Brera B2B - Technical Design Document

Index

1. Introduction
2. Features
3. Choice of Game Engine
4. Inputs
5. Diagrams
6. Art Tools
7. Team

Release link

Section 1 - Introduction

This is the Technical Design Document for the project of a gamification for the Brera art gallery. Inside this document you can find the features, the diagrams and the logic of this game.

Section 2 - Features

- Player
    - Movement
    - Interactions
- Interaction System

    - Interact with different paintings and clue notes
    - Show in UI the minigame associated with a certain painting, the description of the clue notes and the dialogues of the NPC
    - Play audio related to the action performed
    - Unlock paintings' minigames by pick upping specific notes

Section 3 - Choice of Game Engine

The game engine that has been chosen is Unity.
This engine posses different interesting features like:

- An intuitive editor
- Data Management
- interesting plug-in's

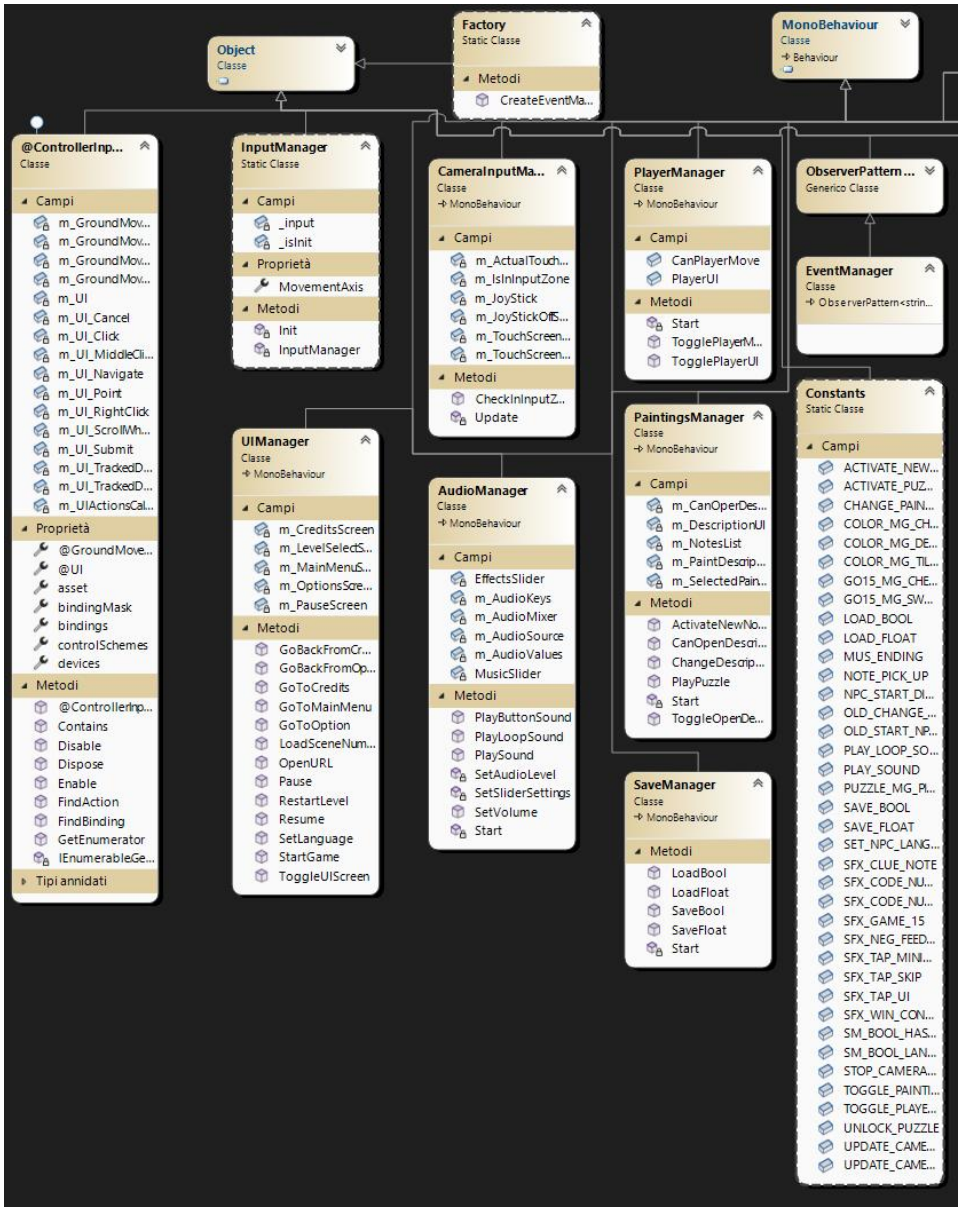
The reason is to improve the team's skills in this specific engine but also due to a lack of additional skills. We had chosen the 2022.3.10 version because this is the standard version adopted by the company.

Section 4 - Input

- Movement
    - The player moves on it's x and z axis by using a joypad in the ui canvas
- Camera
    - The player can rotate the camera by dragging the finger on the screen
    - The player can also zoom in and zoom out by pinching or spreading 2 fingers on the screen and consequently increasing or decreasing the FOV of the camera
- Interaction with environment
    - The player can click with the finger on every interactable object
- Menu
    - UI button associated with various functions: play the game, setting the language, return to main menu, open the map and so on

Section 5 - Diagrams

5.1 Managers diagram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Classe
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MonoBehaviour
Classe
Behaviour
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Campi
m_GroundMov...
m_GroundMov...
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m_GroundMov...
m_UI
m_UI_Cancel
m_UI_Click
m_UI_MiddleCli...
m_UI_Navigate
m_UI_Point
m_UI_RightClick
m_UI_ScrollWh...
m_UI_Submit
m_UI_TrackedD...
m_UI_TrackedD...
m_UIActionsCal...
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@GroundMove...
@UI
asset
bindingMask
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Metodi
@ControllerInp...
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Disable
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FindAction
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_input
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MovementAxis
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Init
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Classe
MonoBehaviour
Campi
m_ActualTouch...
m_IsInInputZone
m_JoyStick
m_JoyStickOffS...
m_TouchScreen...
m_TouchScreen...
Metodi
CheckInInputZ...
Update
PlayerManager
Classe
MonoBehaviour
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Start
TogglePlayerM...
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EventManager
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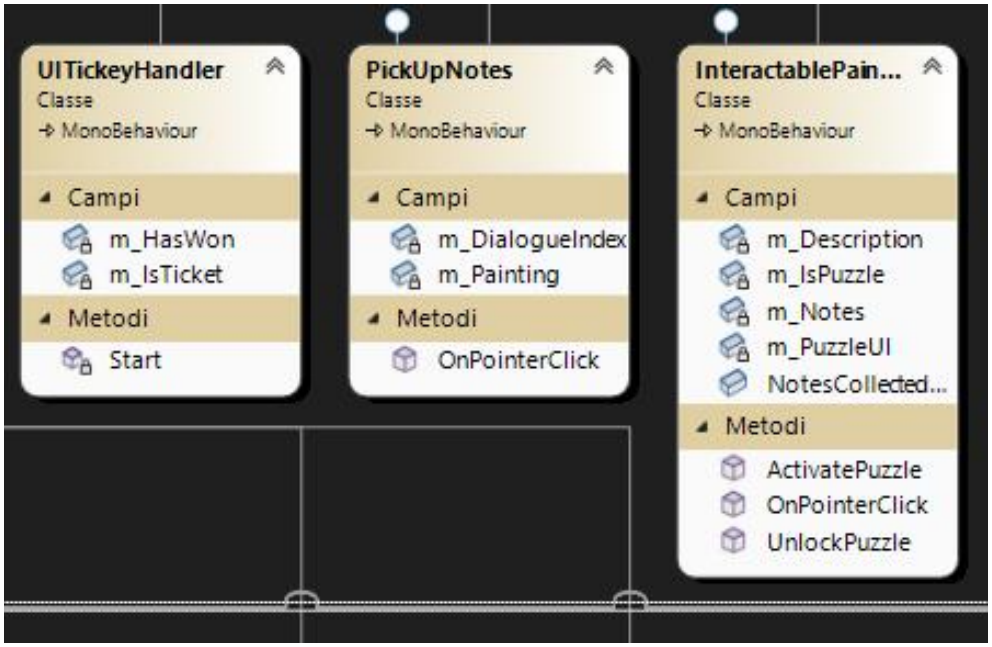
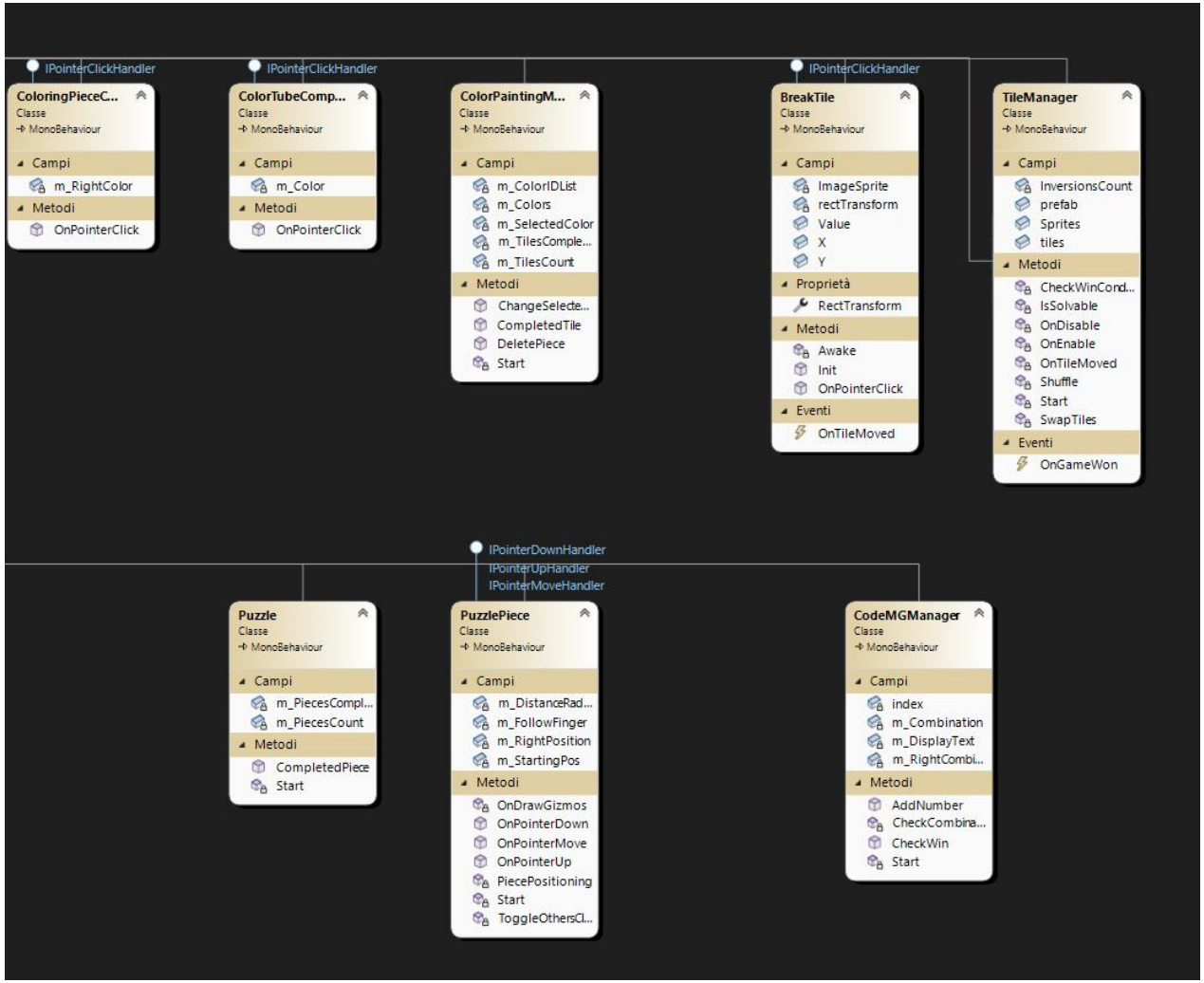
UIManager
Classe
MonoBehaviour
Campi
m_CreditsScreen
m_LevelSelectS...
m_MainMenuS...
m_OptionsScre...
m_PauseScreen
Metodi
GoBackFromCr...
GoBackFromOp...
GoToCredits
GoToMainMenu
GoToOption
LoadSceneNum...
OpenURL
Pause
RestartLevel
Resume
SetLanguage
StartGame
ToggleUIScreen
AudioManager
Classe
MonoBehaviour
Campi
EffectsSlider
m_AudioKeys
m_AudioMixer
m_AudioSource
m_AudioValues
MusicSlider
Metodi
PlayButtonSound
PlayLoopSound
PlaySound
SetAudioLevel
SetSliderSettings
SetVolume
Start
PaintingsManager
Classe
MonoBehaviour
Campi
m_CanOperDes...
m_DescriptionUI
m_NotesList
m_PaintDescrip...
m_SelectedPain...
Metodi
ActivateNewNo...
CanOpenDescri...
ChangeDescrip...
PlayPuzzle
Start
ToggleOpenDe...
SaveManager
Classe
MonoBehaviour
Metodi
LoadBool
LoadFloat
SaveBool
SaveFloat
Start
Constants
Static Classe
Campi
ACTIVATE_NEW...
ACTIVATE_PUZ...
CHANGE_PAIN...
COLOR_MG_CH...
COLOR_MG_DE...
COLOR_MG_TIL...
GO15_MG_CHE...
GO15_MG_SW...
LOAD_BOOL
LOAD_FLOAT
MUS_ENDING
NOTE_PICK_UP
NPC_START_DI...
OLD_CHANGE_...
OLD_START_NP...
PLAY_LOOP_SO...
PLAY_SOUND
PUZZLE_MG_PI...
SAVE_BOOL
SAVE_FLOAT
SET_NPC_LANG...
SFX_CLUE_NOTE
SFX_CODE_NU...
SFX_CODE_NU...
SFX_GAME_15
SFX_NEG_FEED...
SFX_TAP_MINI...
SFX_TAP_SKIP
SFX_TAP_UI
SFX_WIN_CON...
SM_BOOL_HAS...
SM_BOOL_LAN...
STOP_CAMERA...
TOGGLE_PAINTI...
TOGGLE_PLAYE...
UNLOCK_PUZZLE
UPDATE_CAME...
UPDATE_CAME...

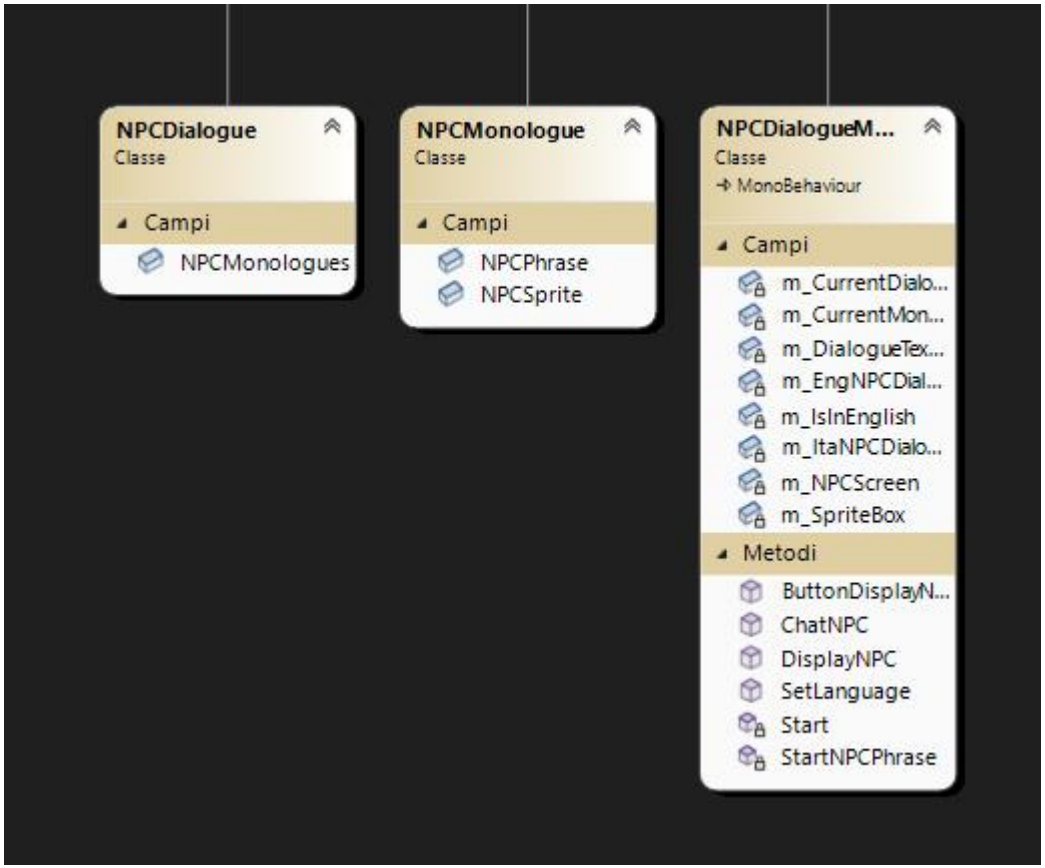
5.2 Environment Diagrams



5.3 Puzzles diagrams



5.4 NPC diagrams



Section 6 - Art Tools

6.1 2D Art

6.1.1 Photoshop

- Versions: CC 2023
- Field of using:
    - Texture
    - Walls
    - Interface
- About: Graphics Editing Program
- Reason of using:
    - Standard in the industry because its versatility in using by other tools
    - Supporting by the productor
    - Interesting plug-in’s

6.1.2 Procreate

- Versions: 5.3.3
- Field of using:
    - Texturing
    - Coloring
- About: Graphics Editing Program
- Reason of using:
    - Always at hand
    - Easy to use

Section 7 - Team

7.1 - Game design:
- Sharon cavallari - sharon cavallari
- Valeria guerra - valeriaguerra

7.2 - Programmin:
- Jacopo alberti - Tasogare_No_Jack

7.3 - 2D Art:
- Elisa cernari - elisa-cernari
- Elisa galli - elisahah / elisa
- Marika schiavi - marika schiavi
- Mario sebastiano Pace - MarioSebastianoP
- Rebecca ferrè - RebFer
- Niccolò vaccaro - Nico-va
- Camilla tonali - CamillaTonali

7.4 - 3D Art:
- Marta sciuto - martaJonia