

**B2B PINACOTECA APP**

# **Concept**

## **1.0 Overview**

The Pinacoteca di Brera Interactive App is a revolutionary mobile application crafted to enhance the museum experience for art enthusiasts aged 20 to 35 at the prestigious Pinacoteca di Brera in Milan, Italy. Merging technology with art appreciation, this app offers a dynamic and immersive journey through the museum's extensive collection.

## **2.0 Main Feature**

### **Intuitive User Experience**

The app boasts a user-friendly interface, ensuring easy navigation for both seasoned art historians and casual art enthusiasts. The design minimizes barriers to engagement, making the exploration of the museum's treasures accessible to all.

### **Engaging Content and Artwork**

Immerse yourself in a curated selection of artworks, accompanied by informative content about the artists, their masterpieces, and the history of Pinacoteca di Brera. High-quality visuals and interactive elements enhance the overall aesthetic experience, aligning with the museum's commitment to artistic excellence.

### **Educational Value**

Delve into a treasure trove of educational content, catering to varying levels of art expertise. From detailed descriptions to intriguing anecdotes, the app provides a comprehensive understanding of the artistic wonders housed in Pinacoteca di Brera.

## **Gamification for Exploration**

Engage in interactive mini-games that complement the museum experience. These games add an element of fun and challenge, encouraging exploration and discovery.

## **3.0 Mood and Game Feel**

The Pinacoteca di Brera Interactive App wants to make you feel a mix of respect for art and the excitement of discovering something new. It brings the calm feeling you get in a regular museum visit but adds a touch of curiosity with interactive features.

The app's playful vibe is meant to be engaging and responsive, making you feel like you're really part of the art world. Everything you do in the app, from moving around to playing mini-games, is designed to be easy and enjoyable. The games make things a bit challenging but also give you rewards, making the whole experience more fun and making you feel good about what you've accomplished in the museum. The goal is to find the right balance between learning about art and having fun with interactive things, creating an enjoyable and clever experience.

## **4.0 Art Style**

### **Minimalistic Elegance**

In crafting the art style for the Pinacoteca di Brera Interactive App, we aim to achieve a seamless blend of minimalism and elegance. The design is consciously curated to enhance the overall user experience, providing a backdrop that complements the richness of the artworks without overwhelming the user.

### **Simplicity in Interface Design**

- **Color Palette:** LINKATA POTENTE ALLA CP

- **Clean Lines and Spacious Layouts**

Clean lines and uncluttered layouts to maintain a sense of simplicity. This ensures that the focus remains on the artwork, allowing users to navigate effortlessly.

## **Immersive Visuals**

- **High-Quality Imagery**

Artworks with high-resolution images, allowing users to appreciate the details. The minimalist background ensures that the focus remains on the art itself.

- **Subtle Animations**

Smooth transitions between artworks and gentle fading effects, adding a touch of modernity to the overall experience.

# 5.0 Target Audience

## 5.1 Analysis Overview

- **Project Name:** Pinacoteca di Brera Interactive App.
- **Purpose:** Enhance the museum experience for art lovers aged 20 to 35 through an interactive mobile application featuring mini-games and engaging elements.
- **Museum:** Pinacoteca di Brera, Milan, Italy.

## 5.2 Introduction

The Pinacoteca di Brera Interactive App is a dynamic project aimed at revolutionizing the traditional museum visit for art lovers aged 20 to 35. The app combines technological innovation with the rich art collection of Pinacoteca di Brera, providing an interactive and educational experience.

## 5.3 Target Audience Profile

### Demographics

- **Age:** 20 to 35 years old.
- **Location:** Primarily local and international visitors to Pinacoteca di Brera, Milan.
- **Education:** Varied educational backgrounds, including art history enthusiasts, students majoring in arts, and professionals in creative fields.
- **Occupation:** Diverse, including students, young professionals, and individuals with a keen interest in the arts.

### Psychographics

- **Interest in Art:** Have a genuine passion for art, ranging from classical to contemporary.
- **Technologically Savvy:** Comfortable using mobile applications and interactive technologies.

- **Socially Active:** Engage in social media platforms, actively seeking and sharing cultural experiences online.
- **Curiosity:** Open-minded individuals who enjoy exploring and discovering new facets of art.

## **Behaviors**

- **Museum Visitors:** Regular or occasional museum visitors, specifically interested in the Pinacoteca di Brera.
- **Mobile App Users:** Frequently use mobile applications for various purposes, including entertainment and education.
- **Participation:** Willing to actively engage with interactive elements and mini-games within the app, seeking a dynamic museum experience.

## **5.4 User Experience**

- **Intuitive Design:** Prioritize a user-friendly interface for easy navigation within the app, minimizing barriers to engagement.
- **Engagement:** Incorporate elements that captivate and sustain the user's interest throughout their museum visit, balancing information and interactivity.
- **Accessibility:** Ensure that the app is able to cater for users with different levels of artistic experience, providing both beginner-friendly content and in-depth content by adding specific descriptions to artworks.

## **5.5 Content and Artwork**

- **Educational value:** Provide informative content on the works, artists and history of the Pinacoteca di Brera, fostering a deeper understanding of art.
- **Visual appeal:** Use high-quality images for the artworks and interactive elements to enhance the overall aesthetic experience.
- **Variety:** Include a diverse range of genres and artistic styles to meet the different preferences of the target audience, encouraging exploration and discovery.

## **5.6 Gamification**

- **Relevance:** Integrate mini-games that complement the museum experience and encourage exploration, tying into the themes of specific exhibits or artists.
- **Challenge Level:** Adjust game difficulty to cater to a broad audience, ensuring both casual and more dedicated players find enjoyment without feeling overwhelmed.
- **Rewards:** Implement a rewarding system to incentivize engagement with the app, offering exclusive content, virtual badges, or discounts on museum merchandise.

## 5.7 Personas Analysis

These personas provide a snapshot of the diverse target audience for the Pinacoteca di Brera Interactive App, highlighting their unique characteristics, interests, and behaviors. Each persona represents a different segment of the audience, demonstrating the app's appeal to a broad range of art lovers within the specified age group.

### Persona 1



**Art History Enthusiast - Alessia**

### Demographics

**Age:** 28

**Location:** Milan, Italy

**Education:** Holds a bachelor's degree in Art History

**Occupation:** Works as a freelance art researcher

### Psychographics

**Interest in Art:** Passionate about classical art, particularly Renaissance paintings

**Technologically Savvy:** Comfortable using various digital tools and platforms for research

**Socially Active:** Engages in online art communities and forums

**Curiosity:** Enjoys exploring lesser-known artworks and artists

### Behaviors

**Museum Visitors:** Regularly visited Pinacoteca di Brera for inspiration

**Mobile App Users:** Actively seeks educational apps to expand art knowledge

**Participation:** Eager to engage with in-depth content, appreciates the app's educational value



## Persona 2



Creative Professional - Marco

### Demographics

**Age:** 32

**Location:** Rome, Italy

**Education:** Holds a master's degree in Visual Arts

**Occupation:** Graphic Designer at a creative agency

### Psychographics

**Interest in Art:** Appreciates both classical and contemporary art, seeks inspiration for design work

**Technologically Savvy:** Proficient in design software, open to exploring new tech tools

**Socially Active:** Shares creative work on social media platforms

**Curiosity:** Interested in interactive experiences that blend art and technology

### Behaviors

**Museum Visitors:** Occasionally visits museums for inspiration and relaxation

**Mobile App Users:** Enjoys interactive apps for creative inspiration

**Participation:** Looks for engaging and visually appealing content, interested in the app's gamification aspects

### **Persona 3**



**Casual Art Explorer - Luca**

#### **Demographics**

**Age:** 23

**Location:** Florence, Italy

**Education:** Studying Business Administration

**Occupation:** Part-time retail worker

#### **Psychographics**

**Interest in Art:** Developing an interest in art, enjoys exploring different styles

**Technologically Savvy:** Regularly uses social media and entertainment apps

**Socially Active:** Shares personal experiences online, including cultural outings

**Curiosity:** Open to discovering art but prefers a casual and approachable experience

#### **Behaviors**

**Museum Visitors:** Visits museums occasionally with friends for leisure

**Mobile App Users:** Uses apps for entertainment and relaxation

**Participation:** Looks for easy-to-navigate features, enjoys the app's diverse content and finds the gamified elements intriguing

# Art

## 1 [General Info](#)

Look at the chapter above for all general information

### 1.1 Color Palette

The color palette for the Pinacoteca di Brera Interactive App is carefully chosen to evoke a sense of sophistication, aligning with the museum's commitment to artistic excellence. The palette is inspired by classic art tones, creating a harmonious and visually pleasing experience for users. (see color palette for artist)

[some example for the artist for the palette]

**Muted Whites:** Symbolizing purity and simplicity, muted whites serve as the primary background color, providing a clean canvas for the artworks and maintaining a minimalist aesthetic.

**Subtle Grays:** Shades of gray add depth and contrast, enhancing the visual hierarchy within the app. These neutral tones create a sophisticated backdrop that complements the artworks.

### 1.2 General Look

The overall design of the Pinacoteca di Brera Interactive App is characterized by clean lines, uncluttered layouts, and a focus on simplicity. It provides users with an intuitive and immersive platform that showcases the museum's extensive art collection without distractions.

**Clean Lines:** Interface elements feature crisp, clean lines, contributing to a modern and polished look. This design choice emphasizes simplicity and ensures a seamless navigation experience.

**Spacious Layouts:** Ample white space is incorporated to maintain an open and airy feel. This not only enhances readability but also allows the artworks to take center stage, fostering a sense of contemplation and appreciation.

### 1.3 Mood & Feel

The mood and feel are carefully curated to strike a balance between respect for art and the excitement of exploration. The overall ambiance reflects the calm and contemplative atmosphere of a traditional museum visit, infused with a touch of curiosity and playfulness through interactive features.

**Calm and Respectful:** The app exudes a calm and respectful ambiance, mirroring the serenity of a museum visit. This mood encourages users to appreciate the art in a contemplative manner.

**Curiosity and Playfulness:** Interactive elements, mini-games and puzzles inject a touch of curiosity and playfulness into the experience. This adds an exciting dimension, encouraging users to explore the museum's with enthusiasm and a sense of discovery.

**Engaging and Responsive:** The app's playful vibe is designed to be engaging and responsive. Every interaction, from navigating through artworks to participating in mini-games, is crafted to be enjoyable and user-friendly, creating an immersive and clever experience.

## **2.1 Environment**

## **2.3 Props**

# **Mechanics**

## **1.0 Game Progression and Loop**

The player begins his journey in front of the museum's sliding glass door. By interacting with the game button embedded in the door menu, the game starts, transporting the player to the initial exploration point within the room.

To advance, the player must successfully navigate and solve the three puzzles presented in each room. Passing these challenges grants access to the final room, where the final riddle is located.

Once the initial trio of puzzles have been solved, the player receives the first reward: a modest voucher offering a discount on admission to the Brera Art Gallery.

To solve a segment of the final riddle, the player must physically visit the museum. Once completed, the player unlocks his second reward: an additional entrance discount.

After solving the puzzles, the player has the freedom to continue exploring, admiring the various works of art that adorn the rooms.

## **1.1 Win & Reset Condition**

Victory is declared when the player successfully completes all the puzzles and gains access to the corresponding rewards. Once completed, the player can continue to move around the various anchor points to observe the museum.

The player must physically visit the museum and use the app to explore the last room. There a painting is found incongruent with the surroundings, in the room on the app there are 7 paintings one of which is wrong, the player has to identify on the app by scanning the correct work to unlock the last puzzle and finish the game.

## **1.2 Movement / Camera System**

Within the application, player movement and camera navigation are synergistic, representing a unified entity. In practice, as the player traverses through anchor points, the camera seamlessly tracks their movements, ensuring a harmonious and intuitive gaming experience.

### **User Navigation**

The interactive museum tour employs an anchoring point system in each room, allowing smooth transitions between exhibits. Icons on the screen guide navigation, providing a user-friendly interface.

### **Room Transition**

Transitioning between rooms is initiated by connecting to specified anchoring points on the screen.

### **Camera Movement, Rotation, and Zoom**

Upon reaching an anchoring point, players can explore their surroundings with swipe gestures, triggering panoramic views. Notably, Unity's Cinemachine with Dolly Track facilitates a customized camera transition system. This utilizes rails to smoothly guide the camera from point "A" to point "B," enhancing personalization options.

### **Rotation with Swipe**

- To simulate rotation, a force is applied to the camera that allows it to move on the reference axes.
- Upon releasing the screen, the camera's gradual slowdown avoids abrupt stops, preserving a fluid user experience.

## Unity Axes for Rotation Camera Movement

At times when the player is stationed at an anchoring point, introduce specific angular camera movements. This enhances the exploration experience by allowing the player to look around dynamically.

### Angular Camera Movement Parameters

#### Pitch Rotation (X-axis)

- **Functionality:** The pitch rotation allows the player to tilt their view up or down on the X-axis.
- **Implementation:** As the player swipes vertically on the screen, the camera smoothly pitches, providing a comprehensive view of the upward or downward perspective.

#### Yaw Rotation (Y-axis)

- **Functionality:** Yaw rotation facilitates horizontal movement, enabling the player to pan left or right on the Y-axis.
- **Implementation:** When the player swipes horizontally, the camera elegantly yaws, delivering a panoramic sweep of the surroundings.

### Rotation Constraint

A rotation block is implemented on the X-axis, limiting the rotation to  $-90^\circ \leq \text{PitchRotation} \leq 90^\circ$ . This restriction ensures that the camera cannot complete a full rotation around this axis.

### Customizable Parameters

To provide a tailored experience for users, the following parameters are customizable within the Unity environment:

#### +Zoom Magnitude

- **Description:** Determines the degree of zoom applied when using the pinch gesture.
- **Customization Range:** Adjustable to accommodate user preferences for the intensity of zoom.

### +Camera Angular Speed

- **Description:** Governs the Angular Speed at which the camera moves in response to swipe gestures.
- **Customization Range:** Configurable to control the swiftness or gentleness of camera movements.

### +Camera Deceleration

**Description:** Dictates the time it takes for the camera movement to gradually fade out after the user lifts their finger from the screen.

**Customization Range:** Adjustable for achieving the desired smoothness in the cessation of camera motion.

## 1.3 Input System

In the context of this mobile application, the input system is tailored for touchscreen interactions, ensuring a seamless and intuitive user experience for exploring the museum's interiors.

### Swipe for Rotation Camera Movement

The primary method for camera movement involves swiping on the touchscreen. As users swipe, the camera gracefully follows the motion, allowing them to explore different areas within the museum.

### Zoom Command

- Zoom functionality is activated by a two-finger pinch gesture. Pinching outward (from inside to outside) using the field of view parameter on unity.
- Conversely, pinching inward (from outside to inside) initiates a backward zoom, moving the view away from the artworks.
- The degree of zoom is customizable, providing users with the flexibility to adjust the zoom level according to their preferences.

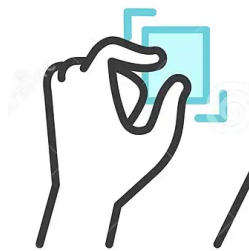


## Tap for Interactions

- Tapping on the touchscreen serves as the primary interaction command. For instance, tapping on designated icons initiates actions such as moving to anchor points within the museum.
- Interactions are seamlessly triggered by tapping, enhancing user engagement and responsiveness.



**Tap**



**Zoom**



**Swipe**

User interaction is predominantly touch-based, utilizing the smartphone screen. Responsive tactile commands, such as swiping and pinching, provide players with an intuitive means to navigate the virtual museum.

This approach ensures an engaging and user-friendly museum exploration, where the fusion of tactile controls and interactive anchoring points enhances the overall gaming experience.

Example of camera movement for an application very similar to ours

[Virtual Tour](#)

Other [Virtual Tour](#)

## **1.4 Scanning System**

This function allows the player to scan a painting in the real museum.

- **Activation:** the scan can only be used when the player is above the anchor point in the fourth room. It can only be started by a button if this condition is fulfilled.
- **Function:** By scanning the correct work "missing on the application" the player will unlock the last anchor point in front of the wrong work on the application, interacting with this painting will start the last puzzle game.

## **1.5 Reward System**

### **Rewards for puzzle progression**

- **First three puzzles:** When the player passes the mazes of the first three rooms, he will be rewarded with a 20% discount on the ticket purchase.
- **Mastery of the last puzzle:** Completion of the last riddle: Upon completion the player will receive a 20% discount for 2 people for a visit to the museum, this discount can only be used for a two person visit.

**Discount display:** it will be possible to display discount codes on the main screen of the application in the appropriate section ( Check UI Documentation)

# **Level Design**

## **Objective**

Design a level within the museum environment, integrating puzzle-solving mechanics. Use Unity's Cinemachine for smooth transitions between rooms and employ touch-based interactions for exploration and puzzle solving.

## **Level overview**

The level comprises a part of the museum with a total of four explorable rooms. The player navigates through the anchor points using Unity's Cinemachine, starting with an initial corridor and progressing through each room by interacting with the anchor points.

## **Initial corridor**

- The level begins in a corridor where the player interacts with the start menu on the glass door.
- Starting the game via the "Play" button opens the glass door and the player moves from the initial anchor point to the anchor point of the first room.

## **Room exploration**

- Within each room, small indicators invite the player to interact to move between anchor points.
- Players can look around freely by interacting with the anchor point, offering a virtual tour experience.
- Zoom functionality is available from the anchor points to observe the artworks within each room.

## **Artwork and puzzle activation**

- Each room features artworks, one of which is covered by a red curtain.
- Interacting with the covered artwork activates a puzzle game, which allows the player to reveal the artwork by solving the puzzle.
- Completing the first three puzzles in the initial rooms provides the first reward: a voucher for museum admission.

## **Unlocking the final room**

- Once you have completed the initial three puzzles, you unlock access to the last room.
- The last room contains a piece of art that does not belong in the real museum.

## **Interaction with the real world**

- To progress, the player must visit the museum, identify the lost artwork and scan it using the game's phone function.
- Scanning the missing artwork unlocks the final puzzle, which upon completion will show the correct artwork and its description.
- Once the puzzle is completed, the player receives the second reward: a second voucher for museum admission.
- It will be possible to scan the work by means of a button, this button will only be active in the last room (room 4) when the player is standing on the anchor point in the middle of the room, once the correct work has been scanned the player can move to the anchor point in front of the last work and start the puzzle.

## **Additional Design Insights**

- The floor plan of the level was meticulously recreated with AutoCAD, including camera paths and measurements.
- The AutoCAD file contains crucial information of the level design, ensuring accurate positioning of anchor points and puzzle elements.
- The 3D representation of the level was created with Maya to provide players with a visually immersive environment.

[AutocadMaps](#)

# **Puzzles**

[Puzzle Document](#)

# UI

## 1. Main Screen

When the application starts, the user will interface with the first game screen that will be the main menu.

The menu will be projected statically and visible on the sliding doors at the start of the level, and once the start button is selected the menu will be divided vertically into two separate parts that will disappear with the sliding of the doors.

### 1.1. Menu buttons

#### 1.1.1. Stylistic rules

The boxes of the menu will be rectangular in shape, with rounded corners to create a sense of comfort.

*Color:* Light grey.

*Behavior:* When a button is touched by the player, it will change its state from normal to almost transparent, lowering its opacity level. Once the player has released the finger from above the button it will return to its original state.

#### 1.1.2. Play

The Play button is displayed at the **top of the menu** selection, once pressed, the game will start leading the player through the first section of the game

#### 1.1.3. Options

Second immediately after the play button, once pressed open a page to the player with the following options:

- **Master Volume**  
Used to regulate the volume of the game.

- **Music: on/off**  
Used to turn on and off the background music.
- **Back Button**  
Return to the main page.

#### 1.1.4. FAQ

Open the page with the Info and Social Media of the Pinacoteca.

### 1.2. App logo

The logo of the application will be a restyling of the current logo of "Amici di Brera" in a more themed style with our conception.

## 2. During the game

In this section will be described the User Interface that will be inside the gameplay

### 2.1. Pause

Located at the top left, once pressed open a page to the player with the following options:

- **Reset**  
Bring the player to the Main Menù resetting the game.
- **Master Volume (TBD)**  
Used to regulate the volume of the game.
- **Music: on/off**  
Used to turn on and off the background music.
- **Back Button**  
Return to the Game.

## **2.2. Anchor Points**

### **2.2.1. Style**

**The anchor point style will remain in theme with the minimal present in the rest of the game. They will be composed of a stylized graphic silhouette that will alternate in one movement .**



### **2.2.2. Behavior**

**The animation will see move the legs and arms of the silhouette**

Texture 2d sempre rivolta verso il player, quando è dentro un range parte l'animazione dell'omino che cammina.



# Audio

## 1 Objective

The audio should follow the game feel of the project and create a calm and relaxing atmosphere, following the setting and the game.

### 1.1 SFX

SFX are used to match some action in game. Both in game and in the menus, are monotone sound

### 2.2 BGM

BGM is used to create a relaxing mood.