GRAPHICS UNITY PROJECT 2024

3D Puzzle Adventure Game

ECE TUC

PROJECT REPORT

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Project name: Legend of Aria

Google Drive link:

https://drive.google.com/file/d/1guVdqSYUi3NnuwiCMWxWuR47gPu7qur0/view?usp=drive_link

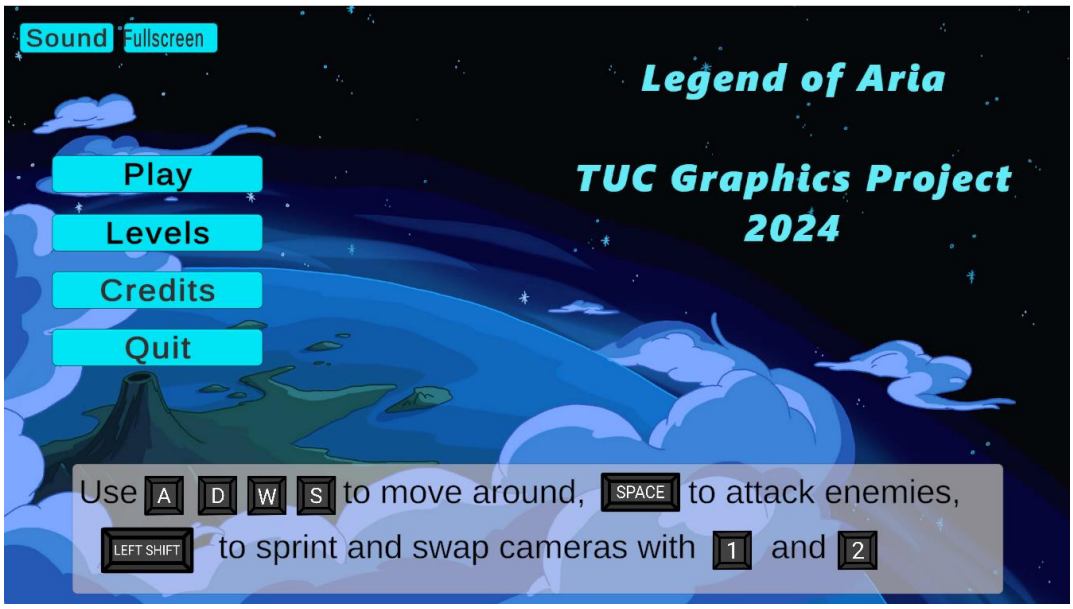
Game Design:

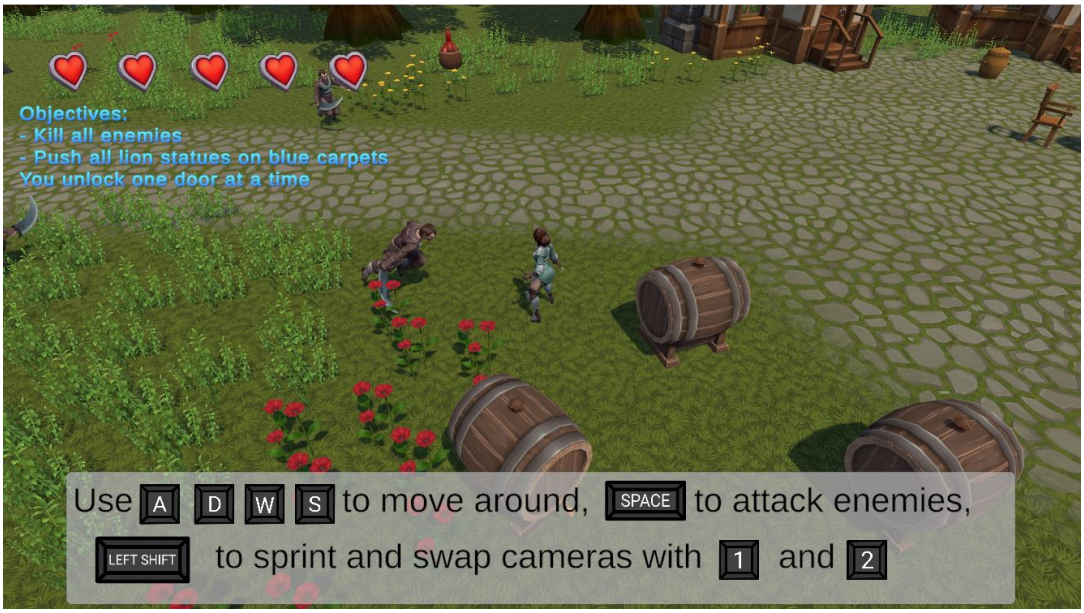
- **Playable Character**: The play controls Aria, a female warrior in a cartoon theme fantasy world.
- **Setting**: Medieval period village, mountain, castle.
- **Goal**: The player moves from left to right on each level, where they must eliminate all enemies and push all lion statues on top of the blue carpets to unlock doors to proceed.
- **Scenario**: Aria must fight all enemies (Hostile NPCs who chase and attack her) and push all lion statues on the blue carpets to advance through the level. Aria can suffer damage from the enemies but she can regain health by picking up health potions scattered around the level. If she dies either by getting killed or falling off the map (level2) the level restarts. Each level is different, and no items/stats are transferred from one to another. Each level is split into 2 parts.

There are 3 playable levels in the game:

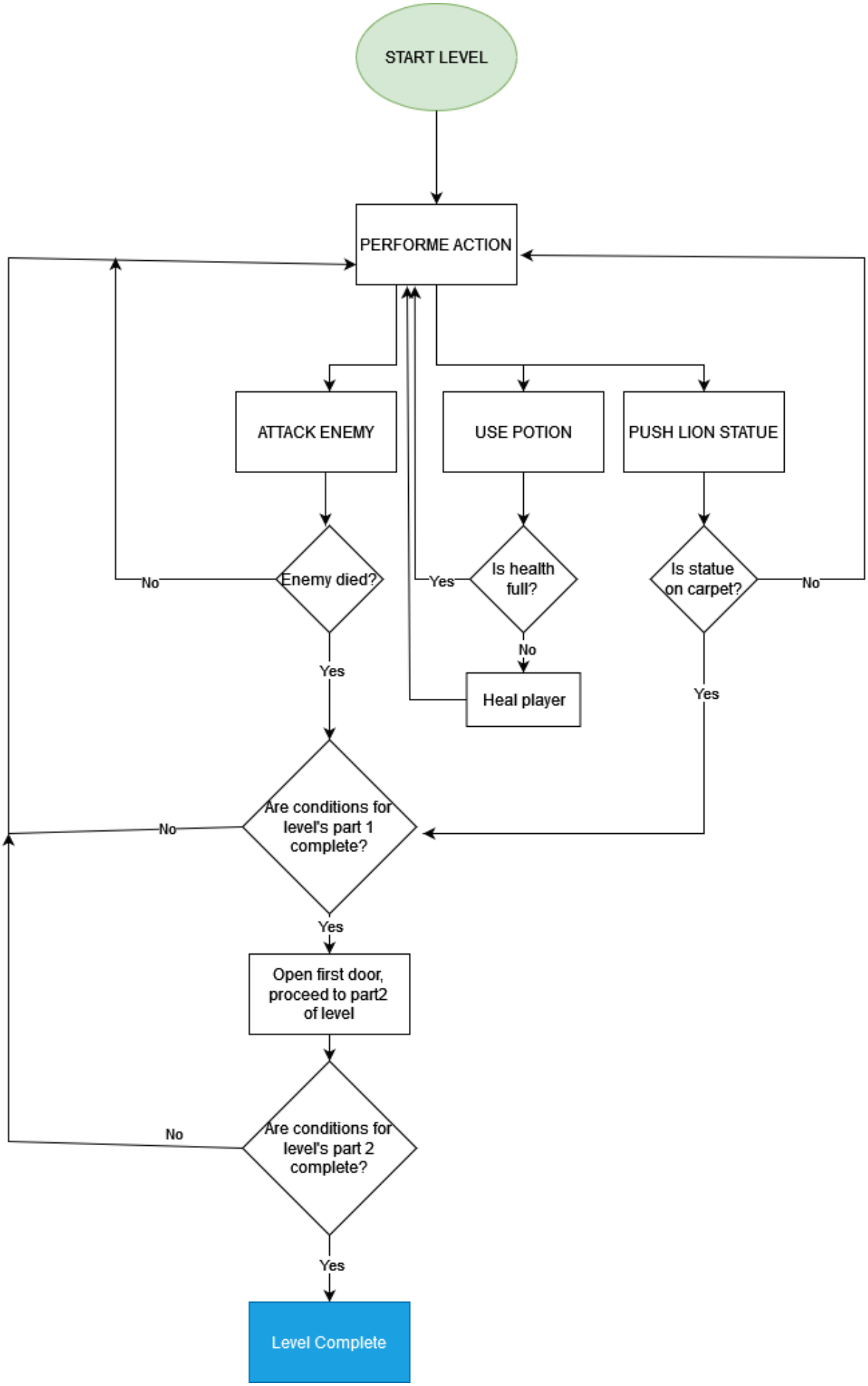
1. Village: This is the introduction level showcasing combat and the lion statues puzzle.
2. Mountain: This level features 2 new simple mazes the player must navigate but also has to be careful not to fall.
3. Castle: This level is similar to level1 but with increased difficulty both in enemies and lion statues puzzle.

Screenshots:





Below is the flowchart of the game's logic

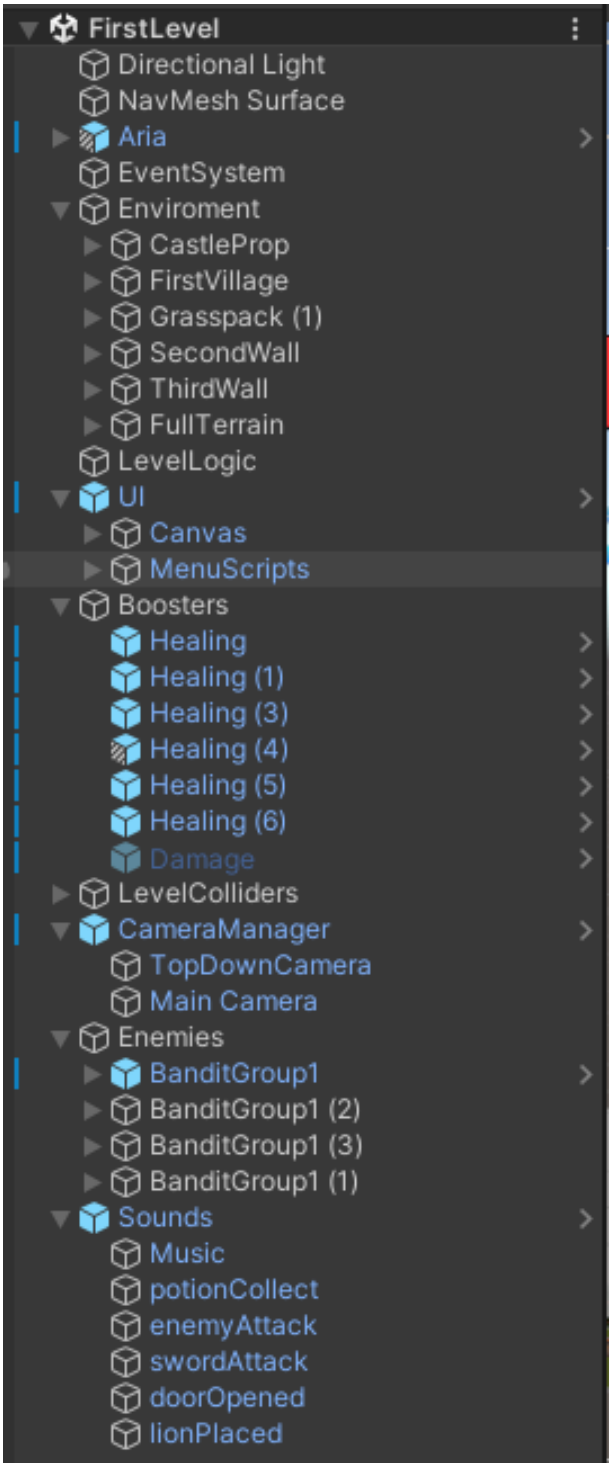

START LEVEL
PERFORME ACTION
ATTACK ENEMY
USE POTION
PUSH LION STATUE
Enemy died?
No
Yes
Is health full?
Yes
No
Heal player
Is statue on carpet?
No
Yes
Are conditions for level's part 1 complete?
No
Yes
Open first door, proceed to part2 of level
Are conditions for level's part 2 complete?
No
Yes
Level Complete

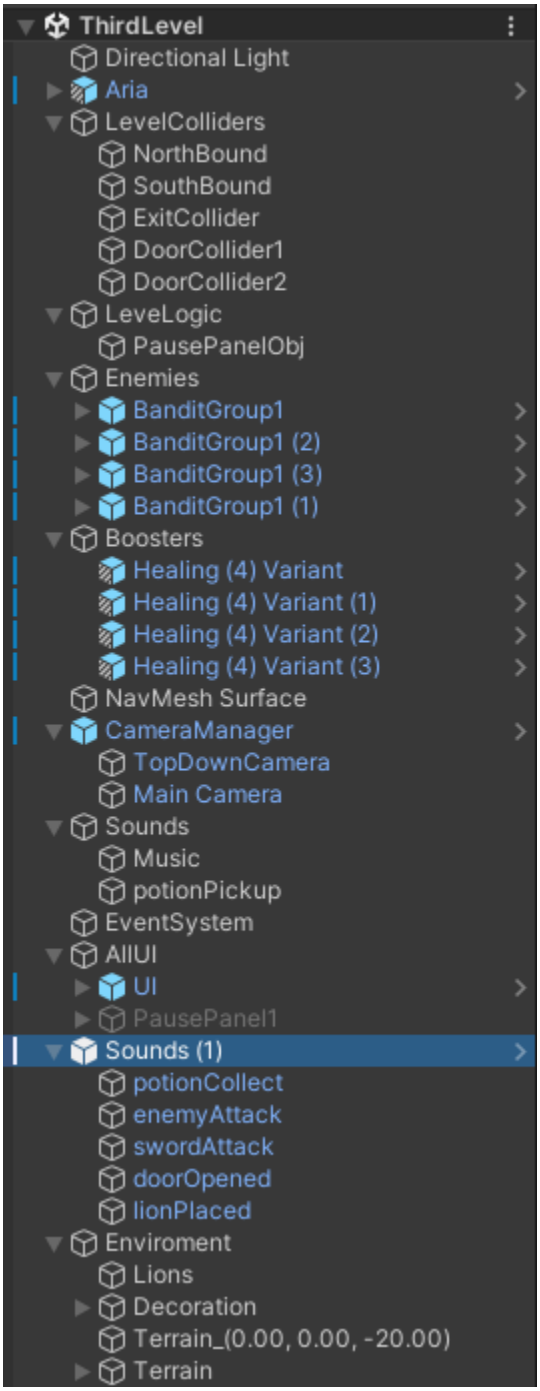
Scripts (Total 26):

- Enviroment – **CarpetTrigger.cs** : Checks if Lion Statue is placed on it and signals the corresponding level manager.
- Enviroment – **Door.cs** : Checks if the player touches its collider and plays its animations.
- Items – **FloatingPotion.cs**: Checks if the player touches the health potion and if it has less than full health it heals him.
- LevelScripts – **FirstLevelManager.cs, SecondLevelManager.cs, ThirdLevelManager.cs** : They monitor the level's state and winning conditions
- LevelScripts – **DeathCollider.cs**: Applied to the death collider on level2, resets the level if the player touches the collider.
- LevelScripts – **ExitCollider.cs** : Placed at the exit collider of the level. If the player touches the collider it loads the next level.
- LevelScripts – **GameManager.cs**: Not utilized in the end, only for the menu. Its functionality was replaced by the managers above.
- LevelScripts – **CreditsMenu.cs** : Gives functionality to the Credits Menu back button that goes back to the main menu.
- LevelScripts – **MainMenuMusicManager.cs**: Was replaced by AudioManager.cs
- Mechanics – **Health.cs**: Manages health for the object it is attached to (either the player or an enemy)
- Mechanics – **EnemyAI.cs**: Manages the enemies behavior (patrol the area, spot and chase the player, attack him)
- Mechanics - **CameraSwitcher.cs**: Used to switch between the different cameras in the game
- Mechanics **– chasePlayer.cs**: Was replaced by EnemyAI.cs
- Mechanics- **PlayerController.cs** : Controlls player movement and attacks
- Mechanics – **mainCameraController.cs** : Controls how the camera is position relative to the player, used in every camera object.
- Mechanics – **animationStateController.cs**: Manages the parameters of the animator that handles the different animations for the player's model
- MenuScripts – **AudioManager.cs**: Manages the music for the Main Menu and Credits Menu
- MenuScripts – **HelpMenuManager.cs** : Manages the functionality of the help menu (the little menu on the bottom that shows the buttons)
- MenuScripts – **MainMenu.cs** : Manages the functionality of the Main Menu
- MenuScripts – **PauseMenu.cs**: Manages the functionality of the Pause Menu
- MenuScripts – **SecondPauseMenu.cs**: Same as PauseMenu.cs, it was created because of some bug issues.

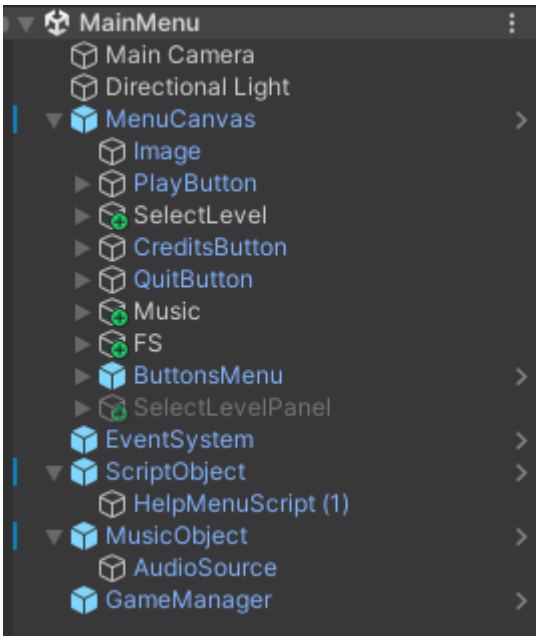
- MenuScripts **– ToggleButton.cs**: Was created for the main menu's sound mute button, not used in the final build.

Hierarchy screenshots:






SecondLevel
CameraManager
Directional Light
Aria
NavMesh Surface
LevelLogic
PausePanelScript
LevelColliders
Block
DeathCollider
Doors
ExitCollider
Sounds
Music
potionCollect
Footstep
EventSystem
AllUI
UI
Sounds (1)
potionCollect
enemyAttack
swordAttack
doorOpened
lionPlaced
Boosters
Healing (4) Variant
Healing (4) Variant (5)
Healing (4) Variant (2)
Healing (4) Variant (1)
Healing (4) Variant (3)
Healing (4) Variant (4)
Healing (4) Variant (2)
Healing (4) Variant (3)
Enemies
BanditGroup1
BanditGroup1 (4)
BanditGroup1 (3)
BanditGroup1 (1)
BanditGroup1 (2)
Enviroment
Puzzle
Maze (1)
Ground
Maze


MainMenu
Main Camera
Directional Light
MenuCanvas
Image
PlayButton
SelectLevel
CreditsButton
QuitButton
Music
FS
ButtonsMenu
SelectLevelPanel
EventSystem
ScriptObject
HelpMenuScript (1)
MusicObject
AudioSource
GameManager


CreditsScene
Main Camera
Directional Light
Canvas
Image
Title
CreatorName
Button
EventSystem
ScriptObject
GameObject

Credits for the things I used and I didn’t create:

Keyboard sprites:

https://assetstore.unity.com/?q=keyboard%20ui&orderBy=4

Fantasy Town Models:

https://assetstore.unity.com/packages/3d/environments/fantasy-landscape-103573

Cartoon Wooden Box:

https://assetstore.unity.com/packages/3d/props/furniture/cartoon-wooden-box-242926

Fantasy Skybox:

https://assetstore.unity.com/packages/2d/textures-materials/sky/fantasy-skybox-free-18353

Lion Statue:

https://assetstore.unity.com/packages/3d/props/exterior/lion-statue-34247

Characters:

https://assetstore.unity.com/packages/3d/characters/medieval-cartoon-warriors-90079

Terrain Textures/Materials:

https://assetstore.unity.com/packages/3d/environments/fantasy/fantasy-forest-environment-free-demo-35361

Music:

Main Menu: https://uppbeat.io/track/aaron-paul-low/open-fields

The rest here: https://uppbeat.io/

Health System:

https://www.youtube.com/watch?v=3uyolYVsiWc

Animations:

https://www.youtube.com/watch?v=Vsj_UpnLFF8

Main Menu Wallpaper:

https://www.wallpaperflare.com/

Footsteps SFX:

https://www.zapsplat.com/page/2/?s=sword&post_type=music&sound-effect-category-id

UI stuff:

https://assetstore.unity.com/packages/2d/gui/simple-ui-kit-284292

More SFX:

https://pixabay.com/sound-effects/search/notification/

Used Unity's terrain and AI tool