

Compiling a roguelike first person shooter game using Unreal Engine
Kevin Huang

Executive Summary

This culmination project will be an adventure game created in Unreal engine. My partner and I are trying to translate our skills in Unity3D into Unreal engine to broaden our knowledge in game design as plenty of jobs require multiple game engine or scripting knowledge. In order to meet the demands of jobs, we will be expanding our knowledge through this project.

I am doing this project with Suraj Jagmohan, a fellow colleague from Citytech in the Game Design and Interactive Media course and we planned to create a first person shooter. Through various plans, we debated if we wanted to settle with a Unity3d/Unreal engine game, VR game or if we want to do something more advanced with Unreal engine. We planned to create and present this project as an adventure game in Unreal engine. This project will be utilizing free assets and free softwares to make this project, therefore, there is no cost.

The game will be a first person shooter in which the player will be defeating non-player enemies. It will spawn random enemies to attack the player. The goal of this project is to create a working first person shooter in Unreal Engine to learn more about Unreal 5.1.1 or higher. We will be learning about blueprints and how we will be able to utilize them while working off of a template. We will try to diverge from the template for finer controls and if that is done, we will add more of our original ideas into the game.

We are expected to learn more about the Unreal, coding in Unreal and a large variety of tools within the engine. We will be trying to create a world in Unreal engine and attempt to further our understanding in the field. We will be trying to learn and create objects that we would otherwise be unable to in Unity to learn more about the differences of Unity3d and Unreal engine. We will learn about level building, blueprints and the benefits of Unreal and the benefits of Unity.

I hope to join a game company that will be able to brush up my game knowledge. I will want to learn the ways to optimize code and understand the changes and codes that professionals will create or utilize instead. In the future I want to be a Unity/Unreal engine developer and eventually put up a team to create games that follow trends within my interest.

Project Description

Our group will be conducting research through finding tutorials in Unreal Engine and playing with Unreal Engine to find new things about Unreal that we can utilize. Our research has brought us to learn about actors(which are objects in Unity) and blueprints(Which are prefabs in Unity). We will attempt to make a good first person shooter and attempt to branch it off into a roguelike first person shooter in Unreal Engine. I will be assisted by another student within the Game Design and Interactive Media major student, Suraj Jagmohan. We will be branching out our knowledge from Unity3d and learning from utilizing Unreal Engine.

Methods

- Utilize online tutorials to further our knowledge
- Utilize Unreal Engine assets to under blueprints and actors
- Create Attachable objects/weapons and fire projectiles with raycast
- Applying damage to actors with respawn/enemy destruction mechanics
- Create Actors and Blueprints to utilize in our game.
 - Create Code and utilize node for our blueprints and actors
 - Learn the node system in Unreal Engine and some essential options

Deliverables

1. First person shooter
2. Hostile enemies with some movement AI.
3. Collisions and sound effects
4. Blueprints
5. UI

Required Resources

- Unreal Engine 5.1.1
- Tutorials

Item	Estimated Amount	Total
Software Licensing	30.00	30.00
Asset Licensing	29.99	29.99

Estimate	\$60.00	\$60.00
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Schedule and Calendar

1	Task Name	Duration	Start	Finish	Predecessors	Assigned To	% Complete	Status
2	Tutorials	1d	03/05/23	03/05/23	Kevin	Kevin	100%	Complete
3	Unreal Template	2d	03/10/23	03/11/23	Kevin	Kevin	0%	Complete
4	Blueprint tutorials	2d	03/17/23	03/18/23	Kevin	Kevin	0%	Not Started
5	Scripting tutorials	1d	03/24/23	03/24/23	Kevin	Kevin	0%	Not Started
6	Unreal Engine and assets	1d	03/31/23	03/31/23	Kevin	Kevin	0%	Not Started
7	Level building tutorial	1d	04/07/23	04/07/23	Kevin	Kevin	0%	Not Started
8	Utilizing Blueprints	1d	04/14/23	04/14/23	Kevin	Kevin	0%	Not Started
9	Level building	2d	04/21/23	04/22/23	Kevin	Kevin	0%	Not Started
10	Level building	1d	04/28/23	04/28/23	Kevin	Kevin	0%	Not Started
11	Scripting(Engine)	1d	05/05/23	05/05/23	Kevin	Kevin	0%	Not Started
12	Scripting(Engine)	1d	05/12/23	05/12/23	Kevin	Kevin	0%	Not Started
13	Level building	1d	05/19/23	05/19/23	Kevin	Kevin	0%	Not Started
14	Scripting(Player)	2d	05/26/23	05/27/23	Kevin	Kevin	0%	Not Started
15	Scripting(Player)	2d	06/02/23	06/03/23	Kevin	Kevin	0%	Not Started
16	Scripting(Enemies)	2d	06/09/23	06/10/23	Kevin	Kevin	0%	Not Started
17	Scripting(Enemies)	2d	06/16/23	06/17/23	Kevin	Kevin	0%	Not Started
18	Scripting(Enemies)	2d	06/23/23	06/24/23	Kevin	Kevin	0%	Not Started
19	Scripting(Enemies)	2d	06/30/23	07/01/23	Kevin	Kevin	0%	Not Started
20	Scripting(Player)	2d	07/07/23	07/08/23	Kevin	Kevin	0%	Not Started
21	Scripting(Player)	2d	07/14/23	07/15/23	Kevin	Kevin	0%	Not Started
22	Scripting(Enemies)	1d	07/21/23	07/21/23	Kevin	Kevin	0%	Not Started
23	Tutorials(Knowledge gaps)	2d	07/28/23	07/29/23	Kevin	Kevin	0%	Not Started
24	Tutorials(Knowledge gaps)	2d	08/04/23	08/05/23	Kevin	Kevin	0%	Not Started
25	Utilizing Blueprints	1d	08/11/23	08/11/23	Kevin	Kevin	0%	Not Started
26	Level building	3d	08/18/23	08/20/23	Kevin	Kevin	0%	Not Started
27	Level building	3d	08/25/23	08/27/23	Kevin	Kevin	0%	Not Started
28	Scripting(Environment)	2d	09/01/23	09/02/23	Kevin	Kevin	0%	Not Started
29	Scripting(Environment)	2d	09/08/23	09/09/23	Kevin	Kevin	0%	Not Started
30	Scripting(Environment)	1d	09/15/23	09/15/23	Kevin	Kevin	0%	Not Started
31	Scripting(Environment)	1d	09/22/23	09/22/23	Kevin	Kevin	0%	Not Started
32	Scripting(Test and Debug)	3d	09/29/23	10/01/23	Kevin	Kevin	0%	Not Started
33	Scripting(Test and Debug)	3d	10/06/23	10/08/23	Kevin	Kevin	0%	Not Started
34	Scripting(Additions)	3d	10/13/23	10/15/23	Kevin	Kevin	0%	Not Started
35	Scripting(Additions)	3d	10/20/23	10/22/23	Kevin	Kevin	0%	Not Started
36	Level Building(Additions)	3d	10/27/23	10/29/23	Kevin	Kevin	0%	Not Started
37	Polishing	3d	11/03/23	11/05/23	Kevin	Kevin	0%	Not Started
38	Polishing	3d	11/10/23	11/12/23	Kevin	Kevin	0%	Not Started
39	Final Polishing	5d	11/17/23	11/21/23	Kevin	Kevin	0%	Not Started
40	Build into playable game	2d	11/24/23	11/25/23	Kevin	Kevin	0%	Not Started

KevinHuangGantChart

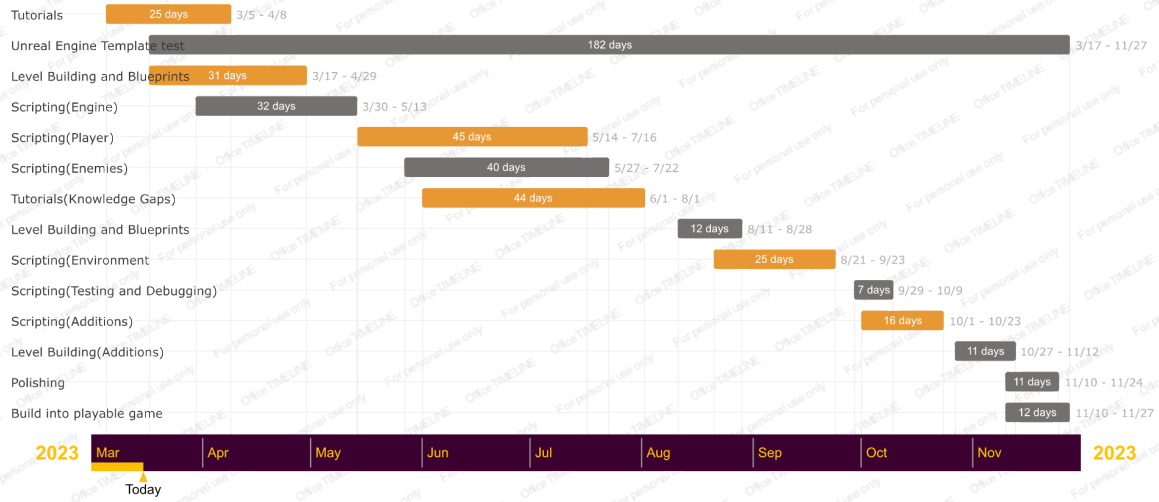


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