

FOODIFICATION

A FOOD-BASED GAMING EXPERIENCE

Final project brief for the Digital Heritage and Multimedia course 2021/2022

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“Museums have an important duty to develop their educational role and attract wider audiences from the community, locality, or group they serve.

Interaction with the constituent community and promotion of their heritage is an integral part of the educational role of the museum.”

ICOM Code of Ethics for Museums

THE IDEA

This project has at the core of its research the food, intended as an aggregator; in particular, Italian food, protagonist of one of the healthiest diets, the Mediterranean, together with the concept of the culinary history associated with it. The concept of food put at the core of the project is to be intended as a bridge between people's relationship.

It is not a coincidence that one of the first ideas during the brainstorming was food, since it is one of the common aggregators that are able to put together human beings, without thinking at a first glance about the gender, the social extraction, the religion, or other social construction.

“Cooking’s a rogue. It’ll often, and indeed gladly, drive you to distraction but can also give enormous pleasure. That’s because the times you do get it right or overcome one difficulty or another you get an immense feeling of satisfaction and can sing victory”¹.

THE CONTEXT

Italian families are used to meeting everyday around the kitchen table, usually at dinner, to catch up and talk about their day, the “adventures” they have lived and the emotions they have felt.

In general, food puts together people and serves as an aggregator and creates occasions for exchanging views and opinions, while enjoying a good meal.

Food not only is part of human history but it also what gives us uniqueness and identity regarding our own multifaceted cultures. Having also in mind that G20 was held in Italy in 2021, it's very hard nowadays to not see the impact on the world regarding food production or even the lack of it in some parts of the globe.

But still thinking how the choice of ingredients, preparation methods and the way meals are served are so important for Italians that many fundamental recipes were reunited in books, such as “La Lucerna de Corteggiani” by Giovan Battista published in 1634, or even the treasures left behind in 1692 and 1694, a book in two volumes, “The Modern Steward”, by Antonio Latini showing the first recipe of tomato sauce and “Science in the Kitchen and the Art of Eating Well” by Pellegrino Artusi published in 1891, for instance.

¹ Pellegrino Artusi, https://www.youtube.com/watch?v=IwSBYxz_3vs



Figure 1 <https://www.pilloledistoria.it/13091/storia-moderna/antonio-latini-cuoco-pomodori-a-tavola?lang=en>

And even during coronavirus times many aspects regarding the theme in the country were exacerbated, in a sense that came to be known who actually struggle to have their meals. Italy was the first country in Europe to face the COVID-19 pandemic and the health, economic and social challenges that it posed. Due to the mandatory national lockdowns that took place in the period March-May 2020, many people lost their jobs, creating concerns about stability, availability, accessibility, and usage of food.²

The situation of high inequalities, which have increased after the 2007-2008 economic crisis has only gotten worse because of the pandemic. Caritas and Food Bank in Italy reported an increase of 40% in food requests rising up to 70% in the South of Italy. This region experiences even higher levels of socioeconomic inequalities and unemployment.

Since Italy has one of the highest percentages of population At Risk of Poverty (ARoP) in Europe, we believe it's important to bring this awareness to younger generations in order to be able to create a future with more conscious decisions, and yet preserve the heritage within its culture.

And all of this having been mentioned, it's important to bring into discussion how the planet degradation impacts food production and consumption, highlighting food loss and waste with major roles with a significant magnitude and negative impacts on the environment (i.e., unnecessary Greenhouse Gas emissions, occupied land, water usage,

² From Introduction. Addressing food insecurity during the COVID-19 national lockdowns: the case of Italy <https://epha.org/wp-content/uploads/2021/12/hi-casestudy-foodinsecurity.pdf> [last accessed: 30/05/2022]

and loss of biodiversity), economic growth (inefficient process and low productivity), and food security and nutrition.

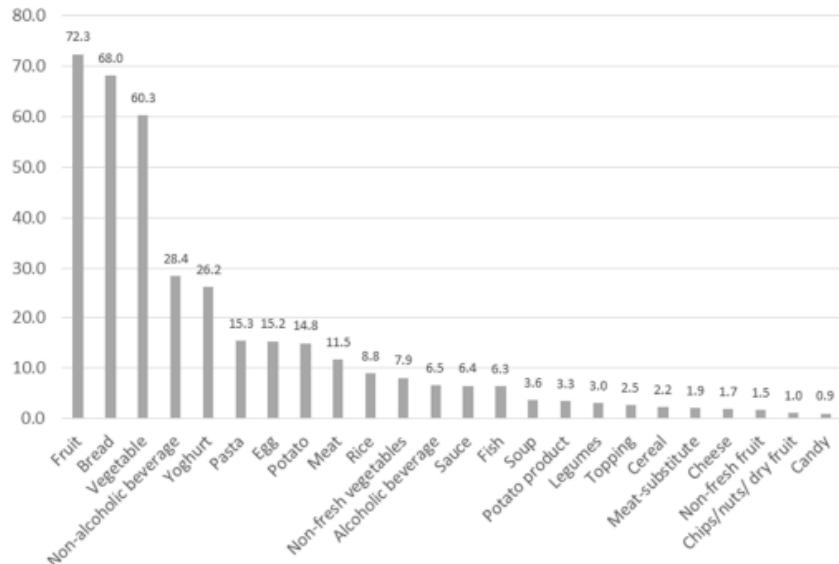


Figure 2 Average amount of food thrown away by category (grams/family/week).

Food Category	Unused	Partly Used	Leftover	Stored Leftover	Total
Fresh vegetable	37.0%	30.9%	18.2%	14.0%	100.0%
Packed vegetables	38.7%	31.7%	18.0%	11.5%	100.0%
Fresh fruit	70.2%	15.3%	6.2%	8.3%	100.0%
Non-fresh fruit	22.0%	26.2%	23.8%	28.0%	100.0%
Potato	54.5%	25.7%	9.9%	9.8%	100.0%
Potato-based product	18.2%	23.1%	22.5%	36.2%	100.0%
Pasta	10.3%	14.9%	67.3%	7.5%	100.0%
Rice	12.0%	28.8%	41.4%	17.8%	100.0%
Legumes	13.1%	27.4%	27.8%	31.8%	100.0%
Meat	38.4%	25.6%	20.7%	15.3%	100.0%
Meat-substitute	40.1%	47.4%	7.8%	4.7%	100.0%
Fish	25.3%	38.3%	24.7%	11.7%	100.0%
Topping	28.1%	47.0%	9.3%	15.6%	100.0%
Bread	28.6%	45.3%	14.9%	11.3%	100.0%
Cereal	32.8%	52.4%	12.7%	2.1%	100.0%
Yoghurt	73.1%	15.4%	3.2%	8.3%	100.0%
Cheese	34.0%	48.4%	8.1%	9.4%	100.0%
Egg	71.3%	10.9%	8.5%	9.2%	100.0%
Soup	62.9%	10.6%	8.8%	17.8%	100.0%
Sauce	19.9%	52.2%	6.8%	21.0%	100.0%
Candy	23.7%	56.1%	13.1%	7.1%	100.0%
Chips/nuts/dry fruit	31.6%	51.8%	9.2%	7.5%	100.0%
Non-alcoholic beverage	23.3%	55.7%	4.0%	17.0%	100.0%
Alcoholic beverage	37.8%	45.5%	7.7%	9.1%	100.0%
Total	43.2%	30.3%	14.6%	11.9%	100.0%

Figure 3 Food category by food waste state-percentage values, <https://www.mdpi.com/2071-1050/13/3/1492>

FOODIFICATION: FROM A NEGATIVE TO A POSITIVE DEFINITION

The name of the project comes from the combination of two words: food + gamification. The second word defines a strategy to create similar experiences to those experienced when playing games in order to motivate and engage users, having food as an aggregator of people and cultural heritage that brings uniqueness and cultural identity.

With Italy being the focus of the project, Foodification³ is also a phenomenon which consists in cities being devoured by gastronomy centres, bars and gourmet restaurants. Using every available old factory or old bakery to build those spaces instead of what could be a cultural environment or whatsoever.

But here our goal is purely educational, bringing a better meaning to the word and at the same time aims at younger generations as the actors of the exhibition.

In our understanding, a game experience would be a great tool to retain a kid's attention and using that it could make them conscious about the theme related to food. Not only to know more about Italy's identity regarding food but bringing the consciousness when it comes to sharing and caring about others that don't have access to it.

REFERENCE INSTITUTION

MAMBO is the institution chosen to hold the project first due to its history related to the theme. The building's first section was built in 1915 by Mayor of Bologna Francesco Zanardi as a municipal bakery, aimed at solving the citizens of Bologna's supply problems during World War I.

The building was subsequently enlarged between 1928-29 to host the Ente Autonomo dei Consumi, closed in 1935. During the Seventies it underwent other changes to finally become a municipality storage space. The transformation of the old bakery into the new home of MAMbo started in the second half of the Nineties. Since the restoration has been finished MAMbo is structured how we know it today.⁴

And concerning the target audience MAMbo comes to fit perfectly as a space in which educational paths proposed are based on a methodology which conceives art education as a stimulation for the development of sensitivity, for the understanding of one's own identity, the history and the reality around us.

³ <https://www.foodification.it/>

⁴ <http://www.mambo-bologna.org/en/museo/edificio/>



Figure 4 <http://www.mambo-bologna.org/en/dipartimentoeducativo/scuole/>

FICO and Banco Alimentare are being considered as well as institutions to support and enrich the project, in order to make the visitors aware of their impact over the topic discussed. With the first one being a foundation which designs, organises and promotes food, social and environmental sustainability culture and the second an accelerator between profit and non-profit organisations for the redistribution of food surpluses managing also the National Food Collection Day.

RELEVANT CH ASSETS

Something trivial to the project is the Mediterranean diet in itself and its aspects being part of the list of the Intangible Cultural Heritage of Humanity. The diet involves a set of skills, knowledge, rituals, symbols, and traditions concerning crops, harvesting, fishing, animal husbandry, conservation, processing, cooking, and particularly the sharing and consumption of food.

Also emphasises values of hospitality, neighbourliness, intercultural dialogue and creativity, and a way of life guided by respect for diversity. It plays a vital role in cultural spaces, festivals and celebrations, bringing together people of all ages, conditions and social classes.

Women play an important role in transmitting knowledge of the Mediterranean diet: they safeguard its techniques, respect seasonal rhythms and festive events, and transmit the values of the element to new generations. Markets also play a key role as spaces for cultivating and transmitting the Mediterranean diet during the daily practice of exchange, agreement, and mutual respect.⁵

⁵ <https://ich.unesco.org/en/RL/mediterranean-diet-00884>

CULTURAL HERITAGE TOPIC

Food has been the theme of many cultural heritage studies, but mainly its impact in social and cultural aspects has been observed and how it creates social bonds as it simultaneously marks off and maintains cultural differences.

Italian food is being observed here as the element that fosters social gatherings and intergenerational exchange in a culture nurtured by the Mediterranean diet, of wealth and food inclusivity (the Mediterranean diet does not exclude any kind of food from its framework and includes also foods imported from the American Continent years ago).

A great example of that is the Art of Neapolitan ‘Pizzaiuolo’ considered an intangible cultural heritage of humanity by UNESCO, in which, the specific preparation of pizza by the Master Pizzaiuolo, the Pizzaiuolo and the baker is kept alive for centuries and having this knowledge guaranteed and appreciated by families.⁶



Figure 5 <https://edition.cnn.com/2017/12/07/europe/naples-unesco-pizza-intl/index.html>

Truffle hunting is also recognized by UNESCO since its hunting and extraction is a set of knowledge and practices that has been transmitted orally for centuries. The activity involves a wide range of skills and knowledge (about climate, the environment and vegetation) related to the management of natural ecosystems and to the dog-truffle hunter relationship. This knowledge is passed on through oral traditions, including stories, fables, anecdotes, and expressions that reflect the local cultural identity and create a sense of solidarity within the truffle hunting community.⁷

⁶ <https://ich.unesco.org/en/RL/art-of-neapolitan-pizzaiuolo-00722>

⁷

<https://ich.unesco.org/en/RL/truffle-hunting-and-extraction-in-italy-traditional-knowledge-and-practice-01395>

Renaissance also brought some historical dishes that are still alive in people's tables with some very interesting explanations behind it. Legend claims that Tortellini was inspired by the goddess Venus' navel. An Italian mediaeval legend tells how Venus and Zeus, weary one night after their involvement in a battle between Bologna and Modena, arrive at a tavern in a small town on the outskirts of Bologna. After eating a hearty dinner and becoming slightly drunk, they decide to share a bedroom. The innkeeper, captivated after watching them, creeps to their room and peeks through the keyhole of the bedroom door. However, all he can see through the keyhole is the navel of Venus. This vision leaves him spellbound – so much so that he immediately rushes to the kitchen and creates a pasta inspired by Venus' navel...and so was born the Tortellini.⁸

8

<https://www.barilla.com/en-us/help/product-related-questions/what-is-the-origin-of-tortellini#:~:text=Legend%20claims%20that%20Tortellini%20was,on%20the%20outskirts%20of%20Bologna.>

INTRODUCTION TO THE PROJECT

In one of their articles,⁹ Carrozzino and Bergamasco address the “process of desacralization of the museum institution”, in which real, potential, and remote users constitute new categories of public, ignoring the wall that for years has separated the academic world from the pop culture.

The user nowadays is citizen of the world, immersed in the global culture and in search of his/her own community; if we wanted to refer to the contemporary society, we'd probably rely on words like “fluid”, “liquid”, “complex”, to indicate a state of being “in the middle”, in the uncertainty. It's the so-called “Liquid society”¹⁰ that develops horizontal networks and unusual (new) ways of living the Onlife.

In this context we tried to imagine a hybrid modality for a virtual exhibition, in which technology doesn't substitute, but integrates knowledge and spaces supporting the museum to keep its communication and strategies at its best.

Since this project is being written quite after the pandemic era, we decided to base our project on the extreme power of design, art, and interaction media, intended as three channels that, more than ever, are capable of provoking and stimulating different viewpoints at a wider audience.

The theoretical frameworks at the core of Interactive Media Design and Digital Humanities allowed us to envision “an image for a museum” that could be (more) human, “without walls” as Malraux would have said, favouring a set of activities that could be accessed in a new environment: we introduced in our discourse an interactive museum, or better, an interactive “laboratory” made by people, for people.

Following this discourse, that's where the Virtual Experiences comes on stage. According to the documentation of the SPICE project,¹¹

“We define citizen curation as citizens applying curatorial methods to archival materials available in memory institutions in order to develop their own interpretations, share their own perspective and appreciate the perspectives of others.”

In this optics, we see the spectator overseeing his/her decision process and physical space, going through that “relational aesthetics” and practice. Through this practice, the spectator can be an actor, decoding layers of realities that can be lived and experienced only in the moment of the physical and virtual experience.

⁹ Carrozzino, M., and M. Bergamasco. 2010. "Beyond virtual museums: Experiencing immersive virtual reality in real museums." *Journal of Cultural Heritage* 11 (4): 452-458. doi: 10.1016/j.culher.2010.04.001.

¹⁰ For more, read: Bauman, Zygmunt. *Liquid Modernity*. Cambridge, UK: Polity Press, 2000.

¹¹ For more, read: Gangemi, A., Peroni, S., Pescarin, S. et al. "Enabling Multiple Voices in the Museum: Challenges and Approaches", in DCS | Digital Culture and Society | Vol. 6, Issue 2, DOI 10.14361/dcs-2020-0213.

And here is where the magic happens: one time out of the museum, the expectation/wish is that our target users should gather a moment of realness and two important elements: one, intangible, that is a sense of empathy and belonging on a place and a set of values; the second, tangible, that is the food. Indeed, at the end of the exhibition, people will be invited to buy food; part of the proceeds will be given to charity.

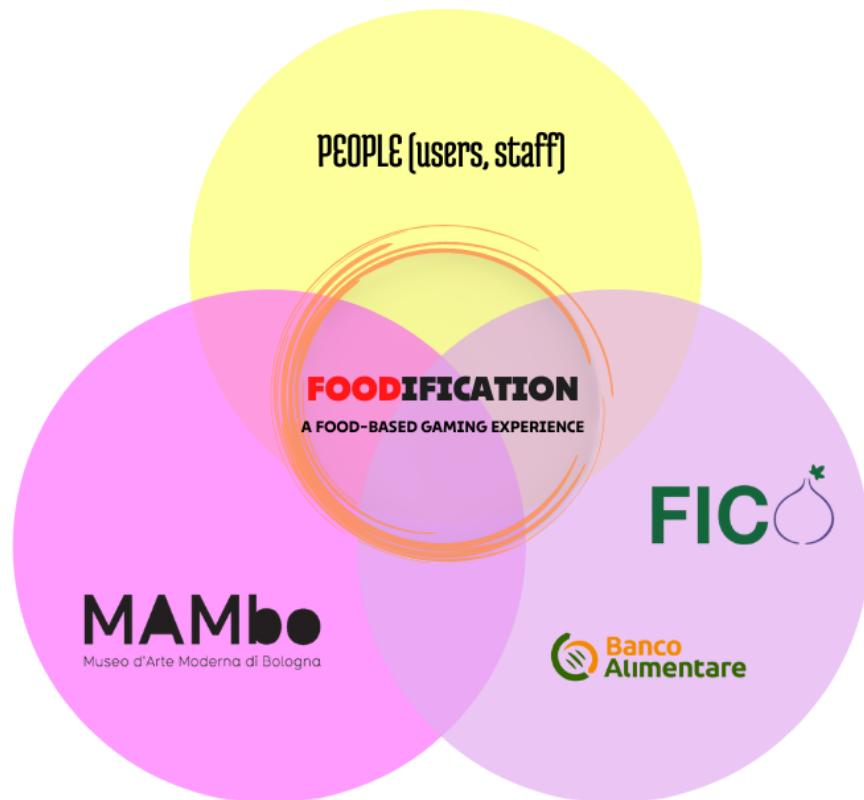


Figure 6 FICO is the means, MAMBO is the host, PEOPLE are the engine

Taking the PACT framework as a good starting point for the realisation of our model, we applied it following the 4 core categorizations proposed by Benyon*: People, Activities, Context, Technologies. We will further explain each of them in the following sections.

Following the concept of “food for thought”, we were inspired to merge the world of Italian food culture, presented as “intangible heritage” according to UNESCO definition, together with a compelling history of the hosting space in which the VR experience takes place.

Arriving at this point of the brainstorming, we tried to understand where to categorise our potential virtual exhibition, according to the study proposed by Simona Caraceni in “Designing A Taxonomy For Virtual Museums For The Use Of Avicom Professionals”.¹²

Since one of the set-up goals is about education, we believe that the Foodification project merges type B with the type F referring to a “virtual museum performing EXPERIMENTATION of NEW MUSEOLOGICAL MODELS with OPEN INTERACTION in an OPEN SPACE showing SELECTED or ALL OBJECTS from the museum collection, ALLOWING visitor CONTRIBUTIONS.”

This choice will be explained in the following sections.

An experience involving food as cultural heritage needs well-organised spaces for sure, but that's not enough. We thought about the Mambo Museum. Here's what we can read on the official website of Mambo:

“Nuovo Forno del Pane is a cross-disciplinary production centre that transforms the spaces and function of MAMbo's Sala delle Ciminiere: from an exhibition space to a production space, a creative community where art becomes ‘bread for thought’ and the museum turns into a bakery, a creative incubator, a space that the city of Bologna offers to its artists to make a new start, to be born again after this global emergency.”¹³.

As you can understand, the spatial organisation of the museum is based on a pre-existing structure. Since our place of interest is Bologna, we soon noticed how the city centre is devoted 99% to food and aggregation places.

So, basing our research on field studies and research, we analysed emotions towards “the museum”, intended as an institution and place to inhabit. We were inspired by the theory of relational art of Nicolas Bourriaud and we tried to create at the end a relational imprinting that could generate social cohesion through a learning activity, conscious that audiences can be different and have different needs.

¹² Caraceni, Simona. "Designing A Taxonomy For Virtual Museums For The Use Of Avicom Professionals". Plymouth, University of Plymouth, 2015.

¹³ For more, visit: <http://www.mambo-bologna.org/en/mostre/mostra-295/>

Having different backgrounds allowed us to see the “problem” from different perspectives, asking ourselves: how do we match an intangible object with a tangible one? How can technology enhance not only meaningfulness towards the museum experience, but also a “glocal” approach in Bologna society?

Being aware that actions that cause real innovation can be triggered by continuously changing point of view, we put ourselves “in medias res”, in the dialogue between the digital and humanistic world, with a lean approach. Indeed, being involved in the Digital Humanities and Digital Knowledge studies put us in a position of deeply understanding the importance of merging different disciplines and fields to face the complexity of the zeitgeist.

To change point of view is our maximum asset when it comes to dealing with innovation that is sought for being produced in a sustainable and ethical way. As said, putting yourself in the middle between the opportunities offered by the digital and the human capital puts in evidence the clearest path for our vision: a collaboration environment between institutions, in a perspective of coopetition, rather than competition.

As we know from Colbert schooling¹⁴, the Baumol law speaks clearly: cultural institutions are more likely to have high-cost production faster than a non-cultural institution. One of the first factors of this behaviour is for sure the fact that cultural institutions cannot rely on a productivity increase, but we could continue here for a whole chapter.

Keeping our discourse on these knowledge fields, the first match envisioned for MAMBO museum has been the one with FICO, the Italian Food Theme Park in Bologna and one of the largest in the world of its genre. Devoted to the agri-food sector and gastronomy, it is located in the former spaces of the Agri-food Centre of Bologna. The third institution envisioned for this project is Fondazione Banco Alimentare Emilia Romagna Onlus, engaged, among other things, to collect (for free) edible food products that for various market reasons can no longer be marketed, at this point destined for destruction.

As one could guess, the word “coopetition” comes from the words “competition” and “collaboration”.

In a coopetition project, the once considered competitors become part of the same team for the scope of mutually beneficial results. However, to make this possible it is important that involved institutions share the same values.

¹⁴ Colbert, François. "Marketing culture and the arts". Montréal : Presses HEC : Distributed by Chair in Arts Management, Ecole des HEC, ©2001

In this sense, we drew a *file rouge* between Mambo museal spaces, once devoted to a commercial activity, together with the mission of FICO, part of the homonymous foundation, whose core values are resumable in the promotion of a conscious consumption, the promotion of knowledge of food and nutrition education. This path goes along with Banco Alimentare, to enrich the project in a sustainable way: this institution fights against food waste, nurturing a funnel from non-profit to profit institutions. Sharing, responsibility, sustainability, and passion are the words that guide the Association's activities every day.

We cannot deny that we asked ourselves how the museum of the future will be. Well, some of us have envisioned the museum of the future as an observatory for the city, in which all the archives become open, at the service of the citizens, to build historical memory and offer a laboratory space in which to build the future visions¹⁵.



Figure 7 MAMbo, FICO and Banco Alimentare logos.

¹⁵ Please see the curatorial work done by Jeffrey Schnapp on occasion of “Animated Archives // Work in Progress” (November 23, 2019 until May 17, 2020) at Cirulli Foundation in San Lazzaro di Savena (BO). For more: <https://fondazionecirulli.org/exhibition/larchivio-animato-lavori-in-corso/>

LOCATION AND MAIN INSTITUTION

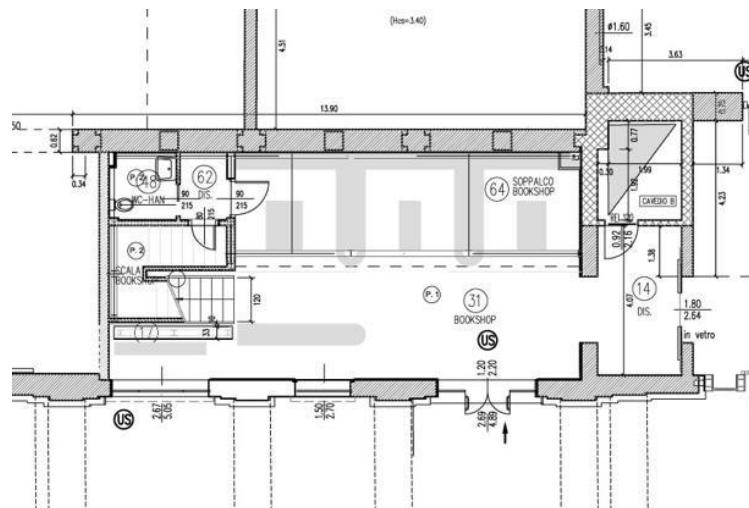


Figure 8 Planimetry of the MAMbo museum

The location we thought as the most appropriate for our project is the museum MAMbo (Museo d'Arte Moderna di Bologna).

Located in the heart of the *Manifatturiera delle Arti* - an infamous zone of Bologna - MAMbo's history is truly complex and interesting.

In fact, the building which is currently hosting the museum used to be a bakery¹⁶, which was later transformed and repurposed during the '90s.

We believe that because of this, it'd be rather interesting to host our food-based gaming experience in a site that used to be related to food.

This would be a way to connect what MAMbo used to be with what it has now become, a place where knowledge is shared and learned, a purpose similar to the one of our own projects. Due to its fluid narrative and varied catalogue that travels through contemporary history and culture, it seemed the perfect place for our interactive project. The space it offers seems also very suitable for our exhibition.

We thought that the most appropriate room to host our project would be the *Sala delle Ciminiere*, which hosts all the temporary exhibitions of MAMbo, hence it'd be perfect for our own temporary exhibition.

¹⁶ From the section *Identità e Storia*. MAMbo, Museo Arte Moderna Bologna <http://www.mambo-bologna.org> [last accessed: 25/5/2022]



Figure 9 Three pictures of Sala delle Ciminiere

It'd also be a further link with our food thematic, the fact that a few parts of the old bakery are still visible, hence it'd make the entire experience even more suggestive, and this could be implemented using storytelling to further explain the site's history.

Still, this room isn't only suggestive, but it also is big enough to properly host our activities and the groups, since the visitors would probably walk through the exhibition grouped together, instead of wandering through singularly¹⁷.

A few more interesting things about this location are the fact that on the same floor as the one of *Sala delle Ciminiere*, a visitor can find the restaurant/bar of the museum - an interesting offer to further involve the visitor in the museal context - and the bookshop.

This way the visitor has everything they might need on the same floor, in an easy path that won't take them too much time to learn and understand, to limit the stress felt during the exhibition and to further enhance the enjoyment and sensations of this experience¹⁸.

Still, it'd be interesting - and it's one of our goals - to further expand the visitors' interest for the museum, hence it'd be good to also give the visitors incentives, to visit the first floor, which is currently hosting the permanent exhibition of the museum to further encourage visits to MAMbo, even after the end of the exhibition.

Our main target audience for this project is families. Family is a concept which is constantly evolving, hence it isn't something easy to define, since it'd end up excluding specific minorities.

Hence the most fitting description we found was the one of Kai-Lin Wu:

«Any multi- generational social group of more than two people, containing at least one child, who have biological or legal ties that visit a museum as a unit»¹⁹.

¹⁷ Celli, Chiara, *Un percorso fra natura e storia il museo della città di Cesena lungo il fiume Savio* [master thesis], Università di Bologna, 2009-2010, pp. 22-27.

¹⁸ Ibid.

¹⁹ Wu, Kai-Lin, *What do families with children need from a museum?* in «Cultural Policy, Criticism and Management Research» (Issue n. 2), 2007.

https://culturalpolicyjournal.files.wordpress.com/2011/05/ejournal2_wu.pdf [last accessed: 25/5/2022].

This description allows us to define our target, without being too limiting and, at the same time, identifying a clear group of people, which is composed of at least one adult and a child.

During these last years, families have become one of the main targets of many museums, even going as far as to offer various programs for them, and most importantly entertaining for the children.

A 2019 survey proved that museums appeared to be the most popular among cultural heritage activities, although many still recorded having had a bad experience because of a «lack of child-focused activities, cost, and a general perception that heritage organisations are not child friendly»²⁰.

Our project aims to compensate for these problems, through the straightforward involvement of families with a hands-on task – the one of the mobile applications – and interactive interfaces which have proven to be quite helpful in the children's learning approaches²¹.

Through the children we hope to gain the parents' approval and attention, since according, again, to Kai-Lin Wu:

«Any leisure choices that could benefit the children, either intellectually or physically, was considered as a meaningful choice by the parents»²².

Hence, parents tend to choose museums and activities that might benefit their children and a child's satisfaction and curiosity might influence the parents' overall opinion about the experience.

The importance of leisure activities in the family experience at the museum is also something that we took in consideration when it comes to the actual learning experience behind the project.

In fact, the activity of family learning - «a social and collaborative activity, in which the group works together to build a meaningful experience, learn from each other, and develop knowledge while interacting and engaging in a dialogic exchange»²³ - is one the main points of the activities we produced for this exhibition.

²⁰ Adams, Geraldine Kendall, *Museums are the most popular heritage attraction for families in «Museum Association»*, 2019.
<https://www.museumsassociation.org/museums-journal/news/2019/08/29082019-museums-most-popular-for-families/> [last accessed: 25/5/2022]

²¹ Ibid
²² Wu, Kai-Lin, *What do families with children need from a museum?* in «Cultural Policy, Criticism and Management Research» (Issue n. 2), 2007.

²³ Cruz, Waila, Lange dos Santos Guedes, Leandro, Massarini, Luisa, Rocha, Jessica Norberto, Scalfi, Gaziele and Silveira, Yan, *Families Visit the Museum: A Study on Family Interactions and Conversations at the Museum of the Universe* in «frontiers in Education», 2021.
<https://www.frontiersin.org/articles/10.3389/feduc.2021.669467/full> [last accessed: 25/5/2022]

Learning together is a form of social cohesion in this environment, allowing the children not only to learn, but also to first-hand experience and compete with their parents in a challenge that we hope to be a fun and meaningful experience for them.

It is also important to remember, when it comes to understanding why we choose families as our main target, the importance of food in the familial environment, in Italy. «Eating is central to family life in Italy»²⁴ is a very important – and true statement – that can't just be ignored.

So, when we first started thinking about the setup of the exhibition and the theme behind it, it was impossible not to think about how food is an element of aggregation for so many families.

Hence it was impossible not to produce a food-based gaming experience, without thinking firstly of how a family would have worked in such an environment and what were the main points we should have focused on to further create an unforgettable experience for them.

Having chosen families still didn't come without its own shortcomings, such as the fact that many times the parents work long hours during the week and are free only on the weekends, and it is rather rare for a child to visit a museum on its own.

So, it'd be good to extend and create appropriate opening hours, during the weekend, national and religious holidays²⁵ to welcome as many families as possible, but without overcrowding the place.

To do this, it'd be a good idea to divide the visitors in time groups, suggesting the possibility to book online the most appropriate hour for the activity; this would give the family a better possibility to organise themselves – even more if we are talking about tourists – and the opportunity to adapt the visit to their own needs.

Another incentive to make families more comfortable in museums is to offer them places where they could rest and socialise, for examples restaurants or bars, which is something that MAMbo offers as well, on the same floor as the exhibition²⁶.

Finally, it'd also help with reaching our target audience, the possibility to offer family discounts for the tickets or, for example, to visit FICO, with which we are collaborating for this project, or even more easily for the bar/restaurant of the museum to be further involved in the museal experience.

²⁴ Niedenfuehr, Jenny, *Anthropology: Italian Cultural Traditions Surrounding Family and Food*, 2021. <https://www.yoair.com/blog/anthropology-italian-cultural-traditions-surrounding-family-and-food/> [last accessed: 25/5/2022]

²⁵ Boylan, Patrick J., ICOM, *Running a museum: a practical handbook*, France 2004, pp. 167-168.

²⁶ Ibid

Obviously, although the exhibition was mainly designed for families, through small and smart suggestions that might benefit adults and children alike, it is open to other social groups as well.

For example, for unaccompanied adults, it is possible to book a session of wine-tasting, instead of certain parts of the exhibitions which are more designed from children. During this session of wine-tasting, it is possible to discover more about the culture behind the wines and their main properties and other interesting food facts.

We thought it best not to be too limiting with the age of the participants, since the theme of the exhibition is quite universal and there are various activities through it which might interest different age ranges, since it isn't only a learning experience but a multisensorial one, through the food-tasting activity.

In the future it'd be also possible to implement a multi-levels option for the mobile app, since it might be considered by older visitors – such as pre-teens or teenagers – a bit too easy and boring because it was designed for children.

This way, the possibility to choose a higher or lower level of the game would allow visitors to further challenge themselves and be more entertained and interested in this specific activity of the exhibition.

In the end, all people would need to visit this exhibition is just their phones – the mobile application part would virtually work with either Android or iOS, although it might encounter some struggles due to outdated technology or systems – and in the case in which they didn't own one or forgot it at home, it'd be possible to rent one for the exhibition, to give back at the end.

For the VR experience, they'll be instead furnished with a headset and joystick set by the museum, to properly enjoy and experience the activity.

People with disabilities aren't excluded from these activities, although a few accommodations to allow them to enjoy the exhibition just like everybody else, might be needed (such as audio guides for blind people or sign language translations for deaf visitors).

It is also important to point out that for people with food allergies, alternatives will be available to adapt to their own needs during the food-tasting activity, this way everybody will be able to fully enjoy this experience.

This way it'd be possible to operate an equal exchange between our project and FICO, offering advertisements in exchange for their help with the food-tasting experience.

INSTITUTIONAL GOALS:

We set up three main institutional goals for our project.

The first one was to create a change in the visitor's beliefs and attitude.

This is something that we aim to obtain mostly through the VR installation and its provocative narrative.

Oftentimes, a provocative behaviour tends to create a change²⁷ and a challenge for those who are on the receiving end of such an attitude.

This is something that we hope to do, through our “plate shifting” exercise, challenging children - and not only - to see past the differences and learn more about food wasting.

We hope to offer a challenge for the visitors' beliefs about food, identity, and food-wasting, to start a change in their minds and hearts about such themes.

Our second institutional goal is to further increase the memberships both for the museum MAMbo - both from a tourist audience and a local one - and most importantly for FICO.

The park has closed for a certain amount of time during the first lockdown, to reopen again after rebranding itself in a new sector - the one of entertainment - to gain a new kind of audience²⁸.

What we want to do with our project - if it will be supported by a collaboration with FICO - is to bring new life to this interesting park, advertising it and its products through our exhibition and if possible, offering special discounts for visiting it, after having been at our exhibition, to further encourage visitors to rediscover this interesting food initiative.

This way it'd be possible to operate an equal exchange between our project and FICO, offering advertisements in exchange for their help with the food-tasting experience.

Similarly, with our third institutional goal, we aim to increase the donations not only for the museum itself but also for the Banco Alimentare, a third entity with which we'd like to collaborate.

In fact, at the end of the exhibition, in the gift shop of MAMbo, it'll be possible to find a small section with a few FICO products or of other small Italian businesses, which can be bought by the visitors, but they won't be the one taking them home.

Instead, the products - alongside the money - collected will be donated through Banco Alimentare to people in need across Italy, this way to further channel our intention to enhance empathy and a caring attitude.

²⁷ Rossou, Maria, et al., *Transformation through Provocation?*, proceedings of the 2019 «CHI Conference on Human Factors in Computing System», 2019.

²⁸ Invernizzi, Isaia, *Cos'è andato storto a FICO* in «Il Post», 2021.

<https://www.ilpost.it/2021/01/24/fico-bologna-sopravvivere-rilancio/> [last accessed: 25/5/2022].

COGNITIVE GOALS

Through our exhibition the cognitive focus and goals change.

We first have the mobile app part, which is composed by a narrative line of questions and a multi-sensorial experience. Through watching videos of experts and tasting the food mentioned, the visitors are meant to learn more about Italian culture and its food, comprehended legends, facts, and recipes.

After having answered correctly to all the answers, the family will receive through their email – which they are asked to share with the application after having scanned the QR code to open it- the recipe of an infamous Italian food, in order not only to bring the hands-on experience outside of the museum but also as a reward system, to enhance people's satisfaction and attention to the exhibition.

During this first step we aim to enhance the visitor's sense of identity and belonging, showcasing the different aspects of Italian culture in its main expression: food.

But this also aims to enhance the meeting of cultures, since many typical Italian foods - for example pizza - have different origins or different versions through the centuries and countries.

This way the families are first interfaced also with diversity, which will become - during the VR experience - the focus of the exhibition, but first the visitors are pushed to listen to the history and facts behind food and Italian culture, to be able to then take another's perspective.

The VR experience starts the actual activity of learning how to deal with diversity and develop the sense of acceptance of it, in an exercise based on empathy and provocation. Empathy because through an exercise of perspective taking and active listening – the one of “plate shifting” - the visitors can change their own perspective – practically also shifting the material plate - and see past prejudices.

Alongside this they have the possibility to listen to others' perspectives, learning more about the consequences of food wasting and how they can help avoid such a thing, in their own small way. Through this experience, we also use provocative questions to further stimulate the dialogue and change in the visitor's perspective.

Dialogue is in fact our final cognitive focus, since we hope that we'll be able through dialogue to actual increase the collaborative mindset of our own visitors to make them more caring and empathic towards the world outside, as they are meant to be during the VR experience, becoming more aware of others and themselves²⁹.

²⁹ McKinney, Sierra, et al., *Developing digital archaeology for young people: A model for fostering empathy and dialogue in formal and informal learning environments*, in «COMMUNICATING THE PAST», 12, 2020, p. 179.

NEEDED PERSONNEL

A fundamental role in the exhibition is played by the appropriate personnel, which will oversee it.

We'd need competent people in the technological field to develop the interactive interfaces, but also some in the museal field as well, such as experts for museum education, to help us further convey our educational message.

As previously stated, we could ask for MAMbo's own experts to have a further insight on how the museum itself works, working in a strict collaboration with the curator and exhibition designer.

Whereas from FICO we'd need a few of their workers and experts, to record the informational videos that will be projected through the exhibition through projectors.

A few volunteers from Banco Alimentare may also be needed to help with the gift shop and to explain our collaboration project to the visitors, and to inform them about their purpose and work.

It'd be good also to suggest a social media campaign - mostly on TikTok and Instagram - to further spread the news about the project.

This could be further obtained through the employment of influencers, for example food bloggers. Social media might also be a good way to receive feedback from the audience, hence it might be useful to also have some personnel involved in this sector, such as a social media manager.

Finally, after having found and defined the personnel, the technologies and set ups we'd need, it is good to remember that it'd be useful to have a way to receive feedback on the exhibition from the visitors, which could be produced through a survey proposed by the mobile app, at the end of the exhibition.

This way, we'd be able to understand what is working and what isn't working in our exhibition and to work on it in the future, to produce a better version.

EXPERIENCE DESIGN

This section aims to describe what the user will experience by approaching the exhibition, by using the tools which are available throughout the whole path and how he/she can interact with the environment surrounding him/her.

THE EXPERIENCE

The goal of the experience is to allow the visitors to follow a path through the Italian regions and to learn something about their culture, heritage, and food traditions, having a little taste of food in every spot. For children an application has been designed to allow them to play during the exhibition, but they will also annotate on a physical board a sort of rank of the various meals tasted during the experience, to better face the VR experience at the end of the exhibition path.

FORESEEN WORK:

Wooden tables on which food will be presented by experts and compostable crockery will be needed to allow visitors to taste food. Projectors will be needed for transmitting videos of experts talking about food and traditions of the regions.

THE APPLICATION

To start with, we are talking about a gaming-based experience, meaning that the core feature of it is a game developed for children, in the form of an application for smartphones. Starting from the concept of gamification, which refers to the use of design elements characteristic for games (rather than play or playfulness) in non-game contexts (regardless of specific usage intentions contexts, or media of implementation)³⁰, we developed a demo for the app, which can be accessed by clicking on this link:

<https://www.figma.com/proto/9Du4hwz2mYIZfWpqKENnaf/FOODIFICATION?page-id=0%3A1&node-id=4%3A3&viewport=-216%2C367%2C0.66&scaling=scale-down&starting-point-node-id=4%3A3>

Before starting the game, a series of instructions on the functioning of the game will be communicated to the players and an email will be asked to the parents, in order to receive the final prize, when the last answer will be delivered.

The user will be able to activate the application with a QR code at the beginning of the exhibition, by either using their own mobile phone or by asking for one of the devices available at the beginning of the exhibition.

³⁰ Deterding, Sebastian, et al. "From game design elements to gamefulness: defining "gamification". Proceedings of the 15th international academic MindTrek conference: Envisioning future media environments", 2011.

The game consists of a treasure hunt, which has a setting in Italy, thus the “home” interface is the map of Italy, and the player must go through a series of missions, which are accessed by clicking on the icons corresponding to various Italian regions. Every single mission is composed of a series of questions (one or more for each mission), with some explanation in between one question and the other. The user, who is a child, will be given simple instructions to understand in which spot he/she finds, by displaying a simple red triangle.

For understanding the path that he/she must follow, the user will look, in the physical exhibition, for the icons displayed on the map (for example, the Chilly Pepper, which corresponds to Calabria).

On the various physical spots, related to the various regions, further QR codes will be available, in order to access videos of experts talking about the food, the cultural heritage or giving general information about the region, displayed on screens or with projectors.

In this case it'd be good to employ a few installation or movie theatre projectors, since they might be the best option when it comes to offer a good resolution of the images and of the light, although they might be substituted by portable ones, which offer a less quality but are considerably cheaper and they might more easily manageable.

These pieces of information will be essential for children to correctly answer the questions and to give a specific context to it. Other information and hints will be given before asking the question itself on the application.





Figure 10 A rendering of Sala delle Ciminiere with QR codes and media screens for displaying the informative videos.

The question is given by clicking on the square near the answer a first time: if the answer is correct, the little square will be coloured in green. In the demo, the handling of the un-correct answers is not present, but of course the colour of the square will be then red. To proceed to the next step, an instruction appears under the options saying “tap again to the answer” to go on with the next mission. It is also possible to go back on the map by clicking on the “back to the map” button.

Once the last mission is reached (i.e., once the Star is clicked), after giving the answer, the last page is displayed, announcing the success of the mission, and communicating that soon the user will obtain the final prize, thus a typical recipe (which will be delivered by email) of the region corresponding to the star (in the demo, Emilia Romagna).

The demo only shows a small set of operations that can be done for interacting with the application, which in the future could be surely expanded and improved by thinking of solutions suitable also for other ages (e.g., teenagers).

For what concerns the look of the application, as can be seen from the demo, the game is inspired by the famous Nintendo game Super Mario, being it a conjunction, in our

opinion, between the older generations (i.e., parents) and the younger (i.e., children), since the adventures of the Italian plumber are still among the most played in the game industry.

FORESEEN WORK:

To realise the demo of the application, the software Figma has been used. Figma is currently one of the most used tools for the UX design, allowing the user to create mood-boards, workflows, interfaces and, as in this case, working prototypes of designs of interactive applications and web applications.

The demo is entirely realised by hand, through vector graphics, by creating different Frames, corresponding to specific smartphones' screen characteristics, and connecting them to make them work as the real application.

The project can be browsed from the link attached and a graphical representation of the design follows:

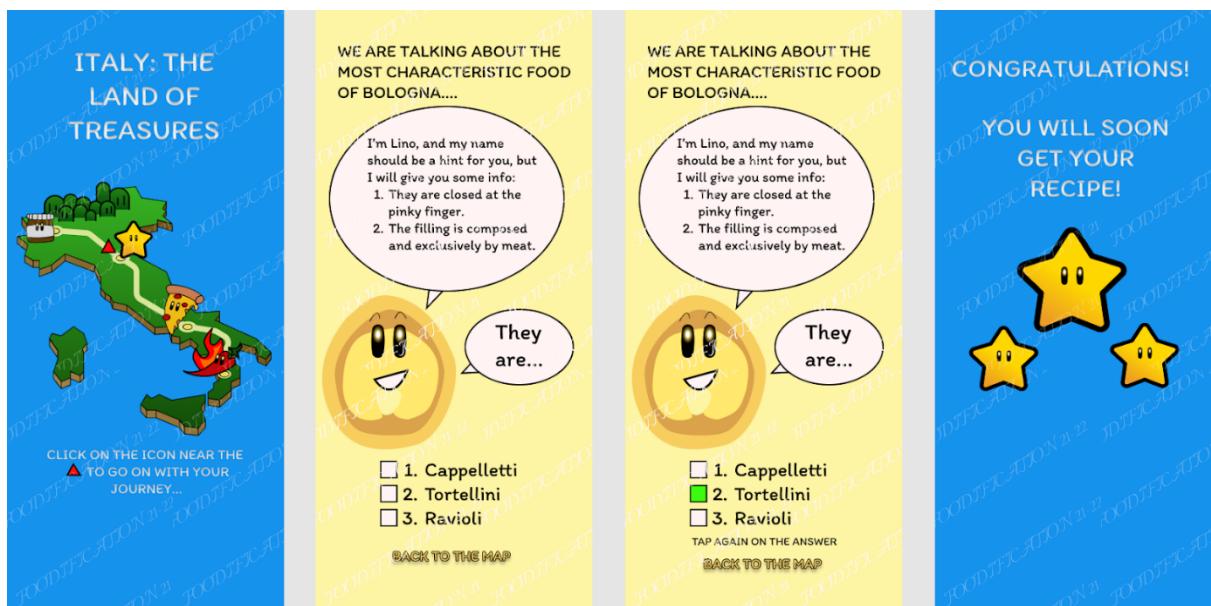


Figure 11 The smartapp demo, created with Figma.

This demo should be the basis for the real application, which would be developed and improved by expert programming engineers. Being a webapp, the most suitable programming language would be Javascript, with a server-side environment for handling the different stories (i.e., either for children or for teenagers).

VIRTUAL EXPERIENCE

The concept of Virtual Reality relies on two main ideas: the idea of creating a realistic world, in the digital/virtual environment. By combining these two approaches, the user will live an authentic experience, but in an artificial it is defined as “an artificial environment experienced through sensory stimuli (vision, sounds) provided by a computer in real time”³¹, and again as “a computer-generated digital environments that can be experienced and interacted with as if that environment were real”³², at the end of the exhibition.

We thought that the most suitable approach for our experience would be an interactive experience through headsets: head-mounted displays and sensors detecting the user movements would be available on site, and the user will have to interact with the Virtual Reality through a joystick.

The development of the VR environment would be given to specialised personnel, and possibly an agency that develops such activities. It'd probably be helped by an expert in storytelling to help with creating a sense of authenticity inside of the narrative.

The experience would take place in a separate room, allowing the interaction between players and the surrounding environment. We are talking about a multiplayer experience in which players, either adults, kids, or adult-kid pairs, are asked to play in two. They will choose an object inside the virtual reality that will make them live two different experiences: by choosing a wooden fork, they will personify a poor child, living in the streets and fighting every day for finding something to eat, by choosing a wooden plate, on the other hand, they will live the life of a child in the upper-class society, living an “extra” life, surrounded by servants and by waste of food.

They will interact with each-other and at the end of the experience, after making them state what has been their favourite food in between all the food tasted during the exhibition, a provocative question will be asked to the rich child only: “Would you donate your favourite meal to the other child?”. If the answer is yes, they will start a journey together trying to help other people starving in the streets, by looking for food wastes in the city (i.e., going outside restaurants at the closing hours to collect food which would be normally thrown away otherwise). If the answer is no, the story will start again, but the player would now play the role of the poor child instead.

The experience for an adult audience only it's slightly different: they will still become either a poor or a rich person, but they will watch videos of poverty and wasting of food to bring them to another level of empathy.

³¹ Merriam-Webster Dictionary, 2015.

³² J. Jerald, The VR Book, 2014, Springer, p.9-15.

Authenticity is very important in this context, since “authenticity is often used to capture dimensions of truth or verification”.³³ Indeed, studies show that people tend to search for authentic and memorable experiences to better understand the meaning of them. Authentic is thus defined as “what touches the deeper self of a person, what lasts, develops and changes together with the person”³⁴ and it also relies on memory, “the ability to retain information” and thus, the VR experience proposed by the exhibition aims to enhance the responsibility of the audience by making them think of situations in which they could have been better, they could have helped people in need or simply could have paid more attention to food-wasting.

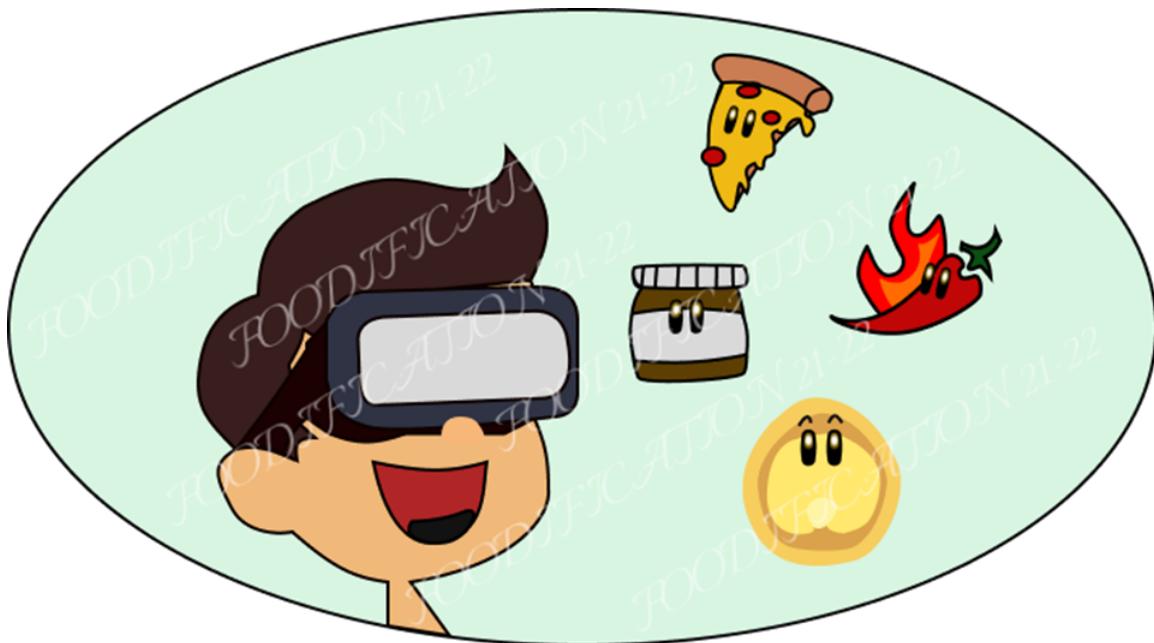


Figure 12 Didactic frame about the VR experience. Made with Figma.

A simulation of the VR experience can be found here: <https://angstigone.itch.io/foodification-a-vr-experience>

FORESEEN WORK:

To arrange the VR experience, a series of headsets are available in the exhibition. A lot of museums have already experienced this approach, from the Philadelphia's Franklin Institute (in 2016) to the Louvre (in 2019) to many others all around the world. Some problems could be faced during the staging of the experience, such as the higher costs, but the advantages for the museum itself and the audience are bigger: “VR has the potential to enhance museum exhibits. It allows curators to bring subjects to life and change the perspective of the viewer”.³⁵

³³ Beverland, Michael B., and Francis J. Farrelly. "The quest for authenticity in consumption: Consumers' purposive choice of authentic cues to shape experienced outcomes." *Journal of consumer research* 36.5 (2010): 838-856.

³⁴ Karl Jaspers. *Psychologie der weltanschauungen*. Springer, 1919 // *Psicologia delle visioni del mondo*, 1950.

³⁵ <https://www.museumnext.com/article/how-museums-are-using-virtual-reality/> [visited on 27/5/22].

WINE TASTING

An alternative to the VR experience is offered for adults. They could make their children play with other children in the VR theatre while tasting some high-quality wines of some of the most famous regions of Italy, with a detailed explanation about the right pairing for what concerns food and the right occasion in which the wine could be better savoured.

FORESEEN WORK:

Compostable glasses, wooden tables for the presentation of the different wines and a separated spot in the room.

FICO AND BANCO ALIMENTARE SHOP

At the end of the exhibition a small shop with products presented during the experience is arranged. Visitors can buy what they have tasted, and the money will be devoted as a fundraiser to Banco Alimentare, which will invest it for helping needed people in the city. Visitors could also decide to donate the food they have just bought, to further help Banco Alimentare with its mission. Both, visitors, and institutions are part of a great network of empowerment and awareness raising in this field. In addition to this, visitors will get a discount for the Bar of Mambo, in order to complete the experience by taking some rest and a discount to visit FICO, too, in order to fully live an immersive³⁶ experience in the world of food.

FORESEEN WORK:

FICO employees and Banco Alimentare volunteers to follow the fundraising and give information about food and associations to the visitors. Wooden tables are needed to present the products.

THE MAP & THE STORYBOARD:

To further conceptualise our project, we created:

1) a conceptual map, explaining the thought process behind “Foodification”

We used it as a starting point for the further development of our idea and we based it on:

- 1) the cognitive goals we aimed to fulfil.
- 2) our target audience.
- 3) the context behind our project.
- 4) the authorities needed for its full development.
- 5) the technologies employed for its interactive interface.

³⁶ Immersion can be defined as the physical feeling of being in a virtual space, [https://en.wikipedia.org/wiki/Immersion_\(virtual_reality\)](https://en.wikipedia.org/wiki/Immersion_(virtual_reality)).

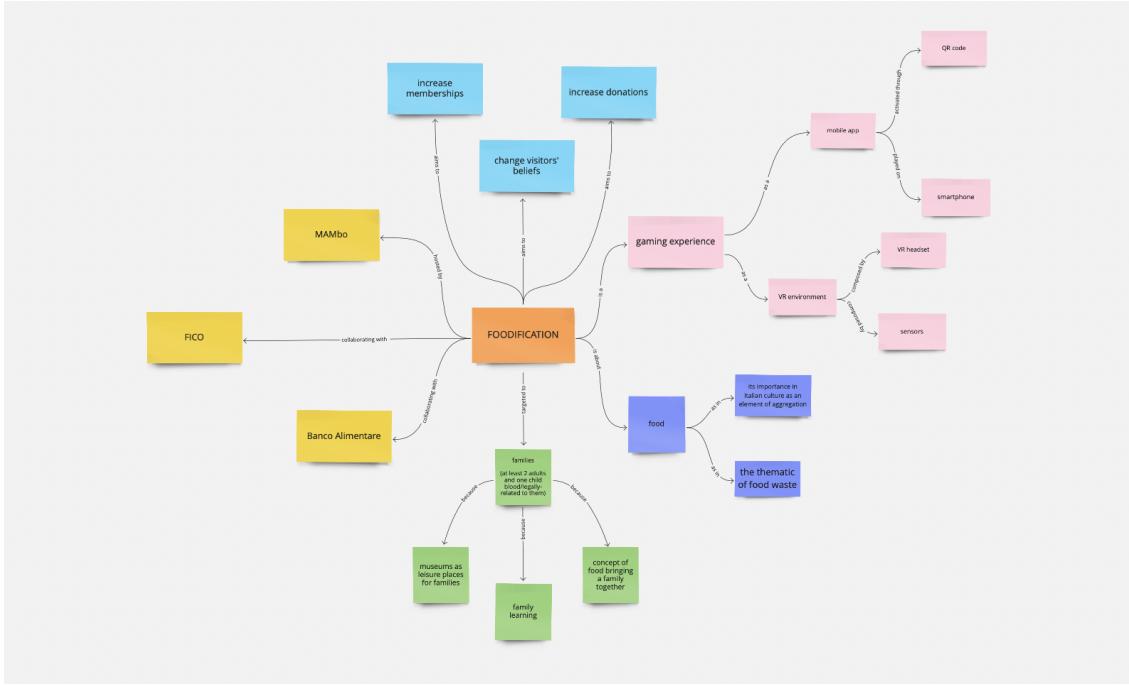
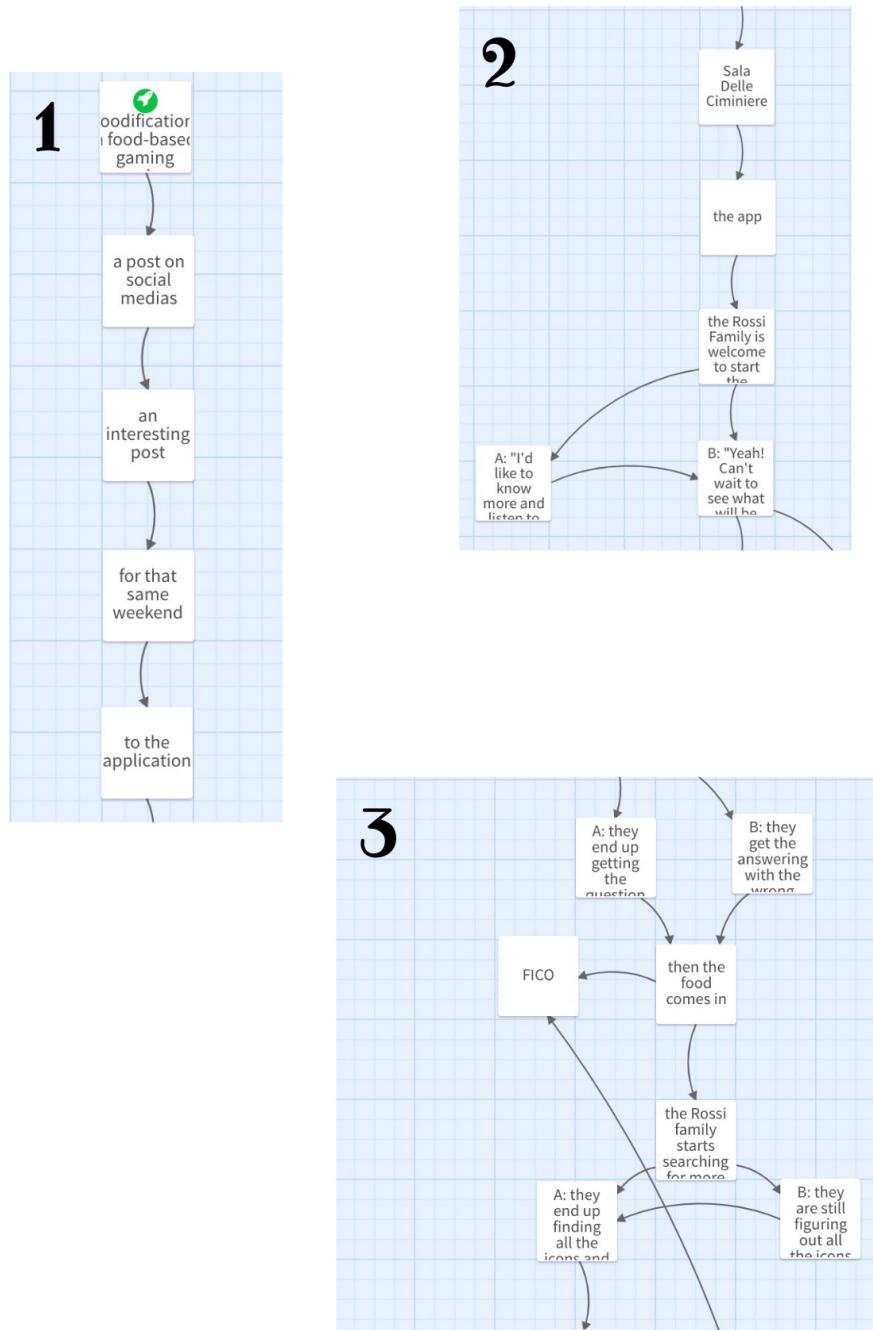


Figure 13 conceptual map of the project (see more at:
https://miro.com/app/board/uXjVOyyO_M=/?share_link_id=484045349310)

2) a Twine storyboard to represent a possible visit to the exhibition by a family.



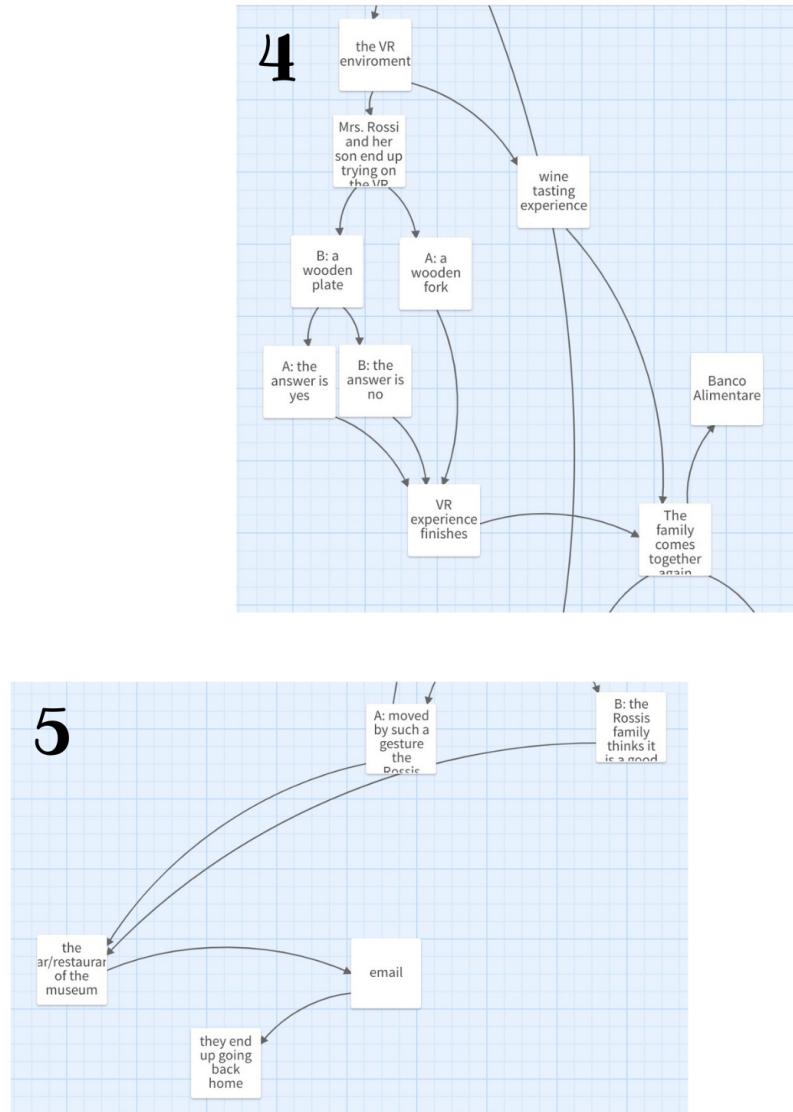


Figure 14-15 Twine storyboard (see more at: <https://angstigone.itch.io/foodification>)

TEAM ROLES:

It is good to say that this project is the result of a team effort, and we worked in multiple sessions together during the ideation phase and the following one of collecting information for our work.

Still, each of us worked on different specific sectors during the writing of the design brief.

Martina Pensalfini researched on the location, the target audience, the goals and the needed personnel. She also handled the Twine storyboard, the VR experience storytelling and the conceptual map.

Giusy Grieco took care of the theoretical, factual, and academic research, giving hints for what concerns a museum marketing strategies and supporting the vision and artistic direction of the project with specific field knowledge, where previous surveys weren't able to satisfy the research.

Camila Oliveira abstracted the context in which the project fits in as well as bringing some historic context of the importance of food, the definition of the project name, the reference institutions aligned with our goals, the relevant cultural heritage assets and the cultural heritage topic that is approached.

Olga Pagnotta took care of the experience design, the user needs and their interaction with the exhibition, with a focus on the foreseen work for its realisation. She also developed the demo of the application and the vector images with Figma.

Thank you for your attention!

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