PROJECT STATUS REPORT

Project Name	Legacy Of The Lost	**Reporting Period**
Project Owner	Kaan Balcı	Nov 23, 2024 - Nov 30, 2024
Prepared by	Kaan Balcı	

HIGHLIGHTS

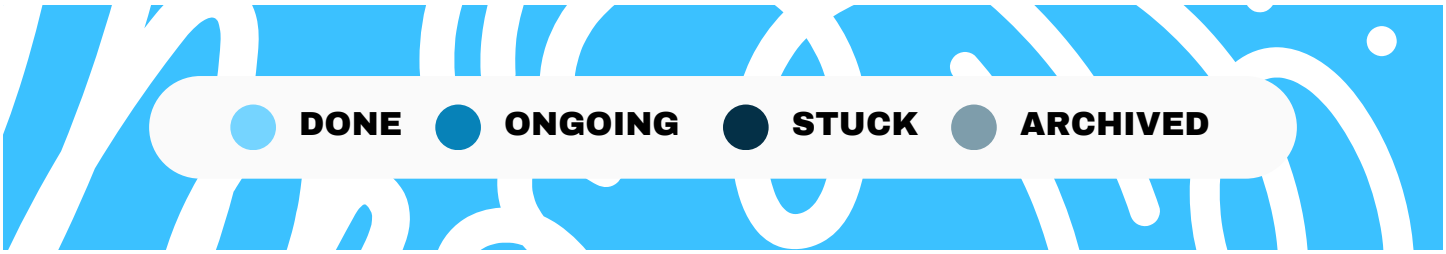
- **Pointers and References**
- **Actor Components and Scene Components**
- **Including header files**
- **Lighting with Lumen**
- **Modular level design**
- **Line Tracing and Collisions**
- **While, For Loops and Arrays**
- **Calling C++ functions from Blueprint**

CHALLENGES

- **Add more levels**
- **Add a different sort of puzzle**
- **Trigger that measures weight**
- **Rotating movers**
- **Movers bridges**

STATUS UPDATES

Task or Deliverable	Task Owner	Status
Create level design (including lighting)	Kaan Balcı	DONE
Make a “Mover” component for doors	Kaan Balcı	DONE
Make a “Grabber” component for the player	Kaan Balcı	DONE
Call the Grabber functionality from Blueprint	Kaan Balcı	DONE
Create a “Pressure Plate” component	Kaan Balcı	DONE
Tweak and polish	Kaan Balcı	DONE



PROJECT FEATURES

Engine: Unreal Engine 5.4.4

Type: First-Person Puzzle Game

Game Mechanics

- **Objective: Solve puzzles involving doors, pressure plates, and grabbing mechanisms to progress through modularly designed levels.**
- **Demo Content: Currently includes a single level with puzzles, showcasing modular assets and physics-based interactions. Future updates may introduce more levels and complex puzzles.**

Game Overview

Legacy of the Lost is a first-person puzzle game developed using C++ and Blueprints in Unreal Engine 5.4.4. The game combines modular level design with interactive gameplay elements, such as movable doors, grabbers, and pressure plates. Players must solve

environment-based puzzles to advance, utilizing elements like line tracing, collisions, and physics-based interactions. The immersive experience is enhanced by dynamic lighting with Lumen and customizable gameplay elements.

Skills and Concepts Learned

1. **Pointers and References:**
   - **Gained an understanding of memory management and efficient coding practices through pointers and references in C++.**
2. **Actor and Scene Components:**
   - **Implemented reusable components for modular gameplay mechanics, such as doors and pressure plates.**
3. **C++ Integration with Blueprint:**
   - **Developed core functionalities in C++ and made them callable in Blueprints, creating a seamless interaction between coding and visual scripting.**
4. **Modular Level Design:**
   - **Designed levels using modular assets like floors, walls, arches, and stairs, focusing on scalable and reusable design principles.**
5. **Lighting and Atmosphere:**
   - **Enhanced game ambiance with Lumen lighting, including torches, chandeliers, and dynamic sunlight adjustments.**
6. **Line Tracing Techniques:**
   - **Used line tracing to detect objects in the environment, enabling mechanics like grabbing items, activating pressure plates, and triggering door movements.**
7. **Collision Detection:**
   - **Leveraged collision detection to facilitate interactions between the player and objects, ensuring seamless puzzle mechanics and environmental responsiveness.**
8. **Loop Structures and Arrays:**
   - **Utilized loops and arrays to manage game elements efficiently, such as detecting overlapping actors or iterating through modular assets.**
9. **Physics-Based Interactions:**
   - **Created engaging mechanics like moving doors and dynamic object manipulation using physics handles, enhancing player immersion.**
10. **Object Interactions:**
    - **Implemented interactive mechanics that allow players to manipulate objects directly, such as picking up items, activating triggers, and solving environment-based puzzles.**

Conclusion

Legacy of the Lost represents a significant milestone in my game development journey. It combines technical proficiency in C++ with creative level design and interactive gameplay mechanics. Future updates will aim to expand the game with additional levels, varied puzzles, and advanced features to enhance player engagement.