. He seeks to entertain his friend Renard'O.

He appreciates the simple things in life, is very absent-minded, and finds amusement in almost anything.

This character will evolve from "without particular incidence" to "essential" for the progression of the story.

The Forest's Elder

The Forest's Elder comes from an ancient, legendary forest and watches over the forest that shelters him.

Due to pollution, his bark and leaves will darken and weaken him. This will prevent him from fulfilling his usual mission. Marks from axes and other cutting tools on the trunk and roots are so distinctive that they cannot be ignored.

This character, in his own right, lives in harmony with the fauna and flora surrounding him. He brings life to the forest daily. He knows only one feeling: love for his neighbors.

He is a neutral being who protects his surroundings but remains very vulnerable to humans as he cannot flee from them. His goal is to protect his forest while ensuring a healthy and sustainable ecosystem.

He will start the story in a critical situation, on the brink of death. Then, he will regain his brilliance thanks to the help of the main character and the spectators.

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ENVIRONMENTS

Panel 1 : Forest

Leaves of trees simplified in the form of circles as well as for bushes.

Less complexity by removing unnecessary details.

Unified background in a single color.

Flowers reworked for a cleaner look. Each flower will be individual and then duplicated for more control during animation.

Bright colors for the grass and trees.

Renard'O puppet reworked for a more natural and precise depiction of the fox's walk.

Creation of cherry blossoms for the transition, as well as the creation of the badger puppet.

Panel 2 : Cave

Prehistoric drawings replaced by paint stains representing the negative impact of humans on the cave.

Perspective reworked for a better transition with the previous panel.

Trash, cans on the ground.

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ENVIRONMENTS

Panel 3 : Clearing

The red sky represents the fire without having a background of flames that could be too frightening for children.

A stream that will also be projected on the ground, it will be used for interaction.

The main fire will start from this campfire, which will grow larger and spread to the sides as the seconds pass.

Panel 4 : Forest's Heart

Once life returns, long luminous leaves will appear on the branches.

The luminous ground represents the magic of the tree (which is present only at its roots). Once the forest is regenerated, the halo will expand.

Vegetation will cover the stones once the Elder/the forest is saved.

The size of Renard'O and the birds are used to show the proportion of the Elder of the forest.

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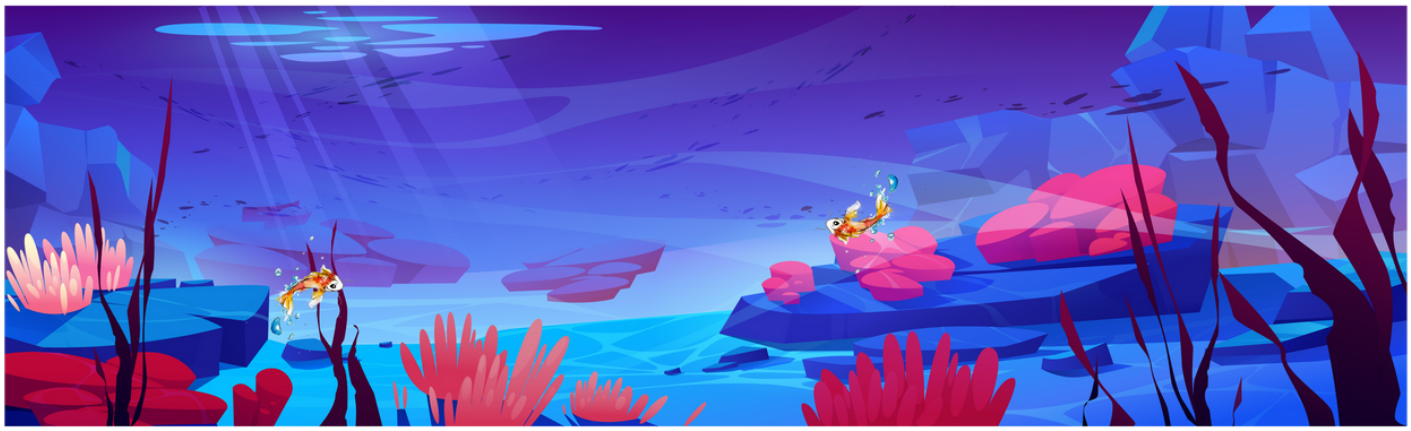
ENVIRONMENTS

Panel 5 : Spring

A stream that will also be projected on the ground, it will be used for interaction.



Other "O"s will be created and present in the panel.

The size of the panel will be 7680x1080 for the projection across the entire room (360 degrees).

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FEATURES AND GAMEPLAY

APPLICATION OPERATION

1. Launch the story until the first illustration
What the user must do to complete the step: Click on the start button, go through the tutorial, and arrive at the first illustration.

2. Scroll through the pages to move to the next page and return to the previous page
What the user must do to complete the step: Swipe left and right.

3. Turn off or activate voice playback
What the user must do to complete the step: Click on the sound icon.

4. Remove or restore the text display
What the user must do to complete the step: Click on the book icon once, then a second time.

WATER LILY MINI-GAME

Try to get the water lily out of the bottle.

- The user is put on the frame "5.Water Lily". "Try to get this water lily out of the bottle". The choice is made not to give them a clue after 10 seconds so that they tell us what clue they would have liked to have.
- This time, users are instructed to verbalize this task because the prototype does not include tilting the phone/tablet to get the water lily out. They must explain what gestures they are making.
- The task is successful when the user says they shake the phone or turn it over.
- Ask what clues they would have liked to have.
- At the end of the user test, we explain to the users what happens once the water lily is freed. They are told that the water lily thanks them and that it will be able to go back and oxygenate the pond. We then show them the quiz at the end and ask if they have anything to tell us about it.

Types of Interaction

1. Presentation or Educational Part

- Informative Chapters : guide the child through the basics of the application, introduce the characters, and provide an opportunity to learn more about marine turtles.
- Educational Content : delivers valuable information in an engaging format, ensuring that learning is fun and memorable for the child.

2. Mini-Games

- Interactive Challenges : Stimulate the child's interest through puzzle-solving or exploring the world in Augmented Reality (AR).
- Engagement : Keeps the gameplay dynamic and ensures that the child remains actively engaged with the content.

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GAME MODEL DESCRIPTION

3. External Experience

- Outside-the-App Exploration : encourages stepping out of the application to explore the real world using technologies like VR, Kinect.
- Real-World Interaction : enhances the immersive experience by integrating the physical world with the digital game world.

4. AR Environment / Drawing

- *AR Camera Screen : available at any time to scan the sticker.*
- *Creative Expression : allows for an element of personal creativity and interaction with the game environment.*

User Experience

- *Non-linear Narrative Structure : while maintaining a linear narrative, the child can choose the order in which to explore the chapters. Replaying experience steps or listening to the entire story in audio format is also possible, allowing for a personalized experience.*
- *Data Storage : personal data like age and student name are stored only on the used device. Files like drawings can be sent to the server with the user's consent.*

Computer Vision

- Image Processing : the server receives the image of the fox drawing, processes it for integration into the game. The child's fox drawing is then integrated into the projected universe (on walls or also the website).

Reward System

- Sticker Rewards : after each chapter, players are rewarded with special stickers. Earned stickers are stored in a collection that players can view at any time.
- Physical Badge : at the end of the experience, the child receives a physical "Citizen of the Sea" badge from the teacher, which will also be visible in the app.

AR Space (Usage of Stickers)

- AR Stickers : can be used to customize the game environment. Players can place these stickers in the underwater world using their device's camera. For example, they could decorate their own underwater space by adding turtles, fish, or other AR elements.
- Interactive Stickers : once placed, AR stickers can interact with other game elements. For example, a turtle drawn by the child could swim alongside the game's turtles, creating a living and personalized underwater environment.

ChatBot System (Virtual Assistance)

- Interactive Tutorials : guide children through different game functionalities.
- Contextual Information : provide information when players encounter challenges or new elements. For example, explain how to play a particular mini-game when the player accesses it for the first time.
- Personalized AI Responses : customize responses based on the user's profile, preferences, skill level, and play history. For example, adjust the level of explanation detail based on the user's age and encourage their progression.

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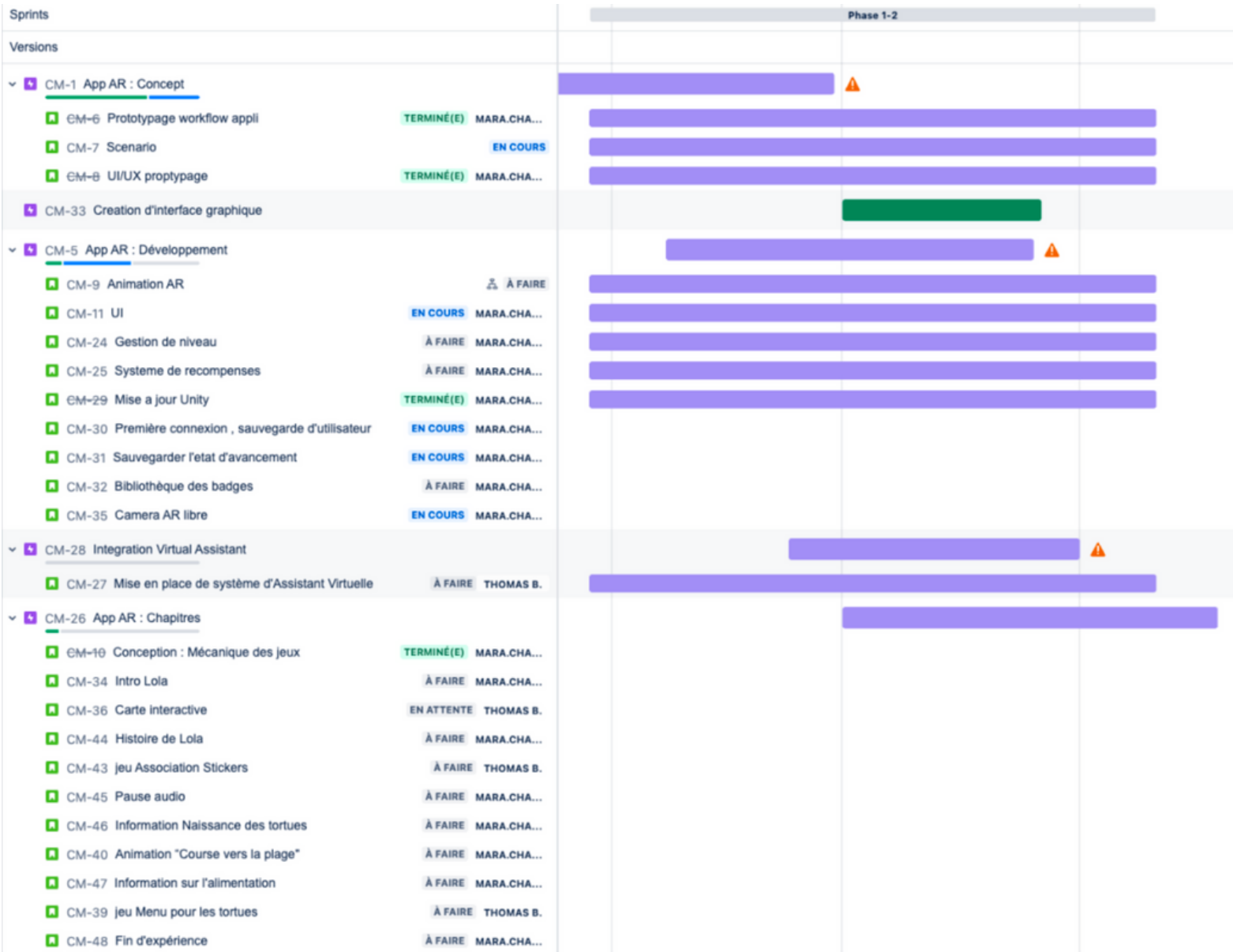
PROGRESS STATUS



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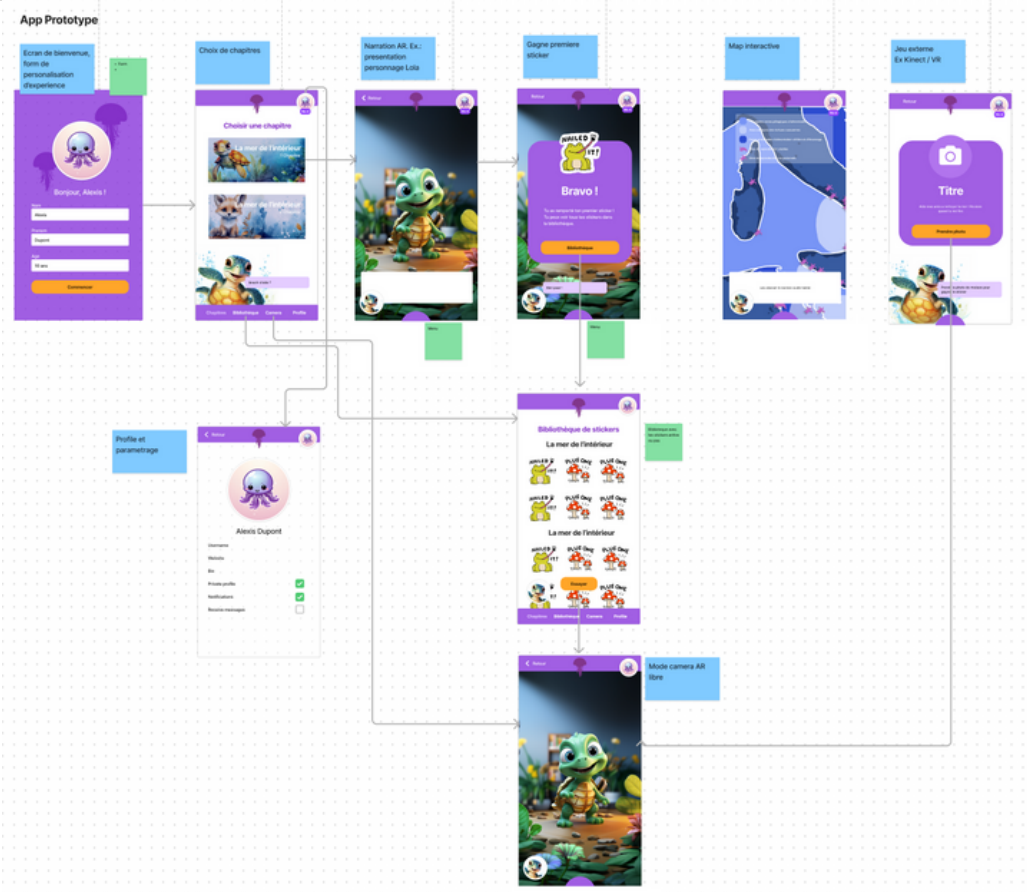
ADDITIONAL INFORMATION



Budget prévisionnel détaillé démonstrateur				
Dépenses en euros (HT)	**12 mois**	**Commentaires**	**Recettes en euros HT**	**12 mois**
Achat matériel	5 780,00 €		**Fonds propres**	
			Ressources propres	15 000,00 €
Kinect	100,00 €			
Vidéoprojecteur ultra-courte focal	5 500,00 €		**Financements Publics**	
Raspberry Pi 4	100,00 €		BPI (aide à l'innovation)	15 000,00 €
Ventilateur	80,00 €		Aide subvention CNC	10 000,00 €
Ecrans / LED			Aide subvention jeux vidéo Région Sud	20 000,00 €
Projecteurs				
Ressources humaines	40 000,00 €		**Financements Privés**	
Dev unreal	40 000,00 €	Recrutement 2 CDD mi temps salaire chargé sur 12 mois	Recherche investisseur(s)	60 000,00 €
Infographiste 2D 3D animateur modeleur				
Prestations externes	54 000,00 €			
R&D	10 000,00 €			
Conception / Design d'un kit montable/démontable itinérant /Production du boîtier central	5 000,00 €	Organisation de 3 events pour la nuit des musées, patrimoine, forum des océans		
Créations 3D	5 000,00 €			
Game Design, Level Design	5 000,00 €			
Création de l'animation sur unreal engine	16 000,00 €			
Arduino	5 000,00 €			
Communication	5 000,00 €			
PACK : Création d'une charte graphique, site web, réseaux sociaux	5 000,00 €	Rédaction des contenus pour le site web, les sites de nos partenaires et nos réseaux sociaux.		
TOTAL DEPENSES	**104 780,00 €**		**TOTAL RECETTES**	**120 000,00 €**
Quote part subvention sur budget total 45%				