

Forever Young - The Lucida Mansi Experience

Design Brief

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INTRODUCTION

Forever Young - The Lucida Mansi Experience is a project developed for the module [Digital Heritage and Multimedia](#), as part of the [Digital Humanities and Digital Knowledge](#) Master's Degree at the University of Bologna.

The project is based on the **legend of Lucida Mansi**, a noblewoman from a wealthy family based in Lucca in the 17th century. The title of the experience refers to the story of Lucida, who, according to the popular legend, made a pact with the Devil to preserve her youth for thirty years in exchange for her soul, and, when her time ran out, she attempted to delay the inevitable by sabotaging the Clock Tower of Lucca (Torre delle Ore).

This interactive and innovative experience aims at encouraging visitors to explore some of the main cultural attractions in the city center to discover an intriguing and mysterious story, along with experiencing state-of-the-art technologies such as **augmented reality** (AR).

The experience is set in the historical city center of **Lucca**. It starts in **Palazzo Mansi** and ends at Torre delle Ore, two cultural institutions that constitute the settings of Lucida Mansi's legend. It is planned as a temporary initiative promoted by the **City Council** in cooperation with the National Museum of Palazzo Mansi. The project aims to provide visitors with a unique, entertaining experience while educating them about the tangible and intangible cultural heritage of the city of Lucca.

Context

Reference Institutions and Institutional Goals

The project *Forever Young - The Lucida Mansi Experience* involves two main institutions related to the city of Lucca: the **National Museum of Palazzo Mansi** and the **Department of Culture, Events and Cultural Institutions** of the City Council of Lucca. These will be presented in the following paragraphs, along with their institutional goals.

Palazzo Mansi

Palazzo Mansi is located in the city center, inside the historical defensive walls. The museum was the residence of the **Mansi family** from the end of the 16th to the 20th century, until the death of the last descendent in 1956. It represents an

important testimony of the life of a wealthy family that lived in Lucca for almost four centuries. It was acquired by the Italian State in 1965 and opened in 1977 as a **national museum**, after some restoration interventions.

As declared in the official documentation, the National Museum of Palazzo Mansi aims at **enriching and enhancing** the cultural heritage in its custody, ensuring its accessibility and promoting its enjoyment¹. Main priorities are to hand down, enhance and promote the study and knowledge of its collections among the public and the scientific community.

Palazzo Mansi aims to **promote collaborations** with local, national and international partners and, through different tools, promote and establish integrated territorial networks for cultural and social growth that can also contribute to the economic development of the city and the territory. Finally, further priorities are to encourage and promote scientific and interdisciplinary research and communicate the results of its activities to the public and at multiple levels, thus fostering active participation of citizens and the scientific community.

The City of Lucca

Several cultural activities and cultural institutions in Lucca are managed by the Department of Culture, Events and Cultural Institutions of the City Council of Lucca. The goals set by the department are: the **enhancement of cultural assets** through forms of direct or indirect management of services aimed at their enjoyment; promotion and management of activities of cultural and museum institutions of municipal value; coordination with activities carried out by provincial, state, religious and private institutions; management of the "Network System" of provincial libraries and archives *BiblioLucca*; support for cultural activities through direct grants or other economic benefits.

Relevant Cultural Heritage Assets

Before starting with our ideation process, we decided to outline and clarify those **cultural heritage assets** which are relevant for our scopes. As to avoid repetition, we focused mainly on those more abstract, transversal or intangible cultural assets that weren't already discussed in the *Reference Institution (infra)* section. As to tell the truth, some of our cultural assets, namely Palazzo Mansi's interiors and the Botanic Garden, will also be further analysed within the *Locations (infra)* section.

Ultimately, we identified as relevant cultural heritage assets the following:

- Palazzo Mansi's interiors
- The legend of Lucida Mansi
- Lucida's supposed portraits
- Lucca in the 17th century

¹ Direzione Regionale Musei della Toscana: Statuto Museo Nazionale di Palazzo Mansi Lucca, Art. 2 (http://www.luccamuseinazionali.it/sites/default/files/STATUTO%20MUSEO%20PM_DEF.pdf).

- The Botanical Garden
- Lucca Comics and Games

Palazzo Mansi's interiors

Palazzo Mansi is one of the many possessions of the Mansi family, acquired in their flourishing centuries, exhibited as a sign of wealth and lived as magnificent mansions. It is situated in the city centre and encloses in its spaces an indeed **vast collection** of paintings, artworks, furniture, tapestries, precious objects and original, intact decorations. For these reasons, as well as for its milestone role in the chronology of a very **important Lucchese family**, its interiors are one of our relevant cultural heritage assets. More about Palazzo Mansi will be further explained in the *Locations* section (*infra*).

The legend of Lucida Mansi

Nella sua stanza popolò le pareti del suo nuovo amore: specchi di ogni foggia e misura, tersissimi, guardarono da ogni lato e quello di maggior confidenza fu sopra il letto a sostituire il tetto del baldacchino, così che Lucida sdraiata, le vesti non più necessarie, in questo si contemplava e dalle pareti gli altri specchi rubavano quanto potevano e se, per i movimenti, delle bellezze si nascondevano, altre ne sorgevano.

(Mario Tobino, [La bella degli specchi](#), 1976, Milano: Mondadori)

Lucida Mansi, the protagonist of our interactive experience around the streets of Lucca, was a noble woman whose life is not certainly documented and whose existence has always been at the centre of scandalous chatter and creepy **legends**. She has been associated and identified with Lucida Samminiati (Lucca 1606 ca - Lucca 1649), daughter of Lucchese nobles.



Vision of Lucca from above ([source](#))

She prematurely became the widow of her husband Vincenzo Diversi and she went on to a second marriage with the much older Gaspare di Nicolao Mansi, extremely rich member of a family trading precious silk all over Europe. It didn't take long until Lucida started seeking attention, satisfactions and, after all, entertainment in innumerable lovers, repeatedly cheating on her new wealthy husband. However, it seems as if the only person she was ever interested in was no-one but herself: not only she had a whole **room covered in mirrors** at Villa

Mansi in Segromigno - as to constantly be able to admire her own reflection -, but also she started killing all of her lovers just after she had had enough of their presence, just after they consumed their intercourse. In fact, some claim that she used to leave them falling in a ditch covered in sharp blades via a trap door on the floor of her bedroom.

One day, a terrible event occurred: surprisingly, she discovered a wrinkle on her face and started to cry, lost in despair, completely **mad at the idea of ageing** and losing her notorious beauty and attractiveness. It was at that moment that Satan itself, under the guise of a young man, appeared and offered her a deal: **30 years of non-ageing life** for her soul. Lucida accepted without hesitation and her lively life continued as if nothing had happened. She persisted in living, loving and killing in maximum luxury for other three long decades.



Lucca's famous defensive walls ([source](#))

After that, on the 14th August 1623, Lucida remembered the expiring agreement: thus, she tried to mislead the Devil and to run away from her destiny. In vain, she tried to run up the Luccese Clock Tower (la Torre dell'Orologio) as to stop the Clock's hands and avoid the unavoidable. In the midnight hour, the devil came and took her away on a chaise covered in flames and fire. They ran flying over the city and ended their race drowning in the Botanic Garden's pond.

In other versions of the same legend, they end their race in Villa Mansi's little lake or, again, Satan opens an abyss under Lucida's feet in the very same sountuous country house in Segromigno; alternatively, she follows her lovers' destiny in the trap door within the Bridal Chamber.

Lucida's supposed portraits

- Portrait of Lucida Mansi in Palazzo Mansi, Lucca ([source](#))



- Supposed portraits of Lucida Mansi ([source](#))



- Disappeared portrait of Lucida Mansi in Villa Mansi, Catureglio ([source](#))



- Supposed portrait of Lucida Mansi ([source1](#), [source2](#))



After some research, we gathered all the paintings in which the portrayed subject was at least once identified with Lucida. Given that we are dealing with a **mysterious character**, whose existence has not been totally confirmed by historical chronicles and who has always been wrapped in uncertainty and romance, we decided to get inspired by all these supposed representations as to ideate our model for Lucida and to conceive our narrative for the interactive exhibitory experience.

Lucca in the 17th century



Lucca by Braun & Hogenberg, c. 1593 ([source](#))

With our interactive path and exhibition we aimed at picturing the atmosphere of the **17th Century**, in the period in which Lucida Mansi lived and in which the legend rapidly spread among the community of the Republic of Lucca

(1160-1805). This was also the period of noble and rich families that gradually went from trading, e.g. in silk, to agriculture in vast possessions just out of the fortified city centre.

At the same time, we started with the clear idea in mind of transmitting the sense of **creepiness and mystery** around the vicissitudes of Lucida Mansi. As a matter of fact, still at present, every year on the 31th October, a historical evocation and celebration is made in Borgo a Mozzano (LU), as to remember the events of her life.

The Botanical Garden

The Botanical Garden is one of the most interesting assets of Lucca, yet not much explored by main tourist routes. Rich in its biodiversity and immense in its value, the Botanical Garden is not only one of the settings of Lucida Mansi's legend, but also is a **200 years old institution** very updated on matters of accessibility, valorisation, promotion and divulgation of the love for nature and for its variety. Further details will be provided about the Botanic Garden in the *Locations* section (*infra*).

The Locations

The project *Forever Young - The Lucida Mansi Experience* mainly focuses on several locations within the historical city centre of Lucca; the focal points are the **National Museum of Palazzo Mansi** and **Torre delle Ore**, however, the whole historical city centre of Lucca is involved, as visitors are invited to follow indications for a treasure hunt to reach the final step. The locations involved in the project are presented in the following paragraphs. These are the National Museum of Palazzo Mansi, the treasure hunt locations in the city centre, Torre delle Ore and the **Botanical Garden** as the final reward of the experience.

Palazzo Mansi



Lucca, Location of palazzo Mansi
([source](#))



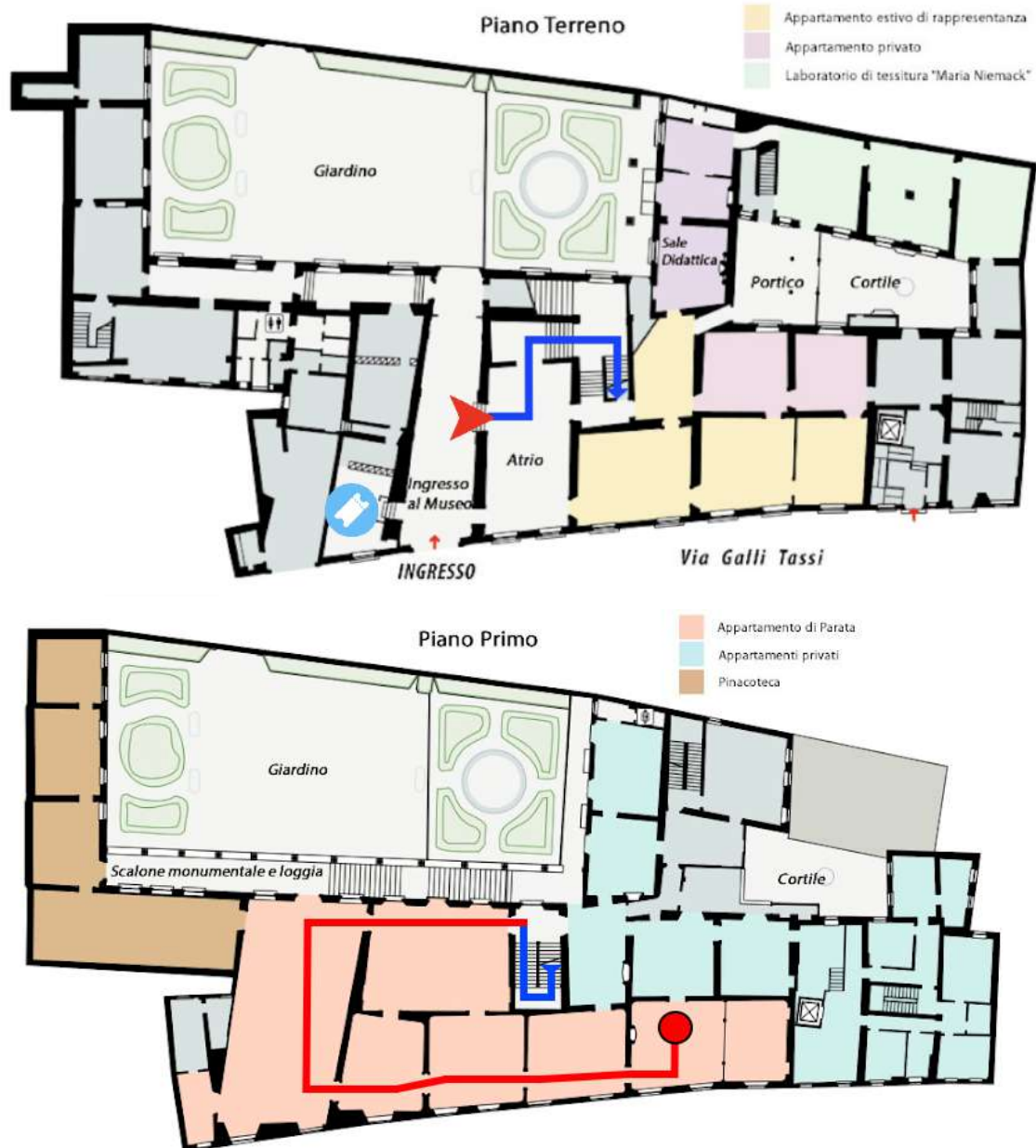
Lucca, View of Palazzo Mansi from the inner garden ([source](#))

The National Museum of Palazzo Mansi is located in the city centre of Lucca. The **Baroque palace**, formerly belonging to the Mansi family, represents a record of the life of a wealthy Lucchese family of that time, since many of the room decorations remained preserved. Furthermore, it hosts tapestry collections and mainly post-19th century art collections in its art gallery.

The project *Forever Young - The Lucida Mansi Experience* focuses only on a part of the exhibits of Palazzo Mansi, the **apartments of the Mansi family** on the first floor. Visitors are given the possibility to visit the rest of the museum after concluding the first step of the experience.

The following paragraphs aim at presenting the path to be followed by visitors in this part of the experience.

While Palazzo Mansi consists of three floors, the experience focuses mainly on the **first floor**, shown in the second map below ("Piano Primo"). The access to the palace is at the address Via Galli Tassi 43, indicated on the map below as "Ingresso". Before accessing the exhibition, visitors interested in a regular visit need to buy an entrance ticket in the ticket office, located right at the left of the entrance and indicated on the map with the blue ticket icon. The entrance to the exhibition is located on the opposite side of the ticket office, indicated by a red arrow. Palazzo Mansi also features an **inner garden**, as shown on the map below ("Giardino").



Map of Palazzo Mansi, ground floor and first floor ([source](#))

The path indicated by the **blue and red lines on the maps** represents the route to be followed by visitors. The red line, in particular, represents the start of the experience, while the red circle is the end of the first part. In the following paragraphs, the settings will be presented in-depth.

Galleria Nuova



Palazzo Mansi, Galleria Nuova
(Source: Alessandra Failla, 2022)

The visit starts in the room *Galleria Nuova* or *Galleria degli Specchi*. The room dates from the late **18th century**. The work was entrusted by Luigi Mansi to the Lucchese Stefano Tofanelli, who also designed the doors and furniture, as well as the ceiling and wall decorations. The room was frescoed by

Domenico del Frate according to motifs from **classical mythology**. Each element contributes to a sense of harmony and balance. The *Galleria Nuova* is one of the earliest examples of **Neoclassicism** in the city of Lucca.

Sala della Musica



Palazzo Mansi, Sala della Musica (Source: Alessandra Failla, 2022)

The next room in the itinerary is *Sala della Musica* (Music Hall), built in the late **17th century** for the wedding of Carlo Mansi and Eleonora Pepoli and still equipped with a fixed stage for the orchestra made of carved wood. The wall frescoes, created by the Bolognese Giovan Gioseffo Dal Sole, are based on themes from the Aeneid, while, for the ceiling, Marcantonio Chiarini invents a mighty 'faux architecture' that expands the space disproportionately. The **coat of arms of the Mansi family** is frescoed on the wall.

Salotti di Parata



Palazzo Mansi, Salotti di Parata (Source: Alessandra Failla, 2022)

The four *Salotti di Parate* and the *Alcova* are the following rooms in the tour. The rooms are aligned on Via Galli Tassi, according to Ottavio Mansi's design, and are the result of the **stratification of epochs and styles** corresponding to the family's taste during the period in which they lived in the palace.

The ceiling frescoes, floor, marble door frames, and some of the furnishings **date back to the original structure**. The Florentine Giovanni Maria Ciocchi (1658-1725) is responsible for the allegorical fresco paintings with the theme of the four elements (Earth, Water, Air, Fire), one for each room. The painted illusionistic architectures are the work of the Bolognese Marcantonio Chiarini (1652-1730). The walls of the rooms are adorned with a complete cycle of **eighteen 17th-century Flemish tapestries** illustrating the Stories of Emperor Aurelian and Zenobia, Queen of Palmyra.

Camera di Parata e Alcova



Left: Palazzo Mansi, Entrance to Camera di Parata and Alcova (Source: Alessandra Failla, 2022)



Right: Palazzo Mansi, Camera di Parata, parete Sud (Source: Alessandra Failla, 2022)

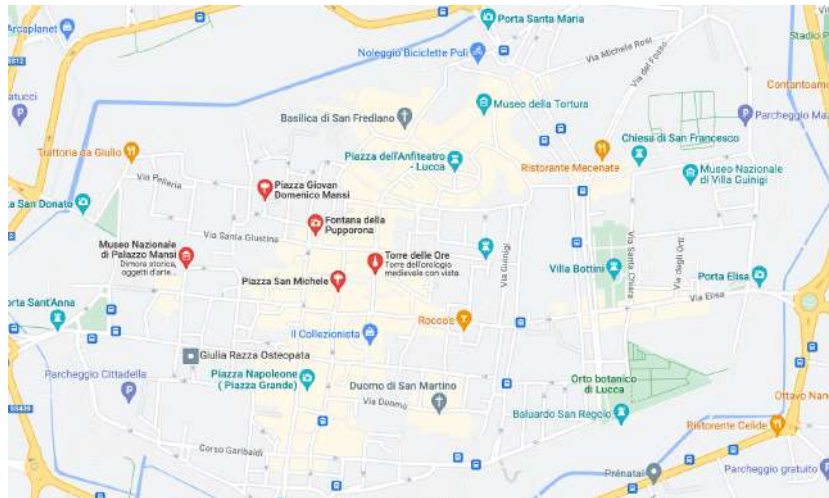
The Alcova's antechamber completes the cycle of Flemish tapestries displayed in the parade rooms. The room also features a **mirror** that occupies most of the south wall, topped by a **portrait of a woman** of unknown identity.



Palazzo Mansi, Alcova (Source: Alessandra Failla, 2022)

The Alcova was set up in **1688**. It is introduced and protected by a scenic 'serliana' made of carved and gilded wood; the ceiling is decorated with a painting of Cupid and Psyche and the fabrics covering the walls and accompanying the 'a dossello' bed are sumptuously embroidered in silk: the latter artifact is of extreme interest for its quality, rarity and state of preservation.

The historical city centre of Lucca



Map of the historical city centre of Lucca, showing the four main locations of the experience ([source](#))

The city of Lucca, in the Northern part of Tuscany, is known for its historical monuments, its cobblestone streets, and for being one of the few Italian cities with its historical centre surrounded by **intact Renaissance-era city walls**, today a pedestrian promenade. Known as the “city of 100 churches”, several historical churches and monuments are located in the historical city centre, including the ones presented in the following sections.

Because of this immense historical-monumental relevance, a proposal was recently made to include the walls of Lucca on the UNESCO World Heritage List. The next paragraphs present four locations in the historical city centre that are the focus of the second part of the experience.

Piazza Giovan Domenico Mansi and church Santa Maria Corteorlandini



Lucca, Piazza Giovan Domenico Mansi (Source: Alessandra Failla, 2022)



Lucca, Facciata della Chiesa Santa Maria Corteorlandini (Source: Wikipedia)

Piazza Giovan Domenico Mansi is located in the northern-west area of Lucca's city centre. It is named after the prelate and theologist **Giovanni Domenico Mansi** (1692-1769), member of the Lucchese Mansi's family.

The square is located on the streets less traveled by tourists in the downtown area, between the State Library and the baroque church Santa Maria Corteorlandini. In 1580 the church was affiliated with the *Clerics Regular of the Mother of God of Lucca* and its decoration continued over the next century. The library is hosted in a part of this cloister.

The church is **one of the few examples of Baroque** in Lucca.

Piazza San Salvatore and Fontana della Pupporona



Left: Lucca, Piazza San Salvatore, Fontana della Pupporona (Source: Studio Verde Azzurro)

Right: Lucca, Fontana della Pupporona, Detail (Source: Turismo Lucca)

Piazza San Salvatore, also known as *Piazza della Pupporona*, is located in downtown Lucca and dates back to the **12th century**. It is a small square, somewhat hidden from the major avenues of interest visited by tourists, but well known by the inhabitants. So, it is likely to find the inhabitants making water supply from the fountain.

It is mostly called *Piazza della Pupporona* as a tribute to the **neoclassical fountain** dominated by the statue of Naiade, designed by Lorenzo Nottolini and made by Luigi Camolli between 1838 and 1840, whom the Lucchese call *Pupporona* because of her bare breasts.

The female figure of the Naiad is inspired by a "Venus pudica" found in the Borghese Gallery in Rome. The realization aroused a case of public decency offense, so much so that they demanded its removal because they felt the statue was too "indecent" having its breasts partially uncovered to be placed in front of a Church.

Despite the pressure received from the archbishop, Gonfaloniere Giovini did not recognize any outrageous elements. This episode is also evidenced by the name by which the statue has been called ever since: "La Pupporona."

Piazza San Michele



Lucca, Piazza San Michele
(Source: Alessandra Failla, 2022)

The next location is Piazza San Michele, the **heart of Lucca's historic centre**. It stands on the site of the ancient Roman forum, at the perfect intersection of the two main streets: the *cardo massimo* (from north to south, corresponding to today's Via Fillungo, Via Cenami, and Via S. Giovanni) and the *decumanus massimo* (from west to east, today's Via S. Paolino, Via Roma and Via S. Croce).

In the northeast corner is the Romanesque **church of San Michele in Foro**, whose construction dates back to the 8th century (later modified to its present form in 1070 at the behest of Pope Alexander II).

Lucca, Piazza San Michele (Source: Alessandra Failla, 2022)

At the top of the facade is the marble statue of the Archangel Michael, victorious as he pierces the dragon with his sword.

The square is surrounded by **medieval-era buildings**. In the 1700s, the pavement of Piazza San Michele, paved with herringbone bricks in the 1400s, was raised with squares of gray stone and surrounded by marble columns joined by metal chains. This is how we still see it today.

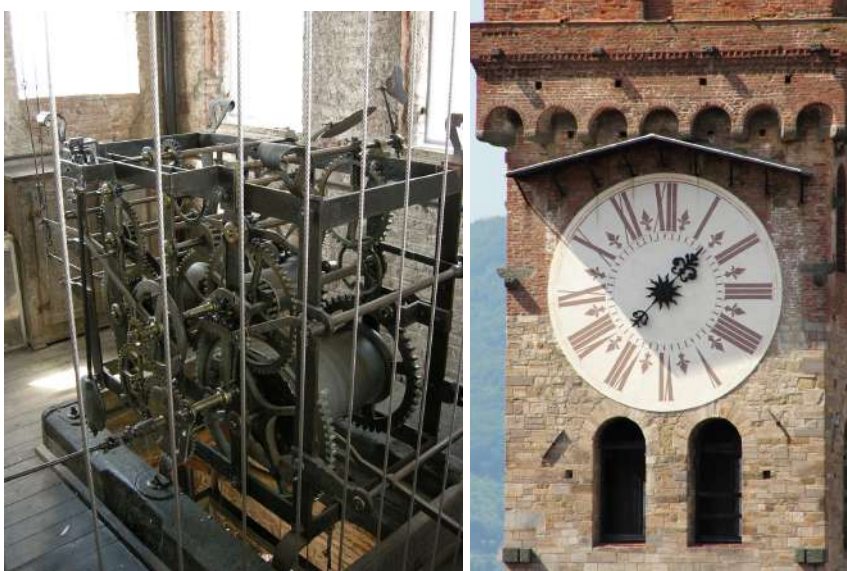
Torre delle Ore



Lucca, Torre delle Ore (Source: Alessandra Failla, 2022)

Lucca, Torre delle Ore, Main Entrance (Source: Alessandra Failla, 2022)

Torre delle Ore is a **clock tower** located in the city centre. It is the highest tower in the city centre and was acquired by the city of Lucca in the 14th century. Today, the clock tower is owned by the City Council². The internal staircase of 207 steps is made of wood and leads to the hall of the **1754 clock mechanism**, shown in the picture below.



Left: Lucca, Torre delle Ore, Clock mechanism (Source: Wikipedia)

Right: Lucca, Torre delle Ore, Clock (Source: Wikipedia)

² Città di Lucca: Torre delle Ore
(<https://www.comune.lucca.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/132>).

Botanical Garden



Lucca, Botanical Garden ([source](#))

The Botanical Garden of Lucca is a cultural and museum institute of the City of Lucca open to the public. It holds a **historical-scientific and architectural heritage** of nineteenth-century origin, living and museum collections of great interest and fascination. The institution is an integral part of the city's cultural network.

Often perceived as an aesthetic and landscape garden, it affirms its role as a witness and mediator for current issues such as the **loss and protection of biodiversity, sustainability**, and the indissoluble relationship between man and the plant world through enhancement, popularization and awareness-raising activities.

Target Audience

Originally, we tried to identify the possible **target users and population segments** which could be attracted, enriched or intrigued by Lucida Mansi's interactive experience.

During one of our first brainstorming sessions, we outlined the following:

- **Families with adolescent children** (aged 15+): these could be locals but also tourists, why not internationals;
- **Young people** visiting the city on a weekend trip: as well as for the first group, we thought these could come from wherever, from Italy or from abroad;
- **Tourists from abroad**, willing to discover the city's history and legends;
- **Comics lovers** and visitors which are mainly attracted to **Lucca for Lucca Comics and Games**: we could expect them to be generally interested in interactive experiences, discovery and creepy, adventurous legends and true as well as fictional or historical characters.

Concept

Initial Design Phase: Ideation Cards

[Ideation cards](#) are a collection of 52 cards that help team members brainstorming in the process of developing a design project. This tool was used in the initial phase of our design as to better figure out the details and purposes of our interactive experience.

Stage 1

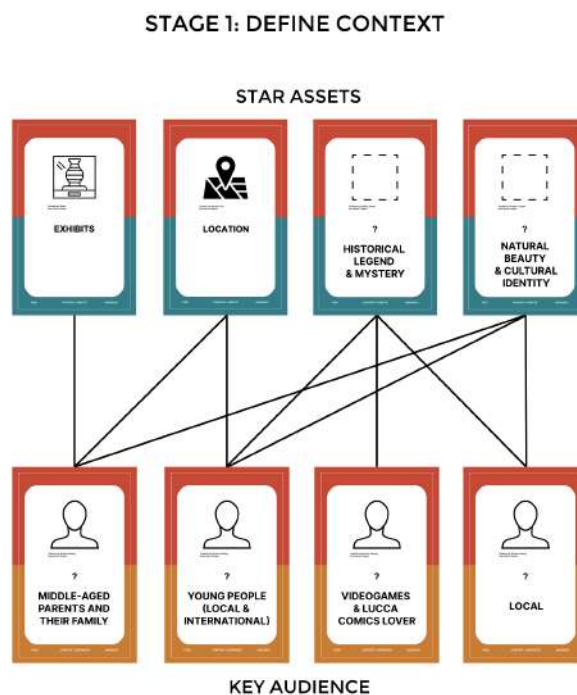
The first step consisted in defining the context of the project by choosing the main assets and target audiences of interest.

Four star assets were selected in relation to the cultural institutions involved in the project:

- **Exhibits:** the interiors of Palazzo Mansi.
- **Location:** the architecture, streets and alleyways of the historical centre of Lucca.
- **Historical Legend and Mystery:** the legend about Lucida Mansi and her pact with the devil.
- **Natural Beauty and cultural identity:** the collection of the Botanical Garden.

After a discussion, the categories of the possible target audience were developed, including:

- Middle-aged parents and their family
- Young people, both local and international
- Videogames and Lucca Comics and Games lovers
- Locals



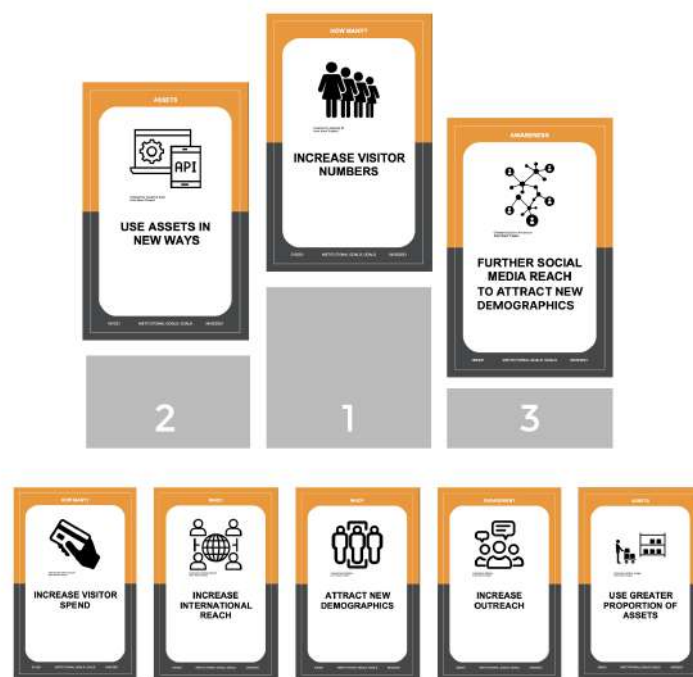
Stage 2

The second step consisted in identifying the main institutional goals by confronting individual choices among the ideation cards and selecting the goals that are most coherent with the institutions' missions.

We identified three main goals among several goals chosen in a prior phase. The resulting, most relevant goals were:

- **Increasing visitors numbers**
- **Use asset in new ways**
- **Further social media reach to attract new demographics**

STAGE 2: DEFINE INSTITUTIONAL GOALS

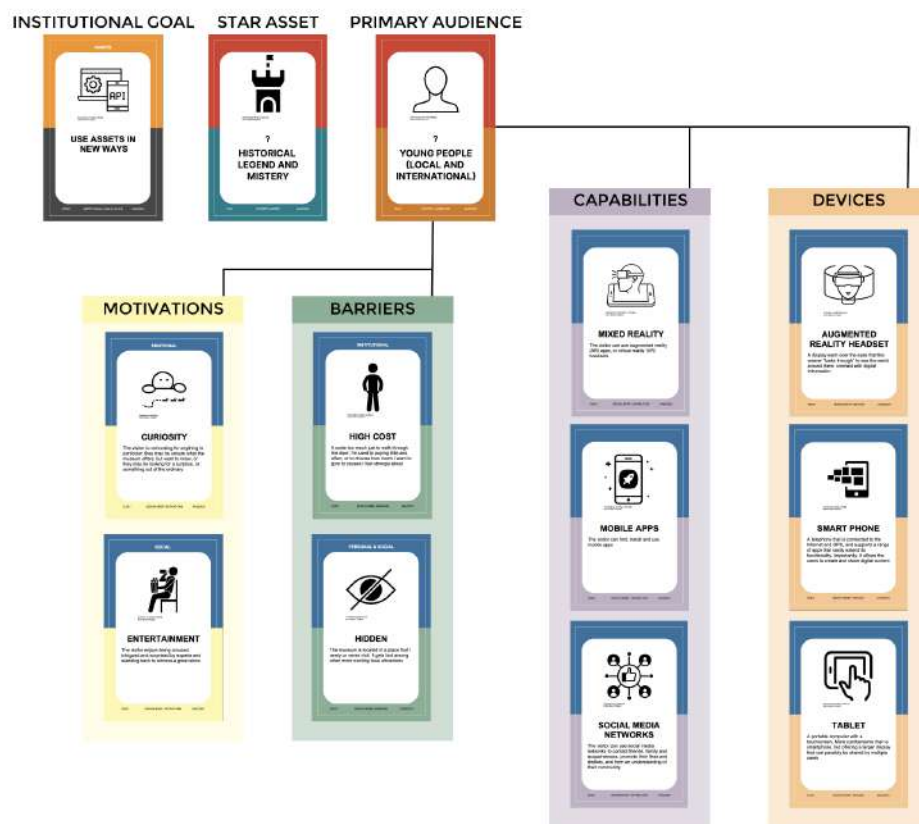


RELEVANT GOALS

Stage 3

The third stage consisted in the selection of a main target audience (i.e. **young people**, either **local or international**), of a star asset among the ones selected in the first step (i.e. **historical legend and mystery**) and of the institutional goal that seemed more relevant for the project (i.e. **use assets in new ways**). Furthermore, target users were associated with further cards representing possible motivations, barriers, capabilities, and devices involved in the experience at stake.

STAGE 3: CREATE DESIGN BRIEF



Stage 4

Building on what we outlined before, in the fourth stage of the ideation process we generated a main idea that would serve as core and as *fil rouge* to the whole interaction: the focus on Lucida's **mysterious legend and treasure hunt**. In order to do so, we gathered, among many building blocks, the four that we considered more appropriate and suitable: **augmented reality, visual markers, fitting locations and hopping**.

STAGE 4: GENERATE IDEAS

IDEA



MYSTERIOUS LEGEND AND TREASURE HUNT

Stage 5

In the very last phase of the ideation process, we disrupted our design by hypothesizing possible threats to the whole experience, being it a matter of specific or broad constraints, as well as of hitches during the users' proper experience.

STAGE 5: DISRUPT THE DESIGN

 <p>FLOW Do you think visitors will follow the steps of the experience in the right order?</p>	<p>THREAT Visitors may not follow the steps of the experience in the right order. They may also change the route designed for the scavenger hunt.</p> <p>RESPONSE The app should provide precise indications on steps order of the experience, as well as precise location of each clue.</p>	 <p>CAPACITY How many visitors can visit the experience at the same time?</p>	<p>THREAT There may be space issues in indoor environments, such as Palazzo Mansi and Torre delle Ore.</p> <p>RESPONSE Limited admission through booking. In case of need, emergency solutions can be developed.</p>	 <p>LEGIBILITY Is the path for visitors to clearly find the clues and the locations of the experience?</p>	<p>THREAT Visitors may not reach the designed areas in the city center to find the clues and the locations of the experience.</p> <p>RESPONSE The app should provide a precise path to follow and guide users to their goals through a map or AR navigation.</p>
 <p>INVESTMENT Is the experience worth the cost of the experience?</p>	<p>THREAT Visitors may not complete all steps of the experience.</p> <p>RESPONSE They should be motivated by an intriguing story, which should not be too long. The break after the 3rd step will allow them to rest.</p>	 <p>FOCUS OF ATTENTION Will visitors focus on the experience rather than their smartphone?</p>	<p>THREAT Visitors might focus on their devices rather than the location they are exploring.</p> <p>RESPONSE Breaks are provided during and between each step of the experience, so that visitors are expected to explore and observe the surrounding area.</p>	 <p>NARRATIVE What story will be the experience? Will visitors be motivated by the story?</p>	<p>THREAT The development of the story corresponds to a precise order of the locations to be visited.</p> <p>RESPONSE The app indicates the order of the steps to allow users to follow the story.</p>
 <p>ENERGY USE How much energy is consumed by the experience?</p>	<p>THREAT Charging of devices needed for the experience could be expensive (or not possible, in case of users' phones).</p> <p>RESPONSE There should be a balance between the use of the locations' energy and the battery of visitors' devices.</p>	 <p>FUNDING How much money is needed to develop the experience?</p>	<p>THREAT Devices purchase and maintenance (AR visors) and development of the experience could be expensive.</p> <p>RESPONSE The experience should have a limited duration (not permanent), and it is supported by visitors' entrance tickets.</p>	 <p>SUPPORT Will the experience be supported by a team of experts? Will visitors be supported by a team of experts?</p>	<p>THREAT Augmented Reality technologies need experts support in case of problems.</p> <p>RESPONSE The experience is temporary, so maintenance support is not required in the long run.</p>

Experience Design: Personas

After the ideation phase was concluded and we had clarified our ideas, we focused on the possible target audience and defined four **fictional personas** representing possible visitors. We took the target audiences defined using the ideation cards as a starting point to do so. We outlined their habits, personalities, hobbies, interests and relation with technology to provide an overview of the main traits of their characters.

LAURA CAPPELLETTI

45
TEACHER
BOLOGNA



Contemporary
Literature
Photography



DIY
Baking Cakes
Yoga



Laptop
Smartphone
Very frequent
Confident with
work-related
apps

Laura is a Philosophy & History **teacher** at high school. She's parent of **Giulia, 15**, and **Paolo, 17**, together with her **husband, Stefano**.

She's inseparable from her **bike**, with which she moves around her loved city, **Bologna**. Her self-love moment? Enjoying a **warm coffee** and croissant in her district's favourite bar before going to school.

Fresh and centred woman, with a **strong personality**. She's also kind, warm and respectful.

She tries her best to **balance her time** among work, family and **long-time friends**.

She's accustomed to using a **variety of softwares**, but tends to prefer **off-screen time**.

She's planning a **weekend trip** to Lucca **with her family** to take some fresh air and experience some nice time all together.

RICCARDO BOSSINI

36
GRAPHIC DESIGNER
LUCCA



Indie Music
Japanese
Prints



Binge
TV Series
Gardening
Beer with
friends



Display
computer
Laptop
Smartphone
Daily
Self-assured
and fast at
learning new
softwares

Riccardo is a young **graphic designer**, very keen on web content creation. Born and raised in **Lucca**, he studied in Milan. It has been 15 years since he got engaged **with Dario**.

He's totally aware that he should train at least every now and then, but he's got a reserved place on his **sofa**. He **loves his origin** lands.

He's constantly oscillating between cosmic **creativity** and total **laziness**.

He's used to **meet regularly** with a **club** of close friends he grew up with.

He's glued to his laptop and smartphone **24/7**, fortunately not only for work purposes. He's active on his adored **social networks**.

He moved back to his hometown together with his partner **10 years ago**. They both love the atmosphere and human dimension of **Lucca**.

JULIA STEIN

25
PHYSICS STUDENT
HAMBURG



Renaissance
and Modern Art
Astrophysics
Electronic
Dance Music



Visiting Art
Museums and
Expositions
Listening to
Podcasts
Jogging



Smartphone
Laptop
Fitness tracker
Daily
Expert user,
fast learner

Julia studies **Physics** at the University of **Hamburg**.

She shares a flat with three other students in the **hip and colorful district** of St. Pauli.

They get along very well, although Julia **values her time alone** in her room, listening to music, or running by the river early in the morning.

During the week you can probably spot her in the lab or at her favourite café **writing on her laptop**.

On weekends, Julia spends her time working in the museum shop of the Hamburger Kunsthalle. During her breaks, she enjoys wandering around in the museum. She is **passionate about art** and loves visiting the city's various **museums and exhibitions** in her spare time.

She finally succeeded in realizing her dream of **studying in Italy**: she has won an Erasmus grant to study at the **University of Pisa** for a year. Julia is looking forward to using his time in Italy to **travel and visit the cities and museums** she has heard so much about.

PAOLO ZUCCHINI

17
STUDENT
BOLOGNA



Manga and
Anime
Culture
History



Reading
Manga
Playing Card
Games
Videomaking



Laptop
Smartphone
Daily
Confident
user, limited
range of
software

Paolo is a **student** at the Augusto Righi Scientific High School in **Bologna**.

He lives with his **parents** Laura and Stefano and his 15-year-old **sister** Giulia just outside the city center.

He is a **quiet and friendly** boy. He studies just enough to pass, however he is **passionate about history**, his favorite subject.

Paolo and his friends are **Manga** fans and spend recreations commenting on their favorites, such as One Piece and Berserk.

He doesn't really like going out at night on weekends, preferring to invite a few friends over for a **Death Note rewatch**.

He doesn't mind spending time with his family, occasionally his mother organizes their trips. Paul likes to **visit new places**, especially medieval towns, whose **stories fascinate him a lot**.

Next weekend the Zuccininis are going to **Lucca**. Paul has already been there for the **Lucca Comics and Games** event last year, but he did not have time to visit the city, as the event is always very crowded and there are many things to see.

Conceptual Map

After outlining the main points for the development of our idea, the main concepts were summarized in a conceptual map. Five main areas are addressed in the map, consisting of the **context** of the experience, the **goals**, the involved **institutions and locations**, the required **technology** and the **target audience**.



Museological Approach

Premise

The first step to define the most adequate museological approach for the project *Forever Young - The Lucida Mansi Experience* was to consider the mission and priorities of the cultural institutions involved.

The enhancement of its exhibition and the promotion of its enjoyment are among the main priorities of the national museum of Palazzo Mansi and this is also reached through the cooperation of partners at local, national and international level.

The mission of the City Council's Department of Culture, Events and Cultural Institutions is aligned to the priorities expressed by the administration of Palazzo Mansi, as it focuses on the enhancement of cultural assets and on their enjoyment.

The selected approach, thus, takes these elements into consideration to provide an immersive experience with the aim of engaging different categories of visitors, enhancing the cultural assets in an innovative way.

The reference model to define the museological approach was the taxonomy provided in *Caraceni 2015*, which distinguishes six different categories of virtual museums based on several criterias, listed in the table below, which are the **need** of the institution, the type of **interaction**, the openness or closeness of the **space**, the **content**, the interaction between **real and virtual** and, finally, the possibility of **visitor contribution**.³

Based on this classification, the approach described as "Category C" was adopted for the project, as presented in the following paragraphs:

Category "C": Virtual museum enhancing museum EXHIBITIONS with OPEN INTERACTION in a CLOSED SPACE showing SELECTED OBJECTS from the museum collection, NOT allowing visitor CONTRIBUTIONS.⁴

NEED	EXHIBITION
INTERACTION	OPEN ('gesture based') inside the galleries
SPACE	Closed
CONTENT	Selected objects
VIRTUAL/REAL	Real with virtual
VISITORS CONTRIBUTIONS	NOT ALLOWED

Table 10. Virtual museum category C

Caraceni 2015, p. 195

Needs

The first element to take into consideration are the **needs** of the institutions that can be enhanced with the use of technology. In this case, both the needs related to the national museum of Palazzo Mansi and the needs presented by the City Council in relation to tourism and cultural activities should be considered. As mentioned above, one of the aims of the Museum of Palazzo Mansi is to enhance its collection; the same applies in a broader sense to the Department of Culture, Events and Cultural Institutions, which also focuses on the enhancement of its cultural assets and the promotion of cultural activities.

³ Caraceni, Simona: Designing a taxonomy for virtual museums for the use of AVICOM professionals, Plymouth University, 2015, p. 194-206.

⁴ Caraceni 2015, p. 194.

Interaction and Technology

The type of user's **interaction** and the **technology** that users have at their disposal are a further focus of the taxonomy. This model refers to exhibitions that use Augmented Reality and device-based technology. Content is only browsable within the exhibition and is the result of users' physical interaction with the environment and the necessary devices.

The selected approach allows thus an open interaction based on users' gestures. Visitors can use gestures to trigger the appearance of new content to progress in the experience, which follows a predefined order. This approach allows a rather active learning experience in an immersive environment, allowing users to live a more active and enjoyable learning experience.

Space

Users' interactions occur in a **closed space**, as the content is meant to be presented in a specific order. The pattern to follow is strong and no omissions by the visitor are recommended, as this would cause an incoherent and incomplete experience.

Content

The **content** involved in the experience *Forever Young - The Lucida Mansi Experience* consists of **part of the collection** of the museum of Palazzo Mansi. In particular, the first step of the experience focuses on the apartments of the Mansi's Family. After completing this stage, users are invited to explore some parts of the city centre, following on the path provided by the application.

Virtual/Real

This category refers to the relation between real and virtual components in the experience; the approach developed for this project corresponds to the category "**Real with virtual**", that consists in the approach of museums incorporating existing exhibitions with interactive systems, which in this case are augmented reality and an interactive application.

Visitors Contribution

In this experience, **visitors' contribution** is not allowed. Users cannot contribute to the collections, as they are meant to follow the steps in a precise order and the only interaction is the activation of the next steps through gestures. The linear structure of the experience and the associated narrative allow to "create a sense of wonder in visitors".⁵

⁵ Caraceni 2015, p. 198.

Cognitive Focus

As a last step of our Conceptual Development - and right before starting with the proper construction of the interactive experience in all of its details -, we reflected upon which cognitive focus to adopt as core for our *Forever Young - The Lucida Mansi experience*.

Given the historical-cultural context and the very starting point of our project idea, namely the Legend of Lucida, we accounted **language-narrative** as the foremost cognitive aspect to consider. However, we assumed issues concerning **meaning-making**, **empathy** and **emotions**, **memory** and **recall**, worthy of focus and attention, as well. In fact, language was tightly bound and closely interconnected, in our specific case, with all of these *nuances* that we wanted to let emerge from the interaction.

Language-Narrative

In our experience, the tragic and disturbing story of Lucida Mansi is the *fil rouge* that connects different cultural assets and institutions, through the charming streets of the historical city centre of Lucca. What could better suit our purposes than **a dramatic and creepy narrative** which intimately looks at the personality and vicissitudes of a noble woman from the 17th century?

By focusing on language and narrative for our project we endorsed the view of Dove, 2017:

*The specialness of language has to do with the pervasive role that it plays in our cognitive lives and the way in which it complements embodied cognition by enhancing our capacity to encode information about the world that goes beyond our immediate experience.*⁶

In order to favour some identification and imagination over the events and context of Lucca during the whole 1600, we considered not only actual verbal language, but **also the aesthetic and graphic characterization** of the whole exhibition as 'language'. Some examples are the multi-device application we foresee to develop, and the audio/sounds we wanted to include in the treasure hunt's hints.

Some major examples of this attention to language and to a dramatic narrative are:

- Lucida's AR model's guided tour of the private apartments within Palazzo Mansi: her tone and way of speaking, alternation of pauses and discourse, the **physical gestures** typical of a noble passionate woman of that time;
- *Forever Young's application and website*: we wanted to recreate the sense of creepy and mystery in the web design and outline of the interactive application;
- Hints in the treasure hunt: for each of the hints we decided to include **an interactive, deeply symbolic object** concerning the legend and Lucida's

⁶ Dove, Guy: Language as a disruptive technology, abstract concepts, embodiment and the flexible mind, Philosophical Transactions of the Royal Society Publishing, 2017, <http://dx.doi.org/10.1098/rstb.2017.0135>.

personality traits, as well as an **audio or sound** which provided more information and enigma to the scavenger hunt and to the visitor's tentative to find Lucida again.

For **accessibility** reasons we decided to also include transcriptions and closed captions of these. Even though we will discuss the hints further in the *Development* section (*infra*), we can anticipate that, for example, we explicited our focus on narrative and language in all of them: the lovers' letters and the contract with the devil (written in a passionate and desiring style), suggestive and evocative objects such as a hourglass (ageing and time running out) and a mirror (vanity and mortal, vanishing beauty).

We also meditated carefully whether to directly include or involve the character of **the devil** in our journey or to go for more elegant and subtle images as to stand for its presence and influence on Lucida's adversities: we opted for the latter. As a matter of fact, this was also one of those more abstract concepts, hard to grasp and to transmit by means of words, that Dove⁷ discusses in his paper: something we cannot directly experience. As we will later see more in detail, we represented satana's intervention by the vision of an abyss opening under Lucida's feet when the 30 years time-span is over.

Meaning-making, empathy and emotions

Given that people look for meaning and for meaningful experience, we wanted to stimulate these mainly by, first of all, transmitting the cultural value and the fascinating history and art of palazzo Mansi and of the city of Lucca. Secondly, by improving the engagement through the use of **drama** and the transmission of a **sense of restlessness and worry**: this would push the visitor to solve the scavenger hunt and to discover more about the reasons why Lucida is running away, scared. Moreover, we balanced **physical movement and tangible interaction** in our experience, also by the creation of **arousal peaks** and **specific tasks**. For instance, we imagined:

- a **breakthrough moment** at the end of the visit at Palazzo Mansi (phase 1), with Lucida suddenly petrified, interrupting the visit and running away, claiming that time is almost over;
- the **climax of tension** throughout the hints and to the end of the treasure hunt;
- a **sudden twisted end** when the visitor finally reaches the Clock Tower and meets Lucida again. It seems as if she is about to reveal the whole enigma when she falls down the an abyss of fire (a death similar, to some extent, to the death she used to provide to her innumerable lovers);
- the **conclusive distention and epilogue**, in case visitors welcome the reward provided at the end of phase 2 and reach the Botanic Garden for a free visit.

⁷ *Ibid.*

As to tell the truth, we imagined this last token as a valuable **reward** to include at the end of the exploration. Furthermore, we felt the need to foresee something as a final prize at the end of the experience, as this is likely to be the expectation of the visitor after the treasure hunt activity.

Memory and Recall

As a final remark, we pondered the importance of eliciting **memory and recall**. We implemented this by framing the experience into two clearly distinct phases (each concluded and started by the scanning of a QR code), as well as by calculating a repeated structure for the treasure hunt, with **some repeated actions** that serve as **reassurance** and **facilitator** for assimilation. Namely, in order: finding the *Forever Young* totem, scanning the QR code and unblocking the path to the next hint. Furthermore, the locations were all chosen to be tightly interlinked and reachable by feet.

As it is known, narrative and drama content, as well as **structure**, facilitates **memory and comprehension**. We took advantage of the story, i.e. the legend, for this: Lucida running away in fear giving the impression that something is urgent, then vanishing again once she is about to tell her ultimate objective i.e. to stop the time by going up the Clock Tower.

Goals

Cultural Goal

Forever Young aims at providing an unusual experience of the city of Lucca. To do so, it takes advantage of one of its most famous legends and most interesting characters, Lucida Mansi. Her story works as a pretext to discover some less known or visited parts of the city, e.g. the vast galleries and beautiful collections of Palazzo Mansi, the remote Botanic Garden, some enchanting and hidden corners such as Piazza San Salvatore and Piazza Giovan Domenico Mansi.

Economic Goal

The experience is accessible by purchasing a ticket, either online or directly in-presence at Palazzo Mansi. The price will be competitive, but sufficient to permit a profit: a part of this will be dedicated to compensate the initial expenses (project, AR design, software development, etc.), purchase and maintenance of technological equipment, another to pay off the convention with the Botanic Garden and the rest to hire dedicated on-site staff.

Cognitive Goal

The experience employs **language** and **narrative** to encourage a **meaningful**, unusual, exciting and **memorable** experience of one of the most fascinating legends of Lucca.

Logistic Goal

The experience is designed to direct tourists to **less-traveled areas** of Lucca's historic centre, with the exception of Piazza San Michele and Torre delle Ore. Palazzo Mansi in particular, despite its cultural value, is not often at the centre of tourist routes due to its dislocated location from the city's most central attractions. This will allow visitors to get to know one of the most relevant buildings in Lucca's history and, at the same time, dilute tourist traffic in the city's busiest areas.

Requirements and foreseen workflow

In the following paragraph, we provided the requirements for the development of *Forever Young - The Lucida Mansi Experience*. Different aspects should be considered, from advertising, to the devices and the necessary professional figures involved.

Devices, Technologies and Assets

- Augmented Reality visors for the experience in Palazzo Mansi (ca. 20)
- Sensors to be located inside the apartments of Palazzo Mansi to activate AR animations. Visitors' interaction with the AR consists in passing by the sensor; at the beginning of the experience users receive instructions by a member of the staff, who activates the AR visor and indicates the procedure to follow to start the experience
- Interactive mobile application compatible with Android/iOS to guide visitors from the initial step to the final reward
- Web browser application designed to inform users and with the possibility to book a ticket in advance
- Free WiFi in Palazzo Mansi for functionality of the app and the AR visor
- Each visitor should have a smartphone or tablet with internet connection to complete the second and third part of the experience
- QR codes to unlock each step of the experience and show visitors the clues during the treasure hunt
- Totems providing QR codes and indications about the treasure hunt

Logistics

- Staggered entry times to avoid the concentration of too many visitors in the same space
- Limited number of visitors allowed in Palazzo Mansi based on visors availability
- Online booking in advance is strongly encouraged
- Sustainability due to temporary duration of the initiative over a few months

Advertisement

- Advertisement campaign on social media (Instagram, Facebook, Twitter)
- Posters displayed in main tourists attractions
- Information about the experience provided on the website

Agreements

- Department of Culture, Events and Cultural Institutions of the City Council of Lucca
- City Council of Lucca for permissions (e.g. public land occupation with totems)
- Botanical Garden for the free entrance as reward at the end of the experience

Professionals

- AR application designer and developer
- Software developer and web/app designer
- Graphic for identity and poster creation
- Copywriter and Art director for advertisement (traditional, web)
- Social media manager (social advertisement campaign, visibility, creating hashtag and trends, etc.)
- Staff/Surveillance in Palazzo Mansi to monitor entrance and assist visitors

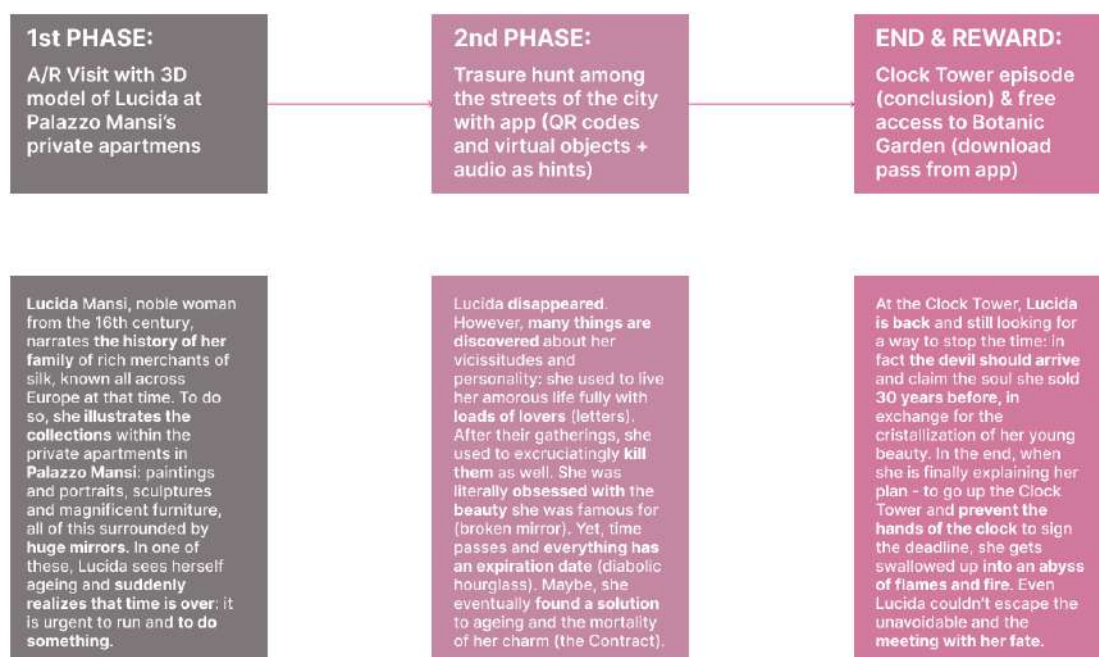
Visitor requirements

- Smartphone compatible with the apps (android, iOS)
- Reservations for a specific time slot to be booked on the website or directly on the app
- Approximate time foreseen for the visit:
 - 1st phase - visit to Palazzo Mansi: 25-30 minutes
 - 2nd and 3rd phase - treasure hunt and Torre delle Ore: 30-45 minutes
 - Optional 4th phase - visit to the Botanical Garden: 30-45 min

DEVELOPMENT

Narrative Diagram - The story

We adapted the legend of Lucida to our scope and we outlined it by means of a narrative diagram. As planned, we divided the visit in **two moments and a final reward**: to each of these, a particular portion of the story was dedicated. Given that the legend hasn't indeed a unique version and these quite vary from one another, we decided to be as faithful as possible to the most common one. Yet, we didn't fear stressing more some aspects rather than others and glossing over less culturally interesting details.

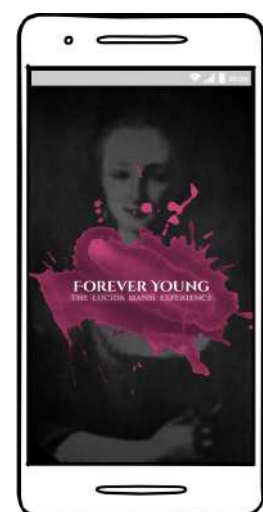


Forever Young - The App

The idea of an interactive application *Forever Young - The Lucida Mansi Experience* was developed to guide visitors through the experience. Visitors can check their progress on the different sections of the app to reach their final goal and obtain their reward.

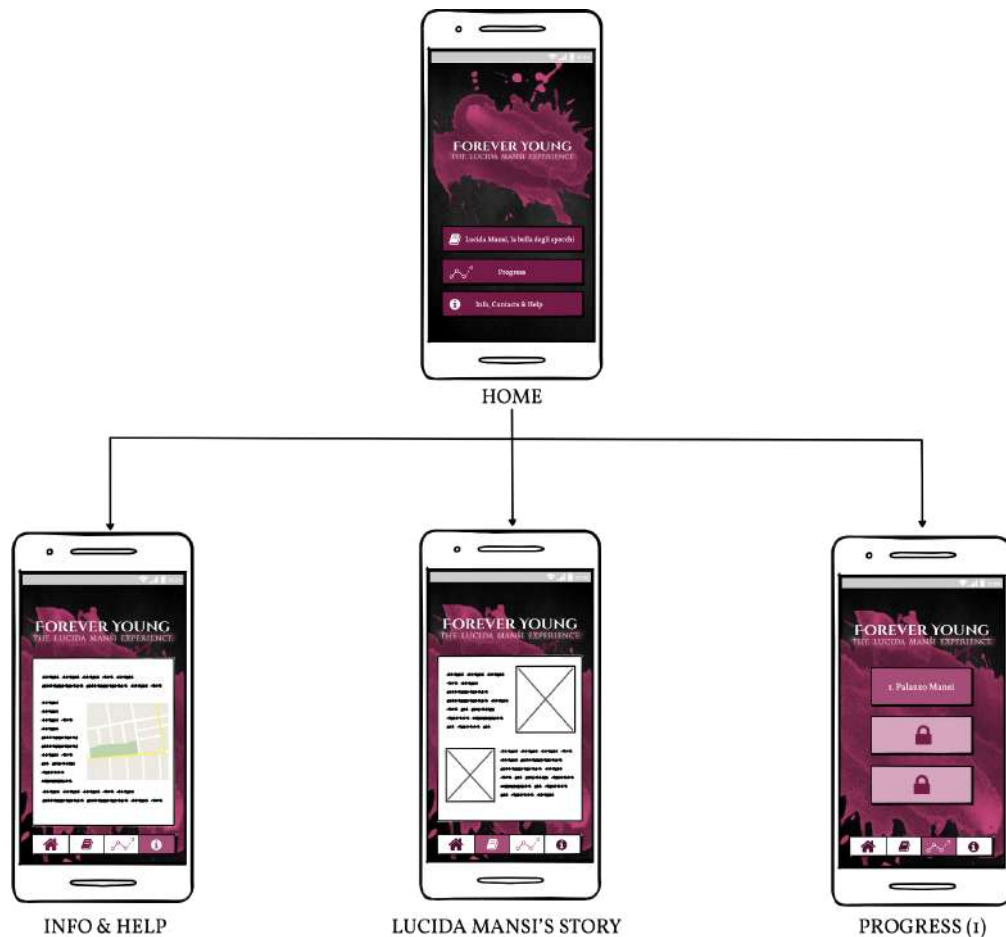
The following paragraphs provide an overview of each section of the application. The wireframes were created using the tool [Balsamiq](#).

The loading screen that appears when users open the app is shown on the right. After a few seconds, the main page appears, shown in the top screen in the image below.

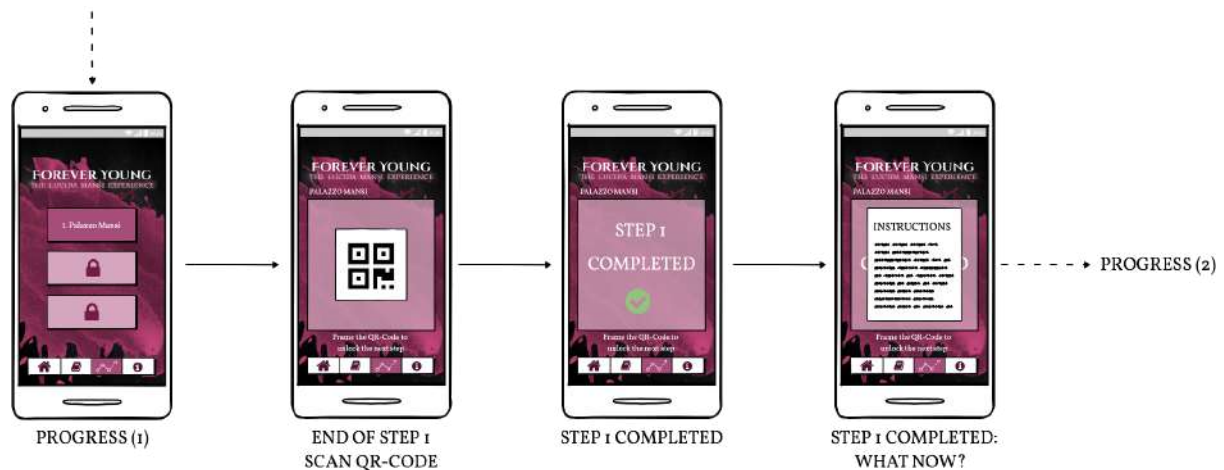


LOADING SCREEN

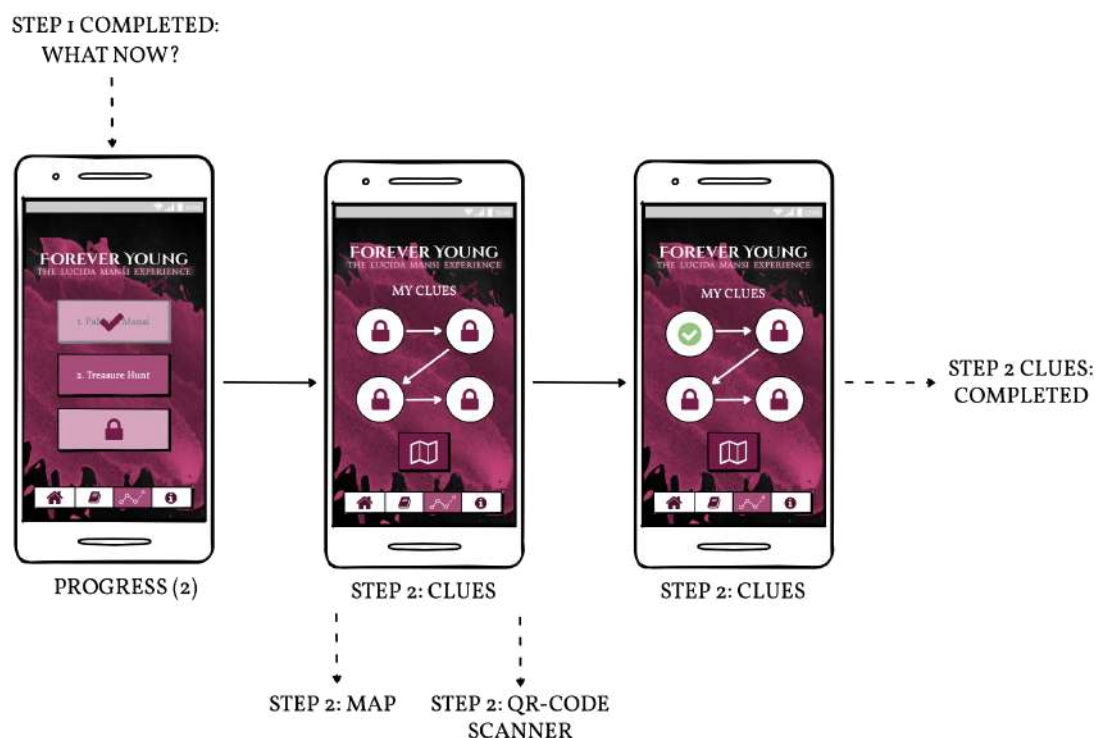
Here, three options are provided. Users can select the first button to read about the legend of Lucida Mansi. By selecting the last button, users will obtain information, contacts, directions, and can buy their ticket to the experience. The button "Progress" will lead users to a page indicating the three stages of the experience. Initially, the first will indicate the name of the first location, Palazzo Mansi. The other locations are locked and will be progressively accessible by users throughout the experience.



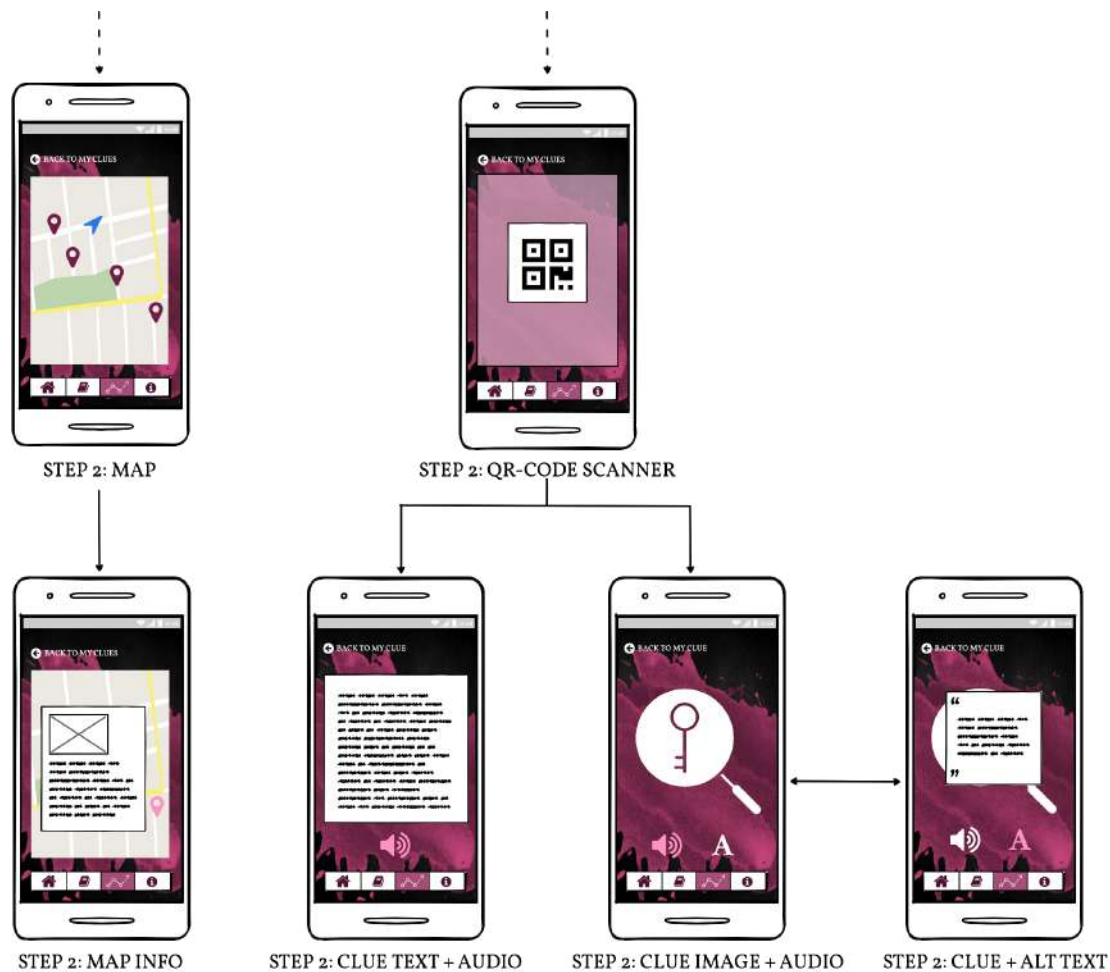
The image below shows the procedure related to the first step of the experience. After following Lucida throughout the visit to Palazzo Mansi, users are required to frame the QR code they will find to unlock the next step. Then, they will receive instructions on how to proceed.



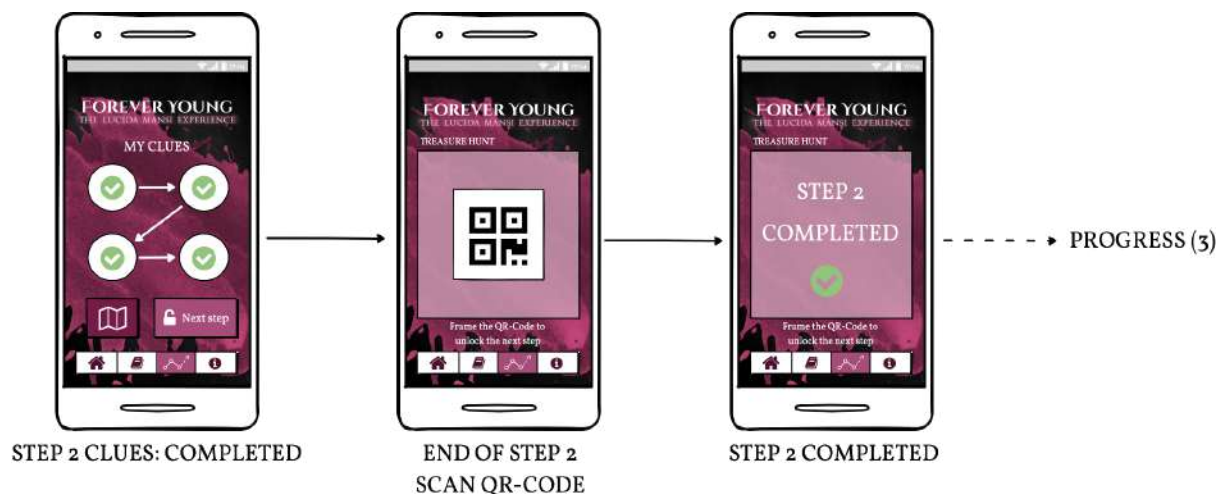
For the second step, the app will guide the user through the treasure hunt. By clicking on the correspondent button, four locked clues will be displayed on the screen. These will gradually be marked as done and made visible as users progress in unblocking them. The same page provides the link to the map needed for the experience



As already stated, from the treasure hunt page, users have two possibilities. They can open and navigate the map: this will guide their path and also display some relevant information for each of the key locations in which the clues are placed. Once a clue is reached, users will have to scan the QR code to see the hint: it will rather be textual content or an interactive image of a relevant symbolic object. For the matching audio of this last kind of clue, an alternative text version and closed captioning will be provided for accessibility purposes.

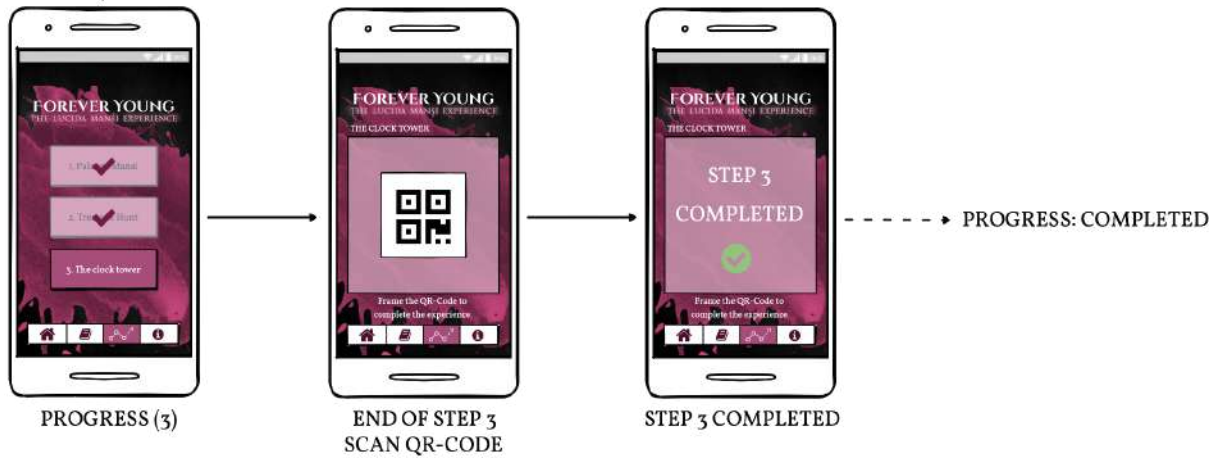


Once all the clues have been unlocked, the second phase is over. Again, as to encourage recall and memory, users will frame the QR code to definitely mark as completed the treasure hunt and access the last section of the app.



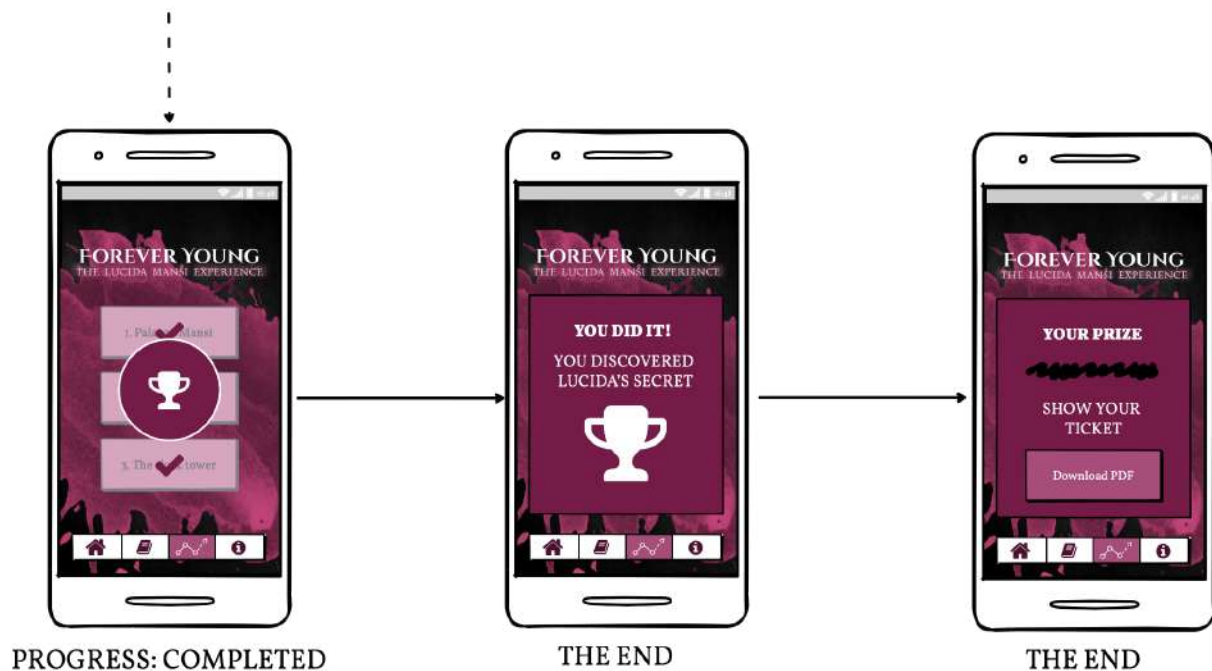
Users will receive the instruction of walking to the Clock Tower. Once they get there and they have their last talk with Lucida by scanning the entrance door of the tower, they have to frame the very last QR code: even part three is completed.

STEP 2 COMPLETED



Once the whole interactive experience is concluded, users will be able to access their deserved reward. A conclusive message will be displayed, followed by the downloadable PDF ticket to visit the Botanic Garden.

STEP 3 COMPLETED



In the next sections, the three stages of the experience will be presented in depth.

First part: Palazzo Mansi

Forever Young - The Lucida Mansi Experience starts in Palazzo Mansi. Visitors are invited to reach this location at the time slot they have booked. They will be equipped with AR visors and instructed on their use to start the experience. The visit will follow the path shown in the first subsection of *Locations, Palazzo Mansi (infra)*. Visitors will be guided by a 3D representation of Lucida Mansi, as shown in the image. The image on the right was created from the anonymous portrait of the collection of Palazzo Mansi using [Canva](#) and provides just a simplified example of the 3D model.

After a short presentation, Lucida will guide visitors on a tour of the Mansi family apartments that will cross Galleria Nuova, Sala della Musica, Salotti di Parata and, finally, the Alcova. The visit will focus on details about the Mansi family and the interiors of the apartments.

In the last room of the itinerary, however, the atmosphere changes. After telling the visitors about the Alcova room, Lucida's friendly expression suddenly becomes terrified as she stares at the mirror behind the visitor's back. At that point, looking at the mirror, visitors will see that Lucida's supposed portrait, which was previously above it, has moved to the centre of the mirror.

The woman's image is dark, aged, and frightening (as shown in the image on the right). At this point, Lucida runs away shouting the



sentence "It's Him! I'm running out of time!". At this point, visitors are invited to remove the visors and continue with the experience. A QR code will wait for them outside the room to unlock the next step of the experience. Visitors are also encouraged to complete the tour in Palazzo Mansi before moving to phase two.

Second part: Treasure Hunt

The following paragraphs aim at providing information and a graphical representation of the second and third part of the experience, the treasure hunt that ends with the appearance of Lucida Mansi in front of Torre delle Ore.

After visiting Palazzo Mansi, where Lucida has disappeared abruptly, visitors have the goal to find her and to discover more about the secret that seems to haunt her. The clues are meant to unravel the legend of Lucida Mansi little by little.

During the treasure hunt, visitors are invited to use the map provided in the application to find four clues in the historical city centre. At the locations indicated on the map, visitors will find a totem with a QR code, such as the one shown on the right. Each clue is associated with a number. Users are expected to follow the order provided on the app, as the story will disclose itself gradually, as users discover new objects.

The clues and their main features are presented below.



First clue: Lucida Mansi's Lovers' Letters

The first clue consists in a collection of letters written by Lucida Mansi's several lovers, part of Lucida's mysterious secret life.

- **Type:** Multiple images, text, and sound
- **User interaction:** Tap on the letters to open them, tap on the *Sound* icon to read aloud, tap on the arrows to show more letters from the collection
- **Location:** The first clue is located in the garden of Palazzo Mansi. This will allow visitors to complete the visit of the building



Second clue: Shattered Mirror

The second clue is the image of a broken mirror, accompanied by the voice of a desperate Lucida Mansi, reacting to the first signs of aging.

- **Type:** Image, sound, and transcript
- **User interaction:** Tap on the *Sound* icon to hear the audio, tap on the *Text* icon to show the transcript
- **Location:** This clue is located in Giovan Domenico Mansi Square, a five-minute walk from Palazzo Mansi



Third clue: The Hourglass

The third clue is a devilish hourglass, accompanied by the sound of the voice of the Devil, who offers to solve Lucida's problem in exchange for something (her soul).

- **Type:** Image, sound, and transcript
- **User interaction:** Tap on the *Sound* icon to hear the audio, tap on the *Text* icon to show the transcript
- **Location:** This clue is located in Piazza San Salvatore, close to the fountain "della Pupporona"





Fourth clue: The Devil's Contract

The fourth clue is a contract, signed by Lucida Mansi for the Devil, in which she agrees to give up her soul to the devil in exchange for her beauty.

- **Type:** Image, text, and sound
- **User interaction:** Tap on the contract to open the text, tap on the *Sound* icon to read aloud, use the *Zoom* icon or your fingers to enlarge the text
- **Location:** The last clue is located in Piazza San Michele, one of the main squares of the city centre. Here, users will also obtain information to reach the clock tower for the next step by scanning a last, additional QR code





Third part: Torre delle Ore



"Forever Young - The Lucida Mansi Experience" ends in front of Torre delle Ore, the clock tower located in Via Fillungo, the main street in the city centre. Here, visitors will find indications on how to proceed and a QR code to end the experience. When selecting the third button in the "Progress" section, a camera will appear; users are required to frame the door or of the clock tower. The app will recognize the shape of the door thanks to automatic shape detection, as shown in the images below. This will activate the last part of the experience.

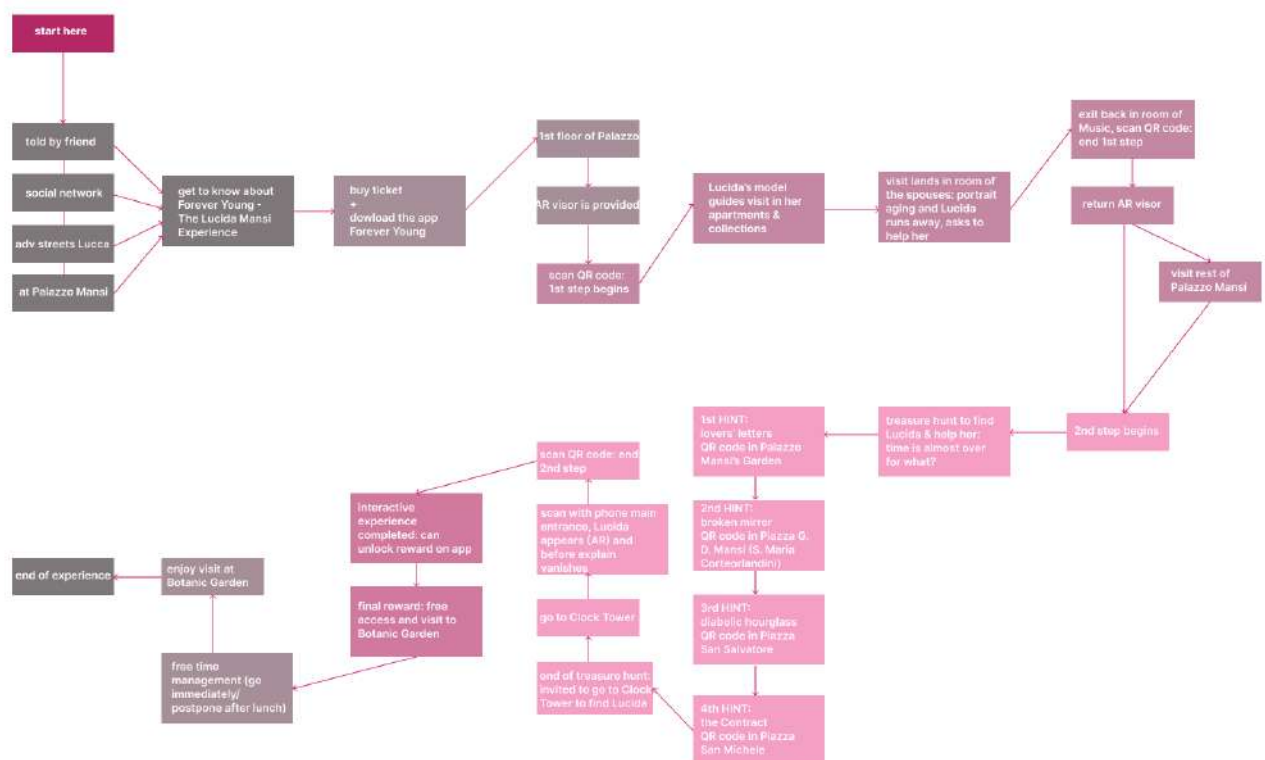
In the last part of the experience, the mobile application utilizes Augmented Reality. After the automatic recognition of the door of the tower by the application, the 3D representation of Lucida Mansi will appear on the screen. Visitors discover that the Devil is coming for Lucida's soul, for her time is up.

Lucida Mansi addresses the visitors: she urges them to help her stop the clock mechanism in the tower. This will deceive the devil and make him believe that the time he granted Lucida has not yet expired. Lucida is unable to finish her sentence when a flame-filled chasm opens beneath her feet to engulf her, as shown in the image below: her time is up. Visitors can do nothing but watch this scene as the devil takes the soul promised to him. The experience ends here, as users have discovered the secret of Lucida Mansi, the Lady of the mirrors. Visitors are then invited to scan the code to indicate that they reached the final part of the experience. At this point, users can claim their reward. The legend, in fact, does not end here. It is said that the ghost of Lucida Mansi still roams the city's Botanical Garden and appears to the eyes of discerning visitors. The reward consists thus of a free entrance to the Botanical Garden of Lucca.



Interaction Diagram

Having a clear image of the project in its entire declination, we produced an interaction diagram to visualise the interaction flow. We described the ordered sequence of events included within the whole experience of *Forever Young*.



Experience Design: Scenario

Let's now go back to our primary target audience and to our specific persona: the 17 years old student from Bologna, Paolo Zucchini.

Paolo, his sister Giulia and their parents Laura and Stefano have finally decided to enjoy a weekend trip: their destination is Lucca. They arrive on Saturday and immediately start to tour the walled city through its charming historical centre. Even though it's usually Laura that programmes these family trips, this time Paolo contributed too, probably because Lucca already has a special place in his heart. In the previous days he browsed on his social media and saw a poster about an interactive experience to discover the more hidden and mysterious traits of the city through the history of a noblewoman. He proposed the experience to the rest of the family and they all thought it could be funny, interesting and, most of all, unusual: they immediately booked the tickets online. So, they reach Palazzo Mansi and start the standard visit throughout the vast rooms of the building. When they reach the first floor, they are welcomed by a supervisor and given an A/R visor to start Forever Young - The Lucida Mansi experience. They all download the app and start the visit.

It's Lucida, the noble woman from the Mansi family, that guides them in the visit of the private family apartments. They traverse the rooms and get informed about the beautiful collections and the history of the Mansi family in the 17th century, but also later on. At a certain moment, they reach the spouse chamber: Lucida has shown all the luxurious beauty of the bed and the decorations when she gets shocked and whispers that time is almost over. Then she asks for their help and in the same moment runs away in despair. Paolo and his family turn around to see that the portrait that was previously located above the mirror has shifted down and has now a gloomy, dark appearance, while the woman depicted, extremely similar to Lucida, has suddenly aged.

The family exit the room doubtfully and, before starting with the treasure hunt, they finish their standard visit at the second floor of Palazzo Mansi.

They start the scavenger hunt and they go through all the hints hidden in nearby locations of the city centre: it's great fun for the guys to guide the whole family and to discuss all together what is happening and what might be the personality and story of the noble woman, while looking for her. They reach the huge Piazza S. Michele and they find a contract: it is not a common contract, yet a pact between Lucida and the devil!

They follow the indications to reach the Clock Tower and here they finally meet Lucida again, after all that suspense. All the things start to get clear for the four, which connect the gathered details of the story and reconstruct Lucida's vicissitudes. She seems pleased to see them at least as much as they are. However, just before she finishes explaining why they need to go up the Clock Tower and try to stop the time, an abyss opens in the front space and she disappears, wrapped in flames and fire.

It seems as if their experience is over. Despite the non-happy ending for Lucida, after all that thrill they can collect their reward: a free visit at the wonderful Botanic Garden in which the legend says Lucida is floating, sadly crying, in a water pond. Before enjoying some relaxing time at the Botanic Garden, they decide to have some street food for lunch and to rest for a while sitting in Piazza S. Michele.

Further developments and maintenance issues

Forever Young - The Lucida Mansi Experience is meant to be a temporary initiative promoted by the City Council of Lucca and Museo Nazionale di Palazzo Mansi.

We foresee to monitor the status of the visors provided to users, as to offer the highest possible quality and enjoyment of the interactive experience. The same holds true for the regular supervision to the software components of the AR experience as well as for the multi-device app.

QR codes are a relatively intrinsically safe technology. Yet, we plan to constantly control the codes to avoid malicious substitutions or other vandalism acts - we shouldn't forget that totems are placed outdoors in the city streets - over such fundamental components in our experience.

TEAM ROLES

Alessandra Failla and Ilaria Rossi are the authors of this project. Most of the sections, particularly those concerning the design phase - context, concept and goals -, were developed with a collaborative approach, based on very frequent exchanges of ideas and discussions. The tasks to be done asynchronously were divided equally among the contributors.

Ilaria was responsible for text editing and development of the diagrams concerning the story underlying the experience and the interaction of the users within each phase. She also wrote the scenario featured in the development section.

Alessandra focused on the graphic part of the work and developed most of the images included in the project, such as the ones in the interactive application section. She was also responsible for visiting, photographing and presenting the locations in the city of Lucca.

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