



**Would you become our new STEAM superhero?**

meaningful quests developing creativity and critical thinking



# STORY

# Introduction



**Unplugged - Unplugged approach of computational thinking for children towards creativity and culture - unites children's education enthusiasts who are strongly committed to creativity in learning.**

The Unplugged project, coordinated by the University of Aix-Marseille, has been approved and funded by the Erasmus + Programme under the extraordinary calls launched in 2020 to support digital education readiness and creative skills in the framework of the COVID-19 sanitary crisis. Its implementation takes place in 5 European countries - France, Belgium, Italy, Austria, and Bulgaria - gathering a multidisciplinary consortium.

Unplugged has been designed to **empower the relations between the formal (schools) and informal learning ecosystems (museums, libraries, associations, families ...)** in developing creative practices to support students positioning as critical thinkers and active citizens in the 21st-century society.

This gamebook presents the full Unplugged Quest, a comprehensive game, composed of **several gamified challenges**, united in a **unique universe** proposing a consistent pathway in the development of citizenship behaviours allowing children to recognize the needed values for living in community.

The Unplugged set of games can also be used as a **one-stop-shop of playful activities** that can apply both in the classroom and at home, all linked to several parts of the national primary school mandatory curricula.

## CONTRIBUTIONS

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## DESIGN & CREDITS

### EU project consortium

The contributors credited in this coursebook form part of the Unplugged consortium that you can discover here: [www.unplugged-quest.eu](http://www.unplugged-quest.eu). The consortium is composed of: Université d'Aix-Marseille, Université Côte d'Azur, Explora - The Children's Museum of Rome, Muzeiko, Digitale Wolven, ZeUGMA OOD, Hands On! – International Association of Children's Museums, La Fabulerie.

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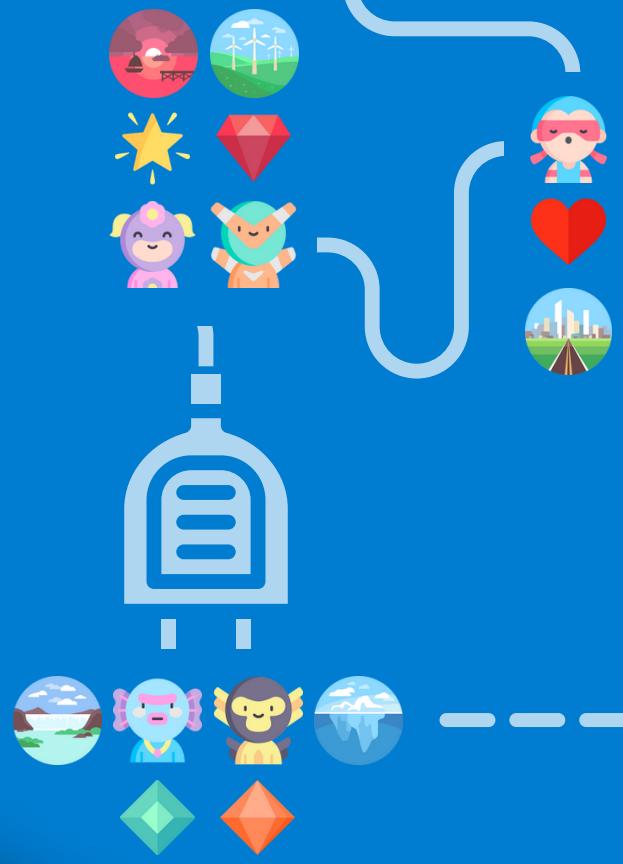
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### EU contribution

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Enter the Unplugged  
Universe



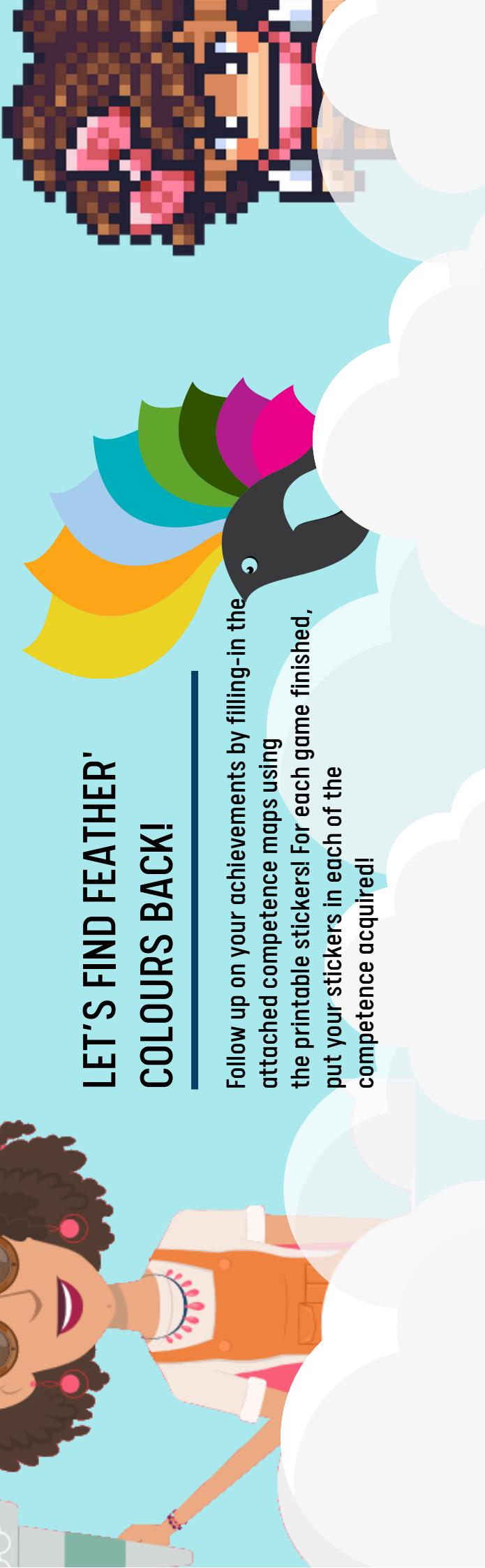
# Welcome, little heroes, to the Unplugged Quest! I am Susan, I will be guiding you in your adventure! We have entered the Unplugged Universe with one mission: **Rescue Feather!**

Feather is a rainbow bird that travels the world and symbolized the harmony of living creatures. Seeing planet Earth being polluted and societies moving towards anger, his despair caused him to lose his feathers and he disappeared. To help him fly and travel the world again, you have the mission to reflect on how to make the world a better place across 4 territories:

- Roaming across **the Peaceful Island** and becoming a concerned citizen,
- Explore the streets of **the Strong Community City** for building collective and harmonious societies
- Navigate across **the Crazy Bayou** while preserving natural ecosystems
- And use your imagination within the **Fantastic Factory** for reshaping a better world.

## LET'S FIND FEATHER' COLOURS BACK!

Follow up on your achievements by filling-in the attached competence maps using the printable stickers! For each game finished, put your stickers in each of the competence acquired!



Feather was a rainbow bird who spent his life travelling the world and flying over beautiful lands. His colours represented **harmony** and gave **hope and joy** to the living creatures. But step by step, the earth turned crazy. It was always too warm or too cold, and the air became toxic. For every issue encountered, the majestic bird lost a feather. He was never able to recover them as Earth had become too dangerous to land on. Overwhelmed with fatigue and despair, Feather called out to humans for help before disappearing. To fly again and give back its beauty to the world, the little bird asked **brave adventurers** to search for his lost feathers.

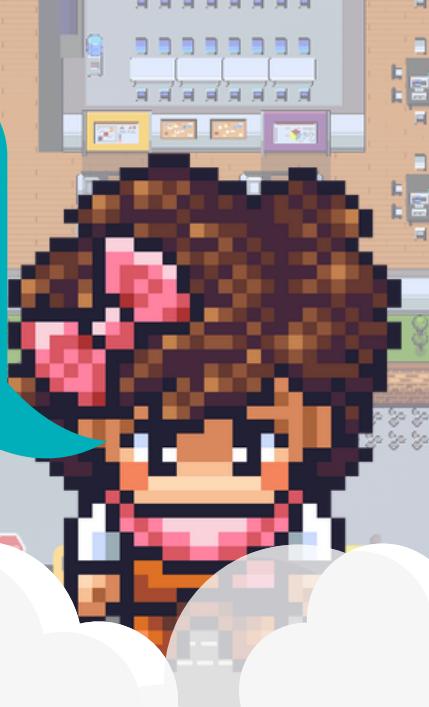
To help me through this quest, you will have to **be smart and volunteer**. You will explore the four territories where my feathers were lost. Fix what is wrong in those countries. Bring me back the four feathers so I can go back to my mission: **flying across the world making the eyes and minds of living creatures shine again**.

**Good luck my adventurers! One last piece of advice: open your heart, unlock your imagination and free up your brain. Come back soon, I am waiting for you.**



## WELCOME TO THE ONBOARDING AREA!

Thank you little adventurers for accepting your mission! Before leaving, you are here in the onboarding area! Your goal: perform the onboarding game to acquire 4 basic skills that will be useful for performing the full quest! On your marks, set ... GO!



### Likadislike

**Skill targeted:** Express and understand feelings and emotions. Learning to express an opinion, overcoming preconceived notions in the classroom

The game fosters children's emotional development, learning to express their opinions and respect others' views and feelings. A player draws a card, describes a situation and reads it out loud to the others. Then, all players express with an emoji card face down whether they like, dislike or love the situation described. All players turn over the emoji cards at the same time and discuss without judgment each other's feelings.

### Brain twister & Programming a Choreography

**Skill targeted:** Express myself through my body. Learning to express yourself with logic and comprehensibility and move in the space

Interacting with robots will become common in the future. To speak to a machine you need to give very clear orders. This game trains children in providing clear orders to a machine using only numbers and directions. The teacher draws a table on the ground. One player is the game leader who gives instructions to the robots. The other players are the robots. To win the game, the game leader needs to place the robots correctly on the table to match a preset figure from a card.

### Brainstorming

**Skill targeted:** Exchange and discuss. Unleashing kids' creativity through discussions

The game fosters children's emotional development, learning to express their opinions and respect others' views and feelings. A player draws a card, describes a situation and reads it out loud to the others. Then, all players express with an emoji card face down whether they like, dislike or love the situation described. All players turn over the emoji cards at the same time and discuss without judgment each other's feelings.

### Binary counting

**Skill targeted:** Compute information and think logically. Understanding computational processes and unplugged activities

Children learn to count like a computer (using the binary number system) offline. The binary number system is a base-2 one. An understanding of binary numbers, the binary system, and how to convert between binary and decimal is essential for anyone involved in computers, coding, and networking.



Congratulations, little adventurers! Thanks to onboarding, you can start bringing back Feather colours! Here is the first piece of the puzzle! Print and cut it, more parts will come soon ...

*Have you seen Feather the bird?*

Well, the last time I saw him was a while ago. He tried to land to sing but people were annoyed, too busy with their own problems. A man waved him away and a little girl threw a stone at him. Sad, he left the yellow feather fall from his tail. Since then, things have gotten worse and worse. To find the feather, get to know yourself, work on your own emotions and make peace with the outer world, otherwise, your quest is in vain.





You have travelled to the first territory: the Peaceful Island! Here, you will approach the basics of citizenship, inclusion and equity! Perform this mission to find back the yellow and orange feathers of our little bird! Ready?

## Poverty-free game collection

### Fostering creativity while discussing access to leisure activities for all

People from poorer backgrounds are often excluded from social life, just because they cannot afford to join such activities. Players in this quest are asked to create in teams a game out of objects within the classroom, play and assess it.

## Equal

### Overcoming gender stereotypes

The "Equal Game" offers the opportunity to reflect and learn about equality and gender stereotypes through the disruption of gender bias associated with jobs and working roles. This game is based on a series of challenges whose aim is to get children to guess professions through the description, mime and drawings.

## Cookies and Peace

### Understanding sustainable food systems

The game gives children a feel for inequality in terms of the distribution of resources and emphasizes the importance of establishing a sustainable and equal world. Participants work in groups to bake successfully their cookies. What they do not know is that each group will be allocated a different set of resources to accomplish this task. Whilst some groups will have too much of certain ingredients, others will not have enough, or will not have any of these ingredients.

## Form Factor

### Confronting children with the need for inclusiveness. Geometry and abstraction

This is a game of modeling complex shapes with basic ones through communication and cooperation in teams. The goal of the teams is to fill in a complex shape to the best possible way without going beyond their outlines with simple shapes players have available. Winners are selected following a group vote.

## Clay and Sculpture

### Expressing, interpreting and understanding one's own and others' feelings

The game supports children in identifying, expressing and managing their feelings and emotions and interpreting the ones of the others. Players divide into pairs: one player acts as the modelling clay and the other - as Michelangelo who sets the modelling clay's body position to express a certain feeling, e.g.: fear, joy, tension, despair, etc. The clay person does not know which feeling the sculptor is modelling and guesses it, providing feedback on the feeling the position provokes.

## Peace Magic Grid

### Identifying and correcting errors in data transmission

Children are presented with grids and are explained the principles of parity check. They are given the task to discover a message hidden in the grid by performing the demonstrated parity check and correcting respective errors. Reflection on the message and an interactive discussion then takes place to relate it to today's world challenges.



Congratulations, little adventurers! Thanks to your hard work on this territory, you have already collected 2 feathers out of 8! Keep going and explore! Feather is getting closer!

The feathers in printable version are available in the achievements booklet! Don't hesitate to colour them, create patterns and be creative for bringing back colours to our little bird!!

*Have you seen Feather the bird?*

The last time he crossed the country was during a big demonstration, riots broke out, and the police and the army were there too. Frightened by all this noise, the bird could not land and continued on its way, dropping his blue feather. To find it, you will first have to calm down the angry spirits and find ways to make humans live together.





Congratulations on your success in the Peaceful Island! This territory will be a challenge! Reflecting on ourselves is a personal journey, however finding harmony in the community is a collective challenge! Ready?

## Dr. Hanoï

### Fostering logics, illustrating chemistry

The game takes place in a chemistry laboratory, with test tubes, formulas and chemical elements. Players have to find a vaccine with the correct chemical formula by transferring the elements from one test tube to another!

## Live in Harmony

### Reflection on identity in forming one's personality

A gamified STEAM activity in which children explore all aspects of identity: personal, regional, nation-state and European. They discuss the issues of equality in terms of gender, education and opportunities. Math is applied to introduce main European geographical features. A final gamified art project reinforces the whole experience.

## Reroute better world

### Understanding the impact of personal actions towards others, spatial orientation and strategy

The action takes place on European Union. Players plan their cargo logistics from one place to another based on several pre-conditions. The game fosters children's reasoning and spatial orientation to plan their cargo transport to a predefined point, where the other carriers (players) have the same objective. Players need to overcome barriers of coming across other players.

## Farm in the city

### Fostering urban & resource planning, logical and critical thinking

Networks present many opportunities for developing algorithms that are practically useful. In this activity, junctions, or larger "nodes" are placed in such a way that all other nodes are at most one step away from one another. The objective of the players is to find a solution of combining the least possible nodes which connect to all points.



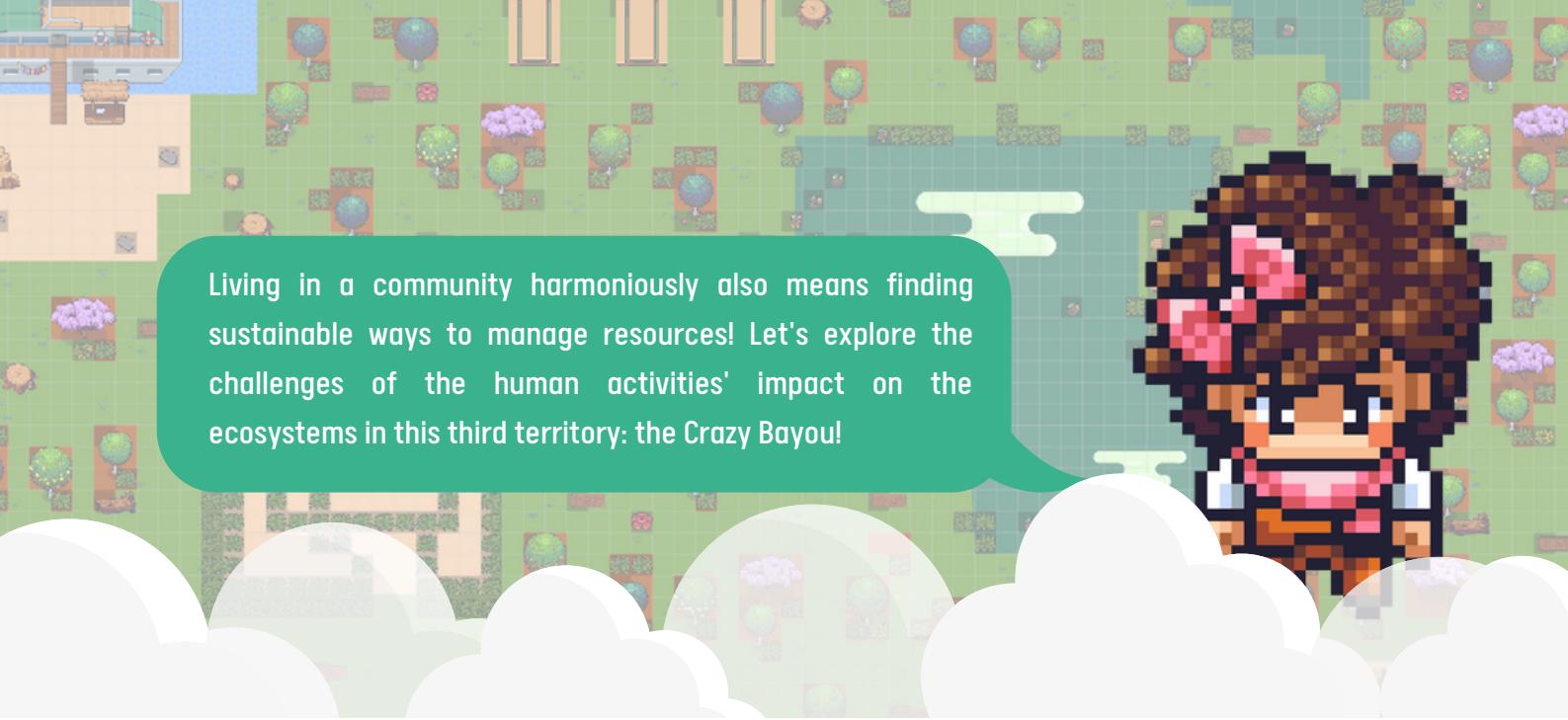
What brave adventurers we found for helping our friend  
Feather! You have managed to build a sustainable community,  
in harmony! Here are 2 feathers for you!

The feathers in printable version are available in the achievements booklet! Don't hesitate to colour them, create patterns and be creative for bringing back colours to our little bird!!

*Have you seen Feather the bird?*

He used to come and rest in the ponds of the bayou. In the mornings, when the sun rose up, you could hear him sing. But the last time he came all the land was devastated. Grass no longer grew, trees had been cut down to make packaging and the earth was drilled to extract its elements. Too sad to land, Feather kept flying. He dropped a green feather and continued on his way. To find it you will have to make peace with the earth, and feed the earth to restore it so that flowers and trees can grow again. Then animals and insects will come back.





Living in a community harmoniously also means finding sustainable ways to manage resources! Let's explore the challenges of the human activities' impact on the ecosystems in this third territory: the Crazy Bayou!



## Ecosystem in a jar

### Understanding biological lifecycle and the impact of human interference

This is an experiment which introduces components of the miniature ecosystem in a jar. Once a jar is closed, the plant uses the water, sunlight, and nutrients from the soil to survive. As the plant loses some leaves, they are broken down by bacteria and become nutrients in the soil. With the right balance, the ecosystem inside the jar can survive for years. By observing these changes and interactions among organisms and their environment, children will understand how the CO<sub>2</sub> cycle works, how each factor influence the natural cycle etc.

## Good Ways

### Raising awareness on SDGs, fostering dexterity

This an observation and precision game, where players draw a continuous line without raising their hand from a transparent piece of paper to reproduce as close as possible a route shown on a separate picture. The aim is to win as many bonuses (overlapping with specially indicated nodes on the route) as possible and to avoid obstacles (other nodes on the route, respectivley indicated).

## PotLuck March

### Challenging accessibility and unequal distribution of food resources

Children learn about accessibility to food resources, inequalities and challenges in their distribution. Each player is given a random quantity of food which gives them a certain amount of energy, allowing them to take a certain number of steps to move forward towards the finish line. Inevitably, some players will not make it to the finish line and some players who have abundance of energy resources can share these with others to help them advance.

## Plastic Continent

### Addressing the harmful consequences of human activity on earth and oceans, reasoning and logic

The action takes place in the middle of a plastic continent created by man's negligence. A dolphin imprisoned in its midst must make its way through the heap of mountains of garbage to get out! Players move the garbage piles on the board to free the trapped dolphin.



**Amazing! You have successfully completed the Crazy Bayou!  
No Voodoo or Witch can stop you in these messing swamps!  
Here are 2 more feathers! You are almost there... Keep on!**

The feathers in printable version are available in the achievements booklet! Don't hesitate to colour them, create patterns and be creative for bringing back colours to our little bird!!

## *Have you seen Feather the bird?*

He often flew over the city, landed on top of a building and cheered us up with his song. But the last time he came by, he could not find his way through. He was dazzled by the city lights, couldn't find the sun and stars that were hidden behind huge skyscrapers, and was disoriented by the dense wireless network that clouded his senses. He lost his last coloured feather, the pink one, and disappeared. To find this feather, learn to use your machines and screens to create a social link between living creatures and improve living conditions.



You made it! You have managed to acquire all the skills needed to be in charge of reshaping a future in which Feather can bring back joy and harmony! To help you with this final mission, here are some help within the Fantastic Factory!

## Area 1 - Unleash imagination

### Fantasy out there!

#### Stimulating imagination, open-mindedness and creativity

Through the classroom window, you can see the sky, but if you stick a plastic sheet on which you have drawn dinosaurs, superheroes or UFOs, it will look like a bygone era, a comic book come true or an alien invasion! Turn the classroom window view into a Jurassic Park jeep window, a panoramic view of Stark Tower or a Space Invaders game level! Have first discussions about augmented reality!

## Area 2 - Create the world of tomorrow

### The Perfect City

#### Learning to handle manipulative behaviours and question information

The quest aims at teaching children to detect and overcome manipulative behaviours by questioning information, intentions and fact-checking. Participants are divided into small groups and each group is joined by an adult. The teams task is to build "a perfect city", by drawing it on paper. The adult in each group has a hidden agenda to manipulate the results to reach their own specific goal. At the end of the game, the groups show their city to the other groups and explain, why their city is the perfect city and how they felt about the instructions of the adult.

### Pop-up city of the Future

#### Creating artistic universes, understanding sustainable development processes

Players are asked to project an imaginary city, metamorphosed following energy, environmental, and demographic transformations ... Four universes are then explored by the participants and staged in the form of interactive pop-ups. Underwater, in the air, underground and in trees. The different Pop-ups can be assembled in Leporello (accordion book).

## Area 3 - Critically use new technologies

### Memory

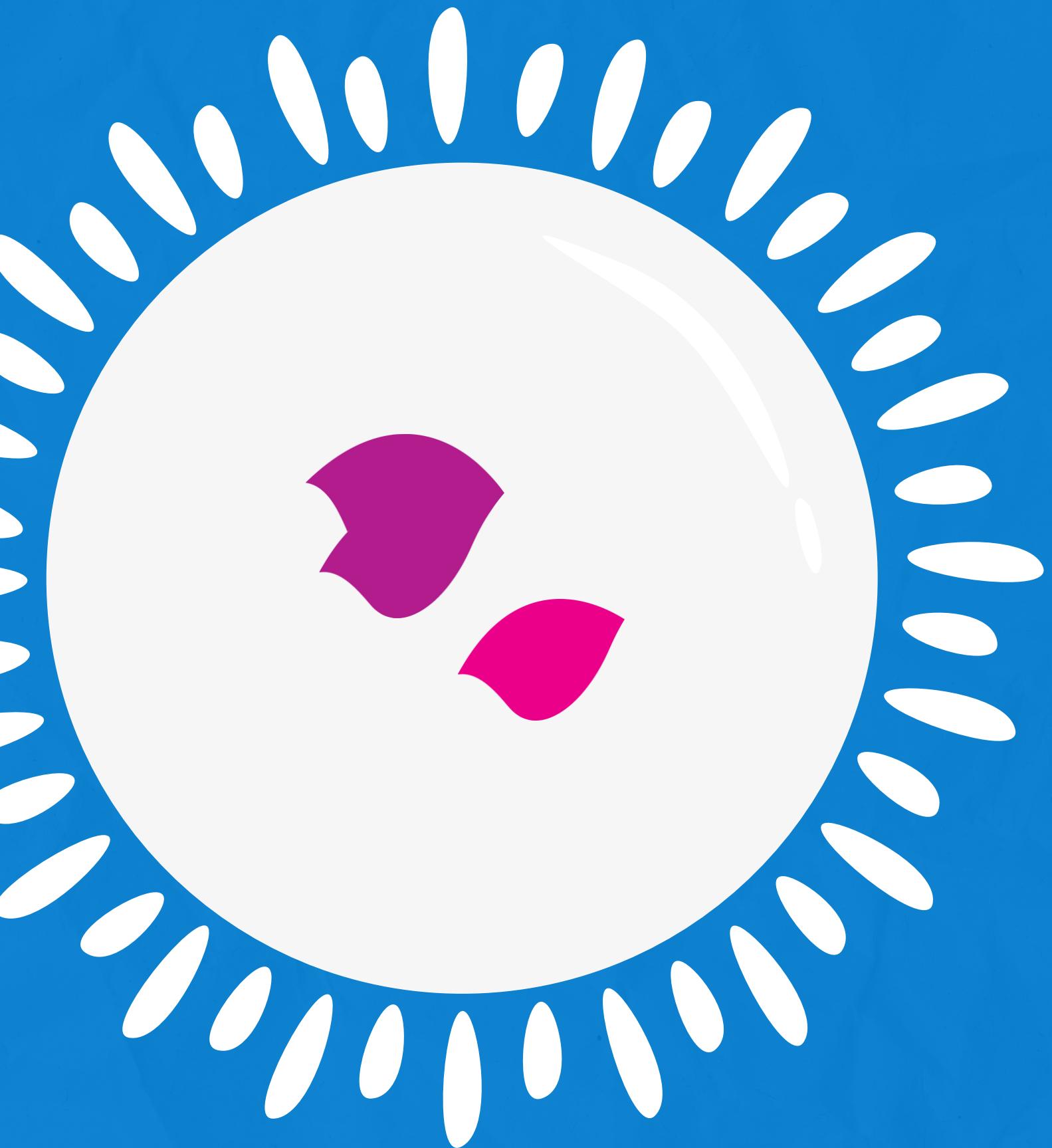
#### Discovering computation and programming

In the Memory quest, children link words (e.g. computer devices or Scratch commands) with a picture. The images are related to programming and computers. Children learn more about the world of technology and game programming, without using any real devices.

### Iterative Clues

#### Raising awareness on legal and economic requirements to new technologies

Discover today's and tomorrow's world and new technologies while having fun! In this game a player (the referee) draws a concept card from a pile, keeps it secret and tells the first clue at the top of the card. All players can answer at the same time, but can only give 1 answer. The objective is to find the answer after disclosing all clues.



The future society seems in good hands! You have your role to play for making it real and sustain it! Congratulations! Here are the final feathers! Our little bird thanks you for bringing back harmony!



Congratulations brave adventurers, you overcome all the challenges along the way and found my feathers back. I can now fly again! Your bravery touched me and I will do my best to make the world a better place. Carry on in this way, love yourselves, be nice and fair with each other, take care of nature and invent machines that will lead to a better future. Together we can change things and hope for turning our planet into a perfect place.

# We keep in touch!



## COLLECT YOUR TOKEN OR ASK US QUESTIONS

Get in touch with us **by mail**: [contact@unplugged-quest.eu](mailto:contact@unplugged-quest.eu) and **collect your tokens and prizes!** We are here to help, do not hesitate to ask!



## DISCOVER OUR PARTNERS

Visit us physically in **France, Belgium, Bulgaria, Italy and Austria** and discover our amazing spaces or discover us online through our website: <http://unplugged-metaverse.eu/>



## CREATE YOUR OWN GAMES FOLLOWING OUR APPROACH

Feel free to **create your own games** thanks to our freely accessible template available here: [https://miro.com/app/board/uXjVP9M0ggA=/?share\\_link\\_id=716659515511](https://miro.com/app/board/uXjVP9M0ggA=/?share_link_id=716659515511)



## GIVE US FEEDBACK AND CORRECTIONS

This quest and associated games have been made with the best quality possible and a true will to participate in the emergence of amazing content in the field of computational thinking, creativity and gamification in primary schools. Though, we are only humans! Should you discover mistakes or corrections to be made, do not hesitate to get in touch with us! We will make sure you get rewarded and credited for your help!



## PARTNER WITH US IN NEW PROJECTS

All the members of the consortium are open to new cooperation, either with schools but also with creative companies and actors. We are launching regularly new initiatives. Keep us updated if you want to join them with us!



<http://unplugged-metaverse.eu/>



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